LEVEL DESIGN GROUP

STORMWATER MANAGEMENT REPORT

FOR

PETERSEN POOL

128 TOWN STREET

BRAINTREE, MA

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249 South Street

Plainville, MA 02762

For:

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Project No.: 1410.00

TABLE OF CONTENTS

249 SOUTH STREET UNIT 1 PLAINVILLE MA 02762
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HYDROLOGIC SUMMARY

METHODOLOGY

The HydroCAD computer program (HydroCAD) was used to model the existing and proposed hydrology of the site and design a stormwater management system. HydroCAD generates flood hydrographs dependent upon the type of land use, vegetation, soil types, land slope, watershed areas and rainfall data. HydroCAD also takes into account the antecedent moisture condition of the soil. The peak rate of runoff and volume of runoff are projected for the input storm frequency events (design storms).

Rainfall data was obtained from the United States Weather Bureau Technical Paper 40. Rainfall amounts for storm frequencies of 2-, 10- and 100-year storm return periods for Norfolk County, Massachusetts were input into HydroCAD. A 24-hour type III rainfall distribution was used in the HydroCAD analysis as prescribed for New England by the USDA Soil Conservation Service (SCS).

PRE-DEVELOPMENT CONDITIONS

The existing site consists of a single user, the Braintree High School, with existing sports fields and parking. The existing drainage system details within the development at the High School was taken from record plans and field survey.

The parking lot and the existing soccer field drain through a closed pipe system under the existing turf football field towards the on-site pond located to the east. The closed pipe system as it leaves the parking area and soccer field is the system control point. There are three main pipe runs which collect the overland flow from the existing soccer field, edge of the existing track and football field as well as two main runs within the existing parking lot. These pipe runs and the associated infrastructure, catch basins, and manholes, were field verified for connection point.

The on-site soils as classified by the Soil Survey for Norfolk/Suffolk County Massachusetts are:

Norfolk and Suffolk Counties, Massachusetts (MA616)

Map Unit Symbol	Map Unit Name
312B	Woodbridge fine sandy loam, 0 to 8 percent slopes, extremely stony
603	Urban land, wet substratum, 0 to 3 percent slopes
623C	Woodbridge-Urban land complex, 3 to 15 percent slopes
654	Udorthents, loamy

Please see the attached SCS soils documentation attached herein. Through on-site soil observation test pits, the soils are course gravel with groundwater table consistent at 5' and redox for ESHGW at 34".

POST-DEVELOPMENT CONDITIONS

The proposed project will consist of a 87,710± sf commercial recreational building with associated utilities and parking (collectively the "Facility") consisting of the following: two (2) hockey rinks; a 25-yard indoor swimming pool; indoor skills/fitness training facilities; wellness/sports medicine facilities; pro-shop; family fun entertainment areas; café/food concessions, and office space. As more fully shown on the Plans and renderings by Studio Troika, the proposed pool will have ten (10) lanes that are regulation length – 82' long. The two (2) NHL sized ice rinks will house programming for learn to skate, learn to play, youth town programs of all ages, and elite leagues men's and women's league. Both the aquatics area and hockey rinks will have spectator viewing and seating areas and private locker rooms. Both the main hockey rink and pool will meet Massachusetts Interscholastic Athletic Association (MIAA) requirements so high school and other privately organized hockey tournaments or swim meets may be held at the proposed Facility. The project will redevelop a portion of the existing parking lot, the existing soccer field and drainage system.

The proposed main building has a standard pitched roof line where water collects along the edge of the roofline and collects in gutters and downspouts as detailed in the architectural plans and is collected via downspout and directed to the on-site drainage system as detailed on the site plans. There are two locations for proposed on-site drainage systems but three systems total which discharge to one a new main drain line along the north side of the existing athletic fields.

A stormwater management plan was developed to mitigate impacts created by the proposed development and construction activities. Stormwater runoff from the rooftop of the 87,710± sf s.f. building will be collected by roof drain header pipes located around the proposed building. The roof drain headers shall discharge to a new system of subsurface chambers to maximize groundwater recharge of the clean rooftop flow. The proposed on-site mitigation measures directly address recharge to groundwater standards and mitigation of construction.

The new parking areas were evaluated within the infrastructure and the south side of the existing parking lot is not modified, with the exception of two small areas of pavement removal and the addition of a sidewalk evenly traded with pavement area being removed from the pipe system, as detailed in the HydroCAD design. The remainder of new impervious, parking and the building, is placed into one of three subsurface detention basins which will provide groundwater infiltration and recharge. The modification of pavement/impervious is fully mitigated through the stormwater system.

There are no proposed new stormwater pre-treatment devices proposed for the existing outlet of the main parking area because the discharge for this flow is not modified in the proposed plan set. There is a new connection from the south portion of the parking lot to the proposed stormtech system pond 6P which will allow the water to overflow from the existing drain system into this proposed pond without surcharging the system. This is a mitigation of an existing problem with this drain system according to the calculations. The existing parking lot is diverted through a weir manhole and when flow reaches a point within the existing system it will be diverted into the StormTech system and through the Isolator Row within the StormTech chambers for treatment.

The portion of the parking lot and the existing field which is removed is also being disconnected from the existing drainage system. This area is now being routed through one of three subsurface drainage systems and into the proposed main discharge line to the existing wetland area to the west.

Compliance with the 10 MADEP Stormwater Standards is documented below.

STANDARD 1: Untreated Discharges

Stormwater Management Standard 1 requires that, “No new stormwater conveyances (e.g. outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth”.

This standard is met by the proposed development not creating any new non treated stormwater discharges. All surface runoff from the proposed impervious surfaces is collected by the proposed stormwater management practices, treated for suspended solids removal, and either infiltrated or detained for peak flow mitigation prior to discharge to designated areas which mimic existing drainage flow patterns. The development captures a large portion of the existing parking lot area as well as the new building and provides treatment through either a CDS stormwater unit or StormTech Isolator Row separation.

STANDARD 2: Peak Rate Control and Flood Prevention

Stormwater Management Standard 2 requires that, “Stormwater management systems must be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates. This Standard may be waived for land subject to costal storm flowage.”

This standard is met by the proposed development discharge not exceeding pre-development peak discharge rates at the designated control points for all design storm events. This is accomplished by directing stormwater to a series of sub-surface infiltration basins for roof drainage located within the new area of disturbance, these overflow to the existing headwalls at the east side of the athletic fields.. The design minimizes the post development discharge to the easterly property line to prevent any post development flooding to the properties along that property line. Below is a description of the control points used in the hydrologic analysis and a summary of pre- and post- development discharge rates.

<u>CONTROL POINTS</u>

Two separate control points were used to analyze the site hydrology. The first control point (RE1) is the Headwall to the South side of the existing pond area, labeled as Headwall ‘B’. The second control point (39R) Northern headwall discharge, labeled as Headwall ‘A’. Both of these discharge to the wetland area at the eastern portion of the site so they are treated as a combined discharge for the flow to the wetlands as detailed in the drainage hydrology.

SUMMARY OF PEAK STORMWATER RUNOFF (CFS)

Control Point – RE1		
Year Storm	Pre-Development Flow (CFS)	Post-Development Flow (CFS)
2	7.80	7.12
10	16.69	9.11
25	22.66	10.45
100	32.28	15.86

Control Point – 39R		
Year Storm	Pre-Development Flow (CFS)	Post-Development Flow (CFS)
2	2.37	2.37
10	5.05	5.05
25	6.72	6.72
100	9.86	9.35

The net peak discharge is controlled for all storm events. There is TSS removal so that the flow is significantly ‘cleaner’ than the previous discharge.

STANDARD 3: Recharge to Groundwater

Stormwater Management Standard 3 requires that, “Loss of annual recharge to groundwater shall be eliminated or minimized through the use of infiltration measures, including environmentally sensitive site design, low impact development techniques, best management practices, and good operation and maintenance. At a minimum, the annual recharge from the post-development site shall approximate the annual recharge from the pre-development conditions based on soil type. This Standard is met when the stormwater management system is designed to infiltrate the required recharge volume as determined in accordance with the Massachusetts Stormwater Handbook.”

This standard is fulfilled by directing all rooftop run off of new building roof to sub-surface infiltration systems. The systems are designed to fully infiltrate storm events and in the case of a high intensity storm event the system is fitted with an overflow which convey the excess stormwater to the central drainage system. Below is a detailed calculation demonstrating full compliance with the recharge to groundwater requirements.

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GROUNDWATER RECHARGE

The on-site soils are described by the SCS Soil Survey for Soil Survey for Norfolk/Suffolk County, as hydrologic soil group A (an assumption based upon actual conditions not the mapping). The MADEP requires that 0.6 inches of runoff be infiltrated multiplied by the total post-development impervious area for hydrologic soil group A. For the site specific soils, a permeability rate of 2.41 inches per hour was used, based on the Rawls Rate and current conditions of the site.

The total post-development impervious area in the area of development, including rooftops and pavement is 168,936± s.f. The required recharge volume is calculated as follows.

Required Recharge Volume for the Development = (168,936 s.f. of impervious area) x (0.6 in of runoff for hydrologic soil group A) x (1 ft./12 in.) = 8,447± cu. ft.

Water used to satisfy the recharge to groundwater standard is from collected rooftop runoff and from stormwater pretreated for a minimum of 44% TSS Removal prior to discharge to the infiltration practice. The Simple Dynamic Method of Recharge Volume was utilized to calculate recharged groundwater.

Simple Dynamic Method Calculations:

Required Recharge Volume:

Rv = F x impervious area created
Rv = (F HSG "A") x (impervious area created)

Recharge Volume Provided:

A=Rv÷(d+Kt), where d=depth below outlet, Kt=observed rate=2.41 inches per hour
t=time (2 hours – Stormwater Handbook Recommendation)

Minimum Required Volume of Infiltration Practice = V (cf) =A x d

The recharge volume requirement of 8,447± cu. ft. is exceeded with a total of 24,850 cu. ft. of volume provided below the outlet of the Infiltration systems 8P, and 4P in behind the building.

STANDARD 4: 80% TSS Removal

Stormwater Management Standard 4 requires that, "Stormwater management systems must be designed to remove 80% of the average annual post-construction of Total Suspended Solids (TSS). This standard is met when:

a. Suitable practices for source control and pollution prevention are identified in a long-term pollution prevention plan and thereafter are implemented and maintained;
b. Stormwater BMPs are sized to capture the required water quality volume determined in accordance with the Massachusetts Stormwater Handbook and;
c. Pretreatment is provided in accordance with the Massachusetts Stormwater Handbook"

This standard is met with by collecting all development and redevelopment areas surface runoff for paved area at the main parking lot side (north) of the building and placing a weir manhole directing within the existing drainline from the south side of the existing parking lot to direct larger storm events to overflow into the proposed system through a StormTech Isolator row.

WATER QUALITY

The volume of stormwater runoff to be treated for water quality, for discharges not to "critical areas", is calculated as one-half inch times the total post-development impervious area of the site. The water quality volume calculations follow:

Total Site Imperious Area = 168,936 ± s.f.
1.0 inch / 12 inch/foot = 0.0833 feet
0.0833 feet x 168,936 s.f . = 14,072± cu.ft.
Total Volume to be treated for Water Quality = <u>14,072 ± cu.ft.</u>

Utilizing the information in the hydrologic calculations for the Required Recharge Volume StormTech Systems 8P, 4P & 6P which all receive surface runoff from paved areas that is pretreated to greater than 44% TSS removal. The total water quality volume provided below the outlet of those systems is 15,852 cu. ft. in 8P, 8,991 cu. ft. in 4P and 21,050 cu. ft. in 6P for a total of 45,893 cu. ft. which exceeds the required water quality volume for the entire area of new impervious, including all building roof tops.

Suspended solids removal will be achieved by utilizing a CDS Storm Water Treatment Unit sized according to mitigate the Water Quality Volumes to discharges and to provide the required 44% TSS removal prior subsurface infiltration for a portion of the site. Infiltrator Rows within the Stormtech systems are also used for TSS removal which mitigate the Water Quality Volumes to discharges and to provide the required 44% TSS removal prior subsurface infiltration for a portion of the site.

The calculation for Total Suspended Solids (TSS) area provided within the MADEP TSS Removal Calculation Sheets. Separate calculation sheets have been provided for all of the Stormwater Systems which collect and treat surface runoff from the parking lots and driveways. The site, as designed, achieves well over 80% TSS treating all surface runoff from the newly created impervious areas but utilizing deep sump and hooded catch basins, proprietary stormwater treatment units, and sub-surface infiltration systems. All flow is rooftop flow under new pavement areas and shall be treated as "clean" for infiltration.

STANDARD 5: Higher Potential Pollutant Loads

Stormwater Management Standard 5 requires that, "For land uses with higher potential pollutant loads, source control and pollution prevention shall be implemented in accordance with the Massachusetts Stormwater Handbook to eliminate or reduce the discharge of stormwater runoff from such land uses to the maximum extent practicable. If through source control and/or pollution prevention, all land uses with higher potential pollutant loads cannot be completely protected from exposure to rain, snow, snow melt and stormwater runoff, the proponent shall use the specific stormwater BMPs determined by the Department to be suitable for such use as provided in the Massachusetts Stormwater Handbook. Stormwater discharges from land uses with higher potential pollutant loads shall also comply with the requirements of the Massachusetts Clean Waters Act, M.G.L. c. 2, §§ 26-53, and the regulations promulgated thereunder at 314 CMF 3.00, 314 CMR 4.00 and 314 CMR 5.00."

The proposed development is not classified as a land use with a higher potential pollutant load.

STANDARD 6: Critical Areas

Stormwater Management Standard 6 requires that, "Stormwater discharge to a Zone II Interim Wellhead Protection Area of a public water supply and stormwater discharges near any other critical area require the use of specific source control and pollution prevention measures and the specific stormwater best management practices determined by the Department to be suitable for managing discharges to such area, as provided in the Massachusetts Stormwater Handbook. A discharge near a critical area if there is a strong likelihood of a significant impact accruing to said area, taking into account site-specific factors. Stormwater discharges to Outstanding Resource Waters or Special Resource Waters shall be set back from the receiving water and receive the highest and best practical method of treatment. A "stormwater discharge," as defined in 314 CMR 3.04(2)(a)1. or (b), to an Outstanding Resource Waters or Special Resource Waters shall comply with 314 CMF 3.00 and 314 CMR 4.00. Stormwater discharges to a Zone I or Zone A area prohibited unless essential to the operation of the public water supply."

There are no designated critical areas on or abutting the site.

STANDARD 7: Redevelopment and Other Projects Subject to the Standards only to the Maximum Extent Practicable

The definition of a Redevelopment Project under the definition provided in the MADEP Stormwater Handbook for Standard 7 is listed below:

> "Development rehabilitation, expansion and phased projected on previously developed sites, provided that redevelopment results in no next increase in impervious area."

The proposed development is a redevelopment of a previously disturbed site. As detailed above the applicant is intending to meet the standards to the maximum extent practicable through grading, new infiltration measures for roof runoff and installation of a hooded catch basin which overflows to the existing leaching structure. Compliance with the standards is detailed in the Stormwater Management Report.

STANDARD 8: Erosion and Sediment Control

Stormwater Management Standard 8 requires that, “A plan to control construction-related impacts, including erosion sedimentation and other pollutant sources during construction and land disturbance activities (construction period erosion, sedimentation, and pollution prevention plan), must be developed and implemented.”

This standard is met through the maintenance of the existing paved areas and the installation of sediment sacks in existing structures during construction. A Construction Period Pollution and Erosion & Sedimentation Control Plan has also been prepared for and will be included prior to construction.

STANDARD 9: Operation and Maintenance

Stormwater Management Standard 9 requires that, “A long-term operation and maintenance plan must be developed and implemented to ensure that stormwater management systems function as designed”.

This standard is fully met with development and implementation of an Operation and Maintenance Plan and Long Term Pollution Prevention which are both included in Stormwater Management Report.

STANDARD 10: Illicit Discharges

Stormwater Management Standard 10 requires that, “All illicit discharges to the stormwater management system are prohibited”.

An Illicit Discharge statement has been prepared and is included herein.

CONCLUSION

The goal of the stormwater management system is to maintain water quality while attenuating peak rates of runoff at the control points. This was achieved by using pretreatment BMPs and directing the stormwater runoff to subsurface infiltration basins which attenuate peak flow while maximizing groundwater recharge and providing high a level of TSS removal. A Construction Period Pollution Prevention and Erosion & Sediment Control Plan has been prepared provides the required documentation to limit construction erosion and sedimentation. An Operation and Maintenance Plan and Long Term Pollution Prevention Plan for post-construction maintenance have been developed and are included with this report. This proposed design complies with the MADEP Stormwater Management Guidelines.

MADEP Stormwater Checklist

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USGS Topographic Map

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FEMA Flood

On-Site Soils Map and Documentation

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Existing Conditions - Subcatchments

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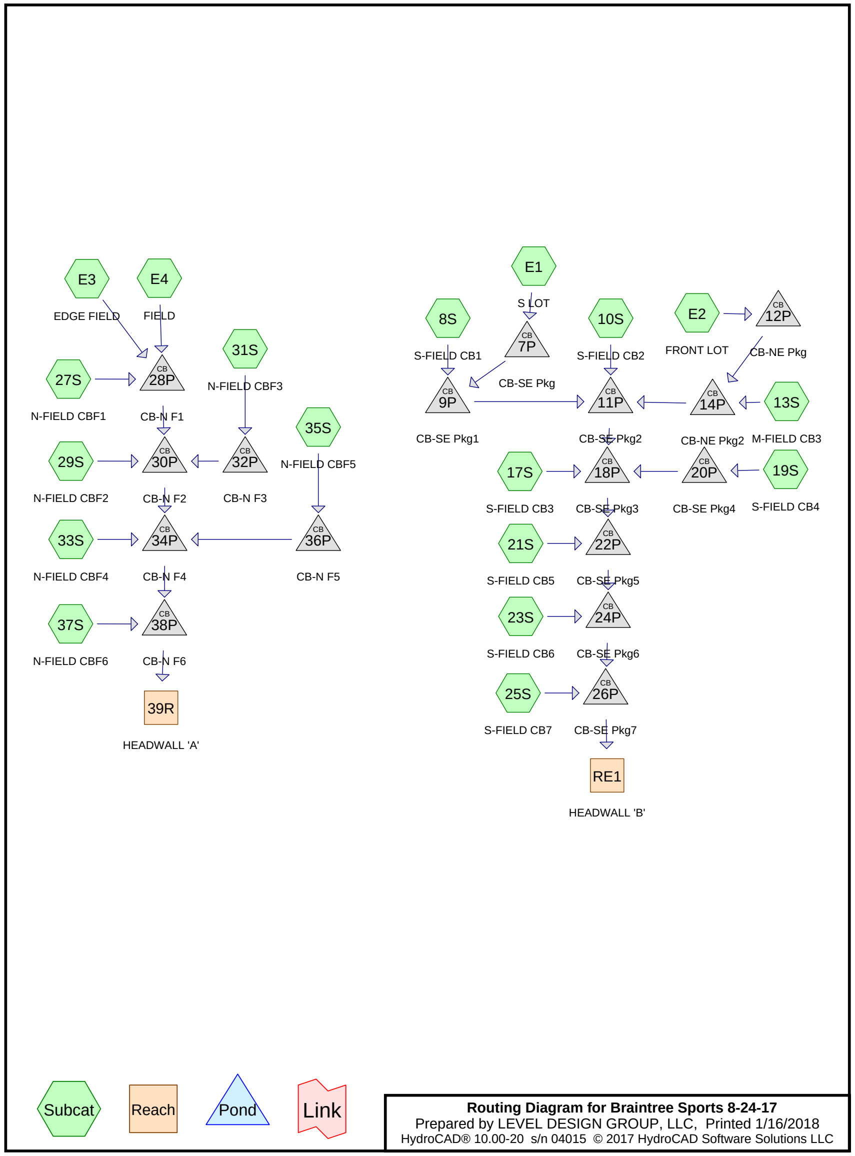
HydroCAD Analysis

Existing Conditions - 2 Year Storm



Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
8.362	39	>75% Grass cover, Good, HSG A (8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S, E1, E2, E3, E4)
3.255	98	Paved Track, HSG A (8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S)
3.686	98	Paved parking, HSG A (E1, E2)
0.107	43	Woods/grass comb., Fair, HSG A (E4)
2.305	32	Woods/grass comb., Good, HSG A (E2, E3)
0.483	72	Woods/grass comb., Good, HSG C (E1)
18.198	**62**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
17.714	HSG A	8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S, E1, E2, E3, E4
0.000	HSG B	
0.483	HSG C	E1
0.000	HSG D	
0.000	Other	
18.198		**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
8.362	0.000	0.000	0.000	0.000	8.362	>75% Grass cover, Good	8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S, E1, E2, E3, E4
3.255	0.000	0.000	0.000	0.000	3.255	Paved Track	8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S
3.686	0.000	0.000	0.000	0.000	3.686	Paved parking	E1, E2
0.107	0.000	0.000	0.000	0.000	0.107	Woods/grass comb., Fair	E4
2.305	0.000	0.483	0.000	0.000	2.788	Woods/grass comb., Good	E1, E2, E3
17.714	**0.000**	**0.483**	**0.000**	**0.000**	**18.198**	**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	7P	113.30	111.17	71.2	0.0299	0.011	12.0	0.0	0.0
2	9P	111.17	110.70	90.3	0.0052	0.011	12.0	0.0	0.0
3	11P	110.70	109.75	134.5	0.0071	0.011	15.0	0.0	0.0
4	12P	111.40	111.36	76.0	0.0005	0.011	12.0	0.0	0.0
5	14P	111.36	110.70	105.0	0.0063	0.011	12.0	0.0	0.0
6	18P	109.75	108.88	106.1	0.0082	0.011	15.0	0.0	0.0
7	20P	110.48	109.75	140.2	0.0052	0.011	12.0	0.0	0.0
8	22P	108.88	107.48	157.5	0.0089	0.011	15.0	0.0	0.0
9	24P	107.48	106.10	154.4	0.0089	0.011	15.0	0.0	0.0
10	26P	106.10	105.35	154.4	0.0049	0.011	18.0	0.0	0.0
11	28P	110.33	110.00	111.7	0.0030	0.011	12.0	0.0	0.0
12	30P	110.00	109.17	133.5	0.0062	0.011	12.0	0.0	0.0
13	32P	110.67	110.00	103.5	0.0065	0.011	12.0	0.0	0.0
14	34P	109.17	108.00	139.2	0.0084	0.011	12.0	0.0	0.0
15	36P	110.88	109.17	105.0	0.0163	0.011	12.0	0.0	0.0
16	38P	108.00	107.25	466.8	0.0016	0.011	15.0	0.0	0.0

Time span=1.00-20.00 hrs, dt=0.05 hrs, 381 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 8S: S-FIELD CB1 Runoff Area=11,548 sf 60.17% Impervious Runoff Depth>0.95"
Flow Length=80' Tc=6.0 min CN=74 Runoff=0.30 cfs 0.021 af

Subcatchment 10S: S-FIELD CB2 Runoff Area=21,998 sf 60.00% Impervious Runoff Depth>0.95"
Flow Length=230' Slope=0.0150 '/' Tc=6.0 min CN=74 Runoff=0.57 cfs 0.040 af

Subcatchment 13S: M-FIELD CB3 Runoff Area=16,265 sf 65.00% Impervious Runoff Depth>1.11"
Flow Length=151' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=0.51 cfs 0.035 af

Subcatchment 17S: S-FIELD CB3 Runoff Area=13,522 sf 65.00% Impervious Runoff Depth>1.11"
Flow Length=85' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=0.42 cfs 0.029 af

Subcatchment 19S: S-FIELD CB4 Runoff Area=30,595 sf 65.00% Impervious Runoff Depth>1.11"
Flow Length=297' Tc=6.0 min CN=77 Runoff=0.95 cfs 0.065 af

Subcatchment 21S: S-FIELD CB5 Runoff Area=18,600 sf 65.00% Impervious Runoff Depth>1.11"
Flow Length=149' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=0.58 cfs 0.040 af

Subcatchment 23S: S-FIELD CB6 Runoff Area=16,672 sf 35.00% Impervious Runoff Depth>0.36"
Flow Length=131' Slope=0.0200 '/' Tc=6.2 min CN=60 Runoff=0.10 cfs 0.011 af

Subcatchment 25S: S-FIELD CB7 Runoff Area=57,741 sf 15.00% Impervious Runoff Depth>0.07"
Flow Length=330' Tc=7.6 min CN=48 Runoff=0.02 cfs 0.007 af

Subcatchment 27S: N-FIELD CBF1 Runoff Area=6,780 sf 65.00% Impervious Runoff Depth>1.11"
Flow Length=80' Tc=6.0 min CN=77 Runoff=0.21 cfs 0.014 af

Subcatchment 29S: N-FIELD CBF2 Runoff Area=13,971 sf 65.00% Impervious Runoff Depth>1.11"
Flow Length=100' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=0.44 cfs 0.030 af

Subcatchment 31S: N-FIELD CBF3 Runoff Area=23,311 sf 65.00% Impervious Runoff Depth>1.11"
Flow Length=129' Tc=6.0 min CN=77 Runoff=0.73 cfs 0.050 af

Subcatchment 33S: N-FIELD CBF4 Runoff Area=13,725 sf 65.00% Impervious Runoff Depth>1.11"
Flow Length=93' Tc=6.0 min CN=77 Runoff=0.43 cfs 0.029 af

Subcatchment 35S: N-FIELD CBF5 Runoff Area=18,186 sf 65.00% Impervious Runoff Depth>1.11"
Flow Length=170' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=0.57 cfs 0.039 af

Subcatchment 37S: N-FIELD CBF6 Runoff Area=32,216 sf 20.00% Impervious Runoff Depth>0.12"
Flow Length=280' Slope=0.0200 '/' Tc=6.0 min CN=51 Runoff=0.03 cfs 0.007 af

Subcatchment E1: S LOT Runoff Area=143,436 sf 61.40% Impervious Runoff Depth>1.29"
Flow Length=334' Tc=10.1 min CN=80 Runoff=4.61 cfs 0.355 af

Subcatchment E2: FRONT LOT Runoff Area=220,985 sf 32.80% Impervious Runoff Depth>0.21"
Flow Length=670' Tc=18.0 min CN=55 Runoff=0.46 cfs 0.088 af

Subcatchment E3: EDGE FIELD Runoff Area=33,755 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=135' Tc=7.1 min CN=38 Runoff=0.00 cfs 0.000 af

Subcatchment E4: FIELD Runoff Area=99,389 sf 0.00% Impervious Runoff Depth=0.00"
Flow Length=280' Tc=7.0 min CN=39 Runoff=0.00 cfs 0.000 af

Reach 39R: HEADWALL 'A' Inflow=2.37 cfs 0.169 af
Outflow=2.37 cfs 0.169 af

Reach RE1: HEADWALL 'B' Inflow=7.80 cfs 0.691 af
Outflow=7.80 cfs 0.691 af

Pond 7P: CB-SE Pkg Peak Elev=118.72' Inflow=4.61 cfs 0.355 af
Outflow=4.61 cfs 0.355 af

Pond 9P: CB-SE Pkg1 Peak Elev=117.36' Inflow=4.87 cfs 0.376 af
Outflow=4.87 cfs 0.376 af

Pond 11P: CB-SE Pkg2 Peak Elev=115.33' Inflow=5.83 cfs 0.538 af
Outflow=5.83 cfs 0.538 af

Pond 12P: CB-NE Pkg Peak Elev=115.38' Inflow=0.46 cfs 0.088 af
Outflow=0.46 cfs 0.088 af

Pond 14P: CB-NE Pkg2 Peak Elev=115.46' Inflow=0.61 cfs 0.123 af
Outflow=0.61 cfs 0.123 af

Pond 18P: CB-SE Pkg3 Peak Elev=114.17' Inflow=7.07 cfs 0.632 af
Outflow=7.07 cfs 0.632 af

Pond 20P: CB-SE Pkg4 Peak Elev=114.14' Inflow=0.95 cfs 0.065 af
Outflow=0.95 cfs 0.065 af

Pond 22P: CB-SE Pkg5 Peak Elev=112.69' Inflow=7.69 cfs 0.672 af
Outflow=7.69 cfs 0.672 af

Pond 24P: CB-SE Pkg6 Peak Elev=110.18' Inflow=7.80 cfs 0.683 af
Outflow=7.80 cfs 0.683 af

Pond 26P: CB-SE Pkg7 Peak Elev=107.76' Inflow=7.80 cfs 0.691 af
Outflow=7.80 cfs 0.691 af

Pond 28P: CB-N F1 Peak Elev=110.79' Inflow=0.21 cfs 0.014 af
Outflow=0.21 cfs 0.014 af

Pond 30P: CB-N F2 Peak Elev=110.73' Inflow=1.37 cfs 0.094 af
Outflow=1.37 cfs 0.094 af

Pond 32P: CB-N F3 Peak Elev=111.19' Inflow=0.73 cfs 0.050 af
Outflow=0.73 cfs 0.050 af

Pond 34P: CB-N F4 Peak Elev=110.10' Inflow=2.37 cfs 0.162 af
Outflow=2.37 cfs 0.162 af

Pond 36P: CB-N F5 Peak Elev=111.26' Inflow=0.57 cfs 0.039 af
Outflow=0.57 cfs 0.039 af

Pond 38P: CB-N F6 Peak Elev=109.07' Inflow=2.37 cfs 0.169 af
Outflow=2.37 cfs 0.169 af

Total Runoff Area = 18.198 ac Runoff Volume = 0.860 af Average Runoff Depth = 0.57"
61.86% Pervious = 11.256 ac 38.14% Impervious = 6.941 ac

Summary for Subcatchment 8S: S-FIELD CB1

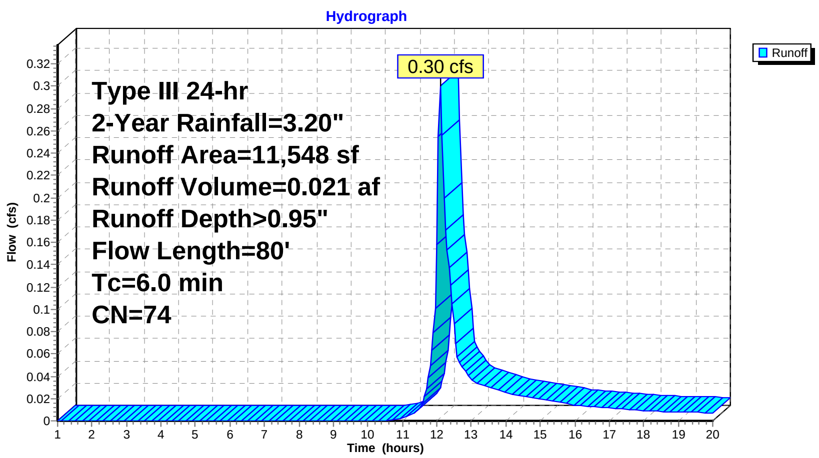
Runoff = 0.30 cfs @ 12.10 hrs, Volume= 0.021 af, Depth> 0.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	6,948	98	Paved Track, HSG A
	4,600	39	>75% Grass cover, Good, HSG A
	11,548	74	Weighted Average
	4,600		39.83% Pervious Area
	6,948		60.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	50	0.1180	0.30		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.2	30	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.0					**Direct Entry,**
6.0	80	Total			

Subcatchment 8S: S-FIELD CB1



Summary for Subcatchment 10S: S-FIELD CB2

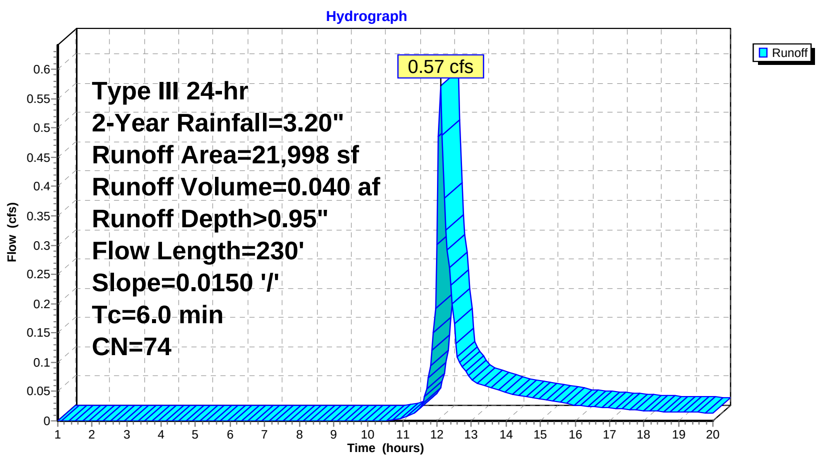
Runoff = 0.57 cfs @ 12.10 hrs, Volume= 0.040 af, Depth> 0.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	13,199	98	Paved Track, HSG A
	8,799	39	>75% Grass cover, Good, HSG A
	21,998	74	Weighted Average
	8,799		40.00% Pervious Area
	13,199		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.5	180	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.7					**Direct Entry, PARKING**
6.0	230	Total			

Subcatchment 10S: S-FIELD CB2



Summary for Subcatchment 13S: M-FIELD CB3

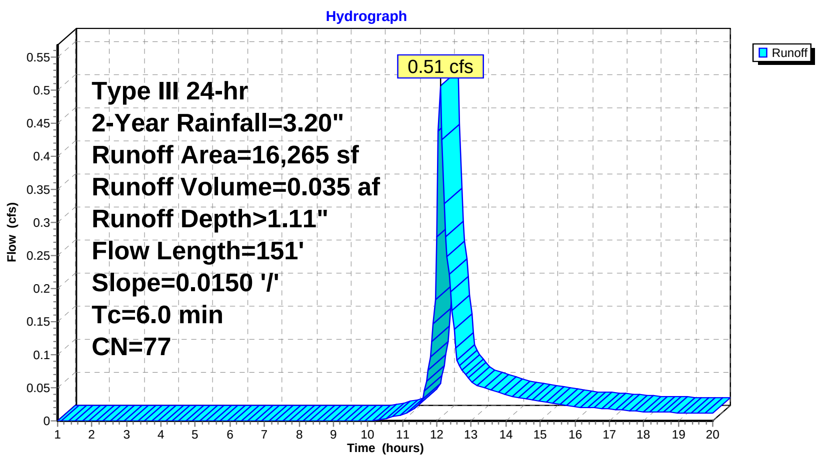
Runoff = 0.51 cfs @ 12.10 hrs, Volume= 0.035 af, Depth> 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	10,572	98	Paved Track, HSG A
	5,693	39	>75% Grass cover, Good, HSG A
	16,265	77	Weighted Average
	5,693		35.00% Pervious Area
	10,572		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.9	101	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.3					**Direct Entry,**
6.0	151	Total			

Subcatchment 13S: M-FIELD CB3



Summary for Subcatchment 17S: S-FIELD CB3

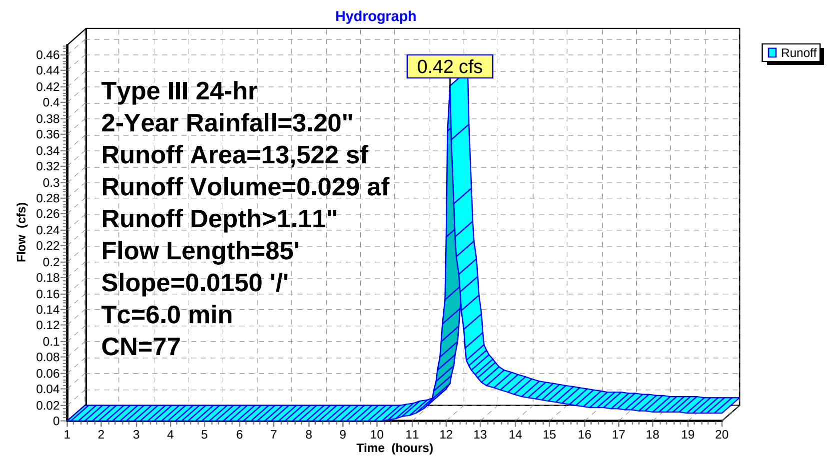
Runoff = 0.42 cfs @ 12.10 hrs, Volume= 0.029 af, Depth> 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	8,789	98	Paved Track, HSG A
	4,733	39	>75% Grass cover, Good, HSG A
	13,522	77	Weighted Average
	4,733		35.00% Pervious Area
	8,789		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.3	35	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.9					**Direct Entry,**
6.0	85	Total			

Subcatchment 17S: S-FIELD CB3



Summary for Subcatchment 19S: S-FIELD CB4

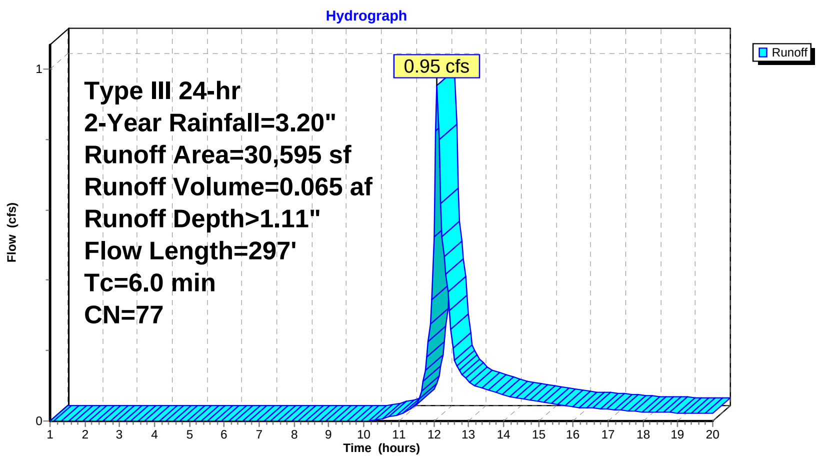
Runoff = 0.95 cfs @ 12.10 hrs, Volume= 0.065 af, Depth> 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	19,887	98	Paved Track, HSG A
	10,708	39	>75% Grass cover, Good, HSG A
	30,595	77	Weighted Average
	10,708		35.00% Pervious Area
	19,887		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	37	0.0400	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.1	20	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	240	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.1					**Direct Entry,**
6.0	297	Total			

Subcatchment 19S: S-FIELD CB4



Summary for Subcatchment 21S: S-FIELD CB5

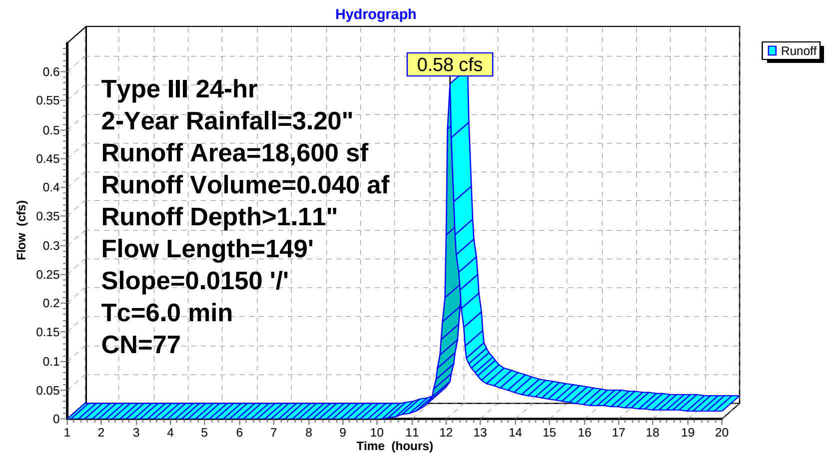
Runoff = 0.58 cfs @ 12.10 hrs, Volume= 0.040 af, Depth> 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	12,090	98	Paved Track, HSG A
	6,510	39	>75% Grass cover, Good, HSG A
	18,600	77	Weighted Average
	6,510		35.00% Pervious Area
	12,090		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.8	99	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.4					**Direct Entry,**
6.0	149	Total			

Subcatchment 21S: S-FIELD CB5



Summary for Subcatchment 23S: S-FIELD CB6

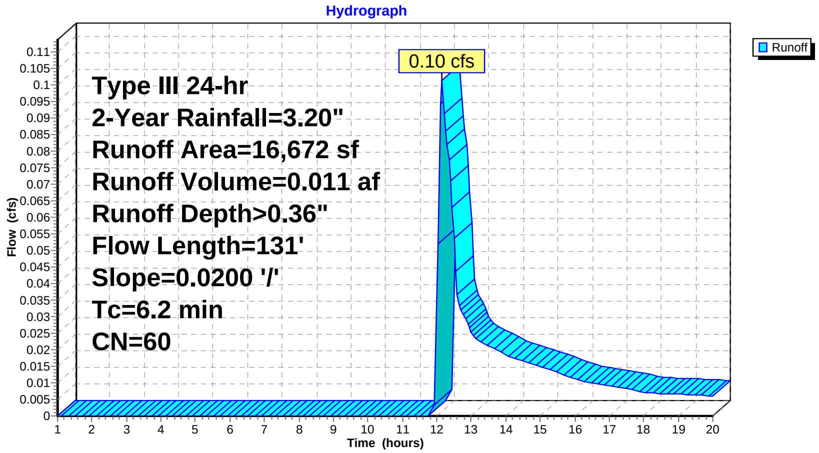
Runoff = 0.10 cfs @ 12.15 hrs, Volume= 0.011 af, Depth> 0.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	5,835	98	Paved Track, HSG A
	10,837	39	>75% Grass cover, Good, HSG A
	16,672	60	Weighted Average
	10,837		65.00% Pervious Area
	5,835		35.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.6	81	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.2	131	Total			

Subcatchment 23S: S-FIELD CB6



Summary for Subcatchment 25S: S-FIELD CB7

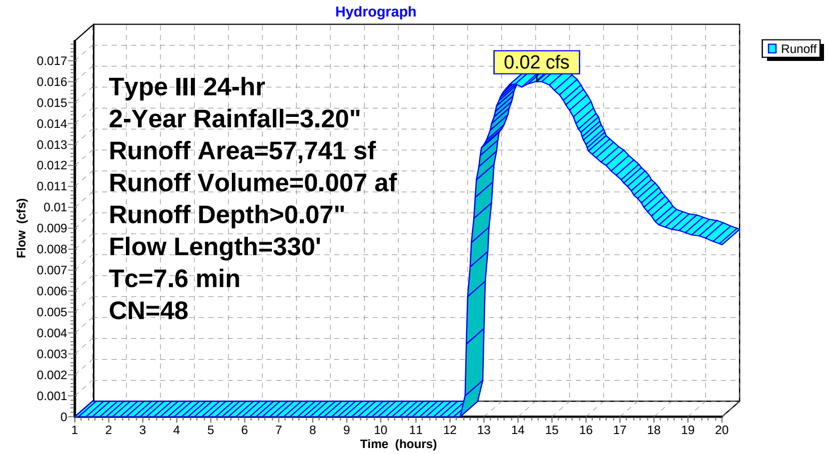
Runoff = 0.02 cfs @ 14.58 hrs, Volume= 0.007 af, Depth> 0.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	8,661	98	Paved Track, HSG A
	49,080	39	>75% Grass cover, Good, HSG A
	57,741	48	Weighted Average
	49,080		85.00% Pervious Area
	8,661		15.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.3	180	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.7	100	0.0250	2.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.6	330	Total			

Subcatchment 25S: S-FIELD CB7



Summary for Subcatchment 27S: N-FIELD CBF1

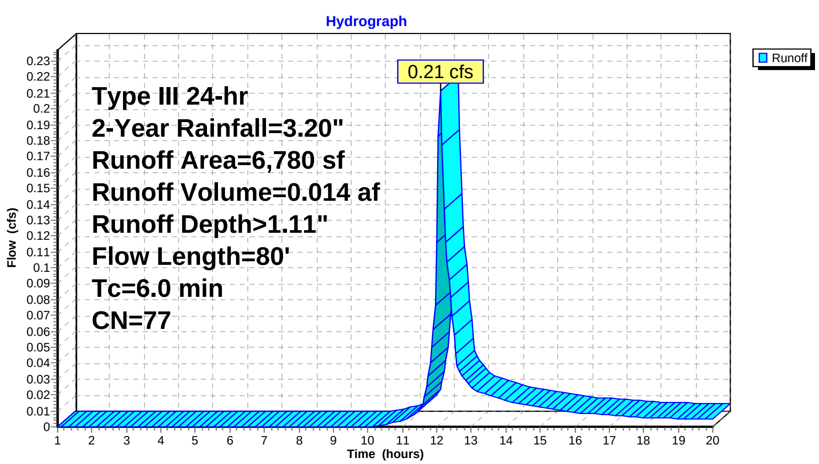
Runoff = 0.21 cfs @ 12.10 hrs, Volume= 0.014 af, Depth> 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	4,407	98	Paved Track, HSG A
	2,373	39	>75% Grass cover, Good, HSG A
	6,780	77	Weighted Average
	2,373		35.00% Pervious Area
	4,407		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0100	0.91		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.2	30	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.9					**Direct Entry,**
6.0	80	Total			

Subcatchment 27S: N-FIELD CBF1



Summary for Subcatchment 29S: N-FIELD CBF2

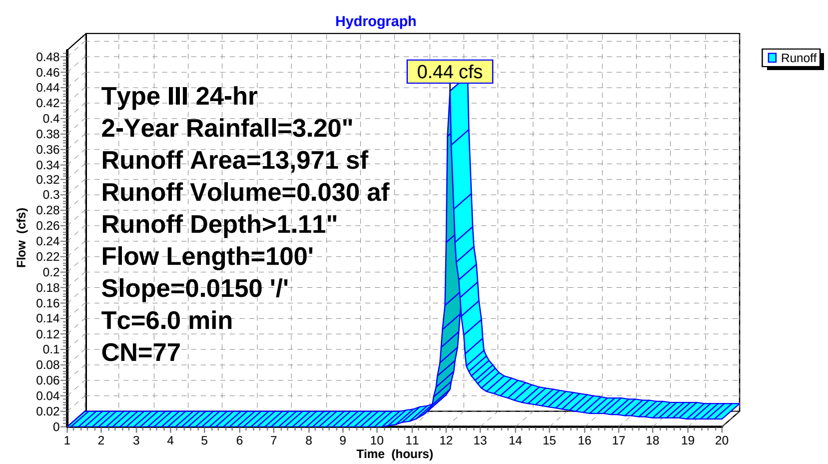
Runoff = 0.44 cfs @ 12.10 hrs, Volume= 0.030 af, Depth> 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	9,081	98	Paved Track, HSG A
	4,890	39	>75% Grass cover, Good, HSG A
	13,971	77	Weighted Average
	4,890		35.00% Pervious Area
	9,081		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	20	0.0150	0.89		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.7	80	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.9					**Direct Entry,**
6.0	100	Total			

Subcatchment 29S: N-FIELD CBF2



Summary for Subcatchment 31S: N-FIELD CBF3

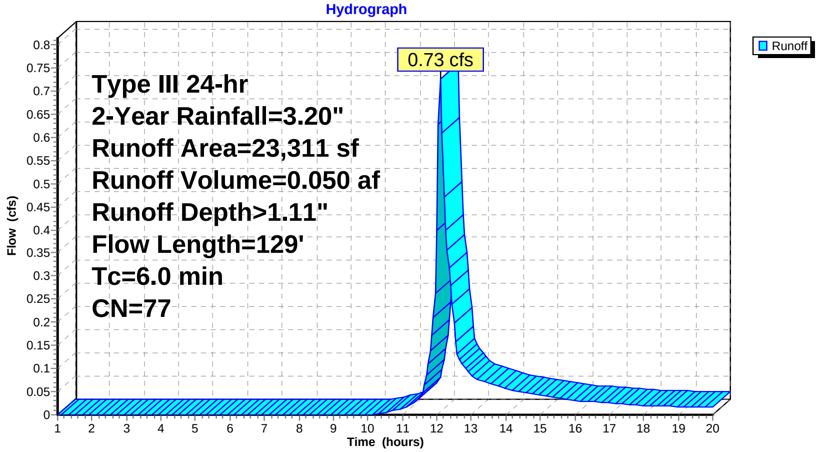
Runoff = 0.73 cfs @ 12.10 hrs, Volume= 0.050 af, Depth> 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	15,152	98	Paved Track, HSG A
	8,159	39	>75% Grass cover, Good, HSG A
	23,311	77	Weighted Average
	8,159		35.00% Pervious Area
	15,152		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	29	0.0300	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.8	100	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.1					**Direct Entry,**
6.0	129	Total			

Subcatchment 31S: N-FIELD CBF3



Summary for Subcatchment 33S: N-FIELD CBF4

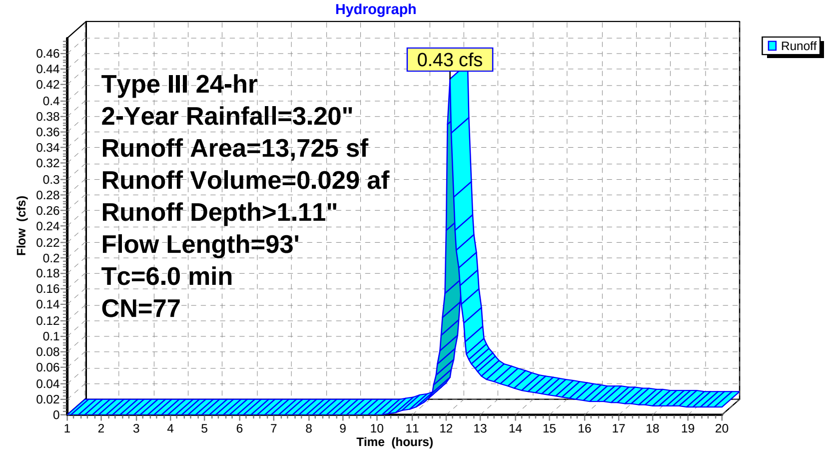
Runoff = 0.43 cfs @ 12.10 hrs, Volume= 0.029 af, Depth> 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	8,921	98	Paved Track, HSG A
	4,804	39	>75% Grass cover, Good, HSG A
	13,725	77	Weighted Average
	4,804		35.00% Pervious Area
	8,921		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	20	0.0100	0.76		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.6	73	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
5.0					**Direct Entry,**
6.0	93	Total			

Subcatchment 33S: N-FIELD CBF4



Summary for Subcatchment 35S: N-FIELD CBF5

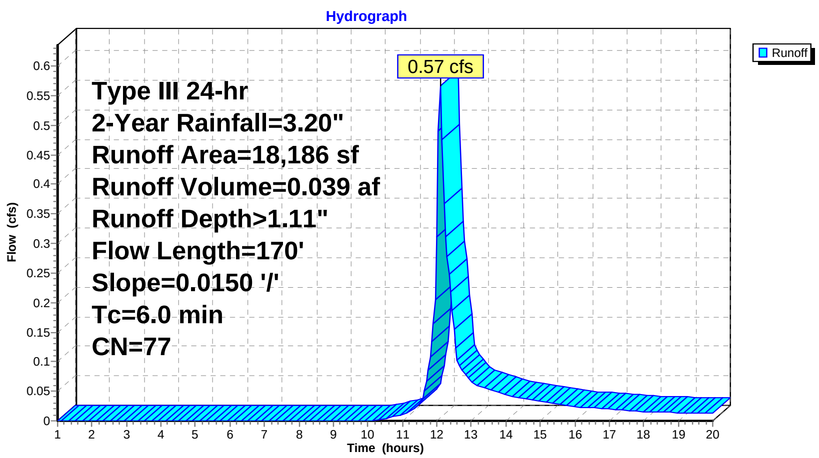
Runoff = 0.57 cfs @ 12.10 hrs, Volume= 0.039 af, Depth> 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	11,821	98	Paved Track, HSG A
	6,365	39	>75% Grass cover, Good, HSG A
	18,186	77	Weighted Average
	6,365		35.00% Pervious Area
	11,821		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.0	120	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.2					**Direct Entry,**
6.0	170	Total			

Subcatchment 35S: N-FIELD CBF5



Summary for Subcatchment 37S: N-FIELD CBF6

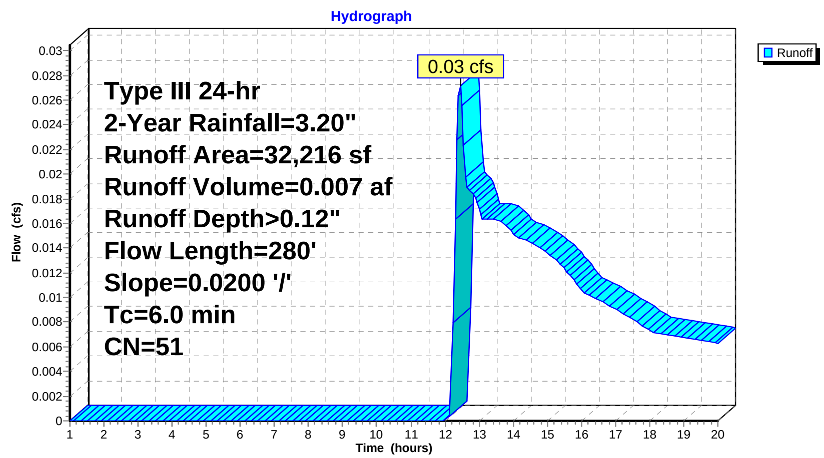
Runoff = 0.03 cfs @ 12.44 hrs, Volume= 0.007 af, Depth> 0.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	6,443	98	Paved Track, HSG A
	25,773	39	>75% Grass cover, Good, HSG A
	32,216	51	Weighted Average
	25,773		80.00% Pervious Area
	6,443		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0200	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.8	250	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.5					**Direct Entry,**
6.0	280	Total			

Subcatchment 37S: N-FIELD CBF6



Summary for Subcatchment E1: S LOT

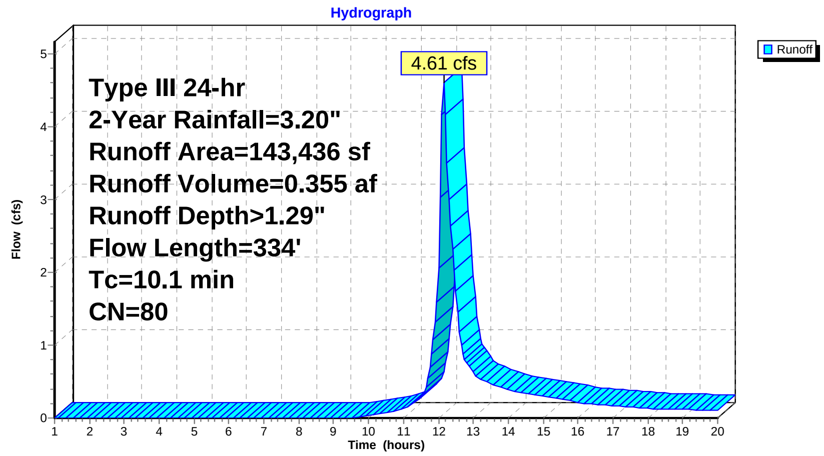
Runoff = 4.61 cfs @ 12.15 hrs, Volume= 0.355 af, Depth> 1.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
88,072	98	Paved parking, HSG A
21,058	72	Woods/grass comb., Good, HSG C
34,306	39	>75% Grass cover, Good, HSG A
143,436	80	Weighted Average
55,364		38.60% Pervious Area
88,072		61.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	50	0.0490	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.7	150	0.0486	3.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.8	134	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
10.1	334	Total			

Subcatchment E1: S LOT



Summary for Subcatchment E2: FRONT LOT

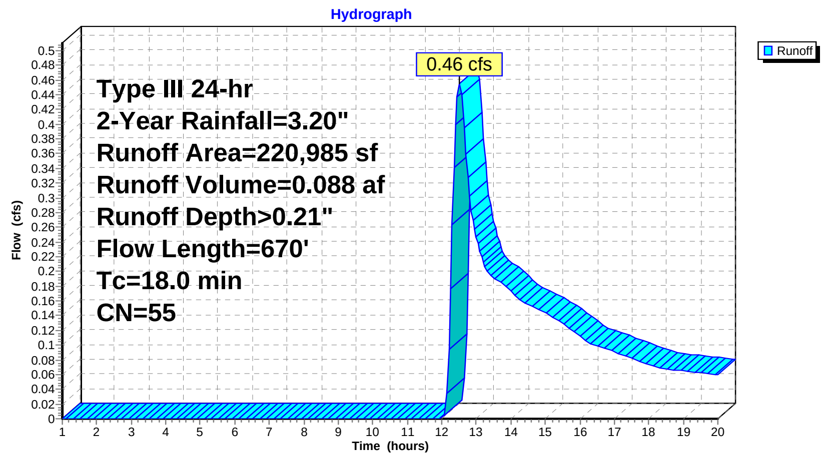
Runoff = 0.46 cfs @ 12.52 hrs, Volume= 0.088 af, Depth> 0.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
95,208	32	Woods/grass comb., Good, HSG A
72,489	98	Paved parking, HSG A
53,288	39	>75% Grass cover, Good, HSG A
220,985	55	Weighted Average
148,496		67.20% Pervious Area
72,489		32.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow, WOOD-FIELD** Woods: Light underbrush n= 0.400 P2= 3.20"
0.5	120	0.0590	3.91		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
4.2	360	0.0080	1.44		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
1.0	140	0.0140	2.40		**Shallow Concentrated Flow, PKG** Paved Kv= 20.3 fps
18.0	670	Total			

Subcatchment E2: FRONT LOT



Summary for Subcatchment E3: EDGE FIELD

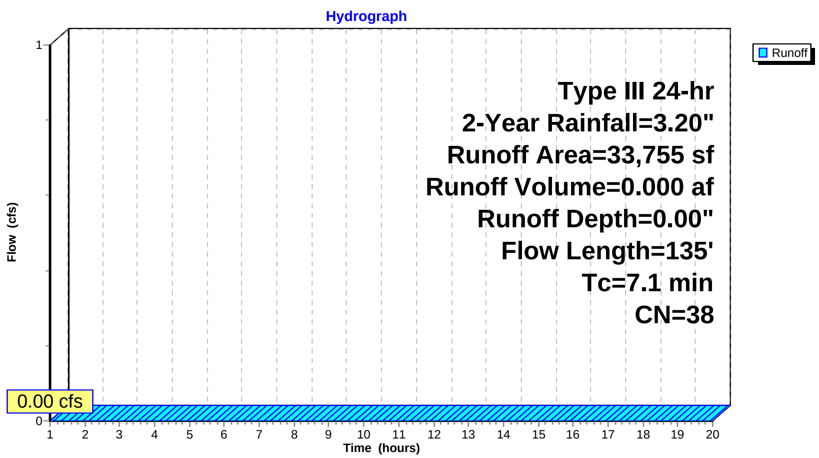
Runoff = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
5,183	32	Woods/grass comb., Good, HSG A
28,572	39	>75% Grass cover, Good, HSG A
33,755	38	Weighted Average
33,755		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	35	0.0460	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.1	50	0.2195	7.54		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	50	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.1	135	Total			

Subcatchment E3: EDGE FIELD



Summary for Subcatchment E4: FIELD

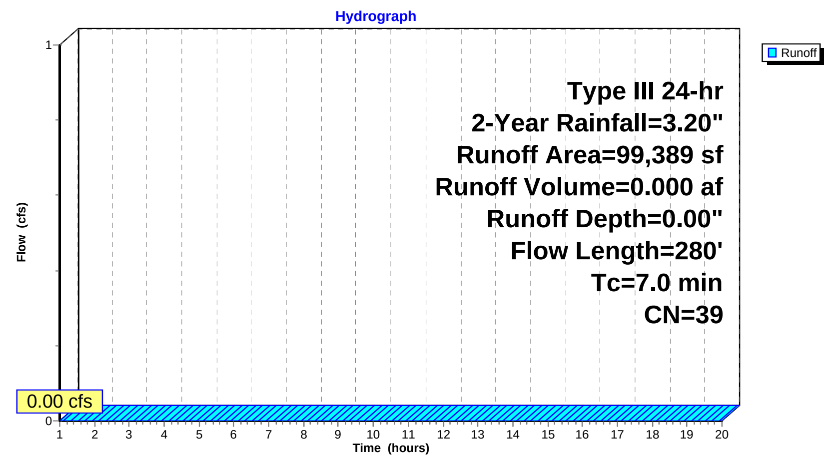
Runoff = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
94,741	39	>75% Grass cover, Good, HSG A
4,648	43	Woods/grass comb., Fair, HSG A
99,389	39	Weighted Average
99,389		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.3	180	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	50	0.1200	5.58		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.0	280	Total			

Subcatchment E4: FIELD

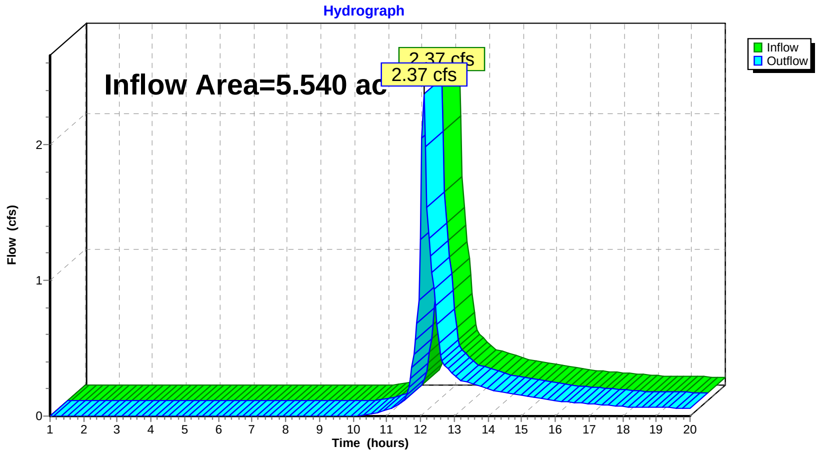


Summary for Reach 39R: HEADWALL 'A'

Inflow Area = 5.540 ac, 23.13% Impervious, Inflow Depth > 0.37" for 2-Year event
Inflow = 2.37 cfs @ 12.10 hrs, Volume= 0.169 af
Outflow = 2.37 cfs @ 12.10 hrs, Volume= 0.169 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3

Reach 39R: HEADWALL 'A'

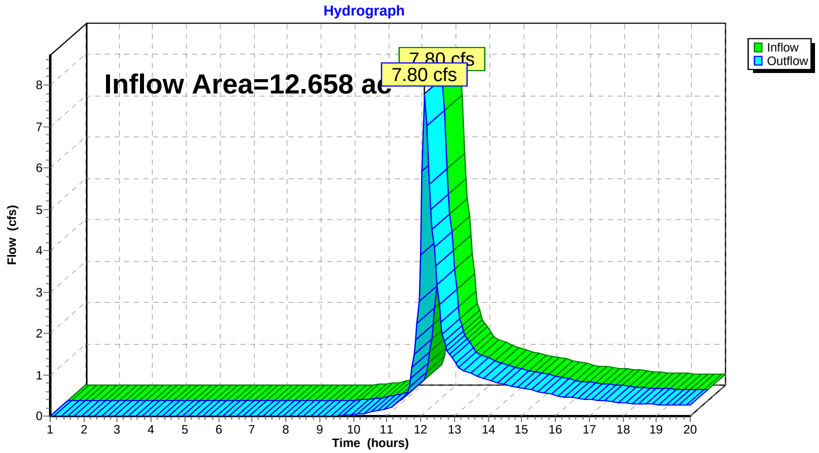


Summary for Reach RE1: HEADWALL 'B'

Inflow Area = 12.658 ac, 44.72% Impervious, Inflow Depth > 0.65" for 2-Year event
Inflow = 7.80 cfs @ 12.12 hrs, Volume= 0.691 af
Outflow = 7.80 cfs @ 12.12 hrs, Volume= 0.691 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3

Reach RE1: HEADWALL 'B'



Summary for Pond 7P: CB-SE Pkg

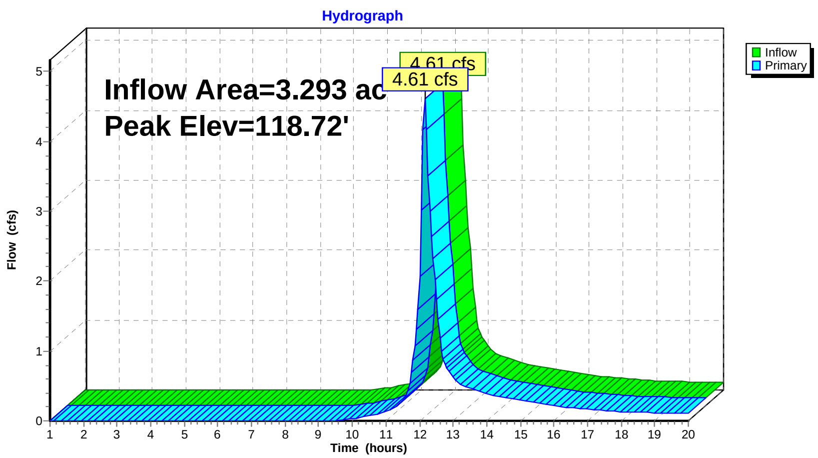
Inflow Area = 3.293 ac, 61.40% Impervious, Inflow Depth > 1.29" for 2-Year event
Inflow = 4.61 cfs @ 12.15 hrs, Volume= 0.355 af
Outflow = 4.61 cfs @ 12.15 hrs, Volume= 0.355 af, Atten= 0%, Lag= 0.0 min
Primary = 4.61 cfs @ 12.15 hrs, Volume= 0.355 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 118.72' @ 12.16 hrs

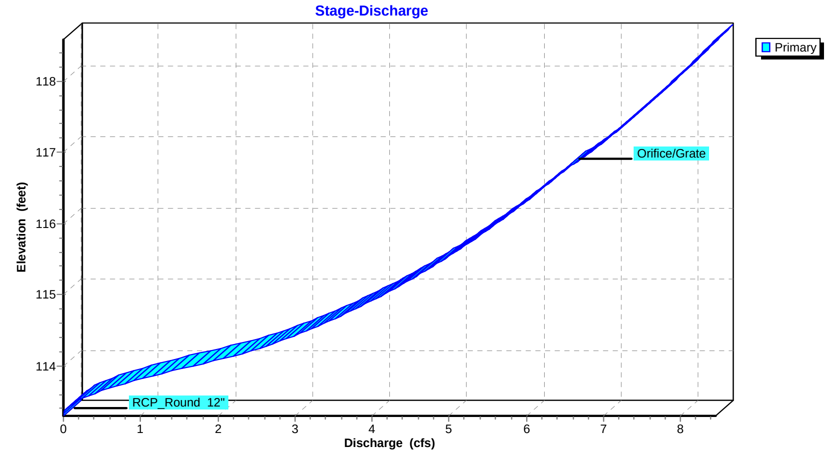
Device	Routing	Invert	Outlet Devices
#1	Primary	113.30'	**12.0" Round RCP_Round 12"** L= 71.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 113.30' / 111.17' S= 0.0299 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	116.80'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area) Limited to weir flow at low heads

Primary OutFlow Max=4.17 cfs @ 12.15 hrs HW=118.56' TW=117.30' (Dynamic Tailwater)
└─**1=RCP_Round 12"** (Outlet Controls 4.02 cfs @ 5.11 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.15 cfs @ 5.40 fps)

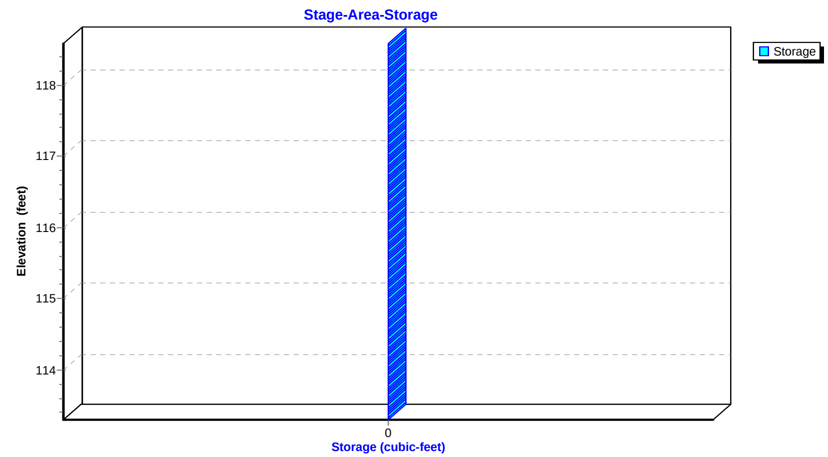
Pond 7P: CB-SE Pkg



Pond 7P: CB-SE Pkg



Pond 7P: CB-SE Pkg



Summary for Pond 9P: CB-SE Pkg1

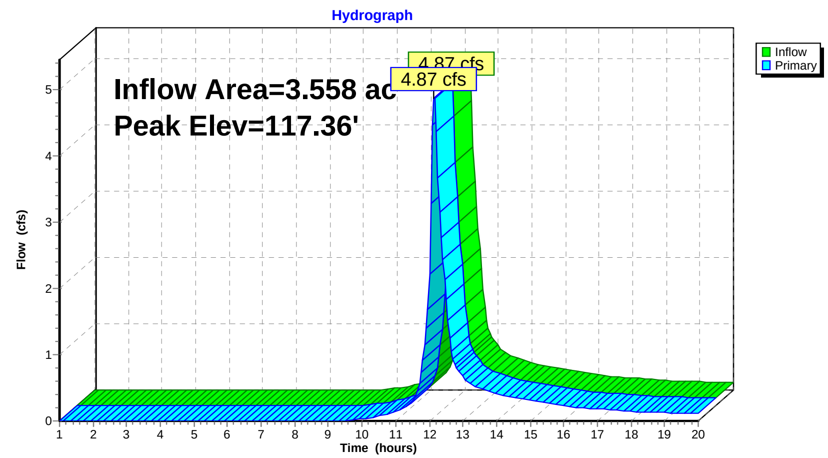
Inflow Area = 3.558 ac, 61.31% Impervious, Inflow Depth > 1.27" for 2-Year event
Inflow = 4.87 cfs @ 12.15 hrs, Volume= 0.376 af
Outflow = 4.87 cfs @ 12.15 hrs, Volume= 0.376 af, Atten= 0%, Lag= 0.0 min
Primary = 4.87 cfs @ 12.15 hrs, Volume= 0.376 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 117.36' @ 12.16 hrs

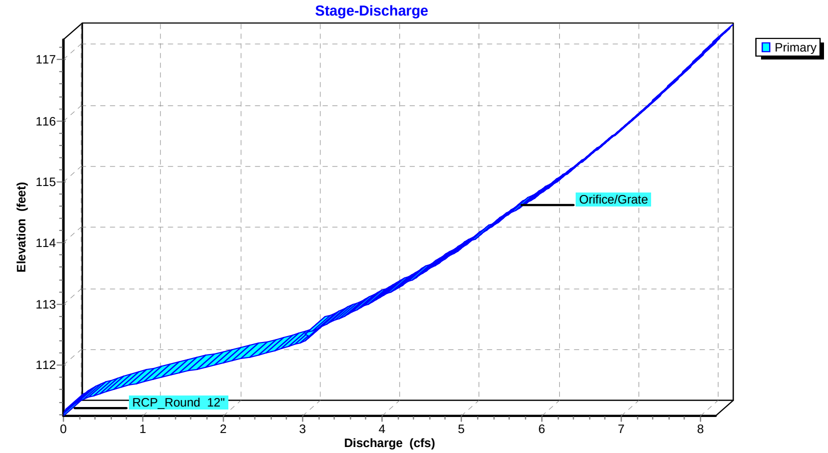
Device	Routing	Invert	Outlet Devices
#1	Primary	111.17'	**12.0" Round RCP_Round 12"** L= 90.3' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.17' / 110.70' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=4.82 cfs @ 12.15 hrs HW=117.17' TW=115.26' (Dynamic Tailwater)
1=RCP_Round 12" (Outlet Controls 4.63 cfs @ 5.90 fps)
2=Orifice/Grate (Orifice Controls 0.18 cfs @ 6.65 fps)

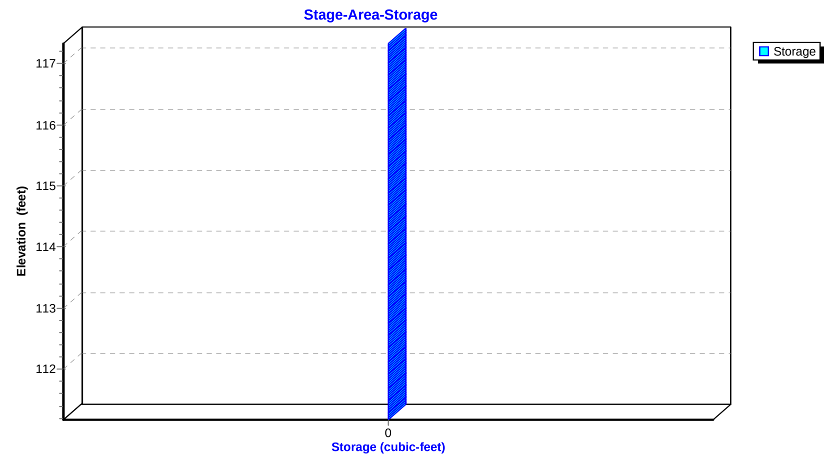
Pond 9P: CB-SE Pkg1



Pond 9P: CB-SE Pkg1



Pond 9P: CB-SE Pkg1



Summary for Pond 11P: CB-SE Pkg2

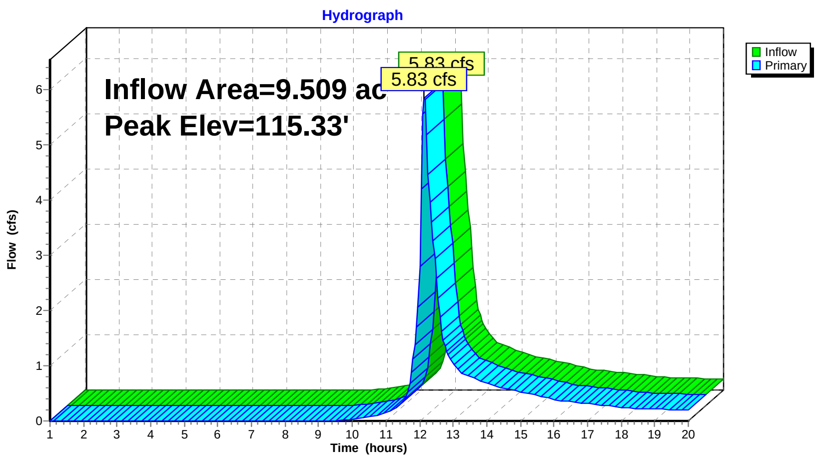
Inflow Area = 9.509 ac, 46.18% Impervious, Inflow Depth > 0.68" for 2-Year event
Inflow = 5.83 cfs @ 12.14 hrs, Volume= 0.538 af
Outflow = 5.83 cfs @ 12.14 hrs, Volume= 0.538 af, Atten= 0%, Lag= 0.0 min
Primary = 5.83 cfs @ 12.14 hrs, Volume= 0.538 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 115.33' @ 12.15 hrs

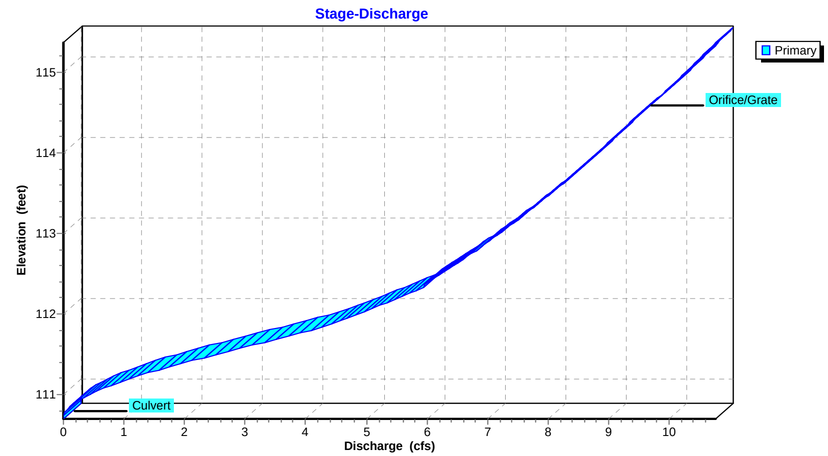
Device	Routing	Invert	Outlet Devices
#1	Primary	110.70'	**15.0" Round Culvert** L= 134.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.70' / 109.75' S= 0.0071 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=5.47 cfs @ 12.14 hrs HW=115.10' TW=113.99' (Dynamic Tailwater)
1=Culvert (Outlet Controls 5.37 cfs @ 4.37 fps)
2=Orifice/Grate (Orifice Controls 0.10 cfs @ 3.74 fps)

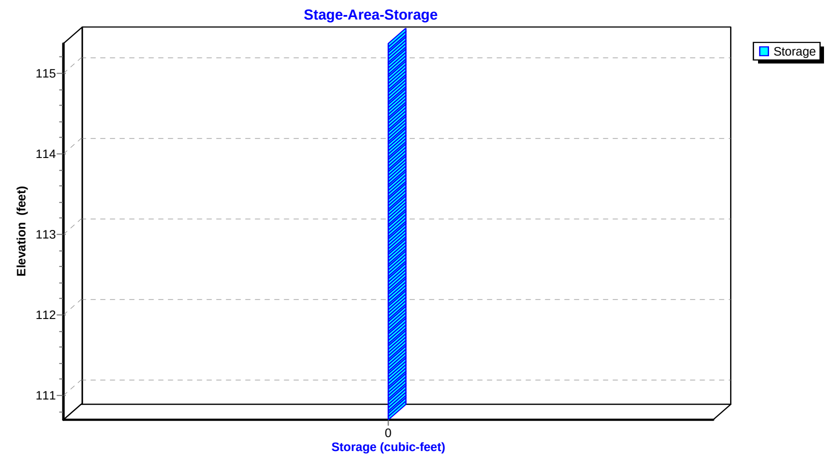
Pond 11P: CB-SE Pkg2



Pond 11P: CB-SE Pkg2



Pond 11P: CB-SE Pkg2



Summary for Pond 12P: CB-NE Pkg

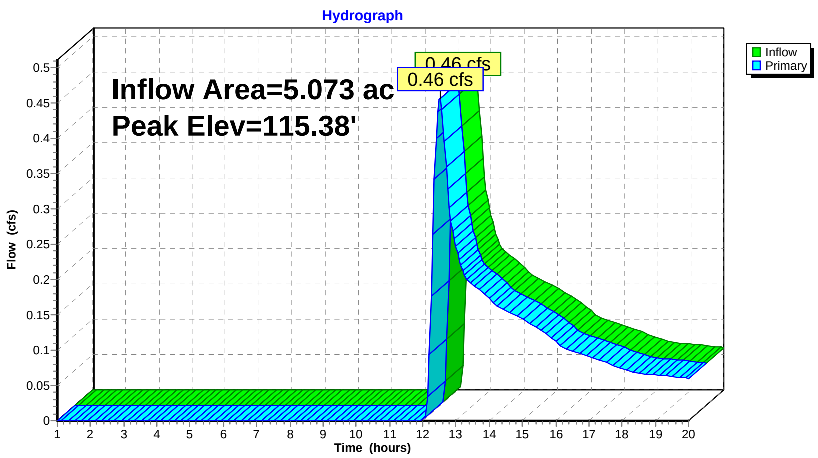
Inflow Area = 5.073 ac, 32.80% Impervious, Inflow Depth > 0.21" for 2-Year event
Inflow = 0.46 cfs @ 12.52 hrs, Volume= 0.088 af
Outflow = 0.46 cfs @ 12.52 hrs, Volume= 0.088 af, Atten= 0%, Lag= 0.0 min
Primary = 0.46 cfs @ 12.52 hrs, Volume= 0.088 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 115.38' @ 12.17 hrs

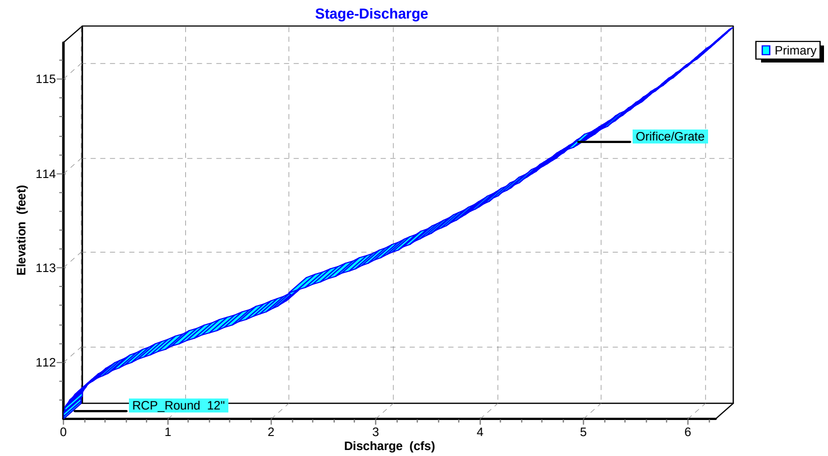
Device	Routing	Invert	Outlet Devices
#1	Primary	111.40'	**12.0" Round RCP_Round 12"** L= 76.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.40' / 111.36' S= 0.0005 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.25'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.47 cfs @ 12.52 hrs HW=111.98' TW=111.87' (Dynamic Tailwater)
└**1=RCP_Round 12"** (Outlet Controls 0.47 cfs @ 1.43 fps)
└**2=Orifice/Grate** (Controls 0.00 cfs)

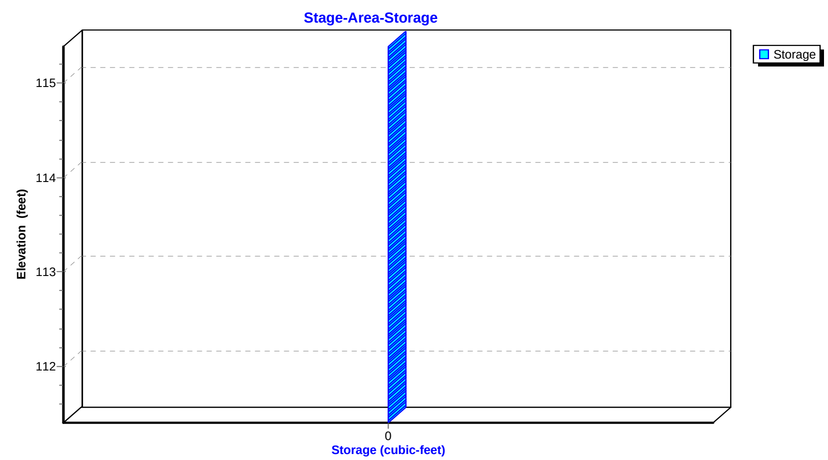
Pond 12P: CB-NE Pkg



Pond 12P: CB-NE Pkg



Pond 12P: CB-NE Pkg



Summary for Pond 14P: CB-NE Pkg2

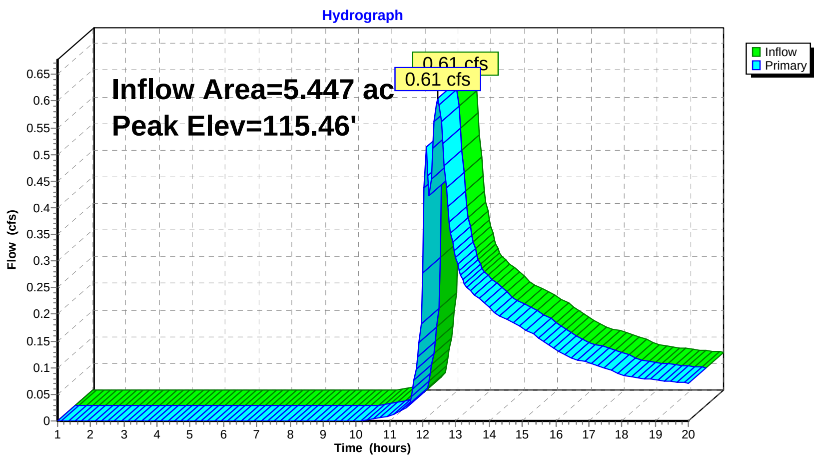
Inflow Area =	5.447 ac, 35.01% Impervious, Inflow Depth > 0.27" for 2-Year event			
Inflow =	0.61 cfs @	12.45 hrs, Volume=	0.123 af	
Outflow =	0.61 cfs @	12.45 hrs, Volume=	0.123 af, Atten= 0%, Lag= 0.0 min	
Primary =	0.61 cfs @	12.45 hrs, Volume=	0.123 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 115.46' @ 12.16 hrs

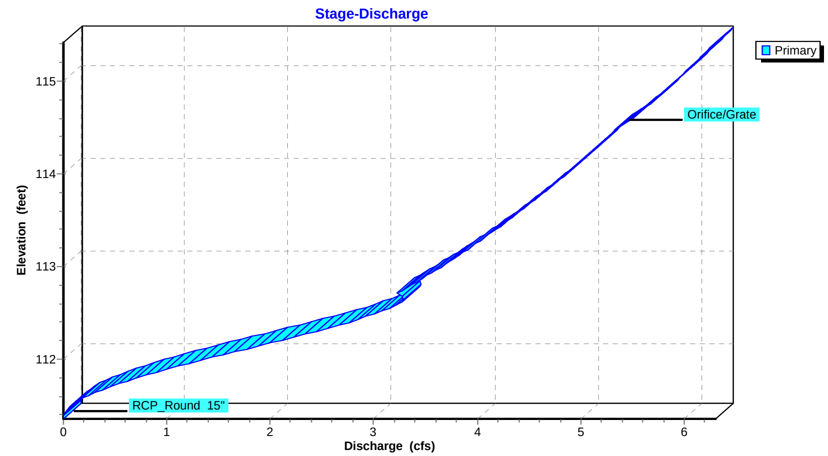
Device	Routing	Invert	Outlet Devices
#1	Primary	111.36'	**12.0" Round RCP_Round 15"** L= 105.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.36' / 110.70' S= 0.0063 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.61 cfs @ 12.45 hrs HW=111.92' TW=111.66' (Dynamic Tailwater)
1=RCP_Round 15" (Outlet Controls 0.61 cfs @ 1.98 fps)
2=Orifice/Grate (Controls 0.00 cfs)

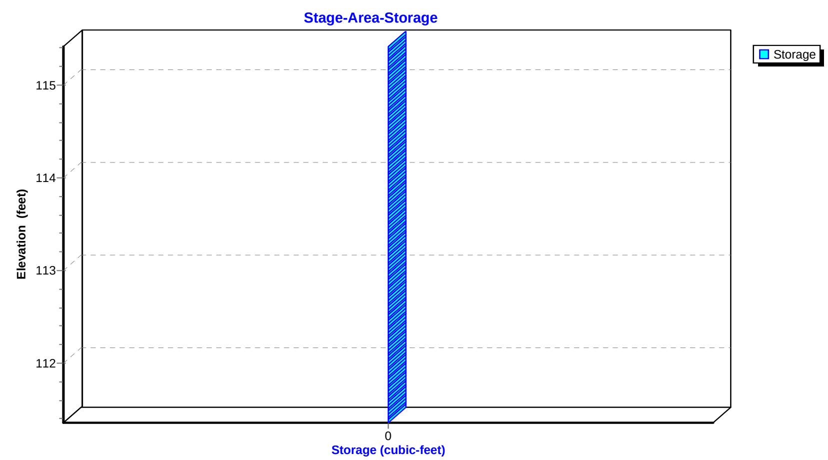
Pond 14P: CB-NE Pkg2



Pond 14P: CB-NE Pkg2



Pond 14P: CB-NE Pkg2



Summary for Pond 18P: CB-SE Pkg3

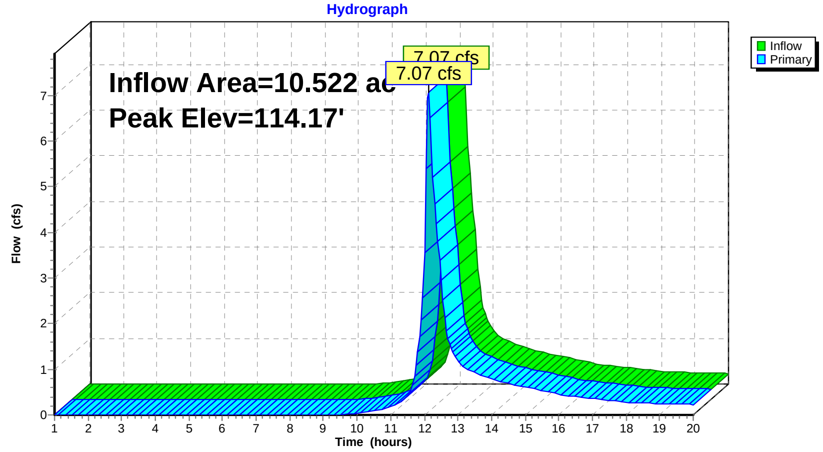
Inflow Area = 10.522 ac, 47.99% Impervious, Inflow Depth > 0.72" for 2-Year event
Inflow = 7.07 cfs @ 12.13 hrs, Volume= 0.632 af
Outflow = 7.07 cfs @ 12.13 hrs, Volume= 0.632 af, Atten= 0%, Lag= 0.0 min
Primary = 7.07 cfs @ 12.13 hrs, Volume= 0.632 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 114.17' @ 12.13 hrs

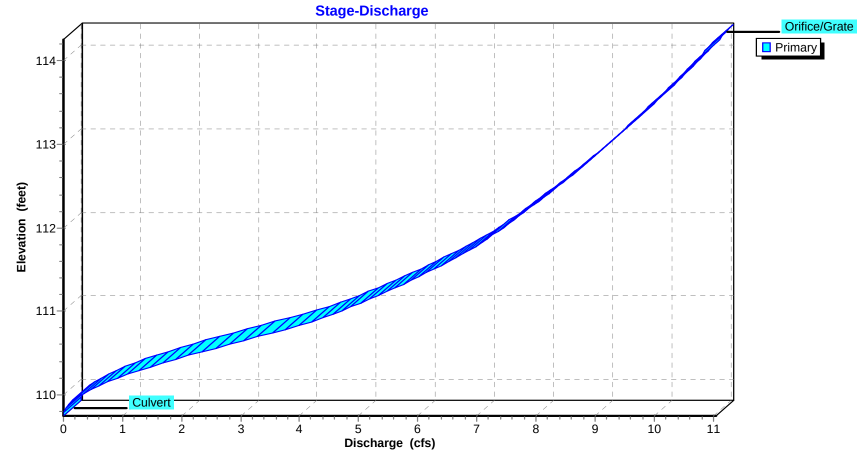
Device	Routing	Invert	Outlet Devices
#1	Primary	109.75'	**15.0" Round Culvert** L= 106.1' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 109.75' / 108.88' S= 0.0082 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.25'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=6.68 cfs @ 12.13 hrs HW=113.94' TW=112.43' (Dynamic Tailwater)
1=Culvert (Outlet Controls 6.68 cfs @ 5.44 fps)
2=Orifice/Grate (Controls 0.00 cfs)

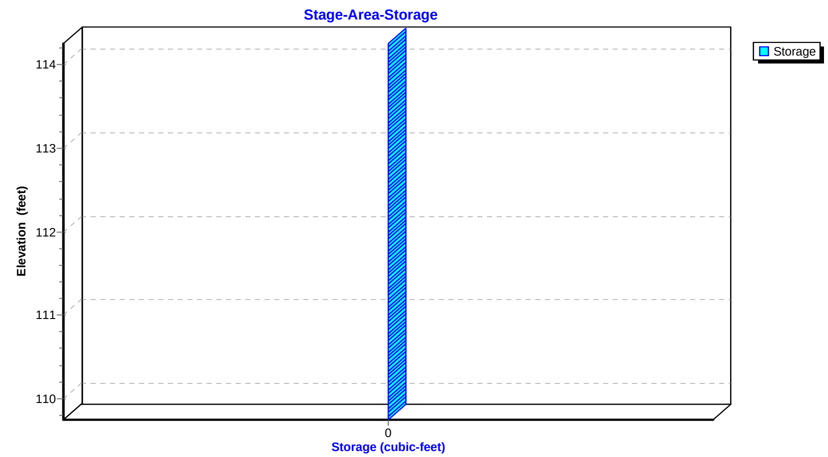
Pond 18P: CB-SE Pkg3



Pond 18P: CB-SE Pkg3



Pond 18P: CB-SE Pkg3



Summary for Pond 20P: CB-SE Pkg4

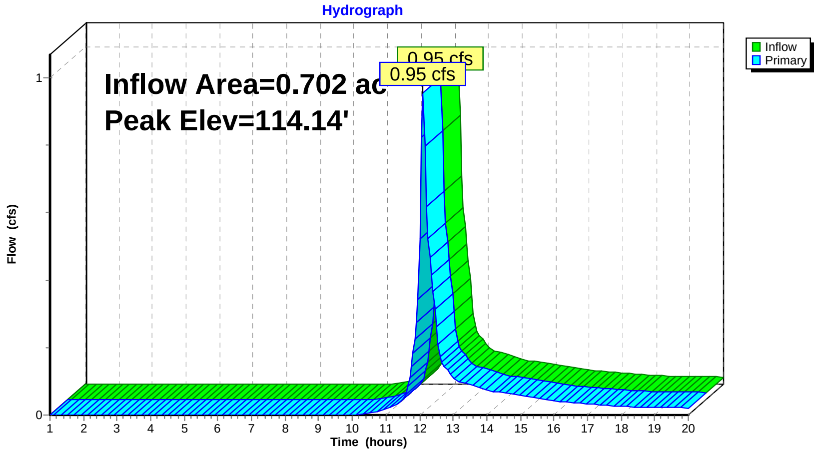
Inflow Area = 0.702 ac, 65.00% Impervious, Inflow Depth > 1.11" for 2-Year event
Inflow = 0.95 cfs @ 12.10 hrs, Volume= 0.065 af
Outflow = 0.95 cfs @ 12.10 hrs, Volume= 0.065 af, Atten= 0%, Lag= 0.0 min
Primary = 0.95 cfs @ 12.10 hrs, Volume= 0.065 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 114.14' @ 12.15 hrs

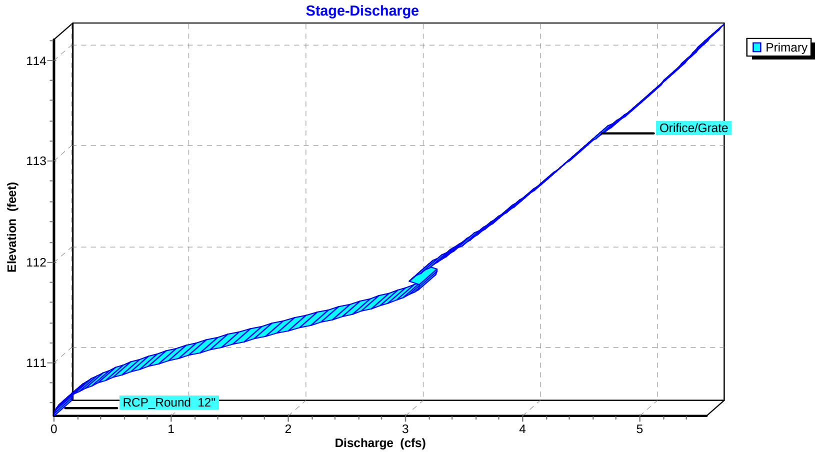
Device	Routing	Invert	Outlet Devices
#1	Primary	110.48'	**12.0" Round RCP_Round 12"** L= 140.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.48' / 109.75' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	113.20'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 12.10 hrs HW=113.16' TW=113.72' (Dynamic Tailwater)
1=RCP_Round 12" (Controls 0.00 cfs)
2=Orifice/Grate (Controls 0.00 cfs)

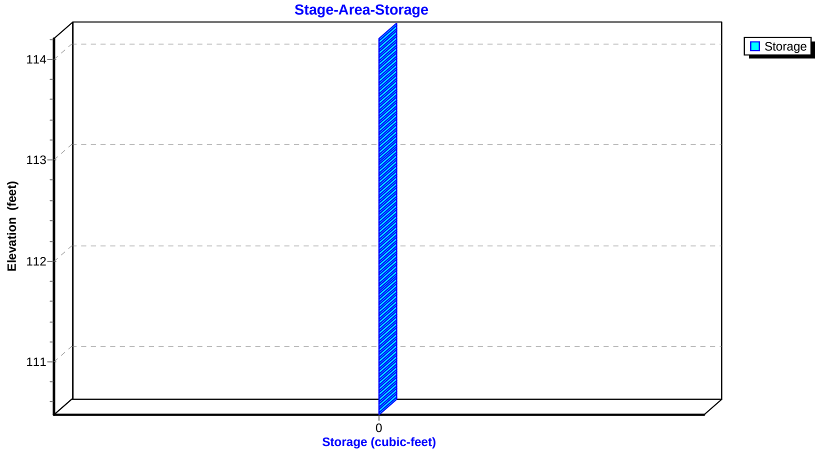
Pond 20P: CB-SE Pkg4



Pond 20P: CB-SE Pkg4



Pond 20P: CB-SE Pkg4



Summary for Pond 22P: CB-SE Pkg5

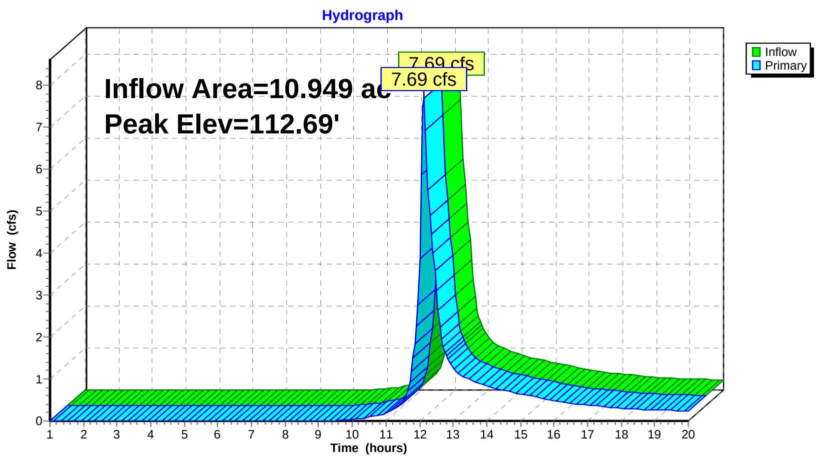
Inflow Area = 10.949 ac, 48.65% Impervious, Inflow Depth > 0.74" for 2-Year event
Inflow = 7.69 cfs @ 12.12 hrs, Volume= 0.672 af
Outflow = 7.69 cfs @ 12.12 hrs, Volume= 0.672 af, Atten= 0%, Lag= 0.0 min
Primary = 7.69 cfs @ 12.12 hrs, Volume= 0.672 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 112.69' @ 12.12 hrs

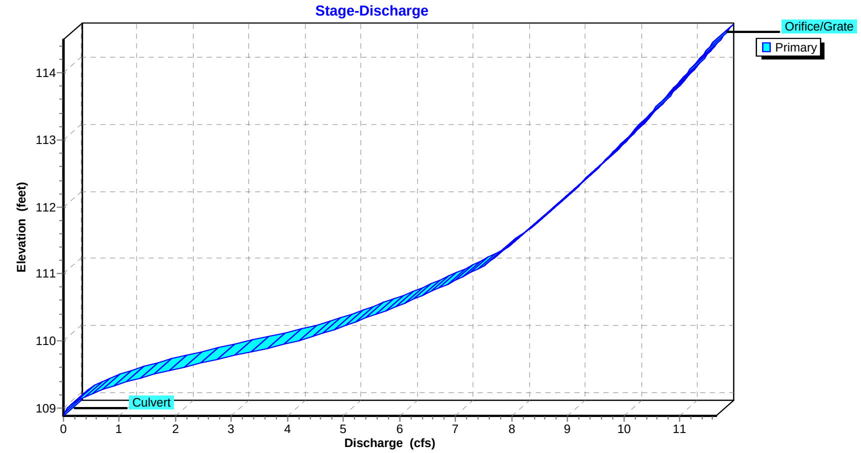
Device	Routing	Invert	Outlet Devices
#1	Primary	108.88'	**15.0" Round Culvert** L= 157.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 108.88' / 107.48' S= 0.0089 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=7.48 cfs @ 12.12 hrs HW=112.44' TW=110.05' (Dynamic Tailwater)
1=Culvert (Outlet Controls 7.48 cfs @ 6.10 fps)
2=Orifice/Grate (Controls 0.00 cfs)

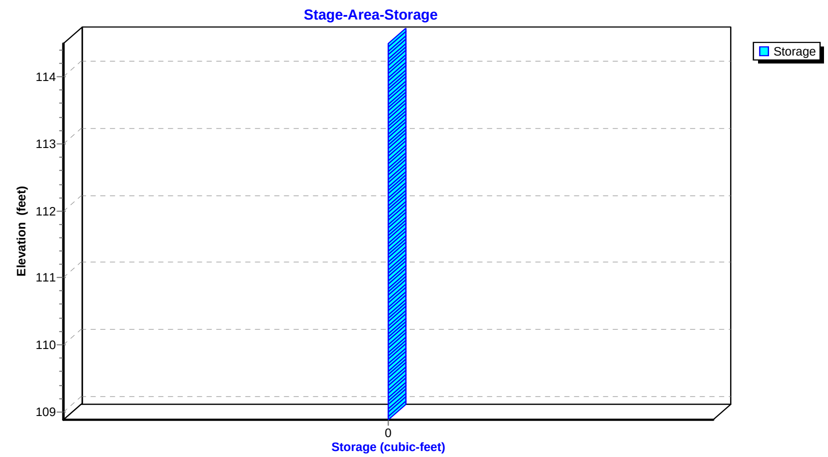
Pond 22P: CB-SE Pkg5



Pond 22P: CB-SE Pkg5



Pond 22P: CB-SE Pkg5



Summary for Pond 24P: CB-SE Pkg6

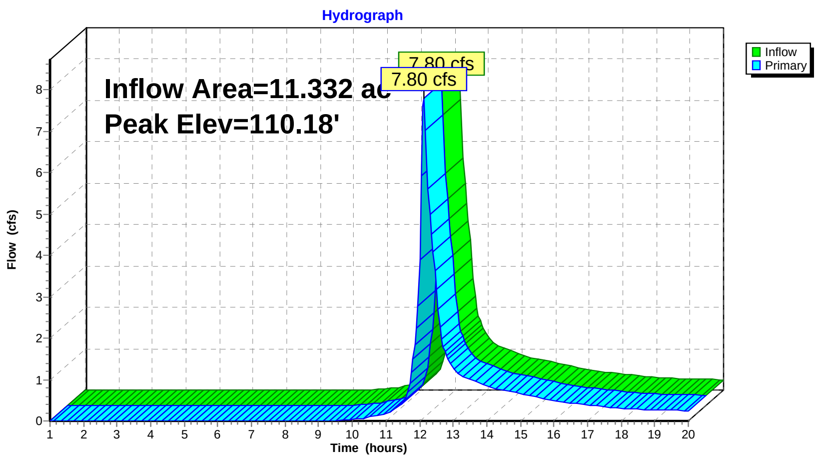
Inflow Area = 11.332 ac, 48.19% Impervious, Inflow Depth > 0.72" for 2-Year event
Inflow = 7.80 cfs @ 12.12 hrs, Volume= 0.683 af
Outflow = 7.80 cfs @ 12.12 hrs, Volume= 0.683 af, Atten= 0%, Lag= 0.0 min
Primary = 7.80 cfs @ 12.12 hrs, Volume= 0.683 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 110.18' @ 12.12 hrs

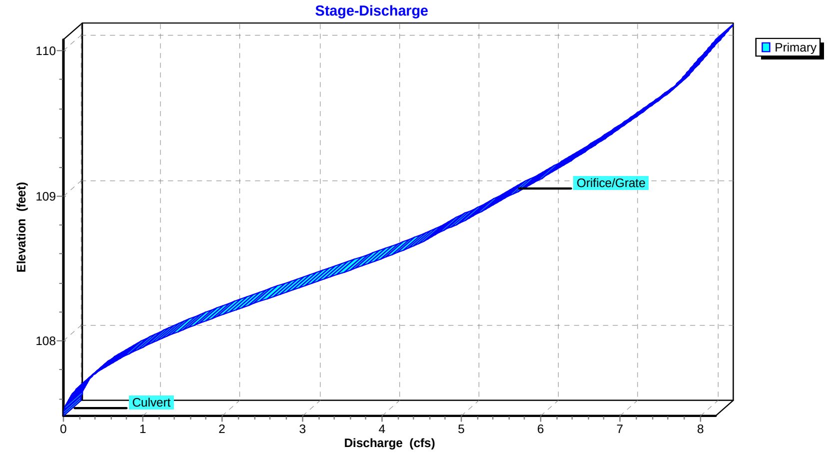
Device	Routing	Invert	Outlet Devices
#1	Primary	107.48'	**15.0" Round Culvert** L= 154.4' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 107.48' / 106.10' S= 0.0089 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	109.00'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=7.58 cfs @ 12.12 hrs HW=110.05' TW=107.72' (Dynamic Tailwater)
1=Culvert (Outlet Controls 7.44 cfs @ 6.07 fps)
2=Orifice/Grate (Orifice Controls 0.14 cfs @ 4.94 fps)

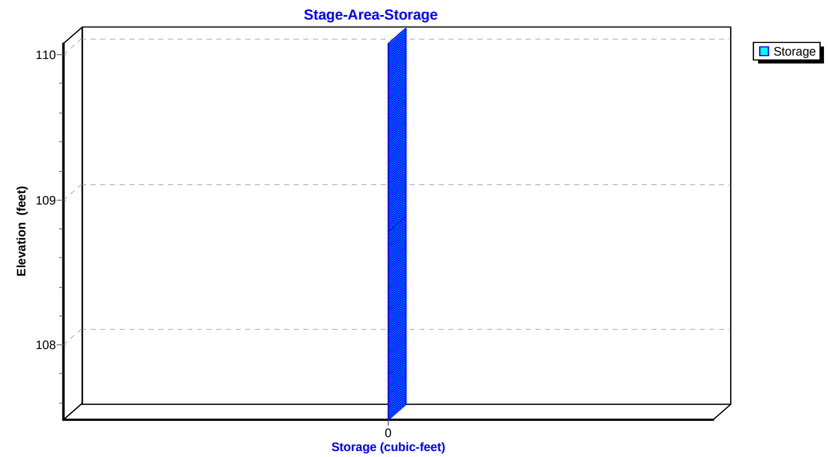
Pond 24P: CB-SE Pkg6



Pond 24P: CB-SE Pkg6



Pond 24P: CB-SE Pkg6



Summary for Pond 26P: CB-SE Pkg7

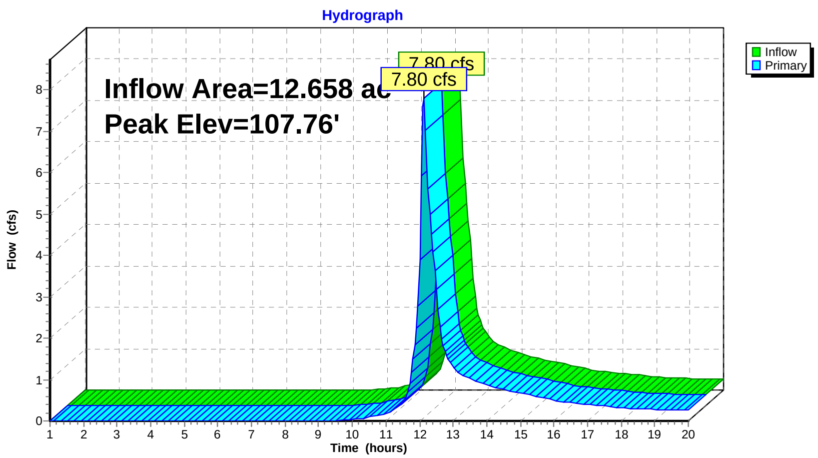
Inflow Area =	12.658 ac, 44.72% Impervious, Inflow Depth > 0.65" for 2-Year event			
Inflow =	7.80 cfs @	12.12 hrs,	Volume=	0.691 af
Outflow =	7.80 cfs @	12.12 hrs,	Volume=	0.691 af, Atten= 0%, Lag= 0.0 min
Primary =	7.80 cfs @	12.12 hrs,	Volume=	0.691 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 107.76' @ 12.12 hrs

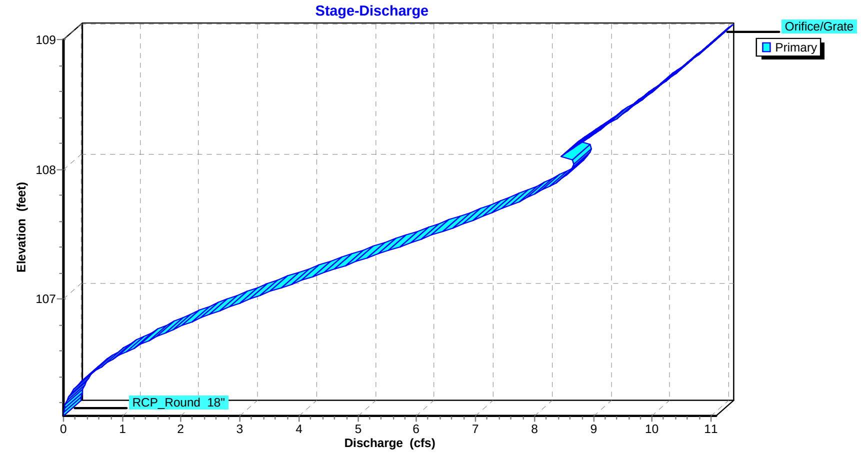
Device	Routing	Invert	Outlet Devices
#1	Primary	106.10'	**18.0" Round RCP_Round 18"** L= 154.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 106.10' / 105.35' S= 0.0049 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Primary	109.00'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=7.58 cfs @ 12.12 hrs HW=107.72' TW=0.00' (Dynamic Tailwater)
1=RCP_Round 18" (Barrel Controls 7.58 cfs @ 4.94 fps)
2=Orifice/Grate (Controls 0.00 cfs)

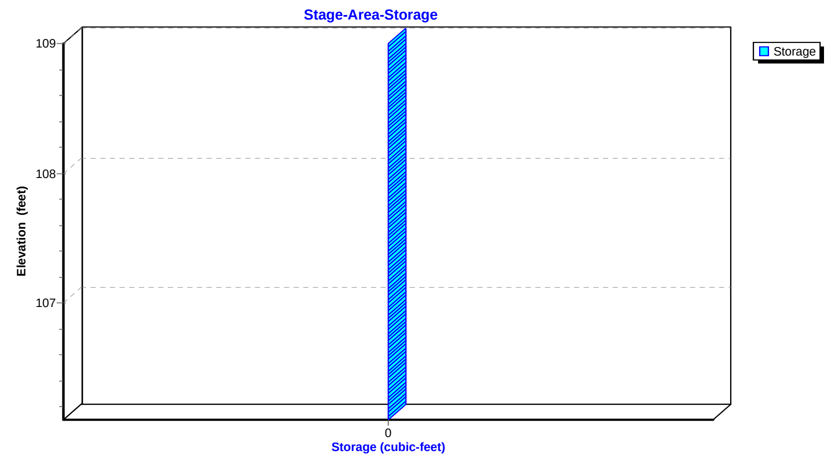
Pond 26P: CB-SE Pkg7



Pond 26P: CB-SE Pkg7



Pond 26P: CB-SE Pkg7



Summary for Pond 28P: CB-N F1

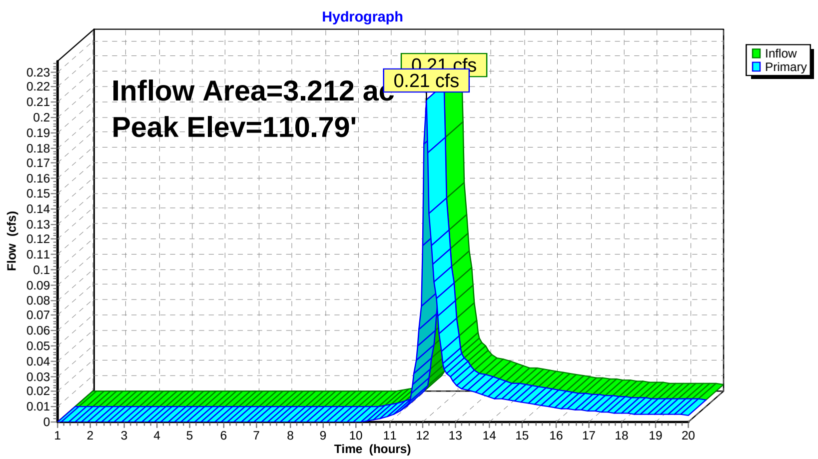
Inflow Area = 3.212 ac, 3.15% Impervious, Inflow Depth > 0.05" for 2-Year event
Inflow = 0.21 cfs @ 12.10 hrs, Volume= 0.014 af
Outflow = 0.21 cfs @ 12.10 hrs, Volume= 0.014 af, Atten= 0%, Lag= 0.0 min
Primary = 0.21 cfs @ 12.10 hrs, Volume= 0.014 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 110.79' @ 12.10 hrs

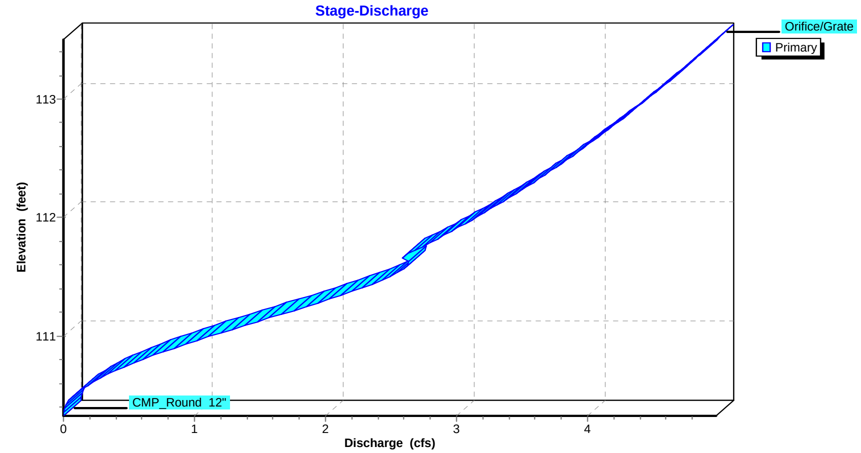
Device	Routing	Invert	Outlet Devices
#1	Primary	110.33'	**12.0" Round CMP_Round 12"** L= 111.7' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.33' / 110.00' S= 0.0030 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	113.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.20 cfs @ 12.10 hrs HW=110.79' TW=110.73' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 0.20 cfs @ 0.84 fps)
2=Orifice/Grate (Controls 0.00 cfs)

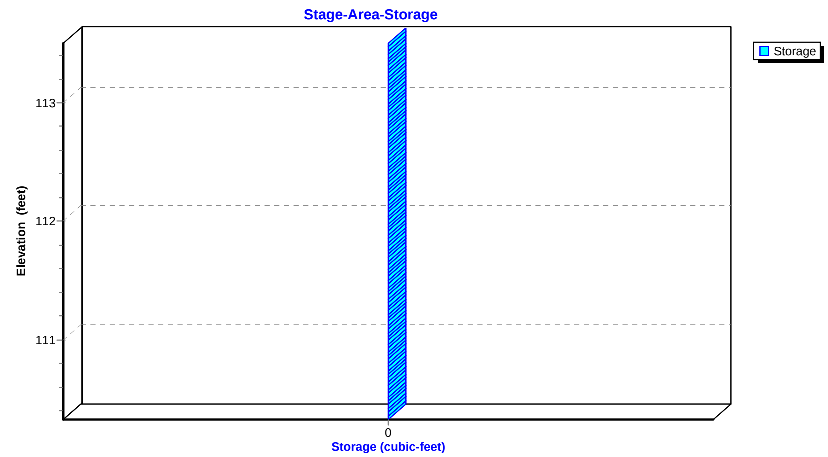
Pond 28P: CB-N F1



Pond 28P: CB-N F1



Pond 28P: CB-N F1



Summary for Pond 30P: CB-N F2

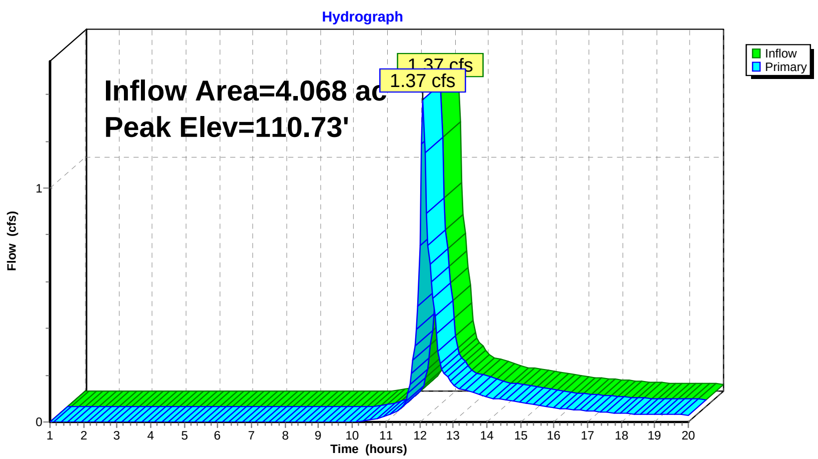
Inflow Area =		4.068 ac, 16.16% Impervious, Inflow Depth > 0.28"		for 2-Year event
Inflow	=	1.37 cfs @ 12.10 hrs, Volume=	0.094 af	
Outflow	=	1.37 cfs @ 12.10 hrs, Volume=	0.094 af, Atten= 0%, Lag= 0.0 min	
Primary	=	1.37 cfs @ 12.10 hrs, Volume=	0.094 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 110.73' @ 12.10 hrs

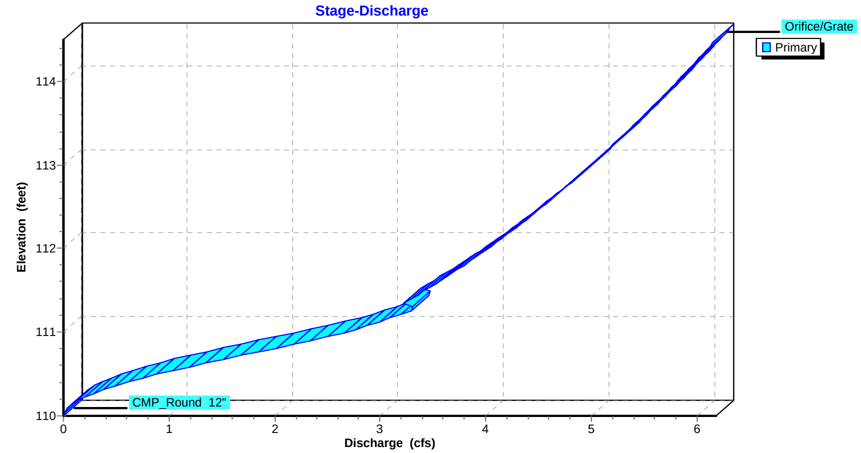
Device	Routing	Invert	Outlet Devices
#1	Primary	110.00'	**12.0" Round CMP_Round 12"** L= 133.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.00' / 109.17' S= 0.0062 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=1.37 cfs @ 12.10 hrs HW=110.73' TW=110.09' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 1.37 cfs @ 3.10 fps)
2=Orifice/Grate (Controls 0.00 cfs)

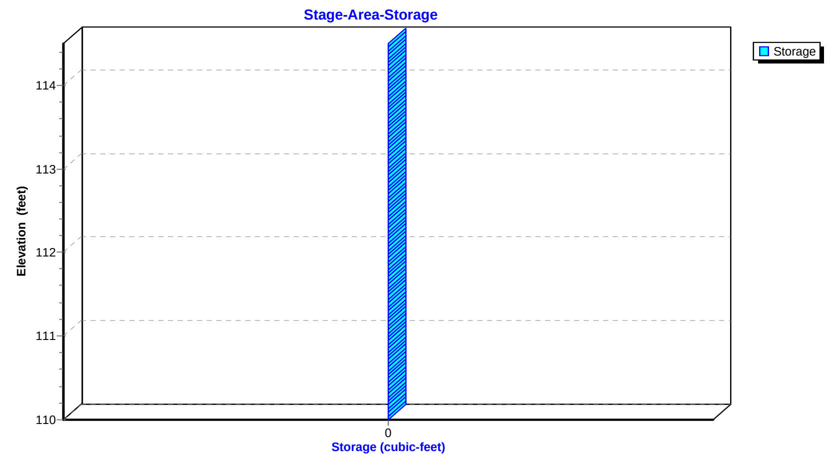
Pond 30P: CB-N F2



Pond 30P: CB-N F2



Pond 30P: CB-N F2



Summary for Pond 32P: CB-N F3

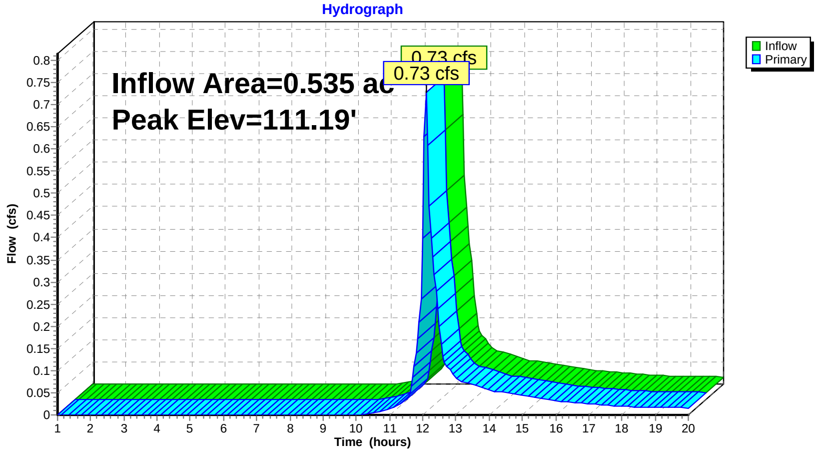
Inflow Area = 0.535 ac, 65.00% Impervious, Inflow Depth > 1.11" for 2-Year event
Inflow = 0.73 cfs @ 12.10 hrs, Volume= 0.050 af
Outflow = 0.73 cfs @ 12.10 hrs, Volume= 0.050 af, Atten= 0%, Lag= 0.0 min
Primary = 0.73 cfs @ 12.10 hrs, Volume= 0.050 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 111.19' @ 12.10 hrs

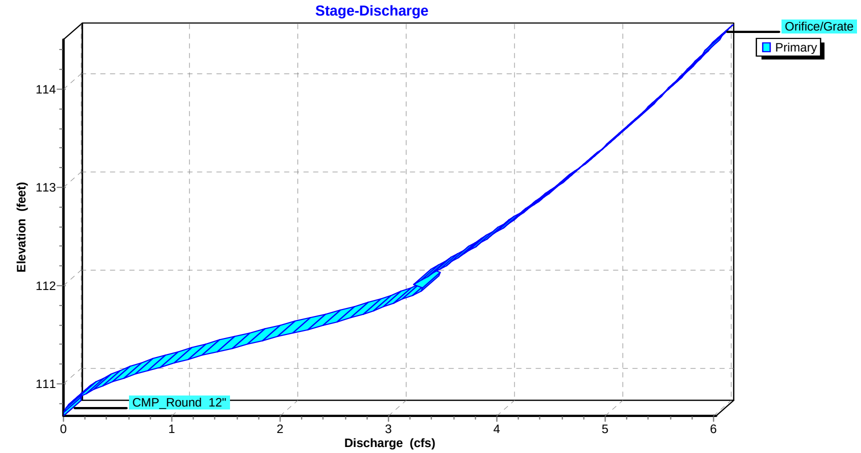
Device	Routing	Invert	Outlet Devices
#1	Primary	110.67'	**12.0" Round CMP_Round 12"** L= 103.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.67' / 110.00' S= 0.0065 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.72 cfs @ 12.10 hrs HW=111.19' TW=110.73' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 0.72 cfs @ 2.56 fps)
2=Orifice/Grate (Controls 0.00 cfs)

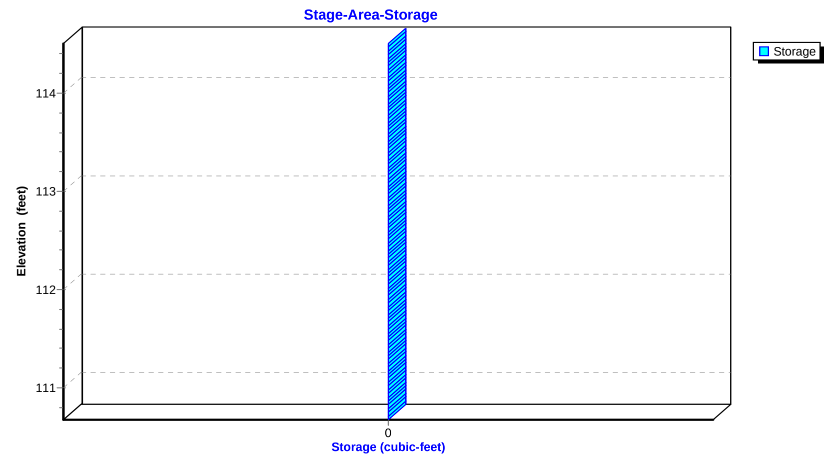
Pond 32P: CB-N F3



Pond 32P: CB-N F3



Pond 32P: CB-N F3



Summary for Pond 34P: CB-N F4

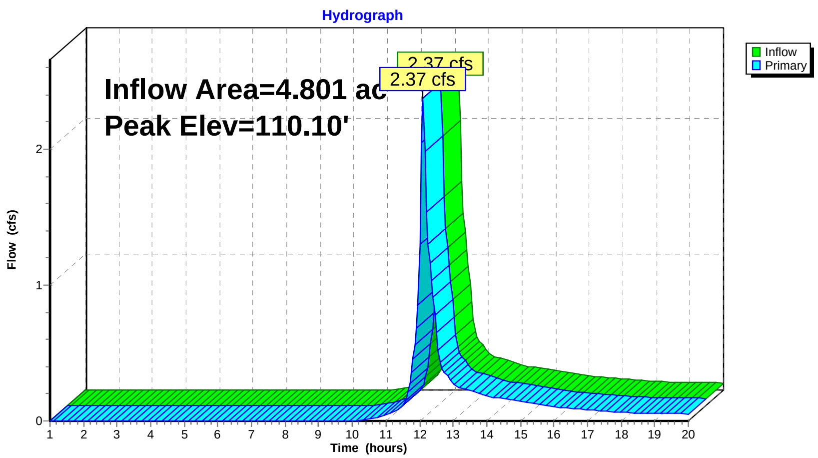
Inflow Area = 4.801 ac, 23.61% Impervious, Inflow Depth > 0.40" for 2-Year event
Inflow = 2.37 cfs @ 12.10 hrs, Volume= 0.162 af
Outflow = 2.37 cfs @ 12.10 hrs, Volume= 0.162 af, Atten= 0%, Lag= 0.0 min
Primary = 2.37 cfs @ 12.10 hrs, Volume= 0.162 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 110.10' @ 12.10 hrs

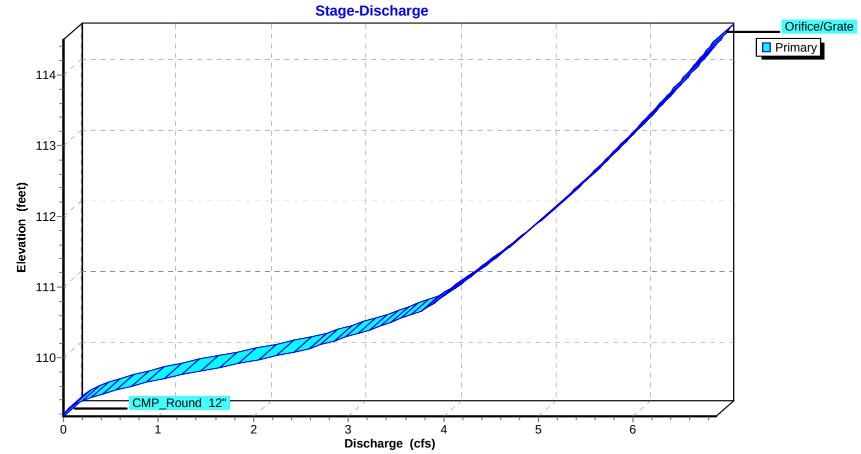
Device	Routing	Invert	Outlet Devices
#1	Primary	109.17'	**12.0" Round CMP_Round 12"** L= 139.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 109.17' / 108.00' S= 0.0084 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=2.36 cfs @ 12.10 hrs HW=110.09' TW=109.06' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 2.36 cfs @ 4.07 fps)
2=Orifice/Grate (Controls 0.00 cfs)

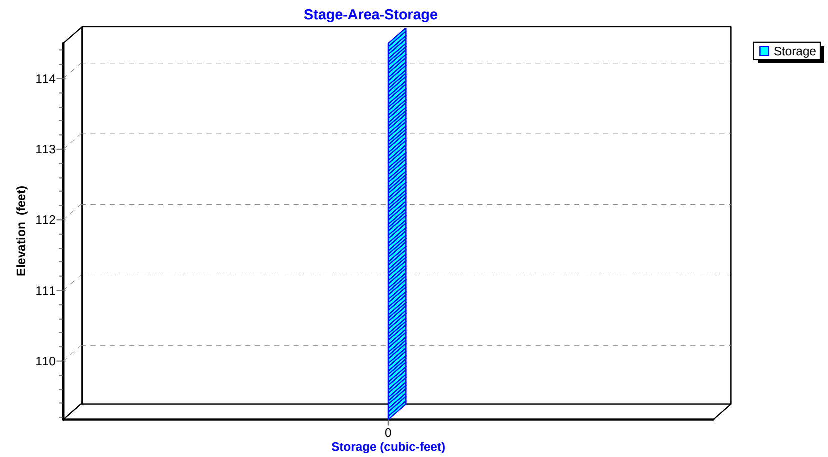
Pond 34P: CB-N F4



Pond 34P: CB-N F4



Pond 34P: CB-N F4



Summary for Pond 36P: CB-N F5

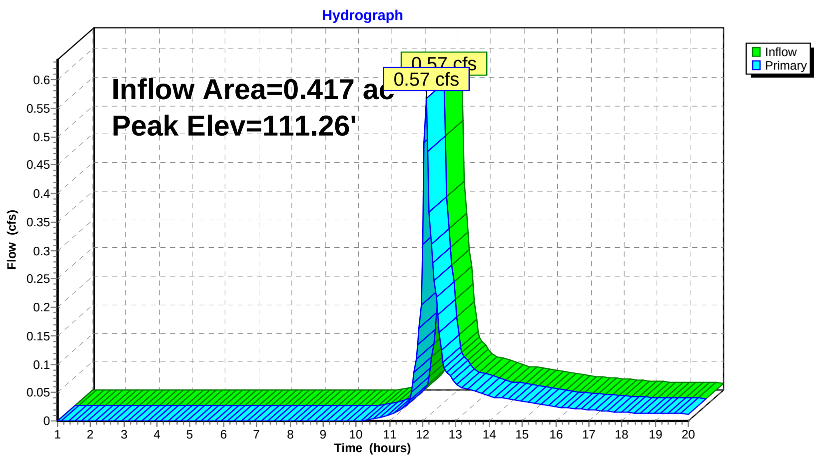
Inflow Area = 0.417 ac, 65.00% Impervious, Inflow Depth > 1.11" for 2-Year event
Inflow = 0.57 cfs @ 12.10 hrs, Volume= 0.039 af
Outflow = 0.57 cfs @ 12.10 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min
Primary = 0.57 cfs @ 12.10 hrs, Volume= 0.039 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 111.26' @ 12.10 hrs

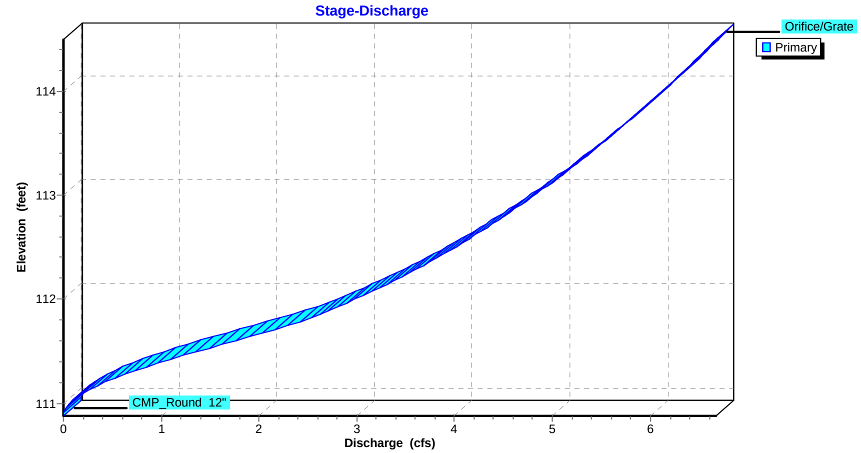
Device	Routing	Invert	Outlet Devices
#1	Primary	110.88'	**12.0" Round CMP_Round 12"** L= 105.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.88' / 109.17' S= 0.0163 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.56 cfs @ 12.10 hrs HW=111.26' TW=110.09' (Dynamic Tailwater)
└**1=CMP_Round 12"** (Inlet Controls 0.56 cfs @ 2.09 fps)
└**2=Orifice/Grate** (Controls 0.00 cfs)

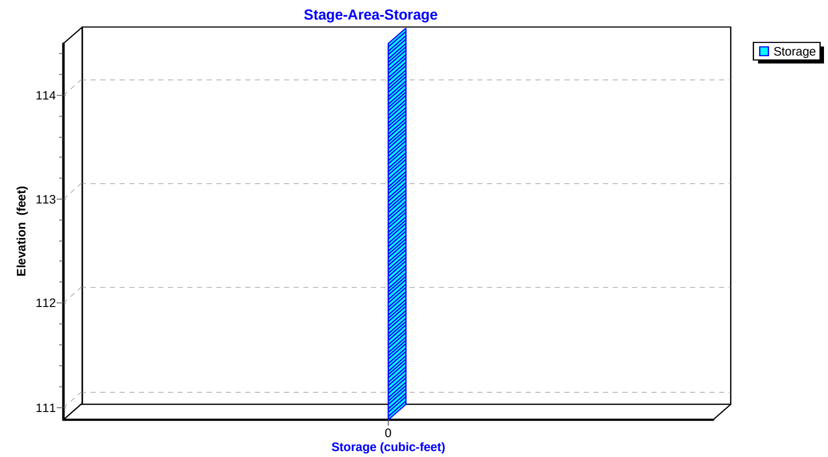
Pond 36P: CB-N F5



Pond 36P: CB-N F5



Pond 36P: CB-N F5



Summary for Pond 38P: CB-N F6

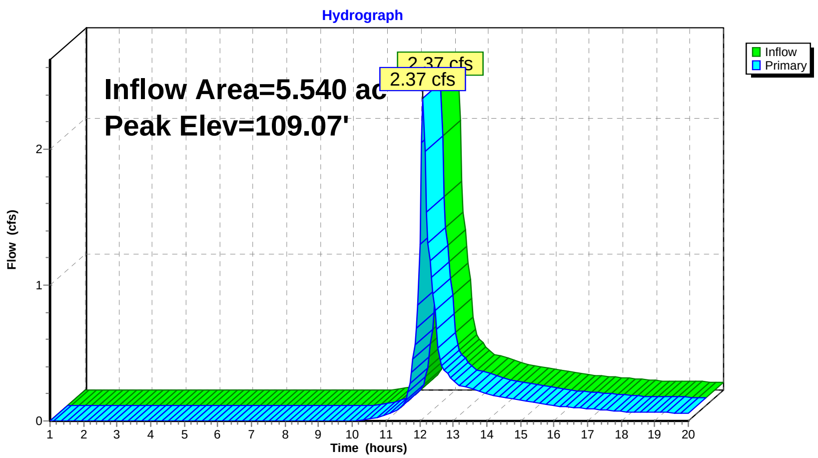
Inflow Area = 5.540 ac, 23.13% Impervious, Inflow Depth > 0.37" for 2-Year event
Inflow = 2.37 cfs @ 12.10 hrs, Volume= 0.169 af
Outflow = 2.37 cfs @ 12.10 hrs, Volume= 0.169 af, Atten= 0%, Lag= 0.0 min
Primary = 2.37 cfs @ 12.10 hrs, Volume= 0.169 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 109.07' @ 12.10 hrs

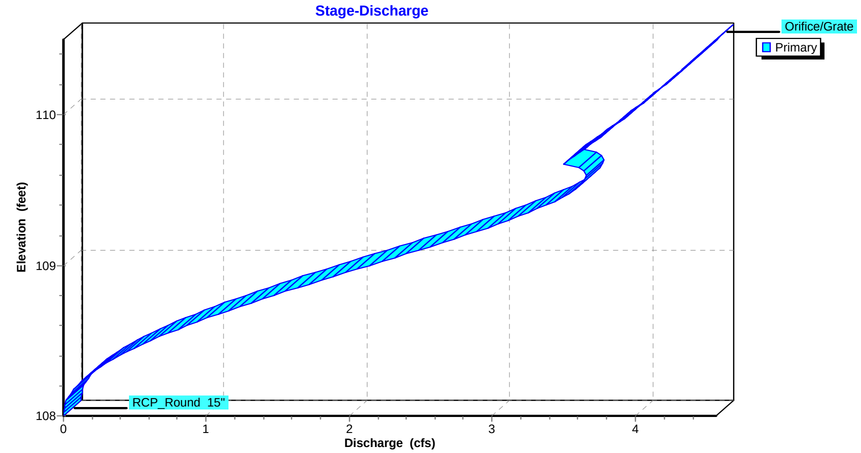
Device	Routing	Invert	Outlet Devices
#1	Primary	108.00'	**15.0" Round RCP_Round 15"** L= 466.8' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 108.00' / 107.25' S= 0.0016 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	110.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=2.36 cfs @ 12.10 hrs HW=109.06' TW=0.00' (Dynamic Tailwater)
1=RCP_Round 15" (Barrel Controls 2.36 cfs @ 2.85 fps)
2=Orifice/Grate (Controls 0.00 cfs)

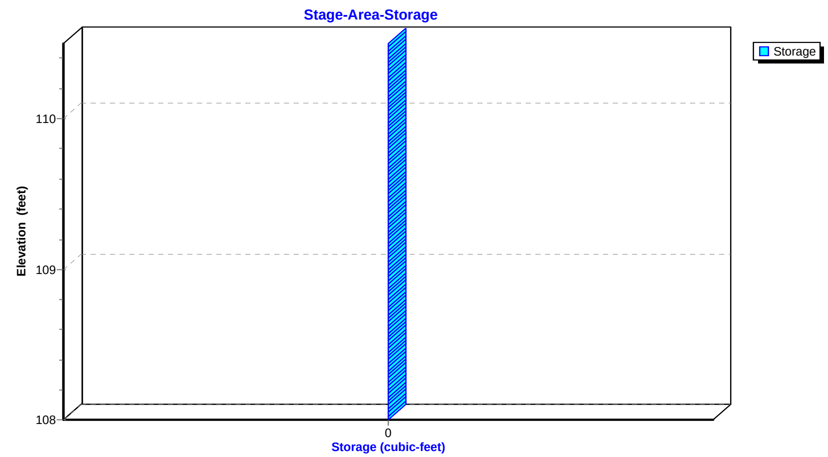
Pond 38P: CB-N F6



Pond 38P: CB-N F6



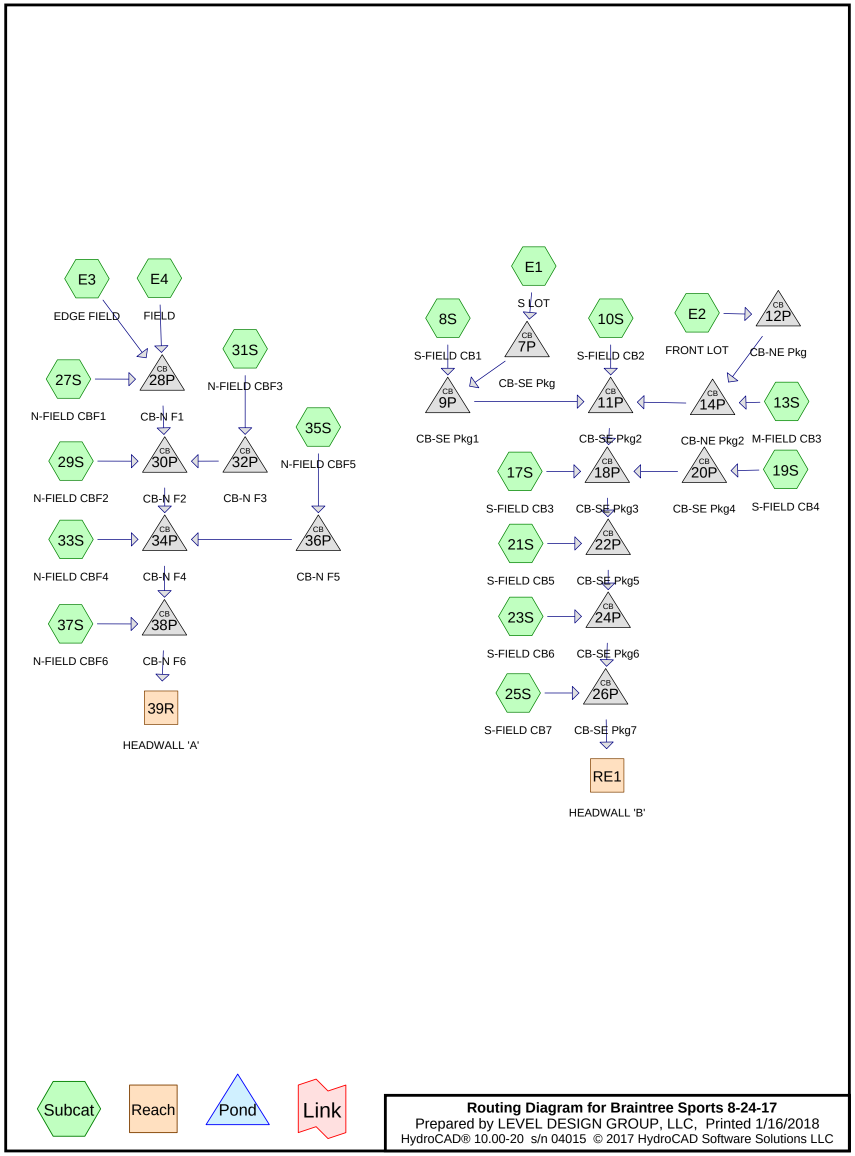
Pond 38P: CB-N F6



HydroCAD Analysis

Existing Conditions - 10 Year Storm

249 SOUTH STREET UNIT 1 PLAINVILLE MA 02762
TEL508 695 2221 FAX508 695 2219 CONTACT@LEVELDG.COM LEVELDG.COM



Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
8.362	39	>75% Grass cover, Good, HSG A (8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S, E1, E2, E3, E4)
3.255	98	Paved Track, HSG A (8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S)
3.686	98	Paved parking, HSG A (E1, E2)
0.107	43	Woods/grass comb., Fair, HSG A (E4)
2.305	32	Woods/grass comb., Good, HSG A (E2, E3)
0.483	72	Woods/grass comb., Good, HSG C (E1)
18.198	**62**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
17.714	HSG A	8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S, E1, E2, E3, E4
0.000	HSG B	
0.483	HSG C	E1
0.000	HSG D	
0.000	Other	
18.198		**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
8.362	0.000	0.000	0.000	0.000	8.362	>75% Grass cover, Good	8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S, E1, E2, E3, E4
3.255	0.000	0.000	0.000	0.000	3.255	Paved Track	8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S
3.686	0.000	0.000	0.000	0.000	3.686	Paved parking	E1, E2
0.107	0.000	0.000	0.000	0.000	0.107	Woods/grass comb., Fair	E4
2.305	0.000	0.483	0.000	0.000	2.788	Woods/grass comb., Good	E1, E2, E3
17.714	**0.000**	**0.483**	**0.000**	**0.000**	**18.198**	**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	7P	113.30	111.17	71.2	0.0299	0.011	12.0	0.0	0.0
2	9P	111.17	110.70	90.3	0.0052	0.011	12.0	0.0	0.0
3	11P	110.70	109.75	134.5	0.0071	0.011	15.0	0.0	0.0
4	12P	111.40	111.36	76.0	0.0005	0.011	12.0	0.0	0.0
5	14P	111.36	110.70	105.0	0.0063	0.011	12.0	0.0	0.0
6	18P	109.75	108.88	106.1	0.0082	0.011	15.0	0.0	0.0
7	20P	110.48	109.75	140.2	0.0052	0.011	12.0	0.0	0.0
8	22P	108.88	107.48	157.5	0.0089	0.011	15.0	0.0	0.0
9	24P	107.48	106.10	154.4	0.0089	0.011	15.0	0.0	0.0
10	26P	106.10	105.35	154.4	0.0049	0.011	18.0	0.0	0.0
11	28P	110.33	110.00	111.7	0.0030	0.011	12.0	0.0	0.0
12	30P	110.00	109.17	133.5	0.0062	0.011	12.0	0.0	0.0
13	32P	110.67	110.00	103.5	0.0065	0.011	12.0	0.0	0.0
14	34P	109.17	108.00	139.2	0.0084	0.011	12.0	0.0	0.0
15	36P	110.88	109.17	105.0	0.0163	0.011	12.0	0.0	0.0
16	38P	108.00	107.25	466.8	0.0016	0.011	15.0	0.0	0.0

Time span=1.00-20.00 hrs, dt=0.05 hrs, 381 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 8S: S-FIELD CB1 Runoff Area=11,548 sf 60.17% Impervious Runoff Depth>1.97"
Flow Length=80' Tc=6.0 min CN=74 Runoff=0.64 cfs 0.043 af

Subcatchment 10S: S-FIELD CB2 Runoff Area=21,998 sf 60.00% Impervious Runoff Depth>1.97"
Flow Length=230' Slope=0.0150 '/' Tc=6.0 min CN=74 Runoff=1.23 cfs 0.083 af

Subcatchment 13S: M-FIELD CB3 Runoff Area=16,265 sf 65.00% Impervious Runoff Depth>2.21"
Flow Length=151' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.02 cfs 0.069 af

Subcatchment 17S: S-FIELD CB3 Runoff Area=13,522 sf 65.00% Impervious Runoff Depth>2.21"
Flow Length=85' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=0.85 cfs 0.057 af

Subcatchment 19S: S-FIELD CB4 Runoff Area=30,595 sf 65.00% Impervious Runoff Depth>2.21"
Flow Length=297' Tc=6.0 min CN=77 Runoff=1.91 cfs 0.129 af

Subcatchment 21S: S-FIELD CB5 Runoff Area=18,600 sf 65.00% Impervious Runoff Depth>2.21"
Flow Length=149' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.16 cfs 0.078 af

Subcatchment 23S: S-FIELD CB6 Runoff Area=16,672 sf 35.00% Impervious Runoff Depth>1.02"
Flow Length=131' Slope=0.0200 '/' Tc=6.2 min CN=60 Runoff=0.43 cfs 0.032 af

Subcatchment 25S: S-FIELD CB7 Runoff Area=57,741 sf 15.00% Impervious Runoff Depth>0.41"
Flow Length=330' Tc=7.6 min CN=48 Runoff=0.31 cfs 0.045 af

Subcatchment 27S: N-FIELD CBF1 Runoff Area=6,780 sf 65.00% Impervious Runoff Depth>2.21"
Flow Length=80' Tc=6.0 min CN=77 Runoff=0.42 cfs 0.029 af

Subcatchment 29S: N-FIELD CBF2 Runoff Area=13,971 sf 65.00% Impervious Runoff Depth>2.21"
Flow Length=100' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=0.87 cfs 0.059 af

Subcatchment 31S: N-FIELD CBF3 Runoff Area=23,311 sf 65.00% Impervious Runoff Depth>2.21"
Flow Length=129' Tc=6.0 min CN=77 Runoff=1.46 cfs 0.098 af

Subcatchment 33S: N-FIELD CBF4 Runoff Area=13,725 sf 65.00% Impervious Runoff Depth>2.21"
Flow Length=93' Tc=6.0 min CN=77 Runoff=0.86 cfs 0.058 af

Subcatchment 35S: N-FIELD CBF5 Runoff Area=18,186 sf 65.00% Impervious Runoff Depth>2.21"
Flow Length=170' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.14 cfs 0.077 af

Subcatchment 37S: N-FIELD CBF6 Runoff Area=32,216 sf 20.00% Impervious Runoff Depth>0.54"
Flow Length=280' Slope=0.0200 '/' Tc=6.0 min CN=51 Runoff=0.31 cfs 0.033 af

Subcatchment E1: S LOT Runoff Area=143,436 sf 61.40% Impervious Runoff Depth>2.45"
Flow Length=334' Tc=10.1 min CN=80 Runoff=8.76 cfs 0.673 af

Subcatchment E2: FRONT LOT Runoff Area=220,985 sf 32.80% Impervious Runoff Depth>0.73"
Flow Length=670' Tc=18.0 min CN=55 Runoff=2.63 cfs 0.310 af

Subcatchment E3: EDGE FIELD Runoff Area=33,755 sf 0.00% Impervious Runoff Depth>0.09"
Flow Length=135' Tc=7.1 min CN=38 Runoff=0.01 cfs 0.006 af

Subcatchment E4: FIELD Runoff Area=99,389 sf 0.00% Impervious Runoff Depth>0.11"
Flow Length=280' Tc=7.0 min CN=39 Runoff=0.04 cfs 0.021 af

Reach 39R: HEADWALL 'A' Inflow=5.05 cfs 0.380 af
Outflow=5.05 cfs 0.380 af

Reach RE1: HEADWALL 'B' Inflow=16.69 cfs 1.521 af
Outflow=16.69 cfs 1.521 af

Pond 7P: CB-SE Pkg Peak Elev=156.87' Inflow=8.76 cfs 0.673 af
Outflow=8.76 cfs 0.673 af

Pond 9P: CB-SE Pkg1 Peak Elev=152.49' Inflow=9.30 cfs 0.717 af
Outflow=9.30 cfs 0.717 af

Pond 11P: CB-SE Pkg2 Peak Elev=145.07' Inflow=12.64 cfs 1.178 af
Outflow=12.64 cfs 1.178 af

Pond 12P: CB-NE Pkg Peak Elev=145.52' Inflow=2.63 cfs 0.310 af
Outflow=2.63 cfs 0.310 af

Pond 14P: CB-NE Pkg2 Peak Elev=146.17' Inflow=3.08 cfs 0.379 af
Outflow=3.08 cfs 0.379 af

Pond 18P: CB-SE Pkg3 Peak Elev=139.37' Inflow=15.00 cfs 1.365 af
Outflow=15.00 cfs 1.365 af

Pond 20P: CB-SE Pkg4 Peak Elev=139.49' Inflow=1.91 cfs 0.129 af
Outflow=1.91 cfs 0.129 af

Pond 22P: CB-SE Pkg5 Peak Elev=132.70' Inflow=16.03 cfs 1.443 af
Outflow=16.03 cfs 1.443 af

Pond 24P: CB-SE Pkg6 Peak Elev=122.35' Inflow=16.45 cfs 1.475 af
Outflow=16.45 cfs 1.475 af

Pond 26P: CB-SE Pkg7 Peak Elev=111.60' Inflow=16.69 cfs 1.521 af
Outflow=16.69 cfs 1.521 af

Pond 28P: CB-N F1 Peak Elev=113.93' Inflow=0.42 cfs 0.055 af
Outflow=0.42 cfs 0.055 af

Pond 30P: CB-N F2 Peak Elev=114.36' Inflow=2.76 cfs 0.212 af
Outflow=2.76 cfs 0.212 af

Pond 32P: CB-N F3 Peak Elev=114.11' Inflow=1.46 cfs 0.098 af
Outflow=1.46 cfs 0.098 af

Pond 34P: CB-N F4 Peak Elev=113.50' Inflow=4.76 cfs 0.347 af
Outflow=4.76 cfs 0.347 af

Pond 36P: CB-N F5 Peak Elev=113.62' Inflow=1.14 cfs 0.077 af
Outflow=1.14 cfs 0.077 af

Pond 38P: CB-N F6 Peak Elev=110.87' Inflow=5.05 cfs 0.380 af
Outflow=5.05 cfs 0.380 af

Total Runoff Area = 18.198 ac Runoff Volume = 1.901 af Average Runoff Depth = 1.25"
61.86% Pervious = 11.256 ac 38.14% Impervious = 6.941 ac

Summary for Subcatchment 8S: S-FIELD CB1

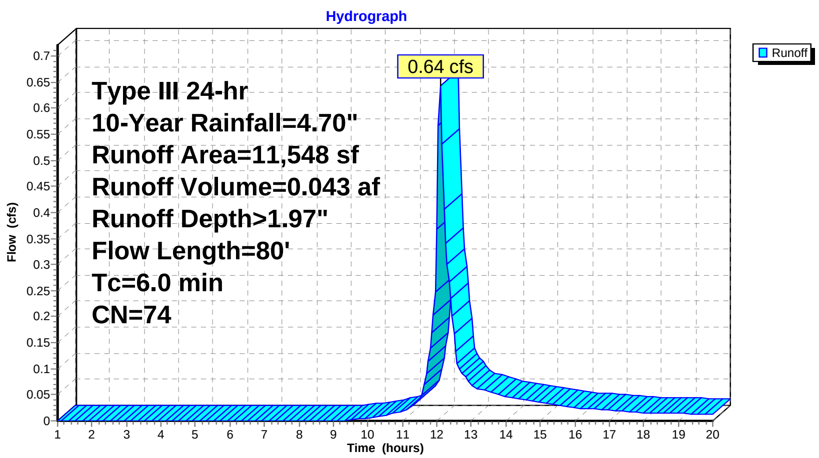
Runoff = 0.64 cfs @ 12.10 hrs, Volume= 0.043 af, Depth> 1.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	6,948	98	Paved Track, HSG A
	4,600	39	>75% Grass cover, Good, HSG A
	11,548	74	Weighted Average
	4,600		39.83% Pervious Area
	6,948		60.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	50	0.1180	0.30		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.2	30	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.0					**Direct Entry,**
6.0	80	Total			

Subcatchment 8S: S-FIELD CB1



Summary for Subcatchment 10S: S-FIELD CB2

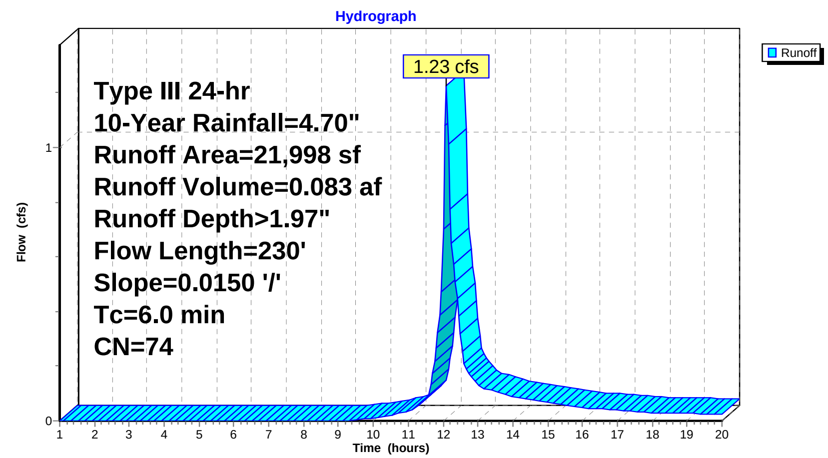
Runoff = 1.23 cfs @ 12.10 hrs, Volume= 0.083 af, Depth> 1.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	13,199	98	Paved Track, HSG A
	8,799	39	>75% Grass cover, Good, HSG A
	21,998	74	Weighted Average
	8,799		40.00% Pervious Area
	13,199		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.5	180	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.7					**Direct Entry, PARKING**
6.0	230	Total			

Subcatchment 10S: S-FIELD CB2



Summary for Subcatchment 13S: M-FIELD CB3

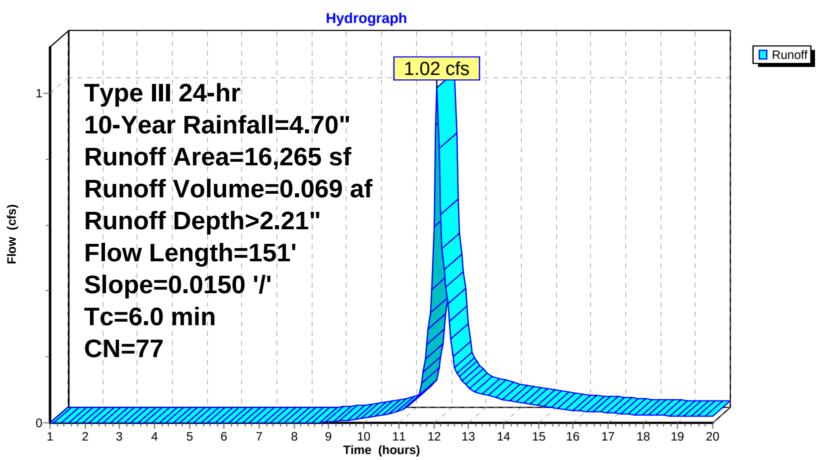
Runoff = 1.02 cfs @ 12.09 hrs, Volume= 0.069 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	10,572	98	Paved Track, HSG A
	5,693	39	>75% Grass cover, Good, HSG A
	16,265	77	Weighted Average
	5,693		35.00% Pervious Area
	10,572		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.9	101	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.3					**Direct Entry,**
6.0	151	Total			

Subcatchment 13S: M-FIELD CB3



Summary for Subcatchment 17S: S-FIELD CB3

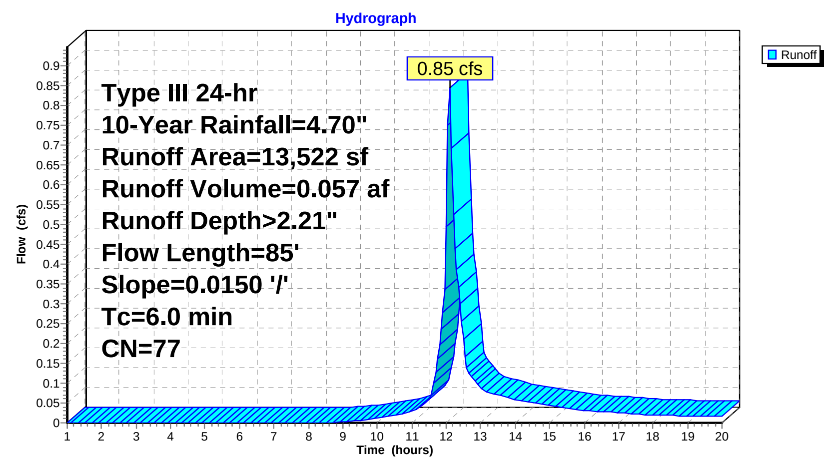
Runoff = 0.85 cfs @ 12.09 hrs, Volume= 0.057 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	8,789	98	Paved Track, HSG A
	4,733	39	>75% Grass cover, Good, HSG A
	13,522	77	Weighted Average
	4,733		35.00% Pervious Area
	8,789		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.3	35	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.9					**Direct Entry,**
6.0	85	Total			

Subcatchment 17S: S-FIELD CB3



Summary for Subcatchment 19S: S-FIELD CB4

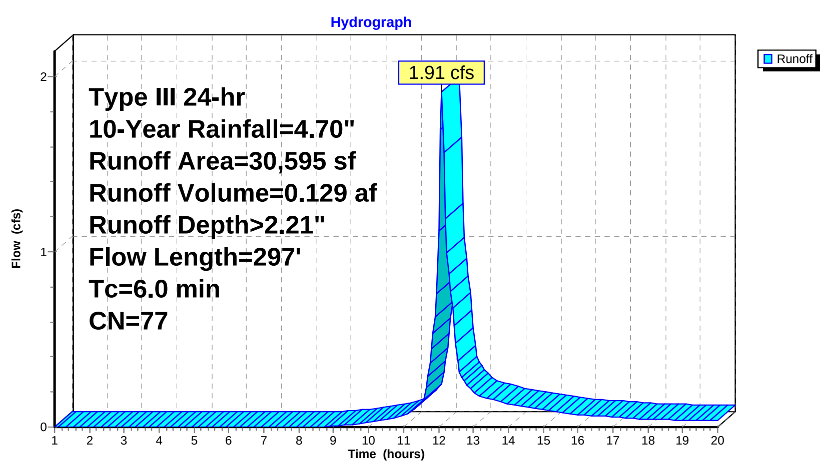
Runoff = 1.91 cfs @ 12.09 hrs, Volume= 0.129 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	19,887	98	Paved Track, HSG A
	10,708	39	>75% Grass cover, Good, HSG A
	30,595	77	Weighted Average
	10,708		35.00% Pervious Area
	19,887		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	37	0.0400	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.1	20	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	240	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.1					**Direct Entry,**
6.0	297	Total			

Subcatchment 19S: S-FIELD CB4



Summary for Subcatchment 21S: S-FIELD CB5

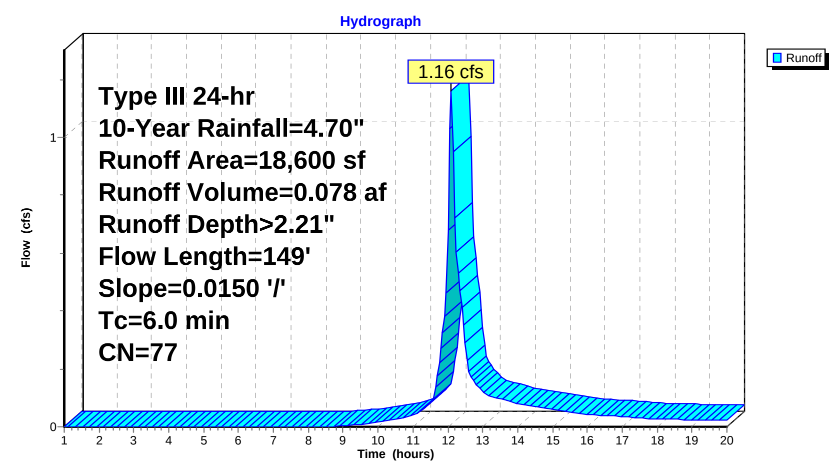
Runoff = 1.16 cfs @ 12.09 hrs, Volume= 0.078 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	12,090	98	Paved Track, HSG A
	6,510	39	>75% Grass cover, Good, HSG A
	18,600	77	Weighted Average
	6,510		35.00% Pervious Area
	12,090		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.8	99	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.4					**Direct Entry,**
6.0	149	Total			

Subcatchment 21S: S-FIELD CB5



Summary for Subcatchment 23S: S-FIELD CB6

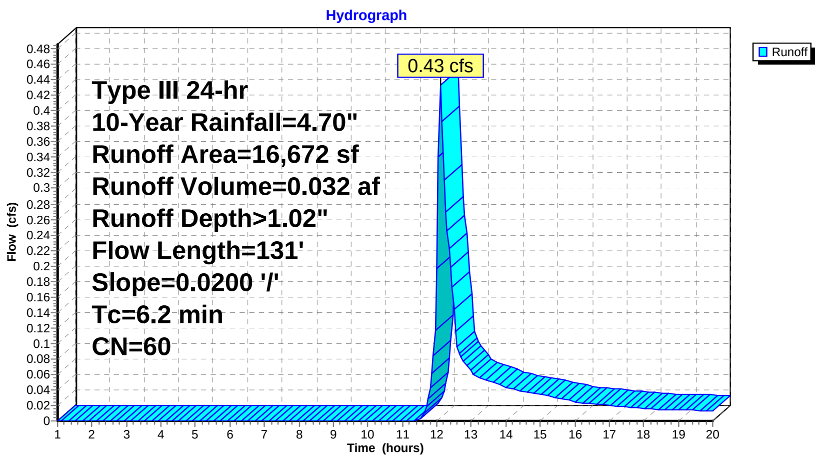
Runoff = 0.43 cfs @ 12.11 hrs, Volume= 0.032 af, Depth> 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	5,835	98	Paved Track, HSG A
	10,837	39	>75% Grass cover, Good, HSG A
	16,672	60	Weighted Average
	10,837		65.00% Pervious Area
	5,835		35.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.6	81	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.2	131	Total			

Subcatchment 23S: S-FIELD CB6



Summary for Subcatchment 25S: S-FIELD CB7

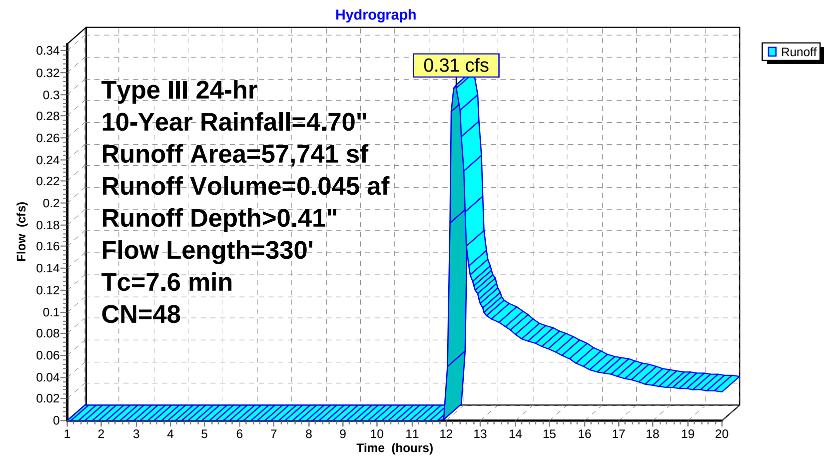
Runoff = 0.31 cfs @ 12.28 hrs, Volume= 0.045 af, Depth> 0.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	8,661	98	Paved Track, HSG A
	49,080	39	>75% Grass cover, Good, HSG A
	57,741	48	Weighted Average
	49,080		85.00% Pervious Area
	8,661		15.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.3	180	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.7	100	0.0250	2.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.6	330	Total			

Subcatchment 25S: S-FIELD CB7



Summary for Subcatchment 27S: N-FIELD CBF1

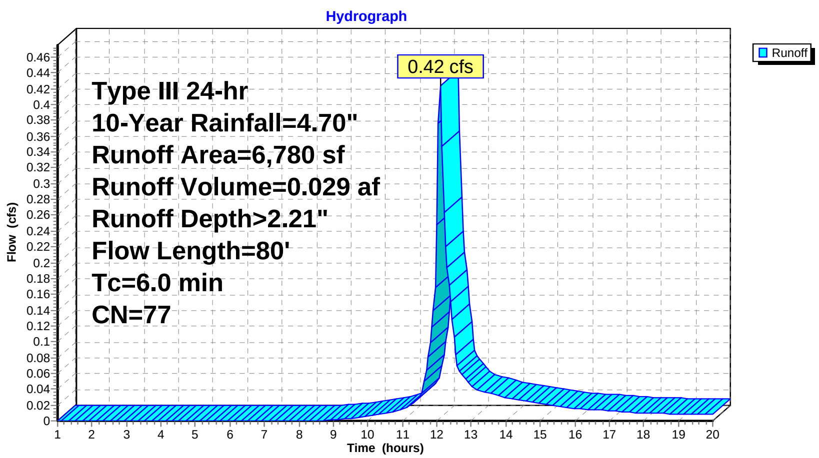
Runoff = 0.42 cfs @ 12.09 hrs, Volume= 0.029 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	4,407	98	Paved Track, HSG A
	2,373	39	>75% Grass cover, Good, HSG A
	6,780	77	Weighted Average
	2,373		35.00% Pervious Area
	4,407		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0100	0.91		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.2	30	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.9					**Direct Entry,**
6.0	80	Total			

Subcatchment 27S: N-FIELD CBF1



Summary for Subcatchment 29S: N-FIELD CBF2

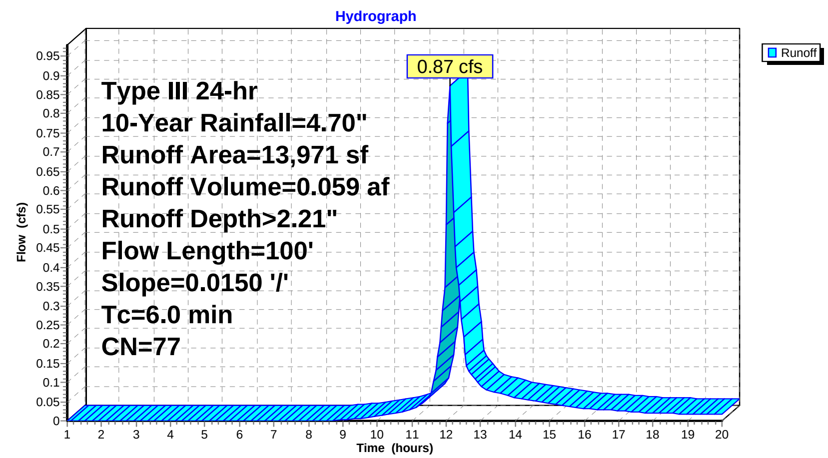
Runoff = 0.87 cfs @ 12.09 hrs, Volume= 0.059 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	9,081	98	Paved Track, HSG A
	4,890	39	>75% Grass cover, Good, HSG A
	13,971	77	Weighted Average
	4,890		35.00% Pervious Area
	9,081		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	20	0.0150	0.89		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.7	80	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.9					**Direct Entry,**
6.0	100	Total			

Subcatchment 29S: N-FIELD CBF2



Summary for Subcatchment 31S: N-FIELD CBF3

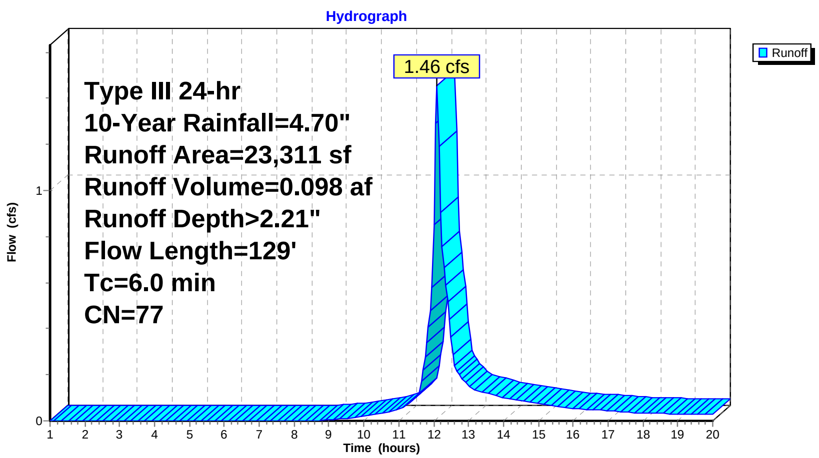
Runoff = 1.46 cfs @ 12.09 hrs, Volume= 0.098 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	15,152	98	Paved Track, HSG A
	8,159	39	>75% Grass cover, Good, HSG A
	23,311	77	Weighted Average
	8,159		35.00% Pervious Area
	15,152		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	29	0.0300	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.8	100	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.1					**Direct Entry,**
6.0	129	Total			

Subcatchment 31S: N-FIELD CBF3



Summary for Subcatchment 33S: N-FIELD CBF4

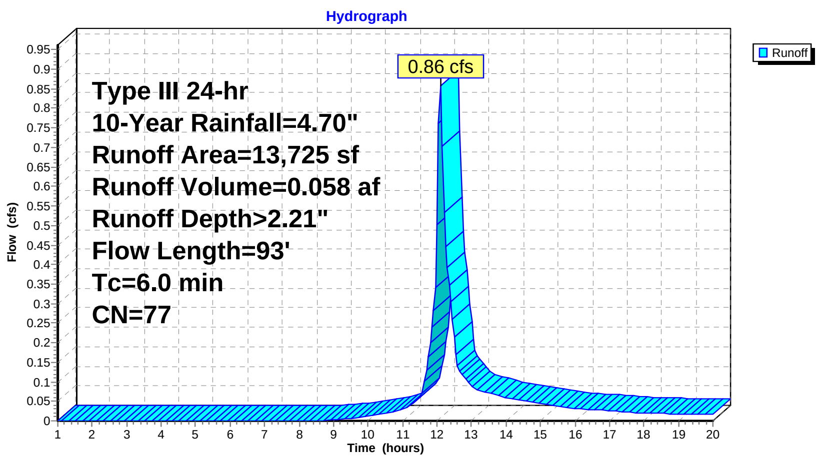
Runoff = 0.86 cfs @ 12.09 hrs, Volume= 0.058 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	8,921	98	Paved Track, HSG A
	4,804	39	>75% Grass cover, Good, HSG A
	13,725	77	Weighted Average
	4,804		35.00% Pervious Area
	8,921		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	20	0.0100	0.76		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.6	73	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
5.0					**Direct Entry,**
6.0	93	Total			

Subcatchment 33S: N-FIELD CBF4



Summary for Subcatchment 35S: N-FIELD CBF5

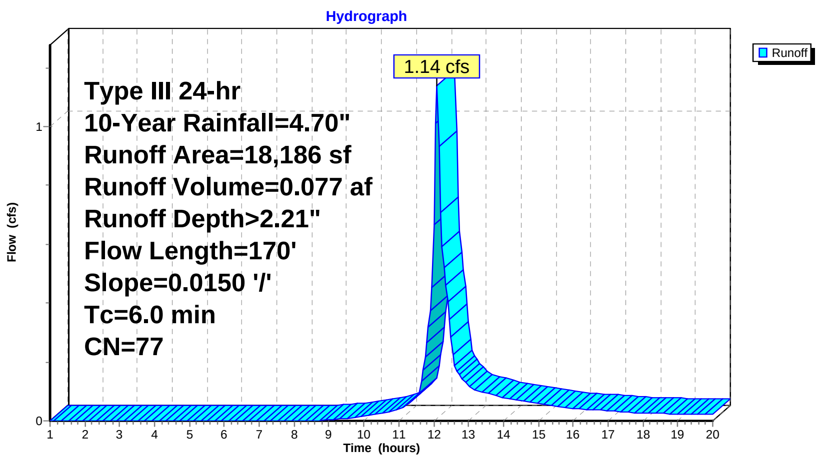
Runoff = 1.14 cfs @ 12.09 hrs, Volume= 0.077 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	11,821	98	Paved Track, HSG A
	6,365	39	>75% Grass cover, Good, HSG A
	18,186	77	Weighted Average
	6,365		35.00% Pervious Area
	11,821		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.0	120	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.2					**Direct Entry,**
6.0	170	Total			

Subcatchment 35S: N-FIELD CBF5



Summary for Subcatchment 37S: N-FIELD CBF6

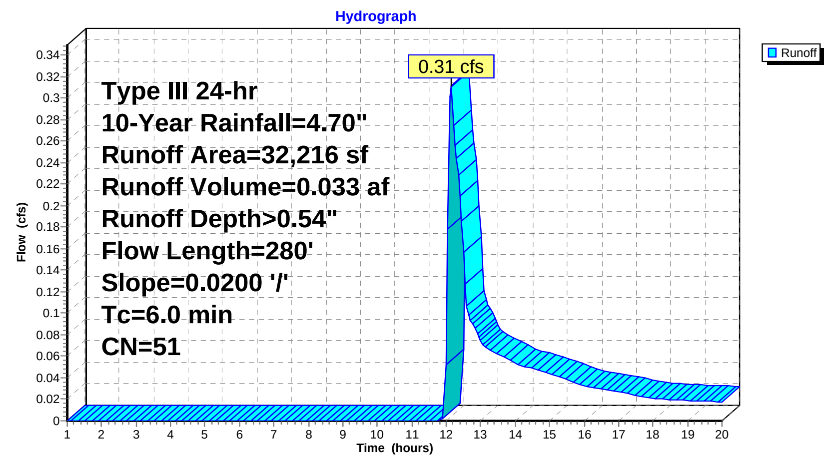
Runoff = 0.31 cfs @ 12.14 hrs, Volume= 0.033 af, Depth> 0.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	6,443	98	Paved Track, HSG A
	25,773	39	>75% Grass cover, Good, HSG A
	32,216	51	Weighted Average
	25,773		80.00% Pervious Area
	6,443		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0200	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.8	250	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.5					**Direct Entry,**
6.0	280	Total			

Subcatchment 37S: N-FIELD CBF6



Summary for Subcatchment E1: S LOT

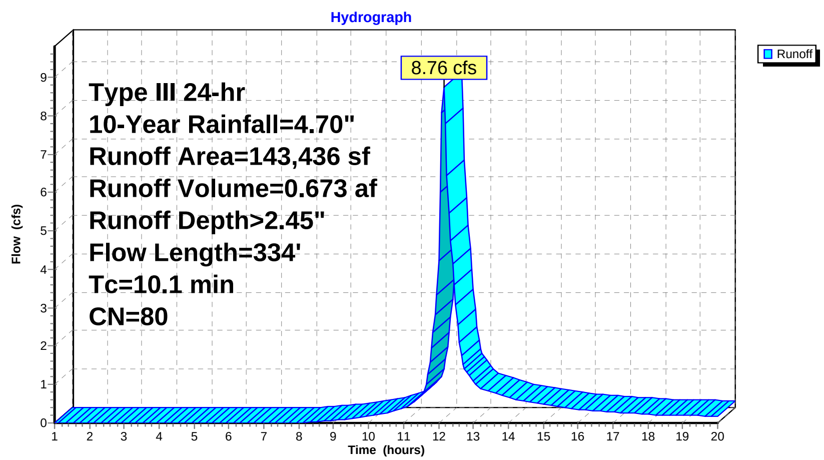
Runoff = 8.76 cfs @ 12.15 hrs, Volume= 0.673 af, Depth> 2.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
88,072	98	Paved parking, HSG A
21,058	72	Woods/grass comb., Good, HSG C
34,306	39	>75% Grass cover, Good, HSG A
143,436	80	Weighted Average
55,364		38.60% Pervious Area
88,072		61.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	50	0.0490	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.7	150	0.0486	3.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.8	134	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
10.1	334	Total			

Subcatchment E1: S LOT



Summary for Subcatchment E2: FRONT LOT

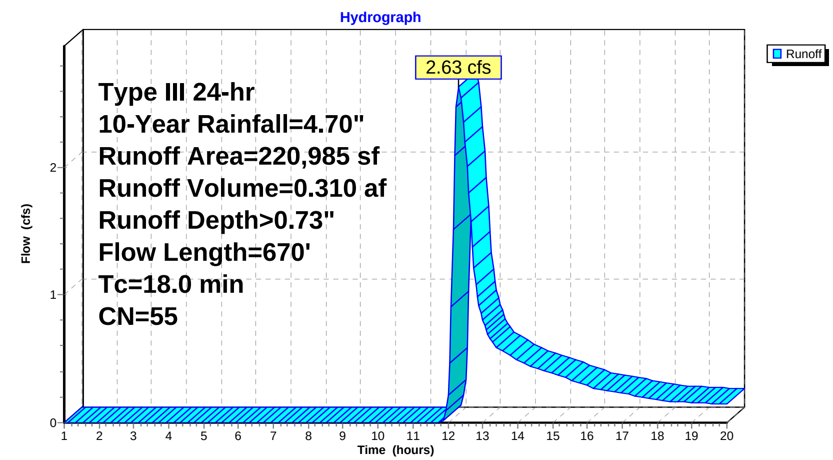
Runoff = 2.63 cfs @ 12.32 hrs, Volume= 0.310 af, Depth> 0.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
95,208	32	Woods/grass comb., Good, HSG A
72,489	98	Paved parking, HSG A
53,288	39	>75% Grass cover, Good, HSG A
220,985	55	Weighted Average
148,496		67.20% Pervious Area
72,489		32.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow, WOOD-FIELD** Woods: Light underbrush n= 0.400 P2= 3.20"
0.5	120	0.0590	3.91		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
4.2	360	0.0080	1.44		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
1.0	140	0.0140	2.40		**Shallow Concentrated Flow, PKG** Paved Kv= 20.3 fps
18.0	670	Total			

Subcatchment E2: FRONT LOT



Summary for Subcatchment E3: EDGE FIELD

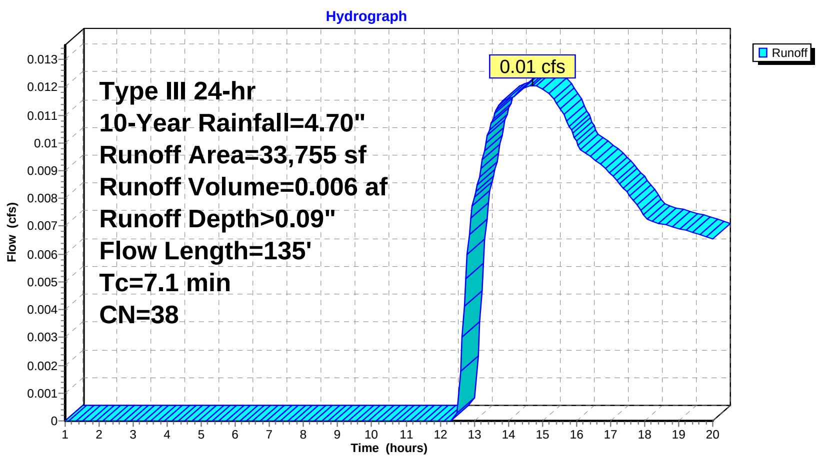
Runoff = 0.01 cfs @ 14.72 hrs, Volume= 0.006 af, Depth> 0.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
5,183	32	Woods/grass comb., Good, HSG A
28,572	39	>75% Grass cover, Good, HSG A
33,755	38	Weighted Average
33,755		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	35	0.0460	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.1	50	0.2195	7.54		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	50	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.1	135	Total			

Subcatchment E3: EDGE FIELD



Summary for Subcatchment E4: FIELD

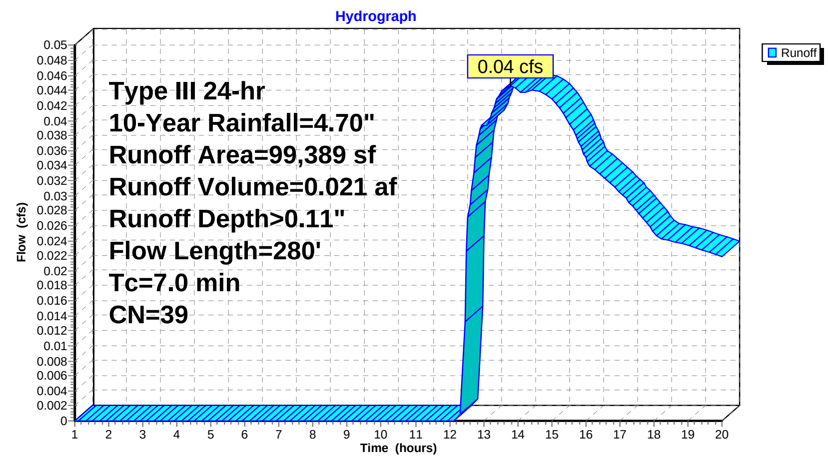
Runoff = 0.04 cfs @ 13.78 hrs, Volume= 0.021 af, Depth> 0.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
94,741	39	>75% Grass cover, Good, HSG A
4,648	43	Woods/grass comb., Fair, HSG A
99,389	39	Weighted Average
99,389		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.3	180	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	50	0.1200	5.58		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.0	280	Total			

Subcatchment E4: FIELD

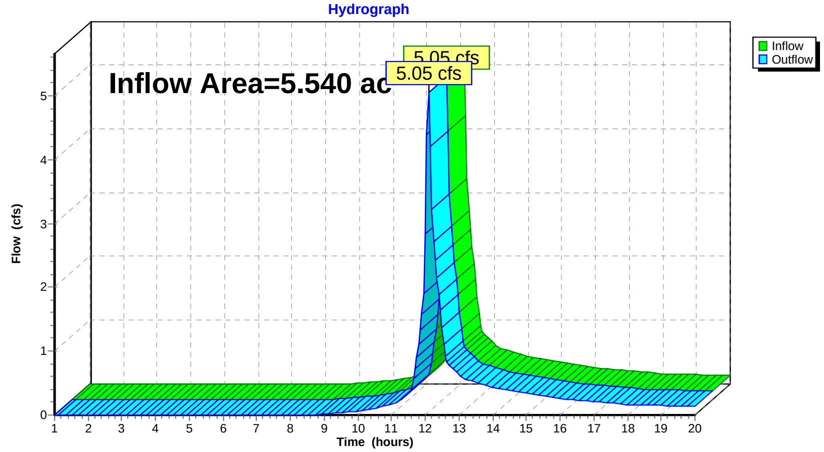


Summary for Reach 39R: HEADWALL 'A'

Inflow Area = 5.540 ac, 23.13% Impervious, Inflow Depth > 0.82" for 10-Year event
Inflow = 5.05 cfs @ 12.10 hrs, Volume= 0.380 af
Outflow = 5.05 cfs @ 12.10 hrs, Volume= 0.380 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3

Reach 39R: HEADWALL 'A'

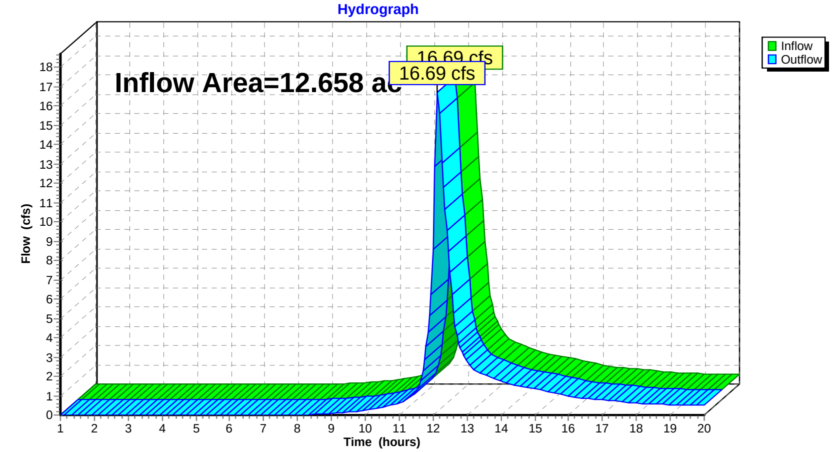


Summary for Reach RE1: HEADWALL 'B'

Inflow Area = 12.658 ac, 44.72% Impervious, Inflow Depth > 1.44" for 10-Year event
Inflow = 16.69 cfs @ 12.13 hrs, Volume= 1.521 af
Outflow = 16.69 cfs @ 12.13 hrs, Volume= 1.521 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3

Reach RE1: HEADWALL 'B'



Summary for Pond 7P: CB-SE Pkg

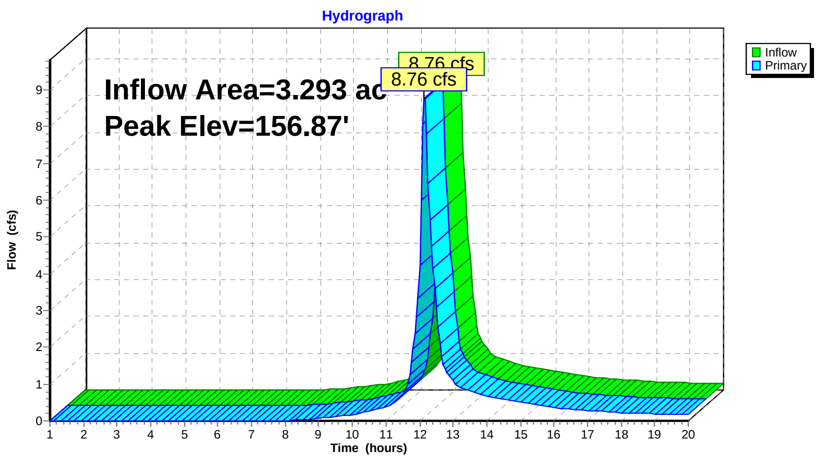
Inflow Area = 3.293 ac, 61.40% Impervious, Inflow Depth > 2.45" for 10-Year event
Inflow = 8.76 cfs @ 12.15 hrs, Volume= 0.673 af
Outflow = 8.76 cfs @ 12.15 hrs, Volume= 0.673 af, Atten= 0%, Lag= 0.0 min
Primary = 8.76 cfs @ 12.15 hrs, Volume= 0.673 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 156.87' @ 12.17 hrs

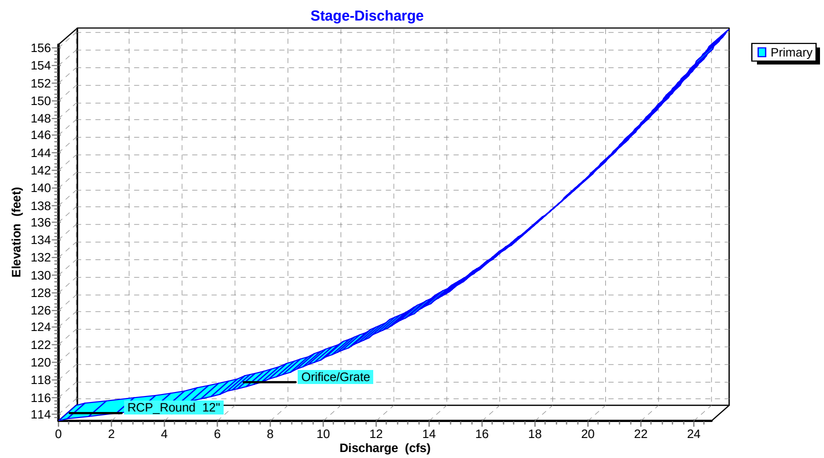
Device	Routing	Invert	Outlet Devices
#1	Primary	113.30'	**12.0" Round RCP_Round 12"** L= 71.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 113.30' / 111.17' S= 0.0299 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	116.80'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area) Limited to weir flow at low heads

Primary OutFlow Max=6.73 cfs @ 12.15 hrs HW=154.31' TW=151.02' (Dynamic Tailwater)
1=RCP_Round 12" (Outlet Controls 6.49 cfs @ 8.26 fps)
2=Orifice/Grate (Orifice Controls 0.24 cfs @ 8.73 fps)

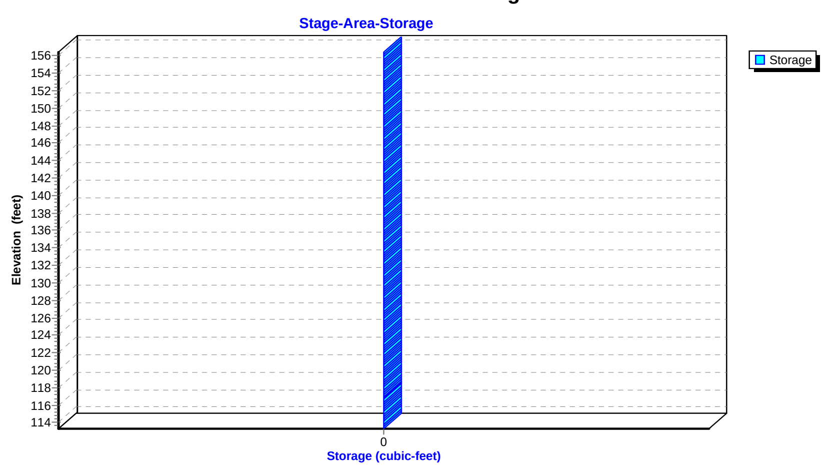
Pond 7P: CB-SE Pkg



Pond 7P: CB-SE Pkg



Pond 7P: CB-SE Pkg



Summary for Pond 9P: CB-SE Pkg1

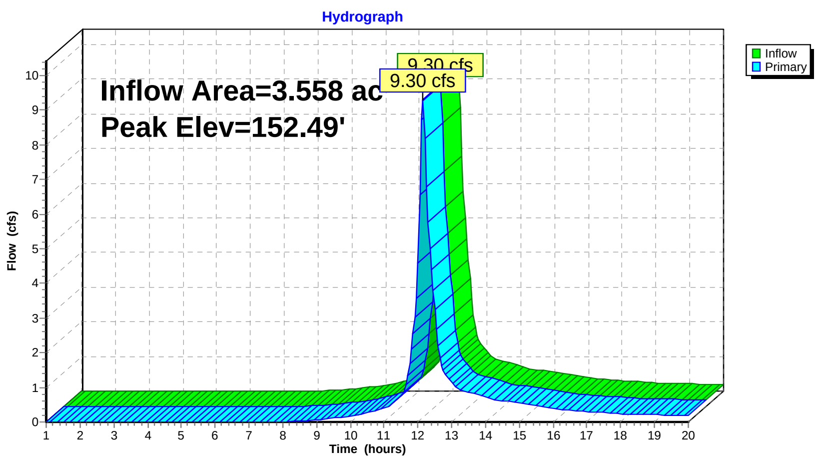
Inflow Area = 3.558 ac, 61.31% Impervious, Inflow Depth > 2.42" for 10-Year event
Inflow = 9.30 cfs @ 12.14 hrs, Volume= 0.717 af
Outflow = 9.30 cfs @ 12.14 hrs, Volume= 0.717 af, Atten= 0%, Lag= 0.0 min
Primary = 9.30 cfs @ 12.14 hrs, Volume= 0.717 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 152.49' @ 12.16 hrs

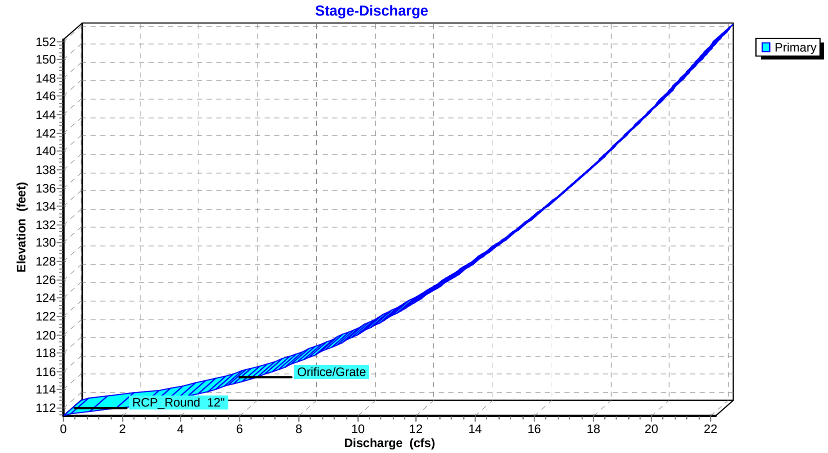
Device	Routing	Invert	Outlet Devices
#1	Primary	111.17'	**12.0" Round RCP_Round 12"** L= 90.3' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.17' / 110.70' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=8.74 cfs @ 12.14 hrs HW=150.23' TW=143.94' (Dynamic Tailwater)
1=RCP_Round 12" (Outlet Controls 8.41 cfs @ 10.71 fps)
2=Orifice/Grate (Orifice Controls 0.34 cfs @ 12.07 fps)

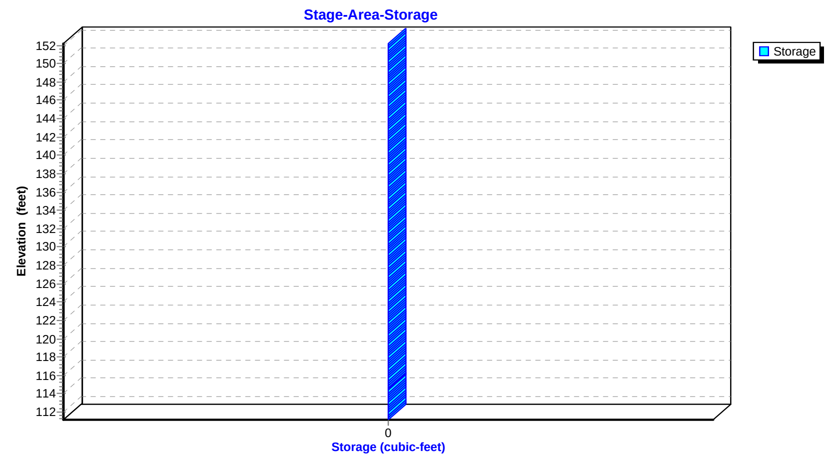
Pond 9P: CB-SE Pkg1



Pond 9P: CB-SE Pkg1



Pond 9P: CB-SE Pkg1



Summary for Pond 11P: CB-SE Pkg2

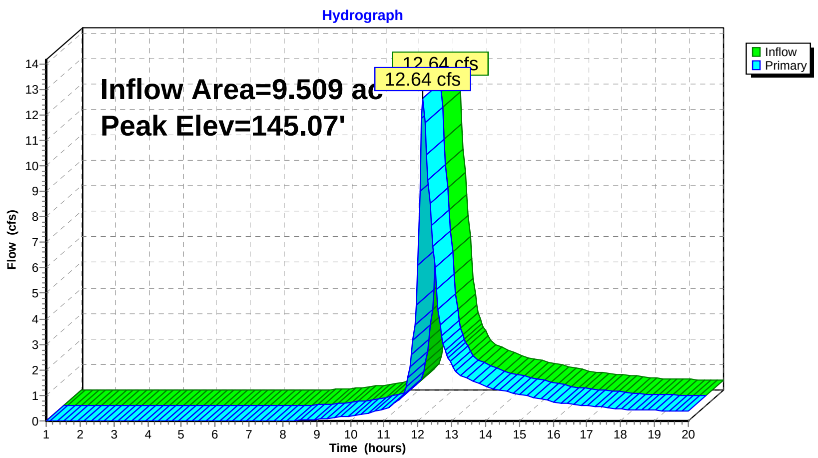
Inflow Area = 9.509 ac, 46.18% Impervious, Inflow Depth > 1.49" for 10-Year event
Inflow = 12.64 cfs @ 12.15 hrs, Volume= 1.178 af
Outflow = 12.64 cfs @ 12.15 hrs, Volume= 1.178 af, Atten= 0%, Lag= 0.0 min
Primary = 12.64 cfs @ 12.15 hrs, Volume= 1.178 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 145.07' @ 12.16 hrs

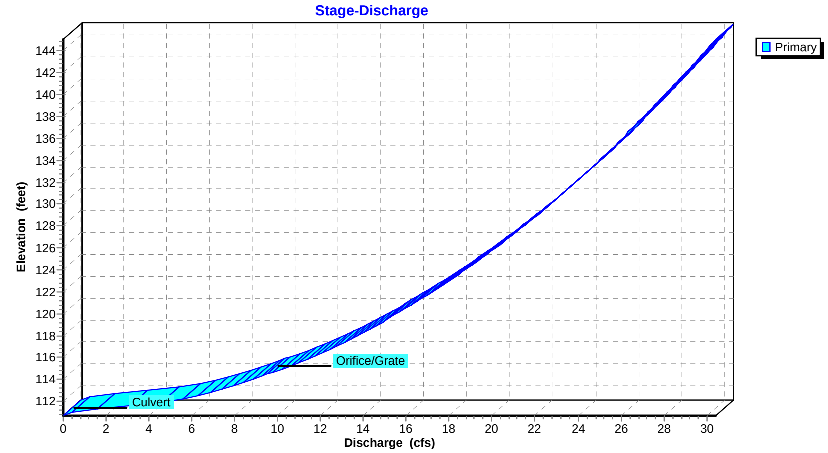
Device	Routing	Invert	Outlet Devices
#1	Primary	110.70'	**15.0" Round Culvert** L= 134.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.70' / 109.75' S= 0.0071 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=12.35 cfs @ 12.15 hrs HW=144.65' TW=139.06' (Dynamic Tailwater)
1=Culvert (Outlet Controls 12.04 cfs @ 9.81 fps)
2=Orifice/Grate (Orifice Controls 0.32 cfs @ 11.39 fps)

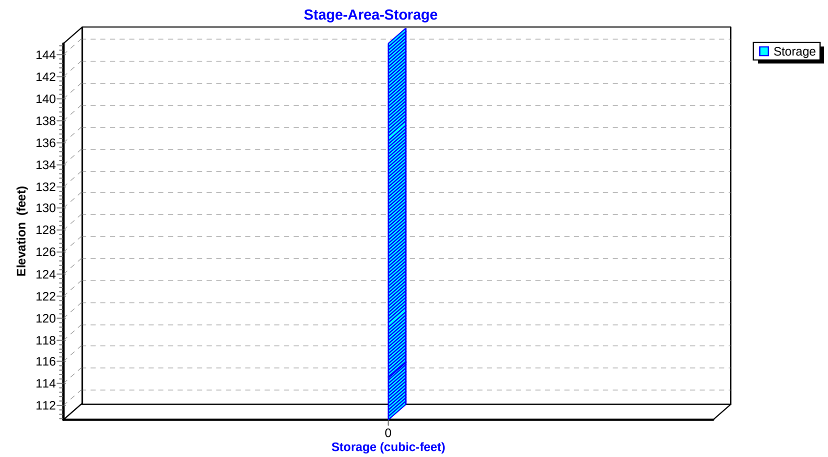
Pond 11P: CB-SE Pkg2



Pond 11P: CB-SE Pkg2



Pond 11P: CB-SE Pkg2



Summary for Pond 12P: CB-NE Pkg

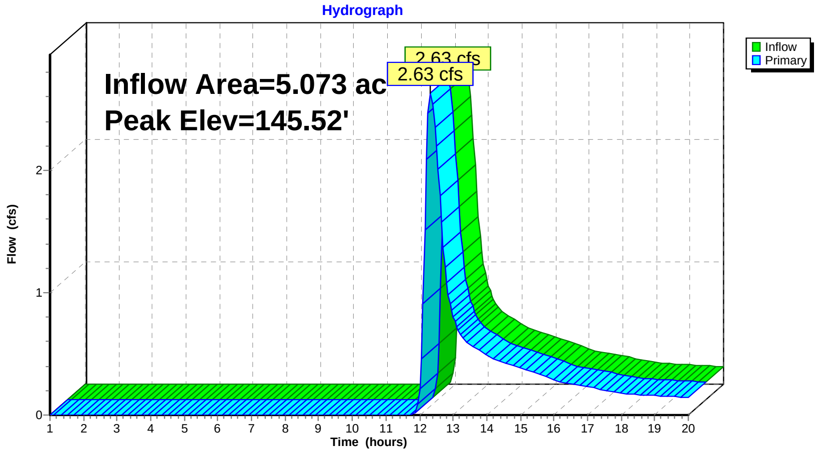
Inflow Area = 5.073 ac, 32.80% Impervious, Inflow Depth > 0.73" for 10-Year event
Inflow = 2.63 cfs @ 12.32 hrs, Volume= 0.310 af
Outflow = 2.63 cfs @ 12.32 hrs, Volume= 0.310 af, Atten= 0%, Lag= 0.0 min
Primary = 2.63 cfs @ 12.32 hrs, Volume= 0.310 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 145.52' @ 12.18 hrs

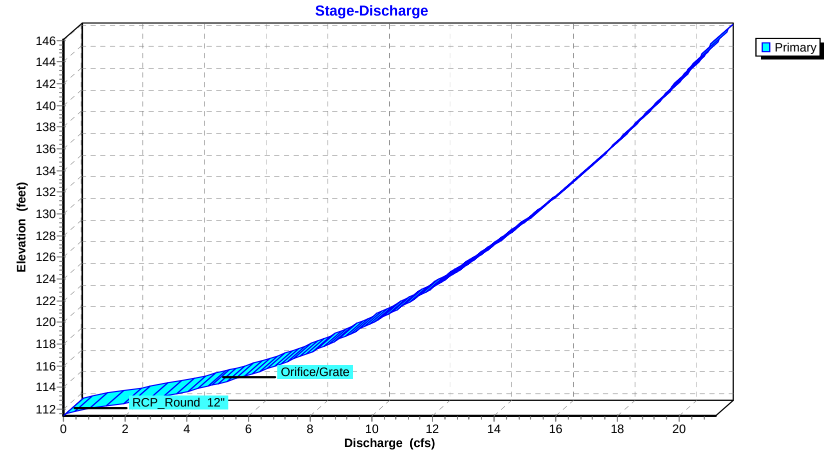
Device	Routing	Invert	Outlet Devices
#1	Primary	111.40'	**12.0" Round RCP_Round 12"** L= 76.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.40' / 111.36' S= 0.0005 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.25'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=5.17 cfs @ 12.32 hrs HW=130.74' TW=128.74' (Dynamic Tailwater)
1=RCP_Round 12" (Outlet Controls 4.98 cfs @ 6.34 fps)
2=Orifice/Grate (Orifice Controls 0.19 cfs @ 6.81 fps)

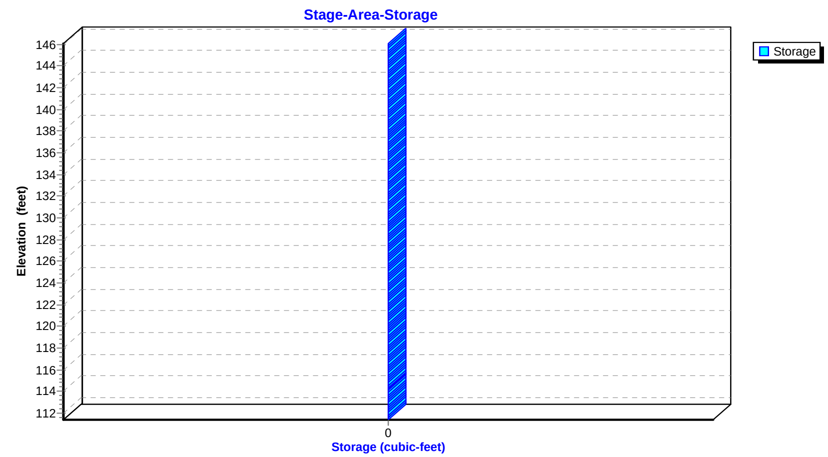
Pond 12P: CB-NE Pkg



Pond 12P: CB-NE Pkg



Pond 12P: CB-NE Pkg



Summary for Pond 14P: CB-NE Pkg2

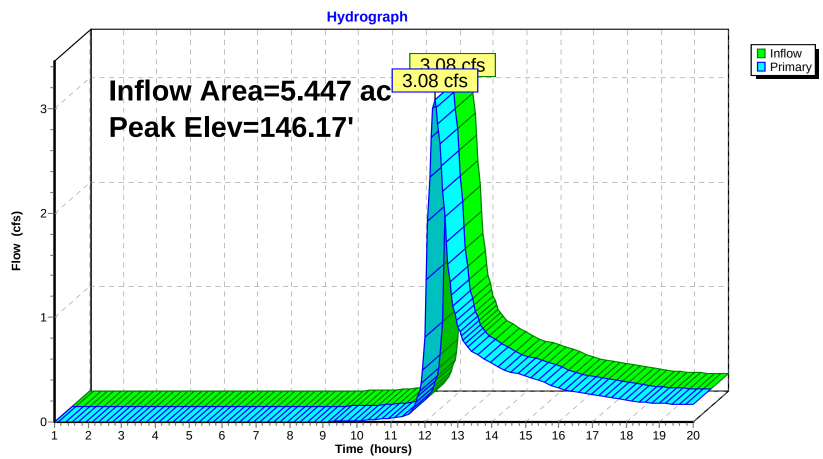
Inflow Area = 5.447 ac, 35.01% Impervious, Inflow Depth > 0.84" for 10-Year event
Inflow = 3.08 cfs @ 12.30 hrs, Volume= 0.379 af
Outflow = 3.08 cfs @ 12.30 hrs, Volume= 0.379 af, Atten= 0%, Lag= 0.0 min
Primary = 3.08 cfs @ 12.30 hrs, Volume= 0.379 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 146.17' @ 12.17 hrs

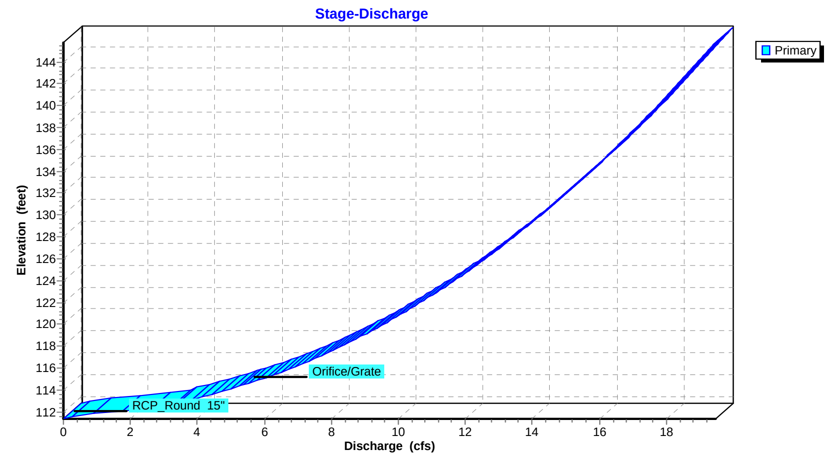
Device	Routing	Invert	Outlet Devices
#1	Primary	111.36'	**12.0" Round RCP_Round 15"** L= 105.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.36' / 110.70' S= 0.0063 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=4.79 cfs @ 12.30 hrs HW=130.20' TW=128.15' (Dynamic Tailwater)
↑—**1=RCP_Round 15"** (Outlet Controls 4.60 cfs @ 5.85 fps)
└—**2=Orifice/Grate** (Orifice Controls 0.19 cfs @ 6.90 fps)

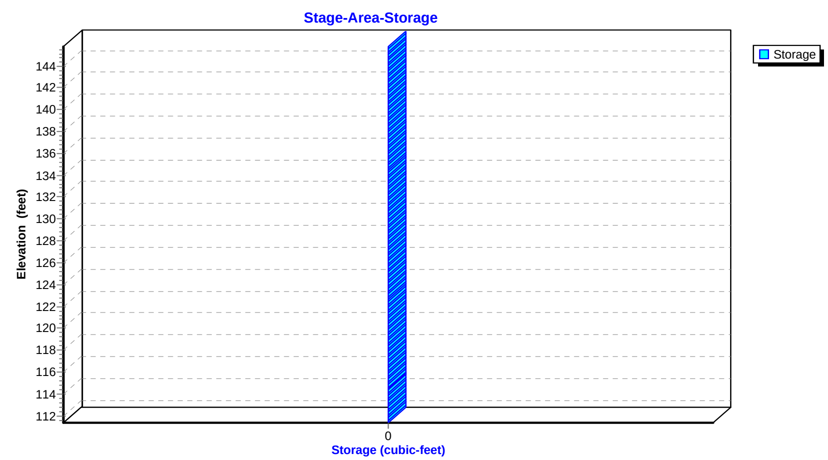
Pond 14P: CB-NE Pkg2



Pond 14P: CB-NE Pkg2



Pond 14P: CB-NE Pkg2



Summary for Pond 18P: CB-SE Pkg3

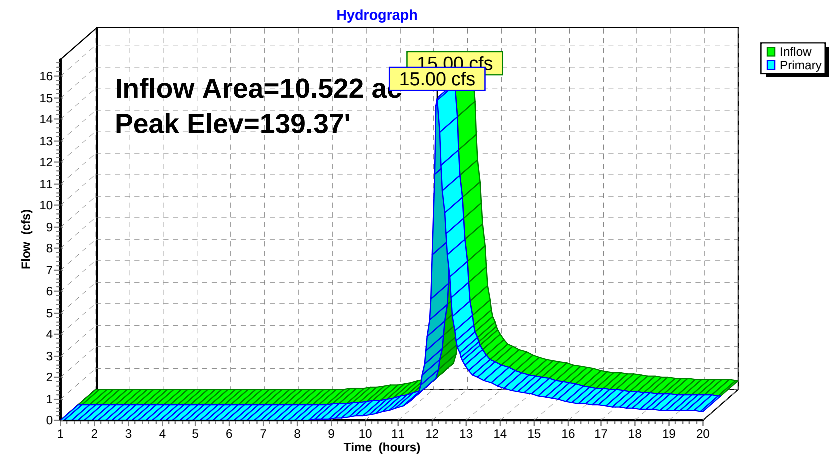
Inflow Area = 10.522 ac, 47.99% Impervious, Inflow Depth > 1.56" for 10-Year event
Inflow = 15.00 cfs @ 12.13 hrs, Volume= 1.365 af
Outflow = 15.00 cfs @ 12.13 hrs, Volume= 1.365 af, Atten= 0%, Lag= 0.0 min
Primary = 15.00 cfs @ 12.13 hrs, Volume= 1.365 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 139.37' @ 12.14 hrs

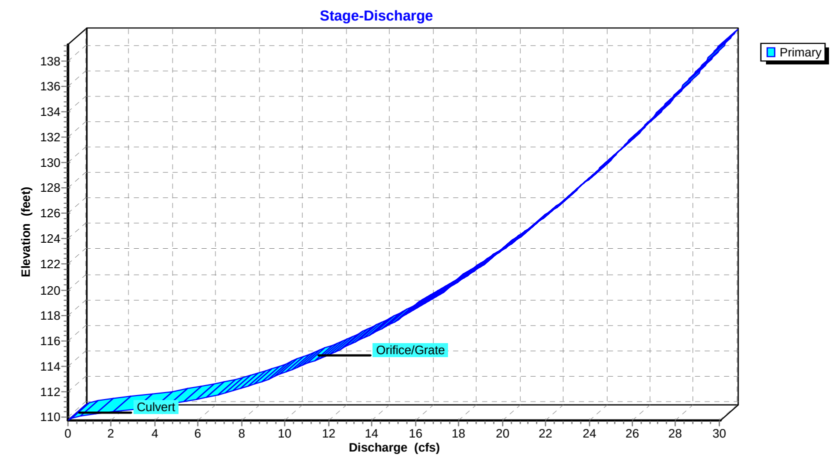
Device	Routing	Invert	Outlet Devices
#1	Primary	109.75'	**15.0" Round Culvert** L= 106.1' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 109.75' / 108.88' S= 0.0082 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.25'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=14.10 cfs @ 12.13 hrs HW=138.45' TW=132.05' (Dynamic Tailwater)
1=Culvert (Outlet Controls 13.77 cfs @ 11.22 fps)
2=Orifice/Grate (Orifice Controls 0.34 cfs @ 12.17 fps)

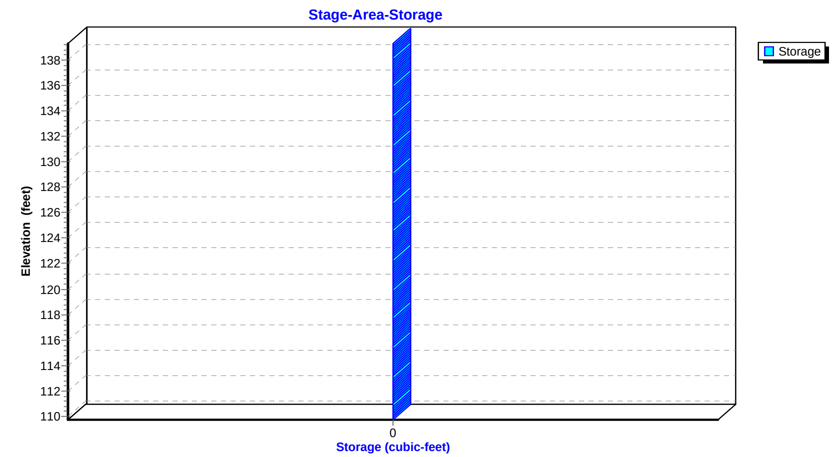
Pond 18P: CB-SE Pkg3



Pond 18P: CB-SE Pkg3



Pond 18P: CB-SE Pkg3



Summary for Pond 20P: CB-SE Pkg4

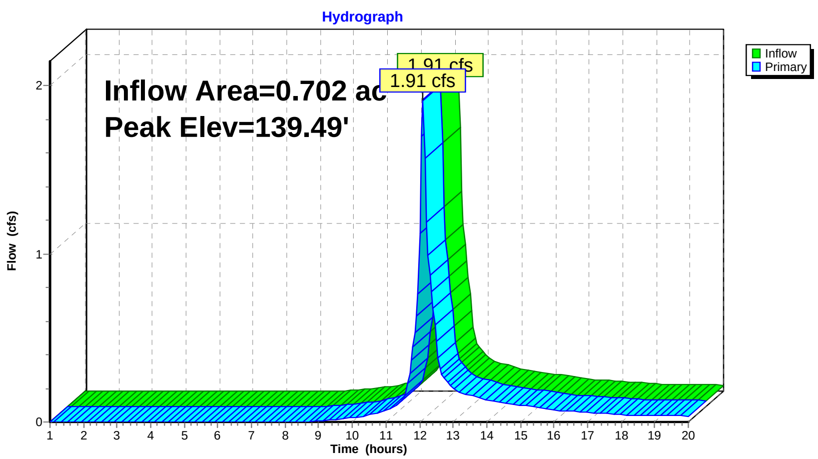
Inflow Area = 0.702 ac, 65.00% Impervious, Inflow Depth > 2.21" for 10-Year event
Inflow = 1.91 cfs @ 12.09 hrs, Volume= 0.129 af
Outflow = 1.91 cfs @ 12.09 hrs, Volume= 0.129 af, Atten= 0%, Lag= 0.0 min
Primary = 1.91 cfs @ 12.09 hrs, Volume= 0.129 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 139.49' @ 12.16 hrs

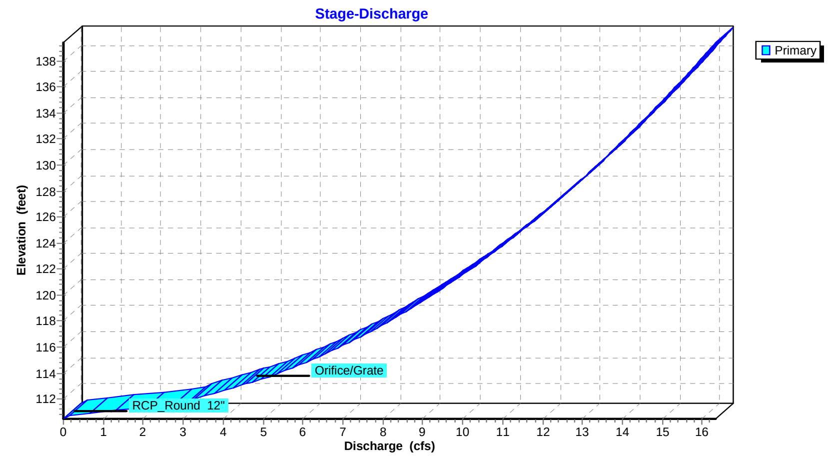
Device	Routing	Invert	Outlet Devices
#1	Primary	110.48'	**12.0" Round RCP_Round 12"** L= 140.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.48' / 109.75' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	113.20'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 12.09 hrs HW=132.16' TW=135.64' (Dynamic Tailwater)
└─**1=RCP_Round 12"** (Controls 0.00 cfs)
└─**2=Orifice/Grate** (Controls 0.00 cfs)

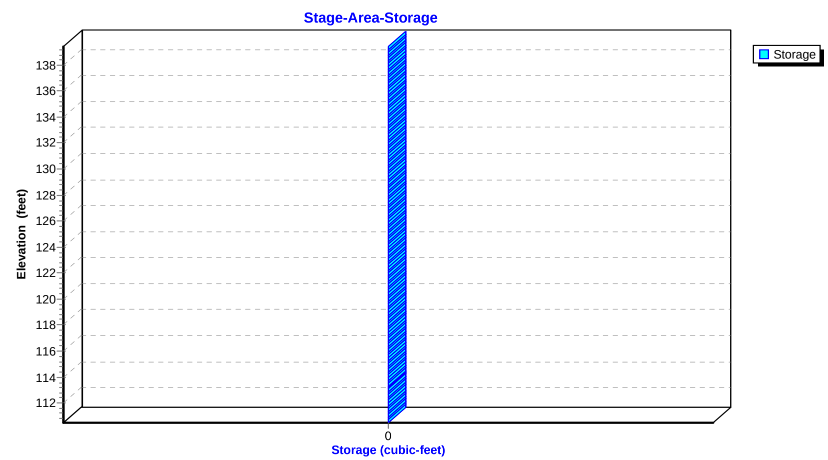
Pond 20P: CB-SE Pkg4



Pond 20P: CB-SE Pkg4



Pond 20P: CB-SE Pkg4



Summary for Pond 22P: CB-SE Pkg5

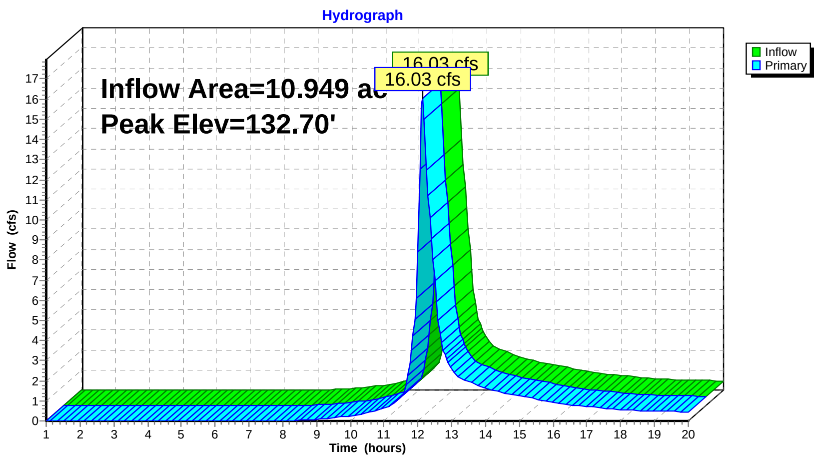
Inflow Area = 10.949 ac, 48.65% Impervious, Inflow Depth > 1.58" for 10-Year event
Inflow = 16.03 cfs @ 12.13 hrs, Volume= 1.443 af
Outflow = 16.03 cfs @ 12.13 hrs, Volume= 1.443 af, Atten= 0%, Lag= 0.0 min
Primary = 16.03 cfs @ 12.13 hrs, Volume= 1.443 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 132.70' @ 12.13 hrs

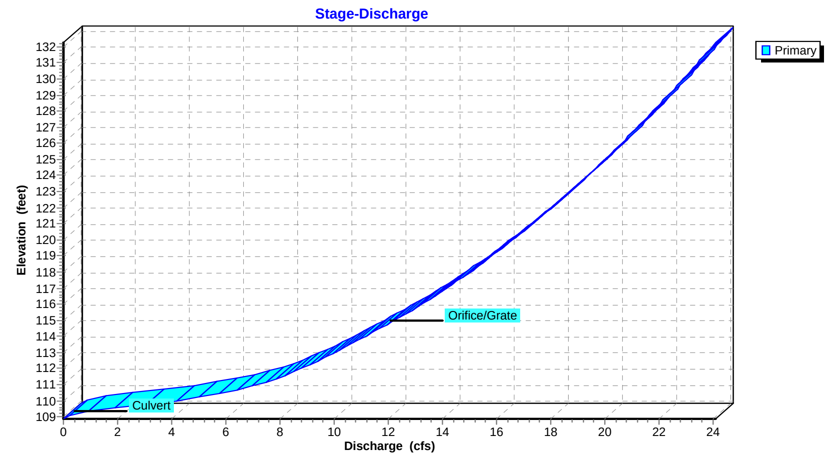
Device	Routing	Invert	Outlet Devices
#1	Primary	108.88'	**15.0" Round Culvert** L= 157.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 108.88' / 107.48' S= 0.0089 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=15.81 cfs @ 12.13 hrs HW=132.04' TW=121.95' (Dynamic Tailwater)
1=Culvert (Outlet Controls 15.39 cfs @ 12.54 fps)
2=Orifice/Grate (Orifice Controls 0.42 cfs @ 15.29 fps)

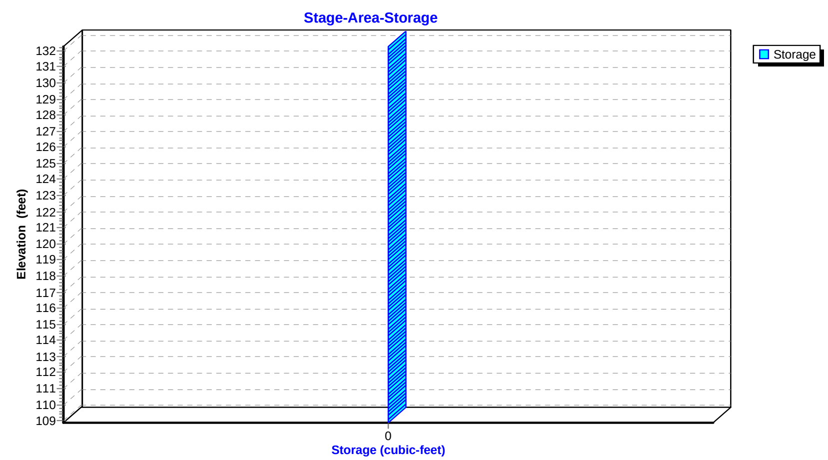
Pond 22P: CB-SE Pkg5



Pond 22P: CB-SE Pkg5



Pond 22P: CB-SE Pkg5



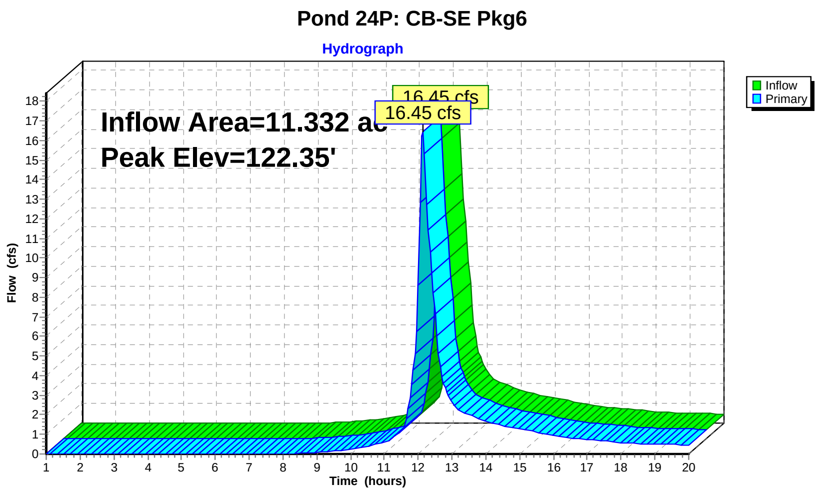
Summary for Pond 24P: CB-SE Pkg6

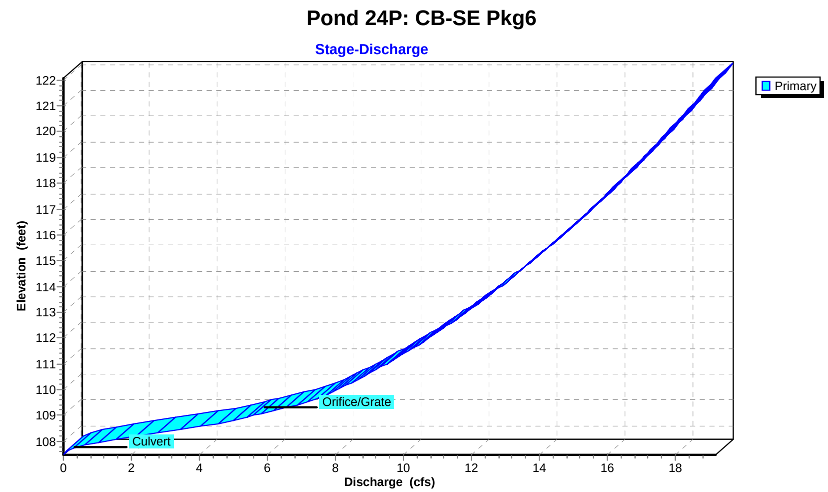
Inflow Area = 11.332 ac, 48.19% Impervious, Inflow Depth > 1.56" for 10-Year event
Inflow = 16.45 cfs @ 12.13 hrs, Volume= 1.475 af
Outflow = 16.45 cfs @ 12.13 hrs, Volume= 1.475 af, Atten= 0%, Lag= 0.0 min
Primary = 16.45 cfs @ 12.13 hrs, Volume= 1.475 af

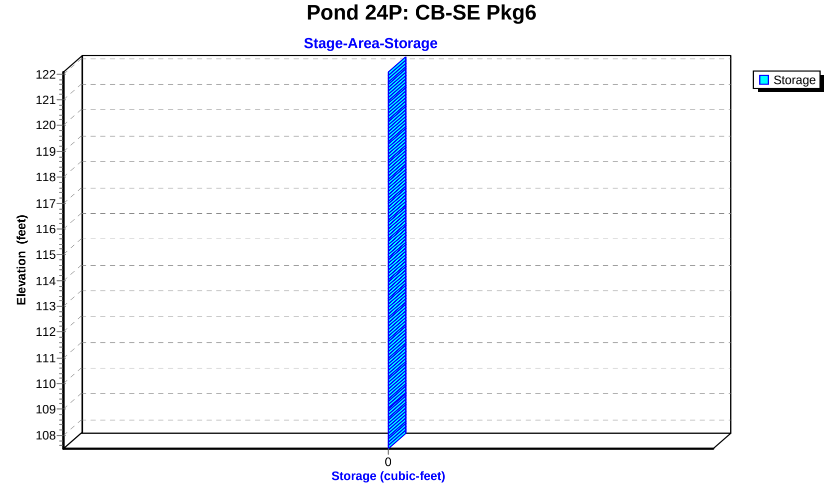
Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 122.35' @ 12.13 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	107.48'	**15.0" Round Culvert** L= 154.4' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 107.48' / 106.10' S= 0.0089 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	109.00'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=16.22 cfs @ 12.13 hrs HW=121.95' TW=111.47' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 15.79 cfs @ 12.86 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.43 cfs @ 15.59 fps)







Summary for Pond 26P: CB-SE Pkg7

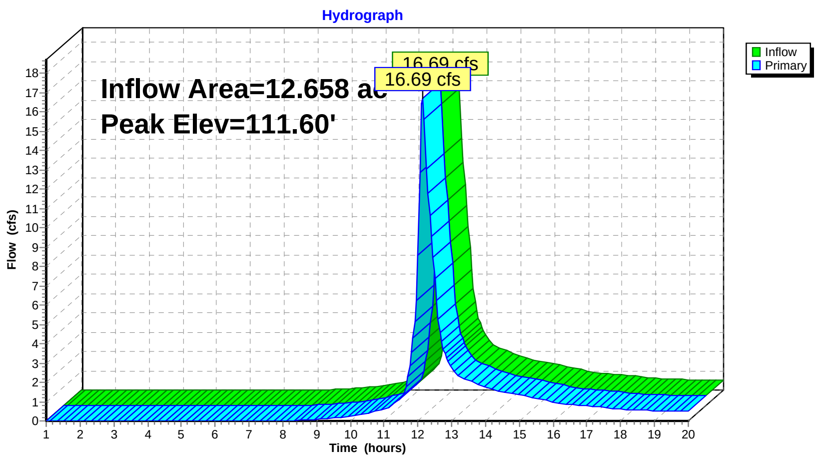
Inflow Area = 12.658 ac, 44.72% Impervious, Inflow Depth > 1.44" for 10-Year event
Inflow = 16.69 cfs @ 12.13 hrs, Volume= 1.521 af
Outflow = 16.69 cfs @ 12.13 hrs, Volume= 1.521 af, Atten= 0%, Lag= 0.0 min
Primary = 16.69 cfs @ 12.13 hrs, Volume= 1.521 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 111.60' @ 12.13 hrs

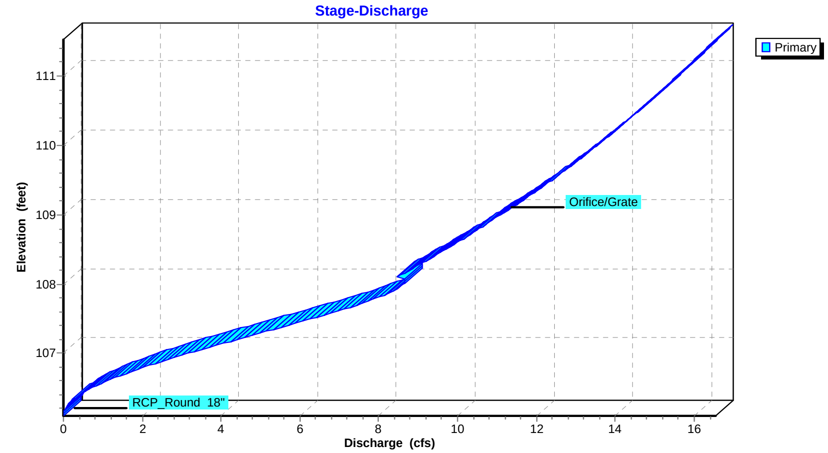
Device	Routing	Invert	Outlet Devices
#1	Primary	106.10'	**18.0" Round RCP_Round 18"** L= 154.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 106.10' / 105.35' S= 0.0049 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Primary	109.00'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=16.46 cfs @ 12.13 hrs HW=111.47' TW=0.00' (Dynamic Tailwater)
└**1=RCP_Round 18"** (Barrel Controls 16.25 cfs @ 9.20 fps)
└**2=Orifice/Grate** (Orifice Controls 0.21 cfs @ 7.57 fps)

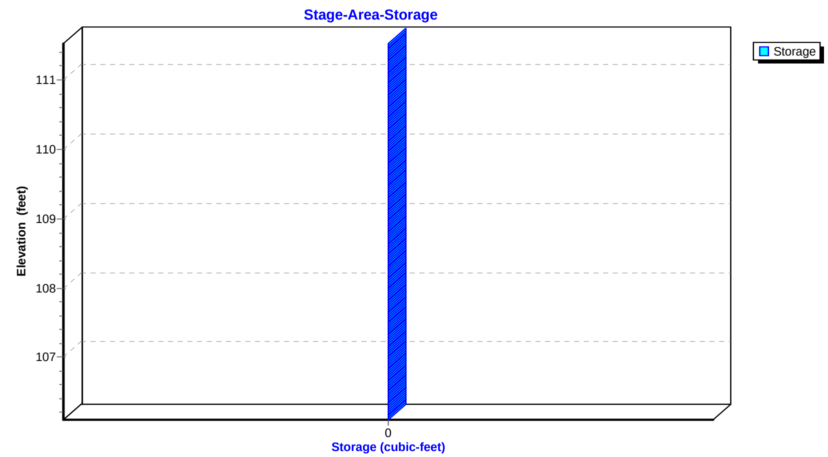
Pond 26P: CB-SE Pkg7



Pond 26P: CB-SE Pkg7



Pond 26P: CB-SE Pkg7



Summary for Pond 28P: CB-N F1

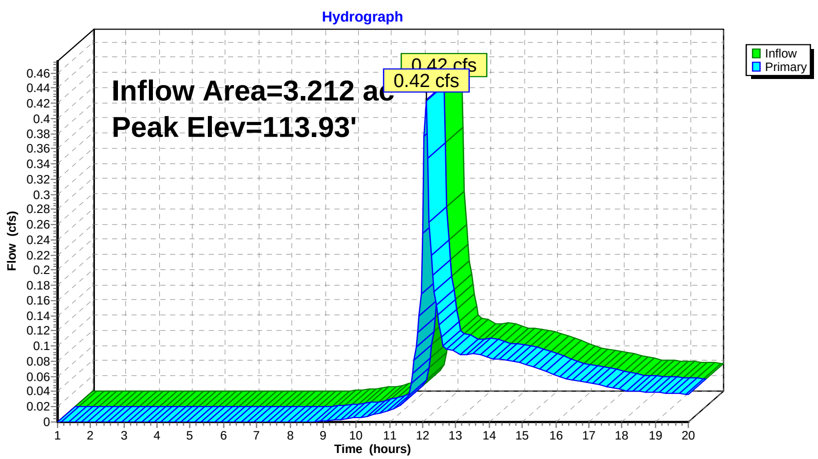
Inflow Area = 3.212 ac, 3.15% Impervious, Inflow Depth > 0.21" for 10-Year event
Inflow = 0.42 cfs @ 12.09 hrs, Volume= 0.055 af
Outflow = 0.42 cfs @ 12.09 hrs, Volume= 0.055 af, Atten= 0%, Lag= 0.0 min
Primary = 0.42 cfs @ 12.09 hrs, Volume= 0.055 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 113.93' @ 12.11 hrs

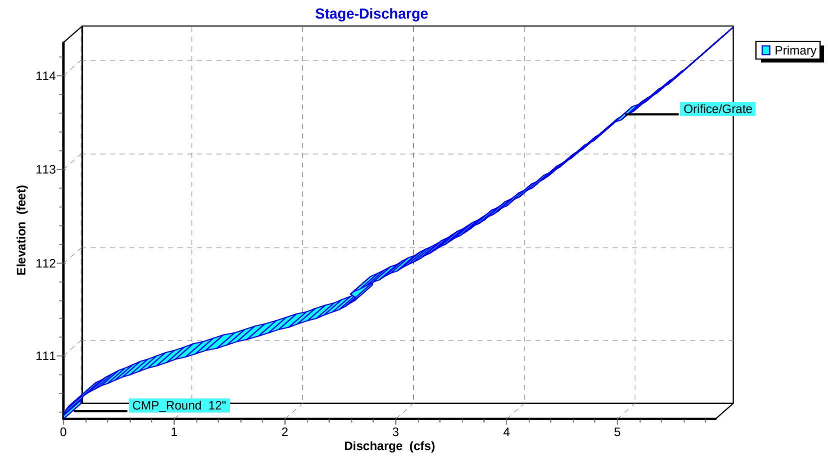
Device	Routing	Invert	Outlet Devices
#1	Primary	110.33'	**12.0" Round CMP_Round 12"** L= 111.7' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.33' / 110.00' S= 0.0030 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	113.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 12.09 hrs HW=113.63' TW=114.19' (Dynamic Tailwater)
1=CMP_Round 12" (Controls 0.00 cfs)
2=Orifice/Grate (Controls 0.00 cfs)

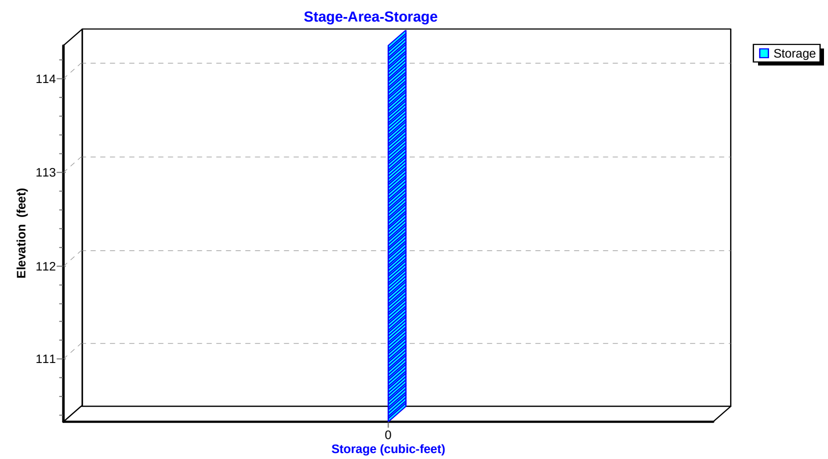
Pond 28P: CB-N F1



Pond 28P: CB-N F1



Pond 28P: CB-N F1



Summary for Pond 30P: CB-N F2

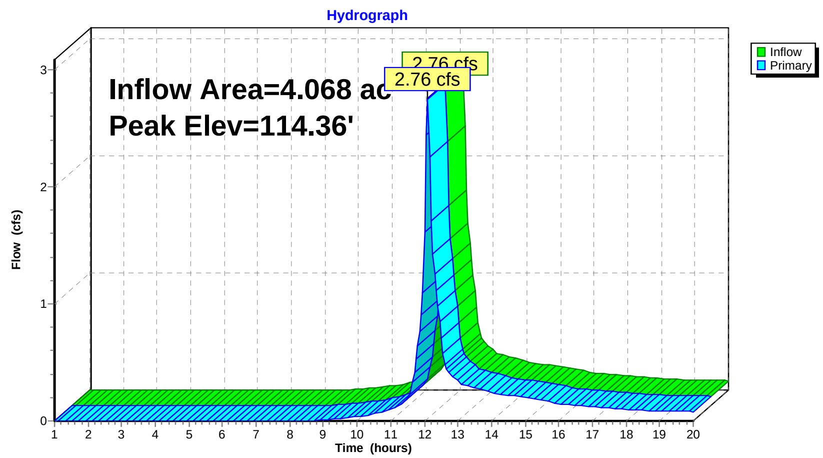
Inflow Area = 4.068 ac, 16.16% Impervious, Inflow Depth > 0.63" for 10-Year event
Inflow = 2.76 cfs @ 12.09 hrs, Volume= 0.212 af
Outflow = 2.76 cfs @ 12.09 hrs, Volume= 0.212 af, Atten= 0%, Lag= 0.0 min
Primary = 2.76 cfs @ 12.09 hrs, Volume= 0.212 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 114.36' @ 12.10 hrs

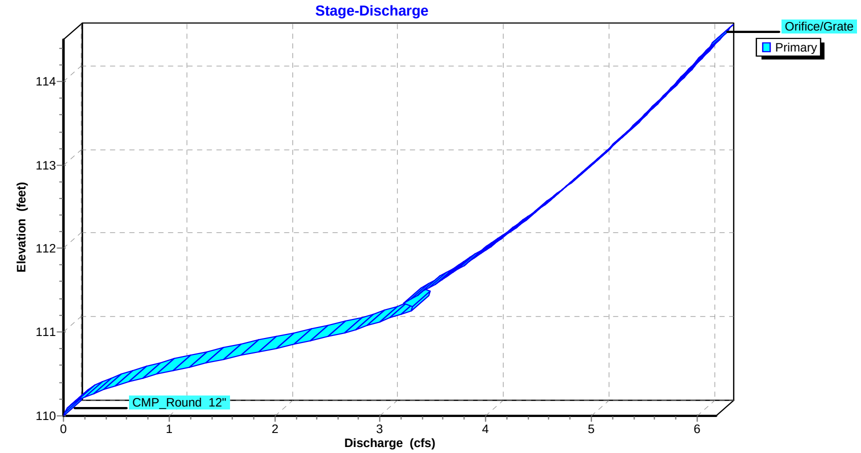
Device	Routing	Invert	Outlet Devices
#1	Primary	110.00'	**12.0" Round CMP_Round 12"** L= 133.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.00' / 109.17' S= 0.0062 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=2.72 cfs @ 12.09 hrs HW=114.19' TW=113.36' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 2.72 cfs @ 3.46 fps)
2=Orifice/Grate (Controls 0.00 cfs)

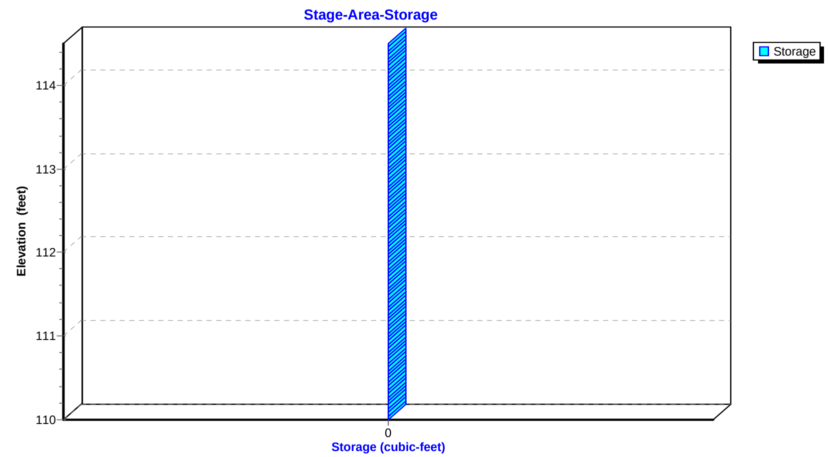
Pond 30P: CB-N F2



Pond 30P: CB-N F2



Pond 30P: CB-N F2



Summary for Pond 32P: CB-N F3

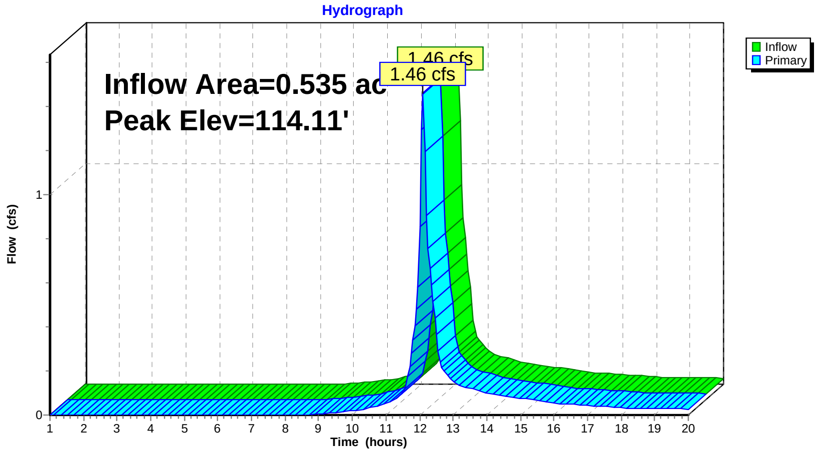
Inflow Area = 0.535 ac, 65.00% Impervious, Inflow Depth > 2.21" for 10-Year event
Inflow = 1.46 cfs @ 12.09 hrs, Volume= 0.098 af
Outflow = 1.46 cfs @ 12.09 hrs, Volume= 0.098 af, Atten= 0%, Lag= 0.0 min
Primary = 1.46 cfs @ 12.09 hrs, Volume= 0.098 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 114.11' @ 12.11 hrs

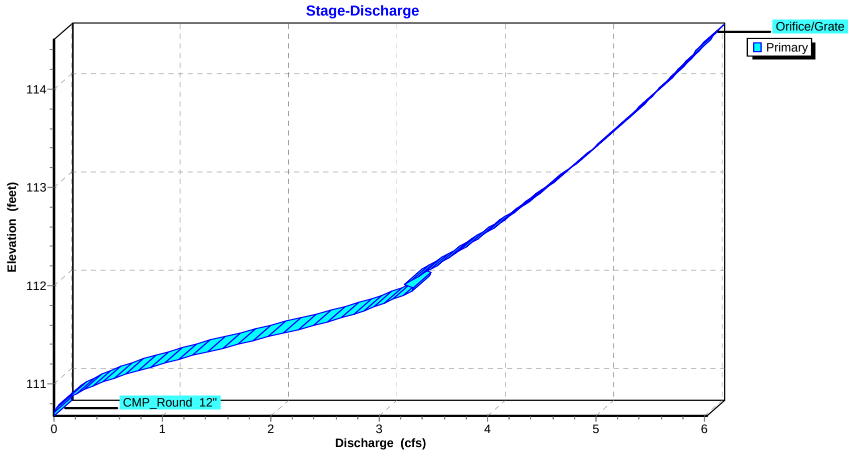
Device	Routing	Invert	Outlet Devices
#1	Primary	110.67'	**12.0" Round CMP_Round 12"** L= 103.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.67' / 110.00' S= 0.0065 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 12.09 hrs HW=113.81' TW=114.19' (Dynamic Tailwater)
└**1=CMP_Round 12"** (Controls 0.00 cfs)
└**2=Orifice/Grate** (Controls 0.00 cfs)

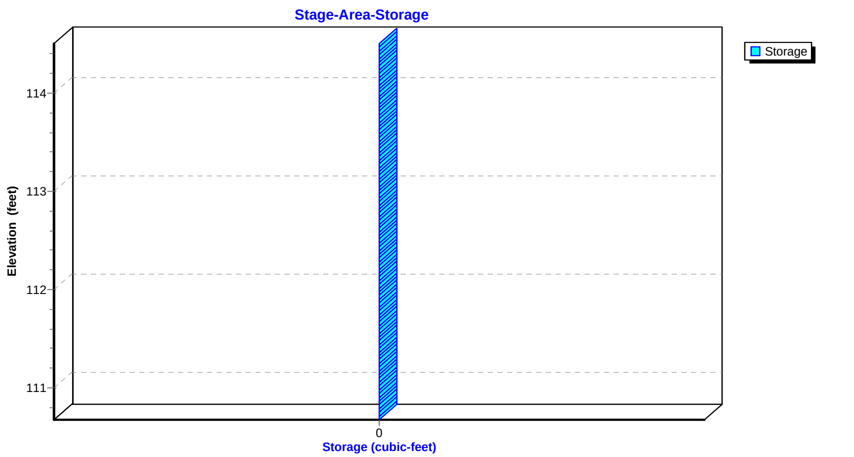
Pond 32P: CB-N F3



Pond 32P: CB-N F3



Pond 32P: CB-N F3



Summary for Pond 34P: CB-N F4

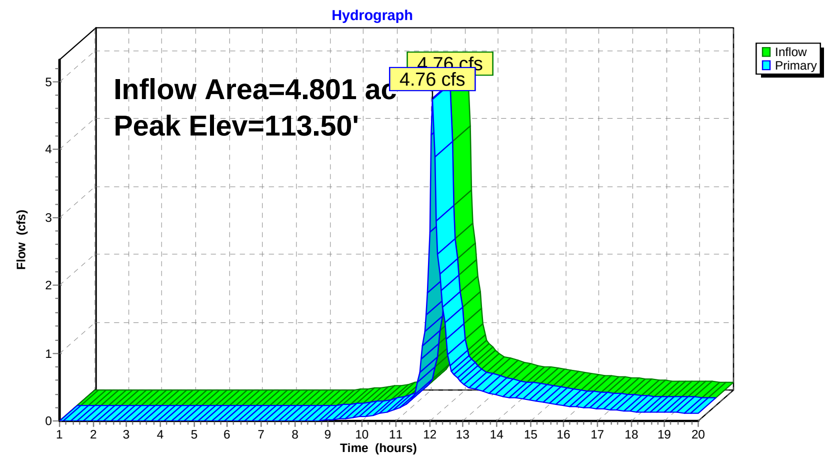
Inflow Area = 4.801 ac, 23.61% Impervious, Inflow Depth > 0.87" for 10-Year event
Inflow = 4.76 cfs @ 12.09 hrs, Volume= 0.347 af
Outflow = 4.76 cfs @ 12.09 hrs, Volume= 0.347 af, Atten= 0%, Lag= 0.0 min
Primary = 4.76 cfs @ 12.09 hrs, Volume= 0.347 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 113.50' @ 12.10 hrs

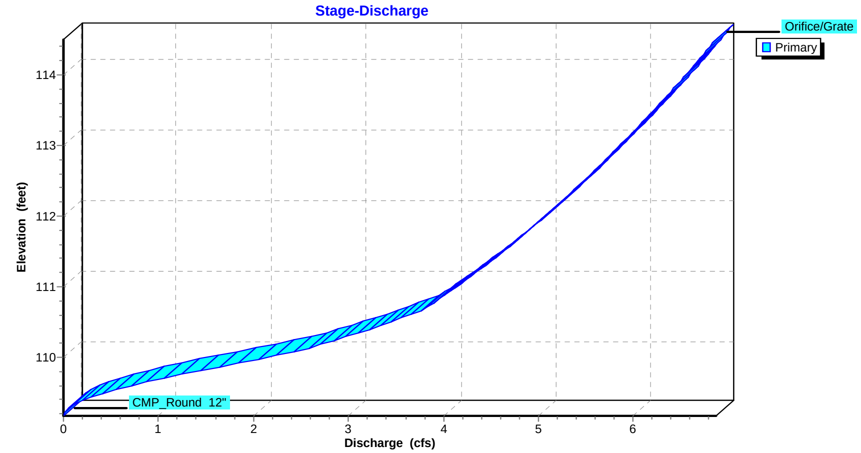
Device	Routing	Invert	Outlet Devices
#1	Primary	109.17'	**12.0" Round CMP_Round 12"** L= 139.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 109.17' / 108.00' S= 0.0084 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=4.68 cfs @ 12.09 hrs HW=113.36' TW=110.80' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 4.68 cfs @ 5.96 fps)
2=Orifice/Grate (Controls 0.00 cfs)

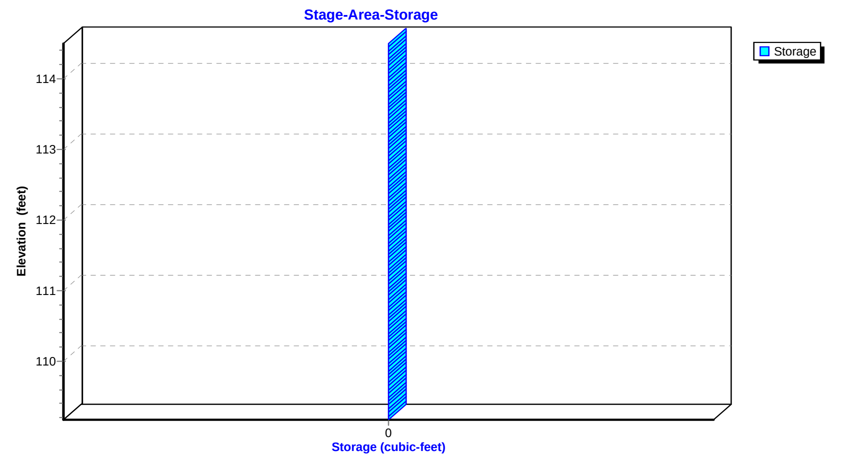
Pond 34P: CB-N F4



Pond 34P: CB-N F4



Pond 34P: CB-N F4



Summary for Pond 36P: CB-N F5

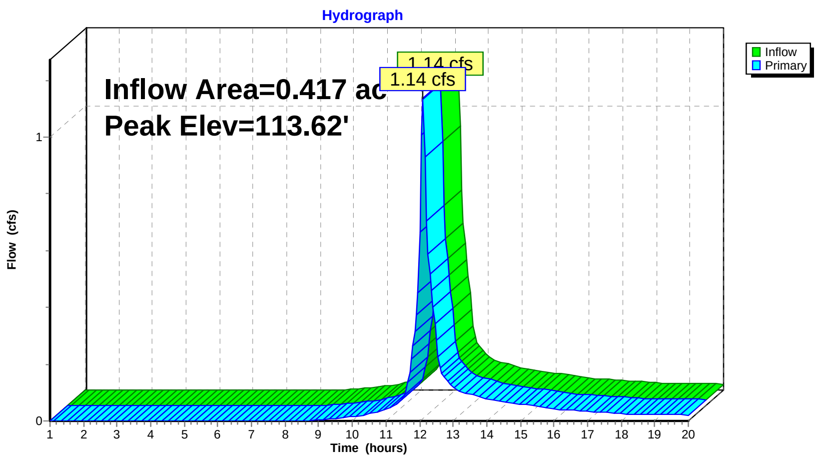
Inflow Area = 0.417 ac, 65.00% Impervious, Inflow Depth > 2.21" for 10-Year event
Inflow = 1.14 cfs @ 12.09 hrs, Volume= 0.077 af
Outflow = 1.14 cfs @ 12.09 hrs, Volume= 0.077 af, Atten= 0%, Lag= 0.0 min
Primary = 1.14 cfs @ 12.09 hrs, Volume= 0.077 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 113.62' @ 12.10 hrs

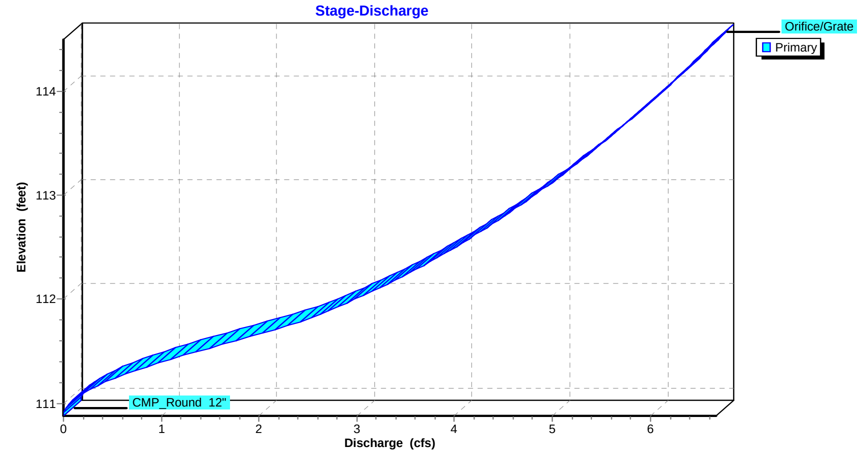
Device	Routing	Invert	Outlet Devices
#1	Primary	110.88'	**12.0" Round CMP_Round 12"** L= 105.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.88' / 109.17' S= 0.0163 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=1.12 cfs @ 12.09 hrs HW=113.48' TW=113.36' (Dynamic Tailwater)
└**1=CMP_Round 12"** (Outlet Controls 1.12 cfs @ 1.43 fps)
└**2=Orifice/Grate** (Controls 0.00 cfs)

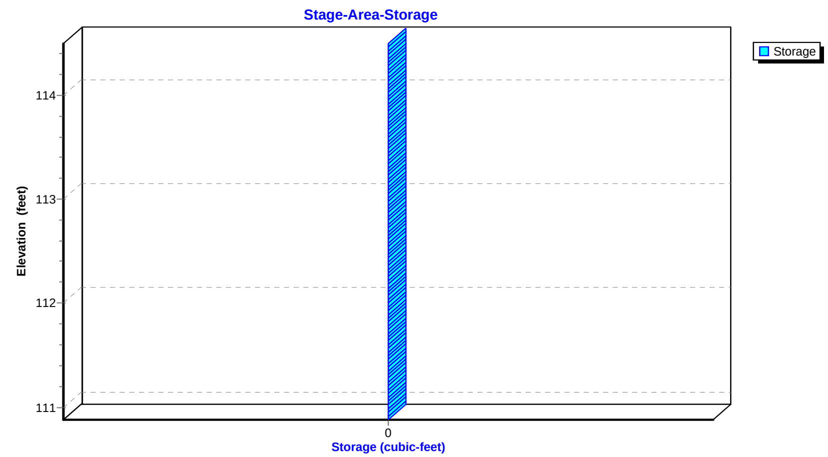
Pond 36P: CB-N F5



Pond 36P: CB-N F5



Pond 36P: CB-N F5



Summary for Pond 38P: CB-N F6

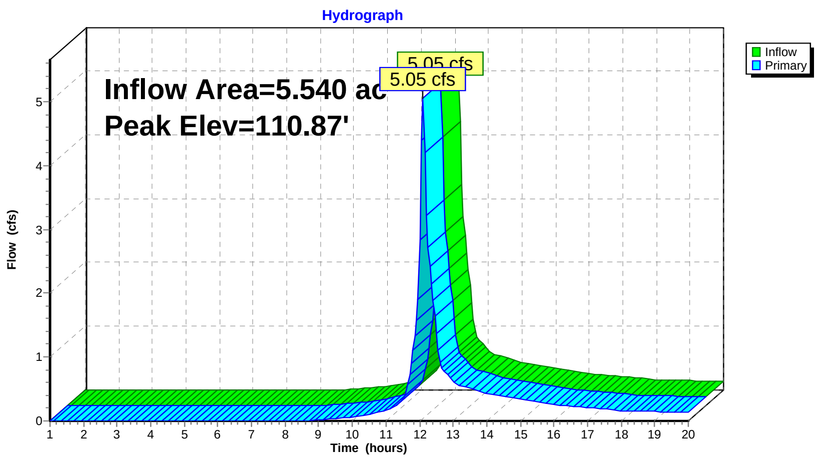
Inflow Area = 5.540 ac, 23.13% Impervious, Inflow Depth > 0.82" for 10-Year event
Inflow = 5.05 cfs @ 12.10 hrs, Volume= 0.380 af
Outflow = 5.05 cfs @ 12.10 hrs, Volume= 0.380 af, Atten= 0%, Lag= 0.0 min
Primary = 5.05 cfs @ 12.10 hrs, Volume= 0.380 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 110.87' @ 12.10 hrs

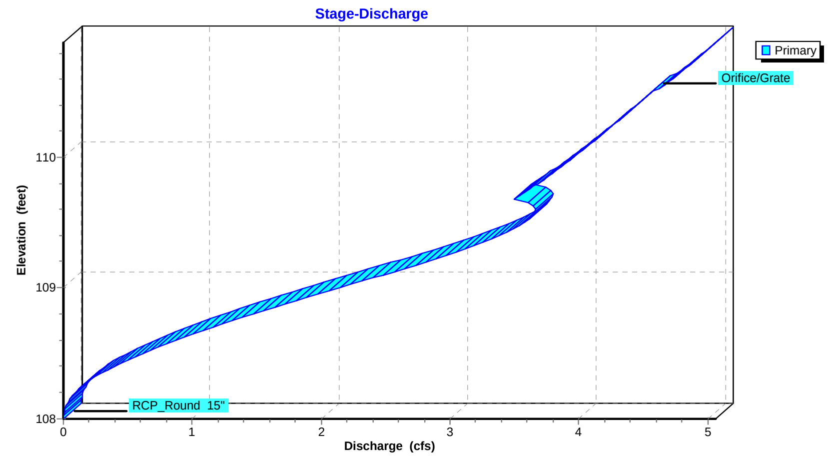
Device	Routing	Invert	Outlet Devices
#1	Primary	108.00'	**15.0" Round RCP_Round 15"** L= 466.8' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 108.00' / 107.25' S= 0.0016 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	110.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=5.01 cfs @ 12.10 hrs HW=110.83' TW=0.00' (Dynamic Tailwater)
—**1=RCP_Round 15"** (Barrel Controls 4.93 cfs @ 4.02 fps)
—**2=Orifice/Grate** (Orifice Controls 0.08 cfs @ 2.76 fps)

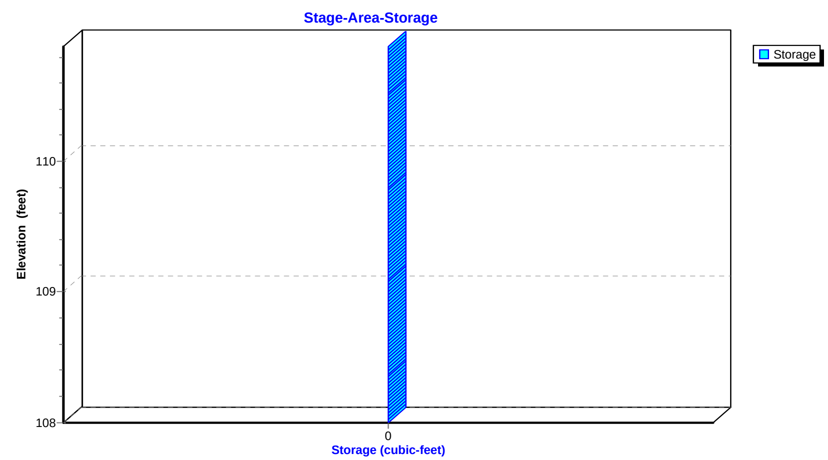
Pond 38P: CB-N F6



Pond 38P: CB-N F6



Pond 38P: CB-N F6



Time span=1.00-20.00 hrs, dt=0.05 hrs, 381 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 8S: S-FIELD CB1 Runoff Area=11,548 sf 60.17% Impervious Runoff Depth>2.57"
Flow Length=80' Tc=6.0 min CN=74 Runoff=0.84 cfs 0.057 af

Subcatchment 10S: S-FIELD CB2 Runoff Area=21,998 sf 60.00% Impervious Runoff Depth>2.57"
Flow Length=230' Slope=0.0150 '/' Tc=6.0 min CN=74 Runoff=1.61 cfs 0.108 af

Subcatchment 13S: M-FIELD CB3 Runoff Area=16,265 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=151' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.31 cfs 0.088 af

Subcatchment 17S: S-FIELD CB3 Runoff Area=13,522 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=85' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.09 cfs 0.073 af

Subcatchment 19S: S-FIELD CB4 Runoff Area=30,595 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=297' Tc=6.0 min CN=77 Runoff=2.46 cfs 0.166 af

Subcatchment 21S: S-FIELD CB5 Runoff Area=18,600 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=149' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.50 cfs 0.101 af

Subcatchment 23S: S-FIELD CB6 Runoff Area=16,672 sf 35.00% Impervious Runoff Depth>1.45"
Flow Length=131' Slope=0.0200 '/' Tc=6.2 min CN=60 Runoff=0.65 cfs 0.046 af

Subcatchment 25S: S-FIELD CB7 Runoff Area=57,741 sf 15.00% Impervious Runoff Depth>0.69"
Flow Length=330' Tc=7.6 min CN=48 Runoff=0.73 cfs 0.076 af

Subcatchment 27S: N-FIELD CBF1 Runoff Area=6,780 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=80' Tc=6.0 min CN=77 Runoff=0.55 cfs 0.037 af

Subcatchment 29S: N-FIELD CBF2 Runoff Area=13,971 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=100' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.12 cfs 0.076 af

Subcatchment 31S: N-FIELD CBF3 Runoff Area=23,311 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=129' Tc=6.0 min CN=77 Runoff=1.87 cfs 0.127 af

Subcatchment 33S: N-FIELD CBF4 Runoff Area=13,725 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=93' Tc=6.0 min CN=77 Runoff=1.10 cfs 0.075 af

Subcatchment 35S: N-FIELD CBF5 Runoff Area=18,186 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=170' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.46 cfs 0.099 af

Subcatchment 37S: N-FIELD CBF6 Runoff Area=32,216 sf 20.00% Impervious Runoff Depth>0.86"
Flow Length=280' Slope=0.0200 '/' Tc=6.0 min CN=51 Runoff=0.63 cfs 0.053 af

Subcatchment E1: S LOT Runoff Area=143,436 sf 61.40% Impervious Runoff Depth>3.12"
Flow Length=334' Tc=10.1 min CN=80 Runoff=11.07 cfs 0.855 af

Subcatchment E2: FRONT LOT Runoff Area=220,985 sf 32.80% Impervious Runoff Depth>1.10"
Flow Length=670' Tc=18.0 min CN=55 Runoff=4.36 cfs 0.467 af

Subcatchment E3: EDGE FIELD Runoff Area=33,755 sf 0.00% Impervious Runoff Depth>0.22"
Flow Length=135' Tc=7.1 min CN=38 Runoff=0.05 cfs 0.014 af

Subcatchment E4: FIELD Runoff Area=99,389 sf 0.00% Impervious Runoff Depth>0.26"
Flow Length=280' Tc=7.0 min CN=39 Runoff=0.22 cfs 0.049 af

Reach 39R: HEADWALL 'A' Inflow=6.72 cfs 0.528 af
Outflow=6.72 cfs 0.528 af

Reach RE1: HEADWALL 'B' Inflow=22.66 cfs 2.038 af
Outflow=22.66 cfs 2.038 af

Pond 7P: CB-SE Pkg Peak Elev=194.08' Inflow=11.07 cfs 0.855 af
Outflow=11.07 cfs 0.855 af

Pond 9P: CB-SE Pkg1 Peak Elev=187.37' Inflow=11.78 cfs 0.912 af
Outflow=11.78 cfs 0.912 af

Pond 11P: CB-SE Pkg2 Peak Elev=175.51' Inflow=17.04 cfs 1.575 af
Outflow=17.04 cfs 1.575 af

Pond 12P: CB-NE Pkg Peak Elev=177.42' Inflow=4.36 cfs 0.467 af
Outflow=4.36 cfs 0.467 af

Pond 14P: CB-NE Pkg2 Peak Elev=178.01' Inflow=4.96 cfs 0.555 af
Outflow=4.96 cfs 0.555 af

Pond 18P: CB-SE Pkg3 Peak Elev=165.05' Inflow=20.03 cfs 1.815 af
Outflow=20.03 cfs 1.815 af

Pond 20P: CB-SE Pkg4 Peak Elev=165.30' Inflow=2.46 cfs 0.166 af
Outflow=2.46 cfs 0.166 af

Pond 22P: CB-SE Pkg5 Peak Elev=153.11' Inflow=21.35 cfs 1.916 af
Outflow=21.35 cfs 1.916 af

Pond 24P: CB-SE Pkg6 Peak Elev=134.75' Inflow=21.97 cfs 1.963 af
Outflow=21.97 cfs 1.963 af

Pond 26P: CB-SE Pkg7 Peak Elev=115.56' Inflow=22.66 cfs 2.038 af
Outflow=22.66 cfs 2.038 af

Pond 28P: CB-N F1 Peak Elev=117.22' Inflow=0.54 cfs 0.099 af
Outflow=0.54 cfs 0.099 af

Pond 30P: CB-N F2 Peak Elev=117.94' Inflow=3.54 cfs 0.302 af
Outflow=3.54 cfs 0.302 af

Pond 32P: CB-N F3 Peak Elev=117.49' Inflow=1.87 cfs 0.127 af
Outflow=1.87 cfs 0.127 af

Pond 34P: CB-N F4 Peak Elev=116.64' Inflow=6.11 cfs 0.475 af
Outflow=6.11 cfs 0.475 af

Pond 36P: CB-N F5 Peak Elev=116.83' Inflow=1.46 cfs 0.099 af
Outflow=1.46 cfs 0.099 af

Pond 38P: CB-N F6 Peak Elev=112.58' Inflow=6.72 cfs 0.528 af
Outflow=6.72 cfs 0.528 af

Total Runoff Area = 18.198 ac Runoff Volume = 2.567 af Average Runoff Depth = 1.69"
61.86% Pervious = 11.256 ac 38.14% Impervious = 6.941 ac

Summary for Subcatchment 8S: S-FIELD CB1

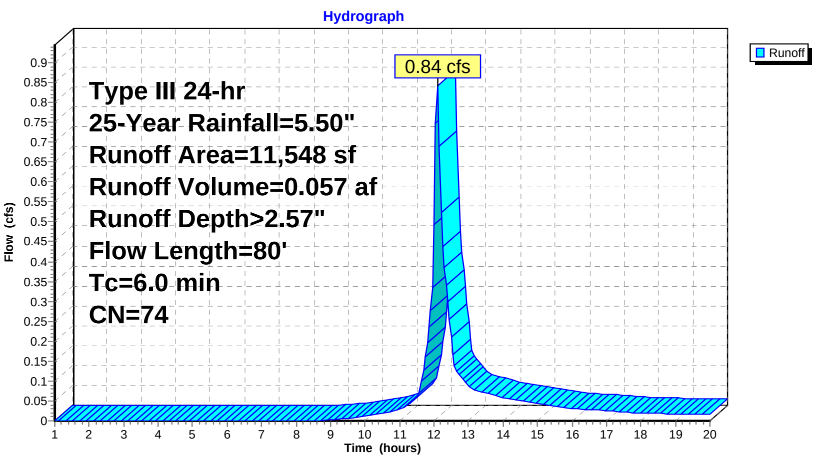
Runoff = 0.84 cfs @ 12.09 hrs, Volume= 0.057 af, Depth> 2.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	6,948	98	Paved Track, HSG A
	4,600	39	>75% Grass cover, Good, HSG A
	11,548	74	Weighted Average
	4,600		39.83% Pervious Area
	6,948		60.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	50	0.1180	0.30		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.2	30	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.0					**Direct Entry,**
6.0	80	Total			

Subcatchment 8S: S-FIELD CB1



Summary for Subcatchment 10S: S-FIELD CB2

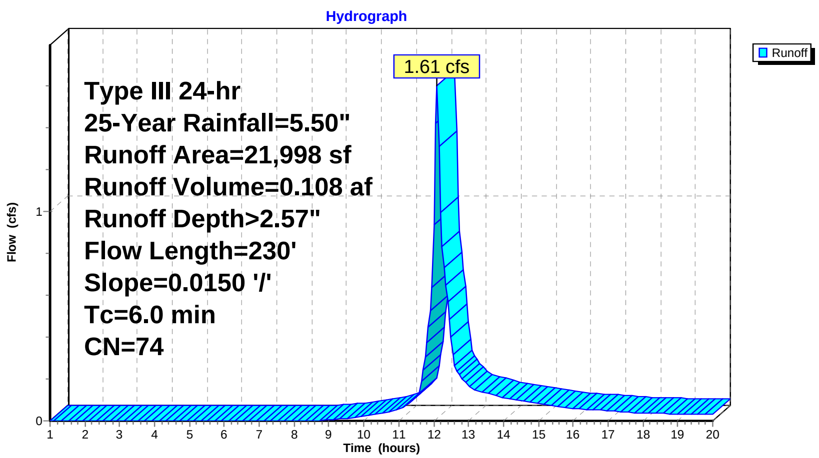
Runoff = 1.61 cfs @ 12.09 hrs, Volume= 0.108 af, Depth> 2.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	13,199	98	Paved Track, HSG A
	8,799	39	>75% Grass cover, Good, HSG A
	21,998	74	Weighted Average
	8,799		40.00% Pervious Area
	13,199		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.5	180	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.7					**Direct Entry, PARKING**
6.0	230	Total			

Subcatchment 10S: S-FIELD CB2



Summary for Subcatchment 13S: M-FIELD CB3

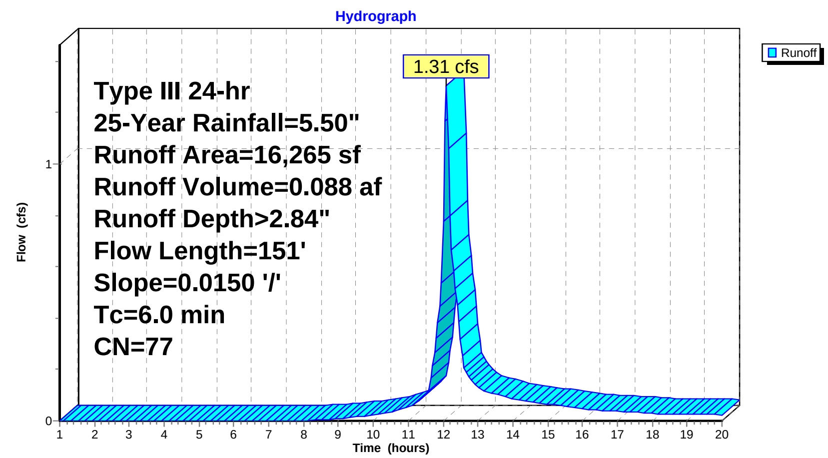
Runoff = 1.31 cfs @ 12.09 hrs, Volume= 0.088 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	10,572	98	Paved Track, HSG A
	5,693	39	>75% Grass cover, Good, HSG A
	16,265	77	Weighted Average
	5,693		35.00% Pervious Area
	10,572		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.9	101	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.3					**Direct Entry,**
6.0	151	Total			

Subcatchment 13S: M-FIELD CB3



Summary for Subcatchment 17S: S-FIELD CB3

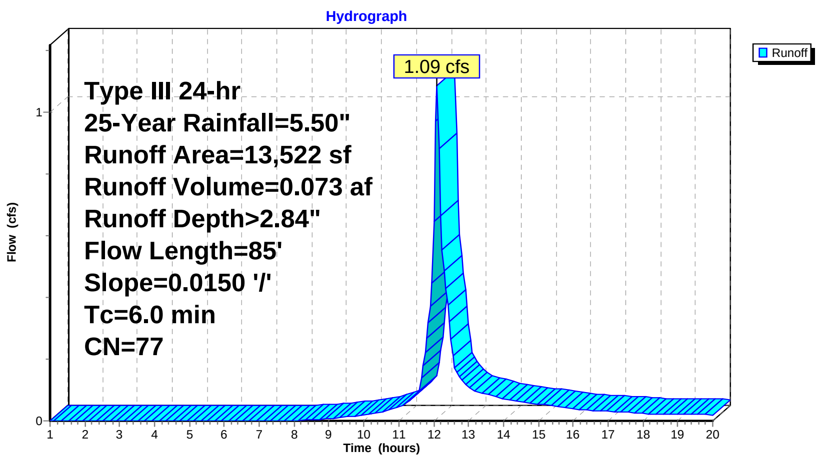
Runoff = 1.09 cfs @ 12.09 hrs, Volume= 0.073 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	8,789	98	Paved Track, HSG A
	4,733	39	>75% Grass cover, Good, HSG A
	13,522	77	Weighted Average
	4,733		35.00% Pervious Area
	8,789		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.3	35	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.9					**Direct Entry,**
6.0	85	Total			

Subcatchment 17S: S-FIELD CB3



Summary for Subcatchment 19S: S-FIELD CB4

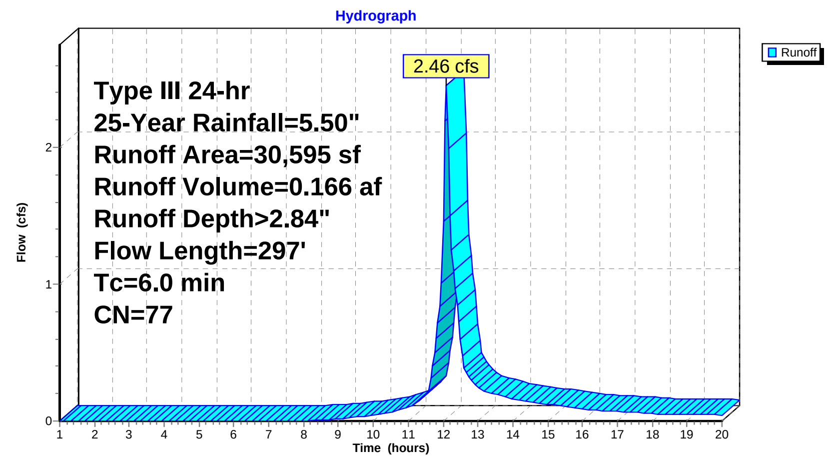
Runoff = 2.46 cfs @ 12.09 hrs, Volume= 0.166 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	19,887	98	Paved Track, HSG A
	10,708	39	>75% Grass cover, Good, HSG A
	30,595	77	Weighted Average
	10,708		35.00% Pervious Area
	19,887		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	37	0.0400	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.1	20	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	240	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.1					**Direct Entry,**
6.0	297	Total			

Subcatchment 19S: S-FIELD CB4



Summary for Subcatchment 21S: S-FIELD CB5

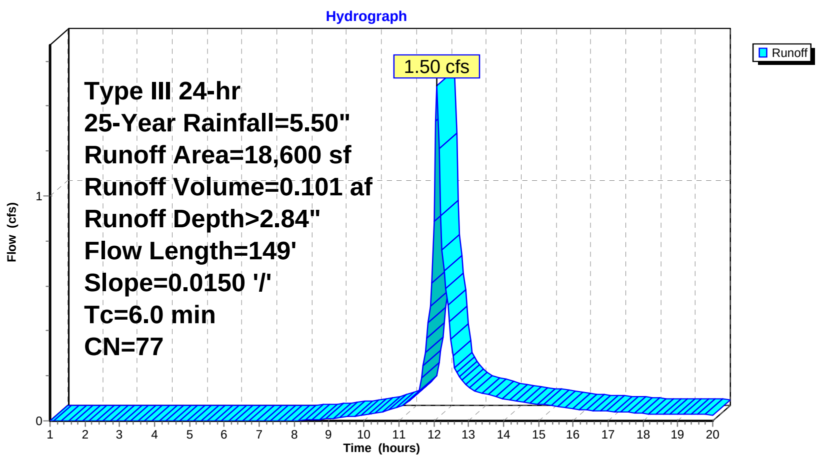
Runoff = 1.50 cfs @ 12.09 hrs, Volume= 0.101 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	12,090	98	Paved Track, HSG A
	6,510	39	>75% Grass cover, Good, HSG A
	18,600	77	Weighted Average
	6,510		35.00% Pervious Area
	12,090		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.8	99	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.4					**Direct Entry,**
6.0	149	Total			

Subcatchment 21S: S-FIELD CB5



Summary for Subcatchment 23S: S-FIELD CB6

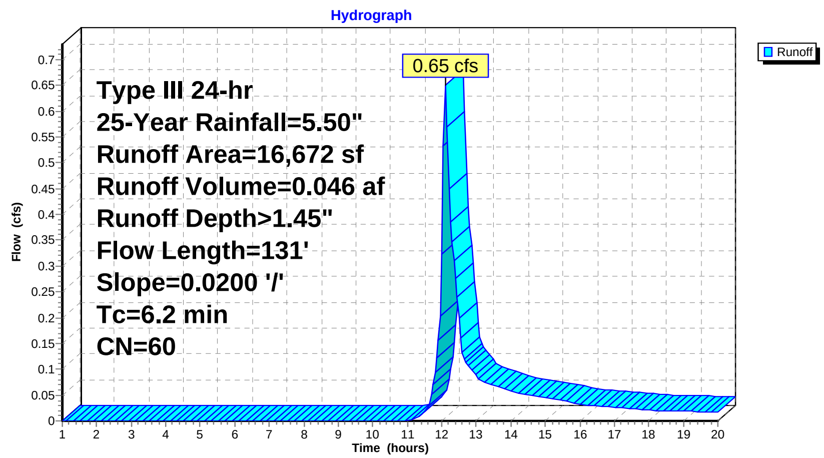
Runoff = 0.65 cfs @ 12.10 hrs, Volume= 0.046 af, Depth> 1.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	5,835	98	Paved Track, HSG A
	10,837	39	>75% Grass cover, Good, HSG A
	16,672	60	Weighted Average
	10,837		65.00% Pervious Area
	5,835		35.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.6	81	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.2	131	Total			

Subcatchment 23S: S-FIELD CB6



Summary for Subcatchment 25S: S-FIELD CB7

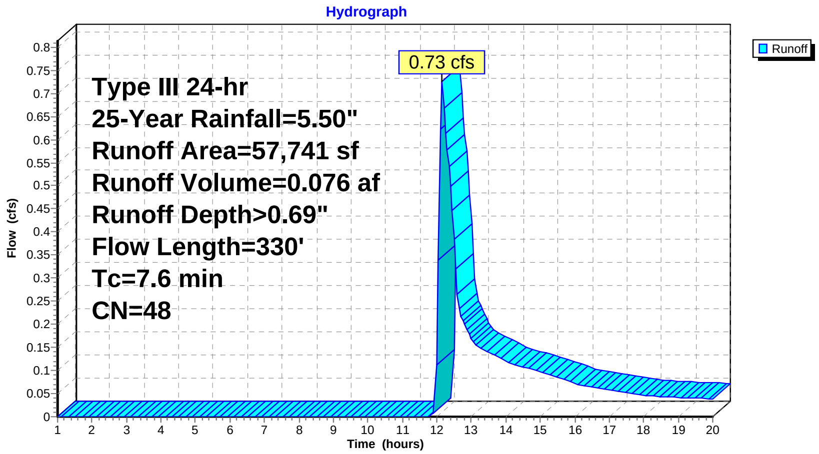
Runoff = 0.73 cfs @ 12.16 hrs, Volume= 0.076 af, Depth> 0.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	8,661	98	Paved Track, HSG A
	49,080	39	>75% Grass cover, Good, HSG A
	57,741	48	Weighted Average
	49,080		85.00% Pervious Area
	8,661		15.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.3	180	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.7	100	0.0250	2.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.6	330	Total			

Subcatchment 25S: S-FIELD CB7



Summary for Subcatchment 27S: N-FIELD CBF1

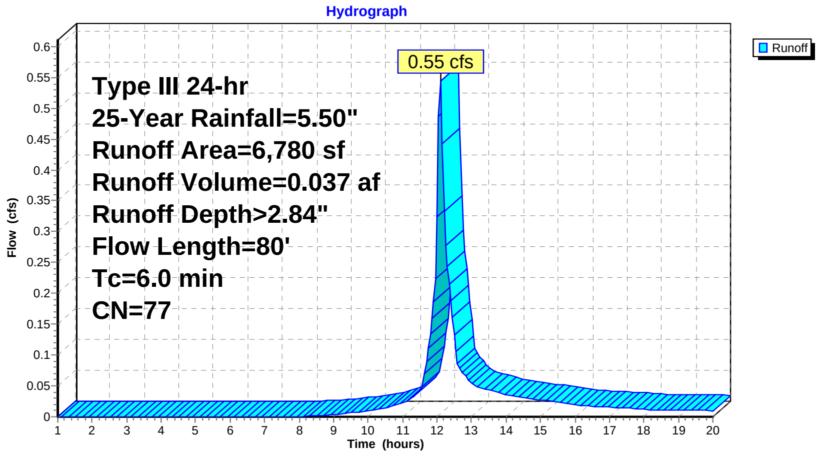
Runoff = 0.55 cfs @ 12.09 hrs, Volume= 0.037 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	4,407	98	Paved Track, HSG A
	2,373	39	>75% Grass cover, Good, HSG A
	6,780	77	Weighted Average
	2,373		35.00% Pervious Area
	4,407		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0100	0.91		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.2	30	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.9					**Direct Entry,**
6.0	80	Total			

Subcatchment 27S: N-FIELD CBF1



Summary for Subcatchment 29S: N-FIELD CBF2

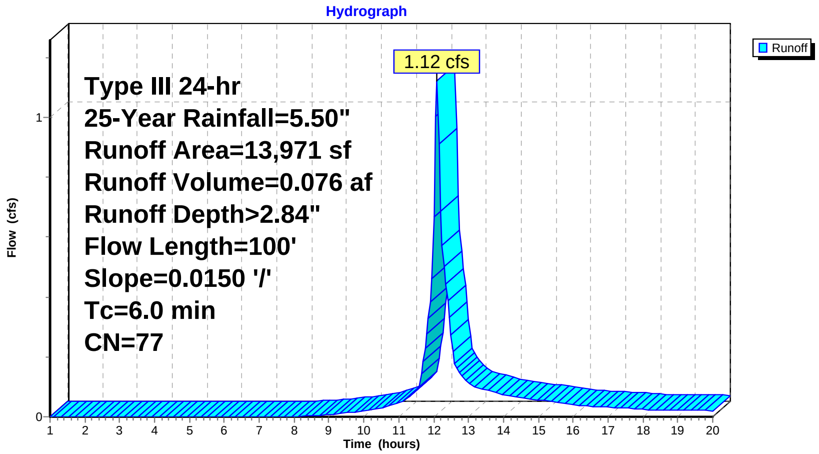
Runoff = 1.12 cfs @ 12.09 hrs, Volume= 0.076 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	9,081	98	Paved Track, HSG A
	4,890	39	>75% Grass cover, Good, HSG A
	13,971	77	Weighted Average
	4,890		35.00% Pervious Area
	9,081		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	20	0.0150	0.89		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.7	80	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.9					**Direct Entry,**
6.0	100	Total			

Subcatchment 29S: N-FIELD CBF2



Summary for Subcatchment 31S: N-FIELD CBF3

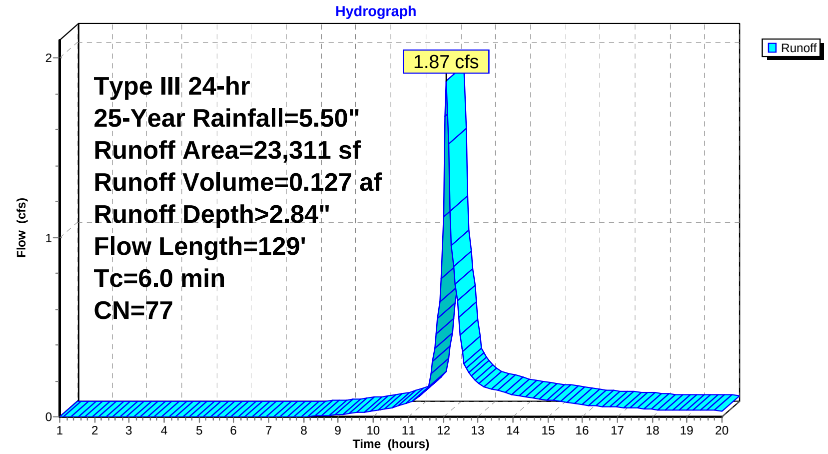
Runoff = 1.87 cfs @ 12.09 hrs, Volume= 0.127 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	15,152	98	Paved Track, HSG A
	8,159	39	>75% Grass cover, Good, HSG A
	23,311	77	Weighted Average
	8,159		35.00% Pervious Area
	15,152		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	29	0.0300	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.8	100	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.1					**Direct Entry,**
6.0	129	Total			

Subcatchment 31S: N-FIELD CBF3



Summary for Subcatchment 33S: N-FIELD CBF4

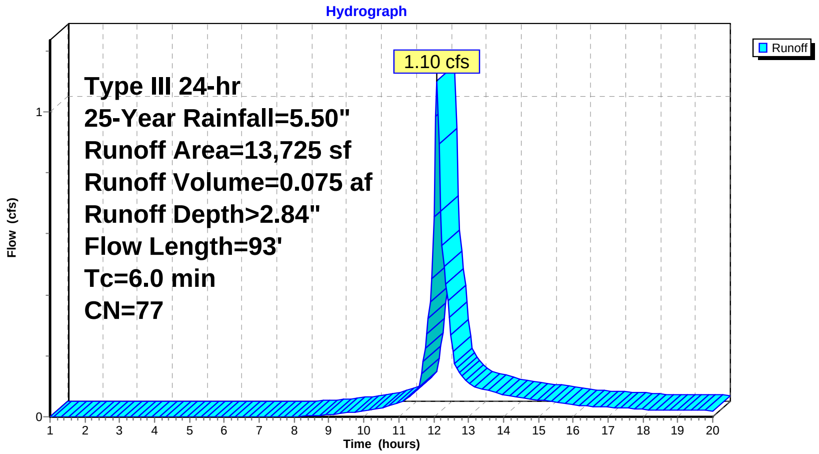
Runoff = 1.10 cfs @ 12.09 hrs, Volume= 0.075 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	8,921	98	Paved Track, HSG A
	4,804	39	>75% Grass cover, Good, HSG A
	13,725	77	Weighted Average
	4,804		35.00% Pervious Area
	8,921		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	20	0.0100	0.76		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.6	73	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
5.0					**Direct Entry,**
6.0	93	Total			

Subcatchment 33S: N-FIELD CBF4



Summary for Subcatchment 35S: N-FIELD CBF5

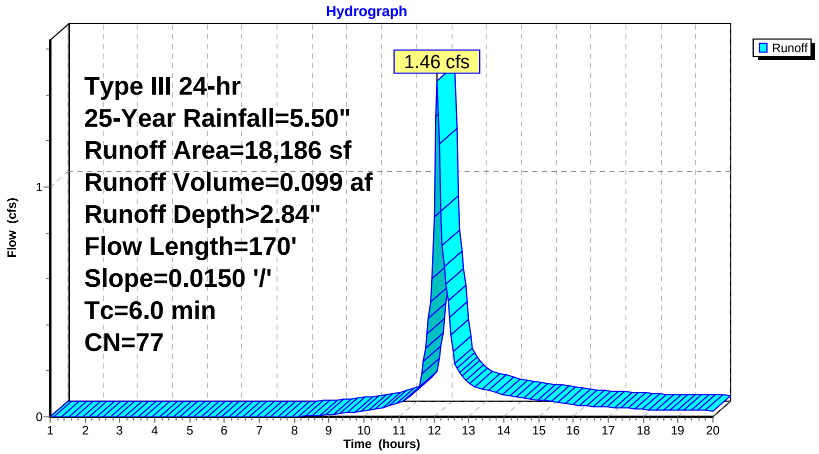
Runoff = 1.46 cfs @ 12.09 hrs, Volume= 0.099 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	11,821	98	Paved Track, HSG A
	6,365	39	>75% Grass cover, Good, HSG A
	18,186	77	Weighted Average
	6,365		35.00% Pervious Area
	11,821		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.0	120	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.2					**Direct Entry,**
6.0	170	Total			

Subcatchment 35S: N-FIELD CBF5



Summary for Subcatchment 37S: N-FIELD CBF6

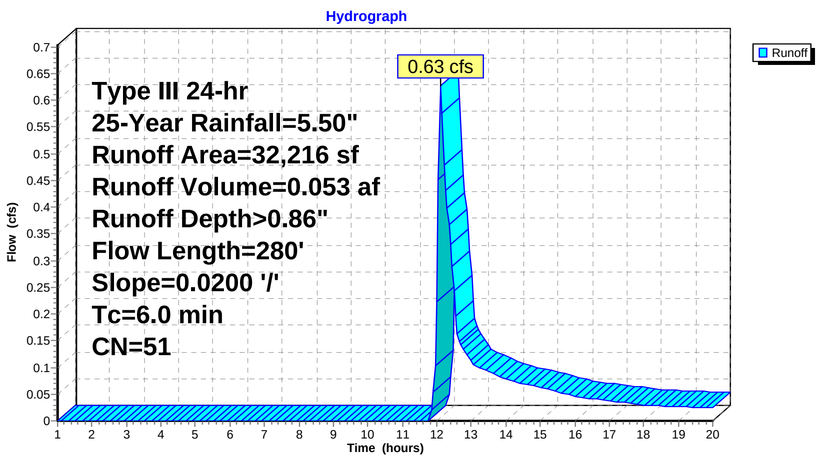
Runoff = 0.63 cfs @ 12.11 hrs, Volume= 0.053 af, Depth> 0.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	6,443	98	Paved Track, HSG A
	25,773	39	>75% Grass cover, Good, HSG A
	32,216	51	Weighted Average
	25,773		80.00% Pervious Area
	6,443		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0200	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.8	250	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.5					**Direct Entry,**
6.0	280	Total			

Subcatchment 37S: N-FIELD CBF6



Summary for Subcatchment E1: S LOT

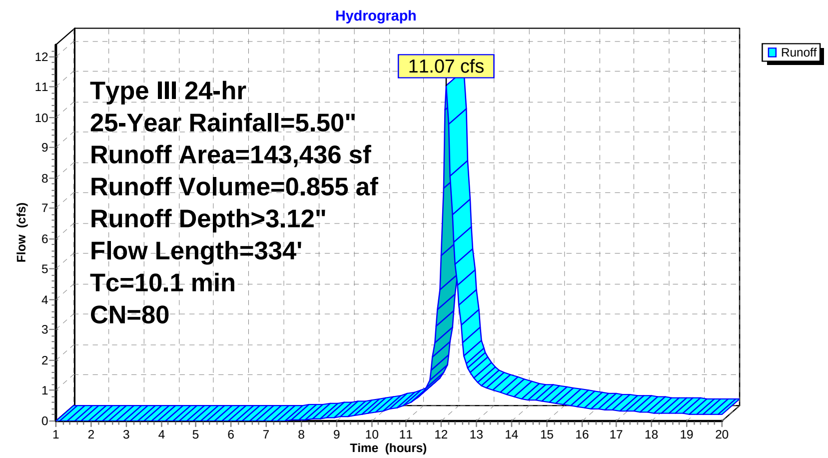
Runoff = 11.07 cfs @ 12.14 hrs, Volume= 0.855 af, Depth> 3.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
88,072	98	Paved parking, HSG A
21,058	72	Woods/grass comb., Good, HSG C
34,306	39	>75% Grass cover, Good, HSG A
143,436	80	Weighted Average
55,364		38.60% Pervious Area
88,072		61.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	50	0.0490	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.7	150	0.0486	3.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.8	134	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
10.1	334	Total			

Subcatchment E1: S LOT



Summary for Subcatchment E2: FRONT LOT

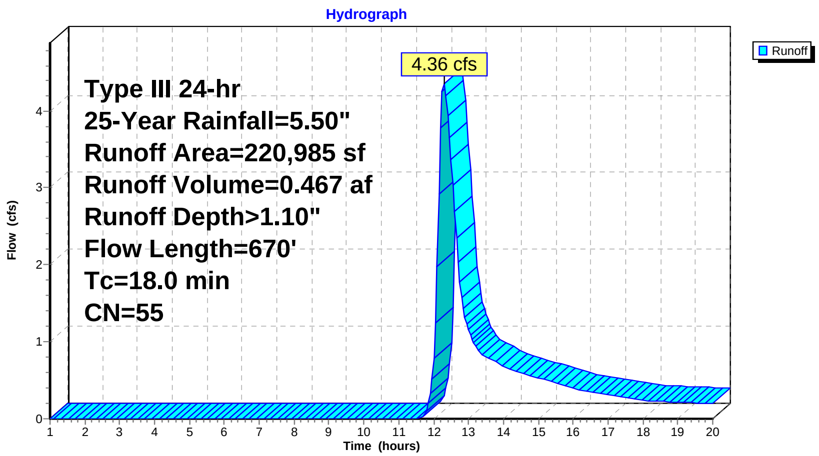
Runoff = 4.36 cfs @ 12.29 hrs, Volume= 0.467 af, Depth> 1.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
95,208	32	Woods/grass comb., Good, HSG A
72,489	98	Paved parking, HSG A
53,288	39	>75% Grass cover, Good, HSG A
220,985	55	Weighted Average
148,496		67.20% Pervious Area
72,489		32.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow, WOOD-FIELD** Woods: Light underbrush n= 0.400 P2= 3.20"
0.5	120	0.0590	3.91		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
4.2	360	0.0080	1.44		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
1.0	140	0.0140	2.40		**Shallow Concentrated Flow, PKG** Paved Kv= 20.3 fps
18.0	670	Total			

Subcatchment E2: FRONT LOT



Summary for Subcatchment E3: EDGE FIELD

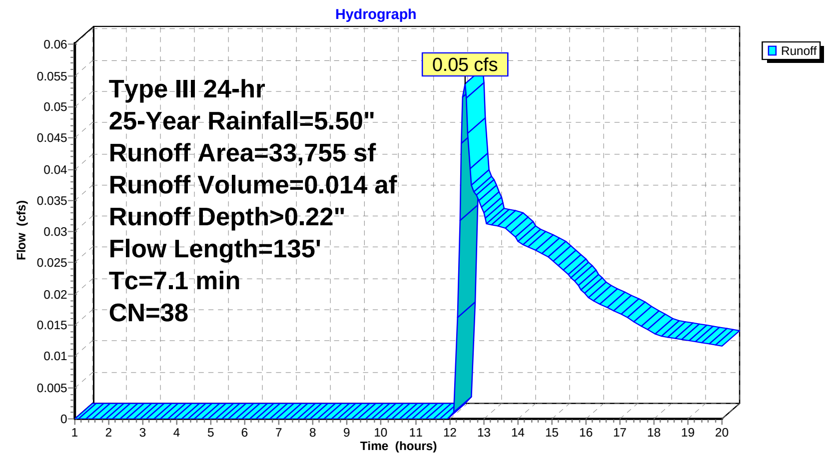
Runoff = 0.05 cfs @ 12.45 hrs, Volume= 0.014 af, Depth> 0.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
5,183	32	Woods/grass comb., Good, HSG A
28,572	39	>75% Grass cover, Good, HSG A
33,755	38	Weighted Average
33,755		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	35	0.0460	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.1	50	0.2195	7.54		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	50	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.1	135	Total			

Subcatchment E3: EDGE FIELD



Summary for Subcatchment E4: FIELD

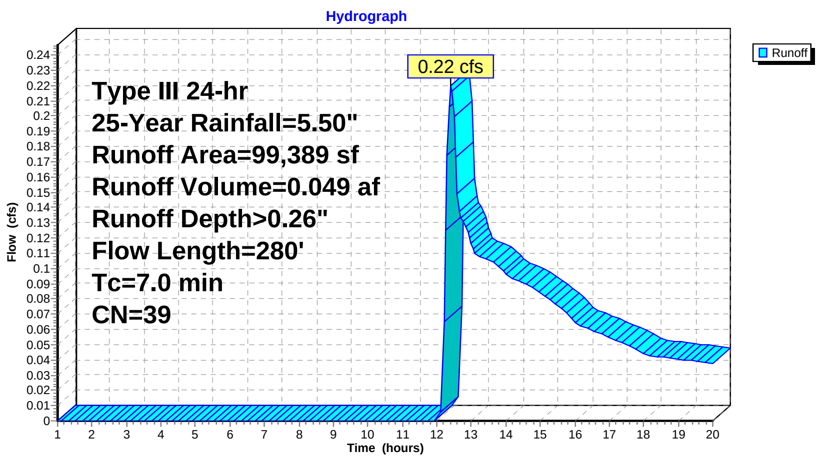
Runoff = 0.22 cfs @ 12.42 hrs, Volume= 0.049 af, Depth> 0.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
94,741	39	>75% Grass cover, Good, HSG A
4,648	43	Woods/grass comb., Fair, HSG A
99,389	39	Weighted Average
99,389		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.3	180	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	50	0.1200	5.58		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.0	280	Total			

Subcatchment E4: FIELD

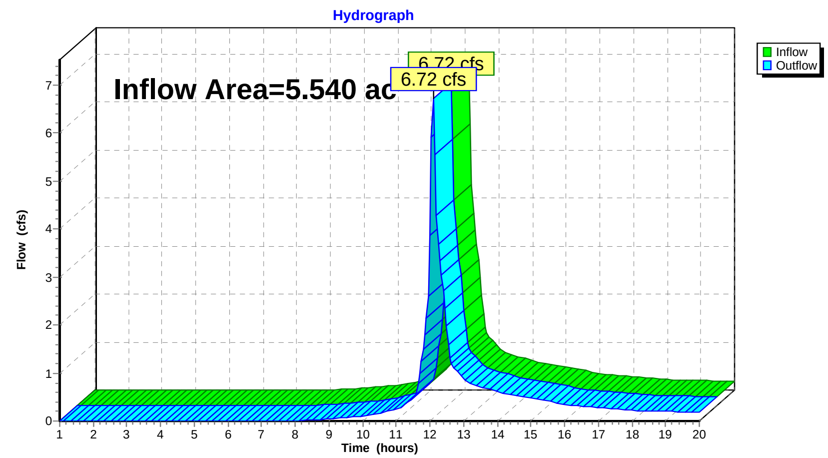


Summary for Reach 39R: HEADWALL 'A'

Inflow Area = 5.540 ac, 23.13% Impervious, Inflow Depth > 1.14" for 25-Year event
Inflow = 6.72 cfs @ 12.10 hrs, Volume= 0.528 af
Outflow = 6.72 cfs @ 12.10 hrs, Volume= 0.528 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3

Reach 39R: HEADWALL 'A'

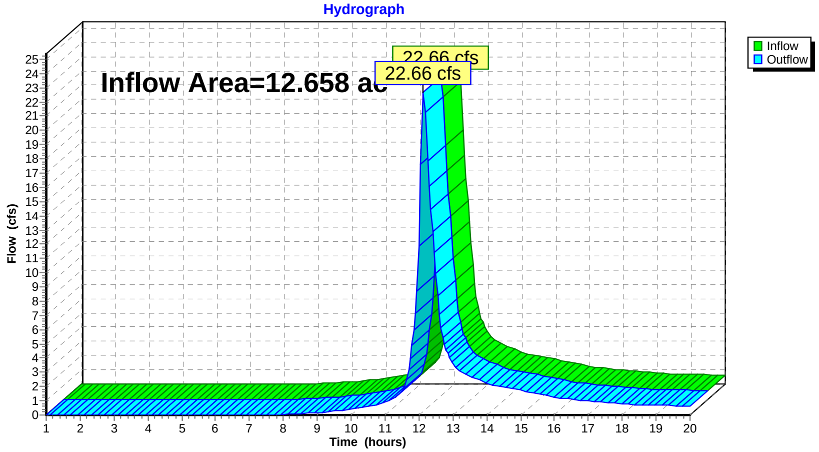


Summary for Reach RE1: HEADWALL 'B'

Inflow Area = 12.658 ac, 44.72% Impervious, Inflow Depth > 1.93" for 25-Year event
Inflow = 22.66 cfs @ 12.13 hrs, Volume= 2.038 af
Outflow = 22.66 cfs @ 12.13 hrs, Volume= 2.038 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3

Reach RE1: HEADWALL 'B'



Summary for Pond 7P: CB-SE Pkg

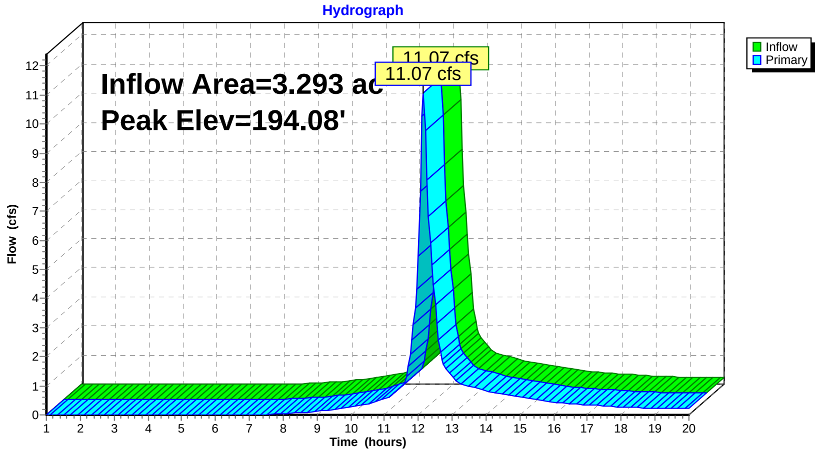
Inflow Area = 3.293 ac, 61.40% Impervious, Inflow Depth > 3.12" for 25-Year event
Inflow = 11.07 cfs @ 12.14 hrs, Volume= 0.855 af
Outflow = 11.07 cfs @ 12.14 hrs, Volume= 0.855 af, Atten= 0%, Lag= 0.0 min
Primary = 11.07 cfs @ 12.14 hrs, Volume= 0.855 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 194.08' @ 12.17 hrs

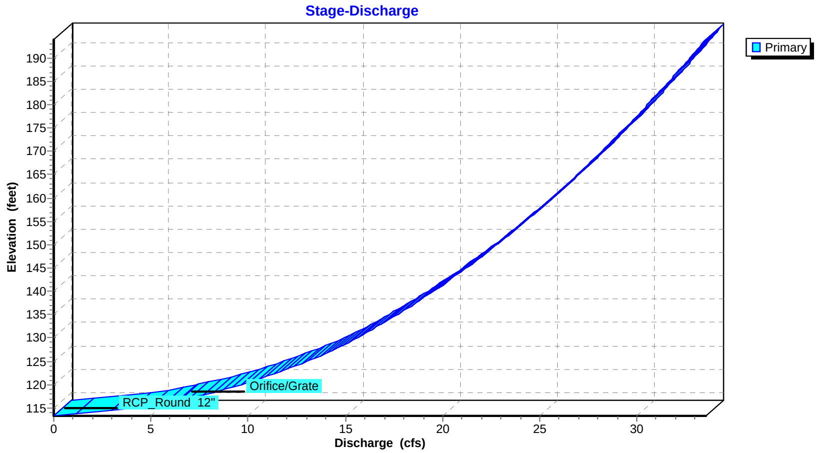
Device	Routing	Invert	Outlet Devices
#1	Primary	113.30'	**12.0" Round RCP_Round 12"** L= 71.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 113.30' / 111.17' S= 0.0299 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	116.80'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area) Limited to weir flow at low heads

Primary OutFlow Max=8.01 cfs @ 12.14 hrs HW=188.92' TW=184.27' (Dynamic Tailwater)
1=RCP_Round 12" (Outlet Controls 7.72 cfs @ 9.83 fps)
2=Orifice/Grate (Orifice Controls 0.29 cfs @ 10.39 fps)

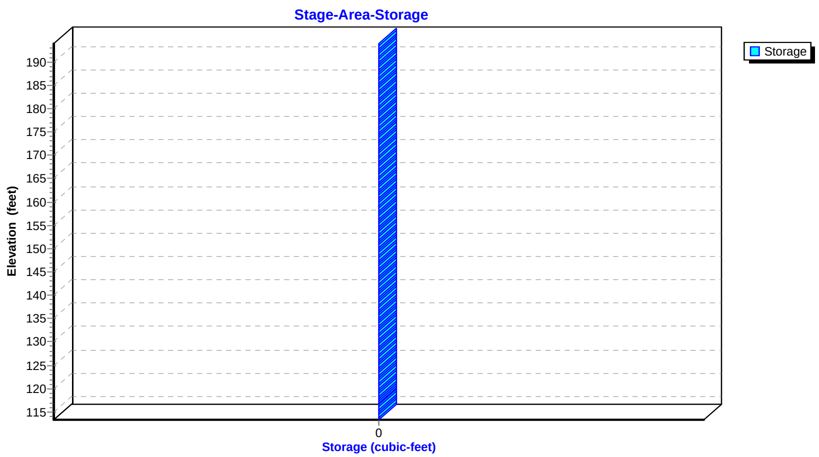
Pond 7P: CB-SE Pkg



Pond 7P: CB-SE Pkg



Pond 7P: CB-SE Pkg



Summary for Pond 9P: CB-SE Pkg1

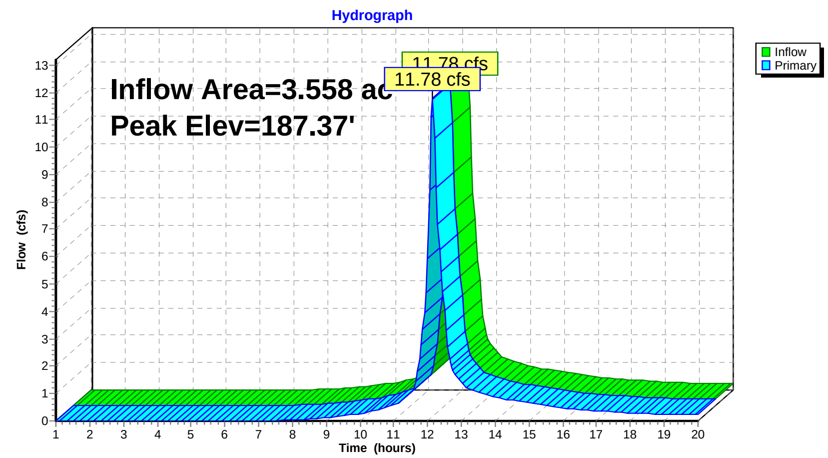
Inflow Area = 3.558 ac, 61.31% Impervious, Inflow Depth > 3.08" for 25-Year event
Inflow = 11.78 cfs @ 12.14 hrs, Volume= 0.912 af
Outflow = 11.78 cfs @ 12.14 hrs, Volume= 0.912 af, Atten= 0%, Lag= 0.0 min
Primary = 11.78 cfs @ 12.14 hrs, Volume= 0.912 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 187.37' @ 12.16 hrs

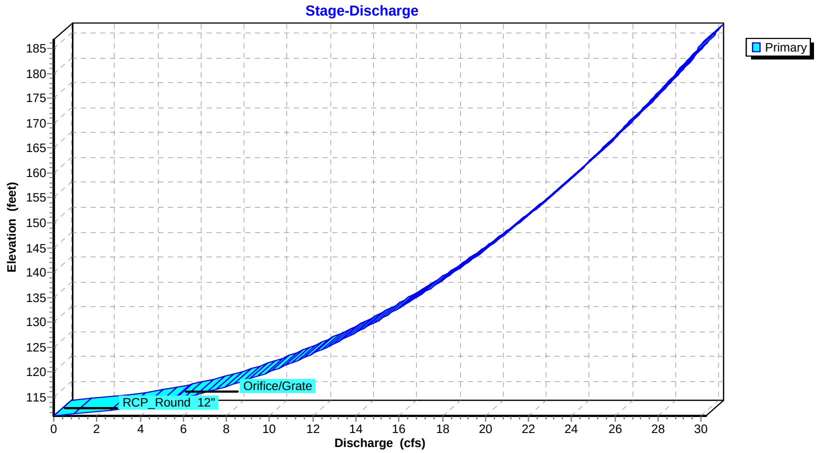
Device	Routing	Invert	Outlet Devices
#1	Primary	111.17'	**12.0" Round RCP_Round 12"** L= 90.3' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.17' / 110.70' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=10.87 cfs @ 12.14 hrs HW=182.80' TW=173.09' (Dynamic Tailwater)
1=RCP_Round 12" (Outlet Controls 10.45 cfs @ 13.31 fps)
2=Orifice/Grate (Orifice Controls 0.42 cfs @ 15.00 fps)

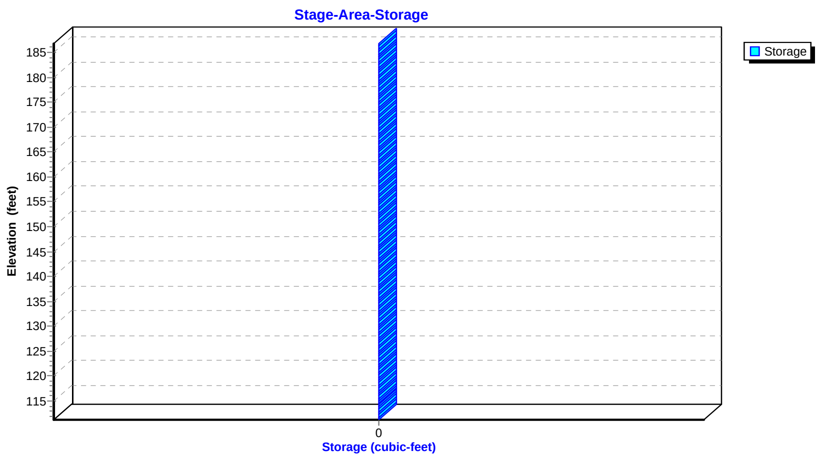
Pond 9P: CB-SE Pkg1



Pond 9P: CB-SE Pkg1



Pond 9P: CB-SE Pkg1



Summary for Pond 11P: CB-SE Pkg2

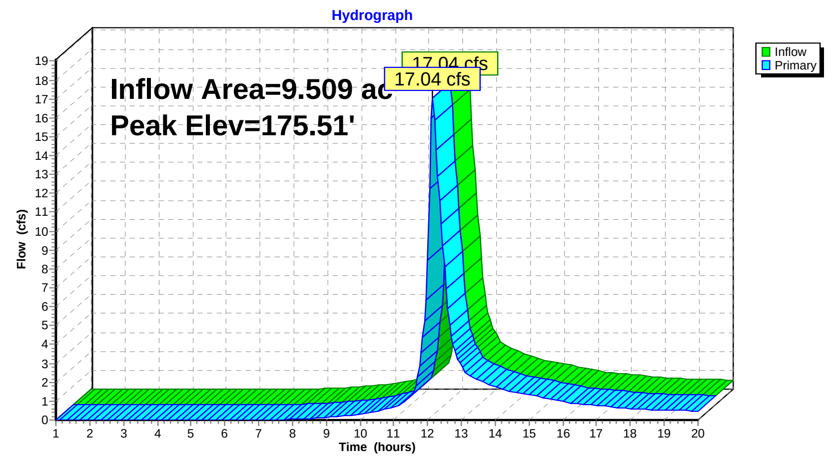
Inflow Area = 9.509 ac, 46.18% Impervious, Inflow Depth > 1.99" for 25-Year event
Inflow = 17.04 cfs @ 12.15 hrs, Volume= 1.575 af
Outflow = 17.04 cfs @ 12.15 hrs, Volume= 1.575 af, Atten= 0%, Lag= 0.0 min
Primary = 17.04 cfs @ 12.15 hrs, Volume= 1.575 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 175.51' @ 12.16 hrs

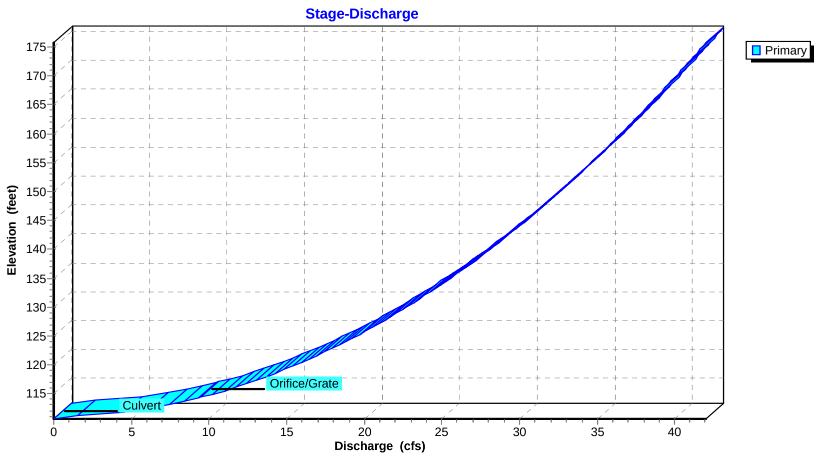
Device	Routing	Invert	Outlet Devices
#1	Primary	110.70'	**15.0" Round Culvert** L= 134.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.70' / 109.75' S= 0.0071 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=16.84 cfs @ 12.15 hrs HW=175.07' TW=164.67' (Dynamic Tailwater)
1=Culvert (Outlet Controls 16.41 cfs @ 13.37 fps)
2=Orifice/Grate (Orifice Controls 0.43 cfs @ 15.52 fps)

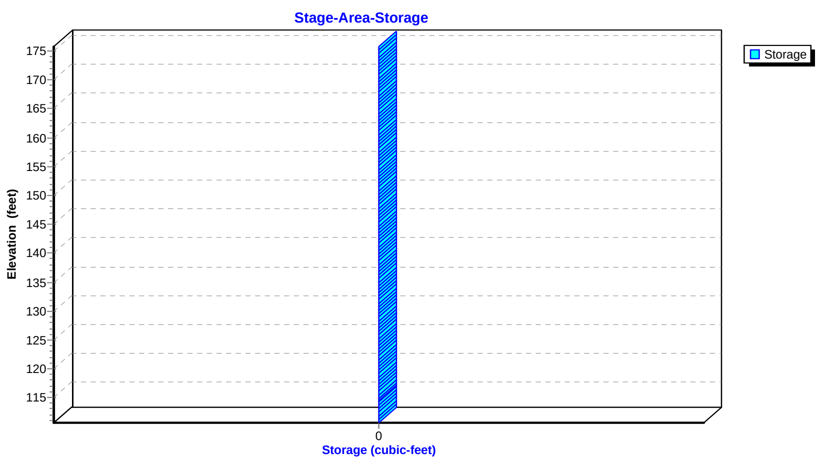
Pond 11P: CB-SE Pkg2



Pond 11P: CB-SE Pkg2



Pond 11P: CB-SE Pkg2



Summary for Pond 12P: CB-NE Pkg

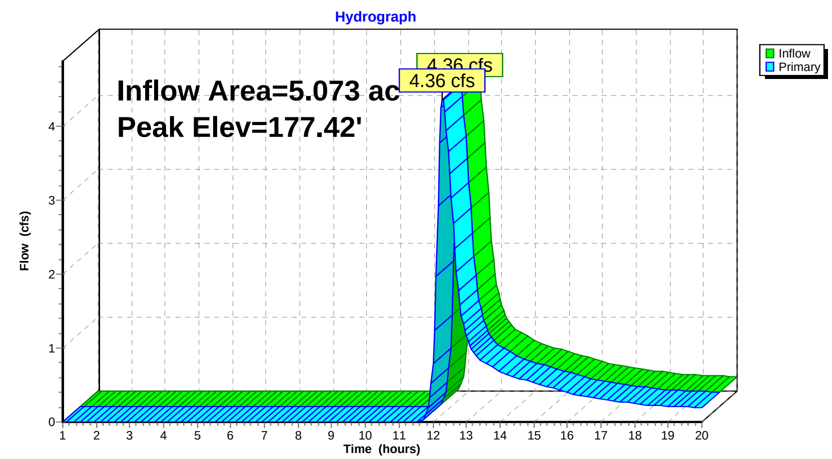
Inflow Area = 5.073 ac, 32.80% Impervious, Inflow Depth > 1.10" for 25-Year event
Inflow = 4.36 cfs @ 12.29 hrs, Volume= 0.467 af
Outflow = 4.36 cfs @ 12.29 hrs, Volume= 0.467 af, Atten= 0%, Lag= 0.0 min
Primary = 4.36 cfs @ 12.29 hrs, Volume= 0.467 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 177.42' @ 12.19 hrs

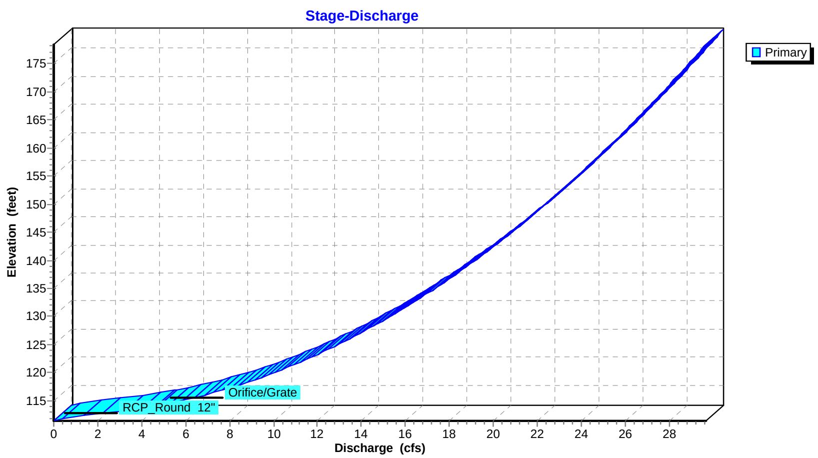
Device	Routing	Invert	Outlet Devices
#1	Primary	111.40'	**12.0" Round RCP_Round 12"** L= 76.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.40' / 111.36' S= 0.0005 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.25'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=7.78 cfs @ 12.29 hrs HW=156.22' TW=151.69' (Dynamic Tailwater)
1=RCP_Round 12" (Outlet Controls 7.49 cfs @ 9.54 fps)
2=Orifice/Grate (Orifice Controls 0.28 cfs @ 10.25 fps)

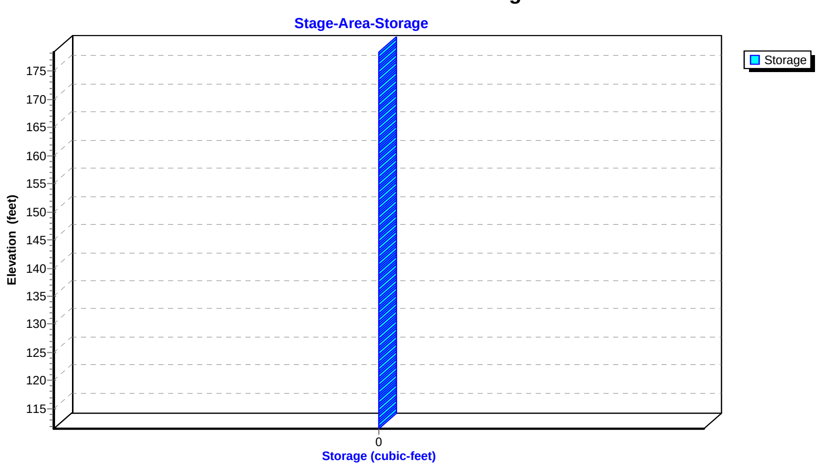
Pond 12P: CB-NE Pkg



Pond 12P: CB-NE Pkg



Pond 12P: CB-NE Pkg



Summary for Pond 14P: CB-NE Pkg2

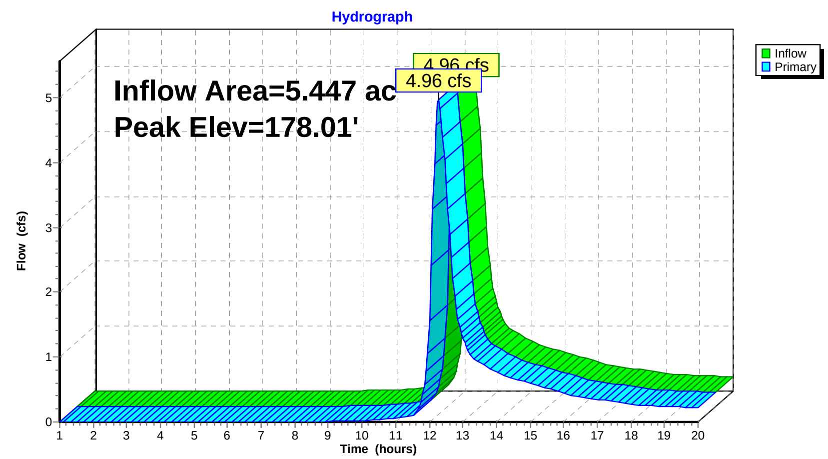
Inflow Area = 5.447 ac, 35.01% Impervious, Inflow Depth > 1.22" for 25-Year event
Inflow = 4.96 cfs @ 12.28 hrs, Volume= 0.555 af
Outflow = 4.96 cfs @ 12.28 hrs, Volume= 0.555 af, Atten= 0%, Lag= 0.0 min
Primary = 4.96 cfs @ 12.28 hrs, Volume= 0.555 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 178.01' @ 12.17 hrs

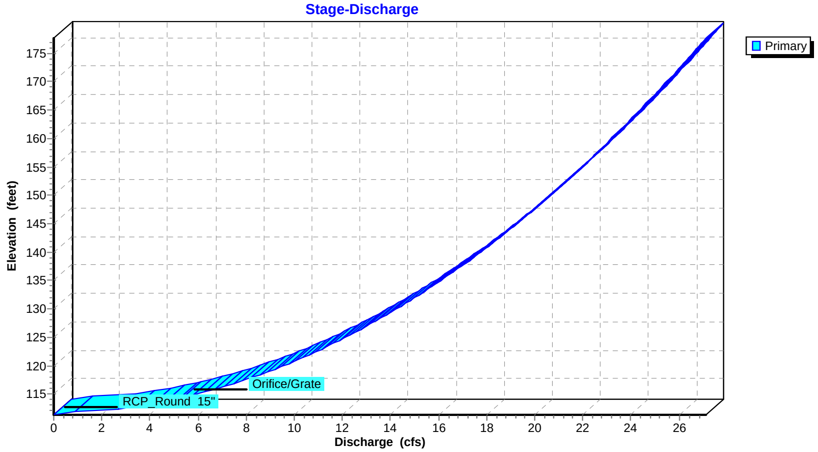
Device	Routing	Invert	Outlet Devices
#1	Primary	111.36'	**12.0" Round RCP_Round 15"** L= 105.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.36' / 110.70' S= 0.0063 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=7.28 cfs @ 12.28 hrs HW=155.03' TW=150.27' (Dynamic Tailwater)
1=RCP_Round 15" (Outlet Controls 6.99 cfs @ 8.90 fps)
2=Orifice/Grate (Orifice Controls 0.29 cfs @ 10.50 fps)

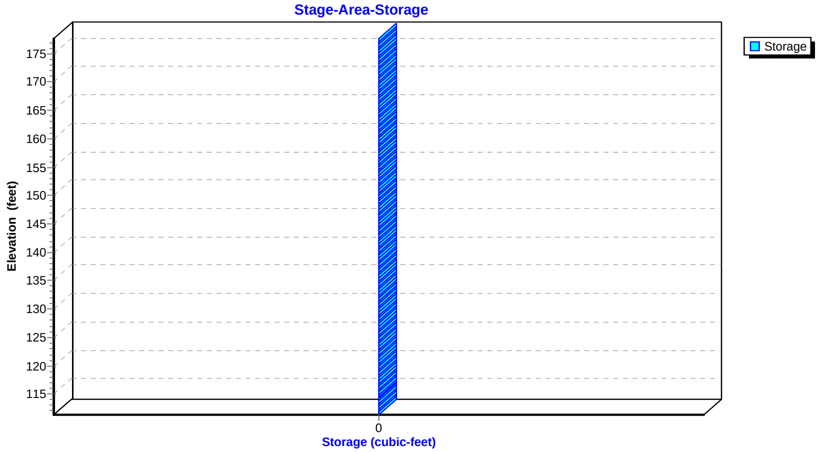
Pond 14P: CB-NE Pkg2



Pond 14P: CB-NE Pkg2



Pond 14P: CB-NE Pkg2



Summary for Pond 18P: CB-SE Pkg3

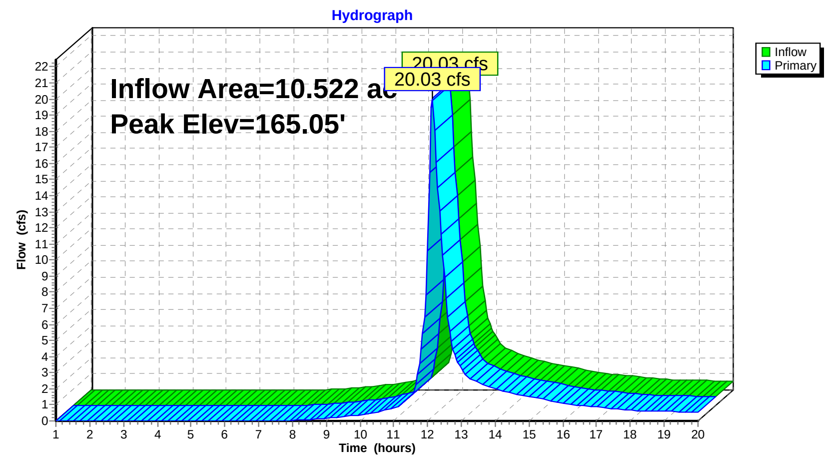
Inflow Area =	10.522 ac, 47.99% Impervious, Inflow Depth > 2.07" for 25-Year event			
Inflow =	20.03 cfs @	12.13 hrs, Volume=	1.815 af	
Outflow =	20.03 cfs @	12.13 hrs, Volume=	1.815 af,	Atten= 0%, Lag= 0.0 min
Primary =	20.03 cfs @	12.13 hrs, Volume=	1.815 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 165.05' @ 12.14 hrs

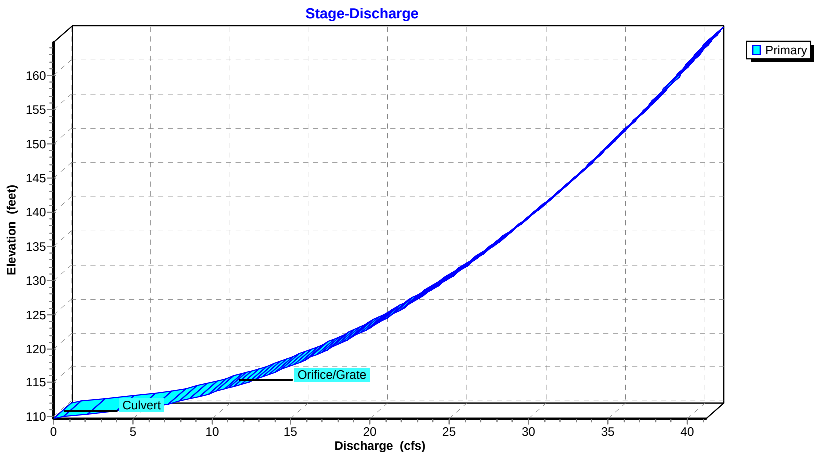
Device	Routing	Invert	Outlet Devices
#1	Primary	109.75'	**15.0" Round Culvert** L= 106.1' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 109.75' / 108.88' S= 0.0082 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.25'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=18.91 cfs @ 12.13 hrs HW=163.50' TW=152.01' (Dynamic Tailwater)
1=Culvert (Outlet Controls 18.46 cfs @ 15.04 fps)
2=Orifice/Grate (Orifice Controls 0.45 cfs @ 16.32 fps)

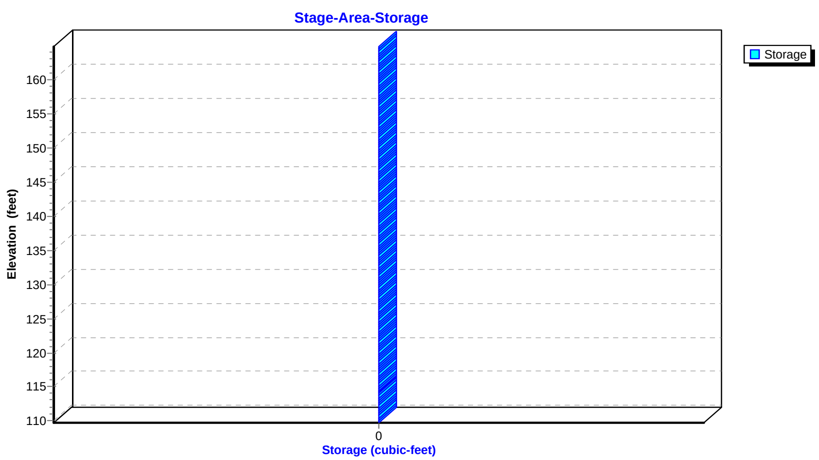
Pond 18P: CB-SE Pkg3



Pond 18P: CB-SE Pkg3



Pond 18P: CB-SE Pkg3



Summary for Pond 20P: CB-SE Pkg4

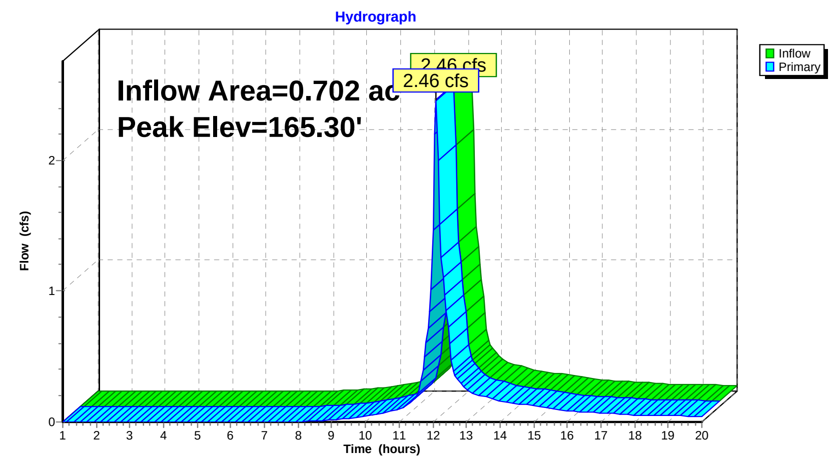
Inflow Area = 0.702 ac, 65.00% Impervious, Inflow Depth > 2.84" for 25-Year event
Inflow = 2.46 cfs @ 12.09 hrs, Volume= 0.166 af
Outflow = 2.46 cfs @ 12.09 hrs, Volume= 0.166 af, Atten= 0%, Lag= 0.0 min
Primary = 2.46 cfs @ 12.09 hrs, Volume= 0.166 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 165.30' @ 12.16 hrs

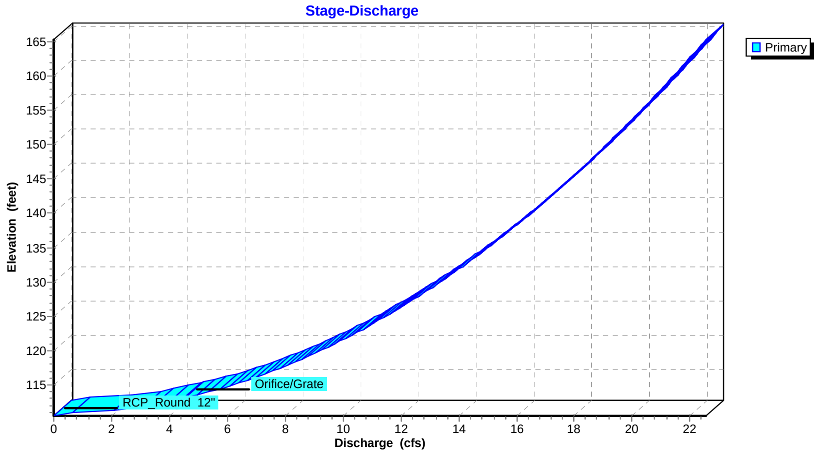
Device	Routing	Invert	Outlet Devices
#1	Primary	110.48'	**12.0" Round RCP_Round 12"** L= 140.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.48' / 109.75' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	113.20'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 12.09 hrs HW=151.82' TW=157.90' (Dynamic Tailwater)
1=RCP_Round 12" (Controls 0.00 cfs)
2=Orifice/Grate (Controls 0.00 cfs)

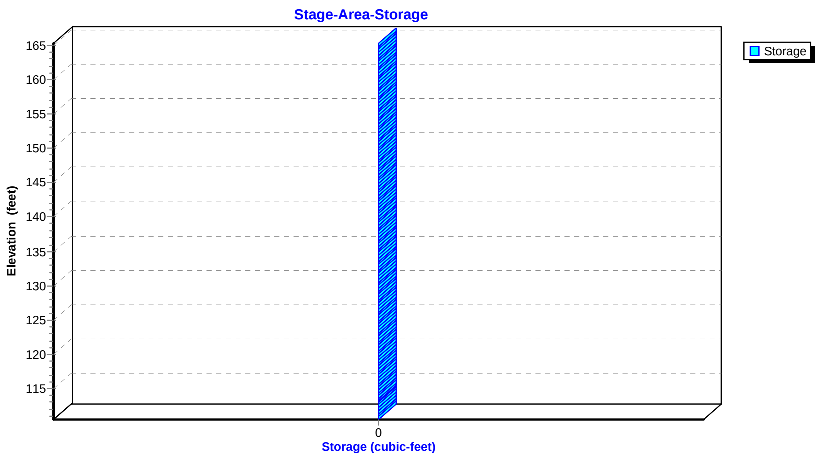
Pond 20P: CB-SE Pkg4



Pond 20P: CB-SE Pkg4



Pond 20P: CB-SE Pkg4



Summary for Pond 22P: CB-SE Pkg5

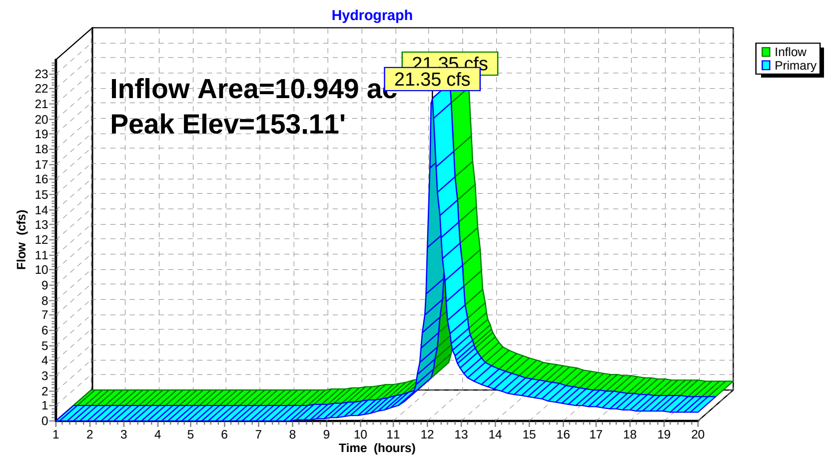
Inflow Area = 10.949 ac, 48.65% Impervious, Inflow Depth > 2.10" for 25-Year event
Inflow = 21.35 cfs @ 12.13 hrs, Volume= 1.916 af
Outflow = 21.35 cfs @ 12.13 hrs, Volume= 1.916 af, Atten= 0%, Lag= 0.0 min
Primary = 21.35 cfs @ 12.13 hrs, Volume= 1.916 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 153.11' @ 12.13 hrs

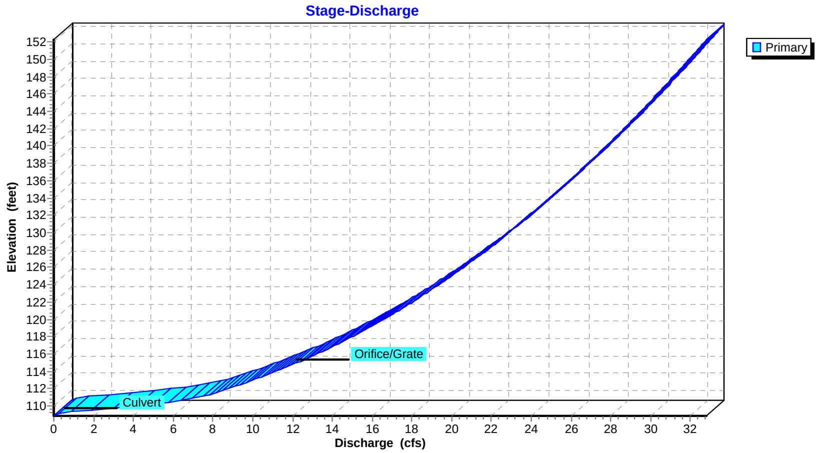
Device	Routing	Invert	Outlet Devices
#1	Primary	108.88'	**15.0" Round Culvert** L= 157.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 108.88' / 107.48' S= 0.0089 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=21.07 cfs @ 12.13 hrs HW=151.97' TW=134.06' (Dynamic Tailwater)
1=Culvert (Outlet Controls 20.51 cfs @ 16.71 fps)
2=Orifice/Grate (Orifice Controls 0.57 cfs @ 20.38 fps)

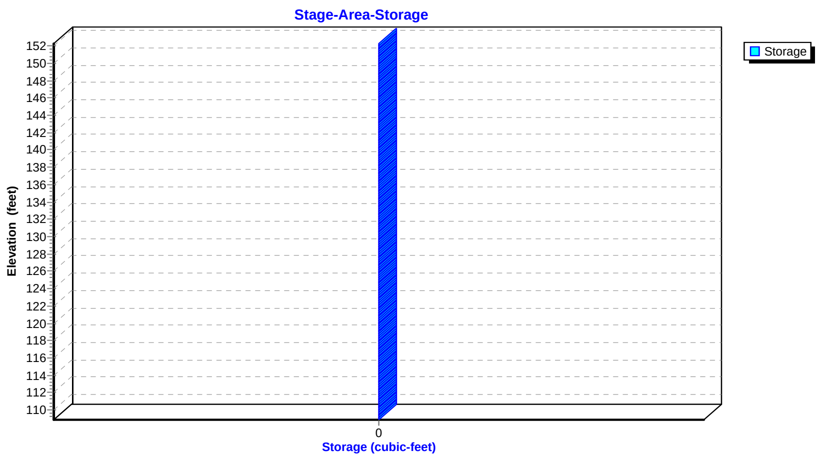
Pond 22P: CB-SE Pkg5



Pond 22P: CB-SE Pkg5



Pond 22P: CB-SE Pkg5



Summary for Pond 24P: CB-SE Pkg6

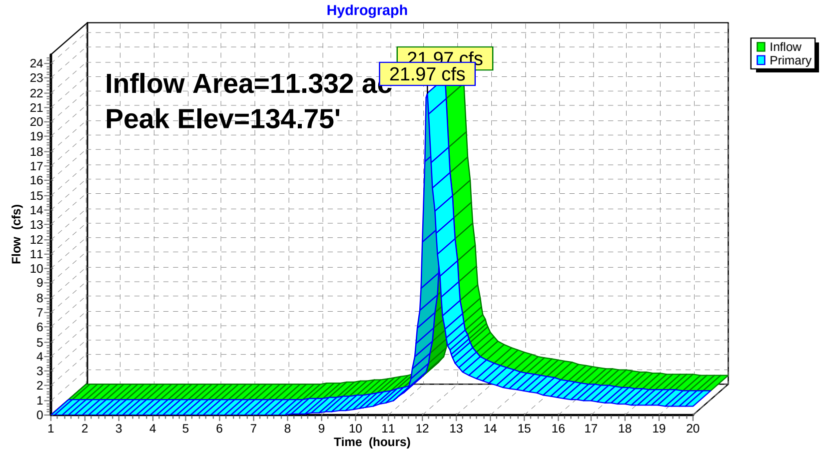
Inflow Area = 11.332 ac, 48.19% Impervious, Inflow Depth > 2.08" for 25-Year event
Inflow = 21.97 cfs @ 12.13 hrs, Volume= 1.963 af
Outflow = 21.97 cfs @ 12.13 hrs, Volume= 1.963 af, Atten= 0%, Lag= 0.0 min
Primary = 21.97 cfs @ 12.13 hrs, Volume= 1.963 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 134.75' @ 12.13 hrs

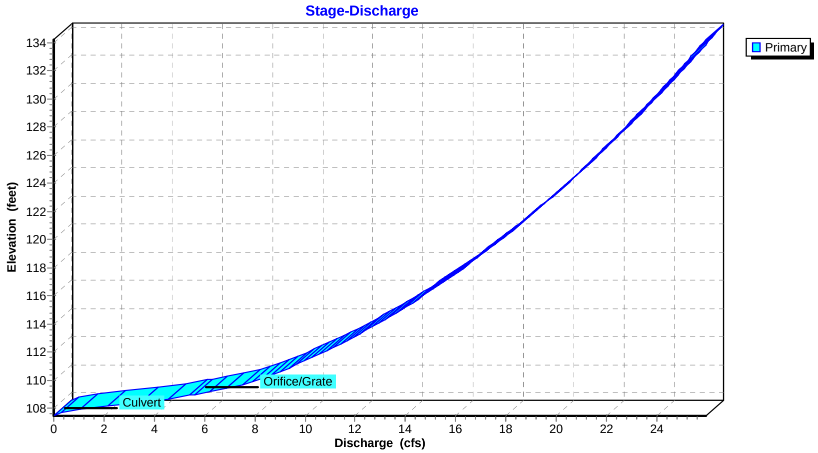
Device	Routing	Invert	Outlet Devices
#1	Primary	107.48'	**15.0" Round Culvert** L= 154.4' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 107.48' / 106.10' S= 0.0089 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	109.00'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=21.68 cfs @ 12.13 hrs HW=134.05' TW=115.34' (Dynamic Tailwater)
1=Culvert (Outlet Controls 21.10 cfs @ 17.19 fps)
2=Orifice/Grate (Orifice Controls 0.58 cfs @ 20.83 fps)

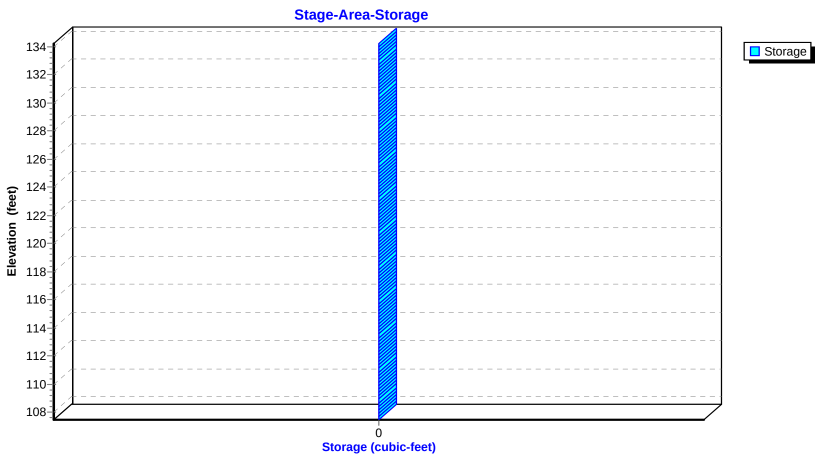
Pond 24P: CB-SE Pkg6



Pond 24P: CB-SE Pkg6



Pond 24P: CB-SE Pkg6



Summary for Pond 26P: CB-SE Pkg7

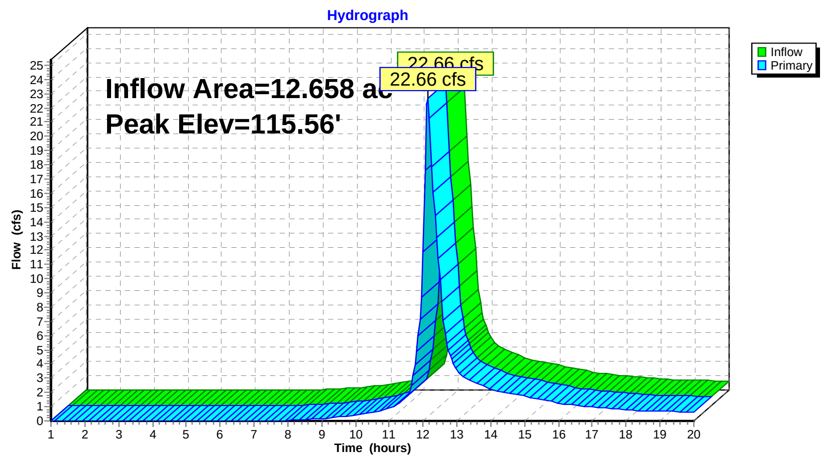
Inflow Area = 12.658 ac, 44.72% Impervious, Inflow Depth > 1.93" for 25-Year event
Inflow = 22.66 cfs @ 12.13 hrs, Volume= 2.038 af
Outflow = 22.66 cfs @ 12.13 hrs, Volume= 2.038 af, Atten= 0%, Lag= 0.0 min
Primary = 22.66 cfs @ 12.13 hrs, Volume= 2.038 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 115.56' @ 12.13 hrs

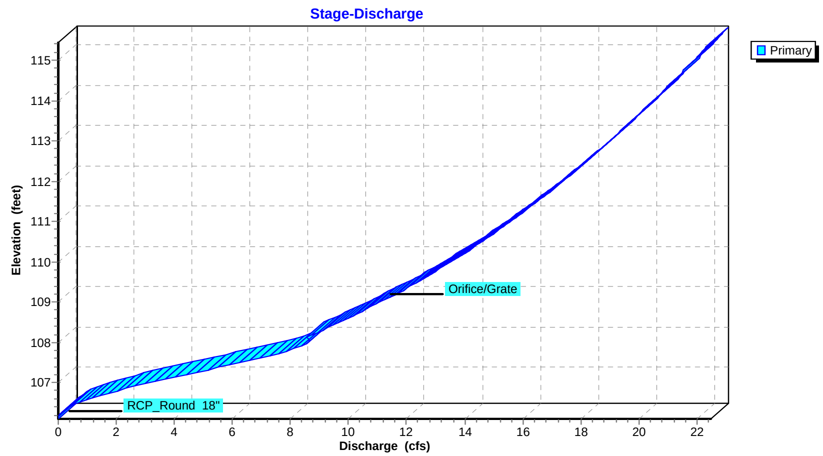
Device	Routing	Invert	Outlet Devices
#1	Primary	106.10'	**18.0" Round RCP_Round 18"** L= 154.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 106.10' / 105.35' S= 0.0049 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Primary	109.00'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=22.36 cfs @ 12.13 hrs HW=115.34' TW=0.00' (Dynamic Tailwater)
1=RCP_Round 18" (Barrel Controls 22.02 cfs @ 12.46 fps)
2=Orifice/Grate (Orifice Controls 0.34 cfs @ 12.13 fps)

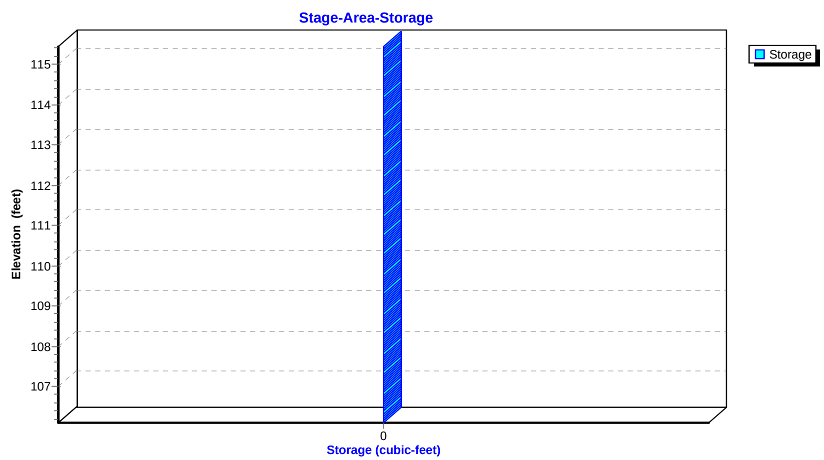
Pond 26P: CB-SE Pkg7



Pond 26P: CB-SE Pkg7



Pond 26P: CB-SE Pkg7



Summary for Pond 28P: CB-N F1

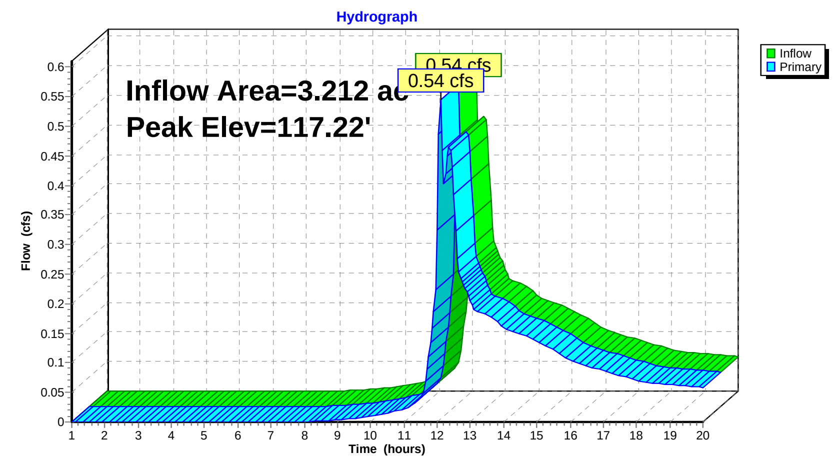
Inflow Area = 3.212 ac, 3.15% Impervious, Inflow Depth > 0.37" for 25-Year event
Inflow = 0.54 cfs @ 12.09 hrs, Volume= 0.099 af
Outflow = 0.54 cfs @ 12.09 hrs, Volume= 0.099 af, Atten= 0%, Lag= 0.0 min
Primary = 0.54 cfs @ 12.09 hrs, Volume= 0.099 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 117.22' @ 12.11 hrs

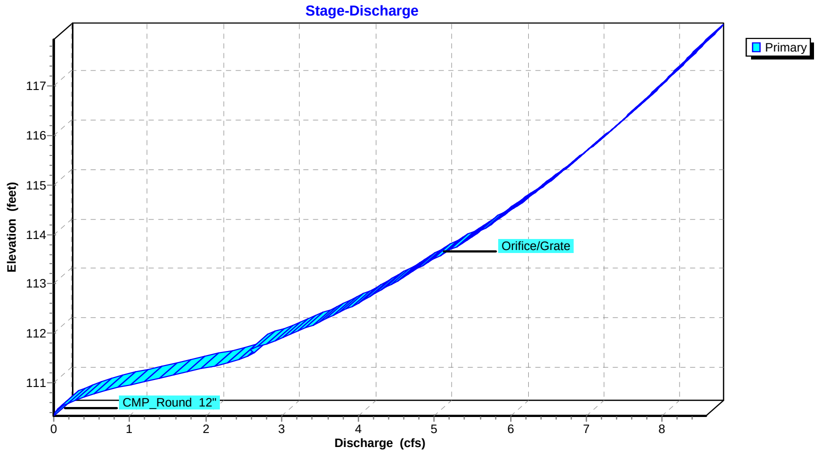
Device	Routing	Invert	Outlet Devices
#1	Primary	110.33'	**12.0" Round CMP_Round 12"** L= 111.7' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.33' / 110.00' S= 0.0030 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	113.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 12.09 hrs HW=116.86' TW=117.73' (Dynamic Tailwater)
1=CMP_Round 12" (Controls 0.00 cfs)
2=Orifice/Grate (Controls 0.00 cfs)

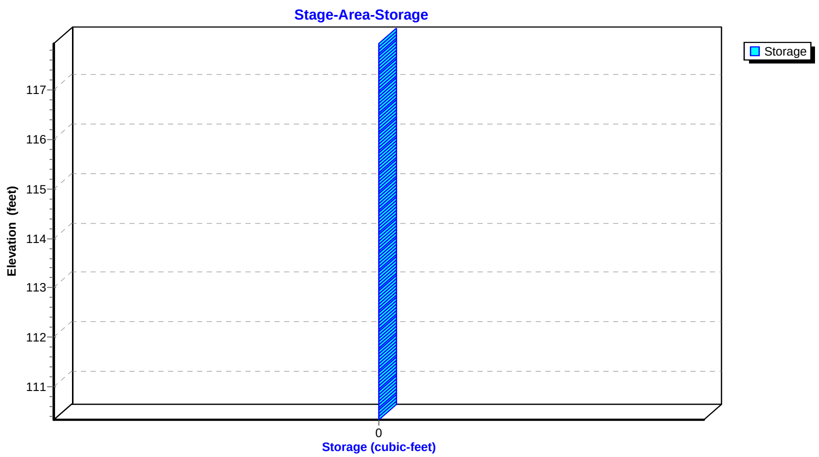
Pond 28P: CB-N F1



Pond 28P: CB-N F1



Pond 28P: CB-N F1



Summary for Pond 30P: CB-N F2

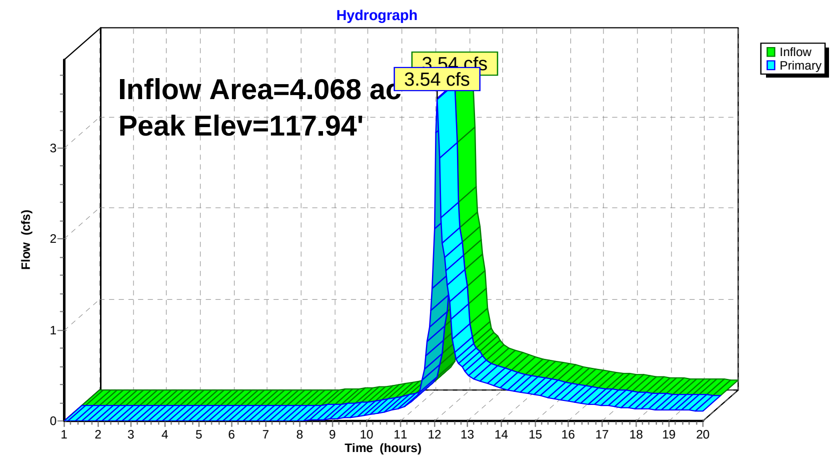
Inflow Area = 4.068 ac, 16.16% Impervious, Inflow Depth > 0.89" for 25-Year event
Inflow = 3.54 cfs @ 12.09 hrs, Volume= 0.302 af
Outflow = 3.54 cfs @ 12.09 hrs, Volume= 0.302 af, Atten= 0%, Lag= 0.0 min
Primary = 3.54 cfs @ 12.09 hrs, Volume= 0.302 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 117.94' @ 12.09 hrs

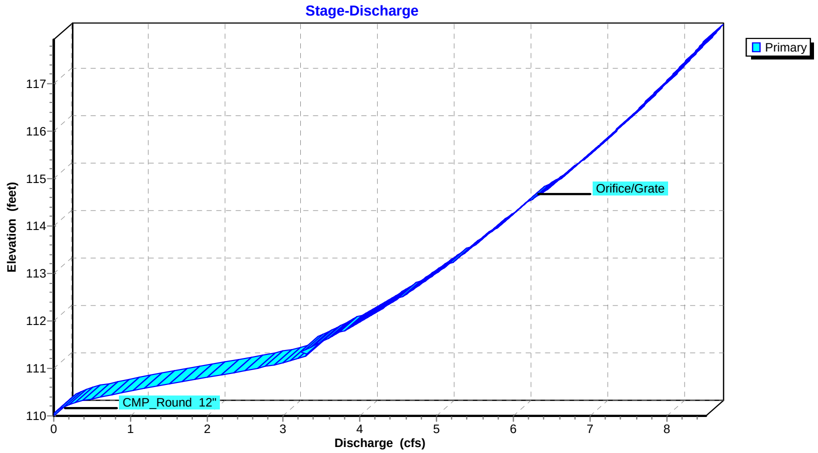
Device	Routing	Invert	Outlet Devices
#1	Primary	110.00'	**12.0" Round CMP_Round 12"** L= 133.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.00' / 109.17' S= 0.0062 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=3.48 cfs @ 12.09 hrs HW=117.66' TW=116.40' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 3.33 cfs @ 4.24 fps)
2=Orifice/Grate (Orifice Controls 0.15 cfs @ 5.40 fps)

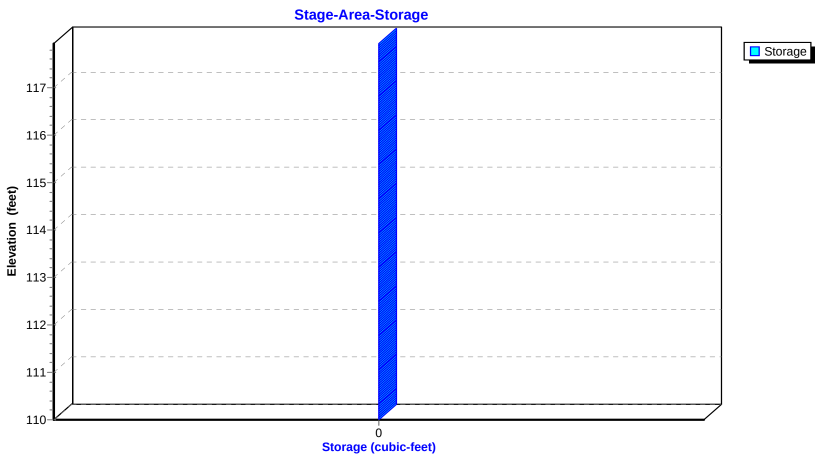
Pond 30P: CB-N F2



Pond 30P: CB-N F2



Pond 30P: CB-N F2



Summary for Pond 32P: CB-N F3

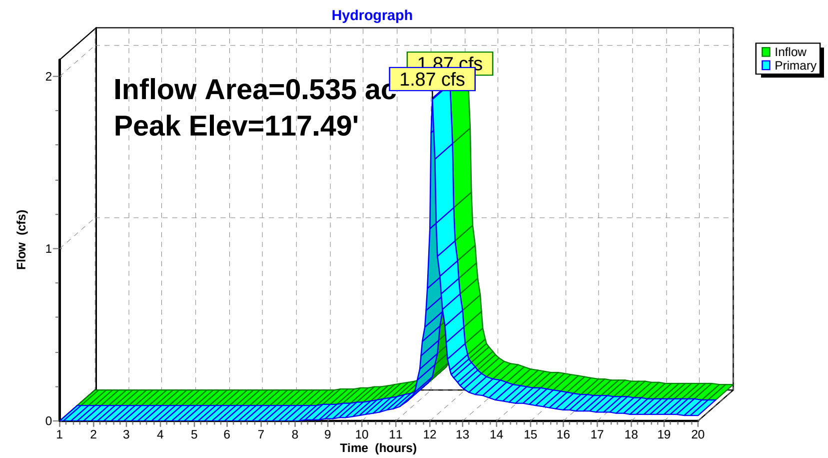
Inflow Area = 0.535 ac, 65.00% Impervious, Inflow Depth > 2.84" for 25-Year event
Inflow = 1.87 cfs @ 12.09 hrs, Volume= 0.127 af
Outflow = 1.87 cfs @ 12.09 hrs, Volume= 0.127 af, Atten= 0%, Lag= 0.0 min
Primary = 1.87 cfs @ 12.09 hrs, Volume= 0.127 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 117.49' @ 12.11 hrs

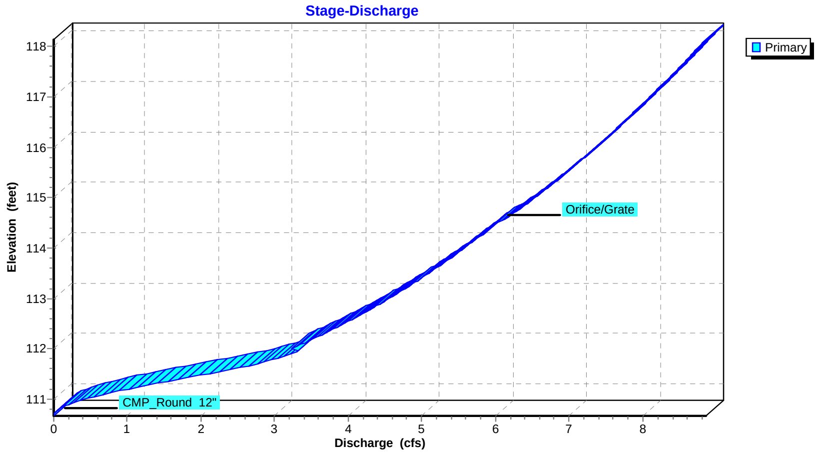
Device	Routing	Invert	Outlet Devices
#1	Primary	110.67'	**12.0" Round CMP_Round 12"** L= 103.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.67' / 110.00' S= 0.0065 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 12.09 hrs HW=117.02' TW=117.65' (Dynamic Tailwater)
1=CMP_Round 12" (Controls 0.00 cfs)
2=Orifice/Grate (Controls 0.00 cfs)

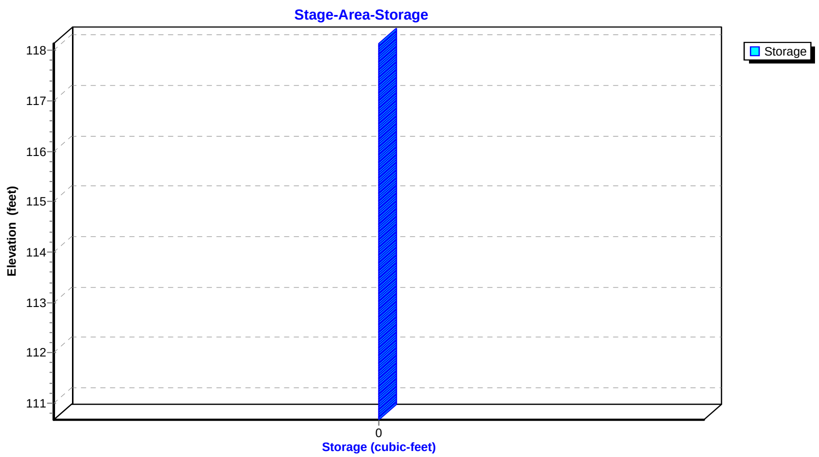
Pond 32P: CB-N F3



Pond 32P: CB-N F3



Pond 32P: CB-N F3



Summary for Pond 34P: CB-N F4

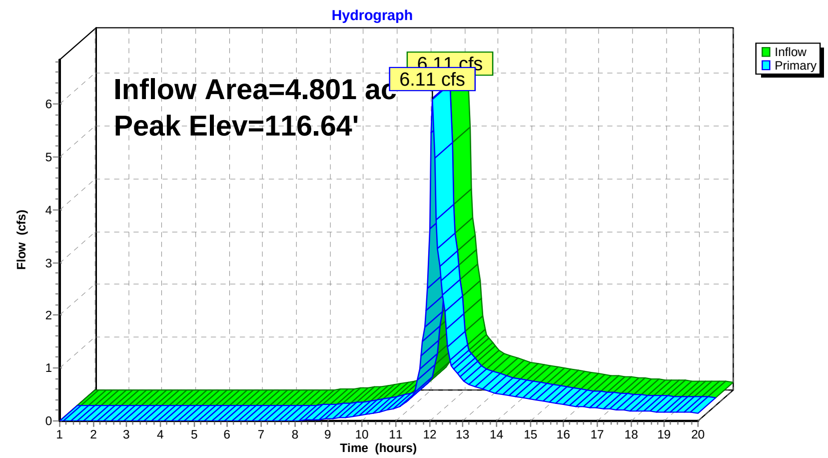
Inflow Area = 4.801 ac, 23.61% Impervious, Inflow Depth > 1.19" for 25-Year event
Inflow = 6.11 cfs @ 12.09 hrs, Volume= 0.475 af
Outflow = 6.11 cfs @ 12.09 hrs, Volume= 0.475 af, Atten= 0%, Lag= 0.0 min
Primary = 6.11 cfs @ 12.09 hrs, Volume= 0.475 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 116.64' @ 12.09 hrs

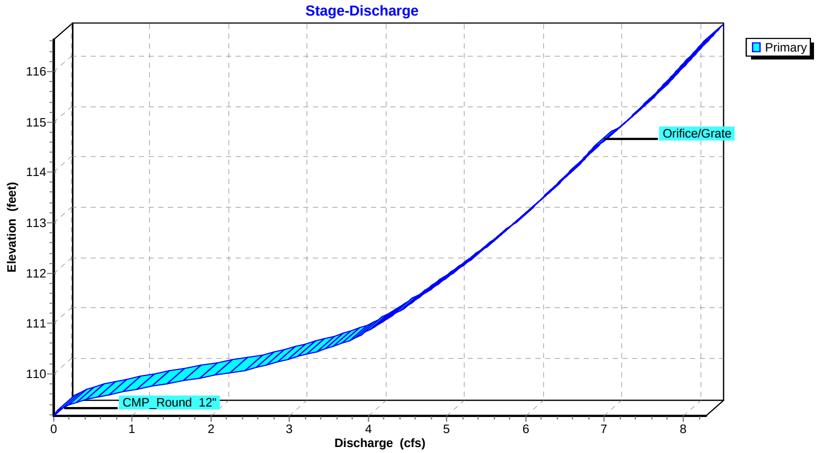
Device	Routing	Invert	Outlet Devices
#1	Primary	109.17'	**12.0" Round CMP_Round 12"** L= 139.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 109.17' / 108.00' S= 0.0084 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=6.01 cfs @ 12.09 hrs HW=116.40' TW=112.44' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 5.82 cfs @ 7.41 fps)
2=Orifice/Grate (Orifice Controls 0.18 cfs @ 6.63 fps)

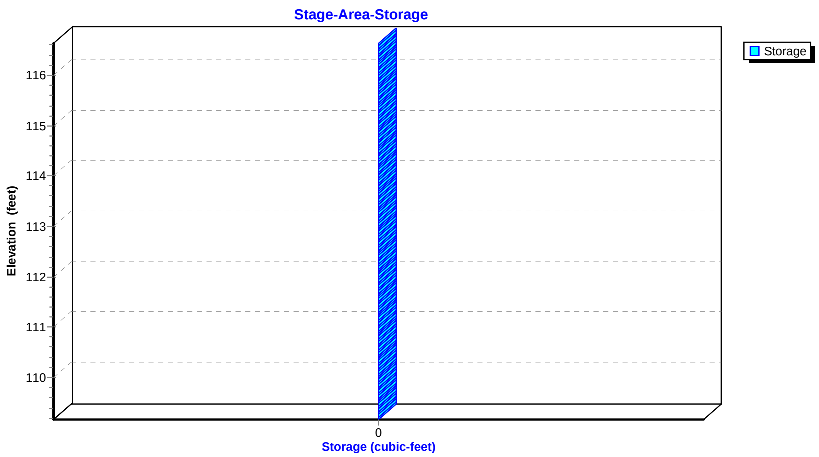
Pond 34P: CB-N F4



Pond 34P: CB-N F4



Pond 34P: CB-N F4



Summary for Pond 36P: CB-N F5

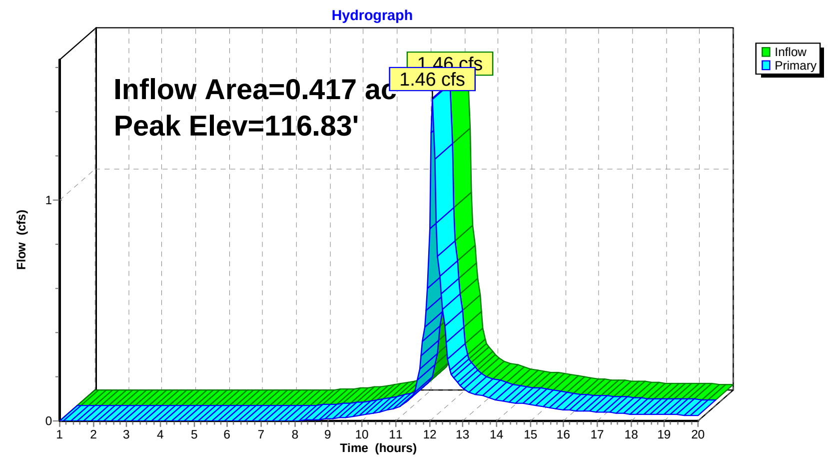
Inflow Area = 0.417 ac, 65.00% Impervious, Inflow Depth > 2.84" for 25-Year event
Inflow = 1.46 cfs @ 12.09 hrs, Volume= 0.099 af
Outflow = 1.46 cfs @ 12.09 hrs, Volume= 0.099 af, Atten= 0%, Lag= 0.0 min
Primary = 1.46 cfs @ 12.09 hrs, Volume= 0.099 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 116.83' @ 12.09 hrs

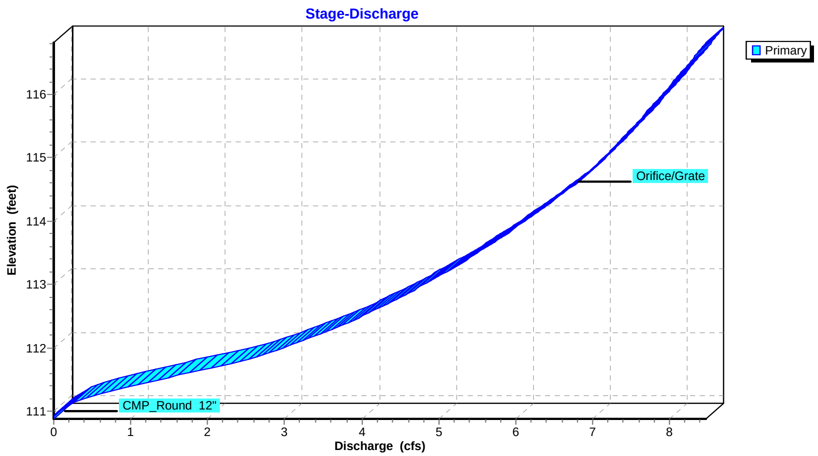
Device	Routing	Invert	Outlet Devices
#1	Primary	110.88'	**12.0" Round CMP_Round 12"** L= 105.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.88' / 109.17' S= 0.0163 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=1.44 cfs @ 12.09 hrs HW=116.58' TW=116.39' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 1.38 cfs @ 1.76 fps)
2=Orifice/Grate (Orifice Controls 0.06 cfs @ 2.07 fps)

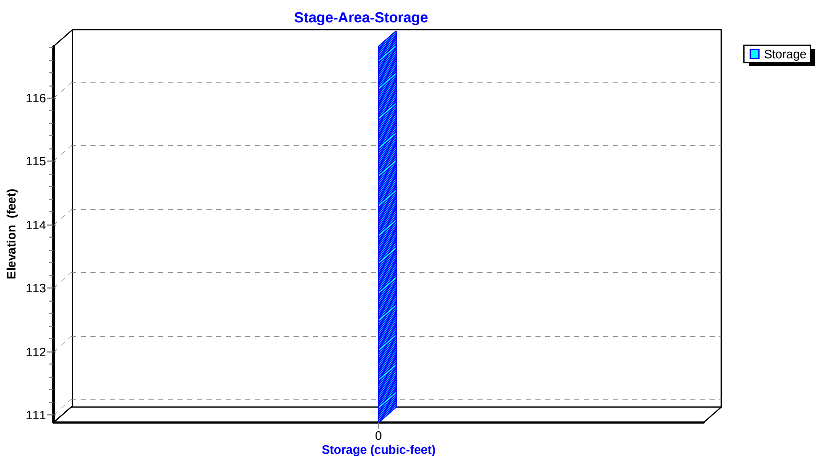
Pond 36P: CB-N F5



Pond 36P: CB-N F5



Pond 36P: CB-N F5



Summary for Pond 38P: CB-N F6

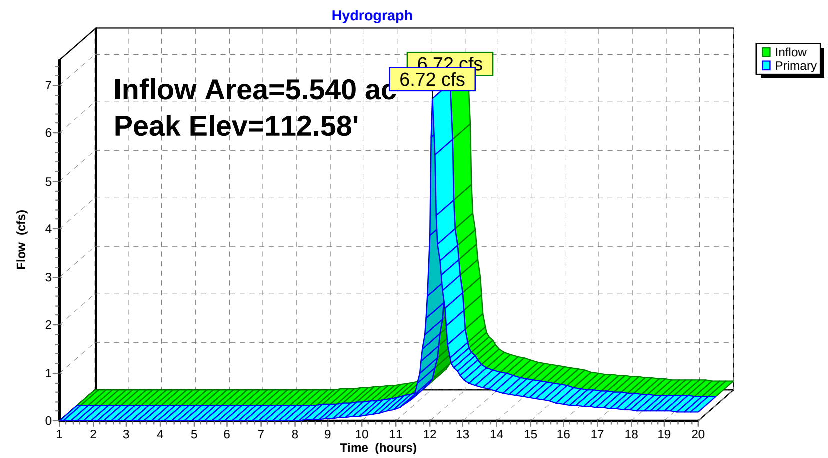
Inflow Area = 5.540 ac, 23.13% Impervious, Inflow Depth > 1.14" for 25-Year event
Inflow = 6.72 cfs @ 12.10 hrs, Volume= 0.528 af
Outflow = 6.72 cfs @ 12.10 hrs, Volume= 0.528 af, Atten= 0%, Lag= 0.0 min
Primary = 6.72 cfs @ 12.10 hrs, Volume= 0.528 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 112.58' @ 12.10 hrs

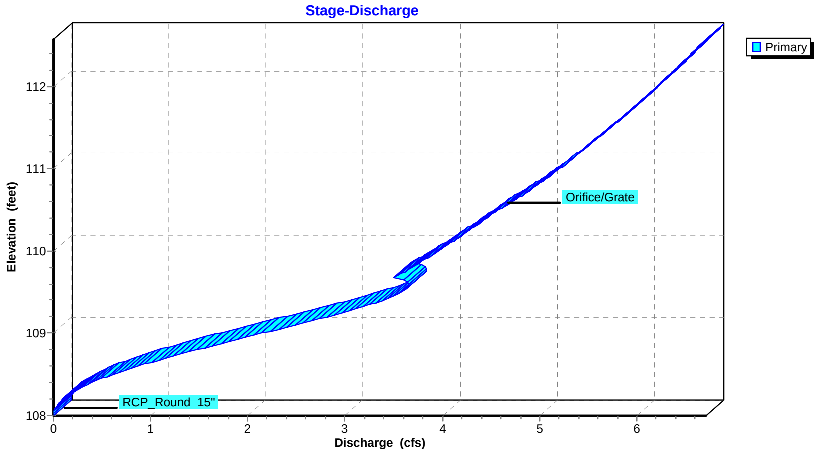
Device	Routing	Invert	Outlet Devices
#1	Primary	108.00'	**15.0" Round RCP_Round 15"** L= 466.8' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 108.00' / 107.25' S= 0.0016 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	110.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=6.64 cfs @ 12.10 hrs HW=112.49' TW=0.00' (Dynamic Tailwater)
1=RCP_Round 15" (Barrel Controls 6.45 cfs @ 5.26 fps)
2=Orifice/Grate (Orifice Controls 0.19 cfs @ 6.79 fps)

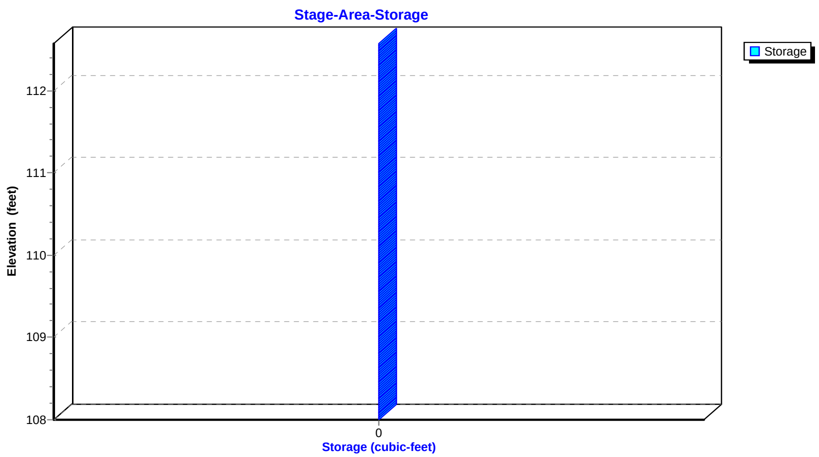
Pond 38P: CB-N F6



Pond 38P: CB-N F6



Pond 38P: CB-N F6

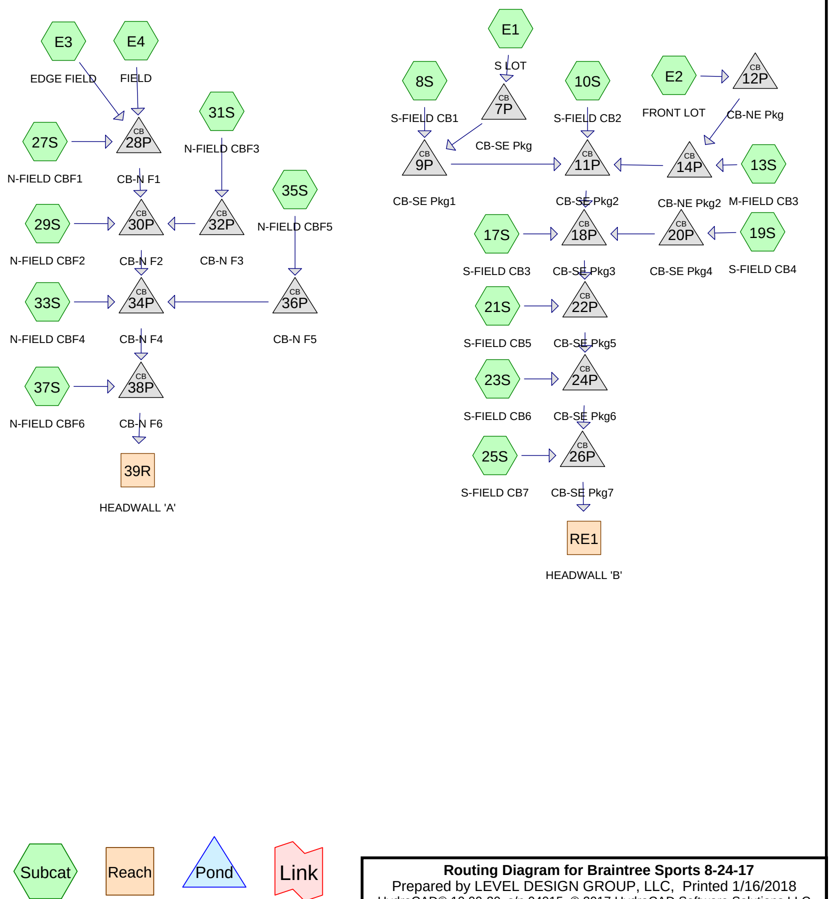


DESIGN GROUP

HydroCAD Analysis

Existing Conditions - 25 Year Storm

249 SOUTH STREET UNIT 1 PLAINVILLE MA 02762
TEL508 695 2221 FAX508 695 2219 CONTACT@LEVELDG.COM LEVELDG.COM



Routing Diagram for Braintree Sports 8-24-17
Prepared by LEVEL DESIGN GROUP, LLC, Printed 1/16/2018
HydroCAD® 10.00-20 s/n 04015 © 2017 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
8.362	39	>75% Grass cover, Good, HSG A (8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S, E1, E2, E3, E4)
3.255	98	Paved Track, HSG A (8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S)
3.686	98	Paved parking, HSG A (E1, E2)
0.107	43	Woods/grass comb., Fair, HSG A (E4)
2.305	32	Woods/grass comb., Good, HSG A (E2, E3)
0.483	72	Woods/grass comb., Good, HSG C (E1)
18.198	**62**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
17.714	HSG A	8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S, E1, E2, E3, E4
0.000	HSG B	
0.483	HSG C	E1
0.000	HSG D	
0.000	Other	
18.198		**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
8.362	0.000	0.000	0.000	0.000	8.362	>75% Grass cover, Good	8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S, E1, E2, E3, E4
3.255	0.000	0.000	0.000	0.000	3.255	Paved Track	8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S
3.686	0.000	0.000	0.000	0.000	3.686	Paved parking	E1, E2
0.107	0.000	0.000	0.000	0.000	0.107	Woods/grass comb., Fair	E4
2.305	0.000	0.483	0.000	0.000	2.788	Woods/grass comb., Good	E1, E2, E3
17.714	**0.000**	**0.483**	**0.000**	**0.000**	**18.198**	**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	7P	113.30	111.17	71.2	0.0299	0.011	12.0	0.0	0.0
2	9P	111.17	110.70	90.3	0.0052	0.011	12.0	0.0	0.0
3	11P	110.70	109.75	134.5	0.0071	0.011	15.0	0.0	0.0
4	12P	111.40	111.36	76.0	0.0005	0.011	12.0	0.0	0.0
5	14P	111.36	110.70	105.0	0.0063	0.011	12.0	0.0	0.0
6	18P	109.75	108.88	106.1	0.0082	0.011	15.0	0.0	0.0
7	20P	110.48	109.75	140.2	0.0052	0.011	12.0	0.0	0.0
8	22P	108.88	107.48	157.5	0.0089	0.011	15.0	0.0	0.0
9	24P	107.48	106.10	154.4	0.0089	0.011	15.0	0.0	0.0
10	26P	106.10	105.35	154.4	0.0049	0.011	18.0	0.0	0.0
11	28P	110.33	110.00	111.7	0.0030	0.011	12.0	0.0	0.0
12	30P	110.00	109.17	133.5	0.0062	0.011	12.0	0.0	0.0
13	32P	110.67	110.00	103.5	0.0065	0.011	12.0	0.0	0.0
14	34P	109.17	108.00	139.2	0.0084	0.011	12.0	0.0	0.0
15	36P	110.88	109.17	105.0	0.0163	0.011	12.0	0.0	0.0
16	38P	108.00	107.25	466.8	0.0016	0.011	15.0	0.0	0.0

Time span=1.00-20.00 hrs, dt=0.05 hrs, 381 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 8S: S-FIELD CB1 Runoff Area=11,548 sf 60.17% Impervious Runoff Depth>2.57"
Flow Length=80' Tc=6.0 min CN=74 Runoff=0.84 cfs 0.057 af

Subcatchment 10S: S-FIELD CB2 Runoff Area=21,998 sf 60.00% Impervious Runoff Depth>2.57"
Flow Length=230' Slope=0.0150 '/' Tc=6.0 min CN=74 Runoff=1.61 cfs 0.108 af

Subcatchment 13S: M-FIELD CB3 Runoff Area=16,265 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=151' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.31 cfs 0.088 af

Subcatchment 17S: S-FIELD CB3 Runoff Area=13,522 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=85' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.09 cfs 0.073 af

Subcatchment 19S: S-FIELD CB4 Runoff Area=30,595 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=297' Tc=6.0 min CN=77 Runoff=2.46 cfs 0.166 af

Subcatchment 21S: S-FIELD CB5 Runoff Area=18,600 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=149' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.50 cfs 0.101 af

Subcatchment 23S: S-FIELD CB6 Runoff Area=16,672 sf 35.00% Impervious Runoff Depth>1.45"
Flow Length=131' Slope=0.0200 '/' Tc=6.2 min CN=60 Runoff=0.65 cfs 0.046 af

Subcatchment 25S: S-FIELD CB7 Runoff Area=57,741 sf 15.00% Impervious Runoff Depth>0.69"
Flow Length=330' Tc=7.6 min CN=48 Runoff=0.73 cfs 0.076 af

Subcatchment 27S: N-FIELD CBF1 Runoff Area=6,780 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=80' Tc=6.0 min CN=77 Runoff=0.55 cfs 0.037 af

Subcatchment 29S: N-FIELD CBF2 Runoff Area=13,971 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=100' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.12 cfs 0.076 af

Subcatchment 31S: N-FIELD CBF3 Runoff Area=23,311 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=129' Tc=6.0 min CN=77 Runoff=1.87 cfs 0.127 af

Subcatchment 33S: N-FIELD CBF4 Runoff Area=13,725 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=93' Tc=6.0 min CN=77 Runoff=1.10 cfs 0.075 af

Subcatchment 35S: N-FIELD CBF5 Runoff Area=18,186 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=170' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.46 cfs 0.099 af

Subcatchment 37S: N-FIELD CBF6 Runoff Area=32,216 sf 20.00% Impervious Runoff Depth>0.86"
Flow Length=280' Slope=0.0200 '/' Tc=6.0 min CN=51 Runoff=0.63 cfs 0.053 af

Subcatchment E1: S LOT Runoff Area=143,436 sf 61.40% Impervious Runoff Depth>3.12"
Flow Length=334' Tc=10.1 min CN=80 Runoff=11.07 cfs 0.855 af

Subcatchment E2: FRONT LOT Runoff Area=220,985 sf 32.80% Impervious Runoff Depth>1.10"
Flow Length=670' Tc=18.0 min CN=55 Runoff=4.36 cfs 0.467 af

Subcatchment E3: EDGE FIELD Runoff Area=33,755 sf 0.00% Impervious Runoff Depth>0.22"
Flow Length=135' Tc=7.1 min CN=38 Runoff=0.05 cfs 0.014 af

Subcatchment E4: FIELD Runoff Area=99,389 sf 0.00% Impervious Runoff Depth>0.26"
Flow Length=280' Tc=7.0 min CN=39 Runoff=0.22 cfs 0.049 af

Reach 39R: HEADWALL 'A' Inflow=6.72 cfs 0.528 af
Outflow=6.72 cfs 0.528 af

Reach RE1: HEADWALL 'B' Inflow=22.66 cfs 2.038 af
Outflow=22.66 cfs 2.038 af

Pond 7P: CB-SE Pkg Peak Elev=194.08' Inflow=11.07 cfs 0.855 af
Outflow=11.07 cfs 0.855 af

Pond 9P: CB-SE Pkg1 Peak Elev=187.37' Inflow=11.78 cfs 0.912 af
Outflow=11.78 cfs 0.912 af

Pond 11P: CB-SE Pkg2 Peak Elev=175.51' Inflow=17.04 cfs 1.575 af
Outflow=17.04 cfs 1.575 af

Pond 12P: CB-NE Pkg Peak Elev=177.42' Inflow=4.36 cfs 0.467 af
Outflow=4.36 cfs 0.467 af

Pond 14P: CB-NE Pkg2 Peak Elev=178.01' Inflow=4.96 cfs 0.555 af
Outflow=4.96 cfs 0.555 af

Pond 18P: CB-SE Pkg3 Peak Elev=165.05' Inflow=20.03 cfs 1.815 af
Outflow=20.03 cfs 1.815 af

Pond 20P: CB-SE Pkg4 Peak Elev=165.30' Inflow=2.46 cfs 0.166 af
Outflow=2.46 cfs 0.166 af

Pond 22P: CB-SE Pkg5 Peak Elev=153.11' Inflow=21.35 cfs 1.916 af
Outflow=21.35 cfs 1.916 af

Pond 24P: CB-SE Pkg6 Peak Elev=134.75' Inflow=21.97 cfs 1.963 af
Outflow=21.97 cfs 1.963 af

Pond 26P: CB-SE Pkg7 Peak Elev=115.56' Inflow=22.66 cfs 2.038 af
Outflow=22.66 cfs 2.038 af

Pond 28P: CB-N F1 Peak Elev=117.22' Inflow=0.54 cfs 0.099 af
Outflow=0.54 cfs 0.099 af

Pond 30P: CB-N F2 Peak Elev=117.94' Inflow=3.54 cfs 0.302 af
Outflow=3.54 cfs 0.302 af

Pond 32P: CB-N F3 Peak Elev=117.49' Inflow=1.87 cfs 0.127 af
Outflow=1.87 cfs 0.127 af

Pond 34P: CB-N F4 Peak Elev=116.64' Inflow=6.11 cfs 0.475 af
Outflow=6.11 cfs 0.475 af

Pond 36P: CB-N F5 Peak Elev=116.83' Inflow=1.46 cfs 0.099 af
Outflow=1.46 cfs 0.099 af

Pond 38P: CB-N F6 Peak Elev=112.58' Inflow=6.72 cfs 0.528 af
Outflow=6.72 cfs 0.528 af

Total Runoff Area = 18.198 ac Runoff Volume = 2.567 af Average Runoff Depth = 1.69"
61.86% Pervious = 11.256 ac 38.14% Impervious = 6.941 ac

Summary for Subcatchment 8S: S-FIELD CB1

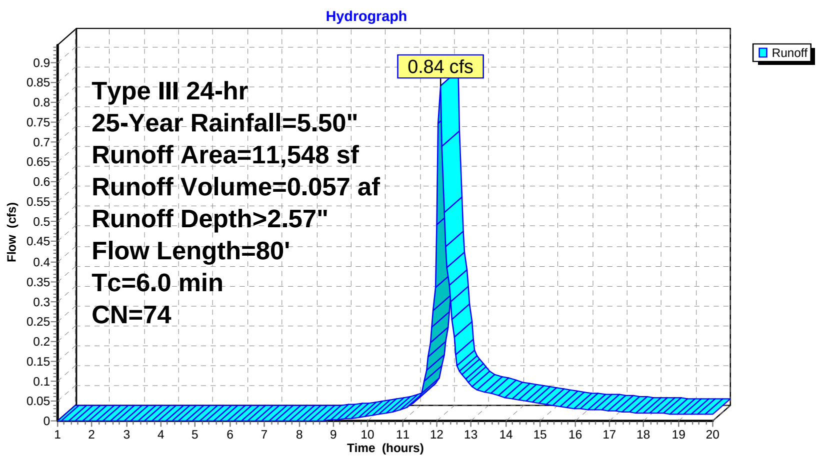
Runoff = 0.84 cfs @ 12.09 hrs, Volume= 0.057 af, Depth> 2.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	6,948	98	Paved Track, HSG A
	4,600	39	>75% Grass cover, Good, HSG A
	11,548	74	Weighted Average
	4,600		39.83% Pervious Area
	6,948		60.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	50	0.1180	0.30		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.2	30	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.0					**Direct Entry,**
6.0	80	Total			

Subcatchment 8S: S-FIELD CB1



Summary for Subcatchment 10S: S-FIELD CB2

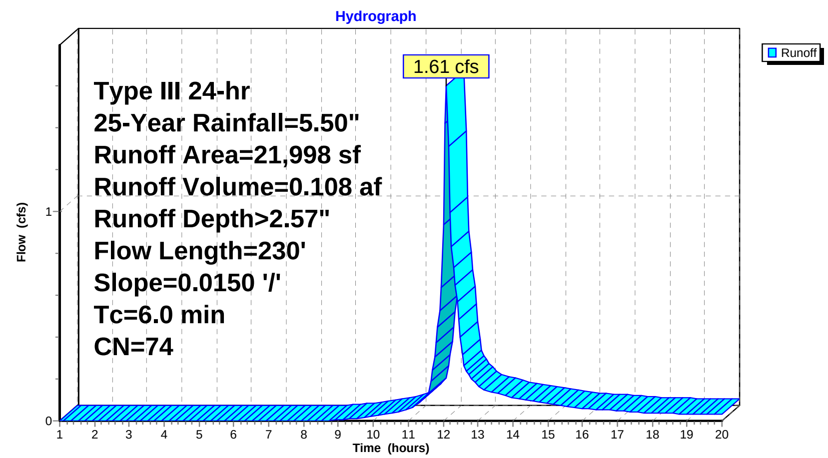
Runoff = 1.61 cfs @ 12.09 hrs, Volume= 0.108 af, Depth> 2.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	13,199	98	Paved Track, HSG A
	8,799	39	>75% Grass cover, Good, HSG A
	21,998	74	Weighted Average
	8,799		40.00% Pervious Area
	13,199		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.5	180	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.7					**Direct Entry, PARKING**
6.0	230	Total			

Subcatchment 10S: S-FIELD CB2



Summary for Subcatchment 13S: M-FIELD CB3

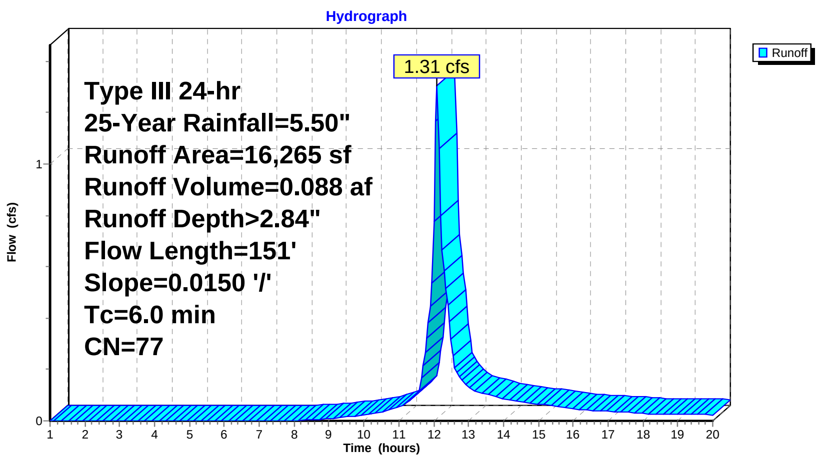
Runoff = 1.31 cfs @ 12.09 hrs, Volume= 0.088 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	10,572	98	Paved Track, HSG A
	5,693	39	>75% Grass cover, Good, HSG A
	16,265	77	Weighted Average
	5,693		35.00% Pervious Area
	10,572		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.9	101	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.3					**Direct Entry,**
6.0	151	Total			

Subcatchment 13S: M-FIELD CB3



Summary for Subcatchment 17S: S-FIELD CB3

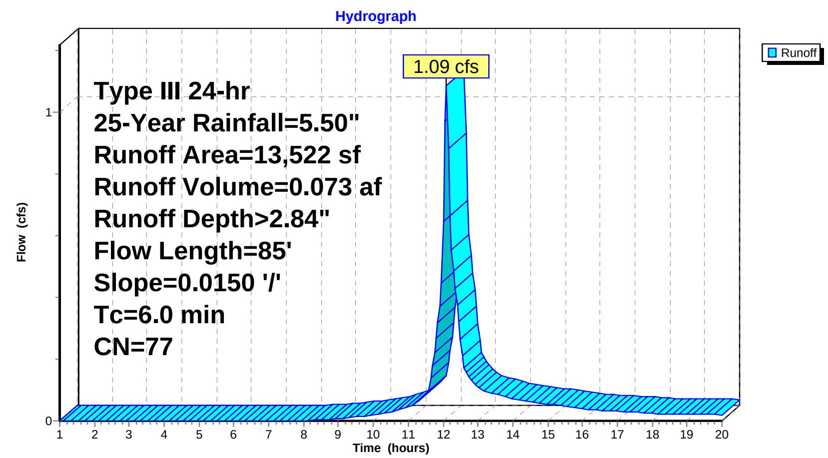
Runoff = 1.09 cfs @ 12.09 hrs, Volume= 0.073 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	8,789	98	Paved Track, HSG A
	4,733	39	>75% Grass cover, Good, HSG A
	13,522	77	Weighted Average
	4,733		35.00% Pervious Area
	8,789		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.3	35	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.9					**Direct Entry,**
6.0	85	Total			

Subcatchment 17S: S-FIELD CB3



Summary for Subcatchment 19S: S-FIELD CB4

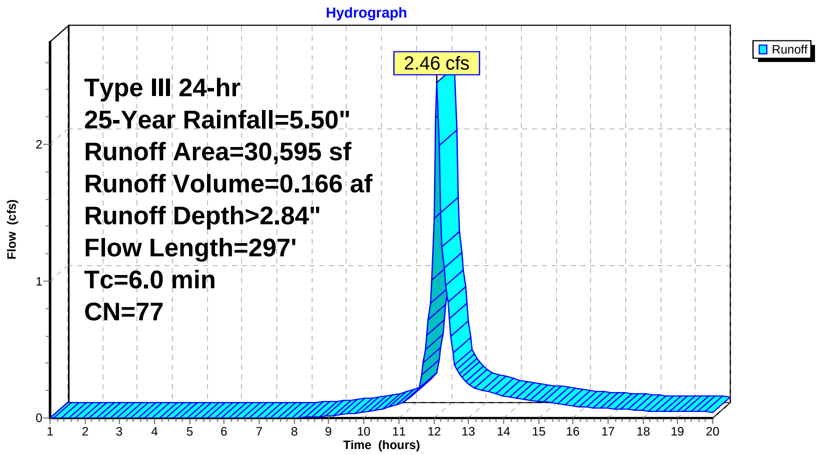
Runoff = 2.46 cfs @ 12.09 hrs, Volume= 0.166 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	19,887	98	Paved Track, HSG A
	10,708	39	>75% Grass cover, Good, HSG A
	30,595	77	Weighted Average
	10,708		35.00% Pervious Area
	19,887		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	37	0.0400	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.1	20	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	240	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.1					**Direct Entry,**
6.0	297	Total			

Subcatchment 19S: S-FIELD CB4



Summary for Subcatchment 21S: S-FIELD CB5

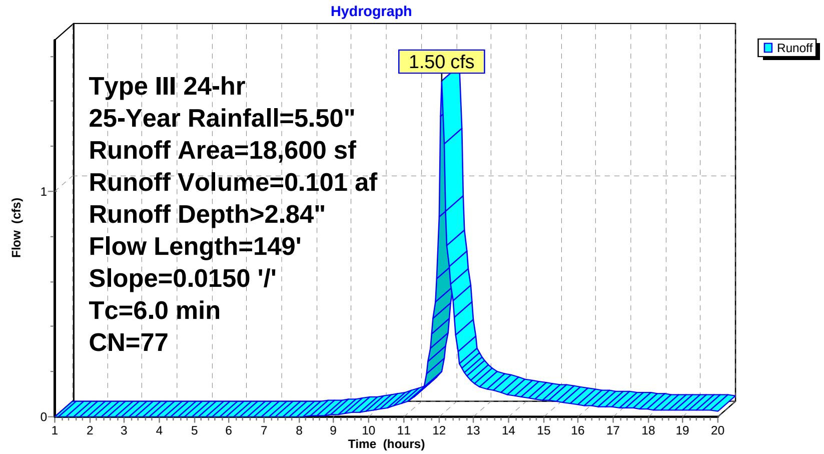
Runoff = 1.50 cfs @ 12.09 hrs, Volume= 0.101 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	12,090	98	Paved Track, HSG A
	6,510	39	>75% Grass cover, Good, HSG A
	18,600	77	Weighted Average
	6,510		35.00% Pervious Area
	12,090		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.8	99	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.4					**Direct Entry,**
6.0	149	Total			

Subcatchment 21S: S-FIELD CB5



Summary for Subcatchment 23S: S-FIELD CB6

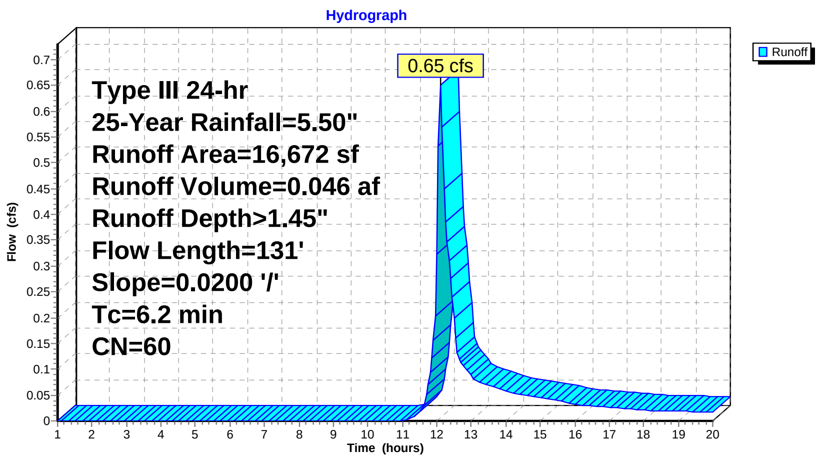
Runoff = 0.65 cfs @ 12.10 hrs, Volume= 0.046 af, Depth> 1.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	5,835	98	Paved Track, HSG A
	10,837	39	>75% Grass cover, Good, HSG A
	16,672	60	Weighted Average
	10,837		65.00% Pervious Area
	5,835		35.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.6	81	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.2	131	Total			

Subcatchment 23S: S-FIELD CB6



Summary for Subcatchment 25S: S-FIELD CB7

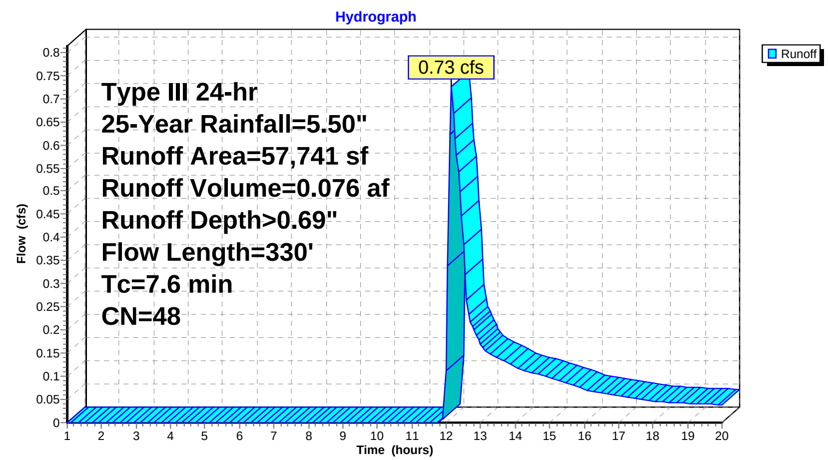
Runoff = 0.73 cfs @ 12.16 hrs, Volume= 0.076 af, Depth> 0.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	8,661	98	Paved Track, HSG A
	49,080	39	>75% Grass cover, Good, HSG A
	57,741	48	Weighted Average
	49,080		85.00% Pervious Area
	8,661		15.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.3	180	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.7	100	0.0250	2.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.6	330	Total			

Subcatchment 25S: S-FIELD CB7



Summary for Subcatchment 27S: N-FIELD CBF1

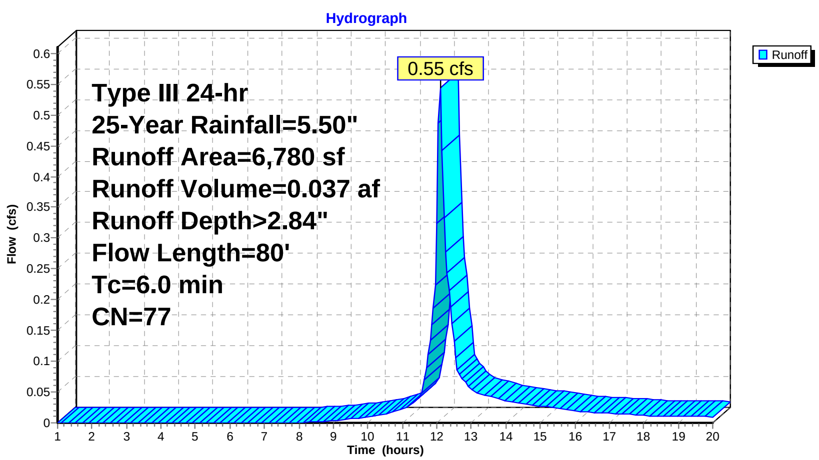
Runoff = 0.55 cfs @ 12.09 hrs, Volume= 0.037 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	4,407	98	Paved Track, HSG A
	2,373	39	>75% Grass cover, Good, HSG A
	6,780	77	Weighted Average
	2,373		35.00% Pervious Area
	4,407		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0100	0.91		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.2	30	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.9					**Direct Entry,**
6.0	80	Total			

Subcatchment 27S: N-FIELD CBF1



Summary for Subcatchment 29S: N-FIELD CBF2

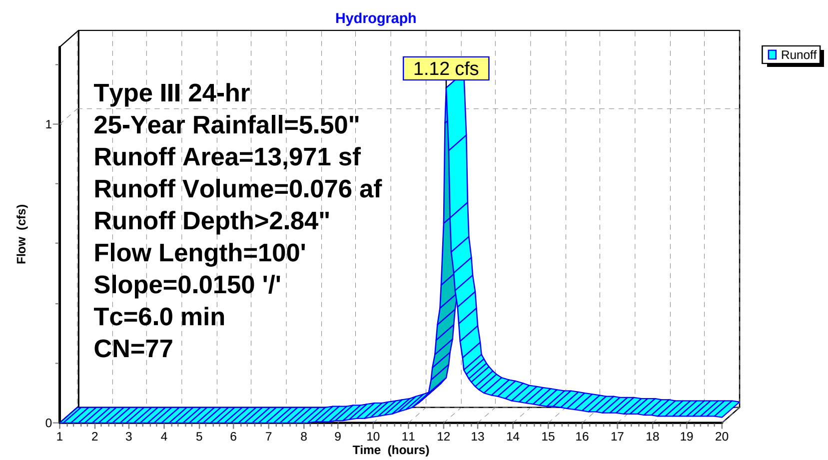
Runoff = 1.12 cfs @ 12.09 hrs, Volume= 0.076 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	9,081	98	Paved Track, HSG A
	4,890	39	>75% Grass cover, Good, HSG A
	13,971	77	Weighted Average
	4,890		35.00% Pervious Area
	9,081		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	20	0.0150	0.89		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.7	80	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.9					**Direct Entry,**
6.0	100	Total			

Subcatchment 29S: N-FIELD CBF2



Summary for Subcatchment 31S: N-FIELD CBF3

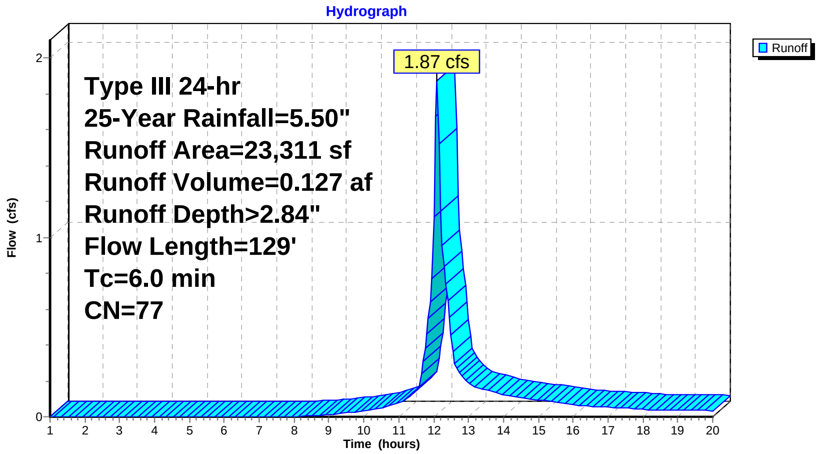
Runoff = 1.87 cfs @ 12.09 hrs, Volume= 0.127 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	15,152	98	Paved Track, HSG A
	8,159	39	>75% Grass cover, Good, HSG A
	23,311	77	Weighted Average
	8,159		35.00% Pervious Area
	15,152		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	29	0.0300	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.8	100	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.1					**Direct Entry,**
6.0	129	Total			

Subcatchment 31S: N-FIELD CBF3



Summary for Subcatchment 33S: N-FIELD CBF4

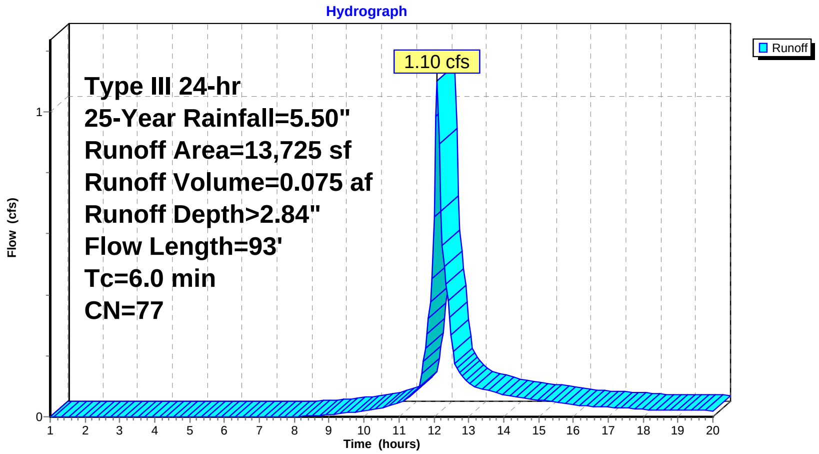
Runoff = 1.10 cfs @ 12.09 hrs, Volume= 0.075 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	8,921	98	Paved Track, HSG A
	4,804	39	>75% Grass cover, Good, HSG A
	13,725	77	Weighted Average
	4,804		35.00% Pervious Area
	8,921		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	20	0.0100	0.76		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.6	73	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
5.0					**Direct Entry,**
6.0	93	Total			

Subcatchment 33S: N-FIELD CBF4



Summary for Subcatchment 35S: N-FIELD CBF5

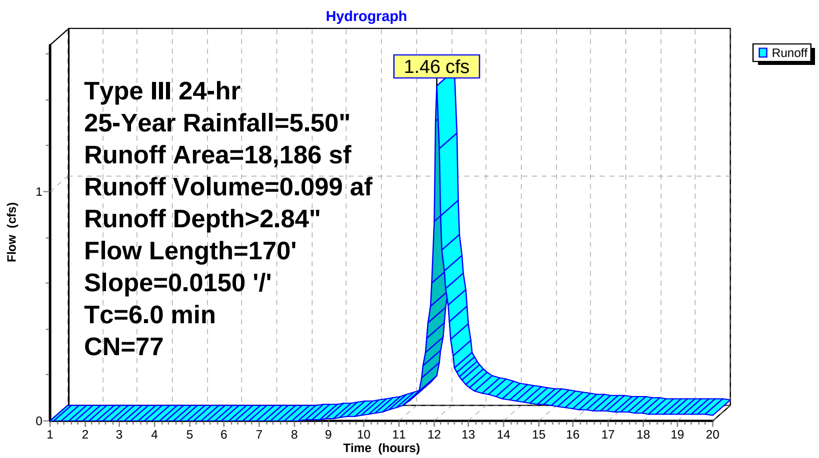
Runoff = 1.46 cfs @ 12.09 hrs, Volume= 0.099 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	11,821	98	Paved Track, HSG A
	6,365	39	>75% Grass cover, Good, HSG A
	18,186	77	Weighted Average
	6,365		35.00% Pervious Area
	11,821		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.0	120	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.2					**Direct Entry,**
6.0	170	Total			

Subcatchment 35S: N-FIELD CBF5



Summary for Subcatchment 37S: N-FIELD CBF6

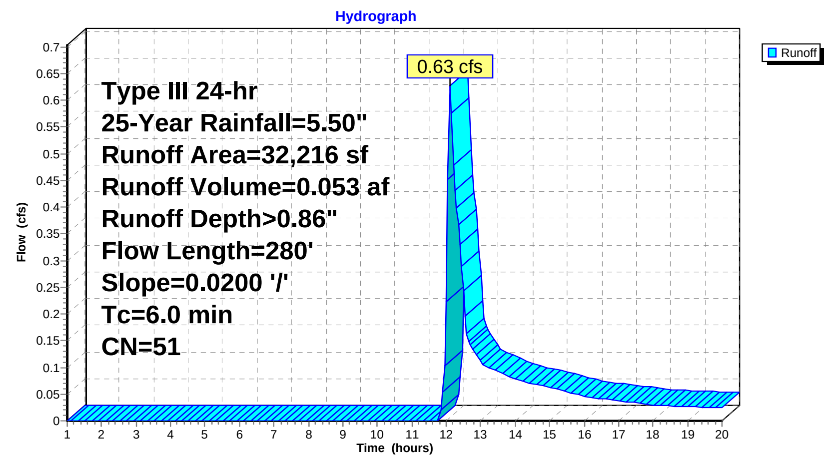
Runoff = 0.63 cfs @ 12.11 hrs, Volume= 0.053 af, Depth> 0.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	6,443	98	Paved Track, HSG A
	25,773	39	>75% Grass cover, Good, HSG A
	32,216	51	Weighted Average
	25,773		80.00% Pervious Area
	6,443		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0200	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.8	250	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.5					**Direct Entry,**
6.0	280	Total			

Subcatchment 37S: N-FIELD CBF6



Summary for Subcatchment E1: S LOT

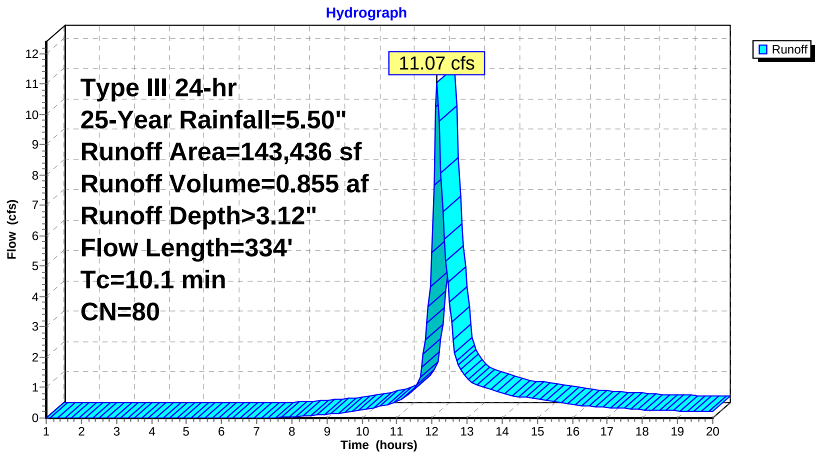
Runoff = 11.07 cfs @ 12.14 hrs, Volume= 0.855 af, Depth> 3.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
88,072	98	Paved parking, HSG A
21,058	72	Woods/grass comb., Good, HSG C
34,306	39	>75% Grass cover, Good, HSG A
143,436	80	Weighted Average
55,364		38.60% Pervious Area
88,072		61.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	50	0.0490	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.7	150	0.0486	3.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.8	134	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
10.1	334	Total			

Subcatchment E1: S LOT



Summary for Subcatchment E2: FRONT LOT

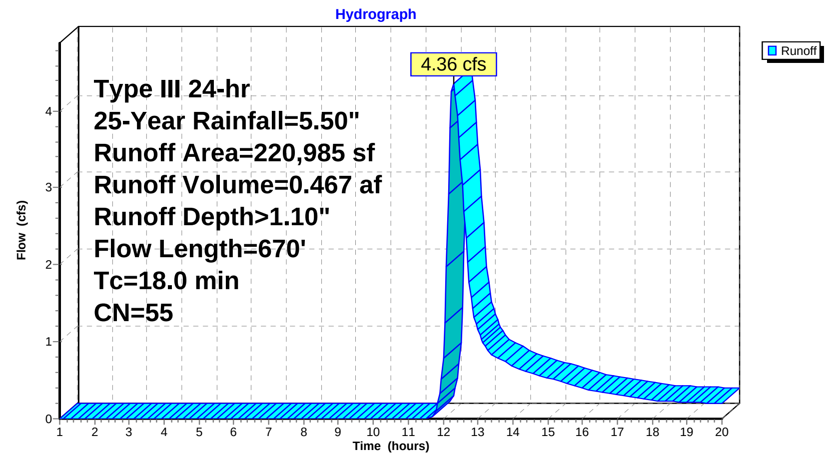
Runoff = 4.36 cfs @ 12.29 hrs, Volume= 0.467 af, Depth> 1.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
95,208	32	Woods/grass comb., Good, HSG A
72,489	98	Paved parking, HSG A
53,288	39	>75% Grass cover, Good, HSG A
220,985	55	Weighted Average
148,496		67.20% Pervious Area
72,489		32.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow, WOOD-FIELD** Woods: Light underbrush n= 0.400 P2= 3.20"
0.5	120	0.0590	3.91		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
4.2	360	0.0080	1.44		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
1.0	140	0.0140	2.40		**Shallow Concentrated Flow, PKG** Paved Kv= 20.3 fps
18.0	670	Total			

Subcatchment E2: FRONT LOT



Summary for Subcatchment E3: EDGE FIELD

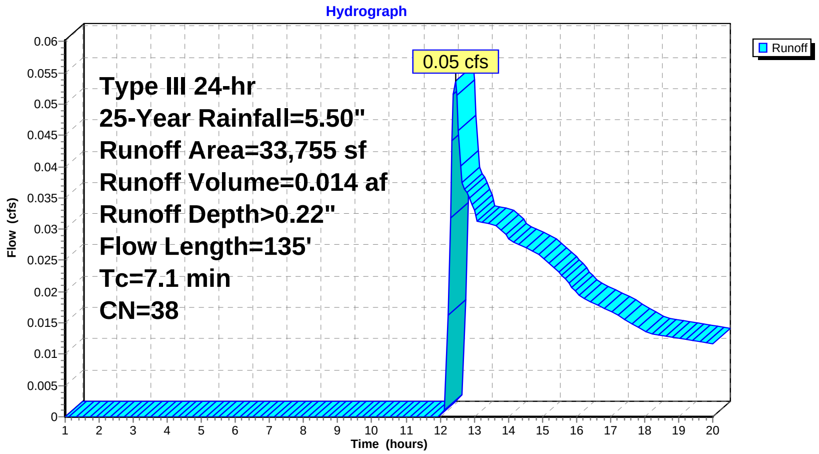
Runoff = 0.05 cfs @ 12.45 hrs, Volume= 0.014 af, Depth> 0.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
5,183	32	Woods/grass comb., Good, HSG A
28,572	39	>75% Grass cover, Good, HSG A
33,755	38	Weighted Average
33,755		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	35	0.0460	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.1	50	0.2195	7.54		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	50	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.1	135	Total			

Subcatchment E3: EDGE FIELD



Summary for Subcatchment E4: FIELD

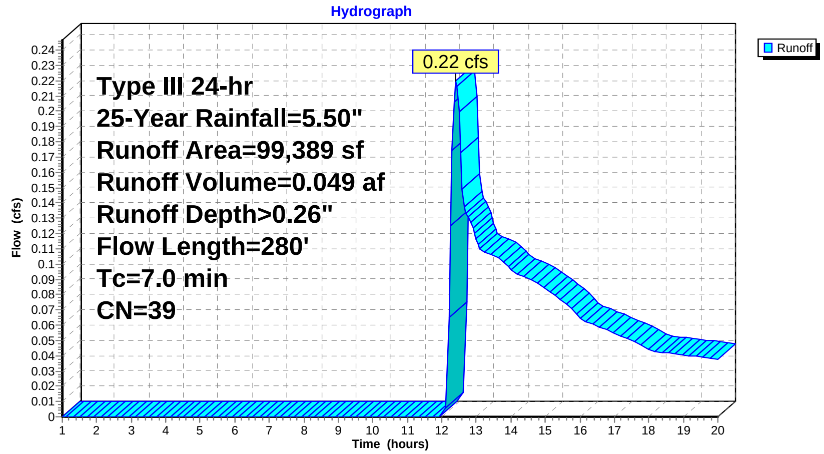
Runoff = 0.22 cfs @ 12.42 hrs, Volume= 0.049 af, Depth> 0.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
94,741	39	>75% Grass cover, Good, HSG A
4,648	43	Woods/grass comb., Fair, HSG A
99,389	39	Weighted Average
99,389		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.3	180	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	50	0.1200	5.58		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.0	280	Total			

Subcatchment E4: FIELD

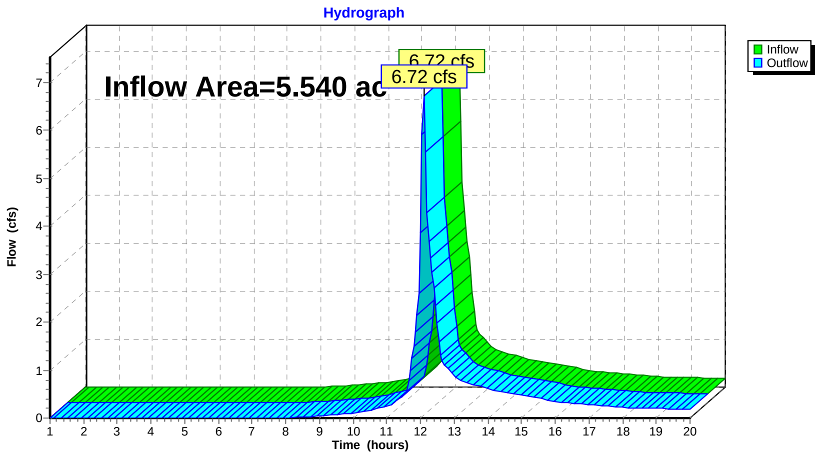


Summary for Reach 39R: HEADWALL 'A'

Inflow Area = 5.540 ac, 23.13% Impervious, Inflow Depth > 1.14" for 25-Year event
Inflow = 6.72 cfs @ 12.10 hrs, Volume= 0.528 af
Outflow = 6.72 cfs @ 12.10 hrs, Volume= 0.528 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3

Reach 39R: HEADWALL 'A'

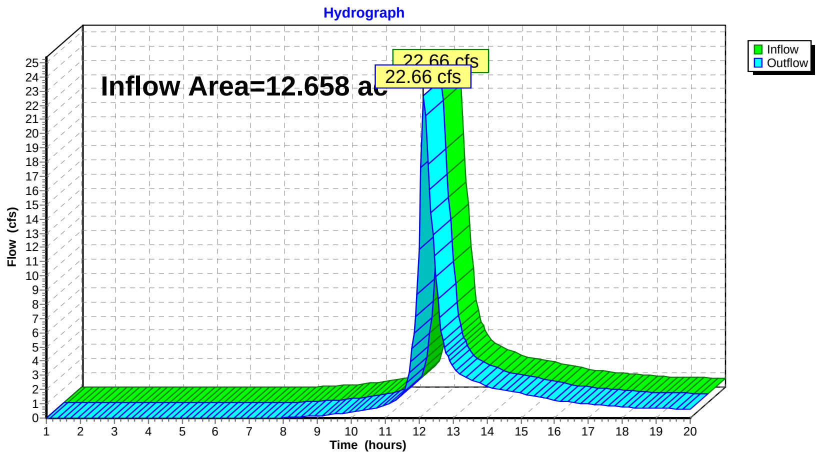


Summary for Reach RE1: HEADWALL 'B'

Inflow Area = 12.658 ac, 44.72% Impervious, Inflow Depth > 1.93" for 25-Year event
Inflow = 22.66 cfs @ 12.13 hrs, Volume= 2.038 af
Outflow = 22.66 cfs @ 12.13 hrs, Volume= 2.038 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3

Reach RE1: HEADWALL 'B'



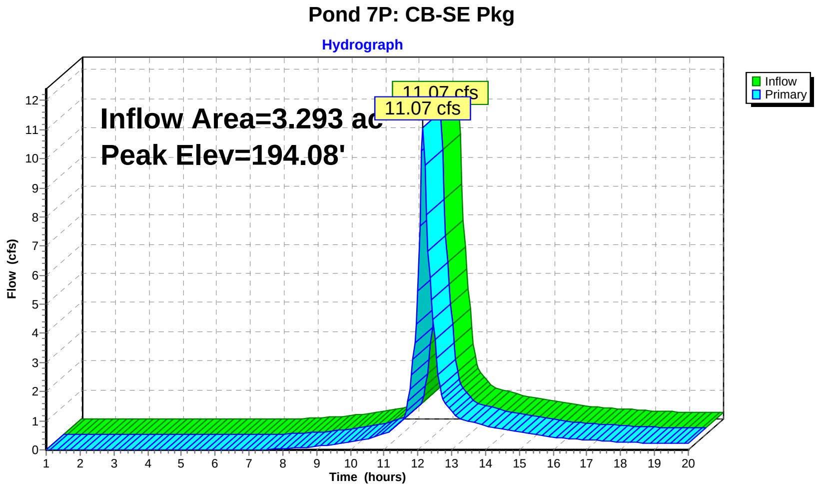
Summary for Pond 7P: CB-SE Pkg

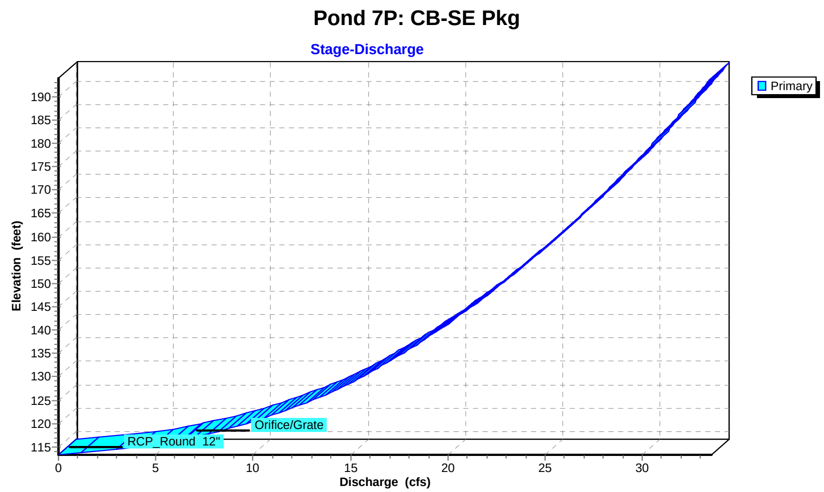
Inflow Area = 3.293 ac, 61.40% Impervious, Inflow Depth > 3.12" for 25-Year event
Inflow = 11.07 cfs @ 12.14 hrs, Volume= 0.855 af
Outflow = 11.07 cfs @ 12.14 hrs, Volume= 0.855 af, Atten= 0%, Lag= 0.0 min
Primary = 11.07 cfs @ 12.14 hrs, Volume= 0.855 af

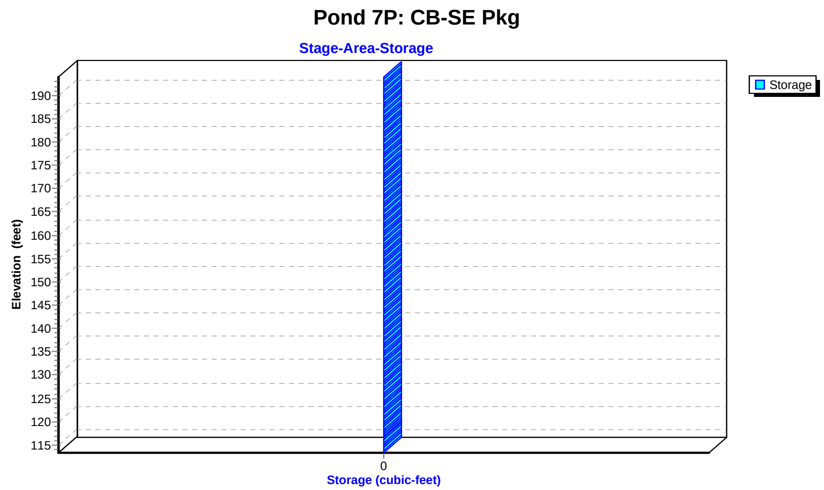
Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 194.08' @ 12.17 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	113.30'	**12.0" Round RCP_Round 12"** L= 71.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 113.30' / 111.17' S= 0.0299 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	116.80'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area) Limited to weir flow at low heads

Primary OutFlow Max=8.01 cfs @ 12.14 hrs HW=188.92' TW=184.27' (Dynamic Tailwater)
1=RCP_Round 12" (Outlet Controls 7.72 cfs @ 9.83 fps)
2=Orifice/Grate (Orifice Controls 0.29 cfs @ 10.39 fps)







Summary for Pond 9P: CB-SE Pkg1

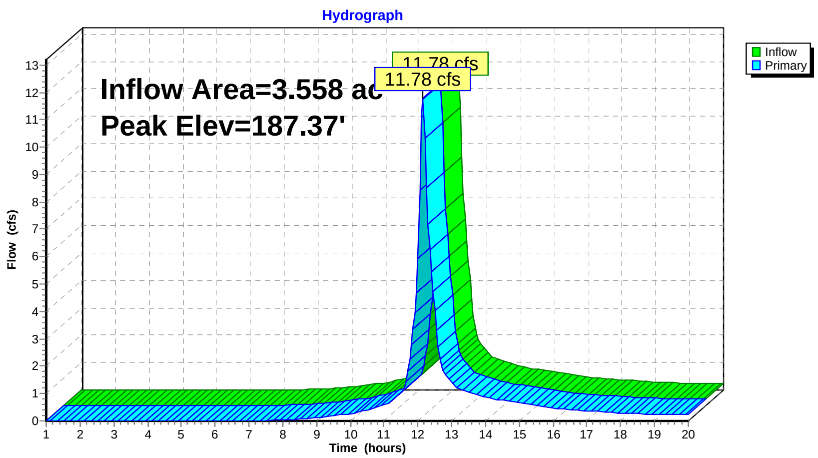
Inflow Area = 3.558 ac, 61.31% Impervious, Inflow Depth > 3.08" for 25-Year event
Inflow = 11.78 cfs @ 12.14 hrs, Volume= 0.912 af
Outflow = 11.78 cfs @ 12.14 hrs, Volume= 0.912 af, Atten= 0%, Lag= 0.0 min
Primary = 11.78 cfs @ 12.14 hrs, Volume= 0.912 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 187.37' @ 12.16 hrs

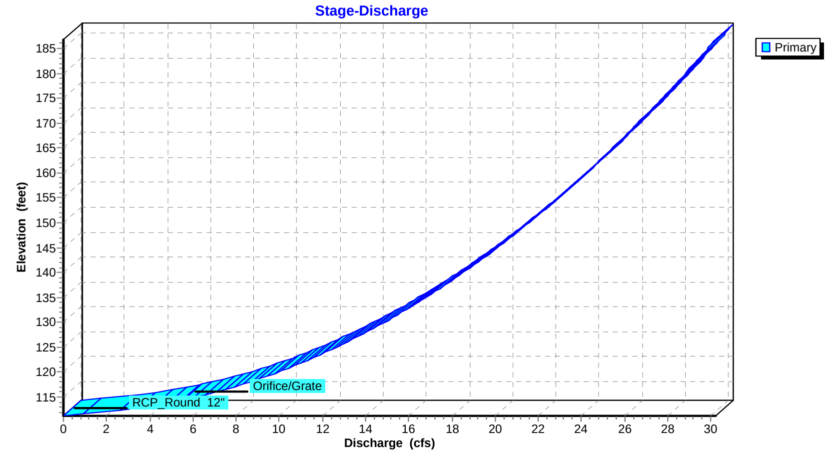
Device	Routing	Invert	Outlet Devices
#1	Primary	111.17'	**12.0" Round RCP_Round 12"** L= 90.3' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.17' / 110.70' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=10.87 cfs @ 12.14 hrs HW=182.80' TW=173.09' (Dynamic Tailwater)
1=RCP_Round 12" (Outlet Controls 10.45 cfs @ 13.31 fps)
2=Orifice/Grate (Orifice Controls 0.42 cfs @ 15.00 fps)

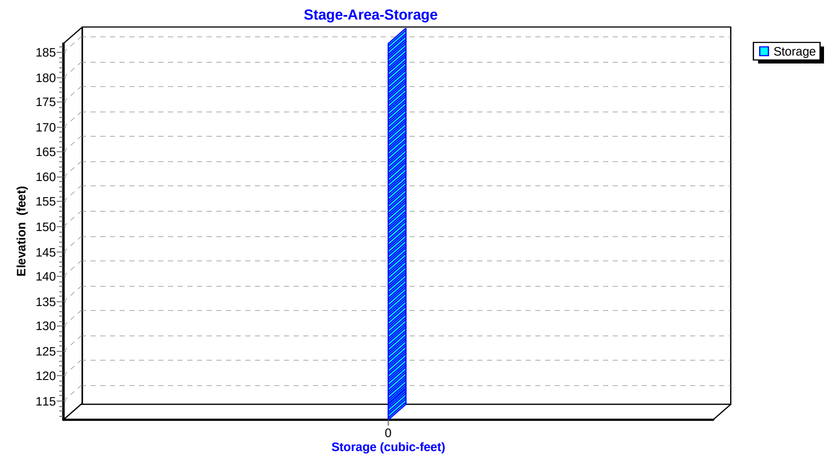
Pond 9P: CB-SE Pkg1



Pond 9P: CB-SE Pkg1



Pond 9P: CB-SE Pkg1



Summary for Pond 11P: CB-SE Pkg2

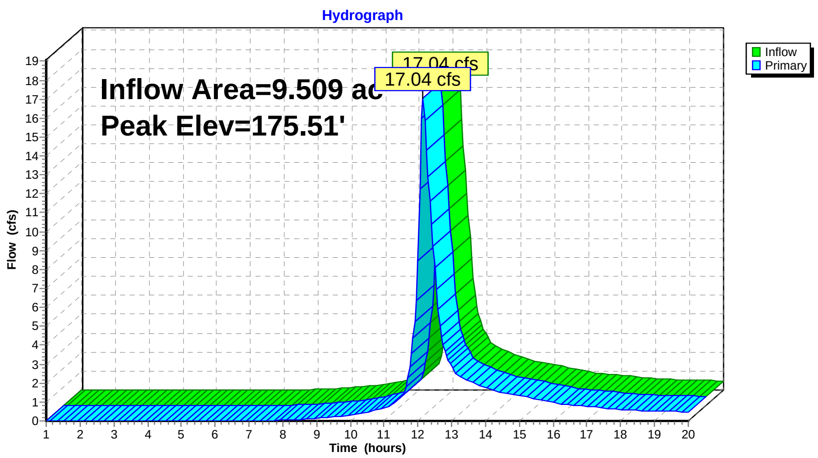
Inflow Area = 9.509 ac, 46.18% Impervious, Inflow Depth > 1.99" for 25-Year event
Inflow = 17.04 cfs @ 12.15 hrs, Volume= 1.575 af
Outflow = 17.04 cfs @ 12.15 hrs, Volume= 1.575 af, Atten= 0%, Lag= 0.0 min
Primary = 17.04 cfs @ 12.15 hrs, Volume= 1.575 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 175.51' @ 12.16 hrs

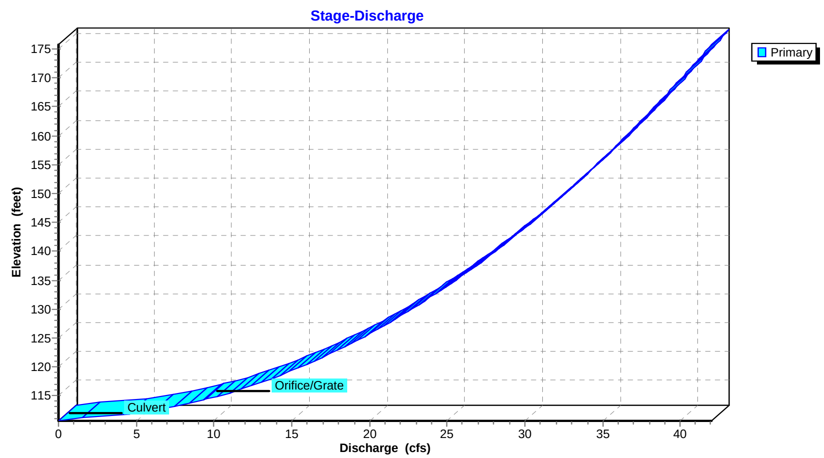
Device	Routing	Invert	Outlet Devices
#1	Primary	110.70'	**15.0" Round Culvert** L= 134.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.70' / 109.75' S= 0.0071 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=16.84 cfs @ 12.15 hrs HW=175.07' TW=164.67' (Dynamic Tailwater)
1=Culvert (Outlet Controls 16.41 cfs @ 13.37 fps)
2=Orifice/Grate (Orifice Controls 0.43 cfs @ 15.52 fps)

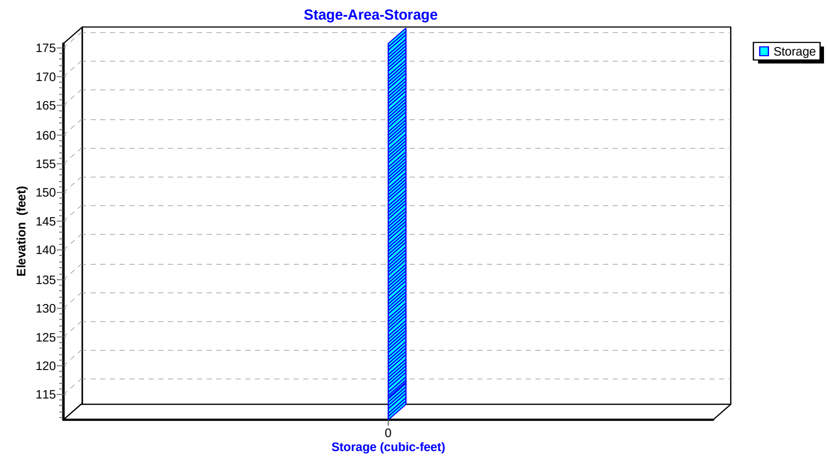
Pond 11P: CB-SE Pkg2



Pond 11P: CB-SE Pkg2



Pond 11P: CB-SE Pkg2



Summary for Pond 12P: CB-NE Pkg

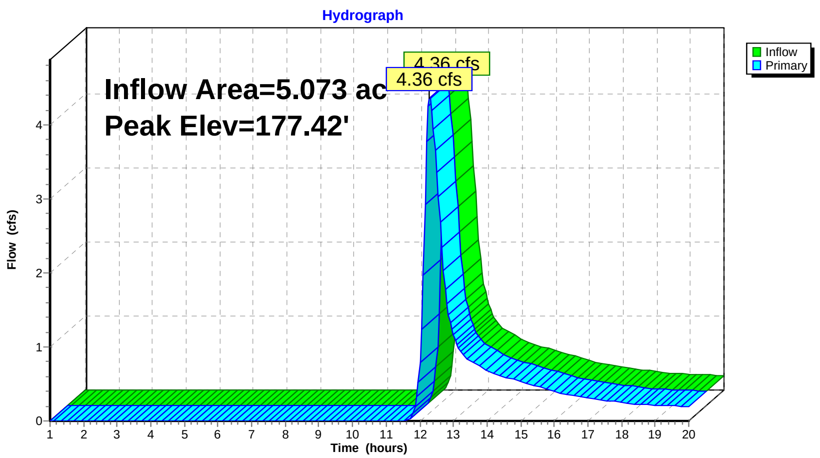
Inflow Area = 5.073 ac, 32.80% Impervious, Inflow Depth > 1.10" for 25-Year event
Inflow = 4.36 cfs @ 12.29 hrs, Volume= 0.467 af
Outflow = 4.36 cfs @ 12.29 hrs, Volume= 0.467 af, Atten= 0%, Lag= 0.0 min
Primary = 4.36 cfs @ 12.29 hrs, Volume= 0.467 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 177.42' @ 12.19 hrs

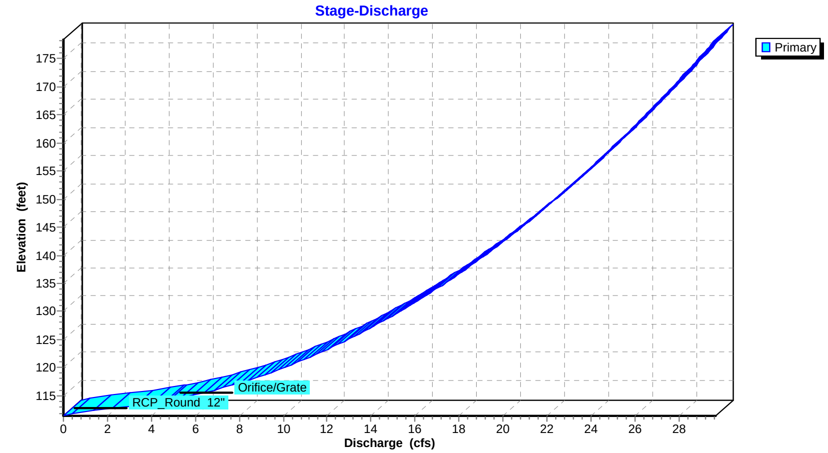
Device	Routing	Invert	Outlet Devices
#1	Primary	111.40'	**12.0" Round RCP_Round 12"** L= 76.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.40' / 111.36' S= 0.0005 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.25'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=7.78 cfs @ 12.29 hrs HW=156.22' TW=151.69' (Dynamic Tailwater)
1=RCP_Round 12" (Outlet Controls 7.49 cfs @ 9.54 fps)
2=Orifice/Grate (Orifice Controls 0.28 cfs @ 10.25 fps)

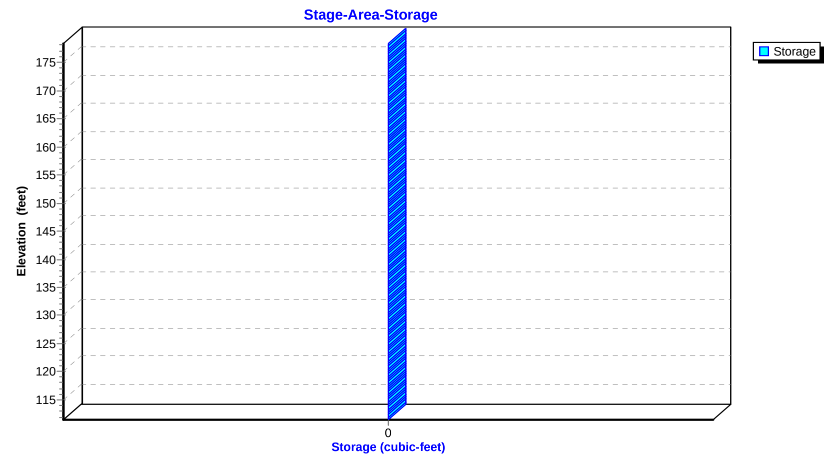
Pond 12P: CB-NE Pkg



Pond 12P: CB-NE Pkg



Pond 12P: CB-NE Pkg



Summary for Pond 14P: CB-NE Pkg2

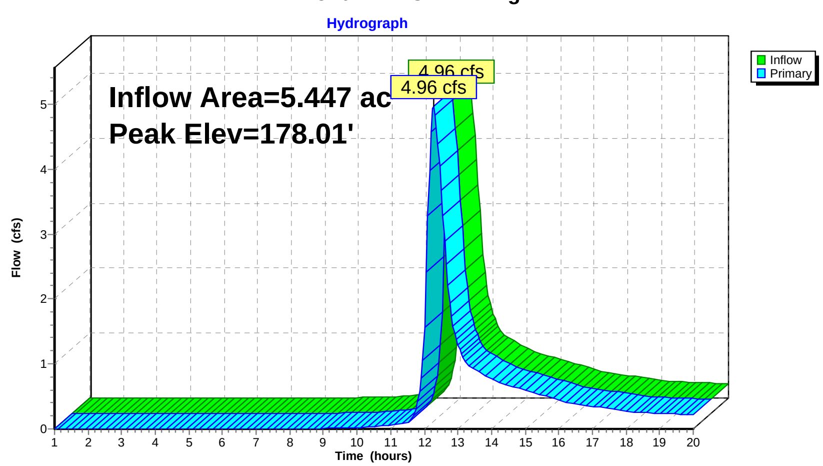
Inflow Area = 5.447 ac, 35.01% Impervious, Inflow Depth > 1.22" for 25-Year event
Inflow = 4.96 cfs @ 12.28 hrs, Volume= 0.555 af
Outflow = 4.96 cfs @ 12.28 hrs, Volume= 0.555 af, Atten= 0%, Lag= 0.0 min
Primary = 4.96 cfs @ 12.28 hrs, Volume= 0.555 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 178.01' @ 12.17 hrs

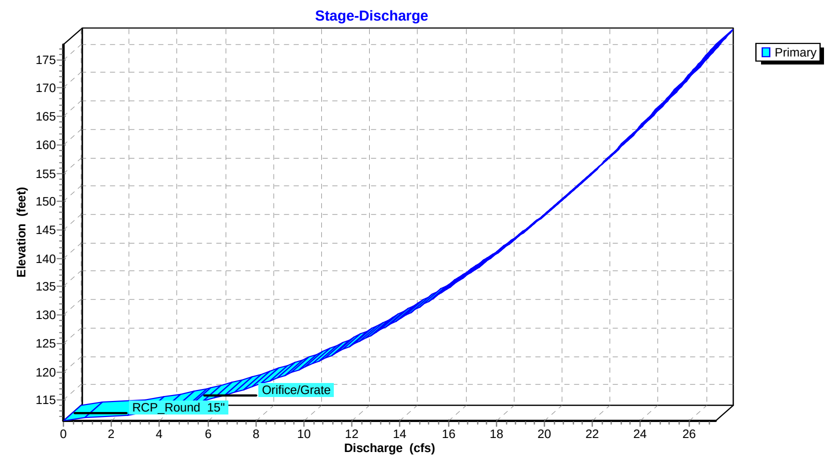
Device	Routing	Invert	Outlet Devices
#1	Primary	111.36'	**12.0" Round RCP_Round 15"** L= 105.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.36' / 110.70' S= 0.0063 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=7.28 cfs @ 12.28 hrs HW=155.03' TW=150.27' (Dynamic Tailwater)
1=RCP_Round 15" (Outlet Controls 6.99 cfs @ 8.90 fps)
2=Orifice/Grate (Orifice Controls 0.29 cfs @ 10.50 fps)

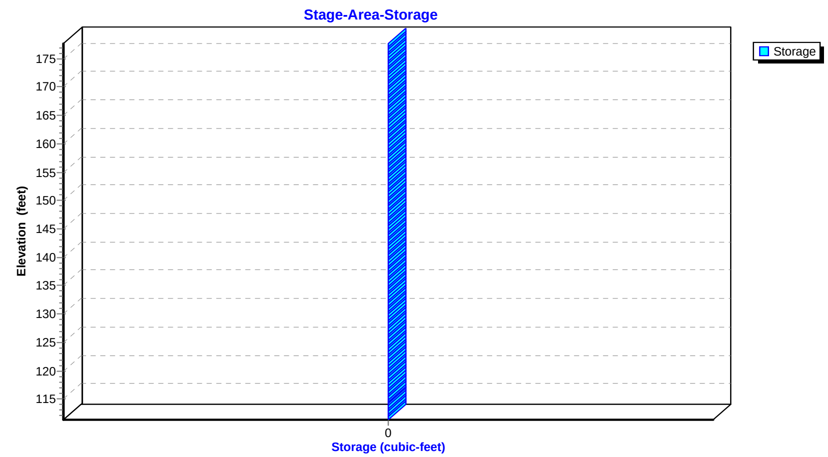
Pond 14P: CB-NE Pkg2



Pond 14P: CB-NE Pkg2



Pond 14P: CB-NE Pkg2



Summary for Pond 18P: CB-SE Pkg3

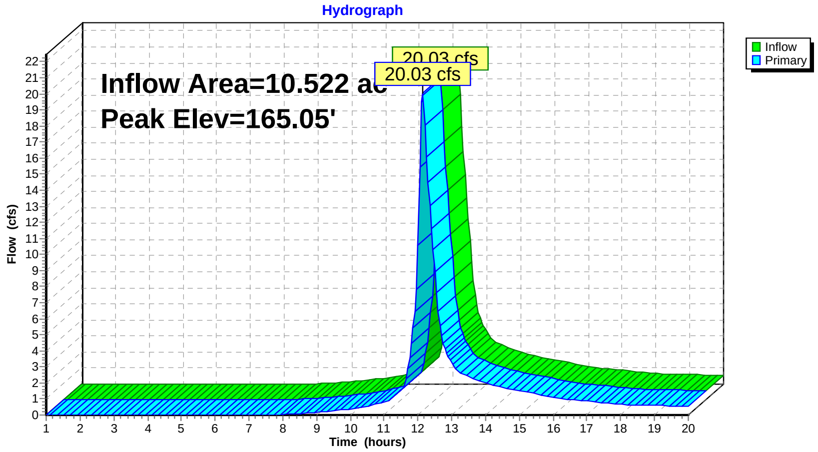
Inflow Area =	10.522 ac, 47.99% Impervious, Inflow Depth > 2.07" for 25-Year event			
Inflow =	20.03 cfs @	12.13 hrs, Volume=	1.815 af	
Outflow =	20.03 cfs @	12.13 hrs, Volume=	1.815 af,	Atten= 0%, Lag= 0.0 min
Primary =	20.03 cfs @	12.13 hrs, Volume=	1.815 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 165.05' @ 12.14 hrs

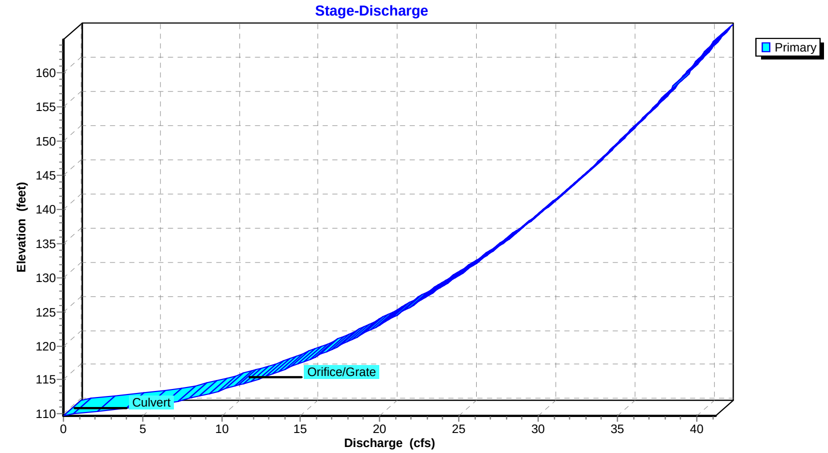
Device	Routing	Invert	Outlet Devices
#1	Primary	109.75'	**15.0" Round Culvert** L= 106.1' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 109.75' / 108.88' S= 0.0082 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.25'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=18.91 cfs @ 12.13 hrs HW=163.50' TW=152.01' (Dynamic Tailwater)
1=Culvert (Outlet Controls 18.46 cfs @ 15.04 fps)
2=Orifice/Grate (Orifice Controls 0.45 cfs @ 16.32 fps)

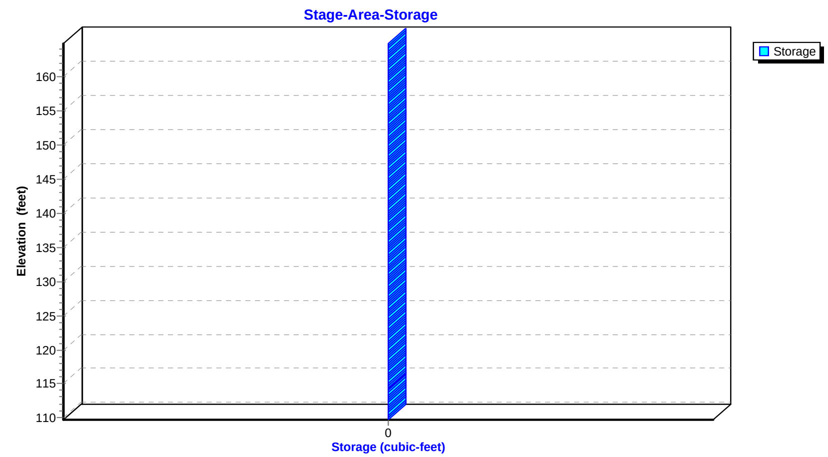
Pond 18P: CB-SE Pkg3



Pond 18P: CB-SE Pkg3



Pond 18P: CB-SE Pkg3



Summary for Pond 20P: CB-SE Pkg4

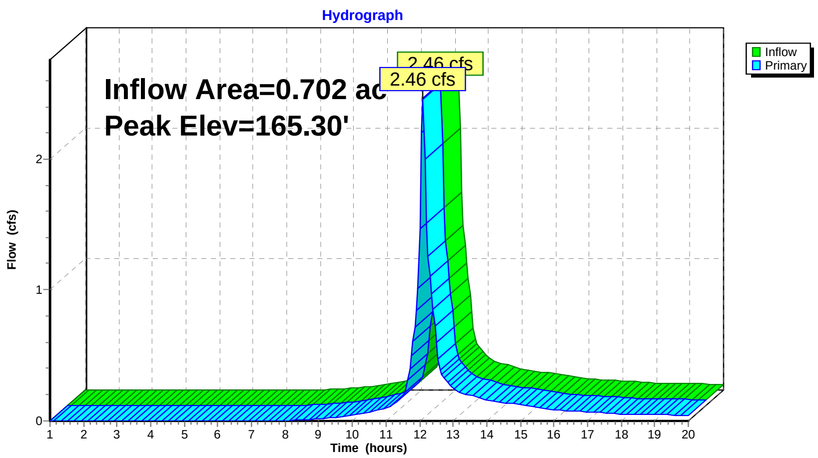
Inflow Area = 0.702 ac, 65.00% Impervious, Inflow Depth > 2.84" for 25-Year event
Inflow = 2.46 cfs @ 12.09 hrs, Volume= 0.166 af
Outflow = 2.46 cfs @ 12.09 hrs, Volume= 0.166 af, Atten= 0%, Lag= 0.0 min
Primary = 2.46 cfs @ 12.09 hrs, Volume= 0.166 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 165.30' @ 12.16 hrs

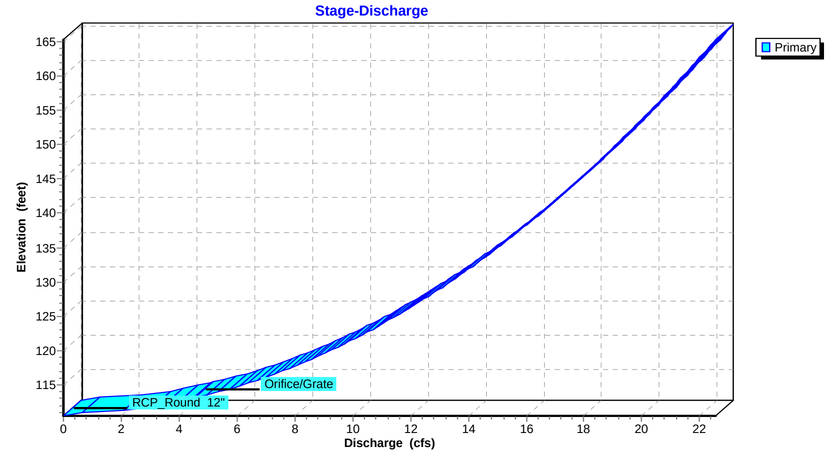
Device	Routing	Invert	Outlet Devices
#1	Primary	110.48'	**12.0" Round RCP_Round 12"** L= 140.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.48' / 109.75' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	113.20'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 12.09 hrs HW=151.82' TW=157.90' (Dynamic Tailwater)
1=RCP_Round 12" (Controls 0.00 cfs)
2=Orifice/Grate (Controls 0.00 cfs)

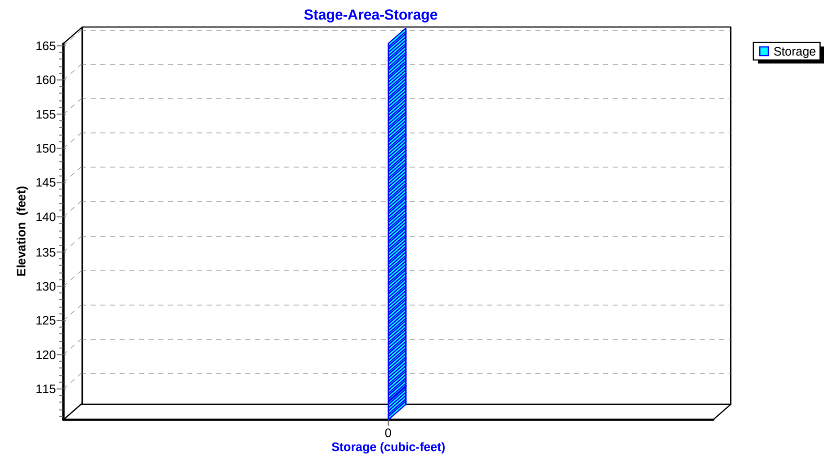
Pond 20P: CB-SE Pkg4



Pond 20P: CB-SE Pkg4



Pond 20P: CB-SE Pkg4



Summary for Pond 22P: CB-SE Pkg5

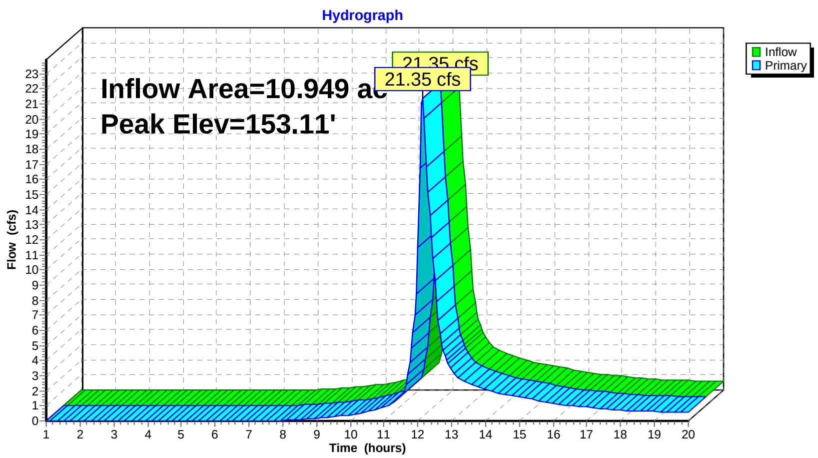
Inflow Area = 10.949 ac, 48.65% Impervious, Inflow Depth > 2.10" for 25-Year event
Inflow = 21.35 cfs @ 12.13 hrs, Volume= 1.916 af
Outflow = 21.35 cfs @ 12.13 hrs, Volume= 1.916 af, Atten= 0%, Lag= 0.0 min
Primary = 21.35 cfs @ 12.13 hrs, Volume= 1.916 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 153.11' @ 12.13 hrs

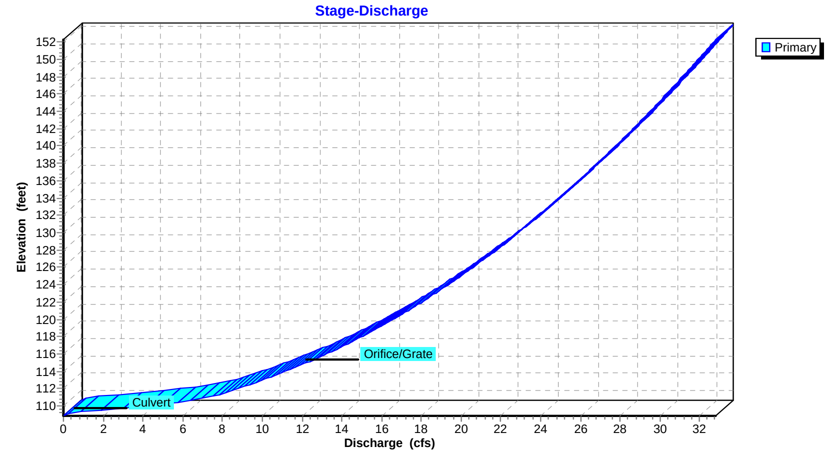
Device	Routing	Invert	Outlet Devices
#1	Primary	108.88'	**15.0" Round Culvert** L= 157.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 108.88' / 107.48' S= 0.0089 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=21.07 cfs @ 12.13 hrs HW=151.97' TW=134.06' (Dynamic Tailwater)
1=Culvert (Outlet Controls 20.51 cfs @ 16.71 fps)
2=Orifice/Grate (Orifice Controls 0.57 cfs @ 20.38 fps)

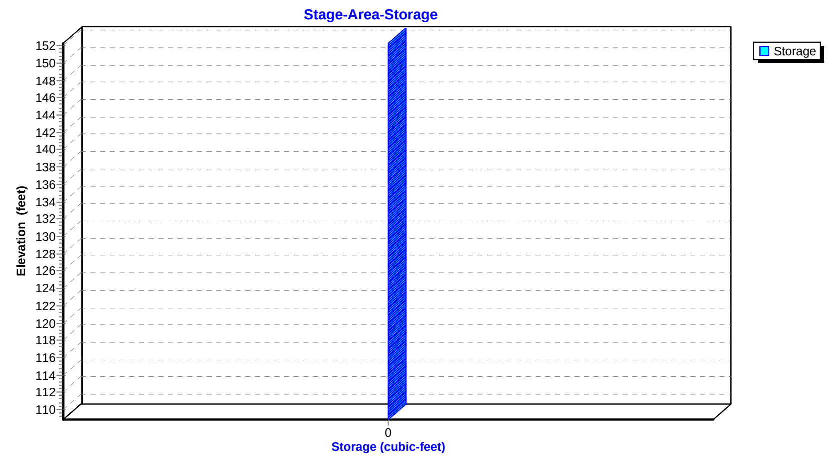
Pond 22P: CB-SE Pkg5



Pond 22P: CB-SE Pkg5



Pond 22P: CB-SE Pkg5



Summary for Pond 24P: CB-SE Pkg6

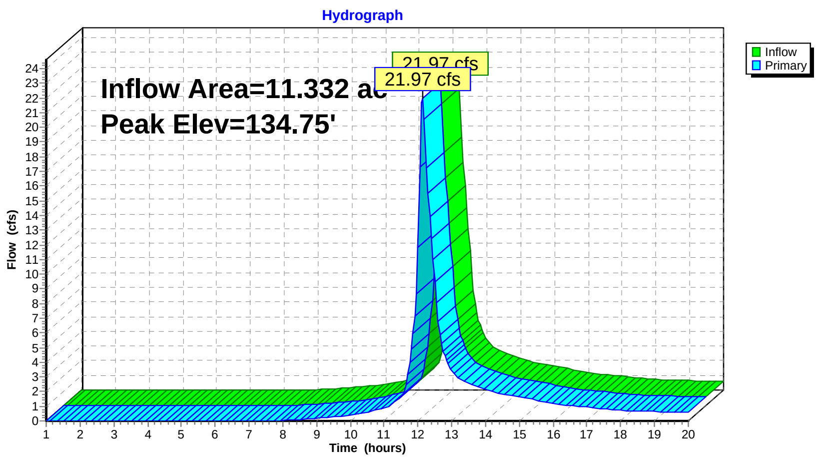
Inflow Area = 11.332 ac, 48.19% Impervious, Inflow Depth > 2.08" for 25-Year event
Inflow = 21.97 cfs @ 12.13 hrs, Volume= 1.963 af
Outflow = 21.97 cfs @ 12.13 hrs, Volume= 1.963 af, Atten= 0%, Lag= 0.0 min
Primary = 21.97 cfs @ 12.13 hrs, Volume= 1.963 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 134.75' @ 12.13 hrs

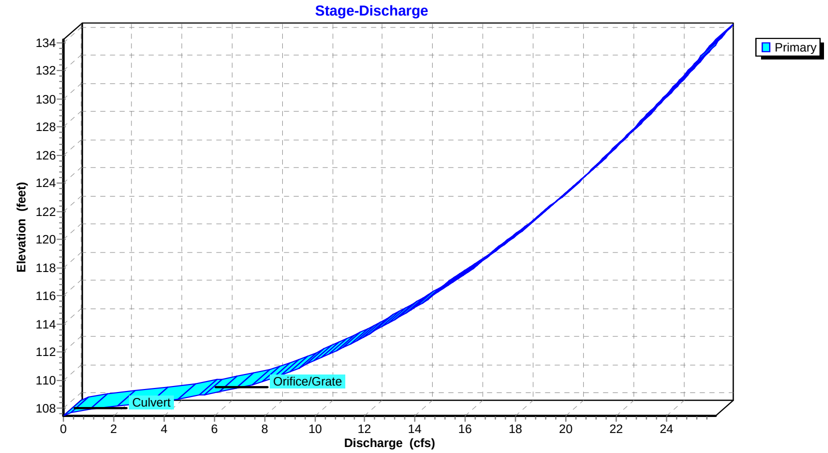
Device	Routing	Invert	Outlet Devices
#1	Primary	107.48'	**15.0" Round Culvert** L= 154.4' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 107.48' / 106.10' S= 0.0089 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	109.00'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=21.68 cfs @ 12.13 hrs HW=134.05' TW=115.34' (Dynamic Tailwater)
1=Culvert (Outlet Controls 21.10 cfs @ 17.19 fps)
2=Orifice/Grate (Orifice Controls 0.58 cfs @ 20.83 fps)

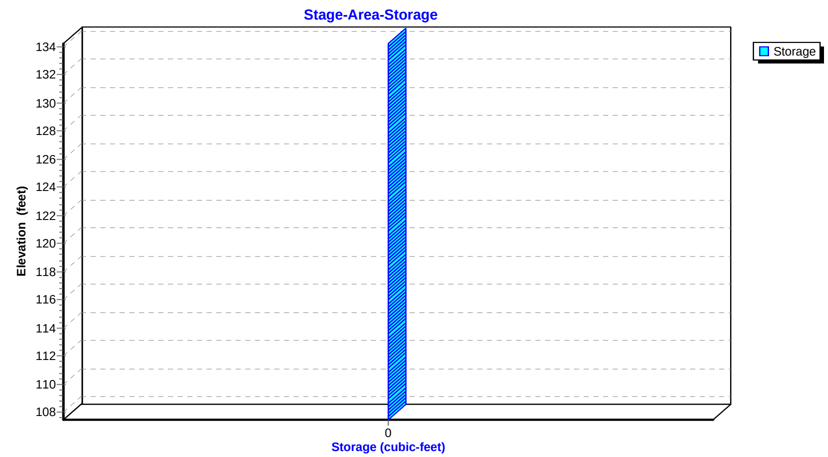
Pond 24P: CB-SE Pkg6



Pond 24P: CB-SE Pkg6



Pond 24P: CB-SE Pkg6



Summary for Pond 26P: CB-SE Pkg7

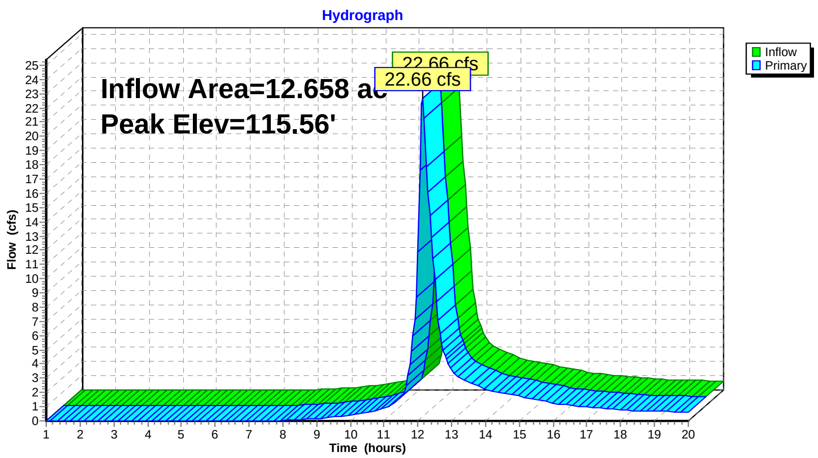
Inflow Area = 12.658 ac, 44.72% Impervious, Inflow Depth > 1.93" for 25-Year event
Inflow = 22.66 cfs @ 12.13 hrs, Volume= 2.038 af
Outflow = 22.66 cfs @ 12.13 hrs, Volume= 2.038 af, Atten= 0%, Lag= 0.0 min
Primary = 22.66 cfs @ 12.13 hrs, Volume= 2.038 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 115.56' @ 12.13 hrs

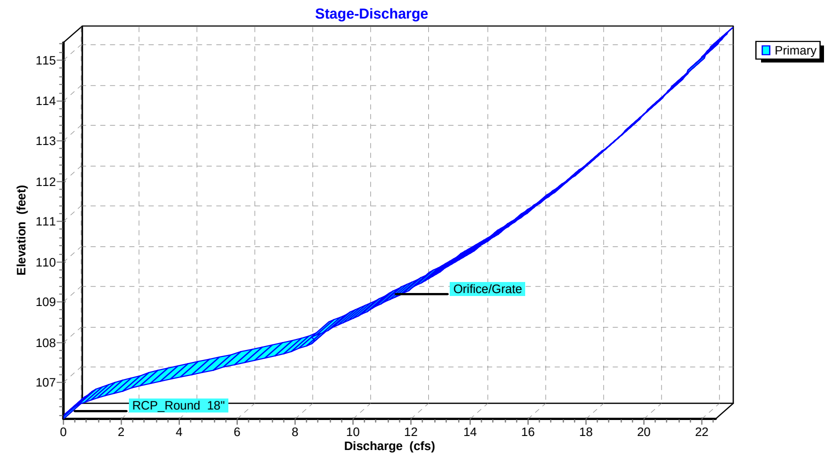
Device	Routing	Invert	Outlet Devices
#1	Primary	106.10'	**18.0" Round RCP_Round 18"** L= 154.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 106.10' / 105.35' S= 0.0049 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Primary	109.00'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=22.36 cfs @ 12.13 hrs HW=115.34' TW=0.00' (Dynamic Tailwater)
└─**1=RCP_Round 18"** (Barrel Controls 22.02 cfs @ 12.46 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.34 cfs @ 12.13 fps)

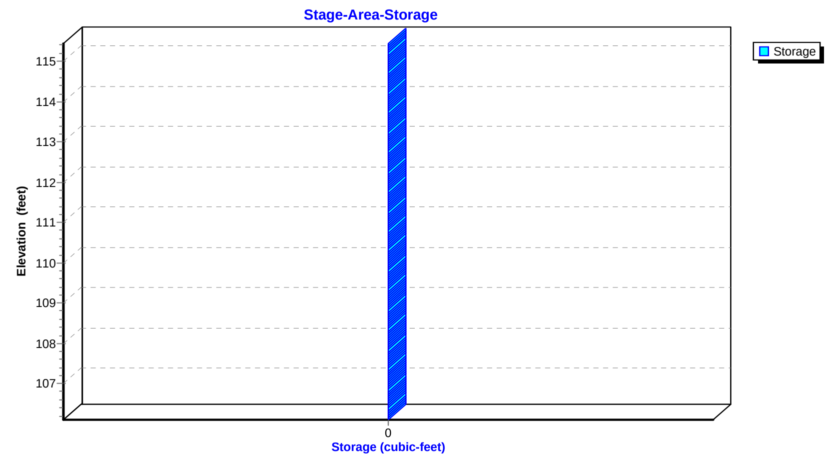
Pond 26P: CB-SE Pkg7



Pond 26P: CB-SE Pkg7



Pond 26P: CB-SE Pkg7



Summary for Pond 28P: CB-N F1

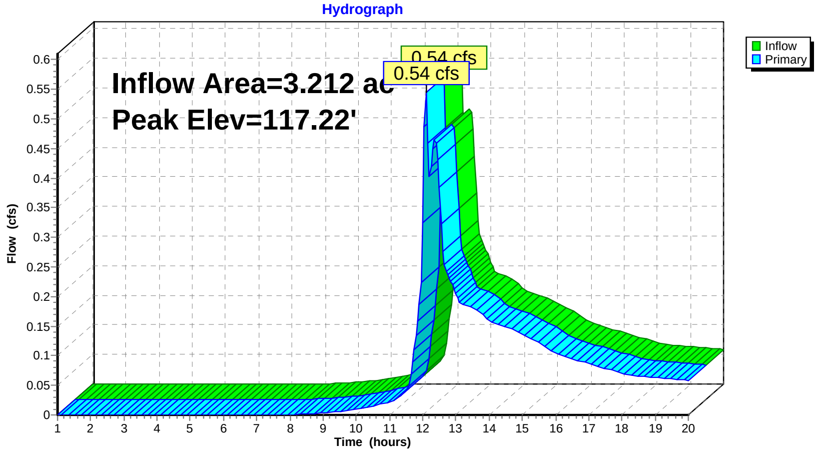
Inflow Area = 3.212 ac, 3.15% Impervious, Inflow Depth > 0.37" for 25-Year event
Inflow = 0.54 cfs @ 12.09 hrs, Volume= 0.099 af
Outflow = 0.54 cfs @ 12.09 hrs, Volume= 0.099 af, Atten= 0%, Lag= 0.0 min
Primary = 0.54 cfs @ 12.09 hrs, Volume= 0.099 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 117.22' @ 12.11 hrs

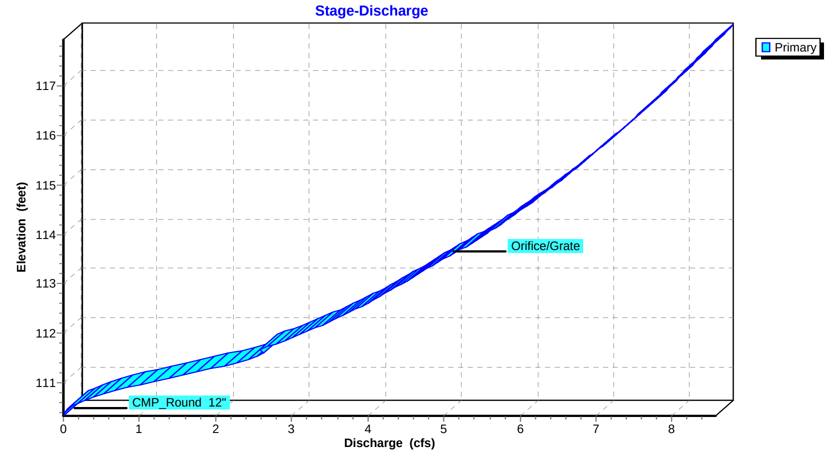
Device	Routing	Invert	Outlet Devices
#1	Primary	110.33'	**12.0" Round CMP_Round 12"** L= 111.7' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.33' / 110.00' S= 0.0030 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	113.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 12.09 hrs HW=116.86' TW=117.73' (Dynamic Tailwater)
1=CMP_Round 12" (Controls 0.00 cfs)
2=Orifice/Grate (Controls 0.00 cfs)

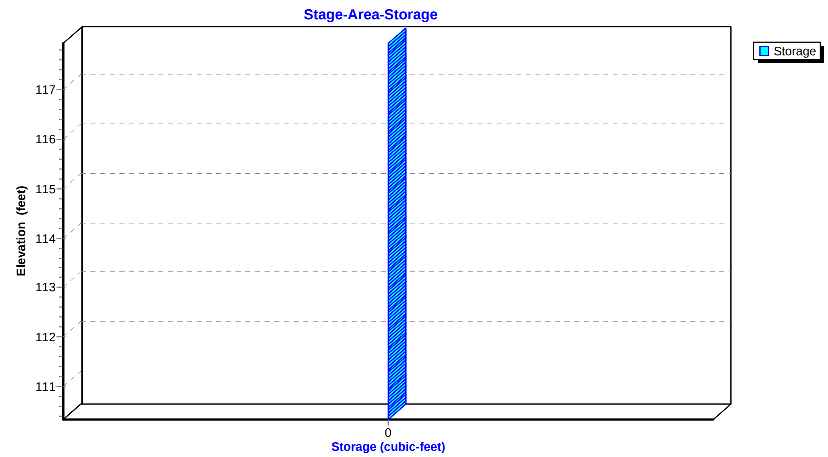
Pond 28P: CB-N F1



Pond 28P: CB-N F1



Pond 28P: CB-N F1



Summary for Pond 30P: CB-N F2

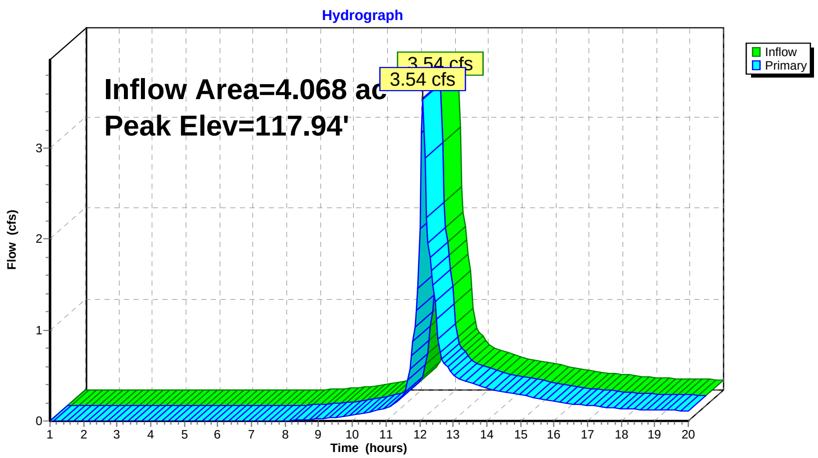
Inflow Area = 4.068 ac, 16.16% Impervious, Inflow Depth > 0.89" for 25-Year event
Inflow = 3.54 cfs @ 12.09 hrs, Volume= 0.302 af
Outflow = 3.54 cfs @ 12.09 hrs, Volume= 0.302 af, Atten= 0%, Lag= 0.0 min
Primary = 3.54 cfs @ 12.09 hrs, Volume= 0.302 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 117.94' @ 12.09 hrs

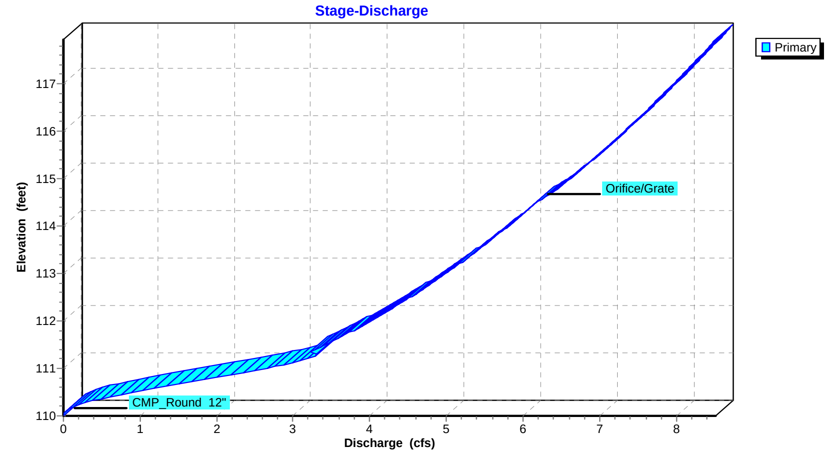
Device	Routing	Invert	Outlet Devices
#1	Primary	110.00'	**12.0" Round CMP_Round 12"** L= 133.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.00' / 109.17' S= 0.0062 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=3.48 cfs @ 12.09 hrs HW=117.66' TW=116.40' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 3.33 cfs @ 4.24 fps)
2=Orifice/Grate (Orifice Controls 0.15 cfs @ 5.40 fps)

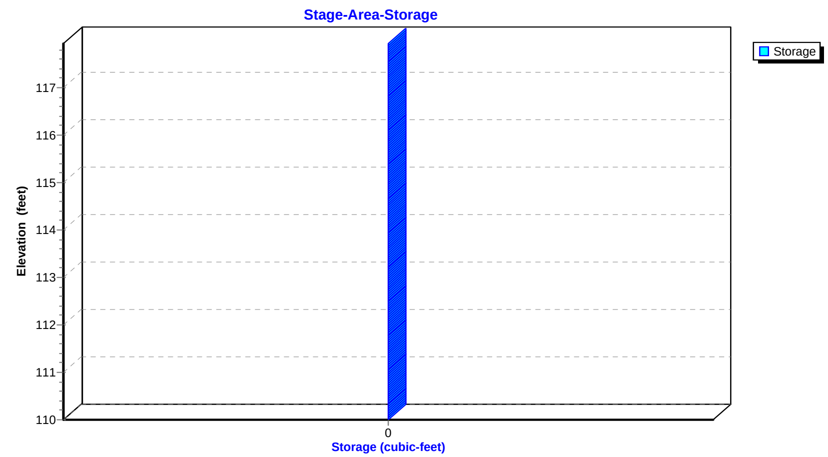
Pond 30P: CB-N F2



Pond 30P: CB-N F2



Pond 30P: CB-N F2



Summary for Pond 32P: CB-N F3

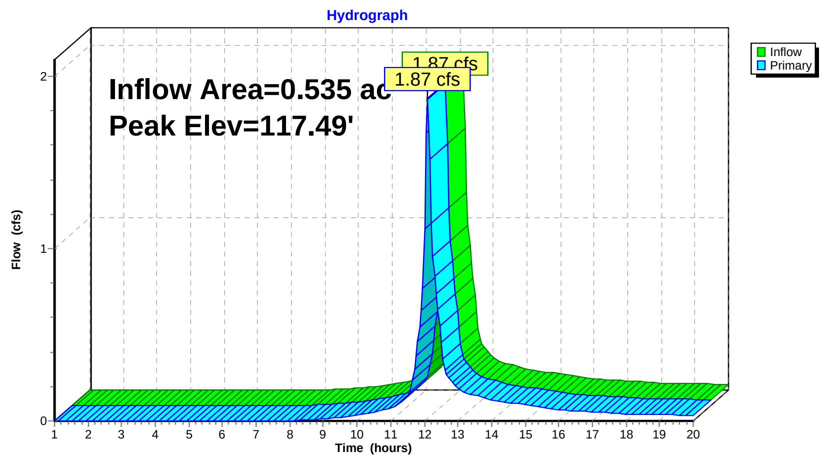
Inflow Area = 0.535 ac, 65.00% Impervious, Inflow Depth > 2.84" for 25-Year event
Inflow = 1.87 cfs @ 12.09 hrs, Volume= 0.127 af
Outflow = 1.87 cfs @ 12.09 hrs, Volume= 0.127 af, Atten= 0%, Lag= 0.0 min
Primary = 1.87 cfs @ 12.09 hrs, Volume= 0.127 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 117.49' @ 12.11 hrs

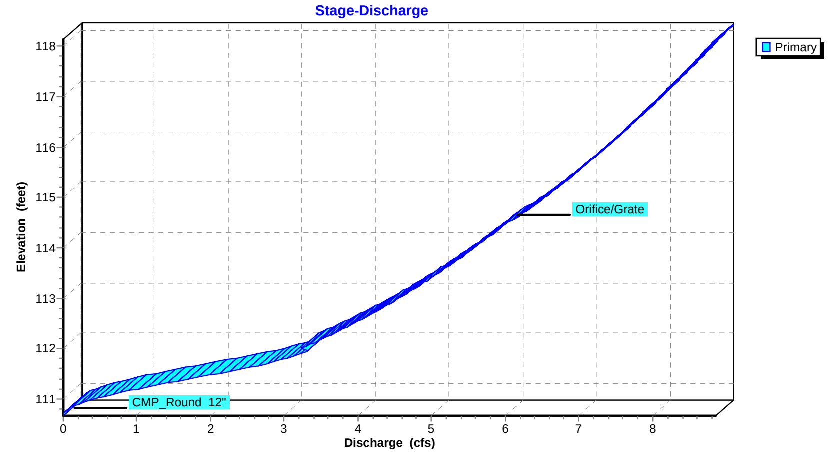
Device	Routing	Invert	Outlet Devices
#1	Primary	110.67'	**12.0" Round CMP_Round 12"** L= 103.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.67' / 110.00' S= 0.0065 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 12.09 hrs HW=117.02' TW=117.65' (Dynamic Tailwater)
1=CMP_Round 12" (Controls 0.00 cfs)
2=Orifice/Grate (Controls 0.00 cfs)

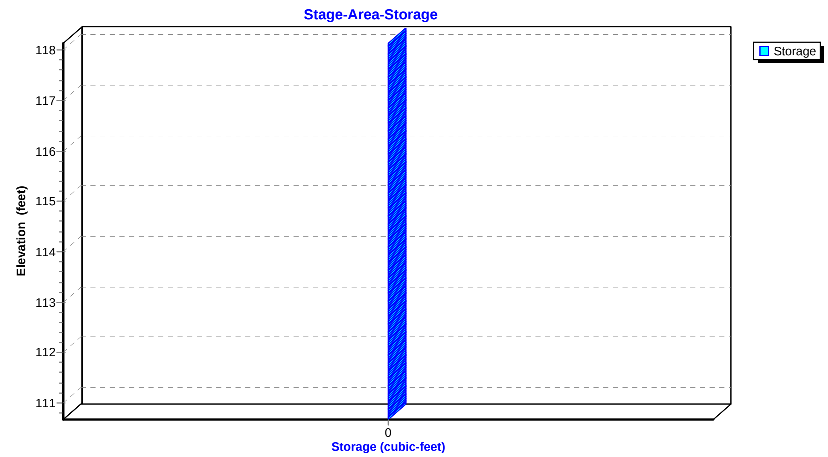
Pond 32P: CB-N F3



Pond 32P: CB-N F3



Pond 32P: CB-N F3



Summary for Pond 34P: CB-N F4

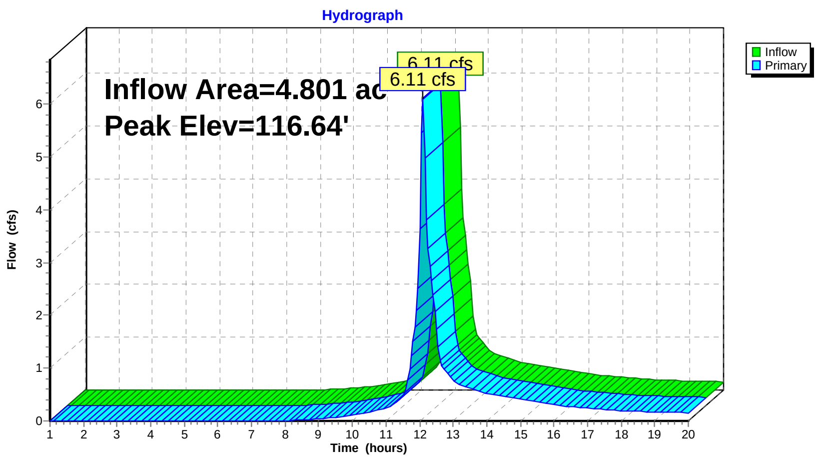
Inflow Area = 4.801 ac, 23.61% Impervious, Inflow Depth > 1.19" for 25-Year event
Inflow = 6.11 cfs @ 12.09 hrs, Volume= 0.475 af
Outflow = 6.11 cfs @ 12.09 hrs, Volume= 0.475 af, Atten= 0%, Lag= 0.0 min
Primary = 6.11 cfs @ 12.09 hrs, Volume= 0.475 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 116.64' @ 12.09 hrs

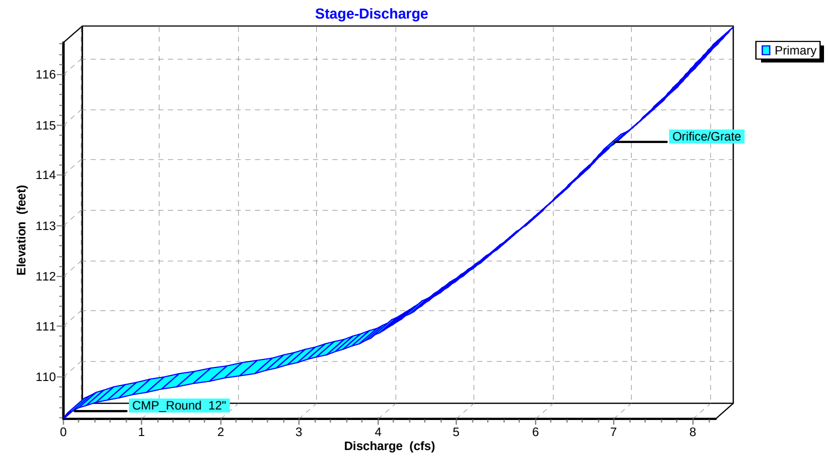
Device	Routing	Invert	Outlet Devices
#1	Primary	109.17'	**12.0" Round CMP_Round 12"** L= 139.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 109.17' / 108.00' S= 0.0084 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=6.01 cfs @ 12.09 hrs HW=116.40' TW=112.44' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 5.82 cfs @ 7.41 fps)
2=Orifice/Grate (Orifice Controls 0.18 cfs @ 6.63 fps)

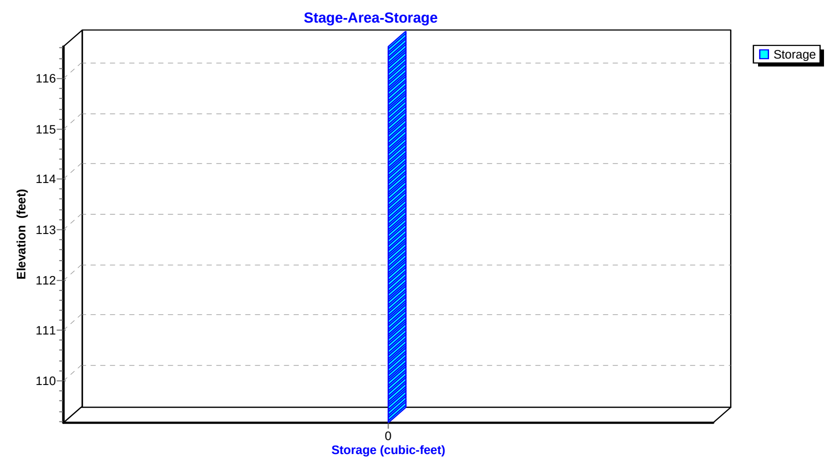
Pond 34P: CB-N F4



Pond 34P: CB-N F4



Pond 34P: CB-N F4



Summary for Pond 36P: CB-N F5

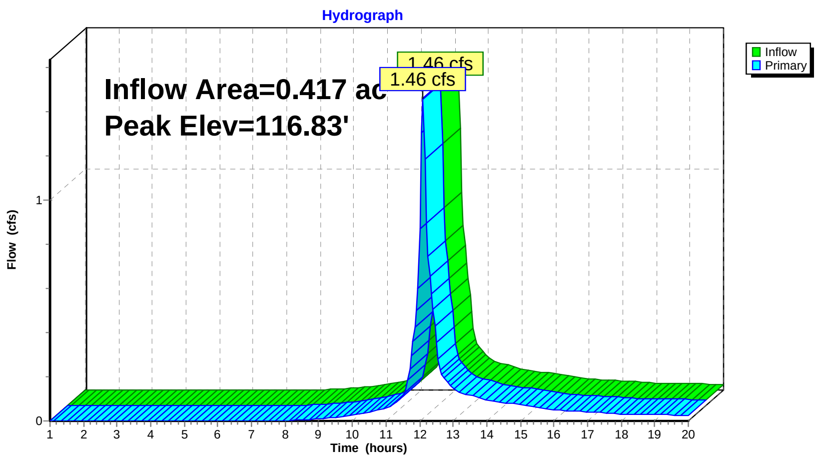
Inflow Area = 0.417 ac, 65.00% Impervious, Inflow Depth > 2.84" for 25-Year event
Inflow = 1.46 cfs @ 12.09 hrs, Volume= 0.099 af
Outflow = 1.46 cfs @ 12.09 hrs, Volume= 0.099 af, Atten= 0%, Lag= 0.0 min
Primary = 1.46 cfs @ 12.09 hrs, Volume= 0.099 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 116.83' @ 12.09 hrs

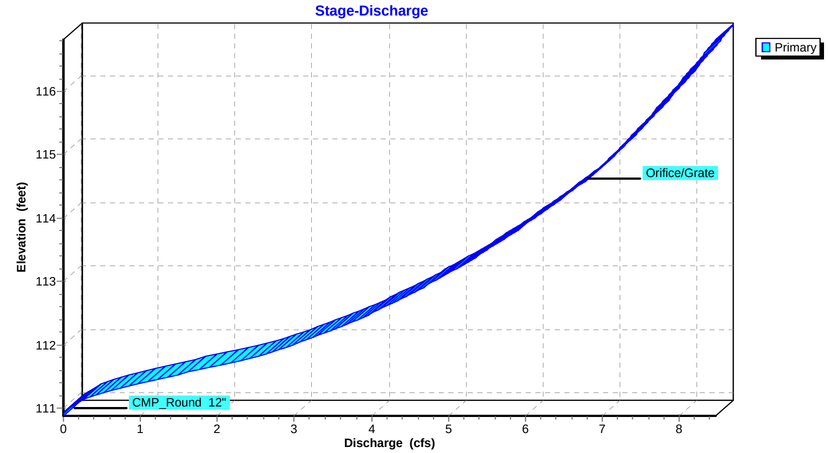
Device	Routing	Invert	Outlet Devices
#1	Primary	110.88'	**12.0" Round CMP_Round 12"** L= 105.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.88' / 109.17' S= 0.0163 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=1.44 cfs @ 12.09 hrs HW=116.58' TW=116.39' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 1.38 cfs @ 1.76 fps)
2=Orifice/Grate (Orifice Controls 0.06 cfs @ 2.07 fps)

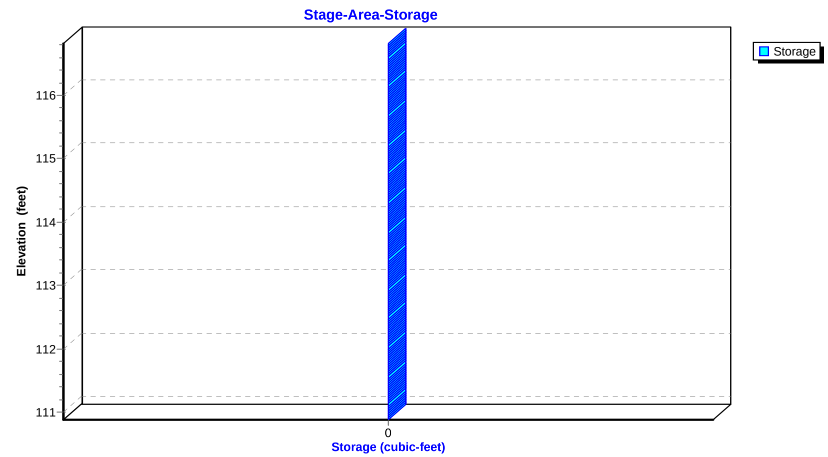
Pond 36P: CB-N F5



Pond 36P: CB-N F5



Pond 36P: CB-N F5



Summary for Pond 38P: CB-N F6

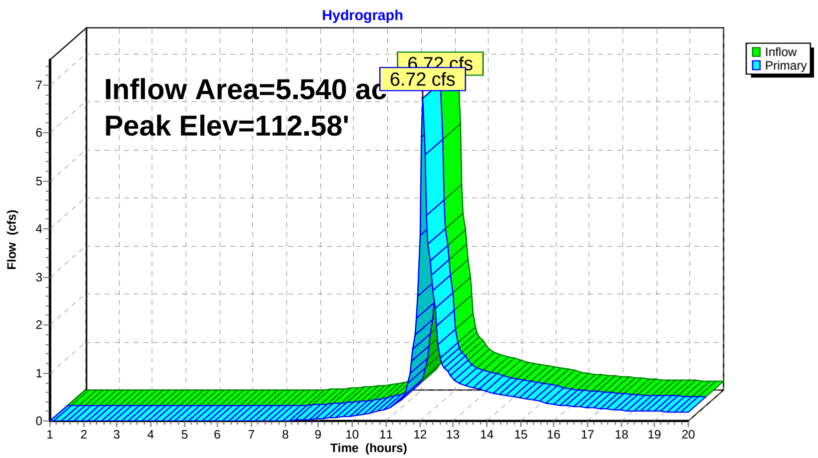
Inflow Area = 5.540 ac, 23.13% Impervious, Inflow Depth > 1.14" for 25-Year event
Inflow = 6.72 cfs @ 12.10 hrs, Volume= 0.528 af
Outflow = 6.72 cfs @ 12.10 hrs, Volume= 0.528 af, Atten= 0%, Lag= 0.0 min
Primary = 6.72 cfs @ 12.10 hrs, Volume= 0.528 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 112.58' @ 12.10 hrs

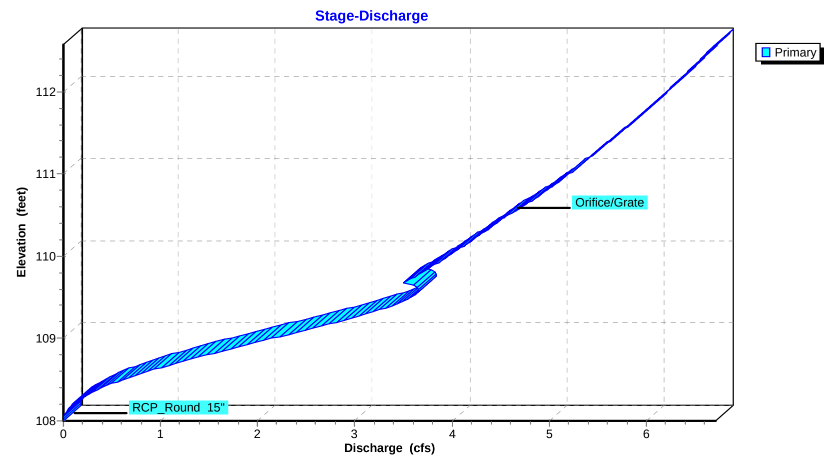
Device	Routing	Invert	Outlet Devices
#1	Primary	108.00'	**15.0" Round RCP_Round 15"** L= 466.8' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 108.00' / 107.25' S= 0.0016 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	110.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=6.64 cfs @ 12.10 hrs HW=112.49' TW=0.00' (Dynamic Tailwater)
1=RCP_Round 15" (Barrel Controls 6.45 cfs @ 5.26 fps)
2=Orifice/Grate (Orifice Controls 0.19 cfs @ 6.79 fps)

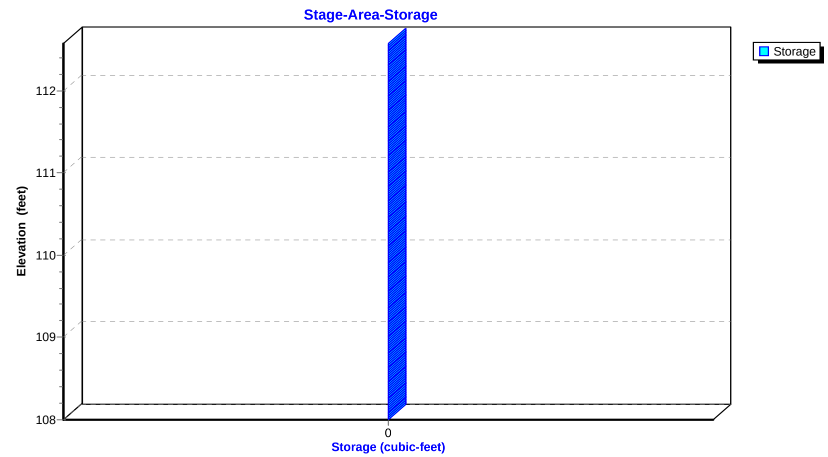
Pond 38P: CB-N F6



Pond 38P: CB-N F6



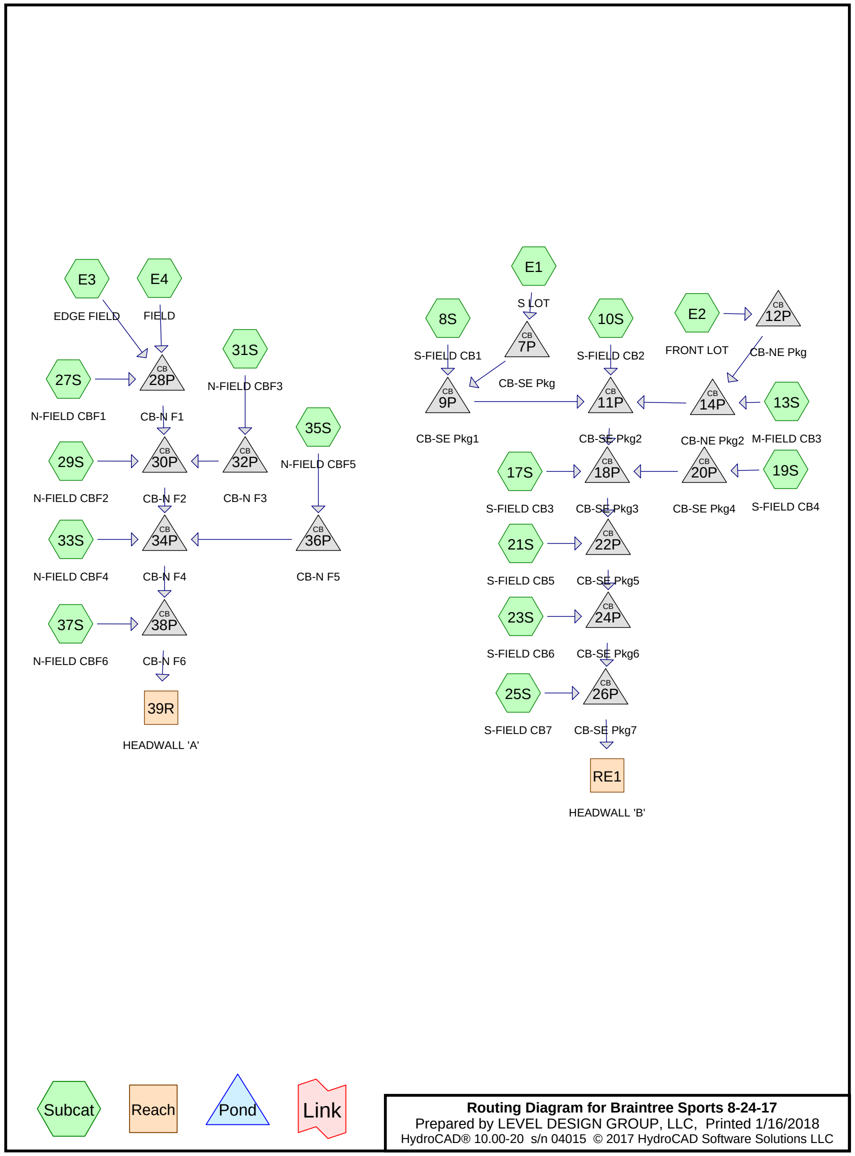
Pond 38P: CB-N F6



LEVEL
DESIGN GROUP

HydroCAD Analysis

Existing Conditions - 100 Year Storm



Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
8.362	39	>75% Grass cover, Good, HSG A (8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S, E1, E2, E3, E4)
3.255	98	Paved Track, HSG A (8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S)
3.686	98	Paved parking, HSG A (E1, E2)
0.107	43	Woods/grass comb., Fair, HSG A (E4)
2.305	32	Woods/grass comb., Good, HSG A (E2, E3)
0.483	72	Woods/grass comb., Good, HSG C (E1)
18.198	**62**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
17.714	HSG A	8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S, E1, E2, E3, E4
0.000	HSG B	
0.483	HSG C	E1
0.000	HSG D	
0.000	Other	
18.198		**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
8.362	0.000	0.000	0.000	0.000	8.362	>75% Grass cover, Good	8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S, E1, E2, E3, E4
3.255	0.000	0.000	0.000	0.000	3.255	Paved Track	8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S
3.686	0.000	0.000	0.000	0.000	3.686	Paved parking	E1, E2
0.107	0.000	0.000	0.000	0.000	0.107	Woods/grass comb., Fair	E4
2.305	0.000	0.483	0.000	0.000	2.788	Woods/grass comb., Good	E1, E2, E3
17.714	**0.000**	**0.483**	**0.000**	**0.000**	**18.198**	**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	7P	113.30	111.17	71.2	0.0299	0.011	12.0	0.0	0.0
2	9P	111.17	110.70	90.3	0.0052	0.011	12.0	0.0	0.0
3	11P	110.70	109.75	134.5	0.0071	0.011	15.0	0.0	0.0
4	12P	111.40	111.36	76.0	0.0005	0.011	12.0	0.0	0.0
5	14P	111.36	110.70	105.0	0.0063	0.011	12.0	0.0	0.0
6	18P	109.75	108.88	106.1	0.0082	0.011	15.0	0.0	0.0
7	20P	110.48	109.75	140.2	0.0052	0.011	12.0	0.0	0.0
8	22P	108.88	107.48	157.5	0.0089	0.011	15.0	0.0	0.0
9	24P	107.48	106.10	154.4	0.0089	0.011	15.0	0.0	0.0
10	26P	106.10	105.35	154.4	0.0049	0.011	18.0	0.0	0.0
11	28P	110.33	110.00	111.7	0.0030	0.011	12.0	0.0	0.0
12	30P	110.00	109.17	133.5	0.0062	0.011	12.0	0.0	0.0
13	32P	110.67	110.00	103.5	0.0065	0.011	12.0	0.0	0.0
14	34P	109.17	108.00	139.2	0.0084	0.011	12.0	0.0	0.0
15	36P	110.88	109.17	105.0	0.0163	0.011	12.0	0.0	0.0
16	38P	108.00	107.25	466.8	0.0016	0.011	15.0	0.0	0.0

Time span=1.00-20.00 hrs, dt=0.05 hrs, 381 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 8S: S-FIELD CB1 Runoff Area=11,548 sf 60.17% Impervious Runoff Depth>3.53"
Flow Length=80' Tc=6.0 min CN=74 Runoff=1.15 cfs 0.078 af

Subcatchment 10S: S-FIELD CB2 Runoff Area=21,998 sf 60.00% Impervious Runoff Depth>3.53"
Flow Length=230' Slope=0.0150 '/' Tc=6.0 min CN=74 Runoff=2.19 cfs 0.149 af

Subcatchment 13S: M-FIELD CB3 Runoff Area=16,265 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=151' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.75 cfs 0.119 af

Subcatchment 17S: S-FIELD CB3 Runoff Area=13,522 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=85' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.46 cfs 0.099 af

Subcatchment 19S: S-FIELD CB4 Runoff Area=30,595 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=297' Tc=6.0 min CN=77 Runoff=3.30 cfs 0.225 af

Subcatchment 21S: S-FIELD CB5 Runoff Area=18,600 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=149' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=2.00 cfs 0.136 af

Subcatchment 23S: S-FIELD CB6 Runoff Area=16,672 sf 35.00% Impervious Runoff Depth>2.19"
Flow Length=131' Slope=0.0200 '/' Tc=6.2 min CN=60 Runoff=1.01 cfs 0.070 af

Subcatchment 25S: S-FIELD CB7 Runoff Area=57,741 sf 15.00% Impervious Runoff Depth>1.19"
Flow Length=330' Tc=7.6 min CN=48 Runoff=1.54 cfs 0.132 af

Subcatchment 27S: N-FIELD CBF1 Runoff Area=6,780 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=80' Tc=6.0 min CN=77 Runoff=0.73 cfs 0.050 af

Subcatchment 29S: N-FIELD CBF2 Runoff Area=13,971 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=100' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.51 cfs 0.103 af

Subcatchment 31S: N-FIELD CBF3 Runoff Area=23,311 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=129' Tc=6.0 min CN=77 Runoff=2.51 cfs 0.171 af

Subcatchment 33S: N-FIELD CBF4 Runoff Area=13,725 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=93' Tc=6.0 min CN=77 Runoff=1.48 cfs 0.101 af

Subcatchment 35S: N-FIELD CBF5 Runoff Area=18,186 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=170' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.96 cfs 0.133 af

Subcatchment 37S: N-FIELD CBF6 Runoff Area=32,216 sf 20.00% Impervious Runoff Depth>1.43"
Flow Length=280' Slope=0.0200 '/' Tc=6.0 min CN=51 Runoff=1.18 cfs 0.088 af

Subcatchment E1: S LOT Runoff Area=143,436 sf 61.40% Impervious Runoff Depth>4.14"
Flow Length=334' Tc=10.1 min CN=80 Runoff=14.58 cfs 1.137 af

Subcatchment E2: FRONT LOT Runoff Area=220,985 sf 32.80% Impervious Runoff Depth>1.75"
Flow Length=670' Tc=18.0 min CN=55 Runoff=7.40 cfs 0.738 af

Subcatchment E3: EDGE FIELD	Runoff Area=33,755 sf 0.00% Impervious Runoff Depth>0.51" Flow Length=135' Tc=7.1 min CN=38 Runoff=0.21 cfs 0.033 af
Subcatchment E4: FIELD	Runoff Area=99,389 sf 0.00% Impervious Runoff Depth>0.57" Flow Length=280' Tc=7.0 min CN=39 Runoff=0.72 cfs 0.108 af
Reach 39R: HEADWALL 'A'	Inflow=9.86 cfs 0.786 af Outflow=9.86 cfs 0.786 af
Reach RE1: HEADWALL 'B'	Inflow=32.28 cfs 2.883 af Outflow=32.28 cfs 2.883 af
Pond 7P: CB-SE Pkg	Peak Elev=274.25' Inflow=14.58 cfs 1.137 af Outflow=14.58 cfs 1.137 af
Pond 9P: CB-SE Pkg1	Peak Elev=263.09' Inflow=15.56 cfs 1.215 af Outflow=15.56 cfs 1.215 af
Pond 11P: CB-SE Pkg2	Peak Elev=242.45' Inflow=24.09 cfs 2.221 af Outflow=24.09 cfs 2.221 af
Pond 12P: CB-NE Pkg	Peak Elev=249.10' Inflow=7.40 cfs 0.738 af Outflow=7.40 cfs 0.738 af
Pond 14P: CB-NE Pkg2	Peak Elev=248.76' Inflow=8.22 cfs 0.858 af Outflow=8.22 cfs 0.858 af
Pond 18P: CB-SE Pkg3	Peak Elev=221.42' Inflow=28.05 cfs 2.545 af Outflow=28.05 cfs 2.545 af
Pond 20P: CB-SE Pkg4	Peak Elev=221.93' Inflow=3.30 cfs 0.225 af Outflow=3.30 cfs 0.225 af
Pond 22P: CB-SE Pkg5	Peak Elev=197.87' Inflow=29.81 cfs 2.682 af Outflow=29.81 cfs 2.682 af
Pond 24P: CB-SE Pkg6	Peak Elev=162.09' Inflow=30.75 cfs 2.752 af Outflow=30.75 cfs 2.752 af
Pond 26P: CB-SE Pkg7	Peak Elev=124.48' Inflow=32.28 cfs 2.883 af Outflow=32.28 cfs 2.883 af
Pond 28P: CB-N F1	Peak Elev=126.61' Inflow=1.43 cfs 0.190 af Outflow=1.43 cfs 0.190 af
Pond 30P: CB-N F2	Peak Elev=128.10' Inflow=5.27 cfs 0.464 af Outflow=5.27 cfs 0.464 af
Pond 32P: CB-N F3	Peak Elev=126.95' Inflow=2.51 cfs 0.171 af Outflow=2.51 cfs 0.171 af
Pond 34P: CB-N F4	Peak Elev=125.22' Inflow=8.69 cfs 0.698 af Outflow=8.69 cfs 0.698 af

Pond 36P: CB-N F5	Peak Elev=125.56' Inflow=1.96 cfs 0.133 af Outflow=1.96 cfs 0.133 af
Pond 38P: CB-N F6	Peak Elev=117.18' Inflow=9.86 cfs 0.786 af Outflow=9.86 cfs 0.786 af

Total Runoff Area = 18.198 ac Runoff Volume = 3.669 af Average Runoff Depth = 2.42"
61.86% Pervious = 11.256 ac 38.14% Impervious = 6.941 ac

Summary for Subcatchment 8S: S-FIELD CB1

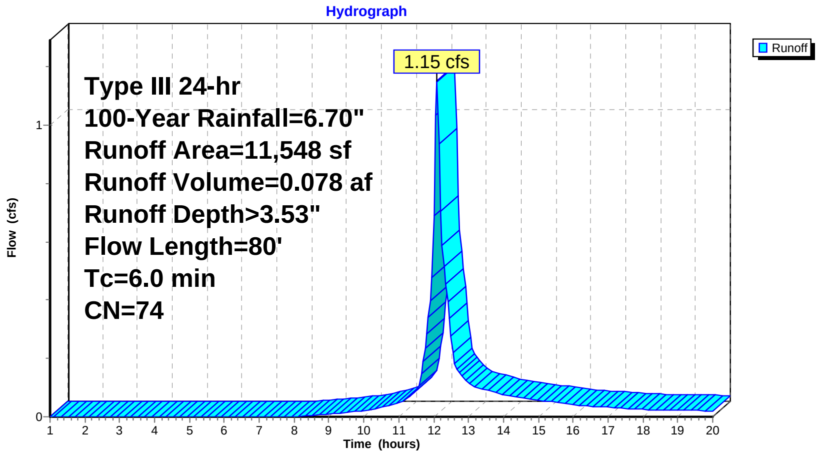
Runoff = 1.15 cfs @ 12.09 hrs, Volume= 0.078 af, Depth> 3.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	6,948	98	Paved Track, HSG A
	4,600	39	>75% Grass cover, Good, HSG A
	11,548	74	Weighted Average
	4,600		39.83% Pervious Area
	6,948		60.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	50	0.1180	0.30		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.2	30	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.0					**Direct Entry,**
6.0	80	Total			

Subcatchment 8S: S-FIELD CB1



Summary for Subcatchment 10S: S-FIELD CB2

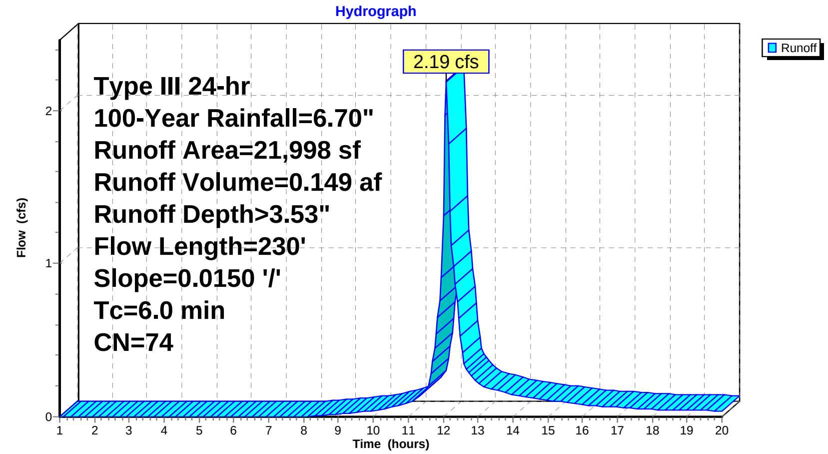
Runoff = 2.19 cfs @ 12.09 hrs, Volume= 0.149 af, Depth> 3.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	13,199	98	Paved Track, HSG A
	8,799	39	>75% Grass cover, Good, HSG A
	21,998	74	Weighted Average
	8,799		40.00% Pervious Area
	13,199		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.5	180	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.7					**Direct Entry, PARKING**
6.0	230	Total			

Subcatchment 10S: S-FIELD CB2



Summary for Subcatchment 13S: M-FIELD CB3

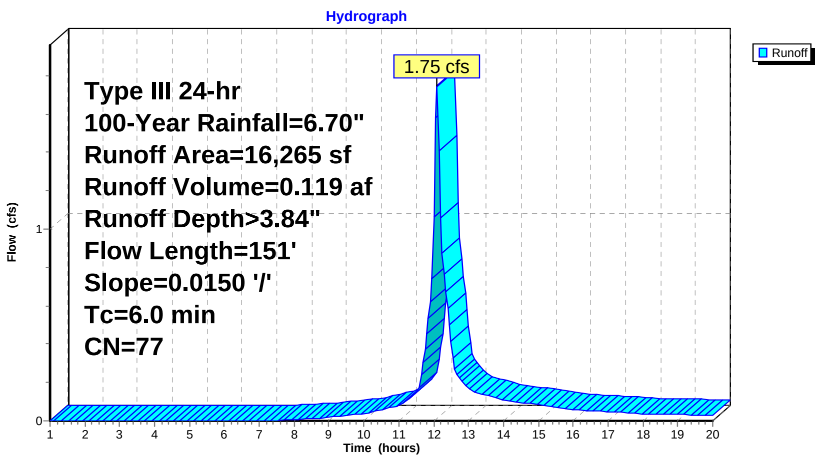
Runoff = 1.75 cfs @ 12.09 hrs, Volume= 0.119 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	10,572	98	Paved Track, HSG A
	5,693	39	>75% Grass cover, Good, HSG A
	16,265	77	Weighted Average
	5,693		35.00% Pervious Area
	10,572		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.9	101	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.3					**Direct Entry,**
6.0	151	Total			

Subcatchment 13S: M-FIELD CB3



Summary for Subcatchment 17S: S-FIELD CB3

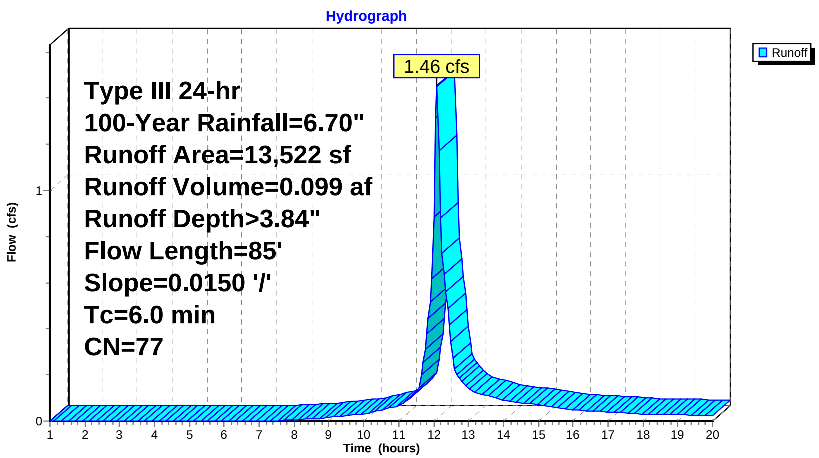
Runoff = 1.46 cfs @ 12.09 hrs, Volume= 0.099 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	8,789	98	Paved Track, HSG A
	4,733	39	>75% Grass cover, Good, HSG A
	13,522	77	Weighted Average
	4,733		35.00% Pervious Area
	8,789		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.3	35	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.9					**Direct Entry,**
6.0	85	Total			

Subcatchment 17S: S-FIELD CB3



Summary for Subcatchment 19S: S-FIELD CB4

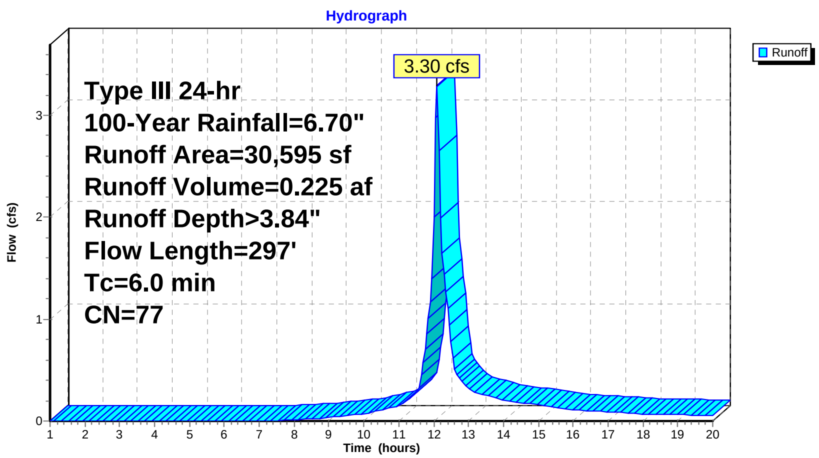
Runoff = 3.30 cfs @ 12.09 hrs, Volume= 0.225 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	19,887	98	Paved Track, HSG A
	10,708	39	>75% Grass cover, Good, HSG A
	30,595	77	Weighted Average
	10,708		35.00% Pervious Area
	19,887		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	37	0.0400	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.1	20	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	240	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.1					**Direct Entry,**
6.0	297	Total			

Subcatchment 19S: S-FIELD CB4



Summary for Subcatchment 21S: S-FIELD CB5

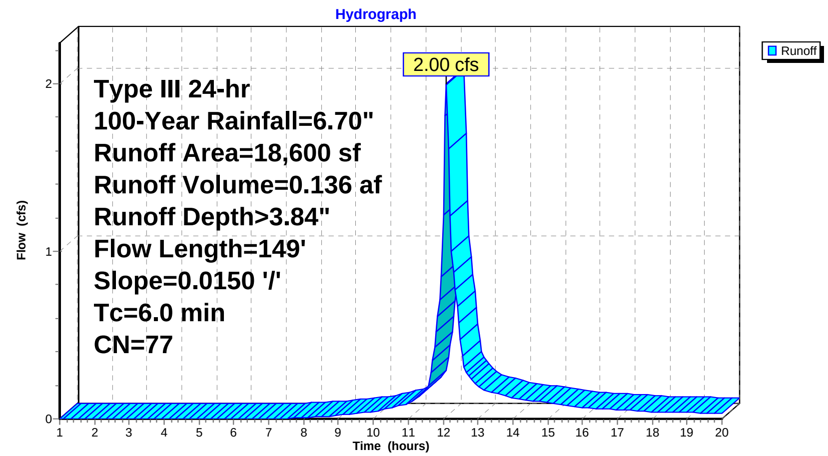
Runoff = 2.00 cfs @ 12.09 hrs, Volume= 0.136 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	12,090	98	Paved Track, HSG A
	6,510	39	>75% Grass cover, Good, HSG A
	18,600	77	Weighted Average
	6,510		35.00% Pervious Area
	12,090		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.8	99	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.4					**Direct Entry,**
6.0	149	Total			

Subcatchment 21S: S-FIELD CB5



Summary for Subcatchment 23S: S-FIELD CB6

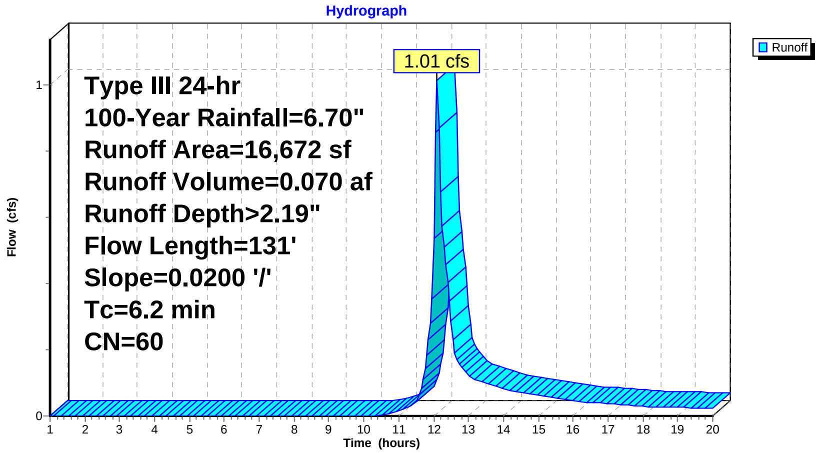
Runoff = 1.01 cfs @ 12.10 hrs, Volume= 0.070 af, Depth> 2.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	5,835	98	Paved Track, HSG A
	10,837	39	>75% Grass cover, Good, HSG A
	16,672	60	Weighted Average
	10,837		65.00% Pervious Area
	5,835		35.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.6	81	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.2	131	Total			

Subcatchment 23S: S-FIELD CB6



Summary for Subcatchment 25S: S-FIELD CB7

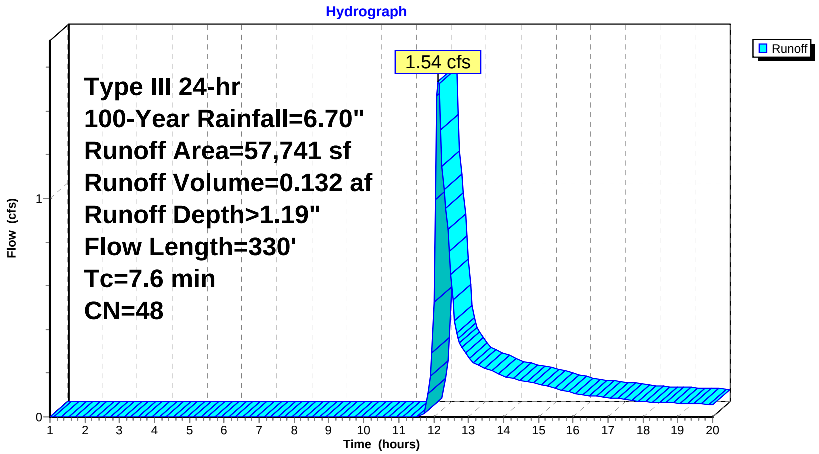
Runoff = 1.54 cfs @ 12.14 hrs, Volume= 0.132 af, Depth> 1.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	8,661	98	Paved Track, HSG A
	49,080	39	>75% Grass cover, Good, HSG A
	57,741	48	Weighted Average
	49,080		85.00% Pervious Area
	8,661		15.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.3	180	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.7	100	0.0250	2.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.6	330	Total			

Subcatchment 25S: S-FIELD CB7



Summary for Subcatchment 27S: N-FIELD CBF1

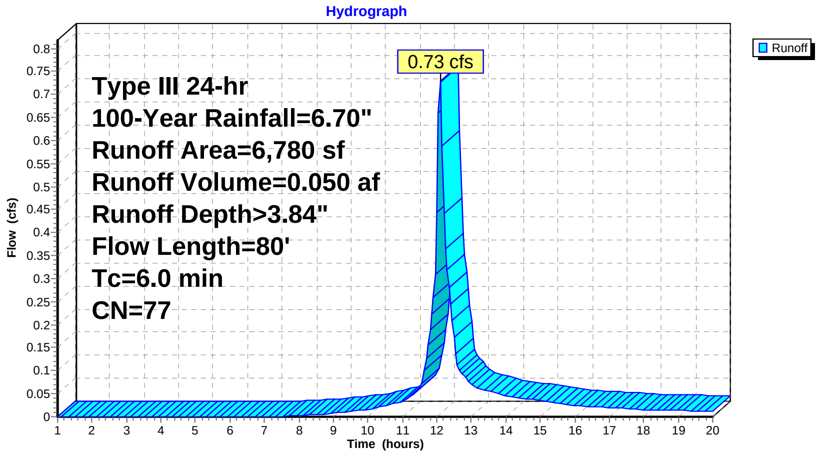
Runoff = 0.73 cfs @ 12.09 hrs, Volume= 0.050 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	4,407	98	Paved Track, HSG A
	2,373	39	>75% Grass cover, Good, HSG A
	6,780	77	Weighted Average
	2,373		35.00% Pervious Area
	4,407		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0100	0.91		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.2	30	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.9					**Direct Entry,**
6.0	80	Total			

Subcatchment 27S: N-FIELD CBF1



Summary for Subcatchment 29S: N-FIELD CBF2

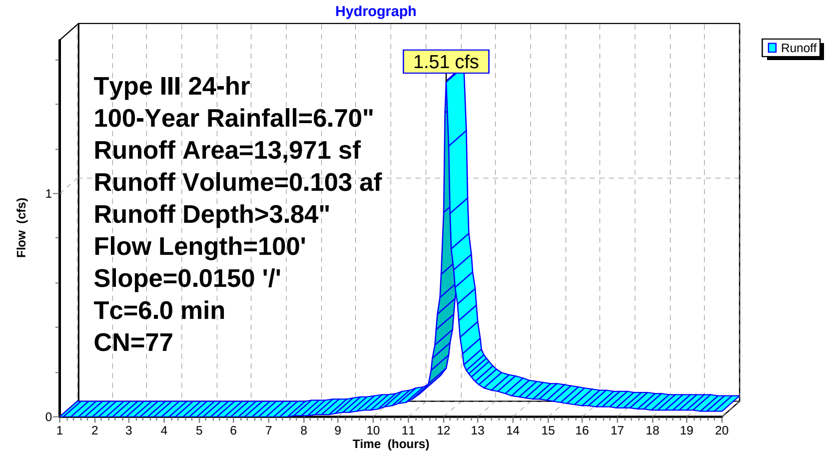
Runoff = 1.51 cfs @ 12.09 hrs, Volume= 0.103 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	9,081	98	Paved Track, HSG A
	4,890	39	>75% Grass cover, Good, HSG A
	13,971	77	Weighted Average
	4,890		35.00% Pervious Area
	9,081		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	20	0.0150	0.89		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.7	80	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.9					**Direct Entry,**
6.0	100	Total			

Subcatchment 29S: N-FIELD CBF2



Summary for Subcatchment 31S: N-FIELD CBF3

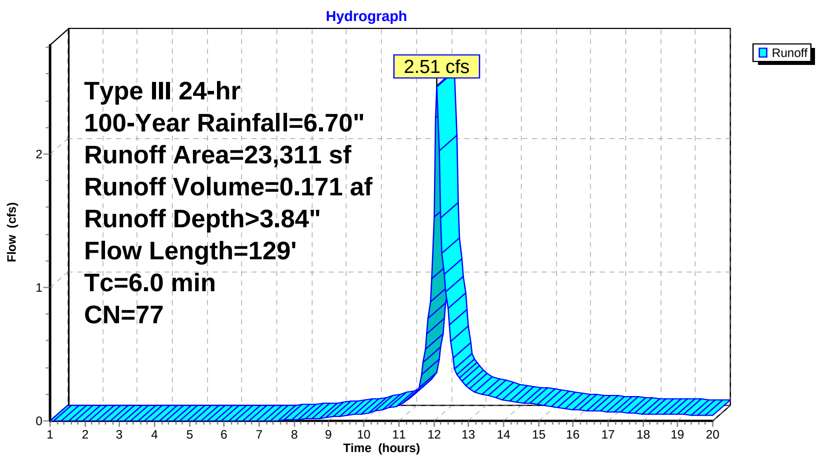
Runoff = 2.51 cfs @ 12.09 hrs, Volume= 0.171 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	15,152	98	Paved Track, HSG A
	8,159	39	>75% Grass cover, Good, HSG A
	23,311	77	Weighted Average
	8,159		35.00% Pervious Area
	15,152		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	29	0.0300	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.8	100	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.1					**Direct Entry,**
6.0	129	Total			

Subcatchment 31S: N-FIELD CBF3



Summary for Subcatchment 33S: N-FIELD CBF4

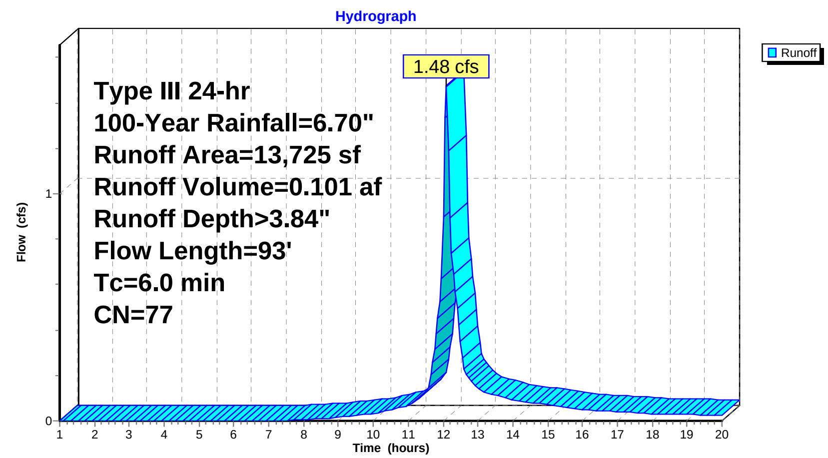
Runoff = 1.48 cfs @ 12.09 hrs, Volume= 0.101 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	8,921	98	Paved Track, HSG A
	4,804	39	>75% Grass cover, Good, HSG A
	13,725	77	Weighted Average
	4,804		35.00% Pervious Area
	8,921		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	20	0.0100	0.76		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.6	73	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
5.0					**Direct Entry,**
6.0	93	Total			

Subcatchment 33S: N-FIELD CBF4



Summary for Subcatchment 35S: N-FIELD CBF5

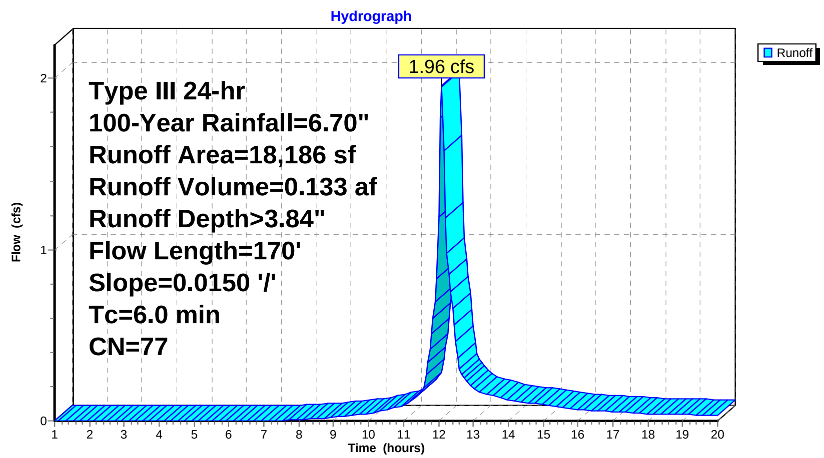
Runoff = 1.96 cfs @ 12.09 hrs, Volume= 0.133 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	11,821	98	Paved Track, HSG A
	6,365	39	>75% Grass cover, Good, HSG A
	18,186	77	Weighted Average
	6,365		35.00% Pervious Area
	11,821		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.0	120	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.2					**Direct Entry,**
6.0	170	Total			

Subcatchment 35S: N-FIELD CBF5



Summary for Subcatchment 37S: N-FIELD CBF6

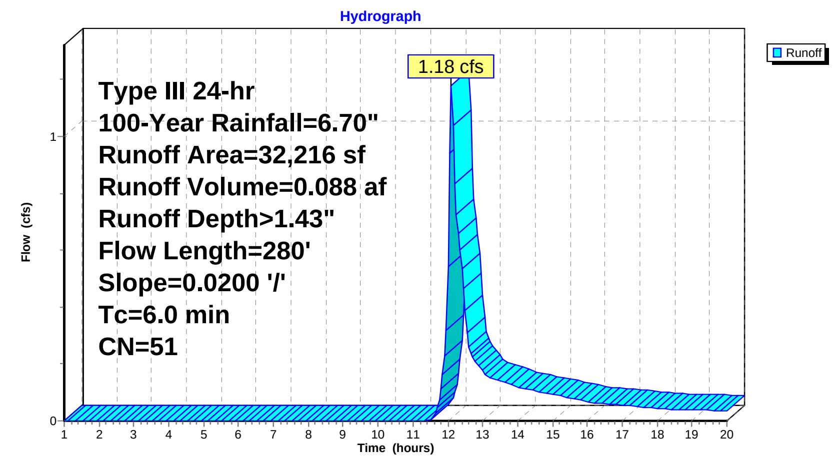
Runoff = 1.18 cfs @ 12.11 hrs, Volume= 0.088 af, Depth> 1.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	6,443	98	Paved Track, HSG A
	25,773	39	>75% Grass cover, Good, HSG A
	32,216	51	Weighted Average
	25,773		80.00% Pervious Area
	6,443		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0200	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.8	250	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.5					**Direct Entry,**
6.0	280	Total			

Subcatchment 37S: N-FIELD CBF6



Summary for Subcatchment E1: S LOT

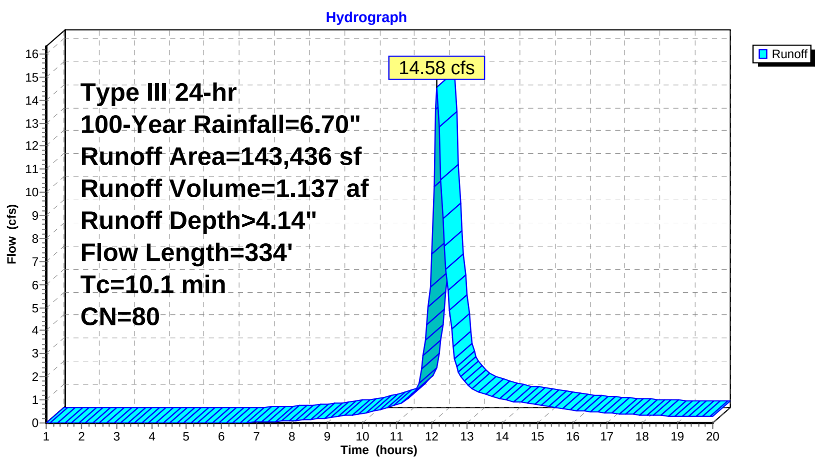
Runoff = 14.58 cfs @ 12.14 hrs, Volume= 1.137 af, Depth> 4.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
88,072	98	Paved parking, HSG A
21,058	72	Woods/grass comb., Good, HSG C
34,306	39	>75% Grass cover, Good, HSG A
143,436	80	Weighted Average
55,364		38.60% Pervious Area
88,072		61.40% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	50	0.0490	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.7	150	0.0486	3.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.8	134	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
10.1	334	Total			

Subcatchment E1: S LOT



Summary for Subcatchment E2: FRONT LOT

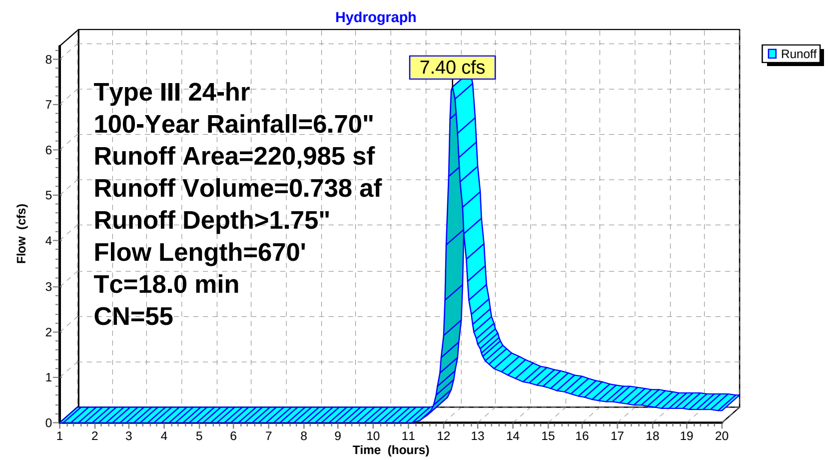
Runoff = 7.40 cfs @ 12.27 hrs, Volume= 0.738 af, Depth> 1.75"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
95,208	32	Woods/grass comb., Good, HSG A
72,489	98	Paved parking, HSG A
53,288	39	>75% Grass cover, Good, HSG A
220,985	55	Weighted Average
148,496		67.20% Pervious Area
72,489		32.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow, WOOD-FIELD** Woods: Light underbrush n= 0.400 P2= 3.20"
0.5	120	0.0590	3.91		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
4.2	360	0.0080	1.44		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
1.0	140	0.0140	2.40		**Shallow Concentrated Flow, PKG** Paved Kv= 20.3 fps
18.0	670	Total			

Subcatchment E2: FRONT LOT



Summary for Subcatchment E3: EDGE FIELD

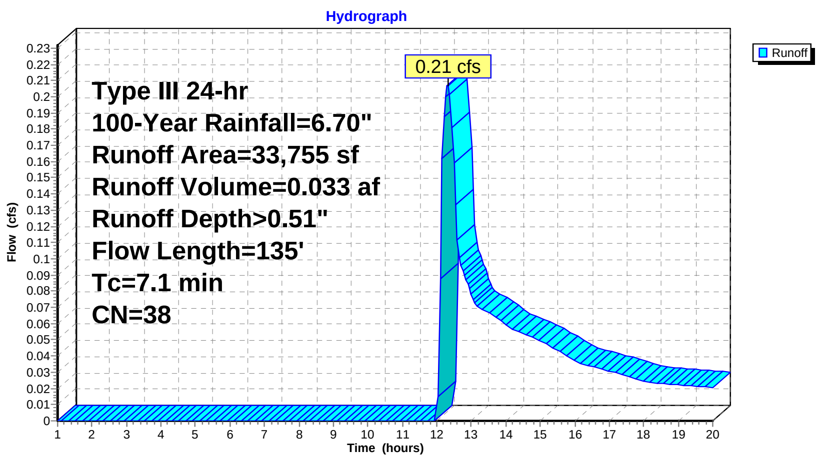
Runoff = 0.21 cfs @ 12.32 hrs, Volume= 0.033 af, Depth> 0.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
5,183	32	Woods/grass comb., Good, HSG A
28,572	39	>75% Grass cover, Good, HSG A
33,755	38	Weighted Average
33,755		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	35	0.0460	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.1	50	0.2195	7.54		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	50	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.1	135	Total			

Subcatchment E3: EDGE FIELD



Summary for Subcatchment E4: FIELD

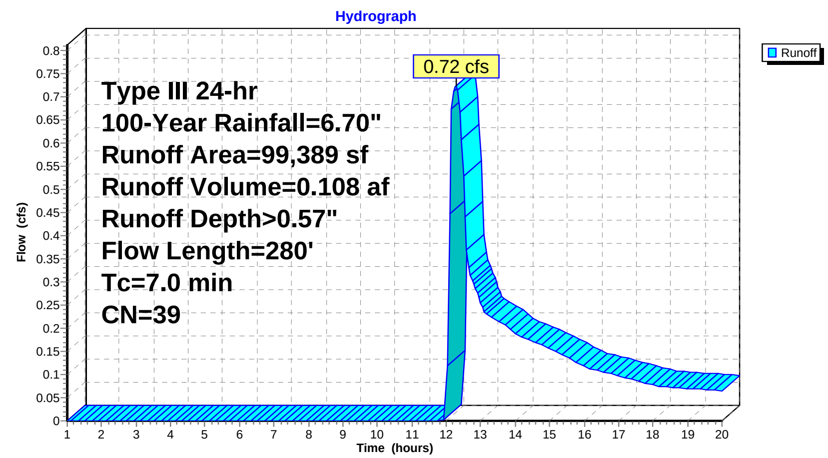
Runoff = 0.72 cfs @ 12.28 hrs, Volume= 0.108 af, Depth> 0.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
94,741	39	>75% Grass cover, Good, HSG A
4,648	43	Woods/grass comb., Fair, HSG A
99,389	39	Weighted Average
99,389		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.3	180	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.1	50	0.1200	5.58		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.0	280	Total			

Subcatchment E4: FIELD

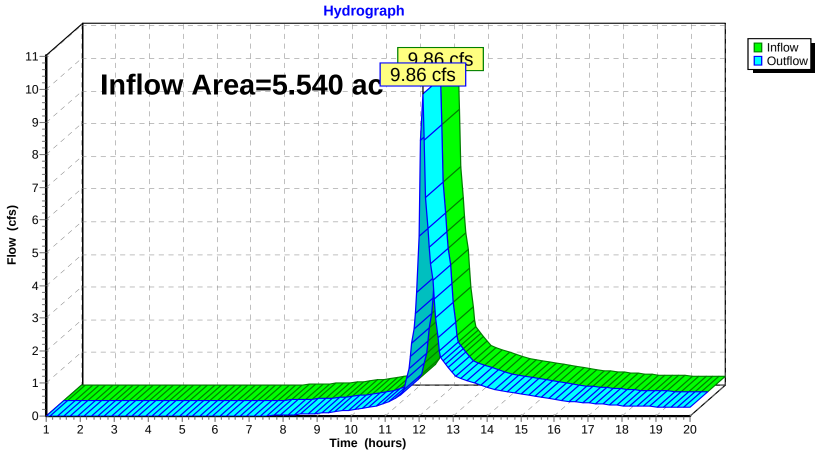


Summary for Reach 39R: HEADWALL 'A'

Inflow Area = 5.540 ac, 23.13% Impervious, Inflow Depth > 1.70" for 100-Year event
Inflow = 9.86 cfs @ 12.10 hrs, Volume= 0.786 af
Outflow = 9.86 cfs @ 12.10 hrs, Volume= 0.786 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3

Reach 39R: HEADWALL 'A'

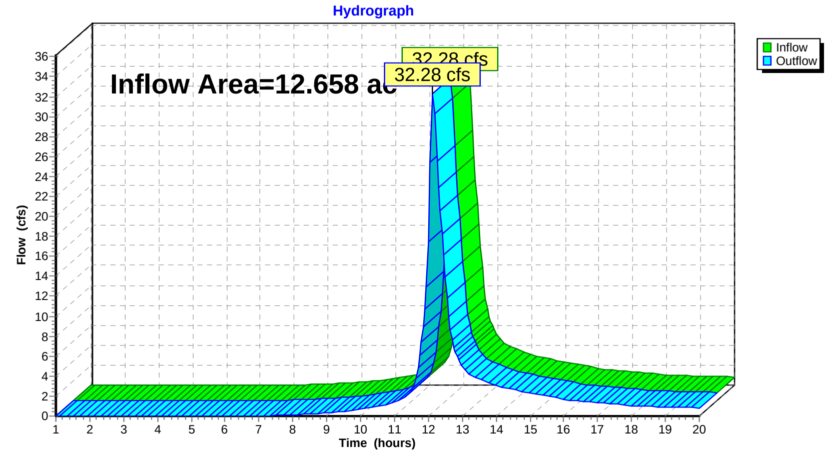


Summary for Reach RE1: HEADWALL 'B'

Inflow Area = 12.658 ac, 44.72% Impervious, Inflow Depth > 2.73" for 100-Year event
Inflow = 32.28 cfs @ 12.13 hrs, Volume= 2.883 af
Outflow = 32.28 cfs @ 12.13 hrs, Volume= 2.883 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3

Reach RE1: HEADWALL 'B'



Summary for Pond 7P: CB-SE Pkg

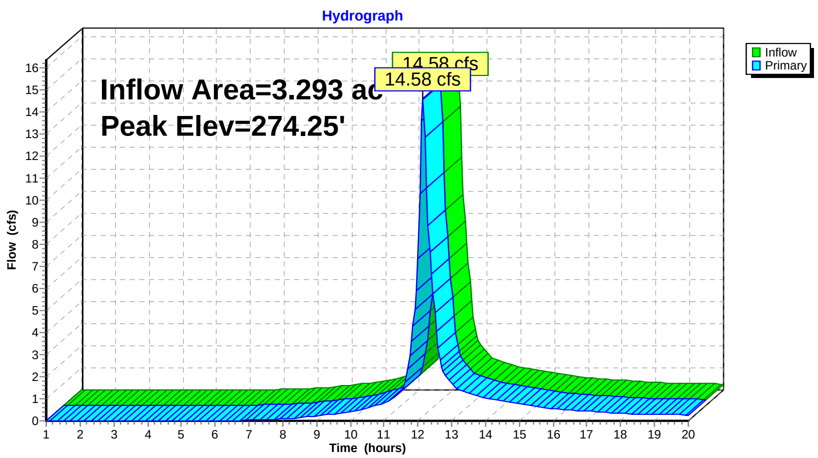
Inflow Area = 3.293 ac, 61.40% Impervious, Inflow Depth > 4.14" for 100-Year event
Inflow = 14.58 cfs @ 12.14 hrs, Volume= 1.137 af
Outflow = 14.58 cfs @ 12.14 hrs, Volume= 1.137 af, Atten= 0%, Lag= 0.0 min
Primary = 14.58 cfs @ 12.14 hrs, Volume= 1.137 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 274.25' @ 12.17 hrs

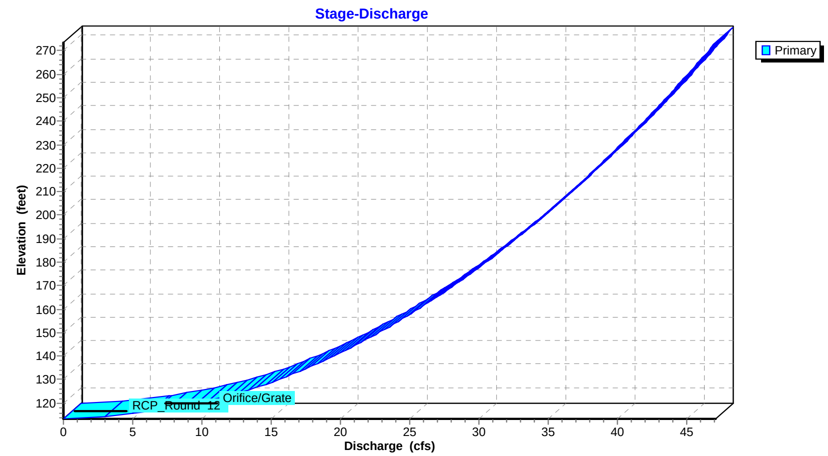
Device	Routing	Invert	Outlet Devices
#1	Primary	113.30'	**12.0" Round RCP_Round 12"** L= 71.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 113.30' / 111.17' S= 0.0299 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	116.80'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area) Limited to weir flow at low heads

Primary OutFlow Max=9.73 cfs @ 12.14 hrs HW=262.95' TW=256.08' (Dynamic Tailwater)
1=RCP_Round 12" (Outlet Controls 9.38 cfs @ 11.95 fps)
2=Orifice/Grate (Orifice Controls 0.35 cfs @ 12.62 fps)

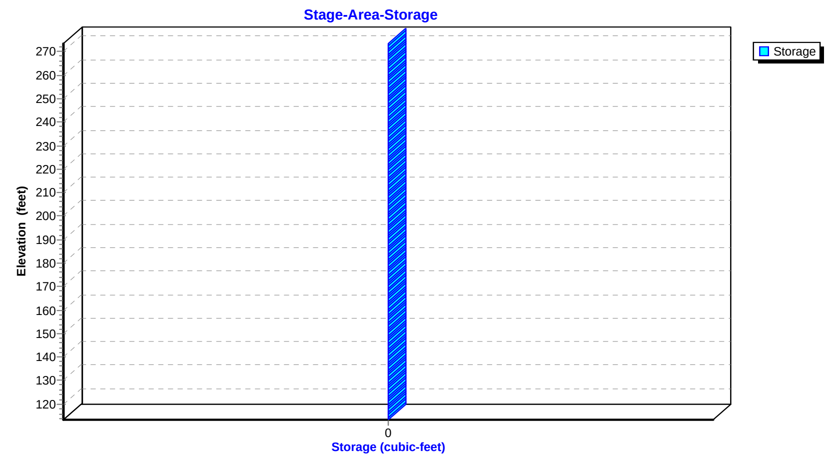
Pond 7P: CB-SE Pkg



Pond 7P: CB-SE Pkg



Pond 7P: CB-SE Pkg



Summary for Pond 9P: CB-SE Pkg1

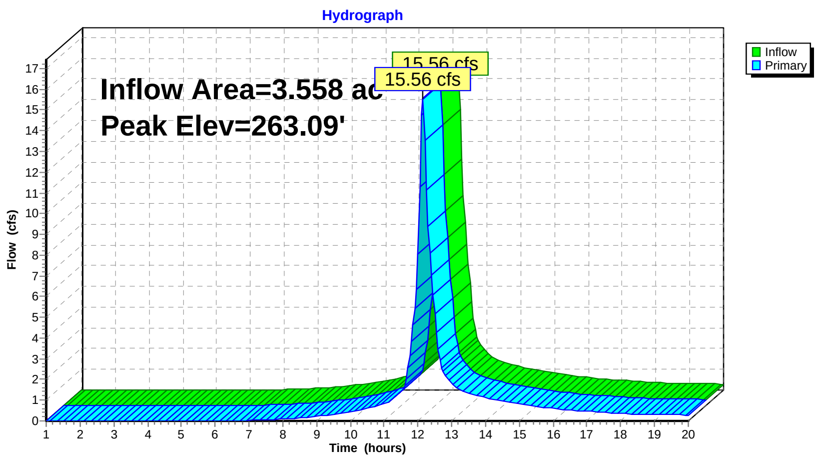
Inflow Area = 3.558 ac, 61.31% Impervious, Inflow Depth > 4.10" for 100-Year event
Inflow = 15.56 cfs @ 12.14 hrs, Volume= 1.215 af
Outflow = 15.56 cfs @ 12.14 hrs, Volume= 1.215 af, Atten= 0%, Lag= 0.0 min
Primary = 15.56 cfs @ 12.14 hrs, Volume= 1.215 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 263.09' @ 12.16 hrs

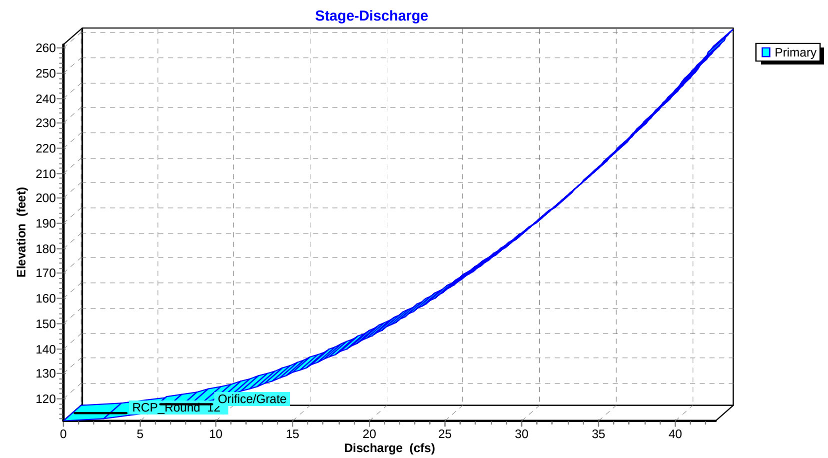
Device	Routing	Invert	Outlet Devices
#1	Primary	111.17'	**12.0" Round RCP_Round 12"** L= 90.3' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.17' / 110.70' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=14.03 cfs @ 12.14 hrs HW=253.11' TW=236.92' (Dynamic Tailwater)
1=RCP_Round 12" (Outlet Controls 13.50 cfs @ 17.18 fps)
2=Orifice/Grate (Orifice Controls 0.54 cfs @ 19.37 fps)

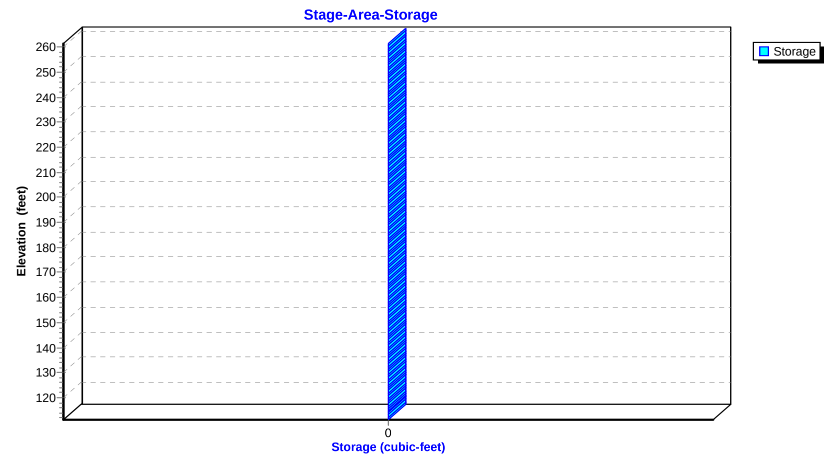
Pond 9P: CB-SE Pkg1



Pond 9P: CB-SE Pkg1



Pond 9P: CB-SE Pkg1



Summary for Pond 11P: CB-SE Pkg2

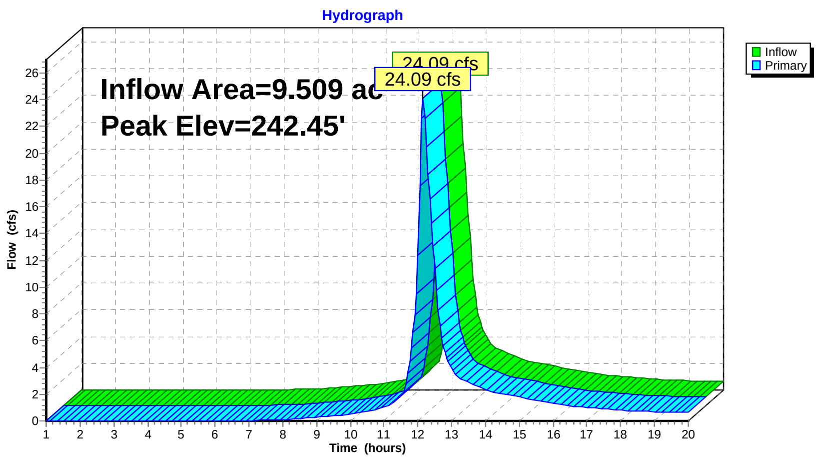
Inflow Area = 9.509 ac, 46.18% Impervious, Inflow Depth > 2.80" for 100-Year event
Inflow = 24.09 cfs @ 12.15 hrs, Volume= 2.221 af
Outflow = 24.09 cfs @ 12.15 hrs, Volume= 2.221 af, Atten= 0%, Lag= 0.0 min
Primary = 24.09 cfs @ 12.15 hrs, Volume= 2.221 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 242.45' @ 12.16 hrs

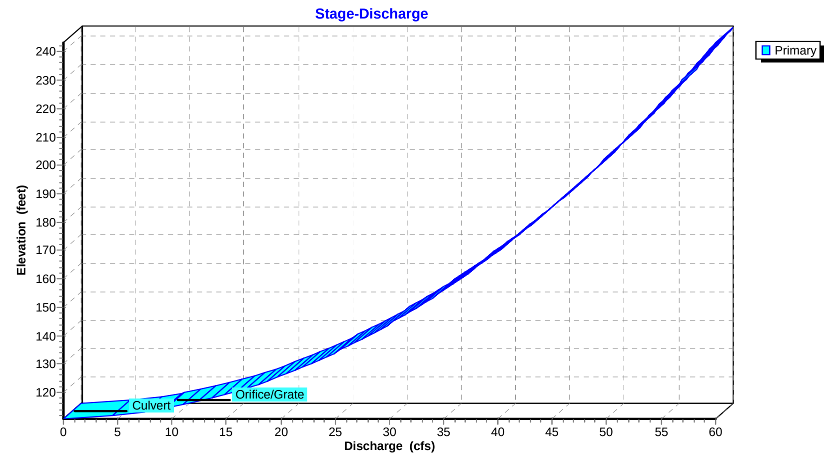
Device	Routing	Invert	Outlet Devices
#1	Primary	110.70'	**15.0" Round Culvert** L= 134.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.70' / 109.75' S= 0.0071 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=24.02 cfs @ 12.15 hrs HW=242.02' TW=220.88' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 23.40 cfs @ 19.07 fps)
└**2=Orifice/Grate** (Orifice Controls 0.62 cfs @ 22.14 fps)

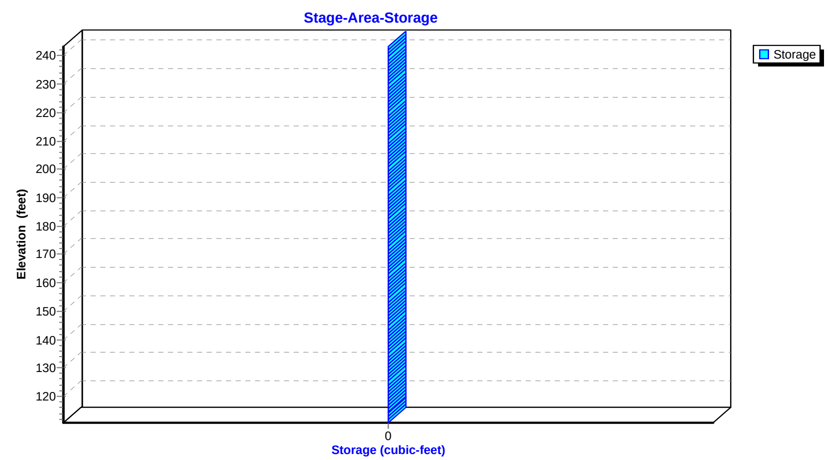
Pond 11P: CB-SE Pkg2



Pond 11P: CB-SE Pkg2



Pond 11P: CB-SE Pkg2



Summary for Pond 12P: CB-NE Pkg

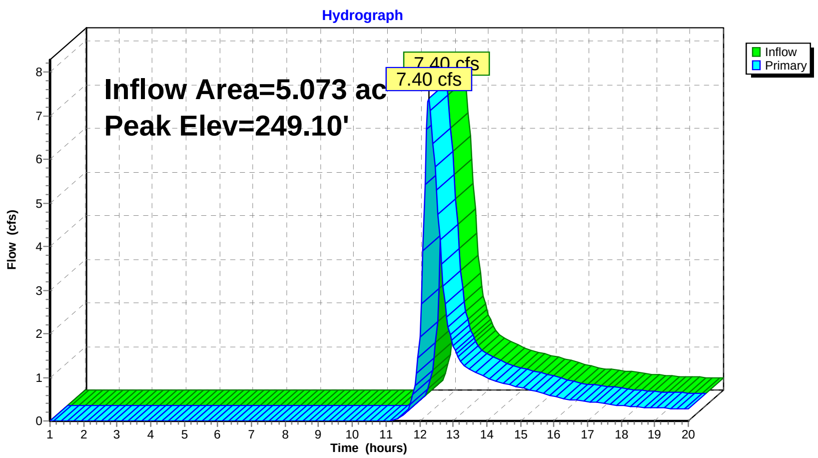
Inflow Area = 5.073 ac, 32.80% Impervious, Inflow Depth > 1.75" for 100-Year event
Inflow = 7.40 cfs @ 12.27 hrs, Volume= 0.738 af
Outflow = 7.40 cfs @ 12.27 hrs, Volume= 0.738 af, Atten= 0%, Lag= 0.0 min
Primary = 7.40 cfs @ 12.27 hrs, Volume= 0.738 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 249.10' @ 12.19 hrs

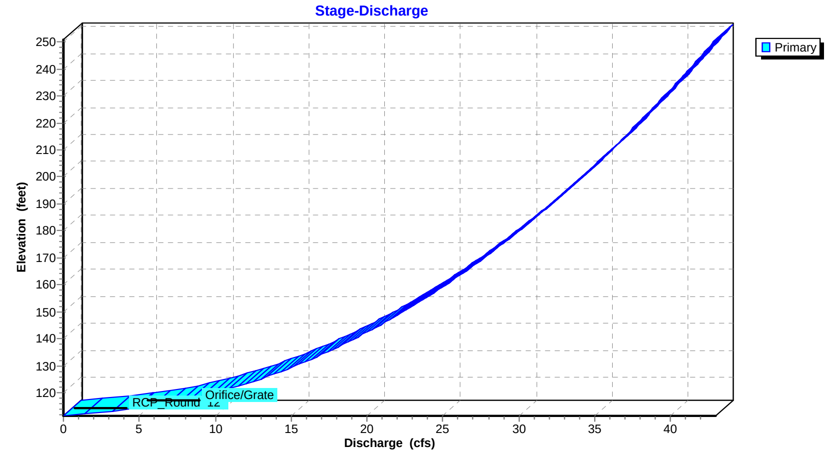
Device	Routing	Invert	Outlet Devices
#1	Primary	111.40'	**12.0" Round RCP_Round 12"** L= 76.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.40' / 111.36' S= 0.0005 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.25'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=12.01 cfs @ 12.27 hrs HW=217.85' TW=207.05' (Dynamic Tailwater)
1=RCP_Round 12" (Outlet Controls 11.57 cfs @ 14.73 fps)
2=Orifice/Grate (Orifice Controls 0.44 cfs @ 15.83 fps)

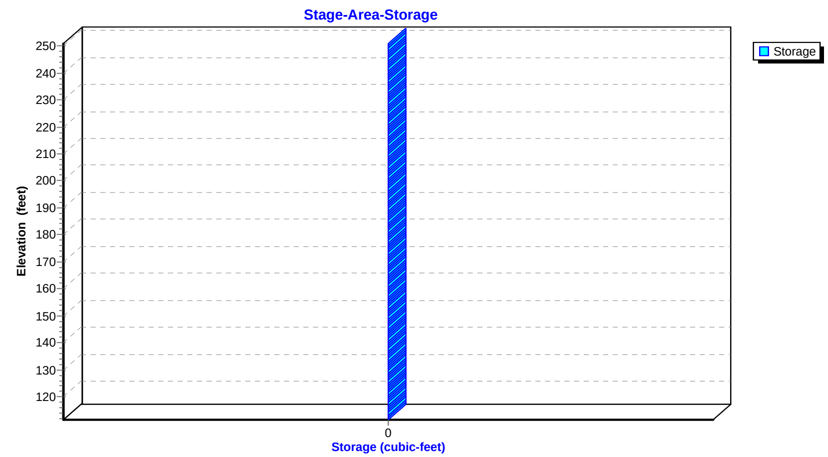
Pond 12P: CB-NE Pkg



Pond 12P: CB-NE Pkg



Pond 12P: CB-NE Pkg



Summary for Pond 14P: CB-NE Pkg2

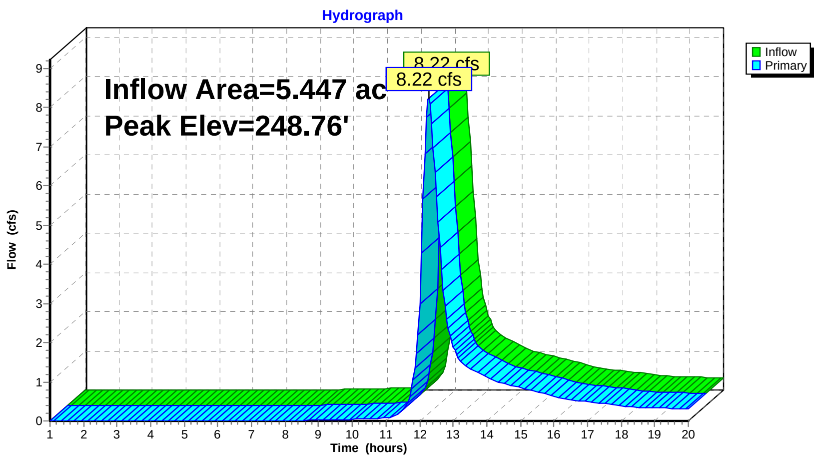
Inflow Area = 5.447 ac, 35.01% Impervious, Inflow Depth > 1.89" for 100-Year event
Inflow = 8.22 cfs @ 12.26 hrs, Volume= 0.858 af
Outflow = 8.22 cfs @ 12.26 hrs, Volume= 0.858 af, Atten= 0%, Lag= 0.0 min
Primary = 8.22 cfs @ 12.26 hrs, Volume= 0.858 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 248.76' @ 12.17 hrs

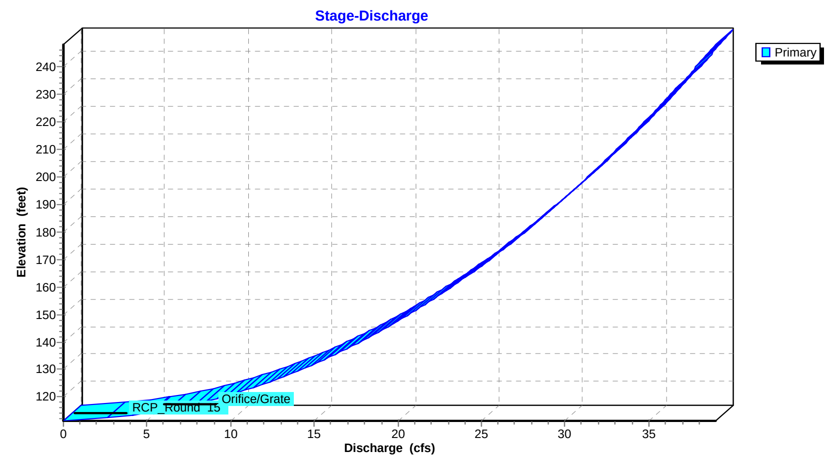
Device	Routing	Invert	Outlet Devices
#1	Primary	111.36'	**12.0" Round RCP_Round 15"** L= 105.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.36' / 110.70' S= 0.0063 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=11.29 cfs @ 12.26 hrs HW=211.18' TW=199.78' (Dynamic Tailwater)
└**1=RCP_Round 15"** (Outlet Controls 10.83 cfs @ 13.79 fps)
└**2=Orifice/Grate** (Orifice Controls 0.45 cfs @ 16.26 fps)

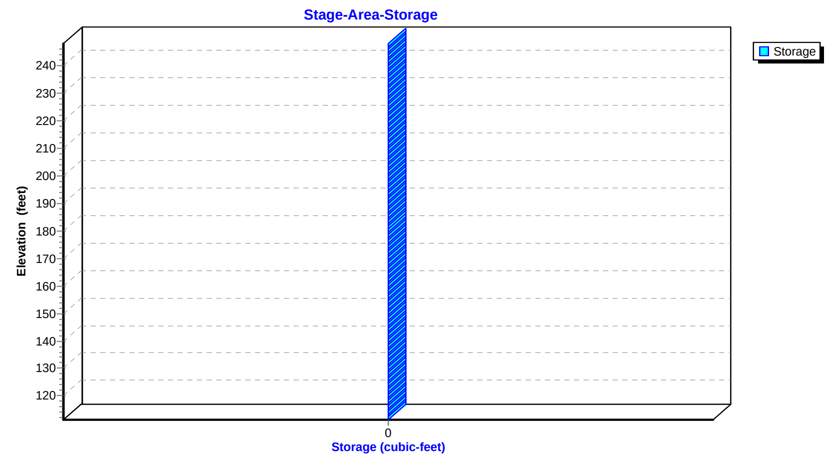
Pond 14P: CB-NE Pkg2



Pond 14P: CB-NE Pkg2



Pond 14P: CB-NE Pkg2



Summary for Pond 18P: CB-SE Pkg3

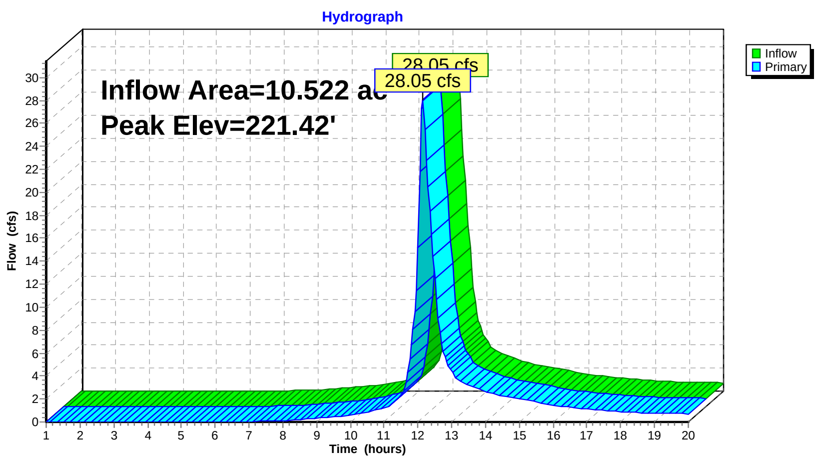
Inflow Area = 10.522 ac, 47.99% Impervious, Inflow Depth > 2.90" for 100-Year event
Inflow = 28.05 cfs @ 12.13 hrs, Volume= 2.545 af
Outflow = 28.05 cfs @ 12.13 hrs, Volume= 2.545 af, Atten= 0%, Lag= 0.0 min
Primary = 28.05 cfs @ 12.13 hrs, Volume= 2.545 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 221.42' @ 12.14 hrs

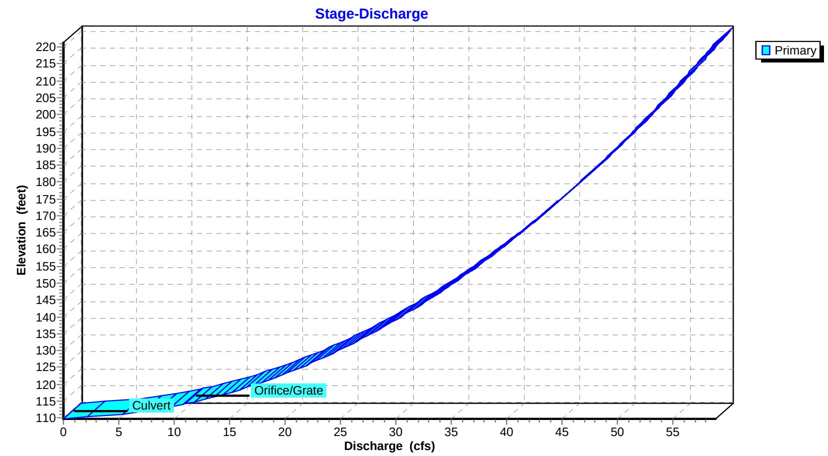
Device	Routing	Invert	Outlet Devices
#1	Primary	109.75'	**15.0" Round Culvert** L= 106.1' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 109.75' / 108.88' S= 0.0082 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.25'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=26.62 cfs @ 12.13 hrs HW=218.59' TW=195.82' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 25.98 cfs @ 21.17 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.64 cfs @ 22.97 fps)

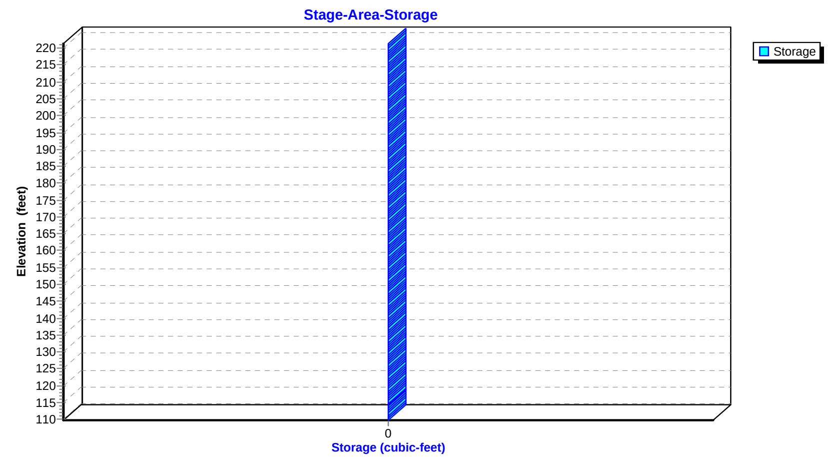
Pond 18P: CB-SE Pkg3



Pond 18P: CB-SE Pkg3



Pond 18P: CB-SE Pkg3



Summary for Pond 20P: CB-SE Pkg4

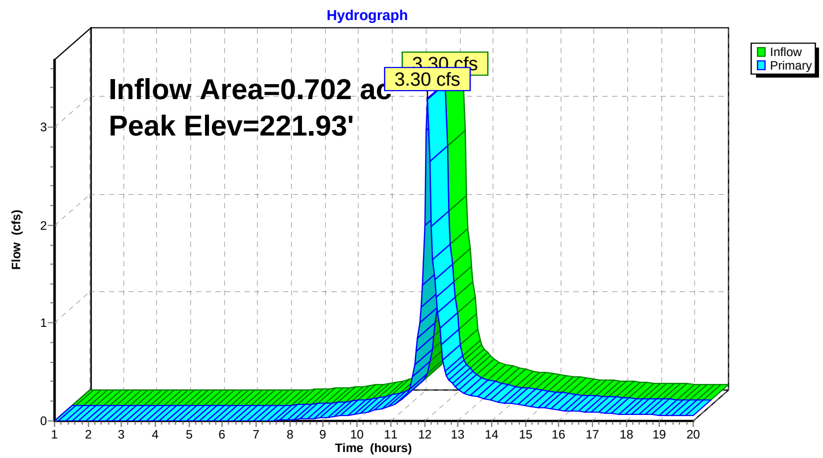
Inflow Area = 0.702 ac, 65.00% Impervious, Inflow Depth > 3.84" for 100-Year event
Inflow = 3.30 cfs @ 12.09 hrs, Volume= 0.225 af
Outflow = 3.30 cfs @ 12.09 hrs, Volume= 0.225 af, Atten= 0%, Lag= 0.0 min
Primary = 3.30 cfs @ 12.09 hrs, Volume= 0.225 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 221.93' @ 12.16 hrs

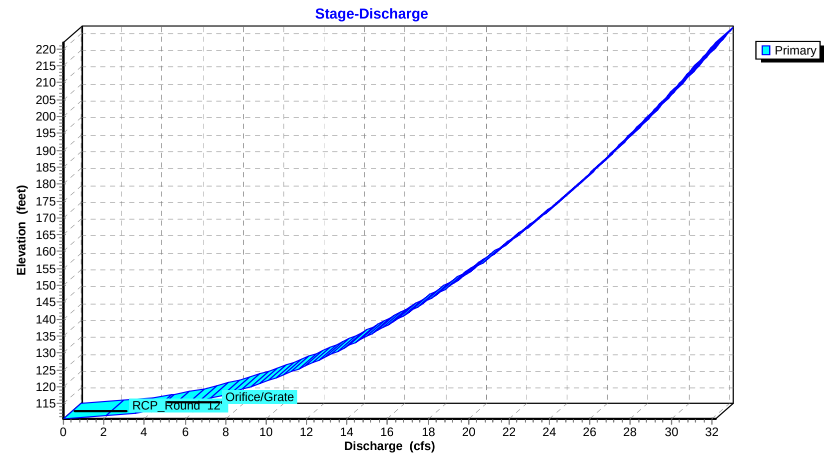
Device	Routing	Invert	Outlet Devices
#1	Primary	110.48'	**12.0" Round RCP_Round 12"** L= 140.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.48' / 109.75' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	113.20'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 12.09 hrs HW=194.87' TW=206.45' (Dynamic Tailwater)
1=RCP_Round 12" (Controls 0.00 cfs)
2=Orifice/Grate (Controls 0.00 cfs)

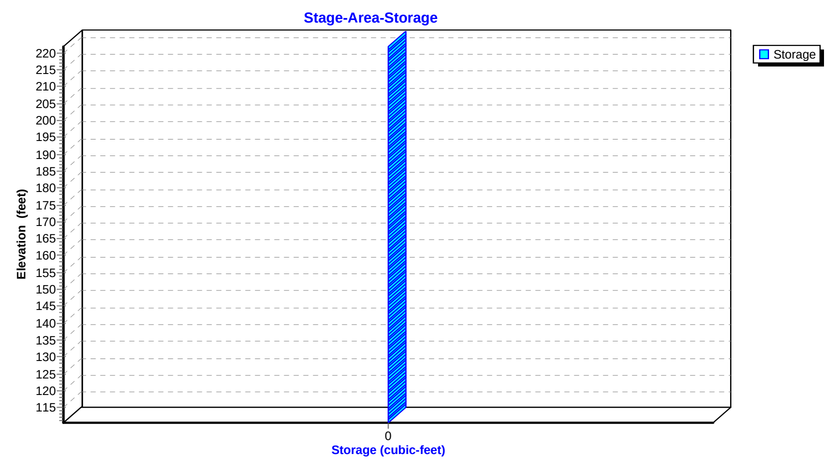
Pond 20P: CB-SE Pkg4



Pond 20P: CB-SE Pkg4



Pond 20P: CB-SE Pkg4



Summary for Pond 22P: CB-SE Pkg5

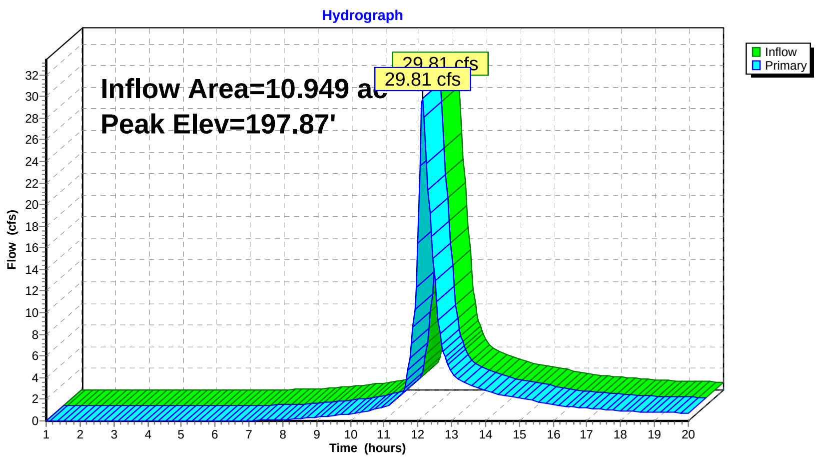
Inflow Area = 10.949 ac, 48.65% Impervious, Inflow Depth > 2.94" for 100-Year event
Inflow = 29.81 cfs @ 12.13 hrs, Volume= 2.682 af
Outflow = 29.81 cfs @ 12.13 hrs, Volume= 2.682 af, Atten= 0%, Lag= 0.0 min
Primary = 29.81 cfs @ 12.13 hrs, Volume= 2.682 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 197.87' @ 12.13 hrs

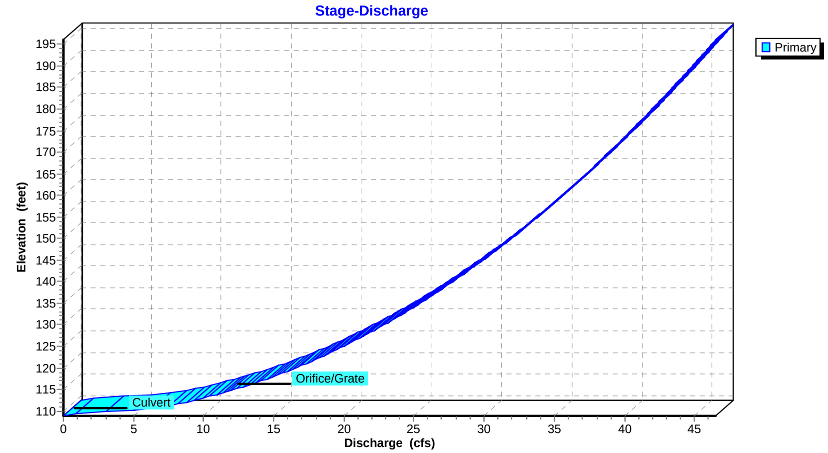
Device	Routing	Invert	Outlet Devices
#1	Primary	108.88'	**15.0" Round Culvert** L= 157.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 108.88' / 107.48' S= 0.0089 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=29.44 cfs @ 12.13 hrs HW=195.72' TW=160.79' (Dynamic Tailwater)
1=Culvert (Outlet Controls 28.64 cfs @ 23.34 fps)
2=Orifice/Grate (Orifice Controls 0.79 cfs @ 28.46 fps)

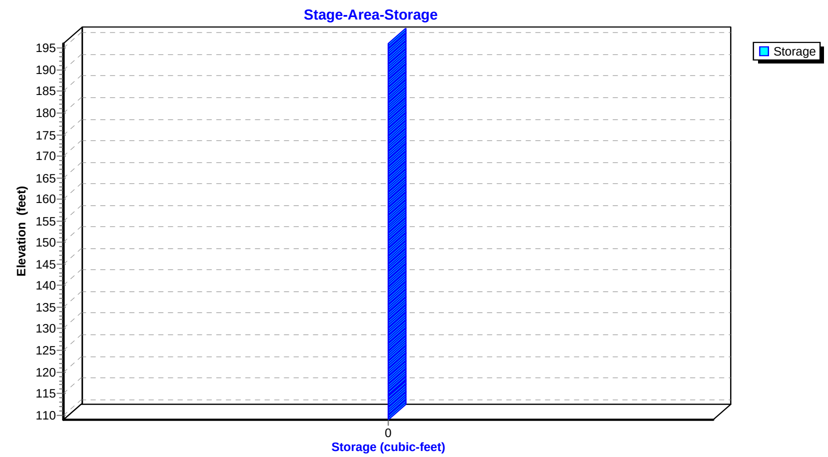
Pond 22P: CB-SE Pkg5



Pond 22P: CB-SE Pkg5



Pond 22P: CB-SE Pkg5



Summary for Pond 24P: CB-SE Pkg6

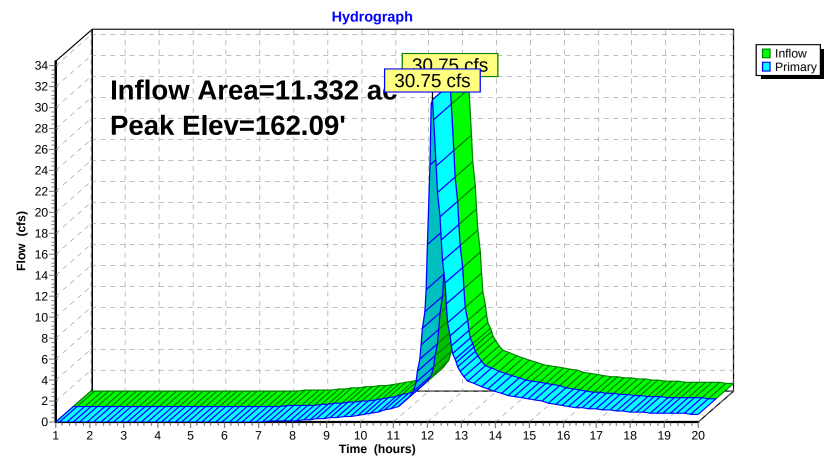
Inflow Area = 11.332 ac, 48.19% Impervious, Inflow Depth > 2.91" for 100-Year event
Inflow = 30.75 cfs @ 12.13 hrs, Volume= 2.752 af
Outflow = 30.75 cfs @ 12.13 hrs, Volume= 2.752 af, Atten= 0%, Lag= 0.0 min
Primary = 30.75 cfs @ 12.13 hrs, Volume= 2.752 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 162.09' @ 12.13 hrs

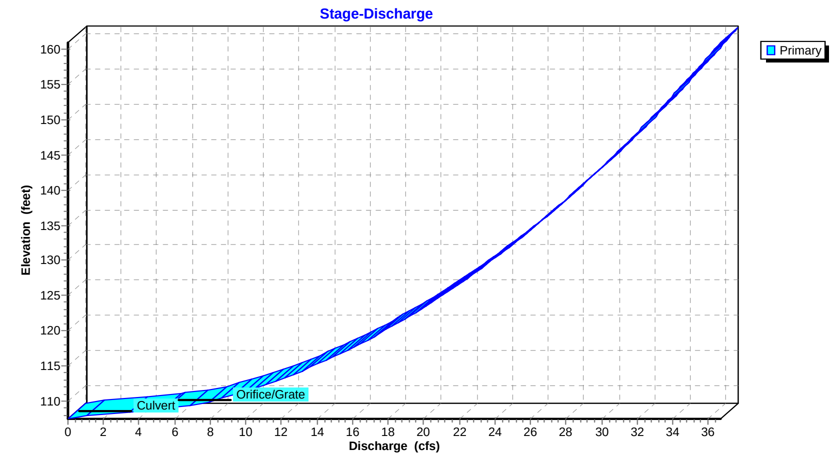
Device	Routing	Invert	Outlet Devices
#1	Primary	107.48'	**15.0" Round Culvert** L= 154.4' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 107.48' / 106.10' S= 0.0089 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	109.00'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=30.36 cfs @ 12.13 hrs HW=160.77' TW=124.05' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 29.55 cfs @ 24.08 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.81 cfs @ 29.18 fps)

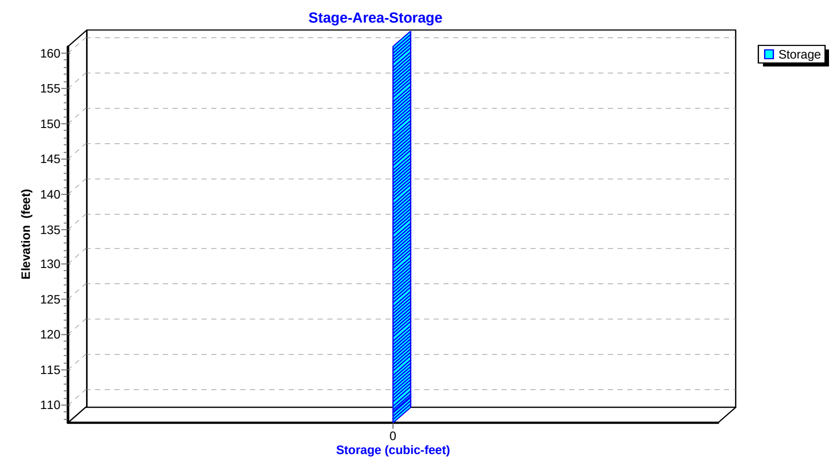
Pond 24P: CB-SE Pkg6



Pond 24P: CB-SE Pkg6



Pond 24P: CB-SE Pkg6



Summary for Pond 26P: CB-SE Pkg7

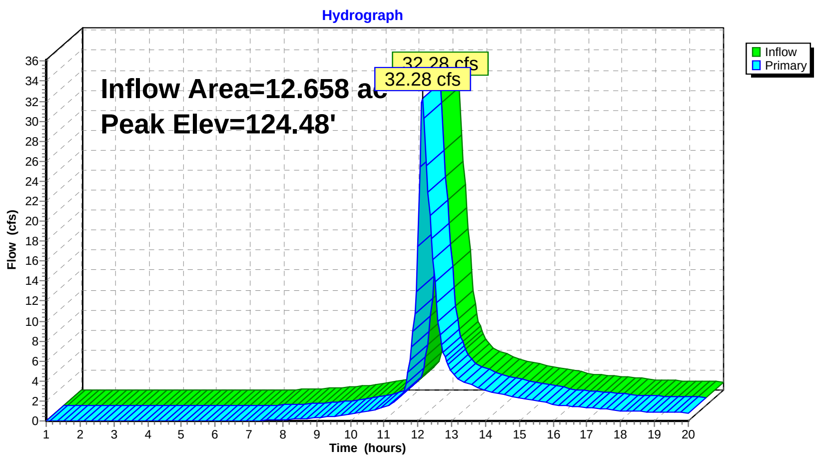
Inflow Area = 12.658 ac, 44.72% Impervious, Inflow Depth > 2.73" for 100-Year event
Inflow = 32.28 cfs @ 12.13 hrs, Volume= 2.883 af
Outflow = 32.28 cfs @ 12.13 hrs, Volume= 2.883 af, Atten= 0%, Lag= 0.0 min
Primary = 32.28 cfs @ 12.13 hrs, Volume= 2.883 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 124.48' @ 12.13 hrs

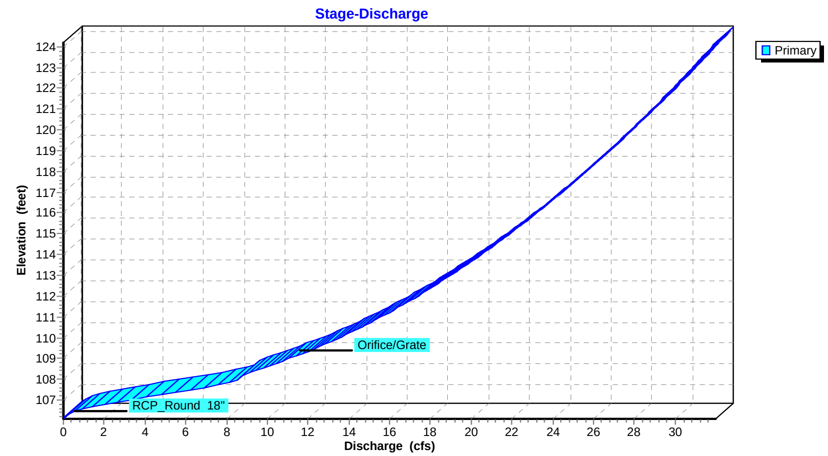
Device	Routing	Invert	Outlet Devices
#1	Primary	106.10'	**18.0" Round RCP_Round 18"** L= 154.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 106.10' / 105.35' S= 0.0049 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Primary	109.00'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=31.86 cfs @ 12.13 hrs HW=124.05' TW=0.00' (Dynamic Tailwater)
└─**1=RCP_Round 18"** (Barrel Controls 31.34 cfs @ 17.74 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.52 cfs @ 18.68 fps)

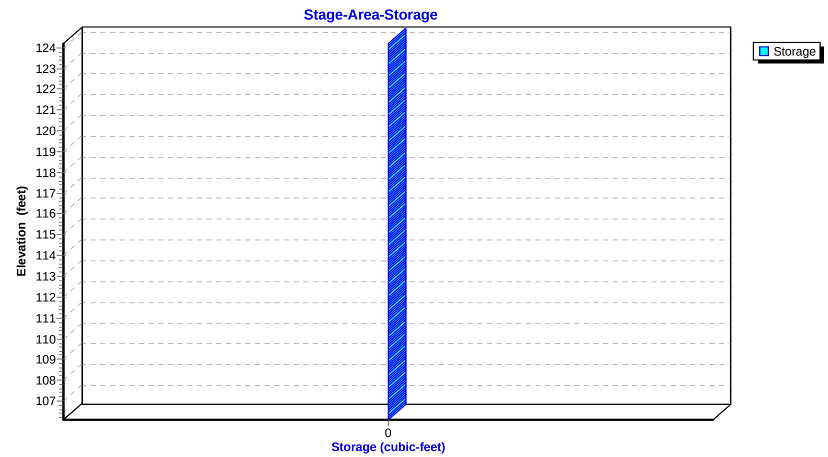
Pond 26P: CB-SE Pkg7



Pond 26P: CB-SE Pkg7



Pond 26P: CB-SE Pkg7



Summary for Pond 28P: CB-N F1

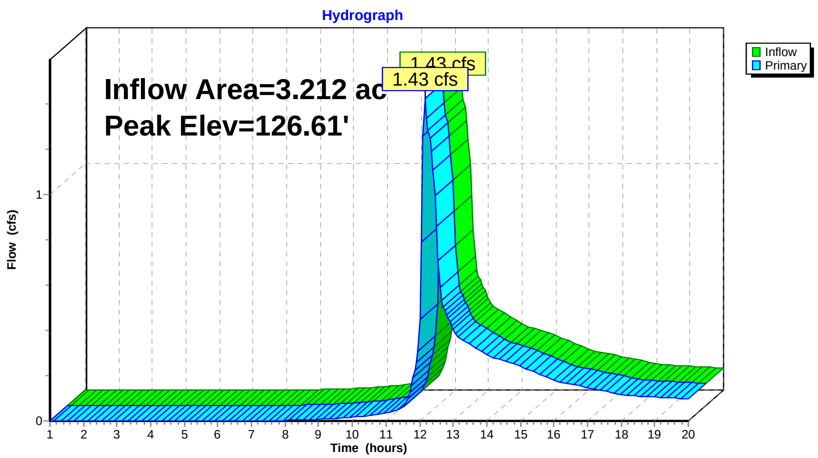
Inflow Area = 3.212 ac, 3.15% Impervious, Inflow Depth > 0.71" for 100-Year event
Inflow = 1.43 cfs @ 12.16 hrs, Volume= 0.190 af
Outflow = 1.43 cfs @ 12.16 hrs, Volume= 0.190 af, Atten= 0%, Lag= 0.0 min
Primary = 1.43 cfs @ 12.16 hrs, Volume= 0.190 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 126.61' @ 12.12 hrs

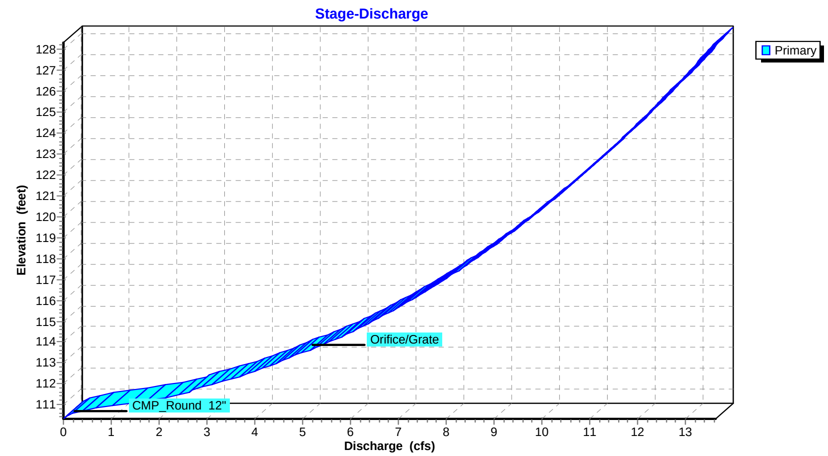
Device	Routing	Invert	Outlet Devices
#1	Primary	110.33'	**12.0" Round CMP_Round 12"** L= 111.7' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.33' / 110.00' S= 0.0030 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	113.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=5.14 cfs @ 12.16 hrs HW=124.64' TW=122.18' (Dynamic Tailwater)
└─**1=CMP_Round 12"** (Outlet Controls 4.93 cfs @ 6.28 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.21 cfs @ 7.55 fps)

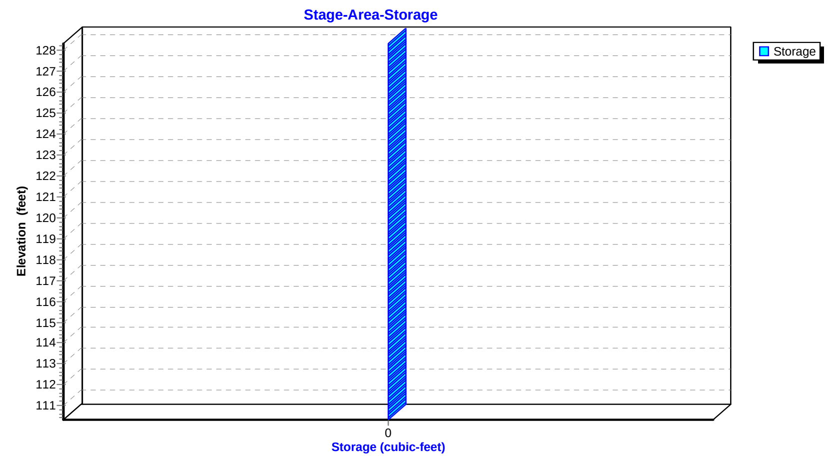
Pond 28P: CB-N F1



Pond 28P: CB-N F1



Pond 28P: CB-N F1



Summary for Pond 30P: CB-N F2

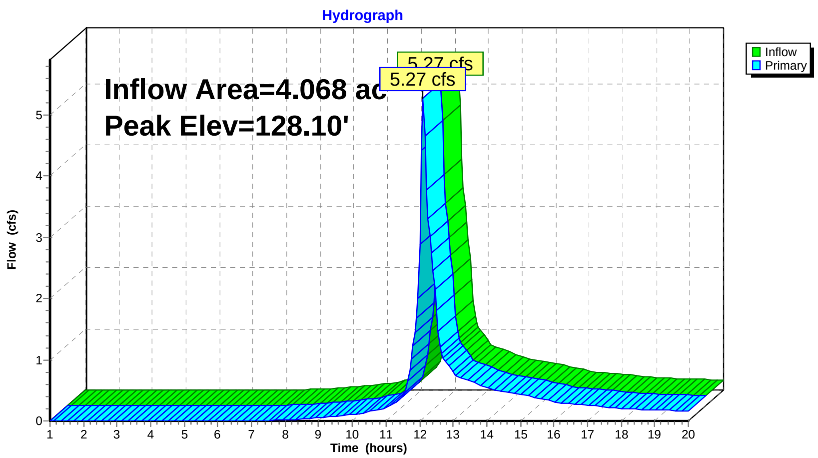
Inflow Area = 4.068 ac, 16.16% Impervious, Inflow Depth > 1.37" for 100-Year event
Inflow = 5.27 cfs @ 12.10 hrs, Volume= 0.464 af
Outflow = 5.27 cfs @ 12.10 hrs, Volume= 0.464 af, Atten= 0%, Lag= 0.0 min
Primary = 5.27 cfs @ 12.10 hrs, Volume= 0.464 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 128.10' @ 12.10 hrs

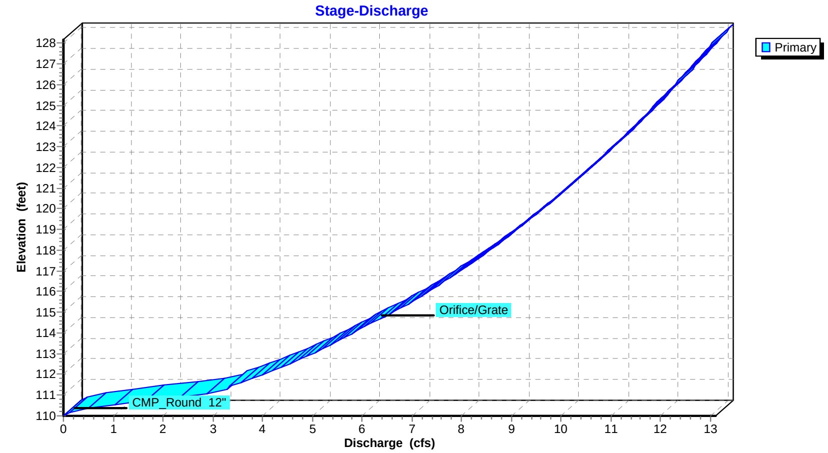
Device	Routing	Invert	Outlet Devices
#1	Primary	110.00'	**12.0" Round CMP_Round 12"** L= 133.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.00' / 109.17' S= 0.0062 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=5.21 cfs @ 12.10 hrs HW=127.68' TW=124.86' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 4.99 cfs @ 6.35 fps)
2=Orifice/Grate (Orifice Controls 0.22 cfs @ 8.09 fps)

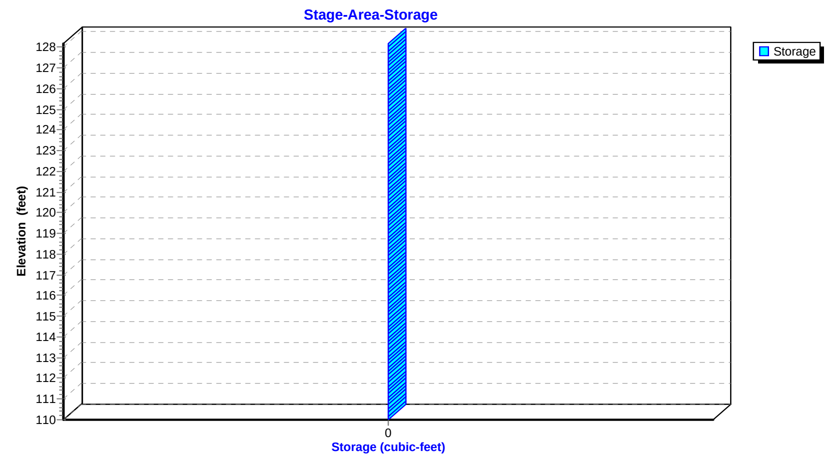
Pond 30P: CB-N F2



Pond 30P: CB-N F2



Pond 30P: CB-N F2



Summary for Pond 32P: CB-N F3

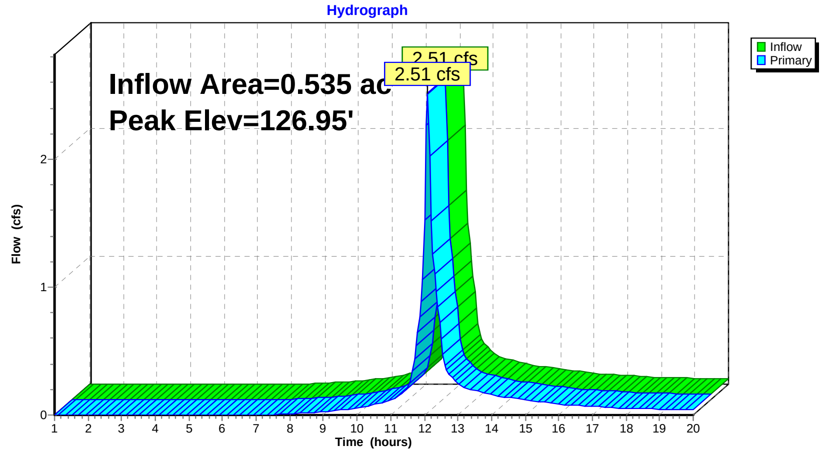
Inflow Area = 0.535 ac, 65.00% Impervious, Inflow Depth > 3.84" for 100-Year event
Inflow = 2.51 cfs @ 12.09 hrs, Volume= 0.171 af
Outflow = 2.51 cfs @ 12.09 hrs, Volume= 0.171 af, Atten= 0%, Lag= 0.0 min
Primary = 2.51 cfs @ 12.09 hrs, Volume= 0.171 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 126.95' @ 12.12 hrs

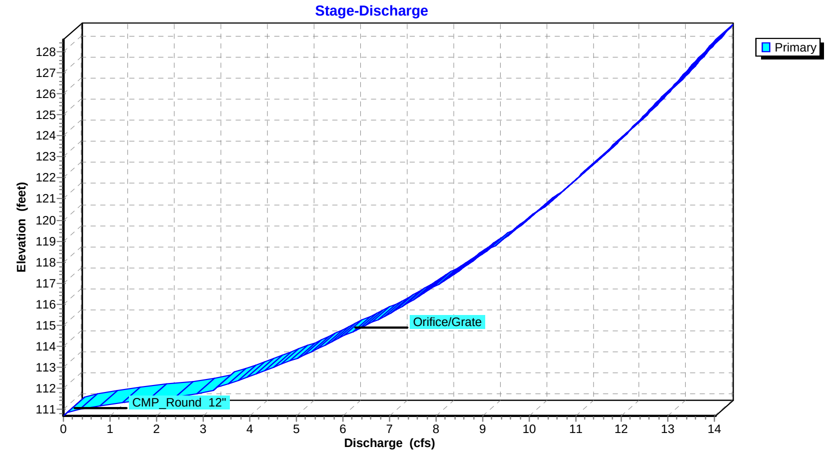
Device	Routing	Invert	Outlet Devices
#1	Primary	110.67'	**12.0" Round CMP_Round 12"** L= 103.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.67' / 110.00' S= 0.0065 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 12.09 hrs HW=125.29' TW=127.22' (Dynamic Tailwater)
—**1=CMP_Round 12"** (Controls 0.00 cfs)
—**2=Orifice/Grate** (Controls 0.00 cfs)

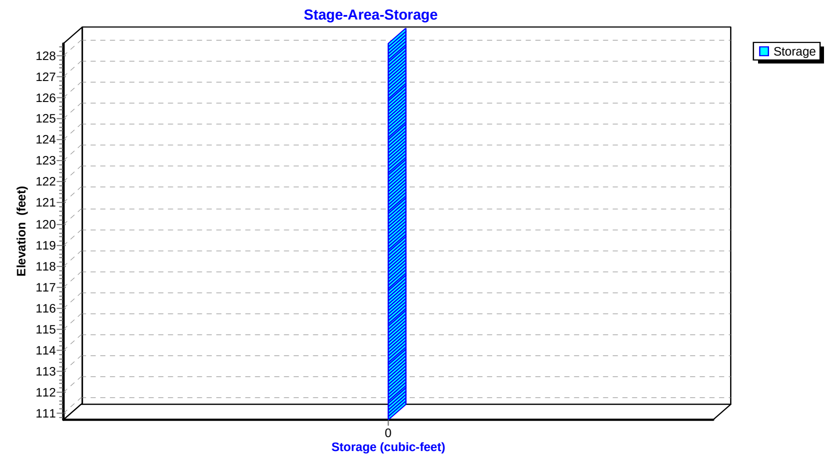
Pond 32P: CB-N F3



Pond 32P: CB-N F3



Pond 32P: CB-N F3



Summary for Pond 34P: CB-N F4

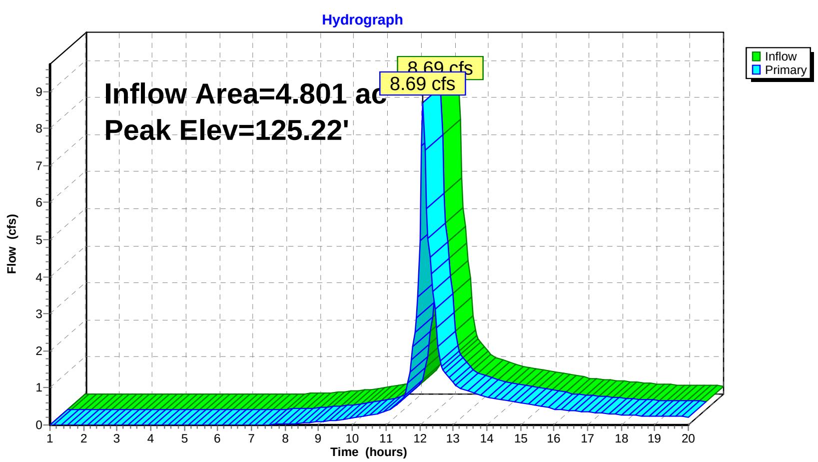
Inflow Area = 4.801 ac, 23.61% Impervious, Inflow Depth > 1.75" for 100-Year event
Inflow = 8.69 cfs @ 12.10 hrs, Volume= 0.698 af
Outflow = 8.69 cfs @ 12.10 hrs, Volume= 0.698 af, Atten= 0%, Lag= 0.0 min
Primary = 8.69 cfs @ 12.10 hrs, Volume= 0.698 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 125.22' @ 12.10 hrs

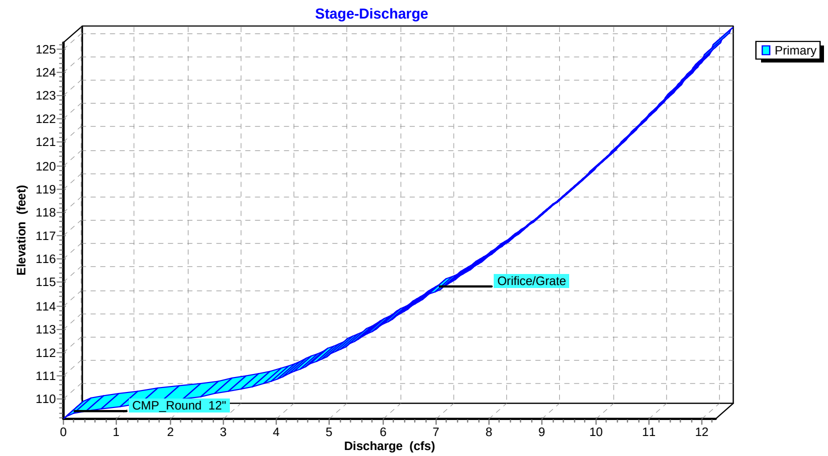
Device	Routing	Invert	Outlet Devices
#1	Primary	109.17'	**12.0" Round CMP_Round 12"** L= 139.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 109.17' / 108.00' S= 0.0084 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=8.67 cfs @ 12.10 hrs HW=125.14' TW=117.14' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 8.29 cfs @ 10.55 fps)
2=Orifice/Grate (Orifice Controls 0.38 cfs @ 13.62 fps)

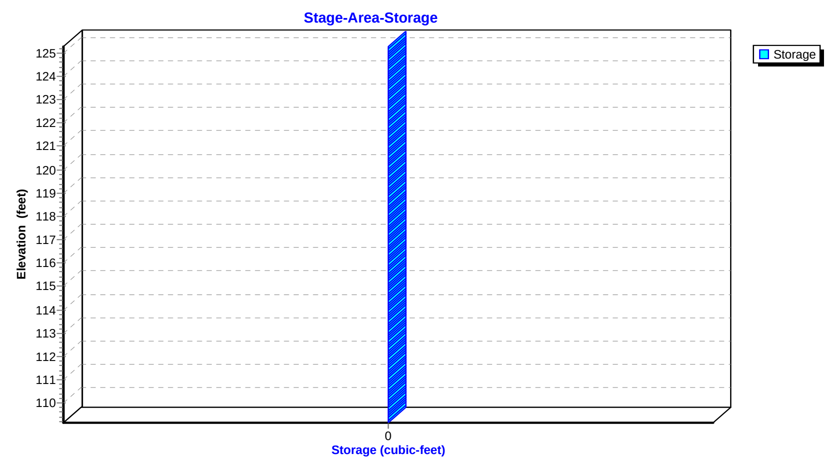
Pond 34P: CB-N F4



Pond 34P: CB-N F4



Pond 34P: CB-N F4



Summary for Pond 36P: CB-N F5

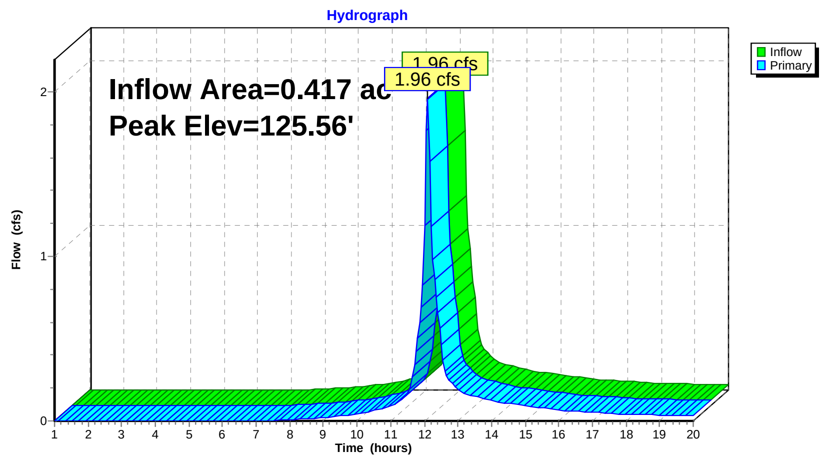
Inflow Area = 0.417 ac, 65.00% Impervious, Inflow Depth > 3.84" for 100-Year event
Inflow = 1.96 cfs @ 12.09 hrs, Volume= 0.133 af
Outflow = 1.96 cfs @ 12.09 hrs, Volume= 0.133 af, Atten= 0%, Lag= 0.0 min
Primary = 1.96 cfs @ 12.09 hrs, Volume= 0.133 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 125.56' @ 12.10 hrs

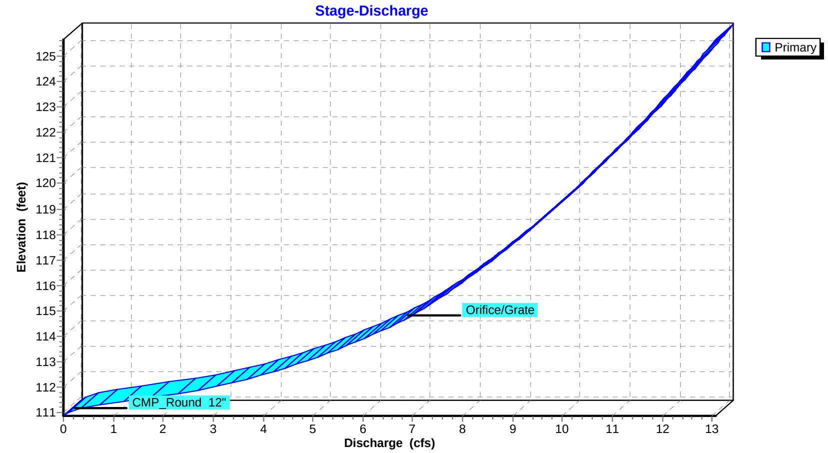
Device	Routing	Invert	Outlet Devices
#1	Primary	110.88'	**12.0" Round CMP_Round 12"** L= 105.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.88' / 109.17' S= 0.0163 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=1.92 cfs @ 12.09 hrs HW=124.82' TW=124.49' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 1.84 cfs @ 2.35 fps)
2=Orifice/Grate (Orifice Controls 0.08 cfs @ 2.77 fps)

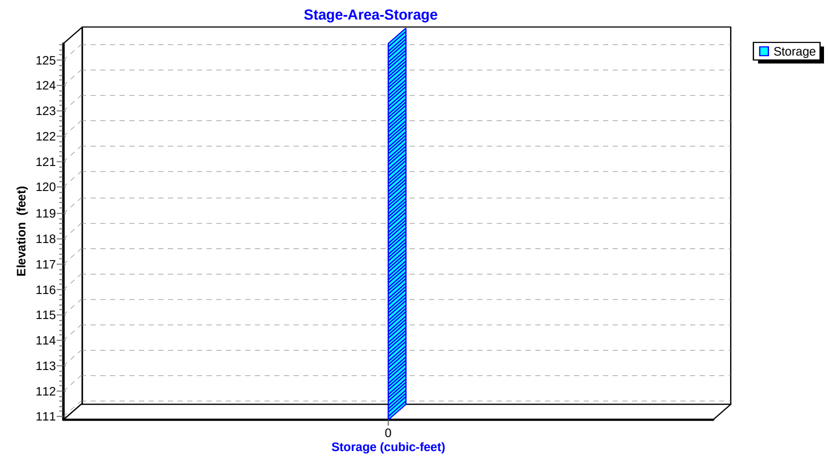
Pond 36P: CB-N F5



Pond 36P: CB-N F5



Pond 36P: CB-N F5



Summary for Pond 38P: CB-N F6

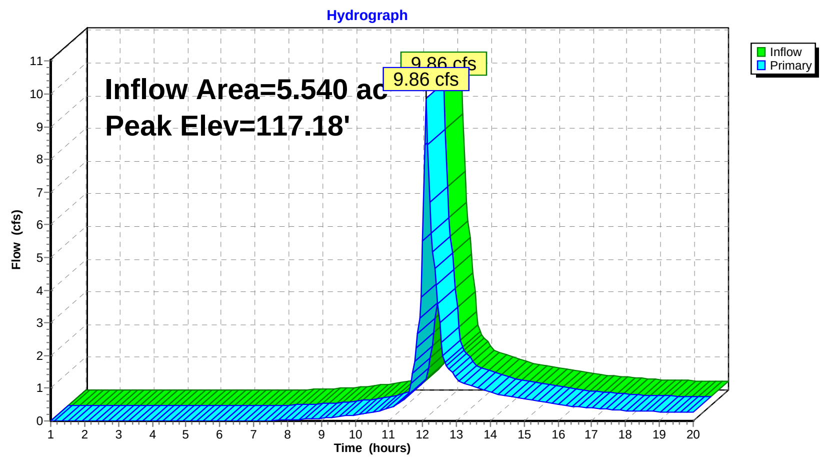
Inflow Area = 5.540 ac, 23.13% Impervious, Inflow Depth > 1.70" for 100-Year event
Inflow = 9.86 cfs @ 12.10 hrs, Volume= 0.786 af
Outflow = 9.86 cfs @ 12.10 hrs, Volume= 0.786 af, Atten= 0%, Lag= 0.0 min
Primary = 9.86 cfs @ 12.10 hrs, Volume= 0.786 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 117.18' @ 12.10 hrs

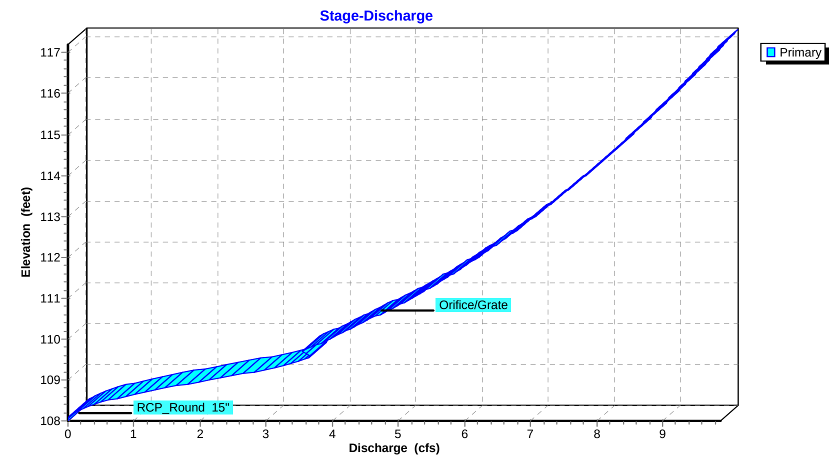
Device	Routing	Invert	Outlet Devices
#1	Primary	108.00'	**15.0" Round RCP_Round 15"** L= 466.8' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 108.00' / 107.25' S= 0.0016 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	110.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=9.86 cfs @ 12.10 hrs HW=117.18' TW=0.00' (Dynamic Tailwater)
1=RCP_Round 15" (Barrel Controls 9.52 cfs @ 7.76 fps)
2=Orifice/Grate (Orifice Controls 0.35 cfs @ 12.44 fps)

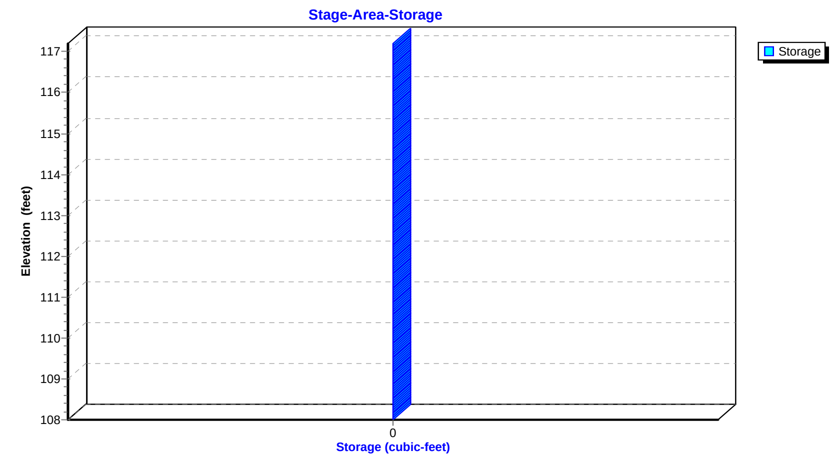
Pond 38P: CB-N F6



Pond 38P: CB-N F6



Pond 38P: CB-N F6

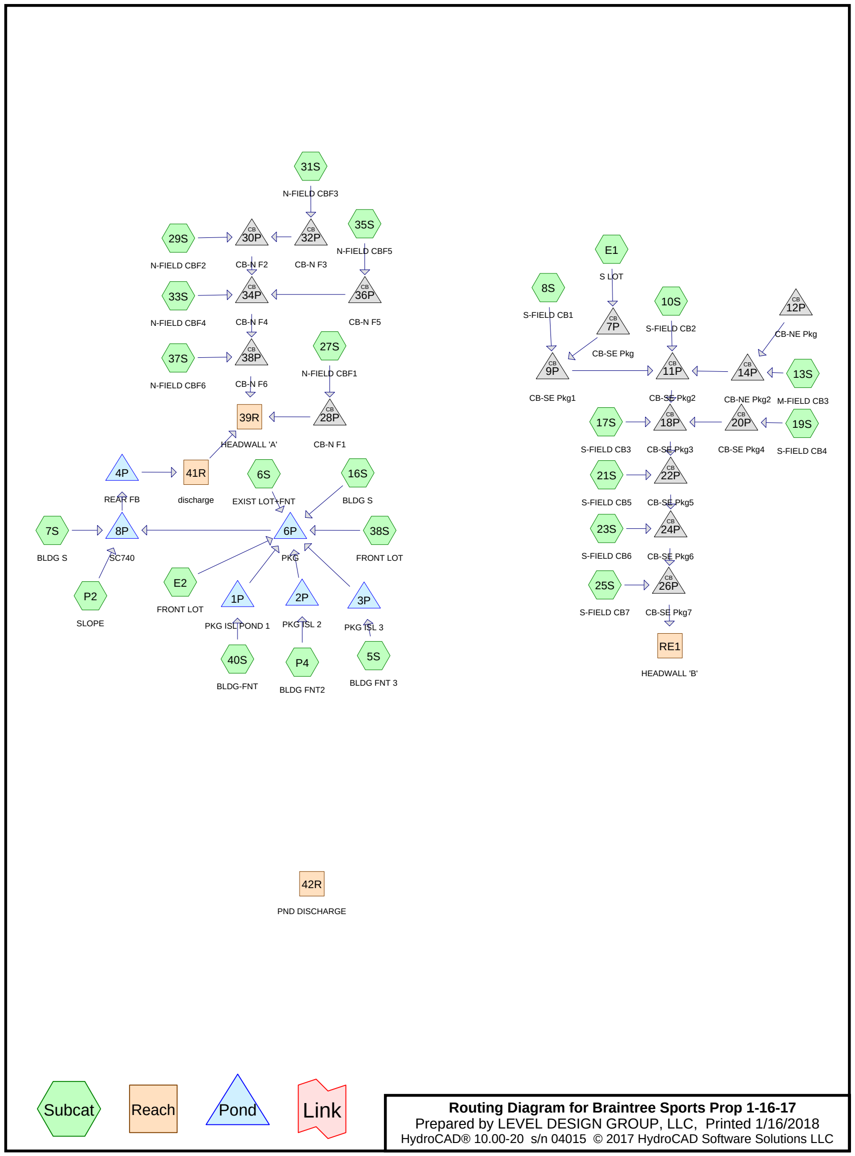


Proposed Conditions – Subcatchments

HydroCAD Analysis

Proposed Conditions - 2 Year Storm

249 SOUTH STREET UNIT 1 PLAINVILLE MA 02762
TEL 508 695 2221 FAX 508 695 2219 CONTACT@LEVELDG.COM LEVELDG.COM



Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
5.672	39	>75% Grass cover, Good, HSG A (5S, 6S, 8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S, 38S, 40S, E1, E2, P2, P4)
3.255	98	Paved Track, HSG A (8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S)
5.022	98	Paved parking, HSG A (5S, 6S, 38S, 40S, E1, E2, P4)
0.497	98	Roofs, HSG A (16S)
0.087	98	Unconnected pavement, HSG A (40S, P2)
1.517	98	Unconnected roofs, HSG A (7S)
1.582	32	Woods/grass comb., Good, HSG A (38S, 40S, P2, P4)
0.483	72	Woods/grass comb., Good, HSG C (E1)
18.115	**73**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
17.632	HSG A	5S, 6S, 7S, 8S, 10S, 13S, 16S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S, 38S, 40S, E1, E2, P2, P4
0.000	HSG B	
0.483	HSG C	E1
0.000	HSG D	
0.000	Other	
18.115		**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
5.672	0.000	0.000	0.000	0.000	5.672	>75% Grass cover, Good	5S, 6S, 8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S, 38S, 40S, E1, E2, P2, P4
3.255	0.000	0.000	0.000	0.000	3.255	Paved Track	8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S
5.022	0.000	0.000	0.000	0.000	5.022	Paved parking	5S, 6S, 38S, 40S, E1, E2, P4
0.497	0.000	0.000	0.000	0.000	0.497	Roofs	16S
0.087	0.000	0.000	0.000	0.000	0.087	Unconnected pavement	40S, P2
1.517	0.000	0.000	0.000	0.000	1.517	Unconnected roofs	7S
1.582	0.000	0.483	0.000	0.000	2.065	Woods/grass comb., Good	38S, 40S, E1, P2, P4

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
17.632	**0.000**	**0.483**	**0.000**	**0.000**	**18.115**	**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	7S	0.00	0.00	30.0	1.0000	0.012	8.0	0.0	0.0
2	7S	0.00	0.00	560.0	0.0050	0.020	10.0	0.0	0.0
3	16S	0.00	0.00	30.0	1.0000	0.012	8.0	0.0	0.0
4	16S	0.00	0.00	300.0	0.0050	0.020	10.0	0.0	0.0
5	41R	110.85	107.25	663.3	0.0054	0.013	18.0	0.0	0.0
6	42R	115.90	115.06	167.2	0.0050	0.013	24.0	0.0	0.0
7	1P	118.50	117.80	63.3	0.0111	0.013	8.0	0.0	0.0
8	2P	118.00	117.80	40.1	0.0050	0.013	12.0	0.0	0.0
9	3P	117.40	117.02	77.2	0.0049	0.013	8.0	0.0	0.0
10	4P	115.50	115.40	15.0	0.0067	0.013	12.0	0.0	0.0
11	6P	117.00	116.00	80.0	0.0125	0.013	10.0	0.0	0.0
12	7P	113.30	111.17	71.2	0.0299	0.011	12.0	0.0	0.0
13	7P	113.20	116.00	39.5	-0.0709	0.013	8.0	0.0	0.0
14	8P	114.50	114.50	77.0	0.0000	0.013	15.0	0.0	0.0
15	9P	111.17	110.70	90.3	0.0052	0.011	12.0	0.0	0.0
16	11P	110.70	109.75	134.5	0.0071	0.011	15.0	0.0	0.0
17	12P	111.40	111.36	76.0	0.0005	0.011	12.0	0.0	0.0
18	14P	111.36	110.70	105.0	0.0063	0.011	12.0	0.0	0.0
19	18P	109.75	108.88	106.1	0.0082	0.011	15.0	0.0	0.0
20	20P	110.48	109.75	140.2	0.0052	0.011	12.0	0.0	0.0
21	22P	108.88	107.48	157.5	0.0089	0.011	15.0	0.0	0.0
22	24P	107.48	106.10	154.4	0.0089	0.011	15.0	0.0	0.0
23	26P	106.10	105.35	154.4	0.0049	0.011	18.0	0.0	0.0
24	28P	110.33	110.00	111.7	0.0030	0.011	12.0	0.0	0.0
25	30P	110.00	109.17	133.5	0.0062	0.011	12.0	0.0	0.0
26	32P	110.67	110.00	103.5	0.0065	0.011	12.0	0.0	0.0
27	34P	109.17	108.00	139.2	0.0084	0.011	12.0	0.0	0.0
28	36P	110.88	109.17	105.0	0.0163	0.011	12.0	0.0	0.0
29	38P	108.00	107.25	466.8	0.0016	0.011	15.0	0.0	0.0

Time span=1.00-20.00 hrs, dt=0.05 hrs, 381 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 5S: BLDG FNT 3 Runoff Area=14,580 sf 95.34% Impervious Runoff Depth>2.51"
Flow Length=172' Tc=6.0 min CN=95 Runoff=0.96 cfs 0.070 af

Subcatchment 6S: EXIST LOT+FNT Runoff Area=42,707 sf 78.43% Impervious Runoff Depth>1.64"
Flow Length=80' Slope=0.0300 '/' Tc=6.0 min CN=85 Runoff=1.98 cfs 0.134 af

Subcatchment 7S: BLDG S Runoff Area=66,063 sf 100.00% Impervious Runoff Depth>2.83"
Flow Length=760' Tc=6.0 min CN=98 Runoff=4.60 cfs 0.357 af

Subcatchment 8S: S-FIELD CB1 Runoff Area=11,548 sf 60.17% Impervious Runoff Depth>0.95"
Flow Length=80' Tc=6.0 min CN=74 Runoff=0.30 cfs 0.021 af

Subcatchment 10S: S-FIELD CB2 Runoff Area=21,998 sf 60.00% Impervious Runoff Depth>0.95"
Flow Length=230' Slope=0.0150 '/' Tc=6.0 min CN=74 Runoff=0.57 cfs 0.040 af

Subcatchment 13S: M-FIELD CB3 Runoff Area=16,265 sf 65.00% Impervious Runoff Depth>1.11"
Flow Length=151' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=0.51 cfs 0.035 af

Subcatchment 16S: BLDG S Runoff Area=21,647 sf 100.00% Impervious Runoff Depth>2.83"
Flow Length=393' Tc=6.0 min CN=98 Runoff=1.51 cfs 0.117 af

Subcatchment 17S: S-FIELD CB3 Runoff Area=13,522 sf 65.00% Impervious Runoff Depth>1.11"
Flow Length=85' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=0.42 cfs 0.029 af

Subcatchment 19S: S-FIELD CB4 Runoff Area=30,595 sf 65.00% Impervious Runoff Depth>1.11"
Flow Length=297' Tc=6.0 min CN=77 Runoff=0.95 cfs 0.065 af

Subcatchment 21S: S-FIELD CB5 Runoff Area=18,600 sf 65.00% Impervious Runoff Depth>1.11"
Flow Length=149' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=0.58 cfs 0.040 af

Subcatchment 23S: S-FIELD CB6 Runoff Area=16,672 sf 35.00% Impervious Runoff Depth>0.36"
Flow Length=131' Slope=0.0200 '/' Tc=6.2 min CN=60 Runoff=0.10 cfs 0.011 af

Subcatchment 25S: S-FIELD CB7 Runoff Area=57,741 sf 15.00% Impervious Runoff Depth>0.07"
Flow Length=330' Tc=7.6 min CN=48 Runoff=0.02 cfs 0.007 af

Subcatchment 27S: N-FIELD CBF1 Runoff Area=6,780 sf 65.00% Impervious Runoff Depth>1.11"
Flow Length=80' Tc=6.0 min CN=77 Runoff=0.21 cfs 0.014 af

Subcatchment 29S: N-FIELD CBF2 Runoff Area=13,971 sf 65.00% Impervious Runoff Depth>1.11"
Flow Length=100' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=0.44 cfs 0.030 af

Subcatchment 31S: N-FIELD CBF3 Runoff Area=23,311 sf 65.00% Impervious Runoff Depth>1.11"
Flow Length=129' Tc=6.0 min CN=77 Runoff=0.73 cfs 0.050 af

Subcatchment 33S: N-FIELD CBF4 Runoff Area=13,725 sf 65.00% Impervious Runoff Depth>1.11"
Flow Length=93' Tc=6.0 min CN=77 Runoff=0.43 cfs 0.029 af

Subcatchment 35S: N-FIELD CBF5 Runoff Area=18,186 sf 65.00% Impervious Runoff Depth>1.11"
Flow Length=170' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=0.57 cfs 0.039 af

Subcatchment 37S: N-FIELD CBF6 Runoff Area=32,216 sf 20.00% Impervious Runoff Depth>0.12"
Flow Length=280' Slope=0.0200 '/' Tc=6.0 min CN=51 Runoff=0.03 cfs 0.007 af

Subcatchment 38S: FRONT LOT Runoff Area=49,740 sf 52.83% Impervious Runoff Depth>0.65"
Flow Length=670' Tc=18.0 min CN=68 Runoff=0.58 cfs 0.062 af

Subcatchment 40S: BLDG-FNT Runoff Area=37,001 sf 40.61% Impervious Runoff Depth>0.32"
Flow Length=168' Tc=10.1 min CN=59 Runoff=0.17 cfs 0.023 af

Subcatchment E1: S LOT Runoff Area=153,436 sf 63.92% Impervious Runoff Depth>1.36"
Flow Length=334' Tc=10.1 min CN=81 Runoff=5.19 cfs 0.398 af

Subcatchment E2: FRONT LOT Runoff Area=12,716 sf 96.08% Impervious Runoff Depth>2.60"
Flow Length=670' Tc=18.0 min CN=96 Runoff=0.62 cfs 0.063 af

Subcatchment P2: SLOPE Runoff Area=60,052 sf 3.81% Impervious Runoff Depth=0.00"
Flow Length=180' Tc=9.6 min UI Adjusted CN=38 Runoff=0.00 cfs 0.000 af

Subcatchment P4: BLDG FNT2 Runoff Area=36,024 sf 59.08% Impervious Runoff Depth>0.79"
Flow Length=195' Tc=9.4 min CN=71 Runoff=0.68 cfs 0.055 af

Reach 39R: HEADWALL 'A' Inflow=2.37 cfs 0.169 af
Outflow=2.37 cfs 0.169 af

Reach 41R: discharge Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
18.0" Round Pipe n=0.013 L=663.3' S=0.0054 '/' Capacity=7.74 cfs Outflow=0.00 cfs 0.000 af

Reach 42R: PND DISCHARGE Avg. Flow Depth=0.00' Max Vel=0.00 fps
24.0" Round Pipe n=0.013 L=167.2' S=0.0050 '/' Capacity=16.03 cfs Outflow=0.00 cfs 0.000 af

Reach RE1: HEADWALL 'B' Inflow=7.12 cfs 0.633 af
Outflow=7.12 cfs 0.633 af

Pond 1P: PKG ISL POND 1 Peak Elev=119.21' Storage=122 cf Inflow=0.17 cfs 0.023 af
Discarded=0.03 cfs 0.015 af Primary=0.09 cfs 0.008 af Outflow=0.12 cfs 0.023 af

Pond 2P: PKG ISL 2 Peak Elev=119.41' Storage=357 cf Inflow=0.68 cfs 0.055 af
Discarded=0.06 cfs 0.026 af Primary=0.37 cfs 0.028 af Outflow=0.43 cfs 0.055 af

Pond 3P: PKG ISL 3 Peak Elev=118.83' Storage=524 cf Inflow=0.96 cfs 0.070 af
Discarded=0.10 cfs 0.040 af Primary=0.34 cfs 0.030 af Outflow=0.44 cfs 0.070 af

Pond 4P: REAR FB Peak Elev=113.50' Storage=0 cf Inflow=0.05 cfs 0.003 af
Discarded=0.05 cfs 0.003 af Primary=0.00 cfs 0.000 af Outflow=0.05 cfs 0.003 af

Pond 6P: PKG Peak Elev=116.56' Storage=7,481 cf Inflow=4.63 cfs 0.442 af
Discarded=0.78 cfs 0.443 af Primary=0.00 cfs 0.000 af Outflow=0.78 cfs 0.443 af

Pond 7P: CB-SE Pkg Peak Elev=116.50' Inflow=5.19 cfs 0.398 af
Primary=4.56 cfs 0.385 af Secondary=2.10 cfs 0.013 af Outflow=5.19 cfs 0.398 af

Pond 8P: SC740	Peak Elev=114.71' Storage=4,756 cf Inflow=4.60 cfs 0.357 af Discarded=0.75 cfs 0.355 af Primary=0.05 cfs 0.003 af Outflow=0.80 cfs 0.357 af
Pond 9P: CB-SE Pkg1	Peak Elev=115.54' Inflow=4.75 cfs 0.406 af Outflow=4.75 cfs 0.406 af
Pond 11P: CB-SE Pkg2	Peak Elev=114.65' Inflow=5.44 cfs 0.480 af Outflow=5.44 cfs 0.480 af
Pond 12P: CB-NE Pkg	Peak Elev=0.00' Primary=0.00 cfs 0.000 af
Pond 14P: CB-NE Pkg2	Peak Elev=114.34' Inflow=0.51 cfs 0.035 af Outflow=0.51 cfs 0.035 af
Pond 18P: CB-SE Pkg3	Peak Elev=114.07' Inflow=6.44 cfs 0.574 af Outflow=6.44 cfs 0.574 af
Pond 20P: CB-SE Pkg4	Peak Elev=113.79' Inflow=0.95 cfs 0.065 af Outflow=0.95 cfs 0.065 af
Pond 22P: CB-SE Pkg5	Peak Elev=112.36' Inflow=7.03 cfs 0.614 af Outflow=7.03 cfs 0.614 af
Pond 24P: CB-SE Pkg6	Peak Elev=109.81' Inflow=7.12 cfs 0.625 af Outflow=7.12 cfs 0.625 af
Pond 26P: CB-SE Pkg7	Peak Elev=107.64' Inflow=7.12 cfs 0.633 af Outflow=7.12 cfs 0.633 af
Pond 28P: CB-N F1	Peak Elev=110.61' Inflow=0.21 cfs 0.014 af Outflow=0.21 cfs 0.014 af
Pond 30P: CB-N F2	Peak Elev=110.66' Inflow=1.16 cfs 0.079 af Outflow=1.16 cfs 0.079 af
Pond 32P: CB-N F3	Peak Elev=111.17' Inflow=0.73 cfs 0.050 af Outflow=0.73 cfs 0.050 af
Pond 34P: CB-N F4	Peak Elev=110.03' Inflow=2.16 cfs 0.147 af Outflow=2.16 cfs 0.147 af
Pond 36P: CB-N F5	Peak Elev=111.26' Inflow=0.57 cfs 0.039 af Outflow=0.57 cfs 0.039 af
Pond 38P: CB-N F6	Peak Elev=109.00' Inflow=2.16 cfs 0.155 af Outflow=2.16 cfs 0.155 af

Total Runoff Area = 18.115 ac Runoff Volume = 1.696 af Average Runoff Depth = 1.12"
42.71% Pervious = 7.737 ac 57.29% Impervious = 10.378 ac

Summary for Subcatchment 5S: BLDG FNT 3

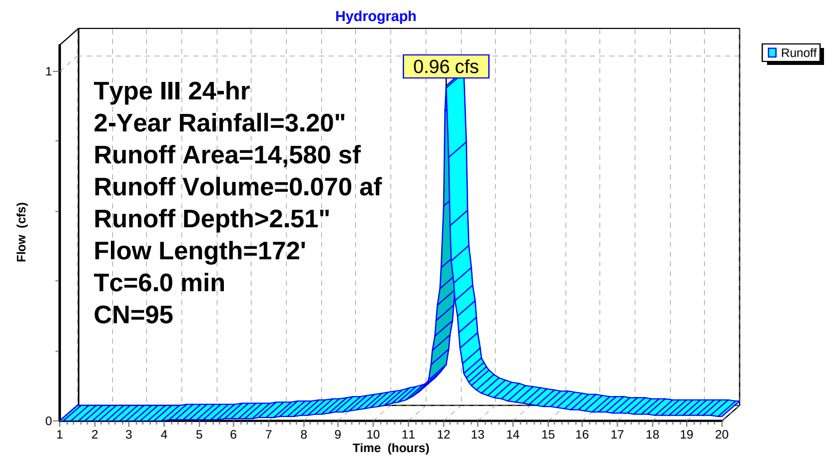
Runoff = 0.96 cfs @ 12.09 hrs, Volume= 0.070 af, Depth> 2.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
13,900	98	Paved parking, HSG A
680	39	>75% Grass cover, Good, HSG A
14,580	95	Weighted Average
680		4.66% Pervious Area
13,900		95.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	12	0.0100	0.68		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.8	160	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.9					**Direct Entry,**
6.0	172	Total			

Subcatchment 5S: BLDG FNT 3



Summary for Subcatchment 6S: EXIST LOT+FNT

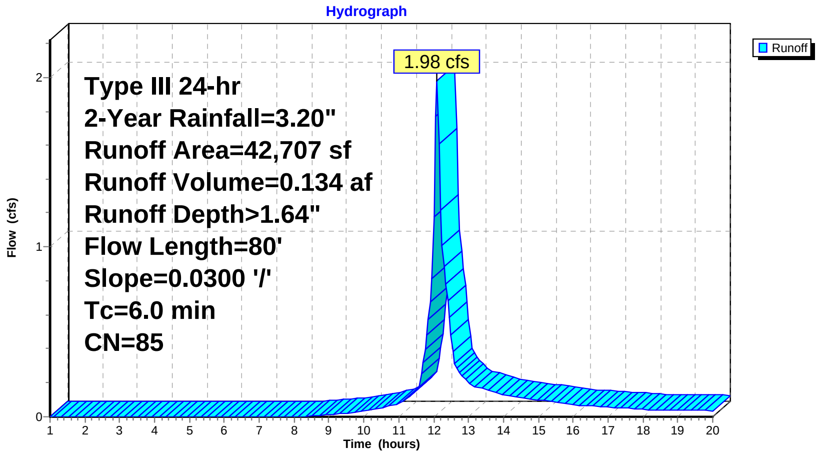
Runoff = 1.98 cfs @ 12.09 hrs, Volume= 0.134 af, Depth> 1.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
33,493	98	Paved parking, HSG A
9,214	39	>75% Grass cover, Good, HSG A
42,707	85	Weighted Average
9,214		21.57% Pervious Area
33,493		78.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0300	1.17		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.3	60	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
5.4					**Direct Entry,**
6.0	80	Total			

Subcatchment 6S: EXIST LOT+FNT



Summary for Subcatchment 7S: BLDG S

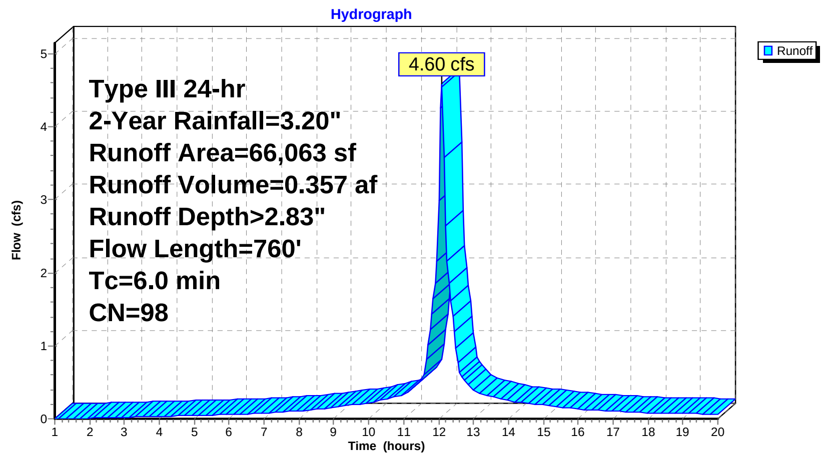
Runoff = 4.60 cfs @ 12.09 hrs, Volume= 0.357 af, Depth> 2.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
66,063	98	Unconnected roofs, HSG A
66,063		100.00% Impervious Area
66,063		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0800	2.08		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.3	120	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.0	30	1.0000	37.50	13.09	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.012 Steel, smooth
5.1	560	0.0050	1.85	1.01	**Pipe Channel,** 10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21' n= 0.020 Corrugated PE, corrugated interior
0.2					**Direct Entry,**
6.0	760	Total			

Subcatchment 7S: BLDG S



Summary for Subcatchment 8S: S-FIELD CB1

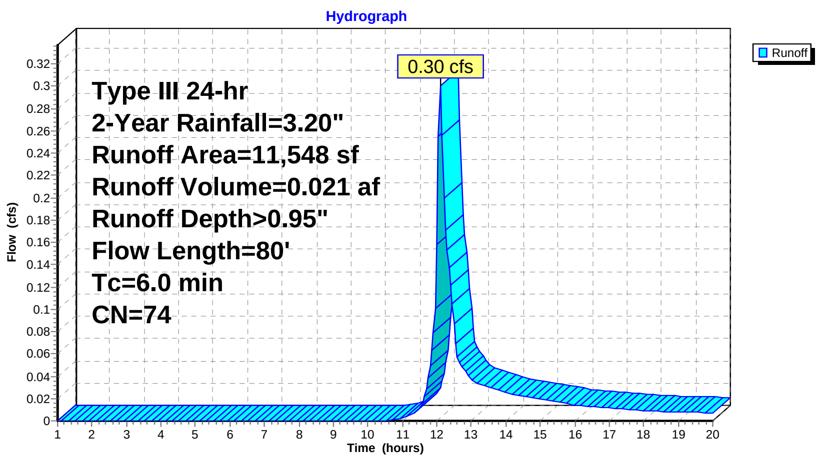
Runoff = 0.30 cfs @ 12.10 hrs, Volume= 0.021 af, Depth> 0.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	6,948	98	Paved Track, HSG A
	4,600	39	>75% Grass cover, Good, HSG A
	11,548	74	Weighted Average
	4,600		39.83% Pervious Area
	6,948		60.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	50	0.1180	0.30		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.2	30	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.0					**Direct Entry,**
6.0	80	Total			

Subcatchment 8S: S-FIELD CB1



Summary for Subcatchment 10S: S-FIELD CB2

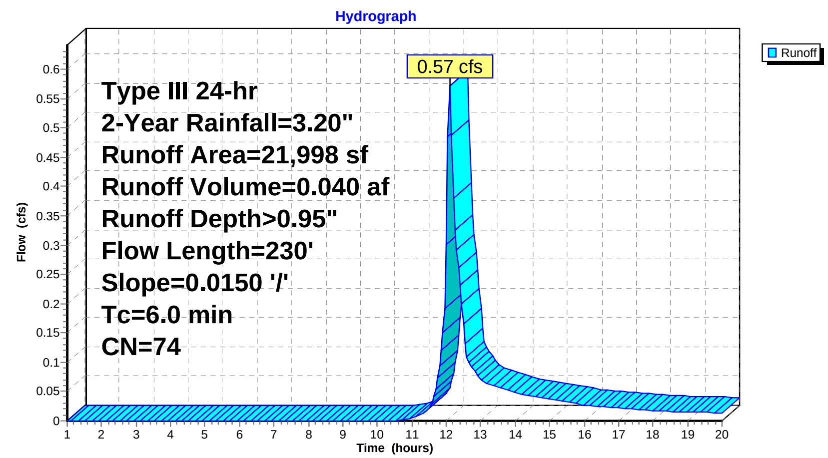
Runoff = 0.57 cfs @ 12.10 hrs, Volume= 0.040 af, Depth> 0.95"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	13,199	98	Paved Track, HSG A
	8,799	39	>75% Grass cover, Good, HSG A
	21,998	74	Weighted Average
	8,799		40.00% Pervious Area
	13,199		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.5	180	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.7					**Direct Entry, PARKING**
6.0	230	Total			

Subcatchment 10S: S-FIELD CB2



Summary for Subcatchment 13S: M-FIELD CB3

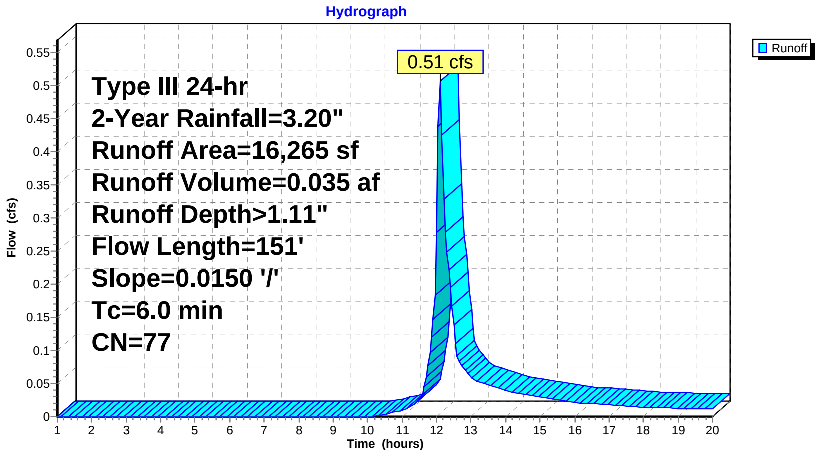
Runoff = 0.51 cfs @ 12.10 hrs, Volume= 0.035 af, Depth> 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	10,572	98	Paved Track, HSG A
	5,693	39	>75% Grass cover, Good, HSG A
	16,265	77	Weighted Average
	5,693		35.00% Pervious Area
	10,572		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.9	101	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.3					**Direct Entry,**
6.0	151	Total			

Subcatchment 13S: M-FIELD CB3



Summary for Subcatchment 16S: BLDG S

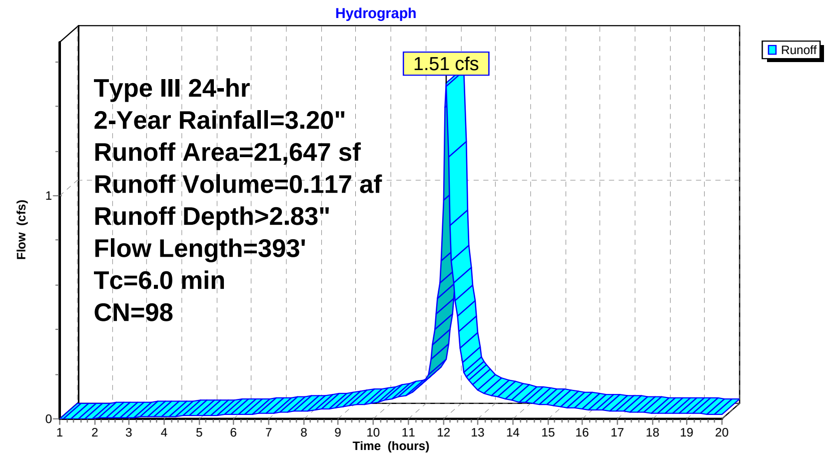
Runoff = 1.51 cfs @ 12.09 hrs, Volume= 0.117 af, Depth> 2.83"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
21,647	98	Roofs, HSG A
21,647		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0800	2.08		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.0	13	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.0	30	1.0000	37.50	13.09	**Pipe Channel, DOWNSPOUT** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.012 Steel, smooth
2.7	300	0.0050	1.85	1.01	**Pipe Channel, ROOFDRAIN** 10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21' n= 0.020 Corrugated PE, corrugated interior
2.9					**Direct Entry,**
6.0	393	Total			

Subcatchment 16S: BLDG S



Summary for Subcatchment 17S: S-FIELD CB3

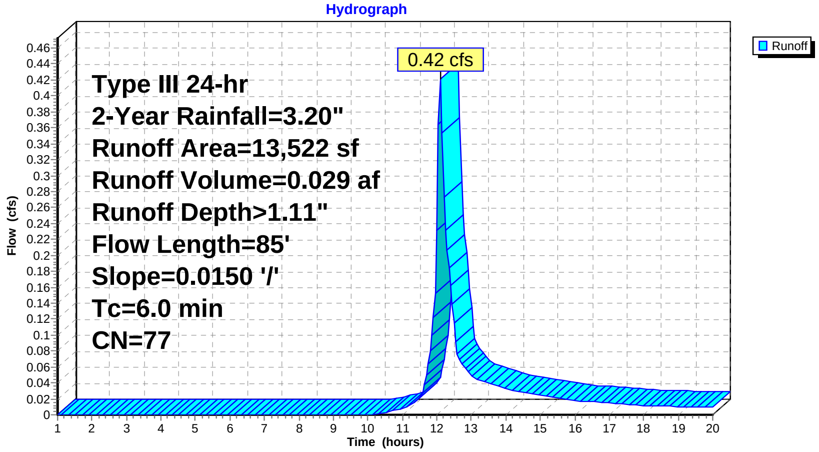
Runoff = 0.42 cfs @ 12.10 hrs, Volume= 0.029 af, Depth> 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	8,789	98	Paved Track, HSG A
	4,733	39	>75% Grass cover, Good, HSG A
	13,522	77	Weighted Average
	4,733		35.00% Pervious Area
	8,789		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.3	35	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.9					**Direct Entry,**
6.0	85	Total			

Subcatchment 17S: S-FIELD CB3



Summary for Subcatchment 19S: S-FIELD CB4

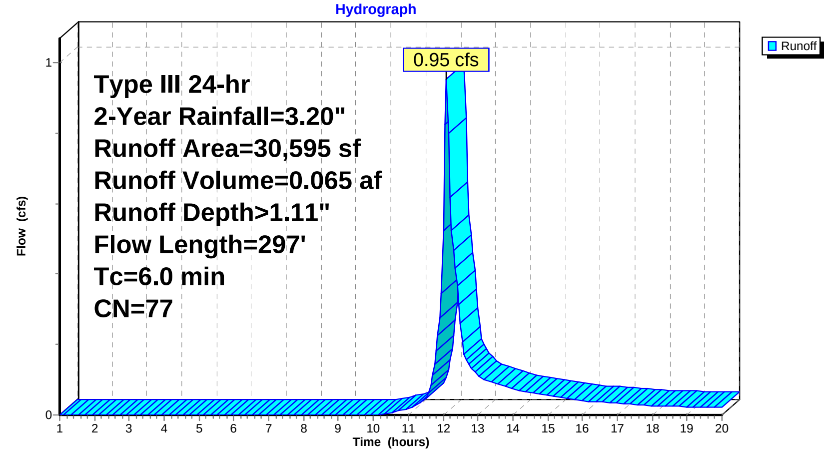
Runoff = 0.95 cfs @ 12.10 hrs, Volume= 0.065 af, Depth> 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	19,887	98	Paved Track, HSG A
	10,708	39	>75% Grass cover, Good, HSG A
	30,595	77	Weighted Average
	10,708		35.00% Pervious Area
	19,887		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	37	0.0400	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.1	20	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	240	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.1					**Direct Entry,**
6.0	297	Total			

Subcatchment 19S: S-FIELD CB4



Summary for Subcatchment 21S: S-FIELD CB5

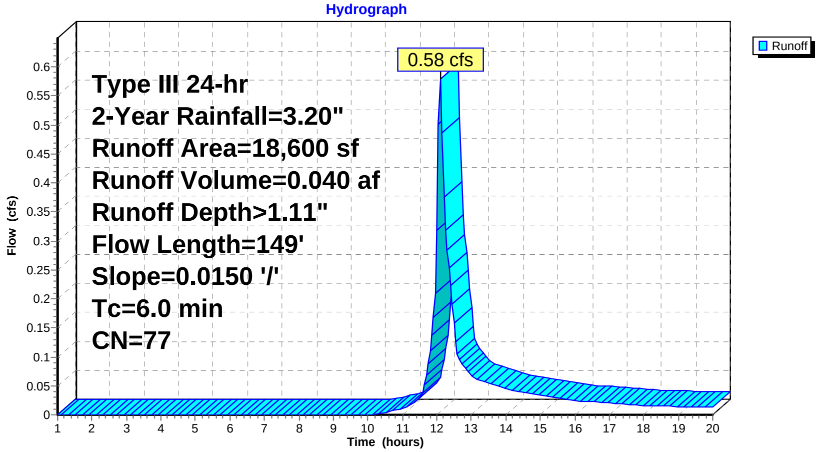
Runoff = 0.58 cfs @ 12.10 hrs, Volume= 0.040 af, Depth> 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	12,090	98	Paved Track, HSG A
	6,510	39	>75% Grass cover, Good, HSG A
	18,600	77	Weighted Average
	6,510		35.00% Pervious Area
	12,090		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.8	99	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.4					**Direct Entry,**
6.0	149	Total			

Subcatchment 21S: S-FIELD CB5



Summary for Subcatchment 23S: S-FIELD CB6

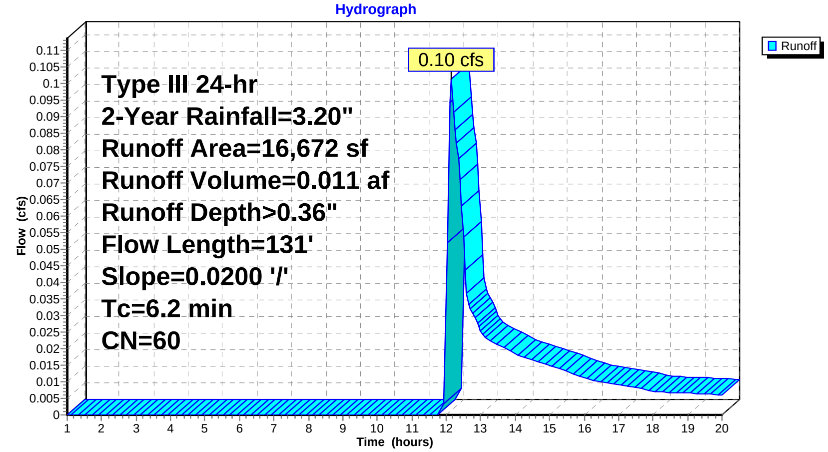
Runoff = 0.10 cfs @ 12.15 hrs, Volume= 0.011 af, Depth> 0.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	5,835	98	Paved Track, HSG A
	10,837	39	>75% Grass cover, Good, HSG A
	16,672	60	Weighted Average
	10,837		65.00% Pervious Area
	5,835		35.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.6	81	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.2	131	Total			

Subcatchment 23S: S-FIELD CB6



Summary for Subcatchment 25S: S-FIELD CB7

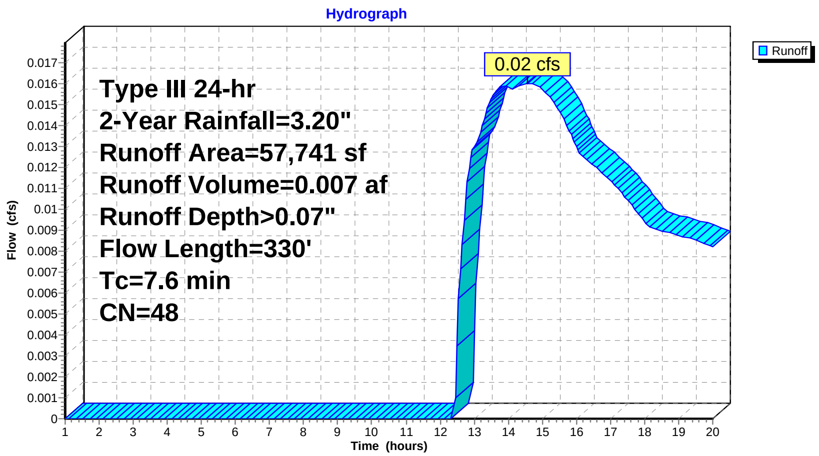
Runoff = 0.02 cfs @ 14.58 hrs, Volume= 0.007 af, Depth> 0.07"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	8,661	98	Paved Track, HSG A
	49,080	39	>75% Grass cover, Good, HSG A
	57,741	48	Weighted Average
	49,080		85.00% Pervious Area
	8,661		15.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.3	180	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.7	100	0.0250	2.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.6	330	Total			

Subcatchment 25S: S-FIELD CB7



Summary for Subcatchment 27S: N-FIELD CBF1

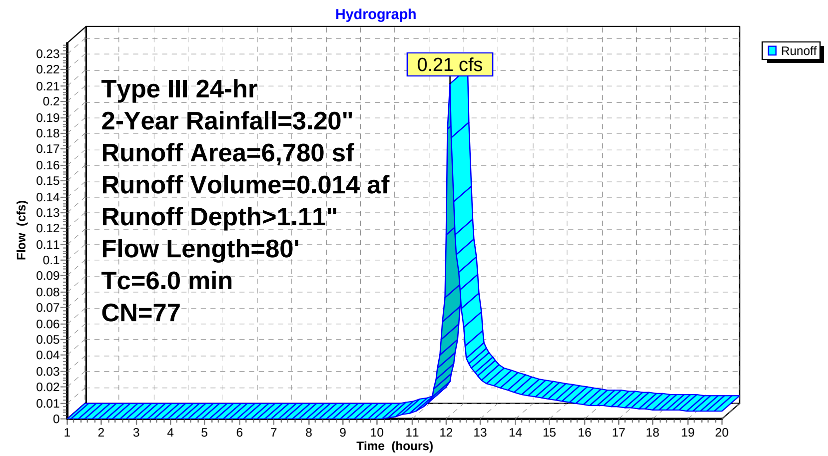
Runoff = 0.21 cfs @ 12.10 hrs, Volume= 0.014 af, Depth> 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	4,407	98	Paved Track, HSG A
	2,373	39	>75% Grass cover, Good, HSG A
	6,780	77	Weighted Average
	2,373		35.00% Pervious Area
	4,407		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0100	0.91		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.2	30	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.9					**Direct Entry,**
6.0	80	Total			

Subcatchment 27S: N-FIELD CBF1



Summary for Subcatchment 29S: N-FIELD CBF2

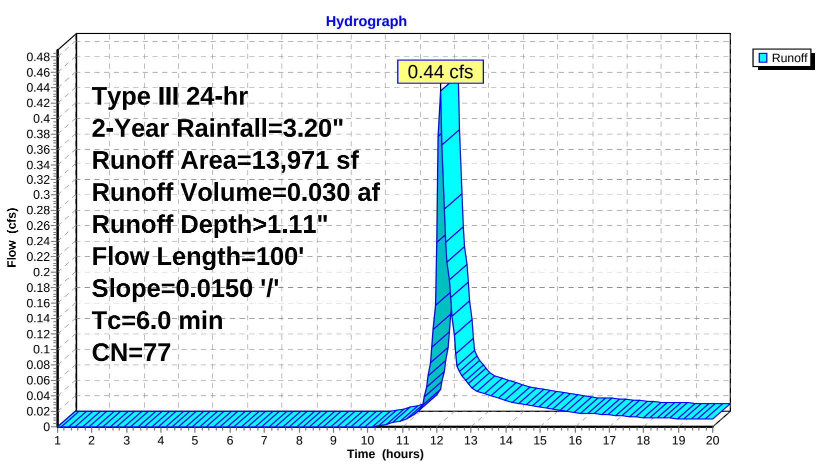
Runoff = 0.44 cfs @ 12.10 hrs, Volume= 0.030 af, Depth> 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	9,081	98	Paved Track, HSG A
	4,890	39	>75% Grass cover, Good, HSG A
	13,971	77	Weighted Average
	4,890		35.00% Pervious Area
	9,081		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	20	0.0150	0.89		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.7	80	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.9					**Direct Entry,**
6.0	100	Total			

Subcatchment 29S: N-FIELD CBF2



Summary for Subcatchment 31S: N-FIELD CBF3

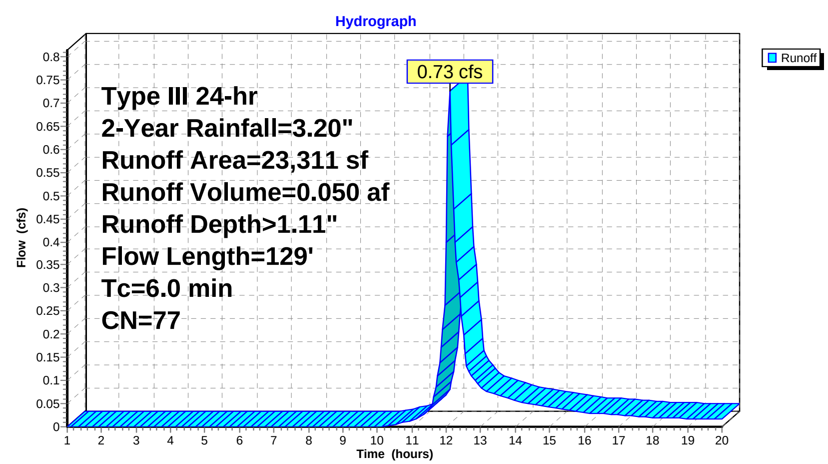
Runoff = 0.73 cfs @ 12.10 hrs, Volume= 0.050 af, Depth> 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	15,152	98	Paved Track, HSG A
	8,159	39	>75% Grass cover, Good, HSG A
	23,311	77	Weighted Average
	8,159		35.00% Pervious Area
	15,152		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	29	0.0300	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.8	100	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.1					**Direct Entry,**
6.0	129	Total			

Subcatchment 31S: N-FIELD CBF3



Summary for Subcatchment 33S: N-FIELD CBF4

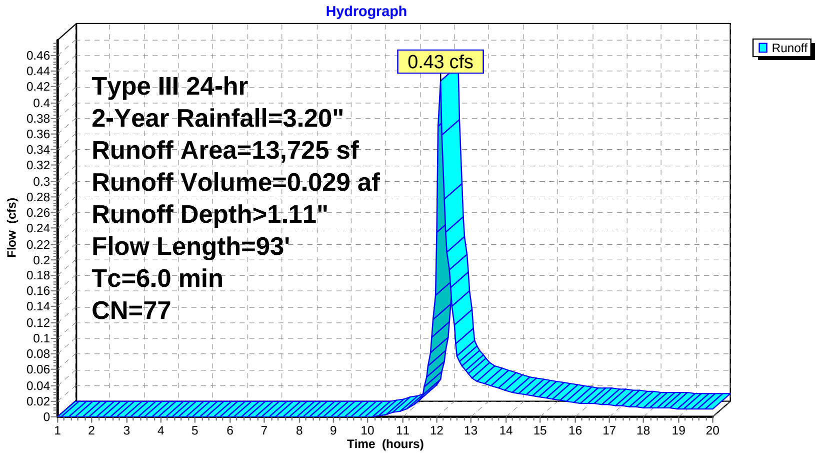
Runoff = 0.43 cfs @ 12.10 hrs, Volume= 0.029 af, Depth> 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	8,921	98	Paved Track, HSG A
	4,804	39	>75% Grass cover, Good, HSG A
	13,725	77	Weighted Average
	4,804		35.00% Pervious Area
	8,921		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	20	0.0100	0.76		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.6	73	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
5.0					**Direct Entry,**
6.0	93	Total			

Subcatchment 33S: N-FIELD CBF4



Summary for Subcatchment 35S: N-FIELD CBF5

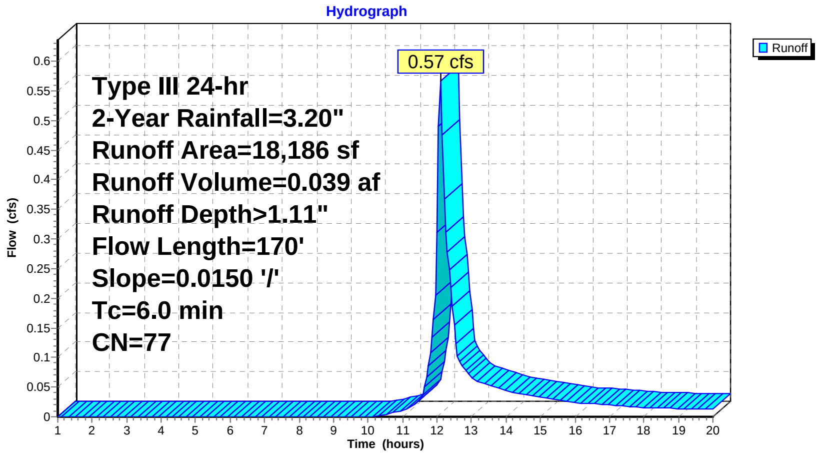
Runoff = 0.57 cfs @ 12.10 hrs, Volume= 0.039 af, Depth> 1.11"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	11,821	98	Paved Track, HSG A
	6,365	39	>75% Grass cover, Good, HSG A
	18,186	77	Weighted Average
	6,365		35.00% Pervious Area
	11,821		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.0	120	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.2					**Direct Entry,**
6.0	170	Total			

Subcatchment 35S: N-FIELD CBF5



Summary for Subcatchment 37S: N-FIELD CBF6

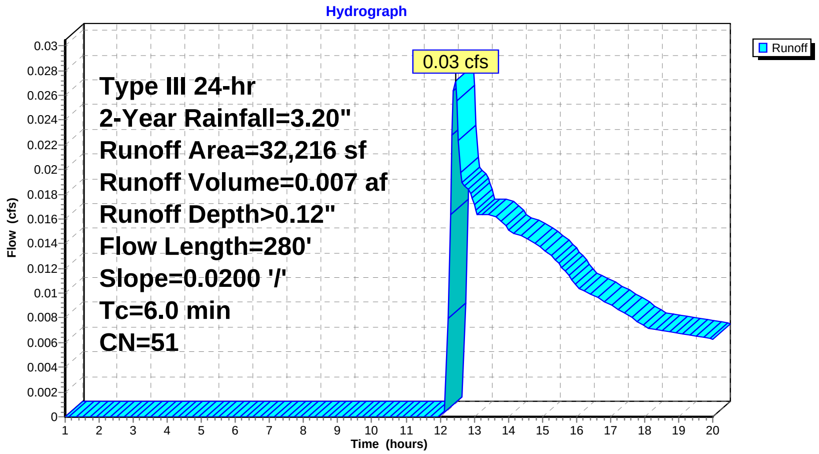
Runoff = 0.03 cfs @ 12.44 hrs, Volume= 0.007 af, Depth> 0.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

	Area (sf)	CN	Description
*	6,443	98	Paved Track, HSG A
	25,773	39	>75% Grass cover, Good, HSG A
	32,216	51	Weighted Average
	25,773		80.00% Pervious Area
	6,443		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0200	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.8	250	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.5					**Direct Entry,**
6.0	280	Total			

Subcatchment 37S: N-FIELD CBF6



Summary for Subcatchment 38S: FRONT LOT

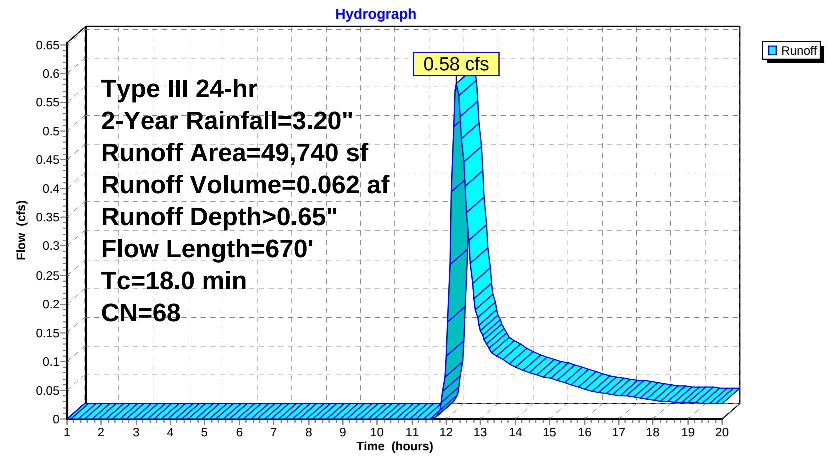
Runoff = 0.58 cfs @ 12.29 hrs, Volume= 0.062 af, Depth> 0.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
26,280	98	Paved parking, HSG A
5,218	39	>75% Grass cover, Good, HSG A
18,242	32	Woods/grass comb., Good, HSG A
49,740	68	Weighted Average
23,460		47.17% Pervious Area
26,280		52.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow, WOOD-FIELD** Woods: Light underbrush n= 0.400 P2= 3.20"
0.5	120	0.0590	3.91		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
4.2	360	0.0080	1.44		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
1.0	140	0.0140	2.40		**Shallow Concentrated Flow, PKG** Paved Kv= 20.3 fps
18.0	670	Total			

Subcatchment 38S: FRONT LOT



Summary for Subcatchment 40S: BLDG-FNT

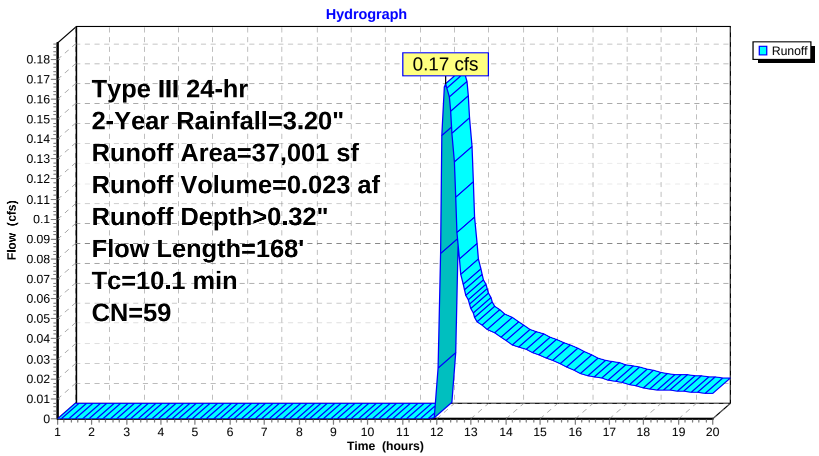
Runoff = 0.17 cfs @ 12.25 hrs, Volume= 0.023 af, Depth> 0.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
13,515	98	Paved parking, HSG A
21,205	32	Woods/grass comb., Good, HSG A
1,510	98	Unconnected pavement, HSG A
771	39	>75% Grass cover, Good, HSG A
37,001	59	Weighted Average
21,976		59.39% Pervious Area
15,025		40.61% Impervious Area
1,510		10.05% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.3	38	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.5	80	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
10.1	168	Total			

Subcatchment 40S: BLDG-FNT



Summary for Subcatchment E1: S LOT

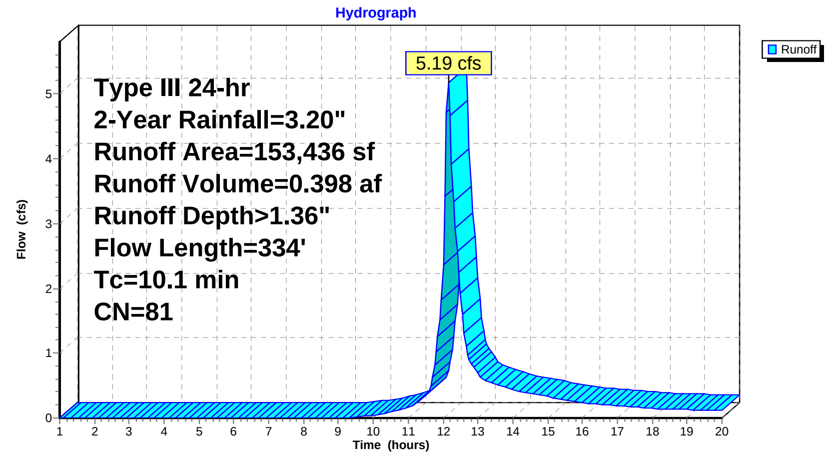
Runoff = 5.19 cfs @ 12.15 hrs, Volume= 0.398 af, Depth> 1.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
98,072	98	Paved parking, HSG A
21,058	72	Woods/grass comb., Good, HSG C
34,306	39	>75% Grass cover, Good, HSG A
153,436	81	Weighted Average
55,364		36.08% Pervious Area
98,072		63.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	50	0.0490	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.7	150	0.0486	3.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.8	134	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
10.1	334	Total			

Subcatchment E1: S LOT



Summary for Subcatchment E2: FRONT LOT

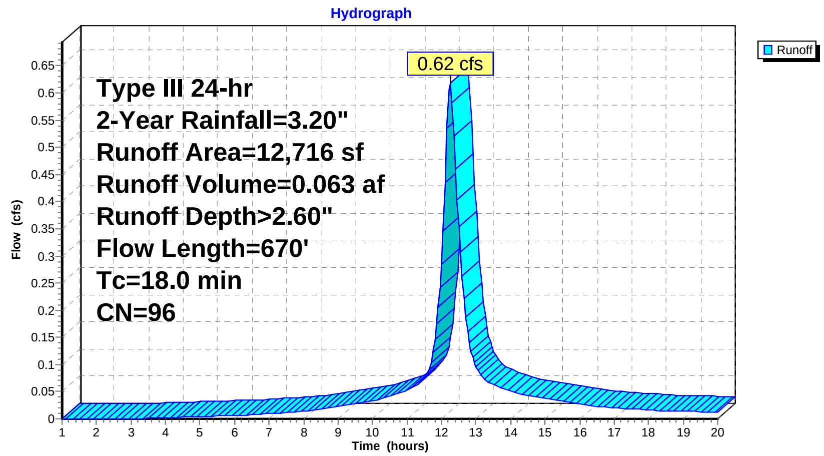
Runoff = 0.62 cfs @ 12.24 hrs, Volume= 0.063 af, Depth> 2.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
12,218	98	Paved parking, HSG A
498	39	>75% Grass cover, Good, HSG A
12,716	96	Weighted Average
498		3.92% Pervious Area
12,218		96.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow, WOOD-FIELD** Woods: Light underbrush n= 0.400 P2= 3.20"
0.5	120	0.0590	3.91		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
4.2	360	0.0080	1.44		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
1.0	140	0.0140	2.40		**Shallow Concentrated Flow, PKG** Paved Kv= 20.3 fps
18.0	670	Total			

Subcatchment E2: FRONT LOT



Summary for Subcatchment P2: SLOPE

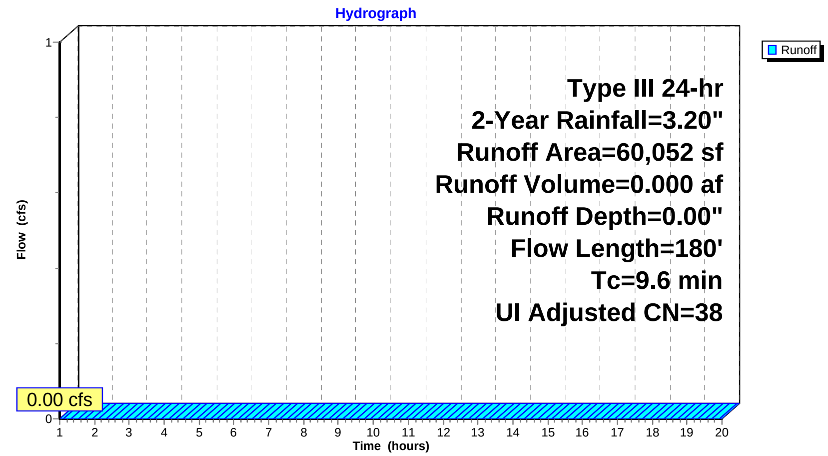
Runoff = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Adj	Description
2,289	98		Unconnected pavement, HSG A
15,553	32		Woods/grass comb., Good, HSG A
42,210	39		>75% Grass cover, Good, HSG A
60,052	39	38	Weighted Average, UI Adjusted
57,763			96.19% Pervious Area
2,289			3.81% Impervious Area
2,289			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	50	0.0450	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.3	80	0.0800	4.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	50	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
9.6	180	Total			

Subcatchment P2: SLOPE



Summary for Subcatchment P4: BLDG FNT2

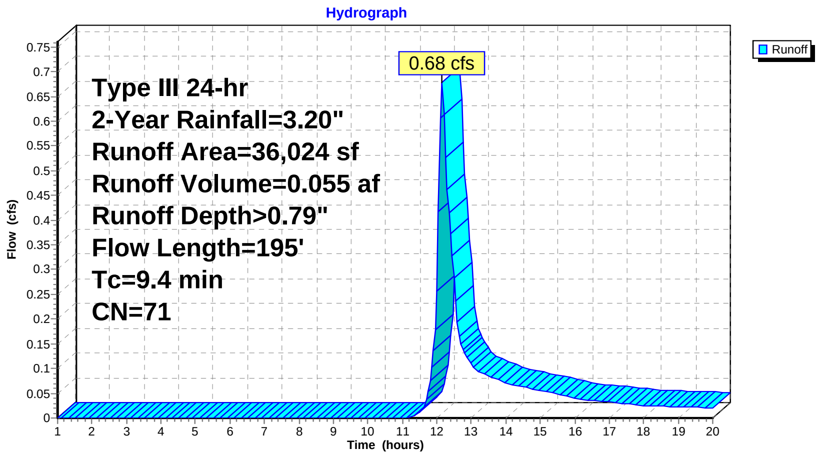
Runoff = 0.68 cfs @ 12.15 hrs, Volume= 0.055 af, Depth> 0.79"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.20"

Area (sf)	CN	Description
21,282	98	Paved parking, HSG A
841	39	>75% Grass cover, Good, HSG A
13,901	32	Woods/grass comb., Good, HSG A
36,024	71	Weighted Average
14,742		40.92% Pervious Area
21,282		59.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	50	0.0560	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.1	15	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.1	130	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
9.4	195	Total			

Subcatchment P4: BLDG FNT2

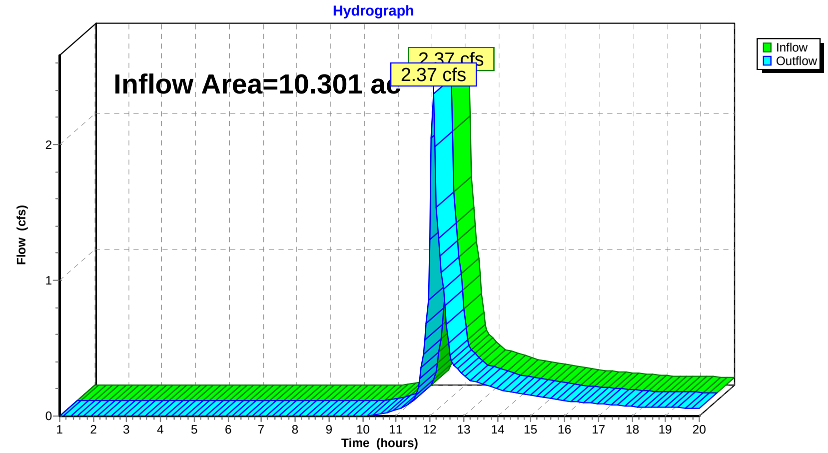


Summary for Reach 39R: HEADWALL 'A'

Inflow Area = 10.301 ac, 59.73% Impervious, Inflow Depth > 0.20" for 2-Year event
Inflow = 2.37 cfs @ 12.10 hrs, Volume= 0.169 af
Outflow = 2.37 cfs @ 12.10 hrs, Volume= 0.169 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3

Reach 39R: HEADWALL 'A'



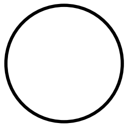
Summary for Reach 41R: discharge

Inflow Area = 7.817 ac, 62.31% Impervious, Inflow Depth = 0.00" for 2-Year event
Inflow = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

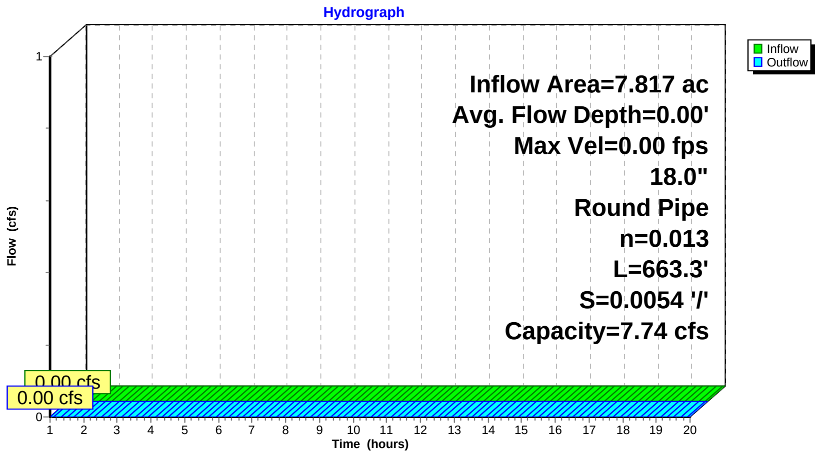
Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 1.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.74 cfs

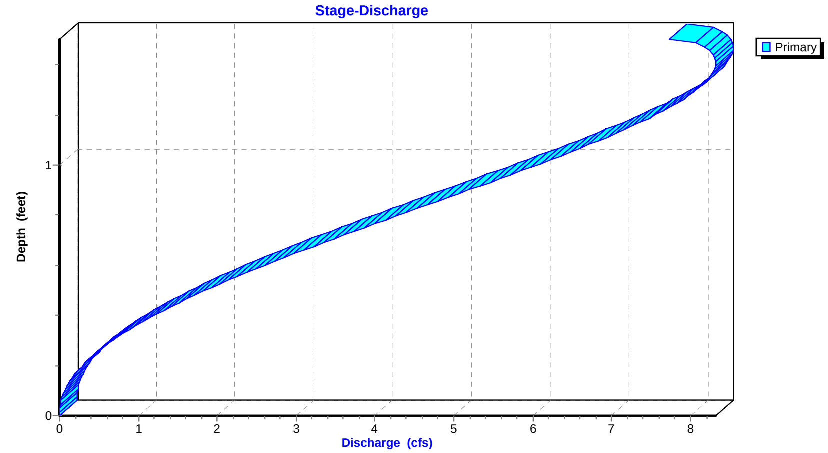
18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 663.3' Slope= 0.0054 '/'
Inlet Invert= 110.85', Outlet Invert= 107.25'



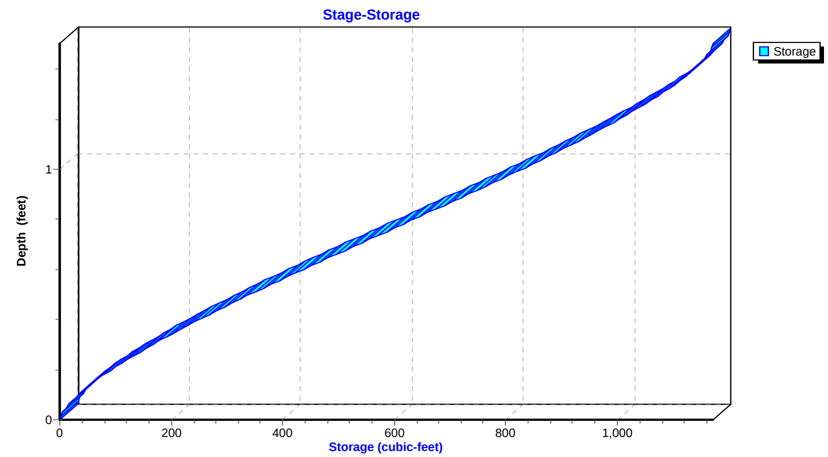
Reach 41R: discharge



Reach 41R: discharge



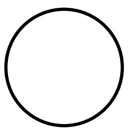
Reach 41R: discharge



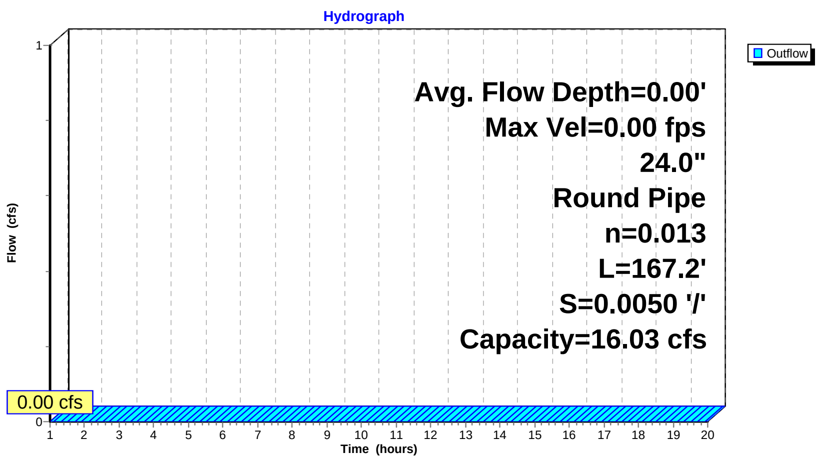
Summary for Reach 42R: PND DISCHARGE

Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 16.03 cfs

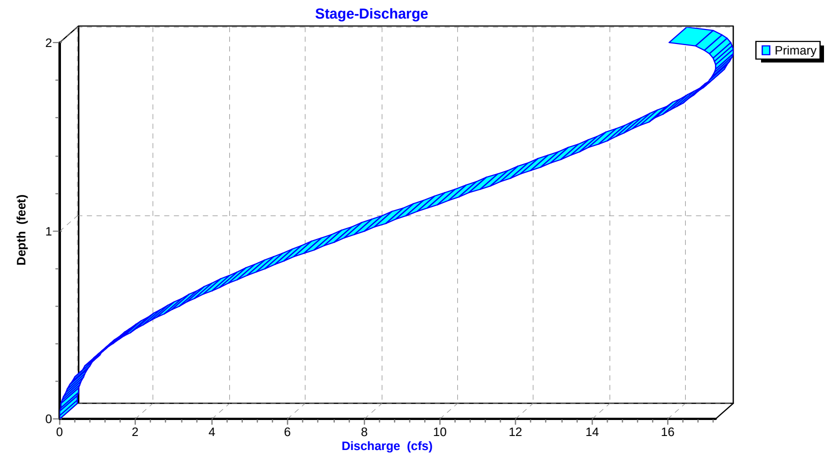
24.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 167.2' Slope= 0.0050 '/'
Inlet Invert= 115.90', Outlet Invert= 115.06'



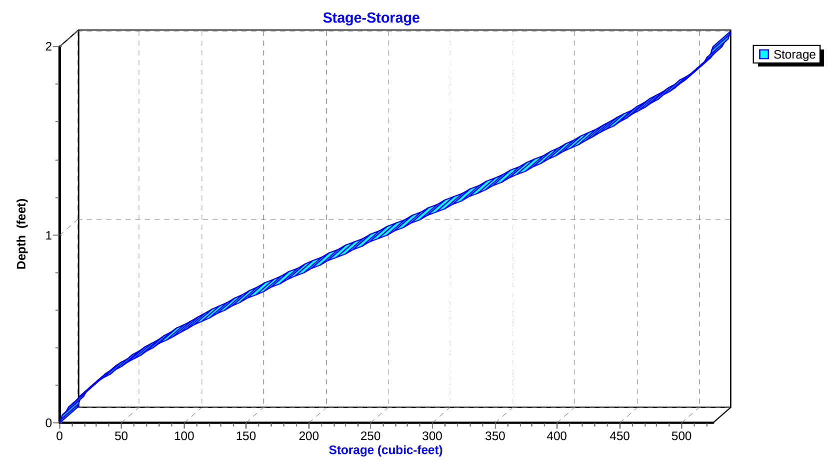
Reach 42R: PND DISCHARGE



Reach 42R: PND DISCHARGE



Reach 42R: PND DISCHARGE

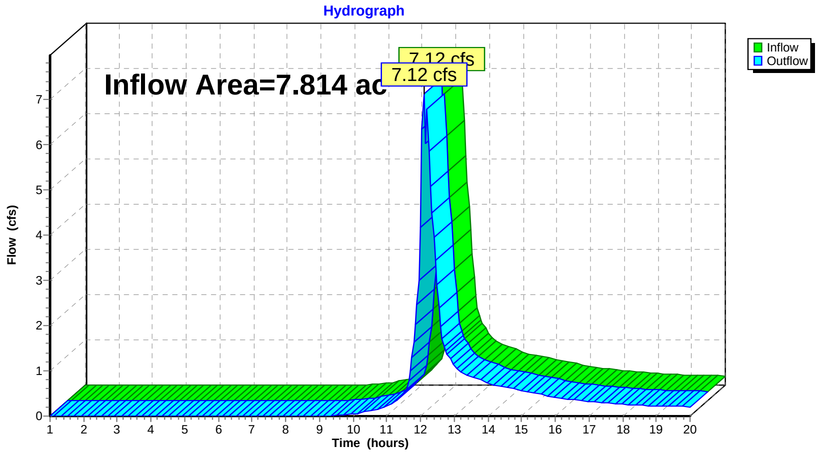


Summary for Reach RE1: HEADWALL 'B'

Inflow Area = 7.814 ac, 54.07% Impervious, Inflow Depth > 0.97" for 2-Year event
Inflow = 7.12 cfs @ 12.10 hrs, Volume= 0.633 af
Outflow = 7.12 cfs @ 12.10 hrs, Volume= 0.633 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3

Reach RE1: HEADWALL 'B'



Summary for Pond 1P: PKG ISL POND 1

Inflow Area = 0.849 ac, 40.61% Impervious, Inflow Depth > 0.32" for 2-Year event
Inflow = 0.17 cfs @ 12.25 hrs, Volume= 0.023 af
Outflow = 0.12 cfs @ 12.53 hrs, Volume= 0.023 af, Atten= 29%, Lag= 16.9 min
Discarded = 0.03 cfs @ 12.53 hrs, Volume= 0.015 af
Primary = 0.09 cfs @ 12.53 hrs, Volume= 0.008 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 119.21' @ 12.53 hrs Surf.Area= 549 sf Storage= 122 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 16.9 min (885.1 - 868.2)

Volume	Invert	Avail.Storage	Storage Description
#1	118.95'	1,682 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

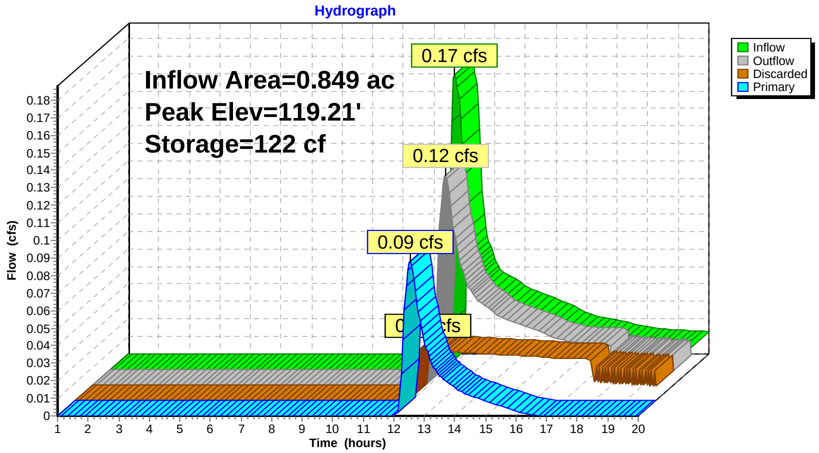
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.95	424	0.0	0	0
119.00	424	100.0	21	21
120.00	1,030	100.0	727	748
120.75	1,459	100.0	933	1,682

Device	Routing	Invert	Outlet Devices
#1	Primary	118.50'	**8.0" Round Culvert** L= 63.3' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 118.50' / 117.80' S= 0.0111 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	119.00'	**4.0" Vert. 4" Orifice** C= 0.600
#3	Device 1	120.70'	**2.5" x 2.5" Horiz. Overflow X 6.00 columns** X 6 rows C= 0.600 in 24.0" x 24.0" Grate (39% open area) Limited to weir flow at low heads
#4	Discarded	118.95'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 112.00'

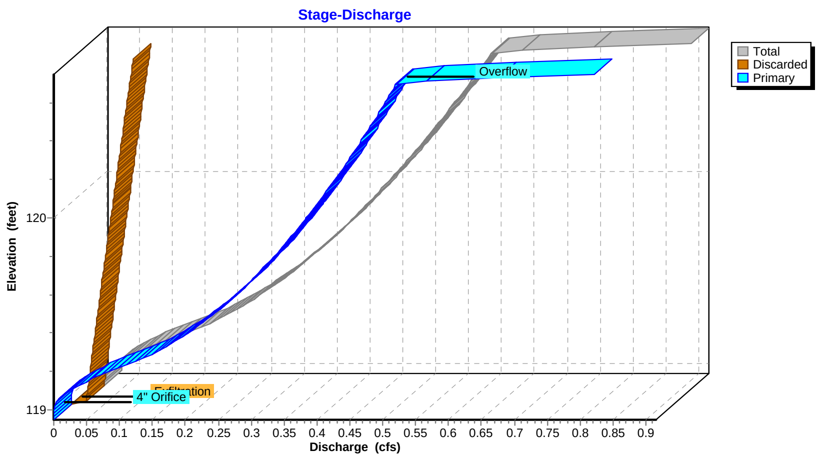
Discarded OutFlow Max=0.03 cfs @ 12.53 hrs HW=119.21' (Free Discharge)
└─**4=Exfiltration** (Controls 0.03 cfs)

Primary OutFlow Max=0.09 cfs @ 12.53 hrs HW=119.21' TW=116.40' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.09 cfs of 0.81 cfs potential flow)
  ├─**2=4" Orifice** (Orifice Controls 0.09 cfs @ 1.55 fps)
  └─**3=Overflow** (Controls 0.00 cfs)

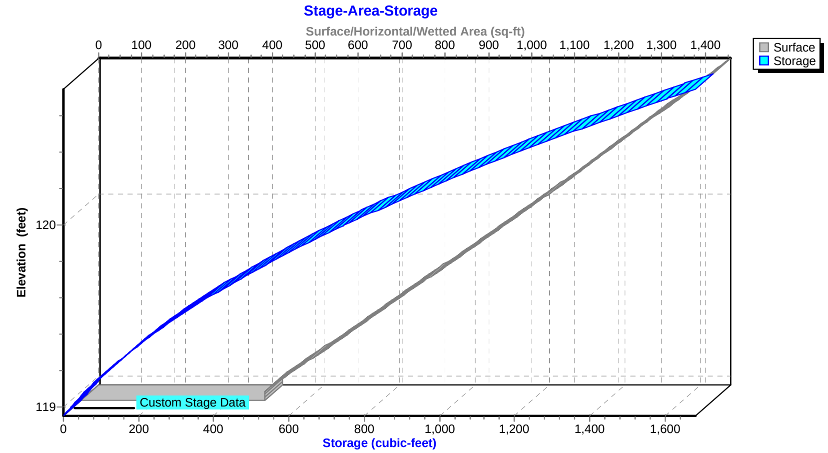
Pond 1P: PKG ISL POND 1



Pond 1P: PKG ISL POND 1



Pond 1P: PKG ISL POND 1



Summary for Pond 2P: PKG ISL 2

Inflow Area = 0.827 ac, 59.08% Impervious, Inflow Depth > 0.79" for 2-Year event
Inflow = 0.68 cfs @ 12.15 hrs, Volume= 0.055 af
Outflow = 0.43 cfs @ 12.33 hrs, Volume= 0.055 af, Atten= 36%, Lag= 10.9 min
Discarded = 0.06 cfs @ 12.33 hrs, Volume= 0.026 af
Primary = 0.37 cfs @ 12.33 hrs, Volume= 0.028 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 119.41' @ 12.33 hrs Surf.Area= 1,110 sf Storage= 357 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 13.3 min (841.7 - 828.4)

Volume	Invert	Avail.Storage	Storage Description
#1	118.99'	1,417 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

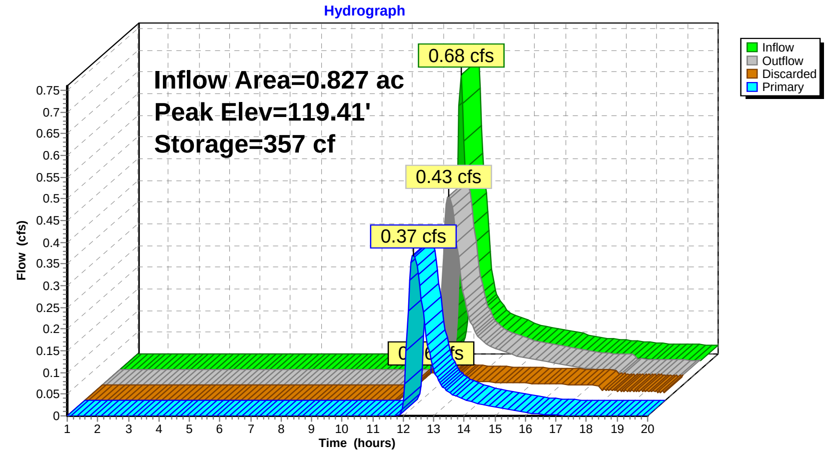
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.99	622	0.0	0	0
119.00	622	100.0	6	6
120.00	1,827	100.0	1,225	1,231
120.10	1,906	100.0	187	1,417

Device	Routing	Invert	Outlet Devices
#1	Primary	118.00'	**12.0" Round Culvert** L= 40.1' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 118.00' / 117.80' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	119.00'	**6.0" Vert. 4" Oriface** C= 0.600
#3	Device 1	119.50'	**6.0" Vert. 6" Oriface** C= 0.600
#4	Device 1	120.05'	**2.5" x 2.5" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 in 24.0" x 24.0" Grate (39% open area) Limited to weir flow at low heads
#5	Discarded	118.99'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 112.00'

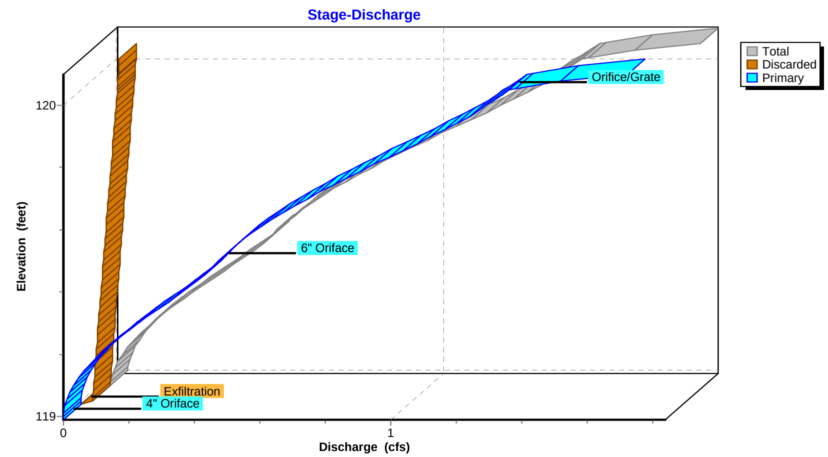
Discarded OutFlow Max=0.06 cfs @ 12.33 hrs HW=119.40' (Free Discharge)
└**5=Exfiltration** (Controls 0.06 cfs)

Primary OutFlow Max=0.37 cfs @ 12.33 hrs HW=119.40' TW=116.19' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.37 cfs of 2.76 cfs potential flow)
  ├**2=4" Oriface** (Orifice Controls 0.37 cfs @ 2.17 fps)
  ├**3=6" Oriface** (Controls 0.00 cfs)
  └**4=Orifice/Grate** (Controls 0.00 cfs)

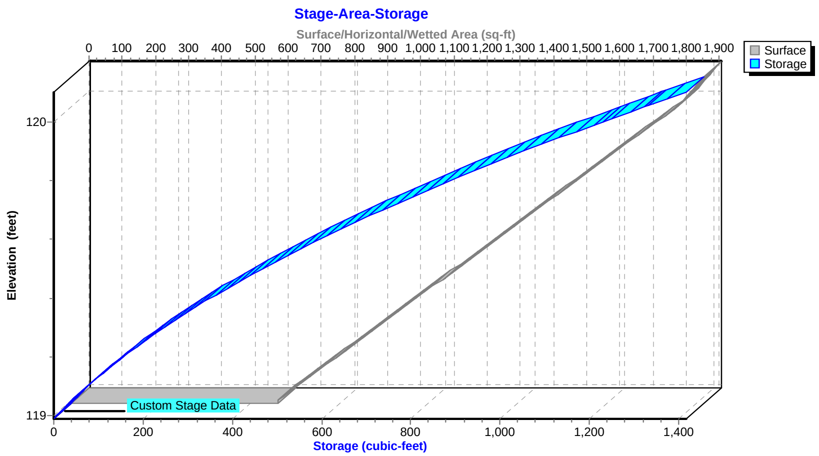
Pond 2P: PKG ISL 2



Pond 2P: PKG ISL 2



Pond 2P: PKG ISL 2



Summary for Pond 3P: PKG ISL 3

Inflow Area = 0.335 ac, 95.34% Impervious, Inflow Depth > 2.51" for 2-Year event
Inflow = 0.96 cfs @ 12.09 hrs, Volume= 0.070 af
Outflow = 0.44 cfs @ 12.27 hrs, Volume= 0.070 af, Atten= 54%, Lag= 10.7 min
Discarded = 0.10 cfs @ 12.27 hrs, Volume= 0.040 af
Primary = 0.34 cfs @ 12.27 hrs, Volume= 0.030 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 118.83' @ 12.27 hrs Surf.Area= 964 sf Storage= 524 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 9.0 min (760.7 - 751.7)

Volume	Invert	Avail.Storage	Storage Description
#1	117.99'	1,588 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

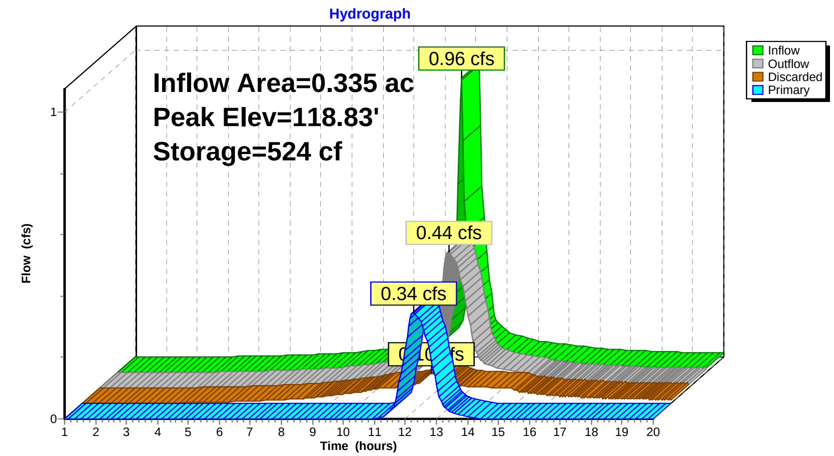
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.99	900	0.0	0	0
118.00	278	100.0	6	6
119.00	1,100	100.0	689	695
120.00	686	100.0	893	1,588

Device	Routing	Invert	Outlet Devices
#1	Primary	117.40'	**8.0" Round Culvert** L= 77.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 117.40' / 117.02' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	118.00'	**4.0" Vert. 4" Oriface** C= 0.600
#3	Device 1	119.50'	**2.5" x 2.5" Horiz. Overflow Grate X 6.00 columns** X 6 rows C= 0.600 in 24.0" x 24.0" Grate (39% open area) Limited to weir flow at low heads
#4	Discarded	117.99'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 112.00'

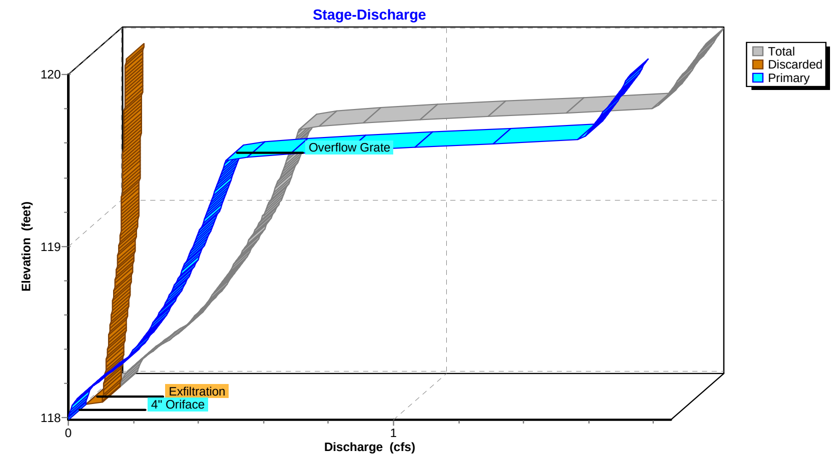
Discarded OutFlow Max=0.10 cfs @ 12.27 hrs HW=118.83' (Free Discharge)
└─**4=Exfiltration** (Controls 0.10 cfs)

Primary OutFlow Max=0.34 cfs @ 12.27 hrs HW=118.83' TW=116.09' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.34 cfs of 1.22 cfs potential flow)
  ├─**2=4" Oriface** (Orifice Controls 0.34 cfs @ 3.93 fps)
  └─**3=Overflow Grate** (Controls 0.00 cfs)

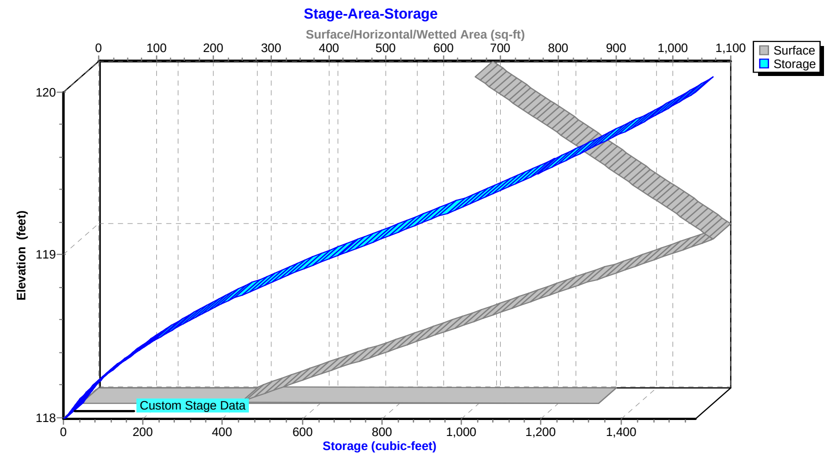
Pond 3P: PKG ISL 3



Pond 3P: PKG ISL 3



Pond 3P: PKG ISL 3



Summary for Pond 4P: REAR FB

Inflow Area =	7.817 ac, 62.31% Impervious, Inflow Depth = 0.00"		for 2-Year event	
Inflow =	0.05 cfs @	12.55 hrs, Volume=	0.003 af	
Outflow =	0.05 cfs @	12.55 hrs, Volume=	0.003 af,	Atten= 0%, Lag= 0.0 min
Discarded =	0.05 cfs @	12.55 hrs, Volume=	0.003 af	
Primary =	0.00 cfs @	1.00 hrs, Volume=	0.000 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 113.50' @ 1.00 hrs Surf.Area= 5,599 sf Storage= 0 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 0.0 min (761.5 - 761.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	113.50'	6,196 cf	**25.92'W x 216.04'L x 4.00'H Field A** 22,396 cf Overall - 6,905 cf Embedded = 15,491 cf x 40.0% Voids
#2A	114.50'	6,905 cf	**ADS_StormTech SC-740** x 150 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 6.45 sf x 5 rows
		13,102 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	113.50'	**2.410 in/hr Exfiltration over Horizontal area** Conductivity to Groundwater Elevation = 111.47'
#2	Primary	115.50'	**12.0" Round Culvert** L= 15.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 115.50' / 115.40' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Discarded OutFlow Max=0.00 cfs @ 12.55 hrs HW=113.50' (Free Discharge)
└**1=Exfiltration** (Passes 0.00 cfs of 0.31 cfs potential flow)

Primary OutFlow Max=0.00 cfs @ 1.00 hrs HW=113.50' TW=110.85' (Dynamic Tailwater)
└**2=Culvert** (Controls 0.00 cfs)

Pond 4P: REAR FB - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 (ADS StormTech® SC-740 without end caps)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
Row Length Adjustment= +0.44' x 6.45 sf x 5 rows

51.0" Wide + 8.0" Spacing = 59.0" C-C Row Spacing

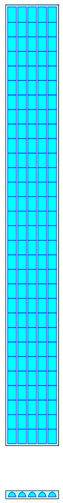
30 Chambers/Row x 7.12' Long +0.44' Row Adjustment = 214.04' Row Length +12.0" End Stone x 2 = 216.04' Base Length
5 Rows x 51.0" Wide + 8.0" Spacing x 4 + 12.0" Side Stone x 2 = 25.92' Base Width
12.0" Base + 30.0" Chamber Height + 6.0" Cover = 4.00' Field Height

150 Chambers x 45.9 cf +0.44' Row Adjustment x 6.45 sf x 5 Rows = 6,905.2 cf Chamber Storage

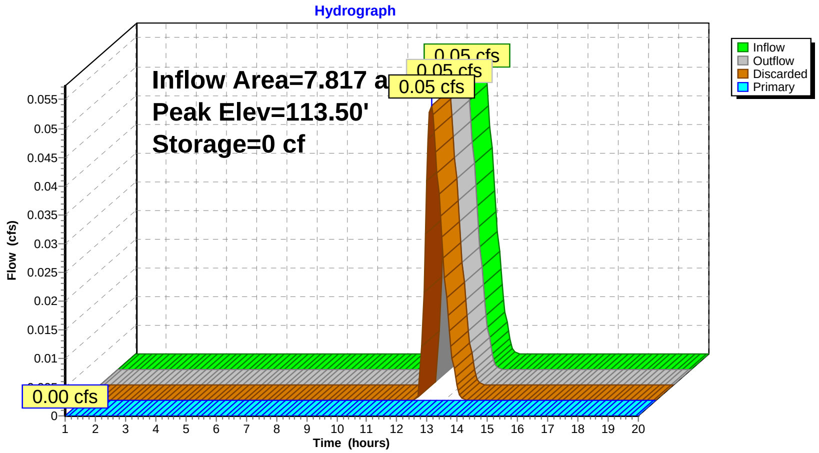
22,396.1 cf Field - 6,905.2 cf Chambers = 15,490.9 cf Stone x 40.0% Voids = 6,196.4 cf Stone Storage

Chamber Storage + Stone Storage = 13,101.6 cf = 0.301 af
Overall Storage Efficiency = 58.5%
Overall System Size = 216.04' x 25.92' x 4.00'

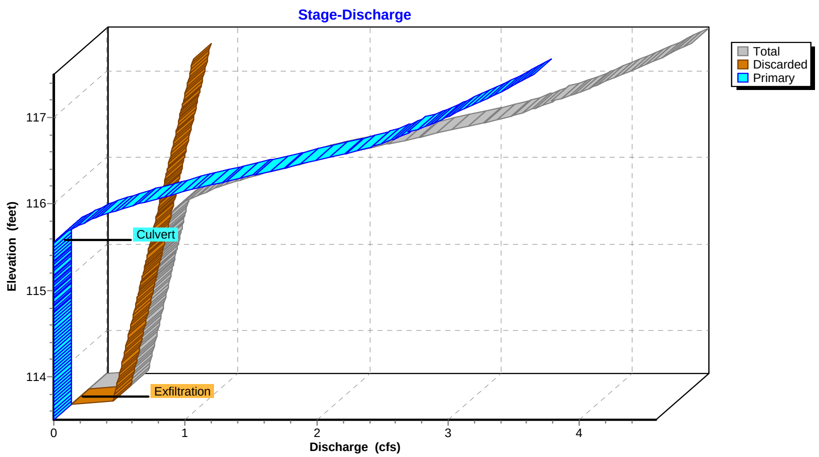
150 Chambers
829.5 cy Field
573.7 cy Stone



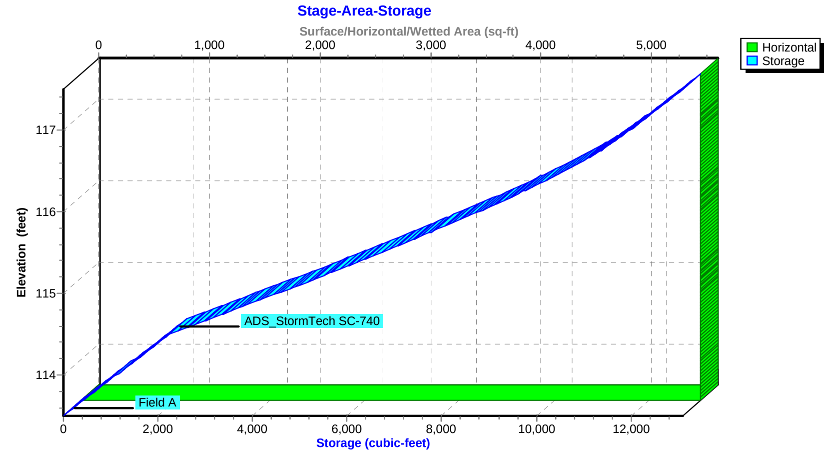
Pond 4P: REAR FB



Pond 4P: REAR FB



Pond 4P: REAR FB



Summary for Pond 6P: PKG

Inflow Area =	4.922 ac, 67.09% Impervious, Inflow Depth > 1.08"	for 2-Year event	
Inflow =	4.63 cfs @ 12.11 hrs, Volume=	0.442 af	
Outflow =	0.78 cfs @ 13.05 hrs, Volume=	0.443 af, Atten= 83%, Lag= 56.6 min	
Discarded =	0.78 cfs @ 13.05 hrs, Volume=	0.443 af	
Primary =	0.00 cfs @ 1.00 hrs, Volume=	0.000 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 116.56' @ 13.05 hrs Surf.Area= 8,327 sf Storage= 7,481 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 88.0 min (860.7 - 772.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	115.17'	7,782 cf	**80.75'W x 103.12'L x 3.50'H Field A** 29,144 cf Overall - 9,690 cf Embedded = 19,454 cf x 40.0% Voids
#2A	115.67'	9,690 cf	**ADS_StormTech SC-740** x 210 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 6.45 sf x 15 rows
		17,471 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	115.17'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 113.10'
#2	Primary	117.00'	**10.0" Round Culvert X 3.00** L= 80.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 117.00' / 116.00' S= 0.0125 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf

Discarded OutFlow Max=0.78 cfs @ 13.05 hrs HW=116.56' (Free Discharge)
└─**1=Exfiltration** (Controls 0.78 cfs)

Primary OutFlow Max=0.00 cfs @ 1.00 hrs HW=115.17' TW=113.50' (Dynamic Tailwater)
└─**2=Culvert** (Controls 0.00 cfs)

Pond 6P: PKG - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 (ADS StormTech® SC-740 without end caps)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
Row Length Adjustment= +0.44' x 6.45 sf x 15 rows

51.0" Wide + 12.0" Spacing = 63.0" C-C Row Spacing

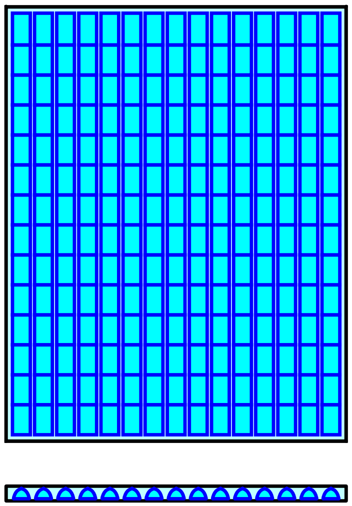
14 Chambers/Row x 7.12' Long +0.44' Row Adjustment = 100.12' Row Length +18.0" End Stone x 2 = 103.12' Base Length
15 Rows x 51.0" Wide + 12.0" Spacing x 14 + 18.0" Side Stone x 2 = 80.75' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

210 Chambers x 45.9 cf +0.44' Row Adjustment x 6.45 sf x 15 Rows = 9,689.8 cf Chamber Storage

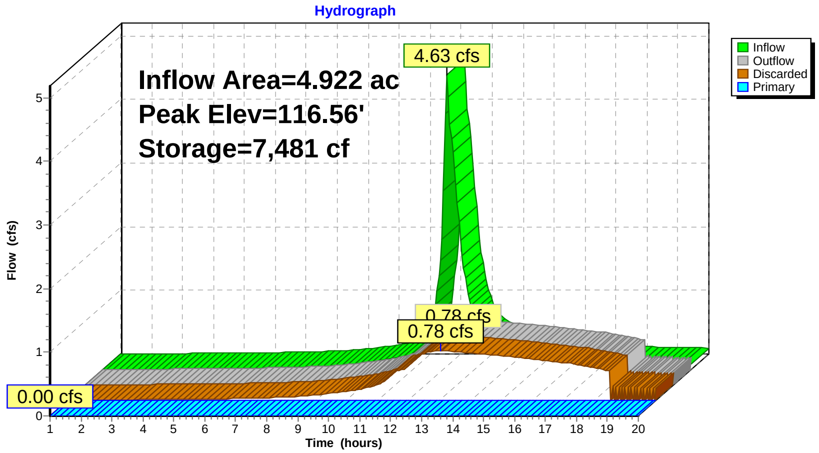
29,143.8 cf Field - 9,689.8 cf Chambers = 19,454.0 cf Stone x 40.0% Voids = 7,781.6 cf Stone Storage

Chamber Storage + Stone Storage = 17,471.4 cf = 0.401 af
Overall Storage Efficiency = 59.9%
Overall System Size = 103.12' x 80.75' x 3.50'

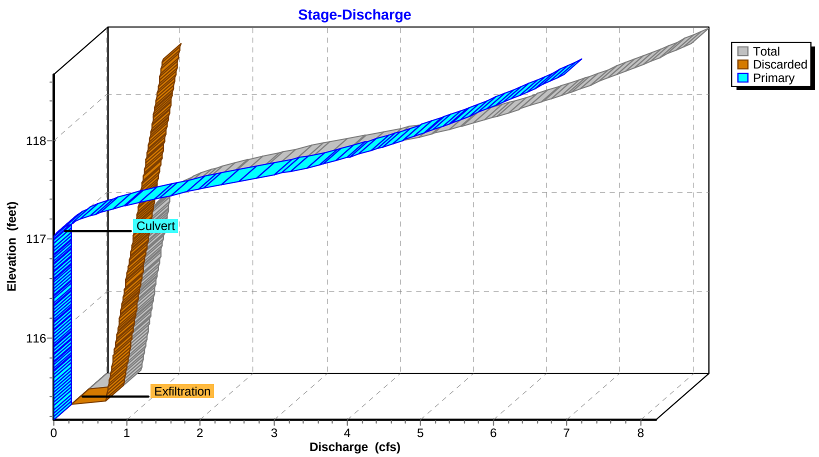
210 Chambers
1,079.4 cy Field
720.5 cy Stone



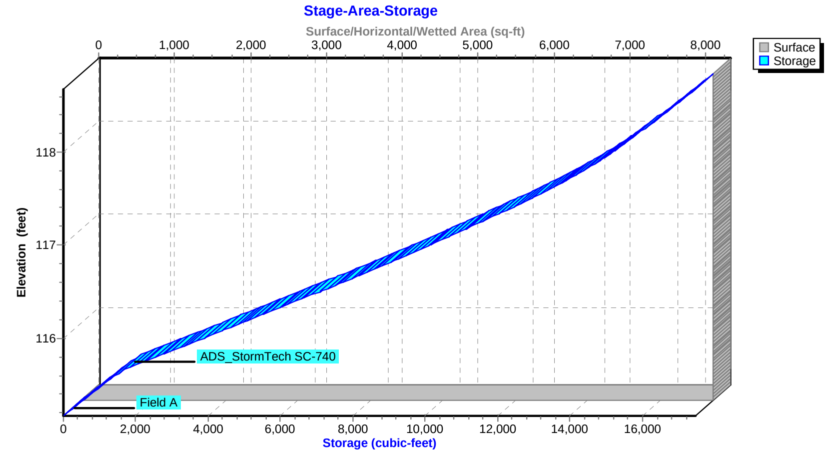
Pond 6P: PKG



Pond 6P: PKG



Pond 6P: PKG



Summary for Pond 7P: CB-SE Pkg

Inflow Area = 3.522 ac, 63.92% Impervious, Inflow Depth > 1.36" for 2-Year event
Inflow = 5.19 cfs @ 12.15 hrs, Volume= 0.398 af
Outflow = 5.19 cfs @ 12.15 hrs, Volume= 0.398 af, Atten= 0%, Lag= 0.0 min
Primary = 4.56 cfs @ 12.21 hrs, Volume= 0.385 af
Secondary = 2.10 cfs @ 12.14 hrs, Volume= 0.013 af

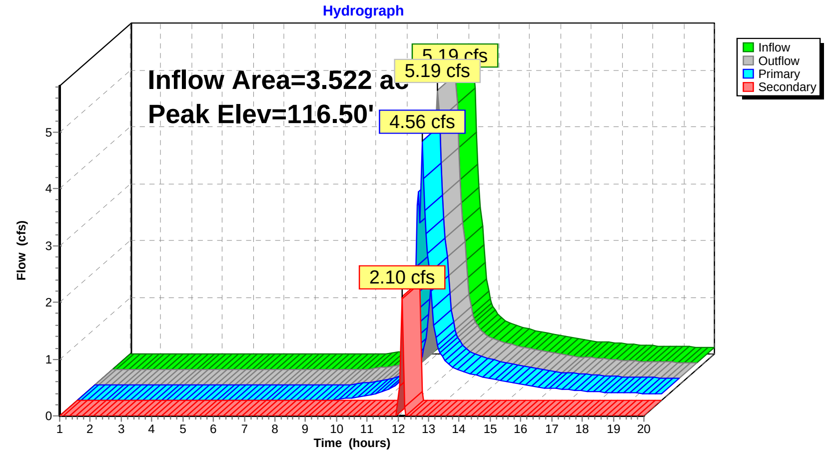
Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 116.50' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	113.30'	**12.0" Round RCP_Round 12"** L= 71.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 113.30' / 111.17' S= 0.0299 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	117.80'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area) Limited to weir flow at low heads
#3	Secondary	116.00'	**8.0" Round Culvert X 4.00** L= 39.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 113.20' / 116.00' S= -0.0709 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

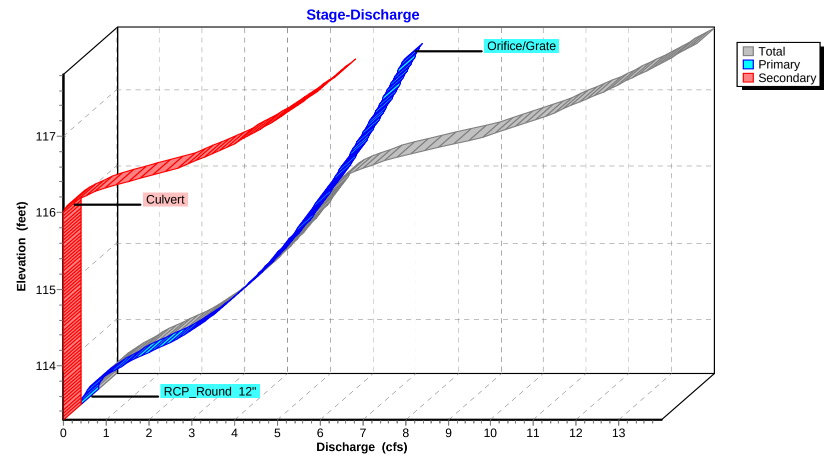
Primary OutFlow Max=4.31 cfs @ 12.21 hrs HW=116.06' TW=114.61' (Dynamic Tailwater)
└─**1=RCP_Round 12"** (Outlet Controls 4.31 cfs @ 5.49 fps)
└─**2=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=1.91 cfs @ 12.14 hrs HW=116.47' (Free Discharge)
└─**3=Culvert** (Inlet Controls 1.91 cfs @ 1.83 fps)

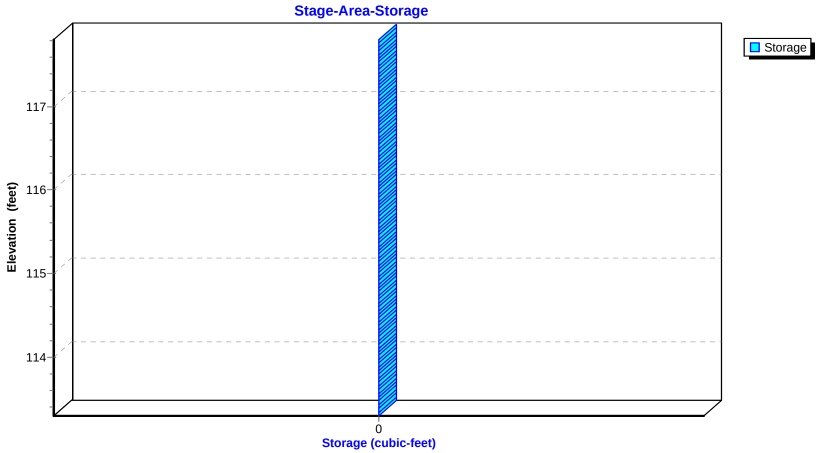
Pond 7P: CB-SE Pkg



Pond 7P: CB-SE Pkg



Pond 7P: CB-SE Pkg



Summary for Pond 8P: SC740

Inflow Area =	7.817 ac, 62.31% Impervious, Inflow Depth > 0.55"	for 2-Year event	
Inflow =	4.60 cfs @ 12.09 hrs, Volume=	0.357 af	
Outflow =	0.80 cfs @ 12.55 hrs, Volume=	0.357 af, Atten= 83%, Lag= 27.7 min	
Discarded =	0.75 cfs @ 12.55 hrs, Volume=	0.355 af	
Primary =	0.05 cfs @ 12.55 hrs, Volume=	0.003 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 114.71' @ 12.55 hrs Surf.Area= 8,322 sf Storage= 4,756 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 42.2 min (771.0 - 728.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	113.50'	7,553 cf	**31.25'W x 217.22'L x 4.00'H Field A** 27,152 cf Overall - 8,269 cf Embedded = 18,883 cf x 40.0% Voids
#2A	114.50'	8,269 cf	**ADS_StormTech SC-740 +Cap** x 180 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 6 Rows of 30 Chambers
#3B	113.50'	1,719 cf	**20.50'W x 74.82'L x 4.00'H Field B** 6,135 cf Overall - 1,838 cf Embedded = 4,297 cf x 40.0% Voids
#4B	114.50'	1,838 cf	**ADS_StormTech SC-740 +Cap** x 40 Inside #3 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 4 Rows of 10 Chambers
		19,379 cf	Total Available Storage

Storage Group A created with Chamber Wizard
Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	114.50'	**15.0" Round Culvert** L= 77.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 114.50' / 114.50' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Discarded	113.50'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 111.50'

Discarded OutFlow Max=0.75 cfs @ 12.55 hrs HW=114.71' (Free Discharge)
└─**2=Exfiltration** (Controls 0.75 cfs)

Primary OutFlow Max=0.05 cfs @ 12.55 hrs HW=114.71' TW=113.50' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 0.05 cfs @ 0.57 fps)

Pond 8P: SC740 - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 9.0" Spacing = 60.0" C-C Row Spacing

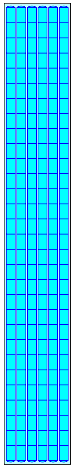
30 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 215.22' Row Length +12.0" End Stone x 2 = 217.22' Base Length
6 Rows x 51.0" Wide + 9.0" Spacing x 5 + 12.0" Side Stone x 2 = 31.25' Base Width
12.0" Base + 30.0" Chamber Height + 6.0" Cover = 4.00' Field Height

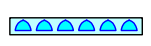
180 Chambers x 45.9 cf = 8,269.2 cf Chamber Storage

27,152.1 cf Field - 8,269.2 cf Chambers = 18,882.9 cf of Stone x 40.0% Voids = 7,553.2 cf of Stone Storage

Chamber Storage + Stone Storage = 15,822.4 cf = 0.363 af
Overall Storage Efficiency = 58.3%
Overall System Size = 217.22' x 31.25' x 4.00'

180 Chambers
1,005.6 cy Field
699.4 cy Stone





Pond 8P: SC740 - Chamber Wizard Field B

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

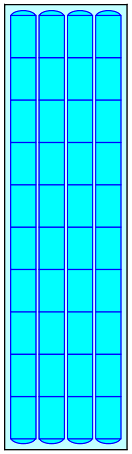
10 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 72.82' Row Length +12.0" End Stone x 2 = 74.82' Base Length
4 Rows x 51.0" Wide + 6.0" Spacing x 3 + 12.0" Side Stone x 2 = 20.50' Base Width
12.0" Base + 30.0" Chamber Height + 6.0" Cover = 4.00' Field Height

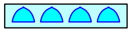
40 Chambers x 45.9 cf = 1,837.6 cf Chamber Storage

6,135.0 cf Field - 1,837.6 cf Chambers = 4,297.4 cf of Stone x 40.0% Voids = 1,718.9 cf of Stone Storage

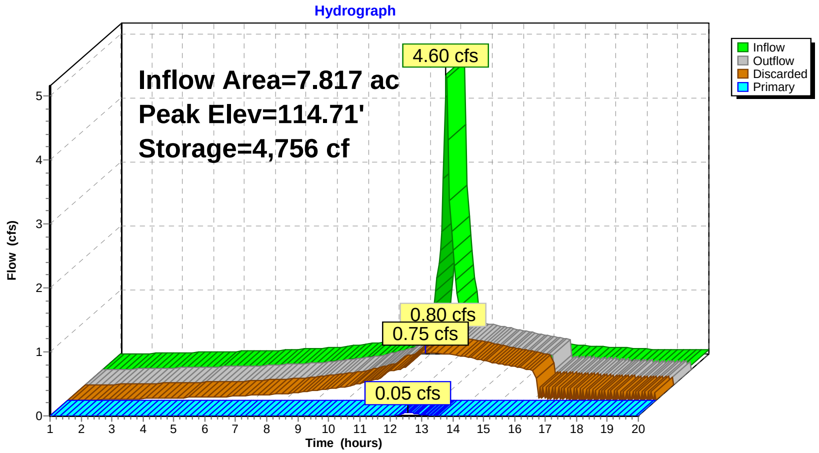
Chamber Storage + Stone Storage = 3,556.5 cf = 0.082 af
Overall Storage Efficiency = 58.0%
Overall System Size = 74.82' x 20.50' x 4.00'

40 Chambers
227.2 cy Field
159.2 cy Stone





Pond 8P: SC740



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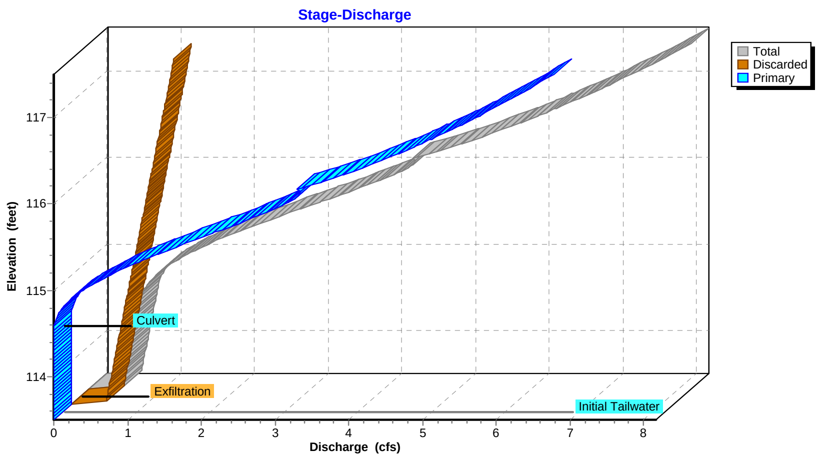
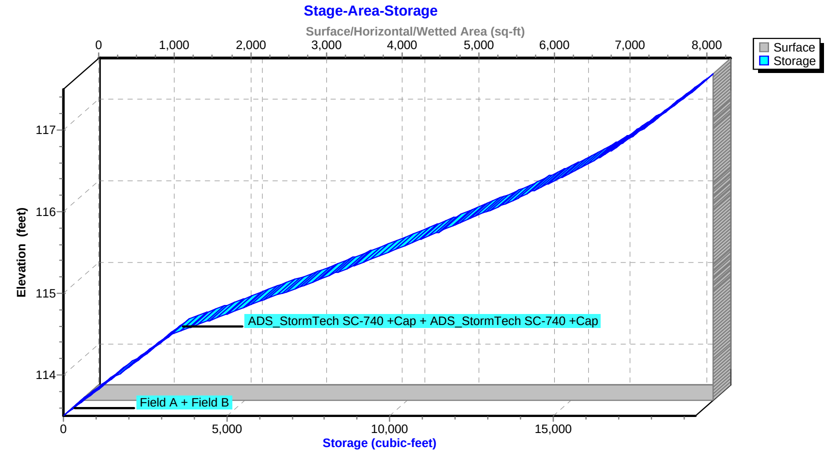


Pond 8P: SC740



Summary for Pond 9P: CB-SE Pkg1

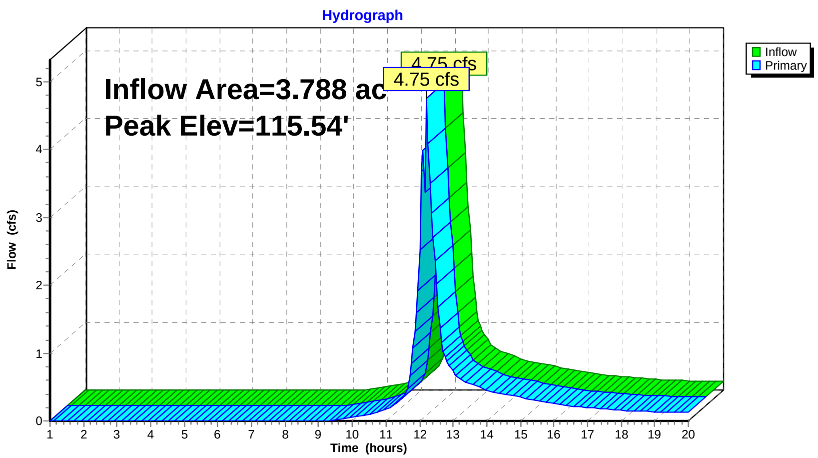
Inflow Area = 3.788 ac, 63.65% Impervious, Inflow Depth > 1.29" for 2-Year event
Inflow = 4.75 cfs @ 12.21 hrs, Volume= 0.406 af
Outflow = 4.75 cfs @ 12.21 hrs, Volume= 0.406 af, Atten= 0%, Lag= 0.0 min
Primary = 4.75 cfs @ 12.21 hrs, Volume= 0.406 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 115.54' @ 12.12 hrs

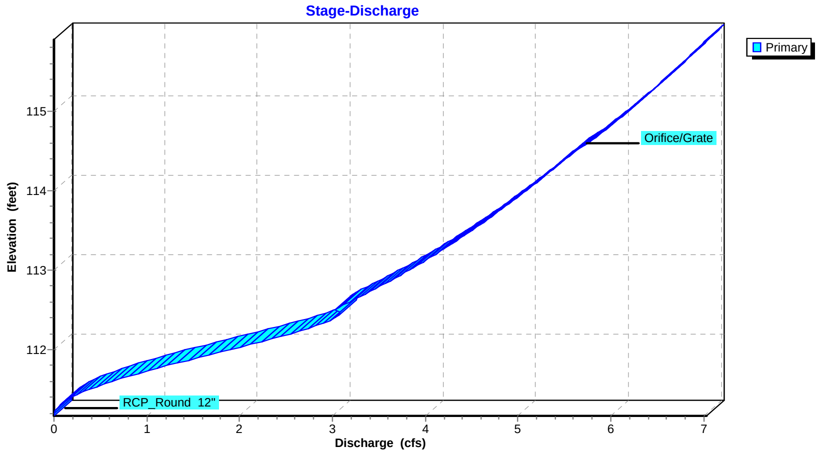
Device	Routing	Invert	Outlet Devices
#1	Primary	111.17'	**12.0" Round RCP_Round 12"** L= 90.3' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.17' / 110.70' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=4.25 cfs @ 12.21 hrs HW=114.62' TW=113.05' (Dynamic Tailwater)
1=RCP_Round 12" (Outlet Controls 4.20 cfs @ 5.35 fps)
2=Orifice/Grate (Orifice Controls 0.05 cfs @ 1.63 fps)

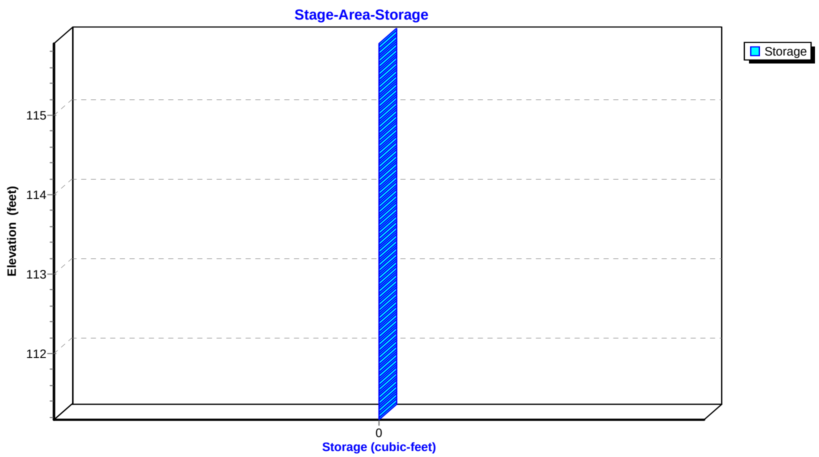
Pond 9P: CB-SE Pkg1



Pond 9P: CB-SE Pkg1



Pond 9P: CB-SE Pkg1



Summary for Pond 11P: CB-SE Pkg2

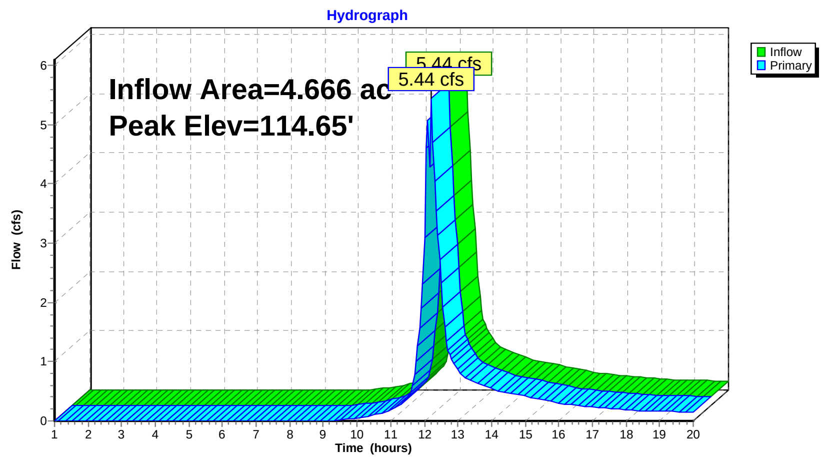
Inflow Area = 4.666 ac, 63.37% Impervious, Inflow Depth > 1.24" for 2-Year event
Inflow = 5.44 cfs @ 12.21 hrs, Volume= 0.480 af
Outflow = 5.44 cfs @ 12.21 hrs, Volume= 0.480 af, Atten= 0%, Lag= 0.0 min
Primary = 5.44 cfs @ 12.21 hrs, Volume= 0.480 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 114.65' @ 12.10 hrs

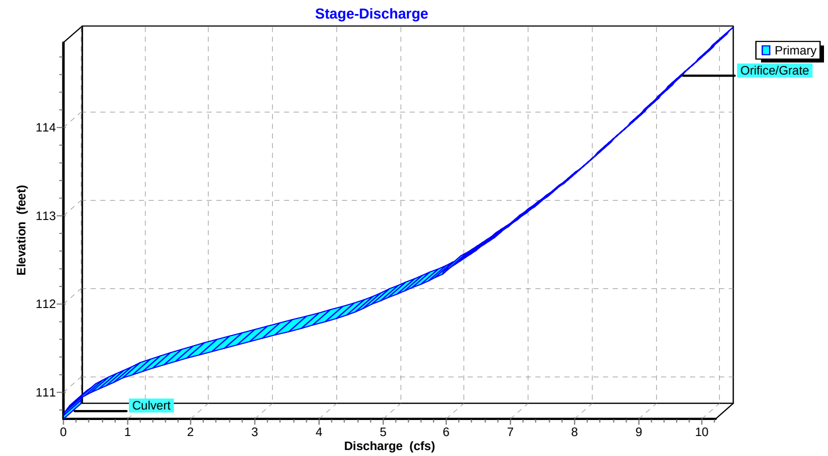
Device	Routing	Invert	Outlet Devices
#1	Primary	110.70'	**15.0" Round Culvert** L= 134.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.70' / 109.75' S= 0.0071 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=4.59 cfs @ 12.21 hrs HW=113.07' TW=112.26' (Dynamic Tailwater)
1=Culvert (Outlet Controls 4.59 cfs @ 3.74 fps)
2=Orifice/Grate (Controls 0.00 cfs)

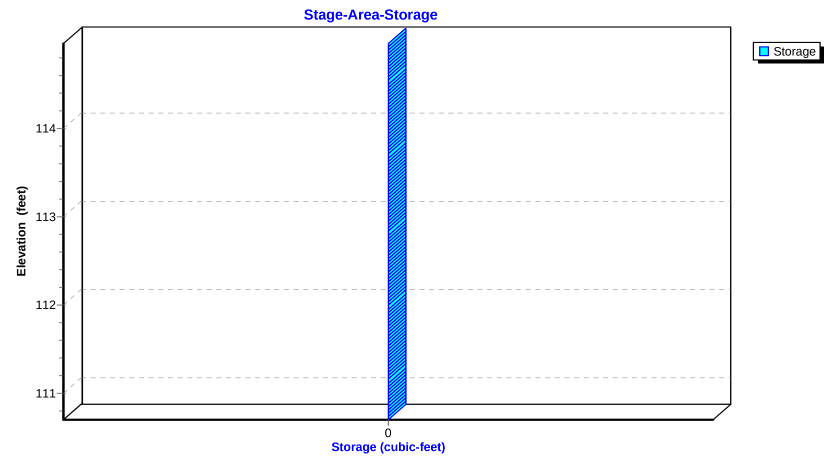
Pond 11P: CB-SE Pkg2



Pond 11P: CB-SE Pkg2



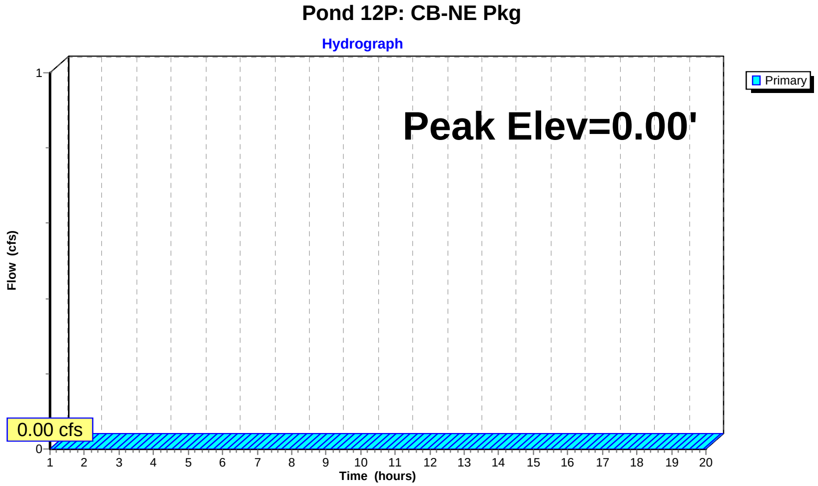
Pond 11P: CB-SE Pkg2

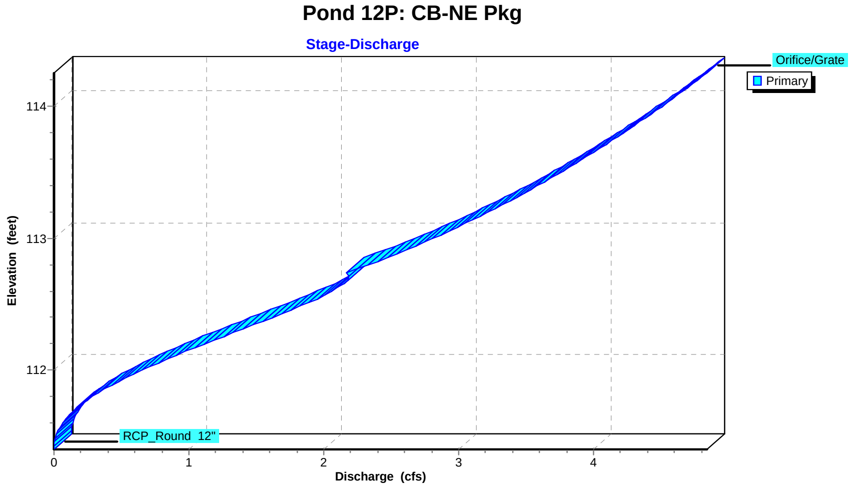


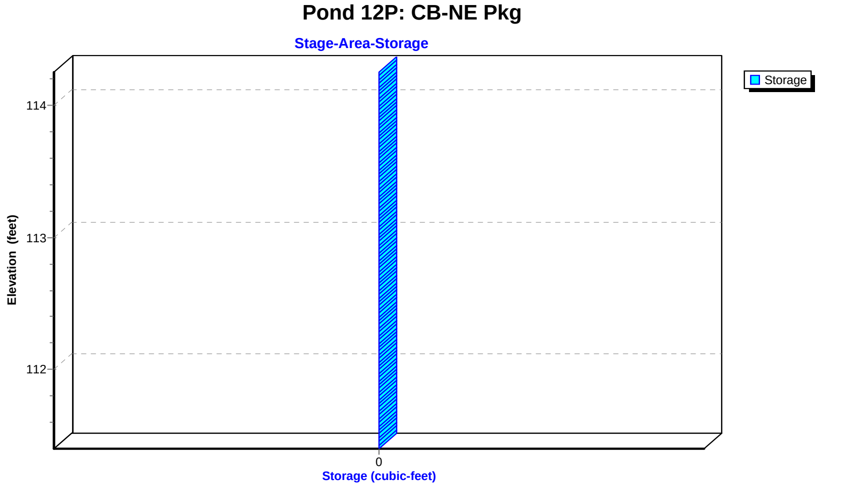
Summary for Pond 12P: CB-NE Pkg

Device	Routing	Invert	Outlet Devices
#1	Primary	111.40'	**12.0" Round RCP_Round 12"** L= 76.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.40' / 111.36' S= 0.0005 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.25'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 1.00 hrs HW=0.00' TW=111.36' (Dynamic Tailwater)
1=RCP_Round 12" (Controls 0.00 cfs)
2=Orifice/Grate (Controls 0.00 cfs)







Summary for Pond 14P: CB-NE Pkg2

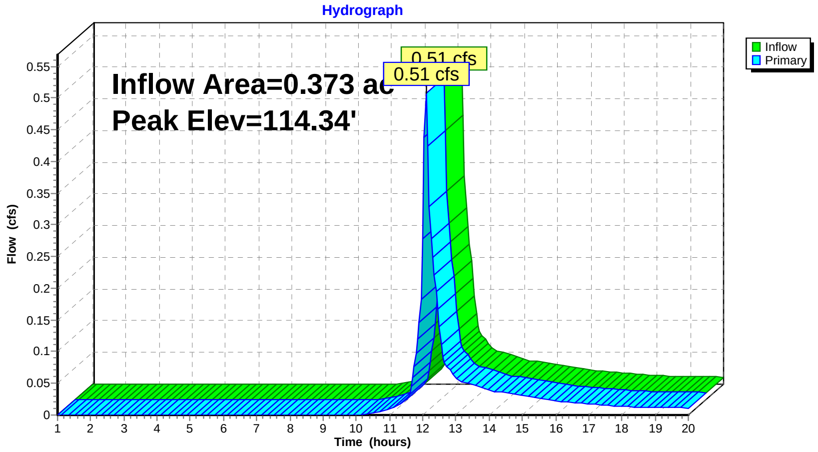
Inflow Area = 0.373 ac, 65.00% Impervious, Inflow Depth > 1.11" for 2-Year event
Inflow = 0.51 cfs @ 12.10 hrs, Volume= 0.035 af
Outflow = 0.51 cfs @ 12.10 hrs, Volume= 0.035 af, Atten= 0%, Lag= 0.0 min
Primary = 0.51 cfs @ 12.10 hrs, Volume= 0.035 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 114.34' @ 12.13 hrs

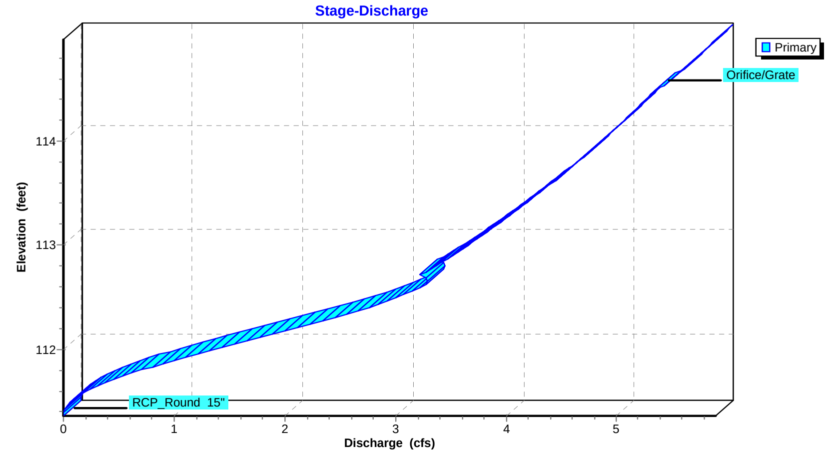
Device	Routing	Invert	Outlet Devices
#1	Primary	111.36'	**12.0" Round RCP_Round 15"** L= 105.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.36' / 110.70' S= 0.0063 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 12.10 hrs HW=113.99' TW=114.55' (Dynamic Tailwater)
1=RCP_Round 15" (Controls 0.00 cfs)
2=Orifice/Grate (Controls 0.00 cfs)

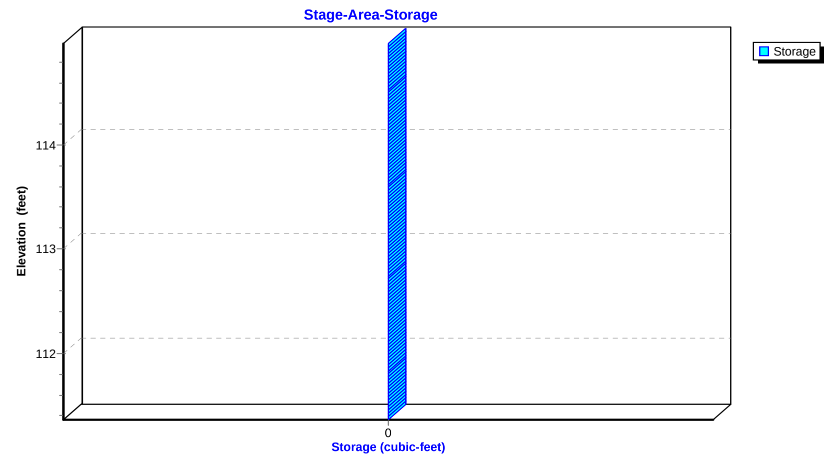
Pond 14P: CB-NE Pkg2



Pond 14P: CB-NE Pkg2



Pond 14P: CB-NE Pkg2



Summary for Pond 18P: CB-SE Pkg3

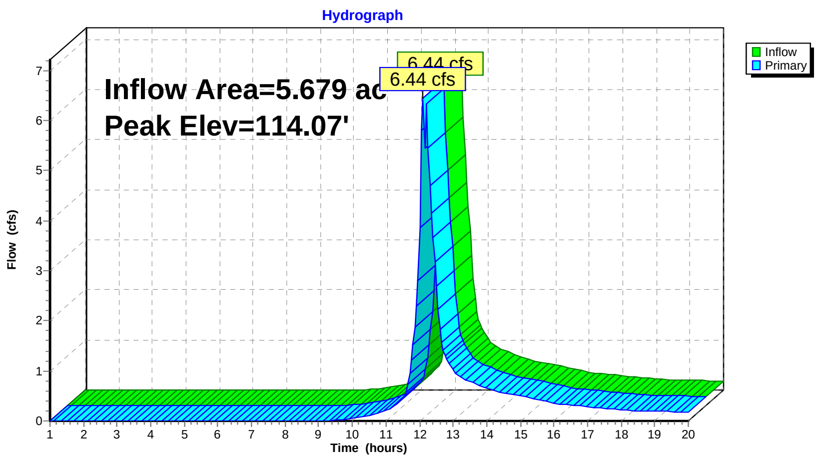
Inflow Area =	5.679 ac, 63.66% Impervious, Inflow Depth > 1.21" for 2-Year event			
Inflow =	6.44 cfs @	12.10 hrs,	Volume=	0.574 af
Outflow =	6.44 cfs @	12.10 hrs,	Volume=	0.574 af, Atten= 0%, Lag= 0.0 min
Primary =	6.44 cfs @	12.10 hrs,	Volume=	0.574 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 114.07' @ 12.10 hrs

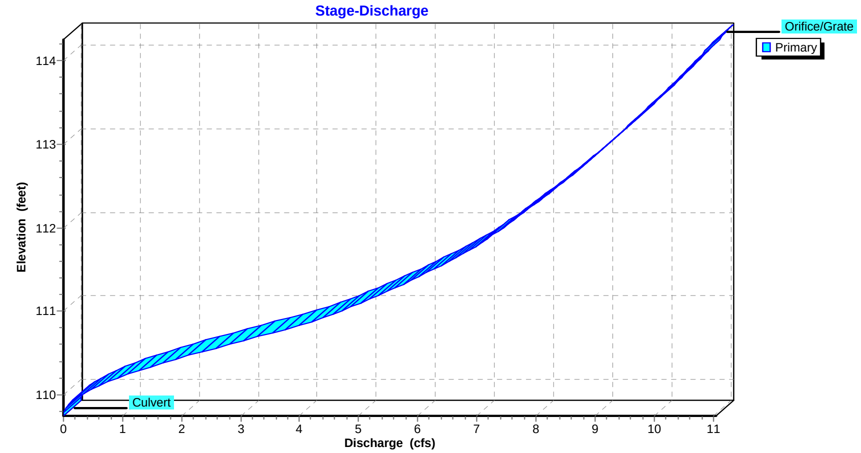
Device	Routing	Invert	Outlet Devices
#1	Primary	109.75'	**15.0" Round Culvert** L= 106.1' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 109.75' / 108.88' S= 0.0082 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.25'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=7.14 cfs @ 12.10 hrs HW=114.07' TW=112.35' (Dynamic Tailwater)
1=Culvert (Outlet Controls 7.14 cfs @ 5.82 fps)
2=Orifice/Grate (Controls 0.00 cfs)

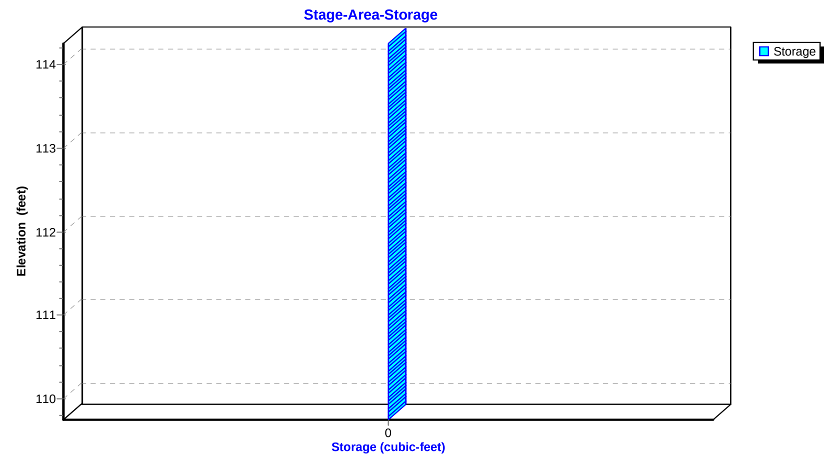
Pond 18P: CB-SE Pkg3



Pond 18P: CB-SE Pkg3



Pond 18P: CB-SE Pkg3



Summary for Pond 20P: CB-SE Pkg4

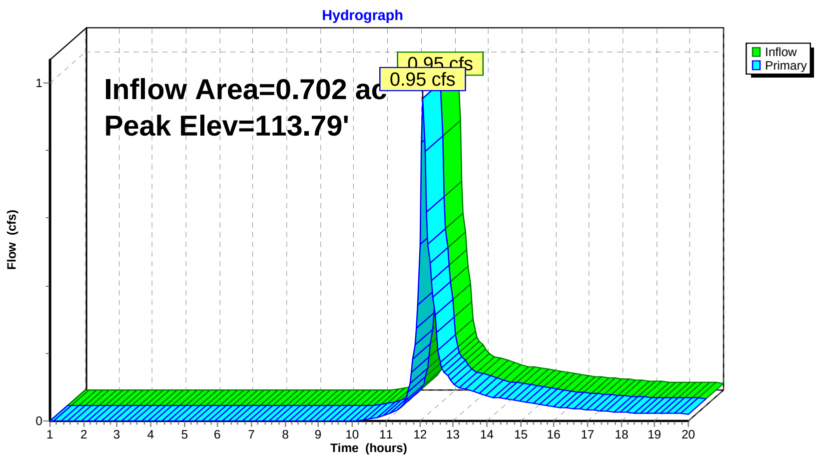
Inflow Area =	0.702 ac, 65.00% Impervious, Inflow Depth > 1.11"	for 2-Year event	
Inflow =	0.95 cfs @ 12.10 hrs, Volume=	0.065 af	
Outflow =	0.95 cfs @ 12.10 hrs, Volume=	0.065 af, Atten= 0%, Lag= 0.0 min	
Primary =	0.95 cfs @ 12.10 hrs, Volume=	0.065 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 113.79' @ 12.11 hrs

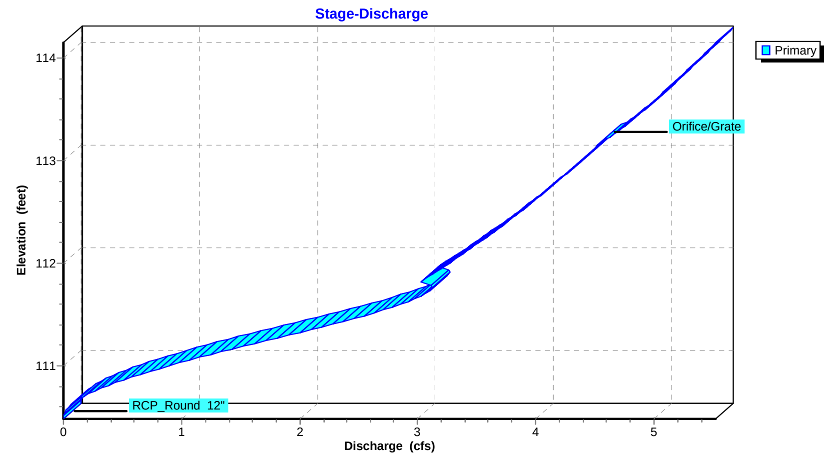
Device	Routing	Invert	Outlet Devices
#1	Primary	110.48'	**12.0" Round RCP_Round 12"** L= 140.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.48' / 109.75' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	113.20'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 12.10 hrs HW=113.68' TW=113.99' (Dynamic Tailwater)
└─**1=RCP_Round 12"** (Controls 0.00 cfs)
└─**2=Orifice/Grate** (Controls 0.00 cfs)

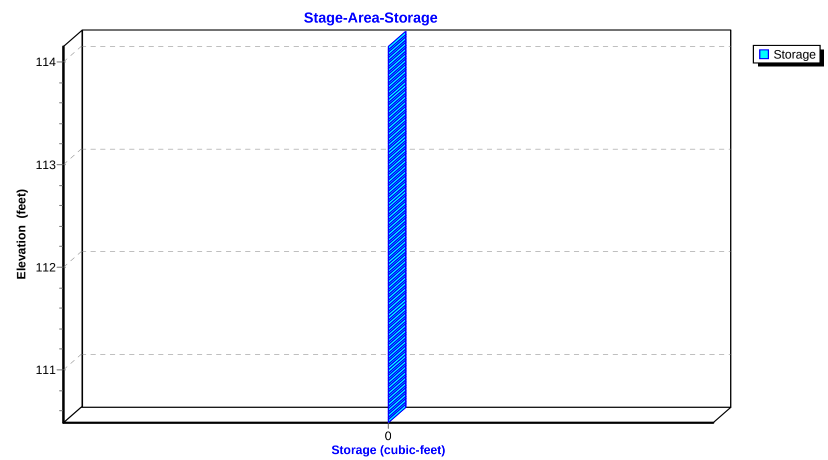
Pond 20P: CB-SE Pkg4



Pond 20P: CB-SE Pkg4



Pond 20P: CB-SE Pkg4



Summary for Pond 22P: CB-SE Pkg5

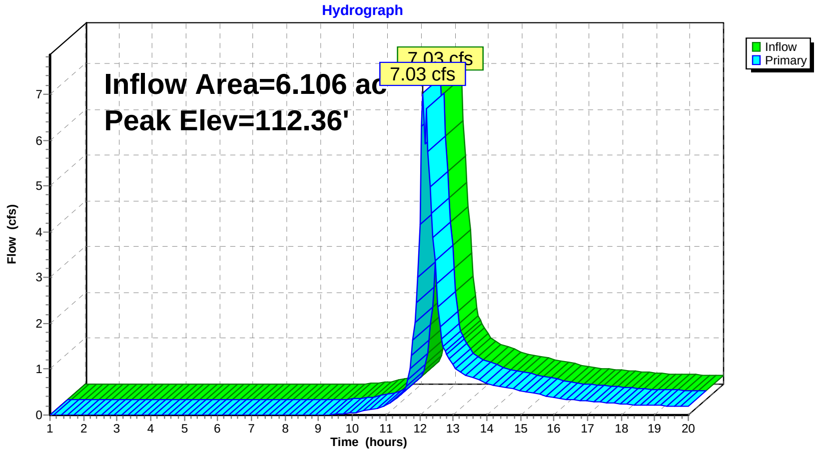
Inflow Area = 6.106 ac, 63.75% Impervious, Inflow Depth > 1.21" for 2-Year event
Inflow = 7.03 cfs @ 12.09 hrs, Volume= 0.614 af
Outflow = 7.03 cfs @ 12.09 hrs, Volume= 0.614 af, Atten= 0%, Lag= 0.0 min
Primary = 7.03 cfs @ 12.09 hrs, Volume= 0.614 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 112.36' @ 12.10 hrs

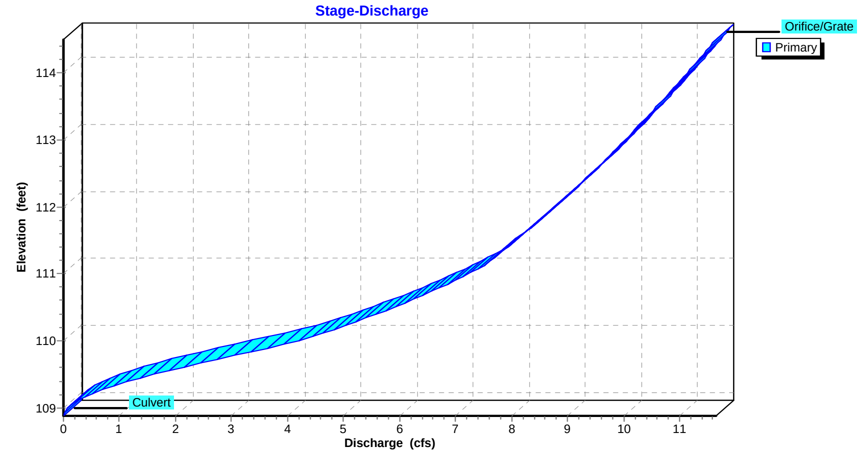
Device	Routing	Invert	Outlet Devices
#1	Primary	108.88'	**15.0" Round Culvert** L= 157.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 108.88' / 107.48' S= 0.0089 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=7.59 cfs @ 12.09 hrs HW=112.20' TW=109.75' (Dynamic Tailwater)
1=Culvert (Outlet Controls 7.59 cfs @ 6.19 fps)
2=Orifice/Grate (Controls 0.00 cfs)

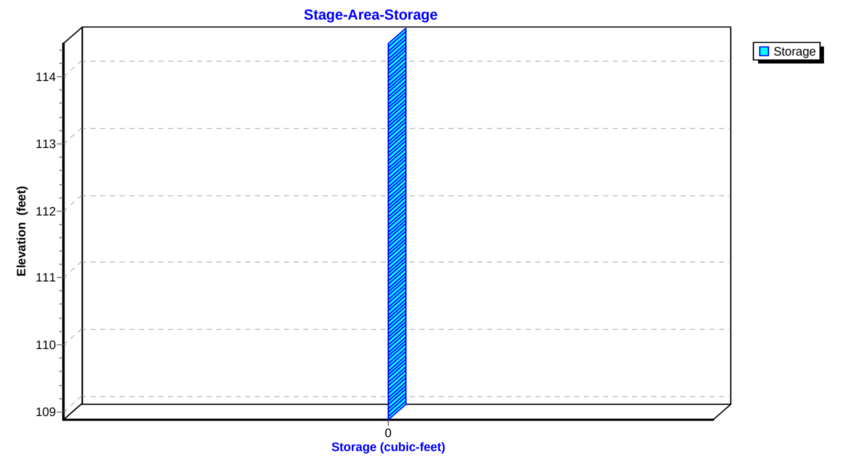
Pond 22P: CB-SE Pkg5



Pond 22P: CB-SE Pkg5



Pond 22P: CB-SE Pkg5



Summary for Pond 24P: CB-SE Pkg6

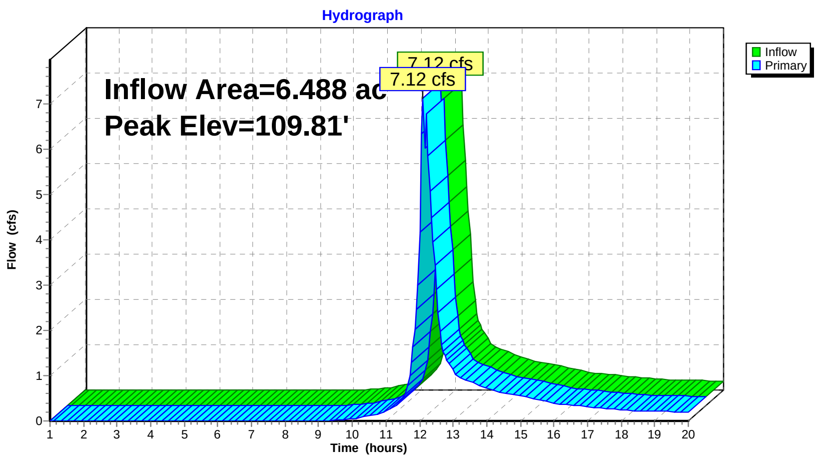
Inflow Area =	6.488 ac, 62.06% Impervious, Inflow Depth > 1.16" for 2-Year event			
Inflow =	7.12 cfs @	12.10 hrs, Volume=	0.625 af	
Outflow =	7.12 cfs @	12.10 hrs, Volume=	0.625 af,	Atten= 0%, Lag= 0.0 min
Primary =	7.12 cfs @	12.10 hrs, Volume=	0.625 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 109.81' @ 12.10 hrs

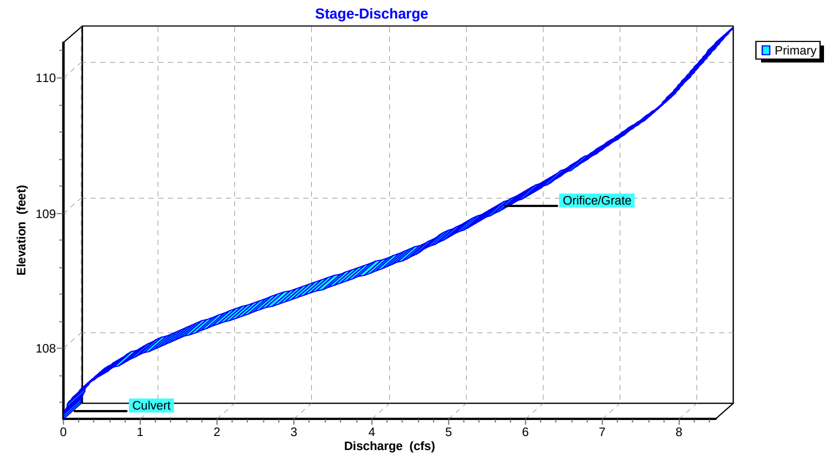
Device	Routing	Invert	Outlet Devices
#1	Primary	107.48'	**15.0" Round Culvert** L= 154.4' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 107.48' / 106.10' S= 0.0089 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	109.00'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=7.24 cfs @ 12.10 hrs HW=109.76' TW=107.63' (Dynamic Tailwater)
1=Culvert (Outlet Controls 7.12 cfs @ 5.80 fps)
2=Orifice/Grate (Orifice Controls 0.12 cfs @ 4.19 fps)

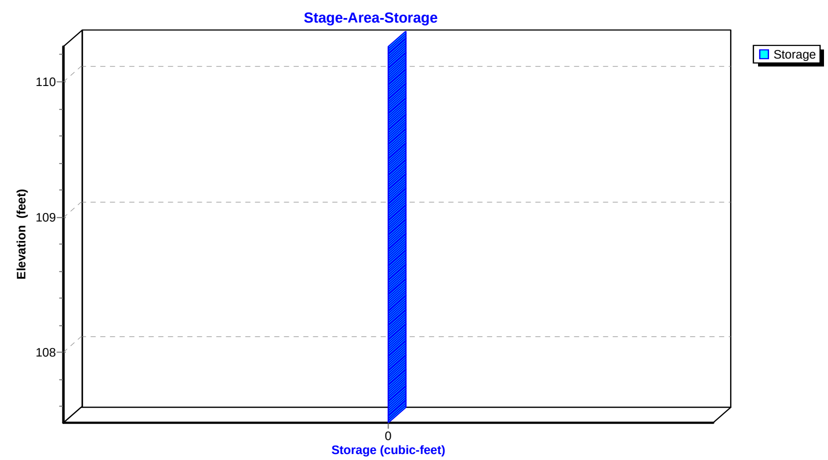
Pond 24P: CB-SE Pkg6



Pond 24P: CB-SE Pkg6



Pond 24P: CB-SE Pkg6



Summary for Pond 26P: CB-SE Pkg7

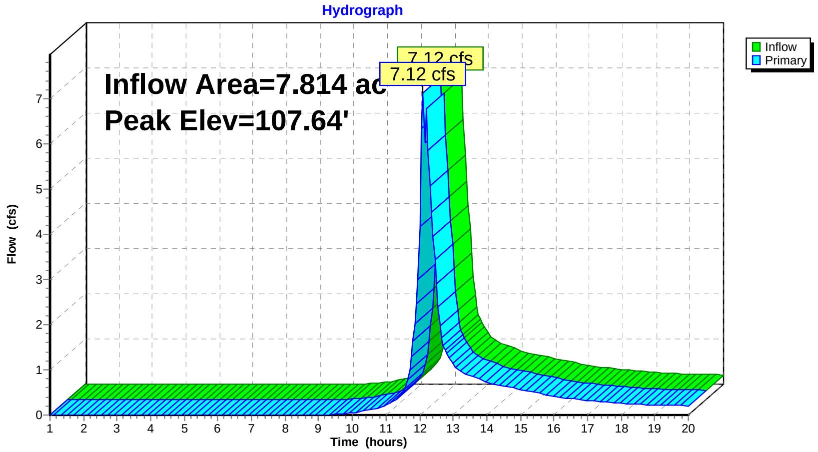
Inflow Area = 7.814 ac, 54.07% Impervious, Inflow Depth > 0.97" for 2-Year event
Inflow = 7.12 cfs @ 12.10 hrs, Volume= 0.633 af
Outflow = 7.12 cfs @ 12.10 hrs, Volume= 0.633 af, Atten= 0%, Lag= 0.0 min
Primary = 7.12 cfs @ 12.10 hrs, Volume= 0.633 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 107.64' @ 12.10 hrs

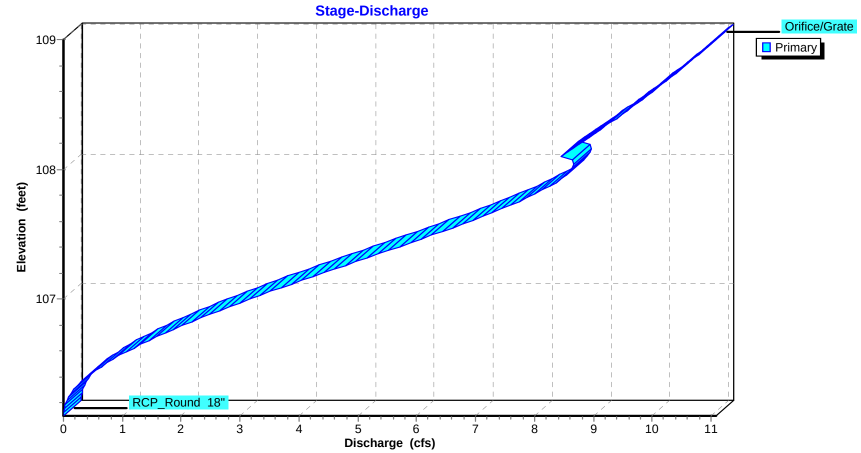
Device	Routing	Invert	Outlet Devices
#1	Primary	106.10'	**18.0" Round RCP_Round 18"** L= 154.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 106.10' / 105.35' S= 0.0049 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Primary	109.00'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=7.05 cfs @ 12.10 hrs HW=107.63' TW=0.00' (Dynamic Tailwater)
1=RCP_Round 18" (Barrel Controls 7.05 cfs @ 4.87 fps)
2=Orifice/Grate (Controls 0.00 cfs)

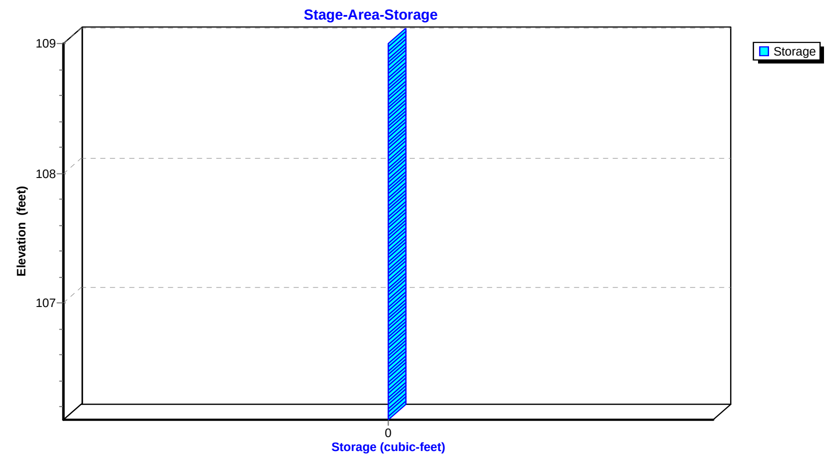
Pond 26P: CB-SE Pkg7



Pond 26P: CB-SE Pkg7



Pond 26P: CB-SE Pkg7



Summary for Pond 28P: CB-N F1

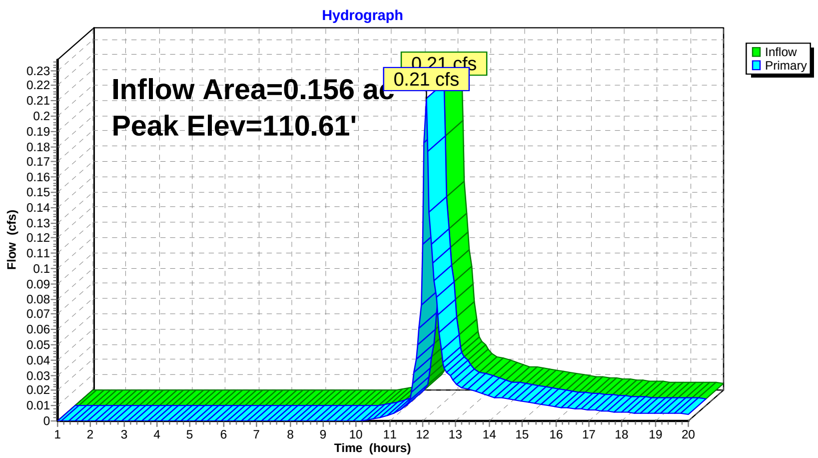
Inflow Area = 0.156 ac, 65.00% Impervious, Inflow Depth > 1.11" for 2-Year event
Inflow = 0.21 cfs @ 12.10 hrs, Volume= 0.014 af
Outflow = 0.21 cfs @ 12.10 hrs, Volume= 0.014 af, Atten= 0%, Lag= 0.0 min
Primary = 0.21 cfs @ 12.10 hrs, Volume= 0.014 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 110.61' @ 12.10 hrs

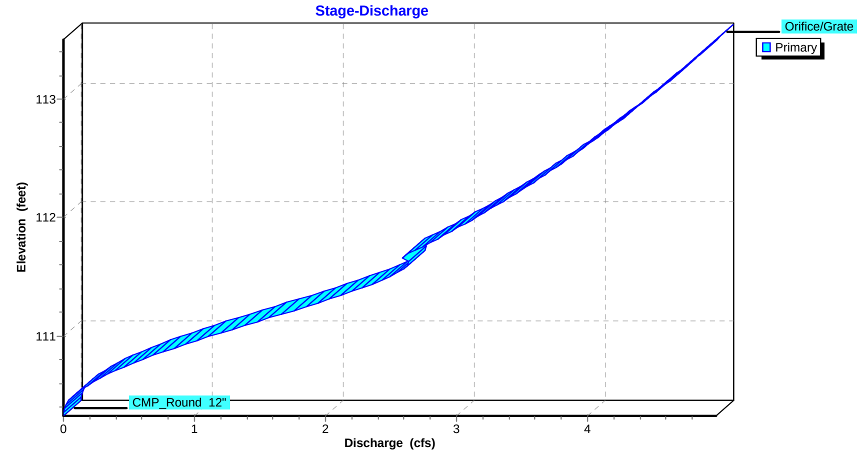
Device	Routing	Invert	Outlet Devices
#1	Primary	110.33'	**12.0" Round CMP_Round 12"** L= 111.7' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.33' / 110.00' S= 0.0030 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	113.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.21 cfs @ 12.10 hrs HW=110.60' TW=0.00' (Dynamic Tailwater)
1=CMP_Round 12" (Barrel Controls 0.21 cfs @ 1.80 fps)
2=Orifice/Grate (Controls 0.00 cfs)

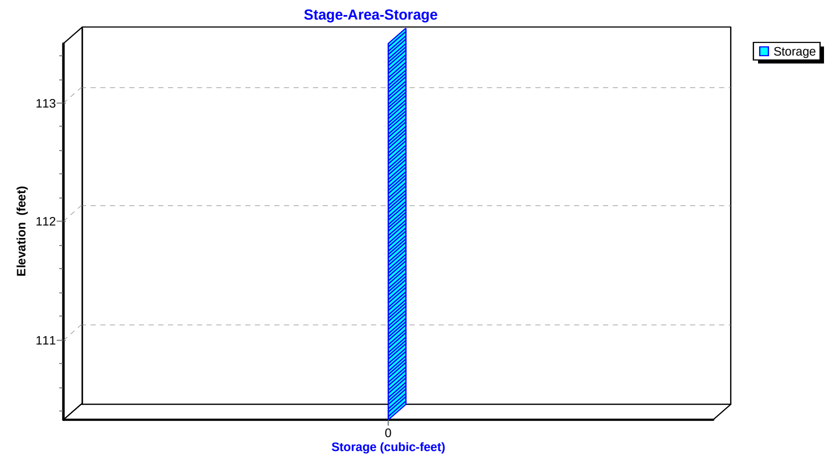
Pond 28P: CB-N F1



Pond 28P: CB-N F1



Pond 28P: CB-N F1



Summary for Pond 30P: CB-N F2

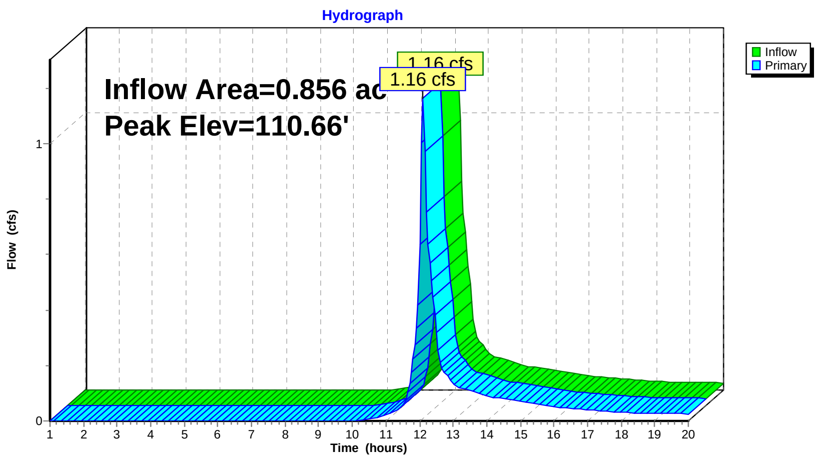
Inflow Area = 0.856 ac, 65.00% Impervious, Inflow Depth > 1.11" for 2-Year event
Inflow = 1.16 cfs @ 12.10 hrs, Volume= 0.079 af
Outflow = 1.16 cfs @ 12.10 hrs, Volume= 0.079 af, Atten= 0%, Lag= 0.0 min
Primary = 1.16 cfs @ 12.10 hrs, Volume= 0.079 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 110.66' @ 12.10 hrs

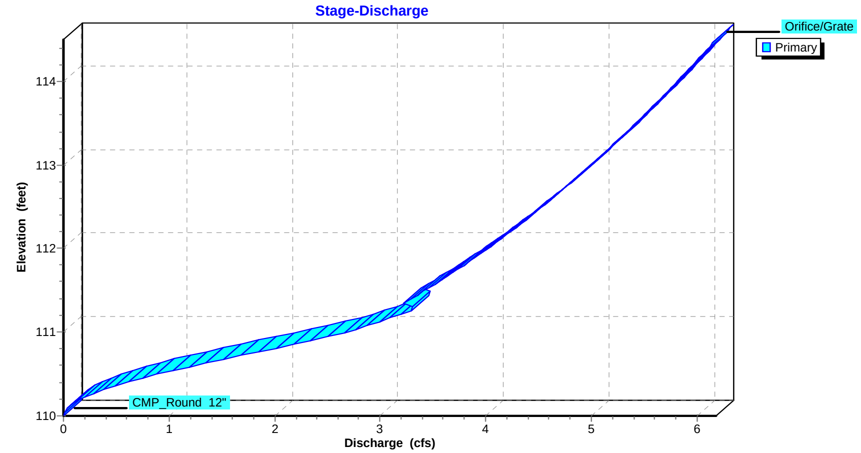
Device	Routing	Invert	Outlet Devices
#1	Primary	110.00'	**12.0" Round CMP_Round 12"** L= 133.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.00' / 109.17' S= 0.0062 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=1.16 cfs @ 12.10 hrs HW=110.66' TW=110.03' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 1.16 cfs @ 2.99 fps)
2=Orifice/Grate (Controls 0.00 cfs)

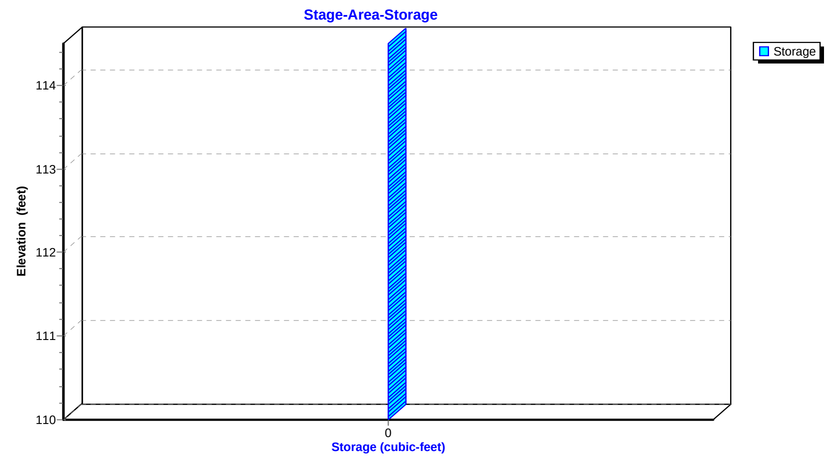
Pond 30P: CB-N F2



Pond 30P: CB-N F2



Pond 30P: CB-N F2



Summary for Pond 32P: CB-N F3

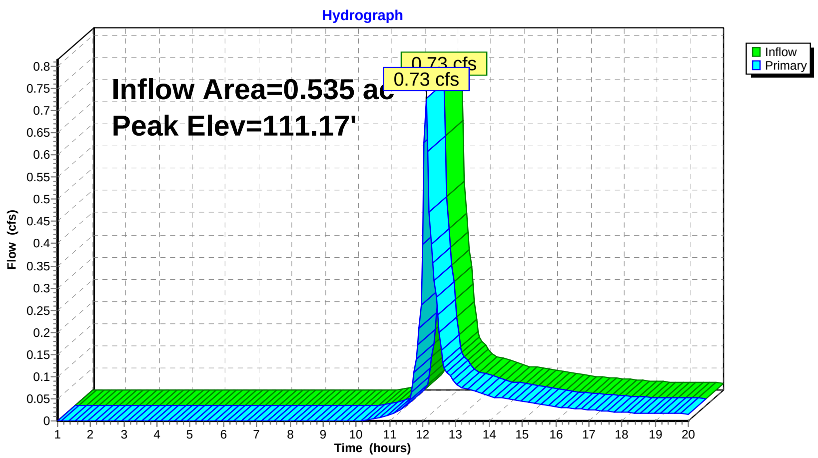
Inflow Area = 0.535 ac, 65.00% Impervious, Inflow Depth > 1.11" for 2-Year event
Inflow = 0.73 cfs @ 12.10 hrs, Volume= 0.050 af
Outflow = 0.73 cfs @ 12.10 hrs, Volume= 0.050 af, Atten= 0%, Lag= 0.0 min
Primary = 0.73 cfs @ 12.10 hrs, Volume= 0.050 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 111.17' @ 12.10 hrs

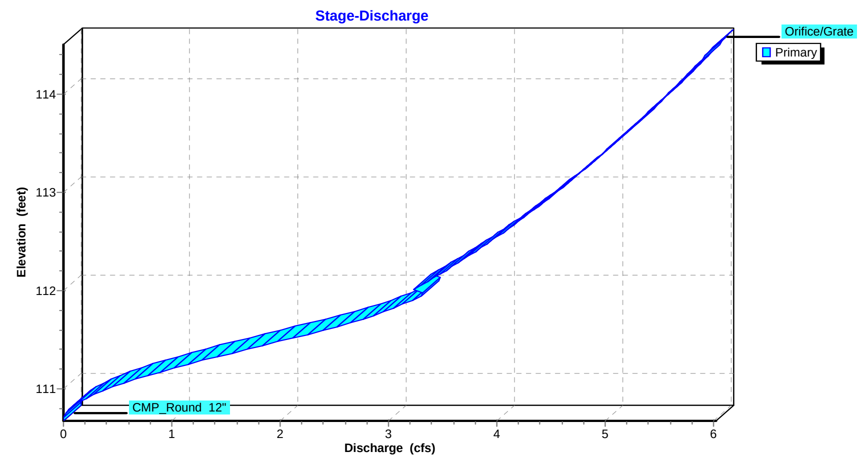
Device	Routing	Invert	Outlet Devices
#1	Primary	110.67'	**12.0" Round CMP_Round 12"** L= 103.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.67' / 110.00' S= 0.0065 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.72 cfs @ 12.10 hrs HW=111.17' TW=110.66' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 0.72 cfs @ 2.68 fps)
2=Orifice/Grate (Controls 0.00 cfs)

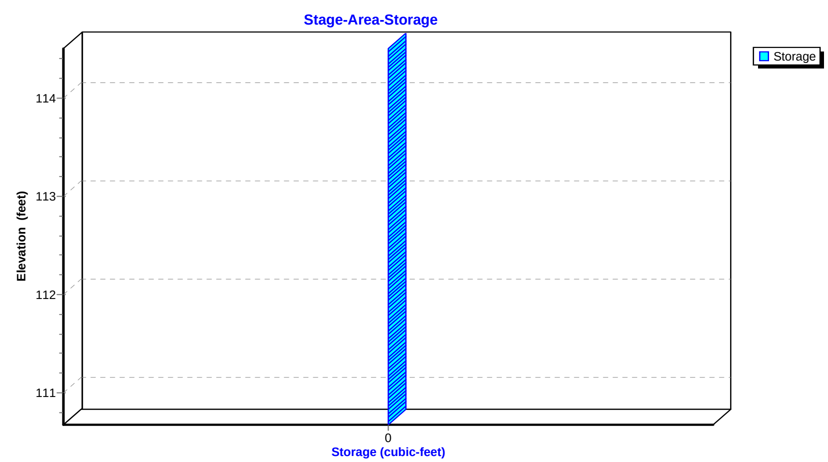
Pond 32P: CB-N F3



Pond 32P: CB-N F3



Pond 32P: CB-N F3



Summary for Pond 34P: CB-N F4

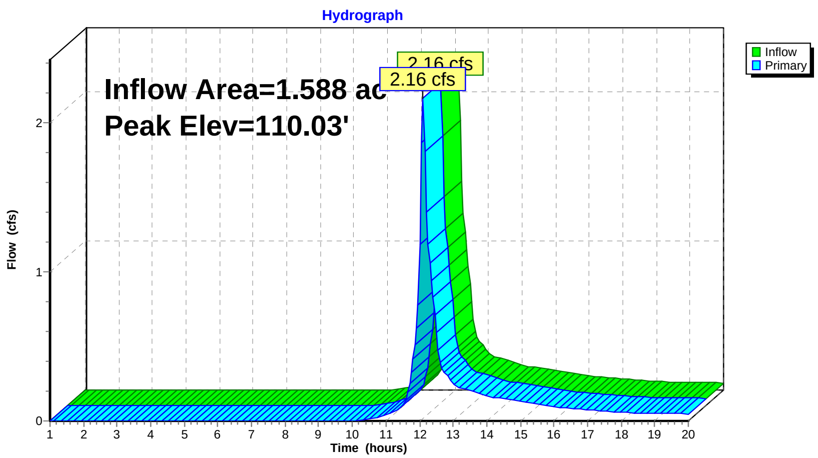
Inflow Area = 1.588 ac, 65.00% Impervious, Inflow Depth > 1.11" for 2-Year event
Inflow = 2.16 cfs @ 12.10 hrs, Volume= 0.147 af
Outflow = 2.16 cfs @ 12.10 hrs, Volume= 0.147 af, Atten= 0%, Lag= 0.0 min
Primary = 2.16 cfs @ 12.10 hrs, Volume= 0.147 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 110.03' @ 12.10 hrs

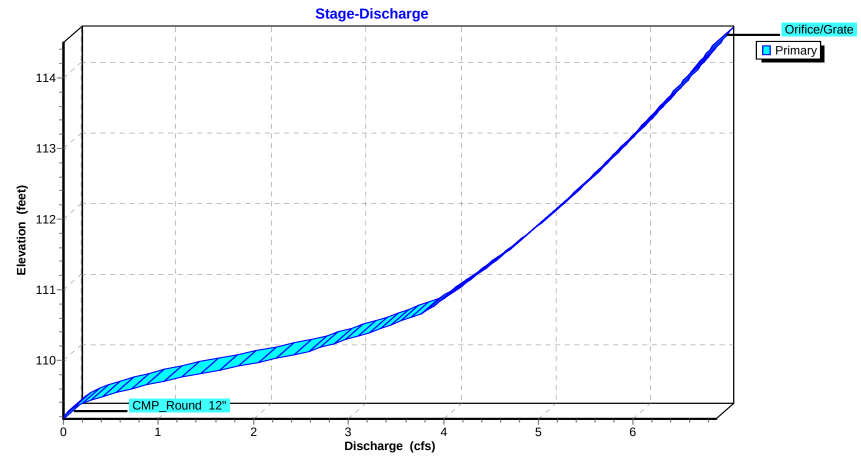
Device	Routing	Invert	Outlet Devices
#1	Primary	109.17'	**12.0" Round CMP_Round 12"** L= 139.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 109.17' / 108.00' S= 0.0084 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=2.15 cfs @ 12.10 hrs HW=110.03' TW=109.00' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 2.15 cfs @ 4.02 fps)
2=Orifice/Grate (Controls 0.00 cfs)

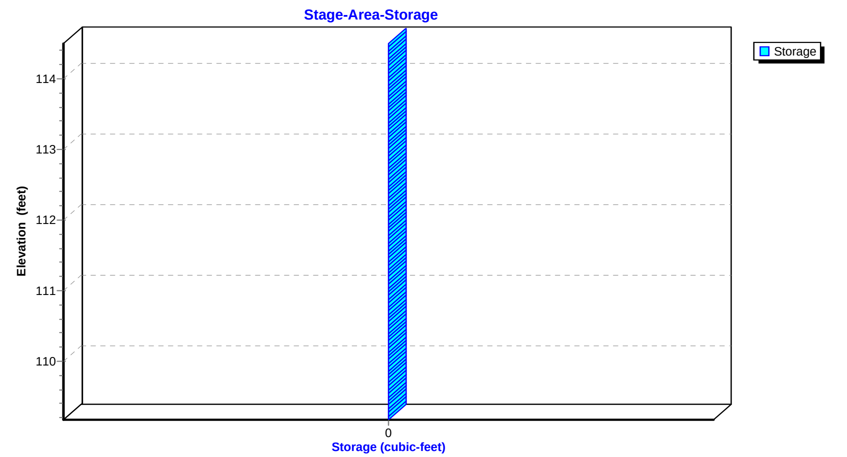
Pond 34P: CB-N F4



Pond 34P: CB-N F4



Pond 34P: CB-N F4



Summary for Pond 36P: CB-N F5

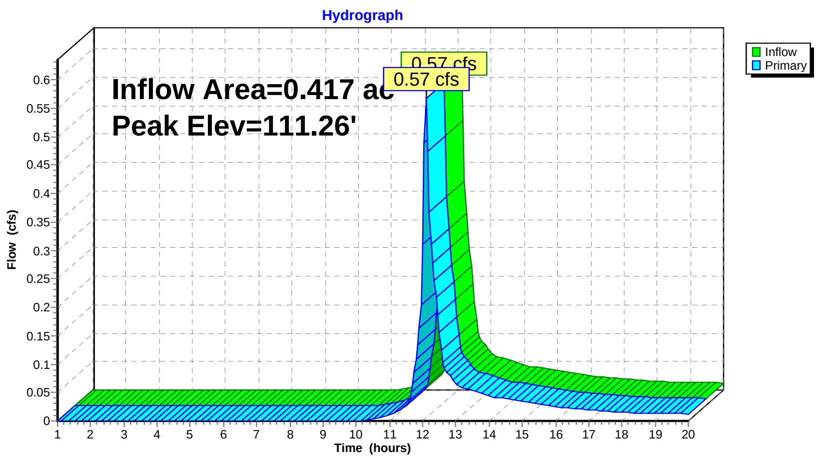
Inflow Area = 0.417 ac, 65.00% Impervious, Inflow Depth > 1.11" for 2-Year event
Inflow = 0.57 cfs @ 12.10 hrs, Volume= 0.039 af
Outflow = 0.57 cfs @ 12.10 hrs, Volume= 0.039 af, Atten= 0%, Lag= 0.0 min
Primary = 0.57 cfs @ 12.10 hrs, Volume= 0.039 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 111.26' @ 12.10 hrs

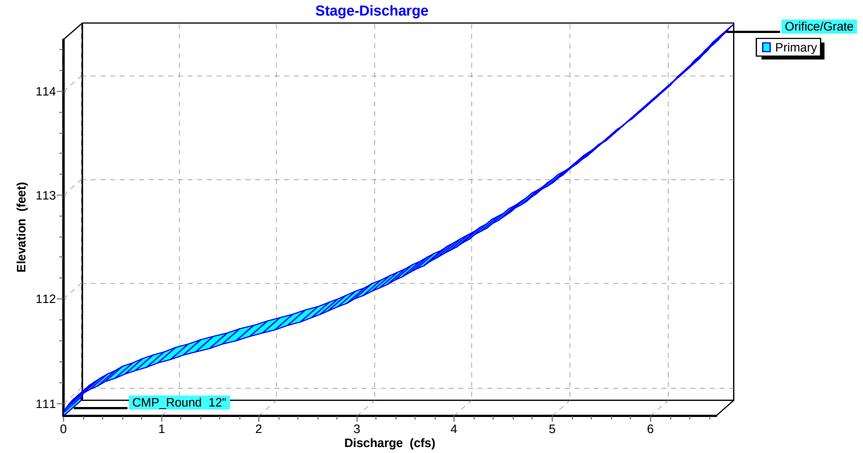
Device	Routing	Invert	Outlet Devices
#1	Primary	110.88'	**12.0" Round CMP_Round 12"** L= 105.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.88' / 109.17' S= 0.0163 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.56 cfs @ 12.10 hrs HW=111.26' TW=110.03' (Dynamic Tailwater)
1=CMP_Round 12" (Inlet Controls 0.56 cfs @ 2.09 fps)
2=Orifice/Grate (Controls 0.00 cfs)

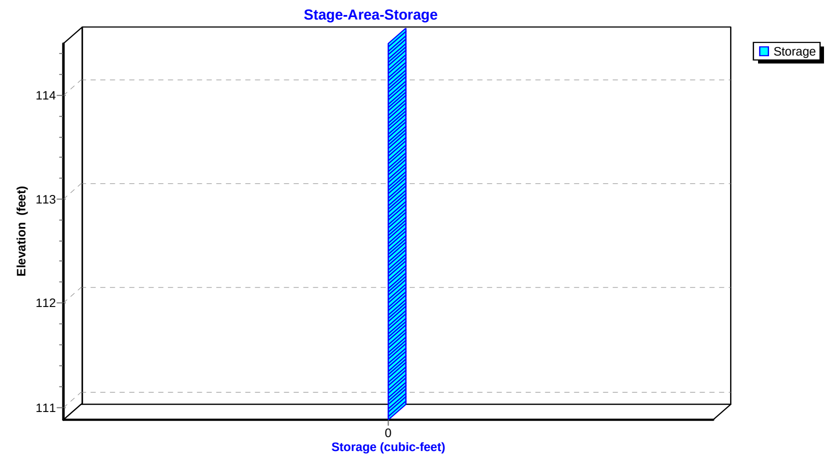
Pond 36P: CB-N F5



Pond 36P: CB-N F5



Pond 36P: CB-N F5



Summary for Pond 38P: CB-N F6

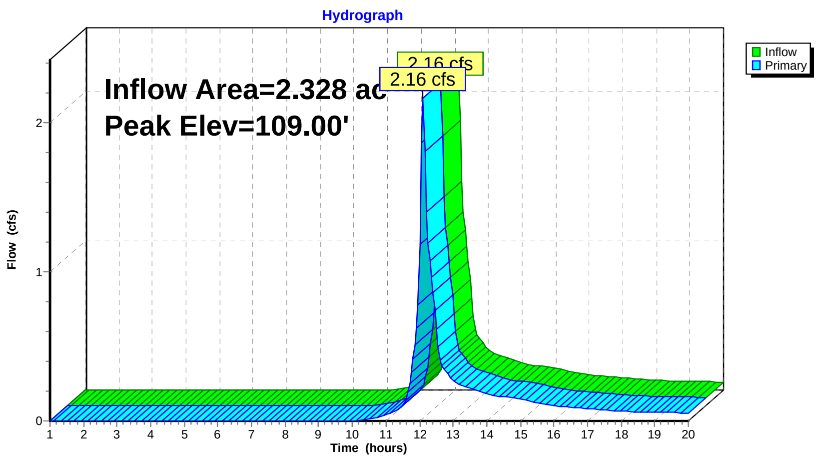
Inflow Area = 2.328 ac, 50.70% Impervious, Inflow Depth > 0.80" for 2-Year event
Inflow = 2.16 cfs @ 12.10 hrs, Volume= 0.155 af
Outflow = 2.16 cfs @ 12.10 hrs, Volume= 0.155 af, Atten= 0%, Lag= 0.0 min
Primary = 2.16 cfs @ 12.10 hrs, Volume= 0.155 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 109.00' @ 12.10 hrs

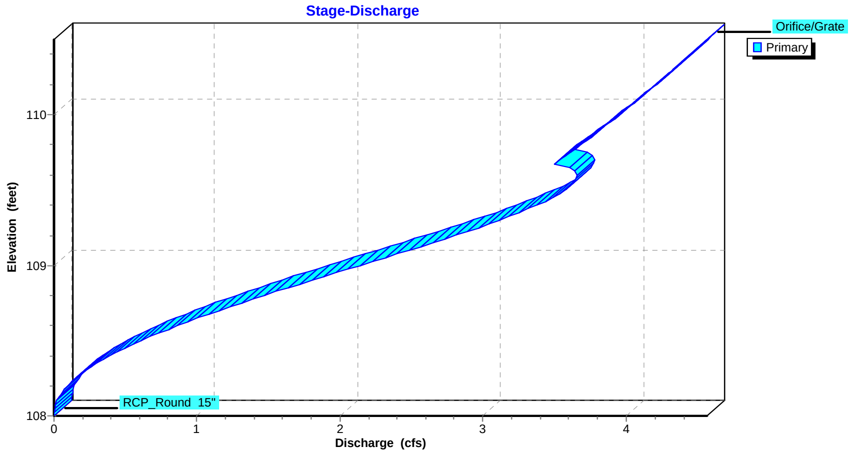
Device	Routing	Invert	Outlet Devices
#1	Primary	108.00'	**15.0" Round RCP_Round 15"** L= 466.8' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 108.00' / 107.25' S= 0.0016 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	110.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=2.15 cfs @ 12.10 hrs HW=109.00' TW=0.00' (Dynamic Tailwater)
1=RCP_Round 15" (Barrel Controls 2.15 cfs @ 2.79 fps)
2=Orifice/Grate (Controls 0.00 cfs)

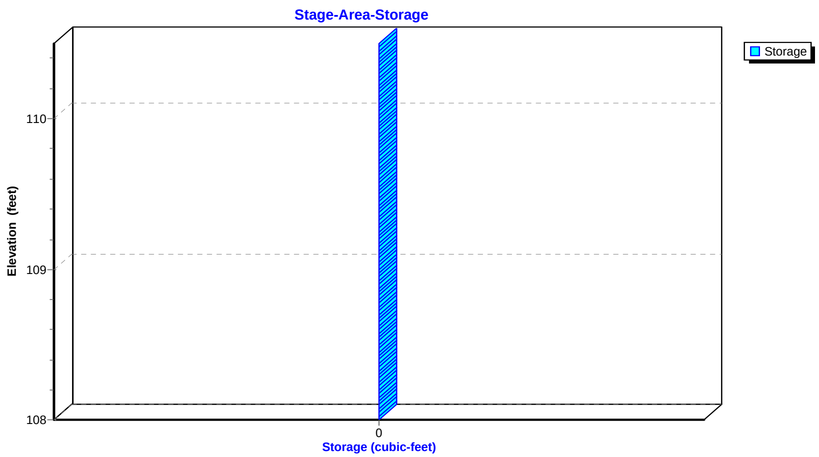
Pond 38P: CB-N F6



Pond 38P: CB-N F6



Pond 38P: CB-N F6

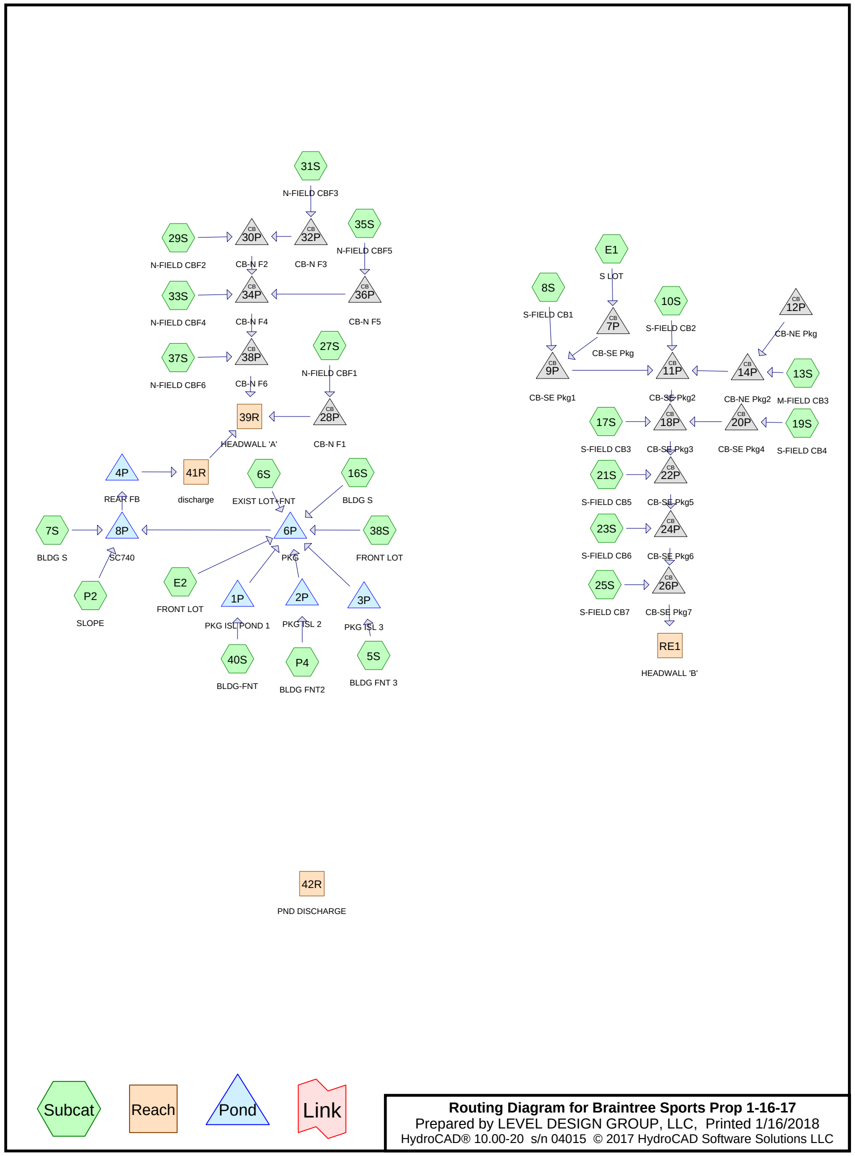


LEVEL
DESIGN GROUP

HydroCAD Analysis

Proposed Conditions - 10 Year Storm

249 SOUTH STREET UNIT 1 PLAINVILLE MA 02762
TEL 508 695 2221 FAX 508 695 2219 CONTACT@LEVELDG.COM LEVELDG.COM



Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
5.672	39	>75% Grass cover, Good, HSG A (5S, 6S, 8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S, 38S, 40S, E1, E2, P2, P4)
3.255	98	Paved Track, HSG A (8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S)
5.022	98	Paved parking, HSG A (5S, 6S, 38S, 40S, E1, E2, P4)
0.497	98	Roofs, HSG A (16S)
0.087	98	Unconnected pavement, HSG A (40S, P2)
1.517	98	Unconnected roofs, HSG A (7S)
1.582	32	Woods/grass comb., Good, HSG A (38S, 40S, P2, P4)
0.483	72	Woods/grass comb., Good, HSG C (E1)
18.115	**73**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
17.632	HSG A	5S, 6S, 7S, 8S, 10S, 13S, 16S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S, 38S, 40S, E1, E2, P2, P4
0.000	HSG B	
0.483	HSG C	E1
0.000	HSG D	
0.000	Other	
18.115		**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
5.672	0.000	0.000	0.000	0.000	5.672	>75% Grass cover, Good	5S, 6S, 8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S, 38S, 40S, E1, E2, P2, P4
3.255	0.000	0.000	0.000	0.000	3.255	Paved Track	8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S
5.022	0.000	0.000	0.000	0.000	5.022	Paved parking	5S, 6S, 38S, 40S, E1, E2, P4
0.497	0.000	0.000	0.000	0.000	0.497	Roofs	16S
0.087	0.000	0.000	0.000	0.000	0.087	Unconnected pavement	40S, P2
1.517	0.000	0.000	0.000	0.000	1.517	Unconnected roofs	7S
1.582	0.000	0.483	0.000	0.000	2.065	Woods/grass comb., Good	38S, 40S, E1, P2, P4

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
17.632	**0.000**	**0.483**	**0.000**	**0.000**	**18.115**	**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	7S	0.00	0.00	30.0	1.0000	0.012	8.0	0.0	0.0
2	7S	0.00	0.00	560.0	0.0050	0.020	10.0	0.0	0.0
3	16S	0.00	0.00	30.0	1.0000	0.012	8.0	0.0	0.0
4	16S	0.00	0.00	300.0	0.0050	0.020	10.0	0.0	0.0
5	41R	110.85	107.25	663.3	0.0054	0.013	18.0	0.0	0.0
6	42R	115.90	115.06	167.2	0.0050	0.013	24.0	0.0	0.0
7	1P	118.50	117.80	63.3	0.0111	0.013	8.0	0.0	0.0
8	2P	118.00	117.80	40.1	0.0050	0.013	12.0	0.0	0.0
9	3P	117.40	117.02	77.2	0.0049	0.013	8.0	0.0	0.0
10	4P	115.50	115.40	15.0	0.0067	0.013	12.0	0.0	0.0
11	6P	117.00	116.00	80.0	0.0125	0.013	10.0	0.0	0.0
12	7P	113.30	111.17	71.2	0.0299	0.011	12.0	0.0	0.0
13	7P	113.20	116.00	39.5	-0.0709	0.013	8.0	0.0	0.0
14	8P	114.50	114.50	77.0	0.0000	0.013	15.0	0.0	0.0
15	9P	111.17	110.70	90.3	0.0052	0.011	12.0	0.0	0.0
16	11P	110.70	109.75	134.5	0.0071	0.011	15.0	0.0	0.0
17	12P	111.40	111.36	76.0	0.0005	0.011	12.0	0.0	0.0
18	14P	111.36	110.70	105.0	0.0063	0.011	12.0	0.0	0.0
19	18P	109.75	108.88	106.1	0.0082	0.011	15.0	0.0	0.0
20	20P	110.48	109.75	140.2	0.0052	0.011	12.0	0.0	0.0
21	22P	108.88	107.48	157.5	0.0089	0.011	15.0	0.0	0.0
22	24P	107.48	106.10	154.4	0.0089	0.011	15.0	0.0	0.0
23	26P	106.10	105.35	154.4	0.0049	0.011	18.0	0.0	0.0
24	28P	110.33	110.00	111.7	0.0030	0.011	12.0	0.0	0.0
25	30P	110.00	109.17	133.5	0.0062	0.011	12.0	0.0	0.0
26	32P	110.67	110.00	103.5	0.0065	0.011	12.0	0.0	0.0
27	34P	109.17	108.00	139.2	0.0084	0.011	12.0	0.0	0.0
28	36P	110.88	109.17	105.0	0.0163	0.011	12.0	0.0	0.0
29	38P	108.00	107.25	466.8	0.0016	0.011	15.0	0.0	0.0

Time span=1.00-20.00 hrs, dt=0.05 hrs, 381 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 5S: BLDG FNT 3 Runoff Area=14,580 sf 95.34% Impervious Runoff Depth>3.92"
Flow Length=172' Tc=6.0 min CN=95 Runoff=1.46 cfs 0.109 af

Subcatchment 6S: EXIST LOT+FNT Runoff Area=42,707 sf 78.43% Impervious Runoff Depth>2.90"
Flow Length=80' Slope=0.0300 '/' Tc=6.0 min CN=85 Runoff=3.45 cfs 0.237 af

Subcatchment 7S: BLDG S Runoff Area=66,063 sf 100.00% Impervious Runoff Depth>4.26"
Flow Length=760' Tc=6.0 min CN=98 Runoff=6.80 cfs 0.538 af

Subcatchment 8S: S-FIELD CB1 Runoff Area=11,548 sf 60.17% Impervious Runoff Depth>1.97"
Flow Length=80' Tc=6.0 min CN=74 Runoff=0.64 cfs 0.043 af

Subcatchment 10S: S-FIELD CB2 Runoff Area=21,998 sf 60.00% Impervious Runoff Depth>1.97"
Flow Length=230' Slope=0.0150 '/' Tc=6.0 min CN=74 Runoff=1.23 cfs 0.083 af

Subcatchment 13S: M-FIELD CB3 Runoff Area=16,265 sf 65.00% Impervious Runoff Depth>2.21"
Flow Length=151' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.02 cfs 0.069 af

Subcatchment 16S: BLDG S Runoff Area=21,647 sf 100.00% Impervious Runoff Depth>4.26"
Flow Length=393' Tc=6.0 min CN=98 Runoff=2.23 cfs 0.176 af

Subcatchment 17S: S-FIELD CB3 Runoff Area=13,522 sf 65.00% Impervious Runoff Depth>2.21"
Flow Length=85' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=0.85 cfs 0.057 af

Subcatchment 19S: S-FIELD CB4 Runoff Area=30,595 sf 65.00% Impervious Runoff Depth>2.21"
Flow Length=297' Tc=6.0 min CN=77 Runoff=1.91 cfs 0.129 af

Subcatchment 21S: S-FIELD CB5 Runoff Area=18,600 sf 65.00% Impervious Runoff Depth>2.21"
Flow Length=149' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.16 cfs 0.078 af

Subcatchment 23S: S-FIELD CB6 Runoff Area=16,672 sf 35.00% Impervious Runoff Depth>1.02"
Flow Length=131' Slope=0.0200 '/' Tc=6.2 min CN=60 Runoff=0.43 cfs 0.032 af

Subcatchment 25S: S-FIELD CB7 Runoff Area=57,741 sf 15.00% Impervious Runoff Depth>0.41"
Flow Length=330' Tc=7.6 min CN=48 Runoff=0.31 cfs 0.045 af

Subcatchment 27S: N-FIELD CBF1 Runoff Area=6,780 sf 65.00% Impervious Runoff Depth>2.21"
Flow Length=80' Tc=6.0 min CN=77 Runoff=0.42 cfs 0.029 af

Subcatchment 29S: N-FIELD CBF2 Runoff Area=13,971 sf 65.00% Impervious Runoff Depth>2.21"
Flow Length=100' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=0.87 cfs 0.059 af

Subcatchment 31S: N-FIELD CBF3 Runoff Area=23,311 sf 65.00% Impervious Runoff Depth>2.21"
Flow Length=129' Tc=6.0 min CN=77 Runoff=1.46 cfs 0.098 af

Subcatchment 33S: N-FIELD CBF4 Runoff Area=13,725 sf 65.00% Impervious Runoff Depth>2.21"
Flow Length=93' Tc=6.0 min CN=77 Runoff=0.86 cfs 0.058 af

Subcatchment 35S: N-FIELD CBF5 Runoff Area=18,186 sf 65.00% Impervious Runoff Depth>2.21"
Flow Length=170' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.14 cfs 0.077 af

Subcatchment 37S: N-FIELD CBF6 Runoff Area=32,216 sf 20.00% Impervious Runoff Depth>0.54"
Flow Length=280' Slope=0.0200 '/' Tc=6.0 min CN=51 Runoff=0.31 cfs 0.033 af

Subcatchment 38S: FRONT LOT Runoff Area=49,740 sf 52.83% Impervious Runoff Depth>1.52"
Flow Length=670' Tc=18.0 min CN=68 Runoff=1.50 cfs 0.145 af

Subcatchment 40S: BLDG-FNT Runoff Area=37,001 sf 40.61% Impervious Runoff Depth>0.96"
Flow Length=168' Tc=10.1 min CN=59 Runoff=0.78 cfs 0.068 af

Subcatchment E1: S LOT Runoff Area=153,436 sf 63.92% Impervious Runoff Depth>2.54"
Flow Length=334' Tc=10.1 min CN=81 Runoff=9.68 cfs 0.745 af

Subcatchment E2: FRONT LOT Runoff Area=12,716 sf 96.08% Impervious Runoff Depth>4.02"
Flow Length=670' Tc=18.0 min CN=96 Runoff=0.93 cfs 0.098 af

Subcatchment P2: SLOPE Runoff Area=60,052 sf 3.81% Impervious Runoff Depth>0.09"
Flow Length=180' Tc=9.6 min UI Adjusted CN=38 Runoff=0.02 cfs 0.010 af

Subcatchment P4: BLDG FNT2 Runoff Area=36,024 sf 59.08% Impervious Runoff Depth>1.74"
Flow Length=195' Tc=9.4 min CN=71 Runoff=1.58 cfs 0.120 af

Reach 39R: HEADWALL 'A' Inflow=5.05 cfs 0.354 af
Outflow=5.05 cfs 0.354 af

Reach 41R: discharge Avg. Flow Depth=0.00' Max Vel=0.00 fps Inflow=0.00 cfs 0.000 af
18.0" Round Pipe n=0.013 L=663.3' S=0.0054 '/' Capacity=7.74 cfs Outflow=0.00 cfs 0.000 af

Reach 42R: PND DISCHARGE Avg. Flow Depth=0.00' Max Vel=0.00 fps
24.0" Round Pipe n=0.013 L=167.2' S=0.0050 '/' Capacity=16.03 cfs Outflow=0.00 cfs 0.000 af

Reach RE1: HEADWALL 'B' Inflow=9.11 cfs 1.142 af
Outflow=9.11 cfs 1.142 af

Pond 1P: PKG ISL POND 1 Peak Elev=119.79' Storage=541 cf Inflow=0.78 cfs 0.068 af
Discarded=0.05 cfs 0.021 af Primary=0.33 cfs 0.046 af Outflow=0.39 cfs 0.067 af

Pond 2P: PKG ISL 2 Peak Elev=119.78' Storage=862 cf Inflow=1.58 cfs 0.120 af
Discarded=0.09 cfs 0.036 af Primary=0.90 cfs 0.083 af Outflow=0.99 cfs 0.119 af

Pond 3P: PKG ISL 3 Peak Elev=119.26' Storage=962 cf Inflow=1.46 cfs 0.109 af
Discarded=0.11 cfs 0.054 af Primary=0.44 cfs 0.055 af Outflow=0.55 cfs 0.109 af

Pond 4P: REAR FB Peak Elev=114.69' Storage=3,113 cf Inflow=1.30 cfs 0.153 af
Discarded=0.50 cfs 0.154 af Primary=0.00 cfs 0.000 af Outflow=0.50 cfs 0.154 af

Pond 6P: PKG Peak Elev=117.53' Storage=13,065 cf Inflow=8.24 cfs 0.839 af
Discarded=0.99 cfs 0.648 af Primary=2.13 cfs 0.147 af Outflow=3.13 cfs 0.794 af

Pond 7P: CB-SE Pkg Peak Elev=118.66' Inflow=9.68 cfs 0.745 af
Primary=4.16 cfs 0.605 af Secondary=8.16 cfs 0.142 af Outflow=9.68 cfs 0.745 af

Pond 8P: SC740 Peak Elev=115.38' Storage=9,185 cf Inflow=6.80 cfs 0.695 af
Discarded=0.90 cfs 0.541 af Primary=1.30 cfs 0.153 af Outflow=2.20 cfs 0.694 af

Pond 9P: CB-SE Pkg1 Peak Elev=118.04' Inflow=4.43 cfs 0.648 af
Outflow=4.43 cfs 0.648 af

Pond 11P: CB-SE Pkg2 Peak Elev=117.59' Inflow=5.49 cfs 0.799 af
Outflow=5.49 cfs 0.799 af

Pond 12P: CB-NE Pkg Peak Elev=0.00'
Primary=0.00 cfs 0.000 af

Pond 14P: CB-NE Pkg2 Peak Elev=117.70' Inflow=1.02 cfs 0.069 af
Outflow=1.02 cfs 0.069 af

Pond 18P: CB-SE Pkg3 Peak Elev=117.19' Inflow=7.35 cfs 0.986 af
Outflow=7.35 cfs 0.986 af

Pond 20P: CB-SE Pkg4 Peak Elev=117.22' Inflow=1.91 cfs 0.129 af
Outflow=1.91 cfs 0.129 af

Pond 22P: CB-SE Pkg5 Peak Elev=115.34' Inflow=8.51 cfs 1.064 af
Outflow=8.51 cfs 1.064 af

Pond 24P: CB-SE Pkg6 Peak Elev=111.68' Inflow=8.94 cfs 1.096 af
Outflow=8.94 cfs 1.096 af

Pond 26P: CB-SE Pkg7 Peak Elev=108.30' Inflow=9.11 cfs 1.142 af
Outflow=9.11 cfs 1.142 af

Pond 28P: CB-N F1 Peak Elev=110.72' Inflow=0.42 cfs 0.029 af
Outflow=0.42 cfs 0.029 af

Pond 30P: CB-N F2 Peak Elev=113.33' Inflow=2.33 cfs 0.157 af
Outflow=2.33 cfs 0.157 af

Pond 32P: CB-N F3 Peak Elev=113.10' Inflow=1.46 cfs 0.098 af
Outflow=1.46 cfs 0.098 af

Pond 34P: CB-N F4 Peak Elev=112.71' Inflow=4.33 cfs 0.292 af
Outflow=4.33 cfs 0.292 af

Pond 36P: CB-N F5 Peak Elev=112.83' Inflow=1.14 cfs 0.077 af
Outflow=1.14 cfs 0.077 af

Pond 38P: CB-N F6 Peak Elev=110.53' Inflow=4.63 cfs 0.325 af
Outflow=4.63 cfs 0.325 af

Total Runoff Area = 18.115 ac Runoff Volume = 3.138 af Average Runoff Depth = 2.08"
42.71% Pervious = 7.737 ac 57.29% Impervious = 10.378 ac

Summary for Subcatchment 5S: BLDG FNT 3

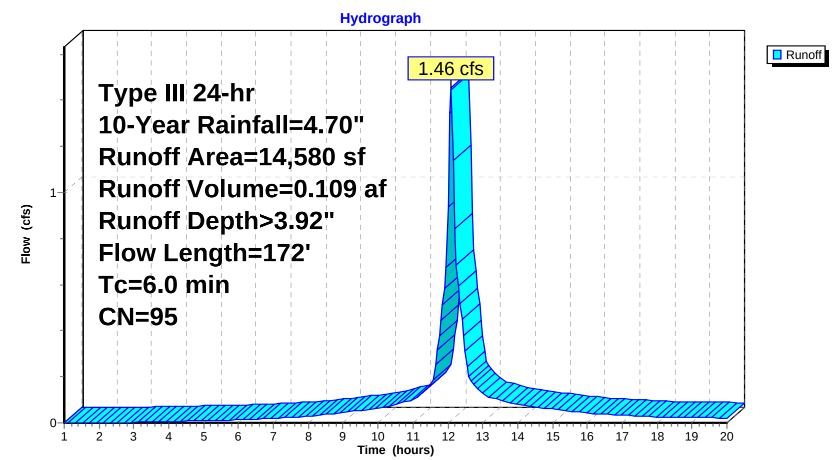
Runoff = 1.46 cfs @ 12.09 hrs, Volume= 0.109 af, Depth> 3.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
13,900	98	Paved parking, HSG A
680	39	>75% Grass cover, Good, HSG A
14,580	95	Weighted Average
680		4.66% Pervious Area
13,900		95.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	12	0.0100	0.68		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.8	160	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.9					**Direct Entry,**
6.0	172	Total			

Subcatchment 5S: BLDG FNT 3



Summary for Subcatchment 6S: EXIST LOT+FNT

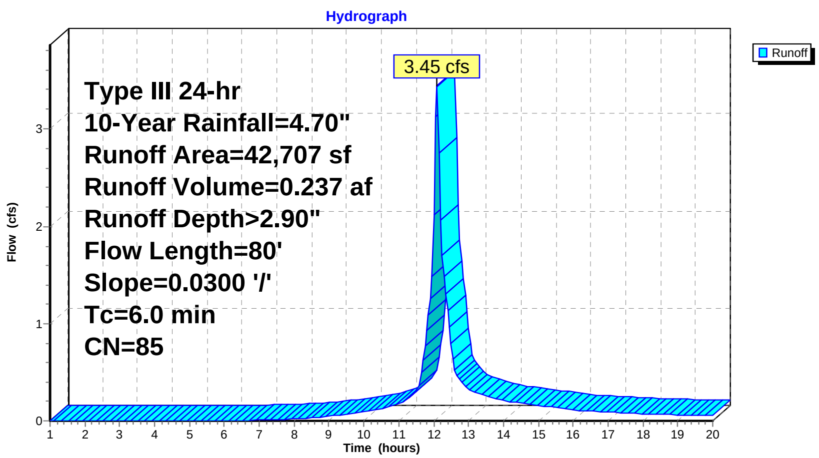
Runoff = 3.45 cfs @ 12.09 hrs, Volume= 0.237 af, Depth> 2.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
33,493	98	Paved parking, HSG A
9,214	39	>75% Grass cover, Good, HSG A
42,707	85	Weighted Average
9,214		21.57% Pervious Area
33,493		78.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0300	1.17		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.3	60	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
5.4					**Direct Entry,**
6.0	80	Total			

Subcatchment 6S: EXIST LOT+FNT



Summary for Subcatchment 7S: BLDG S

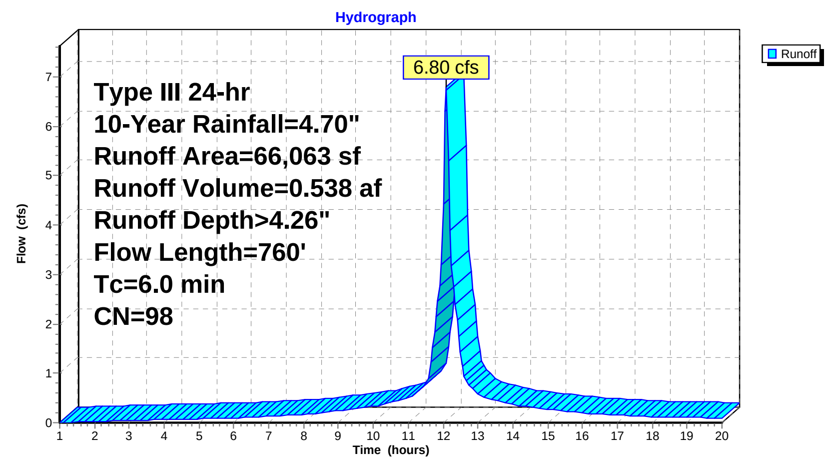
Runoff = 6.80 cfs @ 12.09 hrs, Volume= 0.538 af, Depth> 4.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
66,063	98	Unconnected roofs, HSG A
66,063		100.00% Impervious Area
66,063		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0800	2.08		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.3	120	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.0	30	1.0000	37.50	13.09	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.012 Steel, smooth
5.1	560	0.0050	1.85	1.01	**Pipe Channel,** 10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21' n= 0.020 Corrugated PE, corrugated interior
0.2					**Direct Entry,**
6.0	760	Total			

Subcatchment 7S: BLDG S



Summary for Subcatchment 8S: S-FIELD CB1

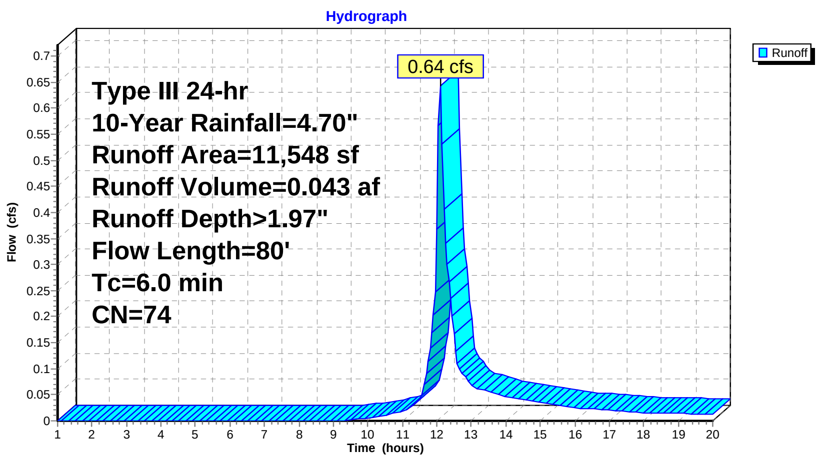
Runoff = 0.64 cfs @ 12.10 hrs, Volume= 0.043 af, Depth> 1.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	6,948	98	Paved Track, HSG A
	4,600	39	>75% Grass cover, Good, HSG A
	11,548	74	Weighted Average
	4,600		39.83% Pervious Area
	6,948		60.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	50	0.1180	0.30		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.2	30	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.0					**Direct Entry,**
6.0	80	Total			

Subcatchment 8S: S-FIELD CB1



Summary for Subcatchment 10S: S-FIELD CB2

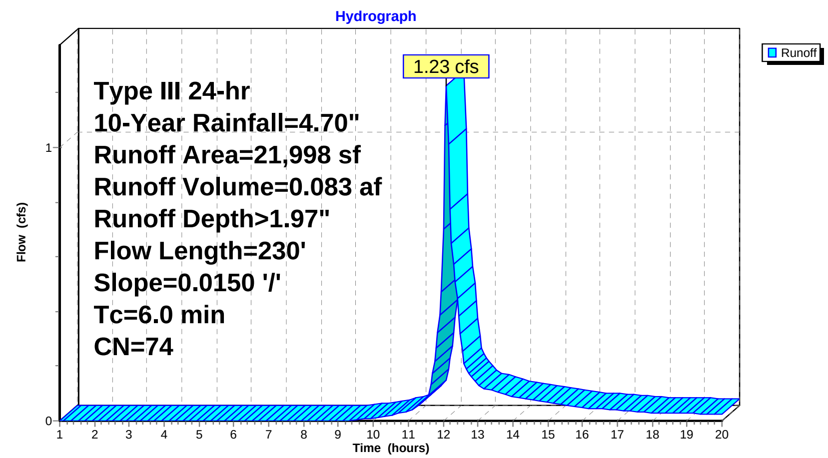
Runoff = 1.23 cfs @ 12.10 hrs, Volume= 0.083 af, Depth> 1.97"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	13,199	98	Paved Track, HSG A
	8,799	39	>75% Grass cover, Good, HSG A
	21,998	74	Weighted Average
	8,799		40.00% Pervious Area
	13,199		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.5	180	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.7					**Direct Entry, PARKING**
6.0	230	Total			

Subcatchment 10S: S-FIELD CB2



Summary for Subcatchment 13S: M-FIELD CB3

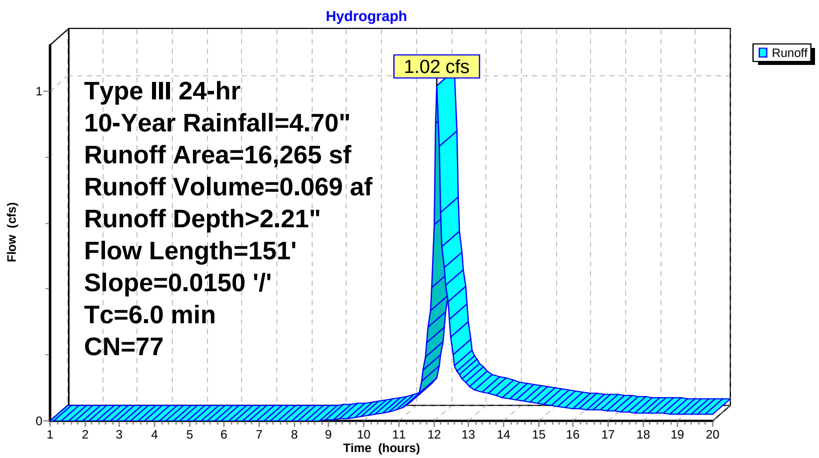
Runoff = 1.02 cfs @ 12.09 hrs, Volume= 0.069 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	10,572	98	Paved Track, HSG A
	5,693	39	>75% Grass cover, Good, HSG A
	16,265	77	Weighted Average
	5,693		35.00% Pervious Area
	10,572		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.9	101	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.3					**Direct Entry,**
6.0	151	Total			

Subcatchment 13S: M-FIELD CB3



Summary for Subcatchment 16S: BLDG S

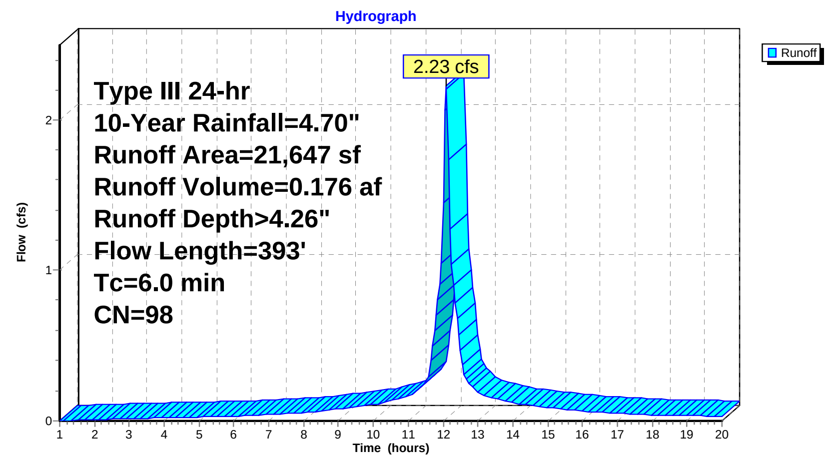
Runoff = 2.23 cfs @ 12.09 hrs, Volume= 0.176 af, Depth> 4.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
21,647	98	Roofs, HSG A
21,647		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0800	2.08		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.0	13	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.0	30	1.0000	37.50	13.09	**Pipe Channel, DOWNSPOUT** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.012 Steel, smooth
2.7	300	0.0050	1.85	1.01	**Pipe Channel, ROOFDRAIN** 10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21' n= 0.020 Corrugated PE, corrugated interior
2.9					**Direct Entry,**
6.0	393	Total			

Subcatchment 16S: BLDG S



Summary for Subcatchment 17S: S-FIELD CB3

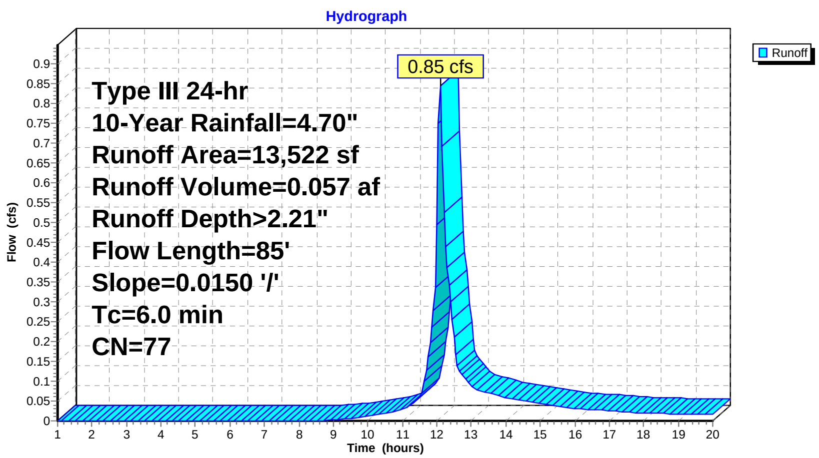
Runoff = 0.85 cfs @ 12.09 hrs, Volume= 0.057 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	8,789	98	Paved Track, HSG A
	4,733	39	>75% Grass cover, Good, HSG A
	13,522	77	Weighted Average
	4,733		35.00% Pervious Area
	8,789		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.3	35	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.9					**Direct Entry,**
6.0	85	Total			

Subcatchment 17S: S-FIELD CB3



Summary for Subcatchment 19S: S-FIELD CB4

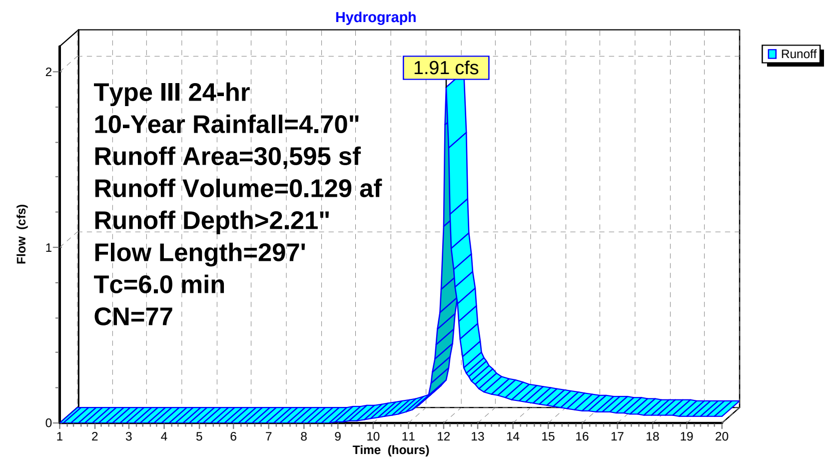
Runoff = 1.91 cfs @ 12.09 hrs, Volume= 0.129 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	19,887	98	Paved Track, HSG A
	10,708	39	>75% Grass cover, Good, HSG A
	30,595	77	Weighted Average
	10,708		35.00% Pervious Area
	19,887		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	37	0.0400	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.1	20	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	240	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.1					**Direct Entry,**
6.0	297	Total			

Subcatchment 19S: S-FIELD CB4



Summary for Subcatchment 21S: S-FIELD CB5

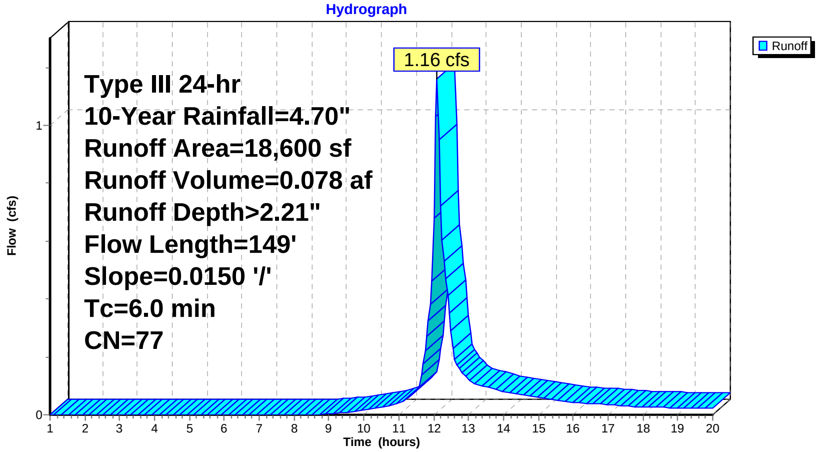
Runoff = 1.16 cfs @ 12.09 hrs, Volume= 0.078 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	12,090	98	Paved Track, HSG A
	6,510	39	>75% Grass cover, Good, HSG A
	18,600	77	Weighted Average
	6,510		35.00% Pervious Area
	12,090		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.8	99	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.4					**Direct Entry,**
6.0	149	Total			

Subcatchment 21S: S-FIELD CB5



Summary for Subcatchment 23S: S-FIELD CB6

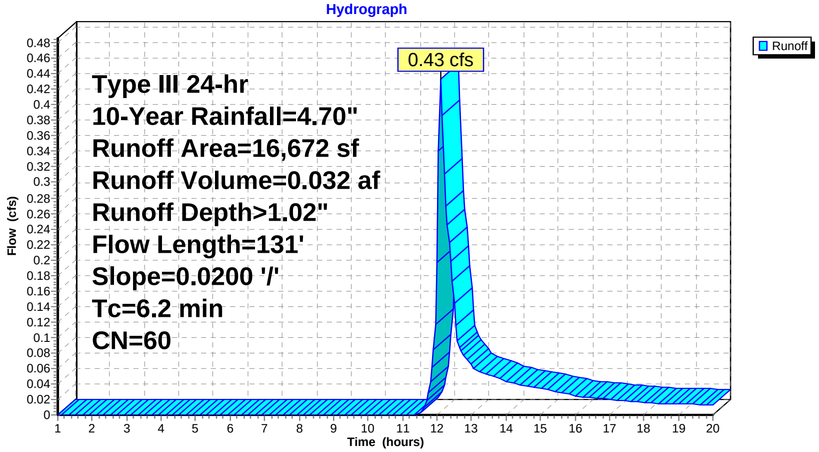
Runoff = 0.43 cfs @ 12.11 hrs, Volume= 0.032 af, Depth> 1.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	5,835	98	Paved Track, HSG A
	10,837	39	>75% Grass cover, Good, HSG A
	16,672	60	Weighted Average
	10,837		65.00% Pervious Area
	5,835		35.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.6	81	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.2	131	Total			

Subcatchment 23S: S-FIELD CB6



Summary for Subcatchment 25S: S-FIELD CB7

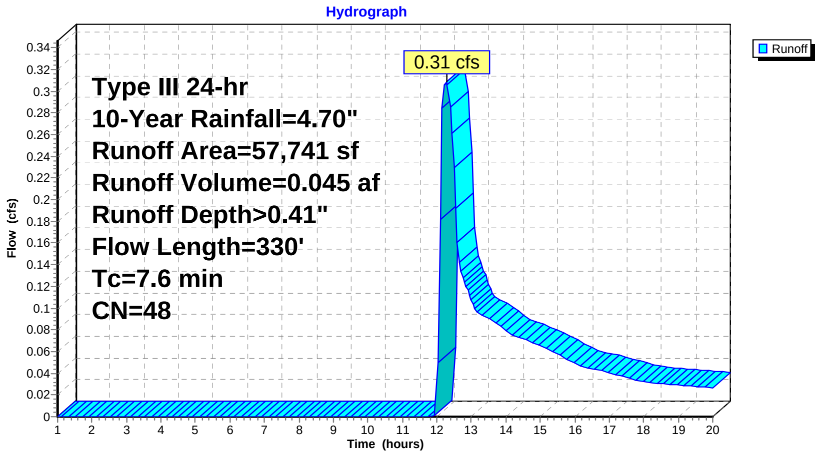
Runoff = 0.31 cfs @ 12.28 hrs, Volume= 0.045 af, Depth> 0.41"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	8,661	98	Paved Track, HSG A
	49,080	39	>75% Grass cover, Good, HSG A
	57,741	48	Weighted Average
	49,080		85.00% Pervious Area
	8,661		15.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.3	180	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.7	100	0.0250	2.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.6	330	Total			

Subcatchment 25S: S-FIELD CB7



Summary for Subcatchment 27S: N-FIELD CBF1

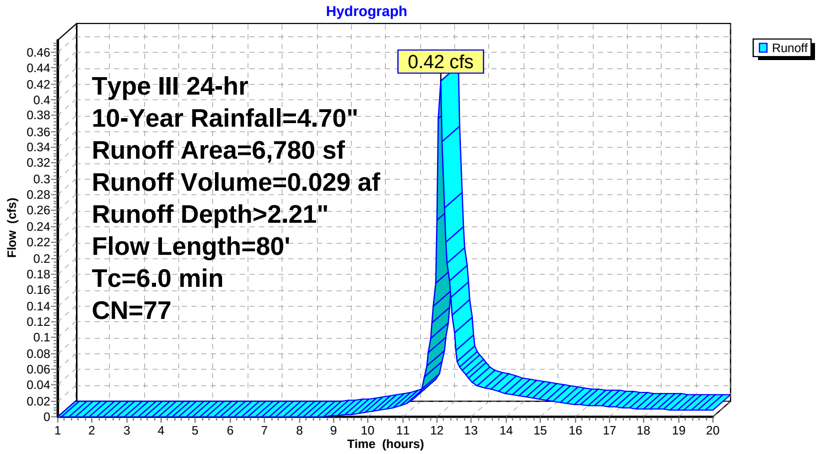
Runoff = 0.42 cfs @ 12.09 hrs, Volume= 0.029 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	4,407	98	Paved Track, HSG A
	2,373	39	>75% Grass cover, Good, HSG A
	6,780	77	Weighted Average
	2,373		35.00% Pervious Area
	4,407		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0100	0.91		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.2	30	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.9					**Direct Entry,**
6.0	80	Total			

Subcatchment 27S: N-FIELD CBF1



Summary for Subcatchment 29S: N-FIELD CBF2

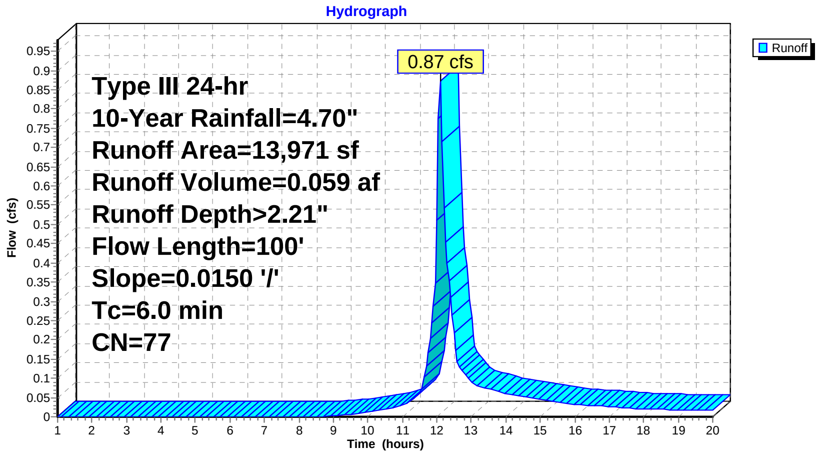
Runoff = 0.87 cfs @ 12.09 hrs, Volume= 0.059 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	9,081	98	Paved Track, HSG A
	4,890	39	>75% Grass cover, Good, HSG A
	13,971	77	Weighted Average
	4,890		35.00% Pervious Area
	9,081		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	20	0.0150	0.89		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.7	80	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.9					**Direct Entry,**
6.0	100	Total			

Subcatchment 29S: N-FIELD CBF2



Summary for Subcatchment 31S: N-FIELD CBF3

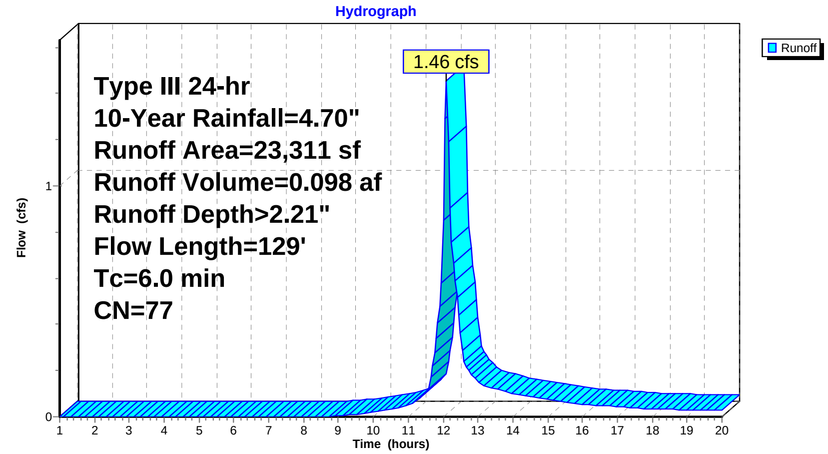
Runoff = 1.46 cfs @ 12.09 hrs, Volume= 0.098 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	15,152	98	Paved Track, HSG A
	8,159	39	>75% Grass cover, Good, HSG A
	23,311	77	Weighted Average
	8,159		35.00% Pervious Area
	15,152		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	29	0.0300	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.8	100	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.1					**Direct Entry,**
6.0	129	Total			

Subcatchment 31S: N-FIELD CBF3



Summary for Subcatchment 33S: N-FIELD CBF4

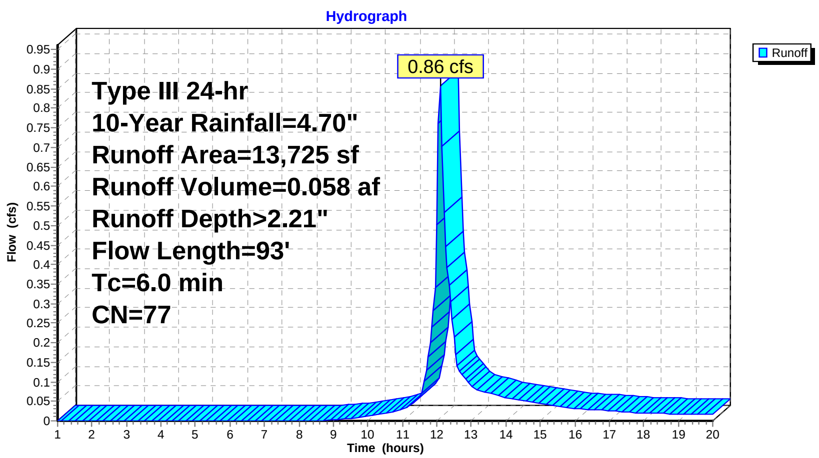
Runoff = 0.86 cfs @ 12.09 hrs, Volume= 0.058 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	8,921	98	Paved Track, HSG A
	4,804	39	>75% Grass cover, Good, HSG A
	13,725	77	Weighted Average
	4,804		35.00% Pervious Area
	8,921		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	20	0.0100	0.76		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.6	73	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
5.0					**Direct Entry,**
6.0	93	Total			

Subcatchment 33S: N-FIELD CBF4



Summary for Subcatchment 35S: N-FIELD CBF5

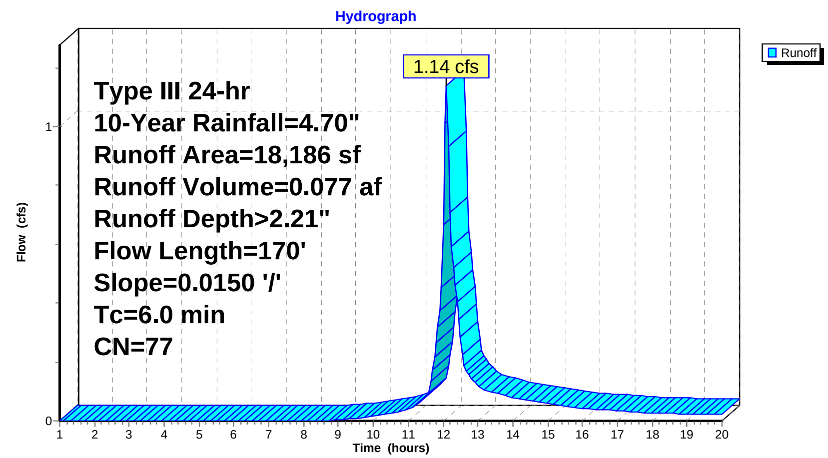
Runoff = 1.14 cfs @ 12.09 hrs, Volume= 0.077 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	11,821	98	Paved Track, HSG A
	6,365	39	>75% Grass cover, Good, HSG A
	18,186	77	Weighted Average
	6,365		35.00% Pervious Area
	11,821		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.0	120	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.2					**Direct Entry,**
6.0	170	Total			

Subcatchment 35S: N-FIELD CBF5



Summary for Subcatchment 37S: N-FIELD CBF6

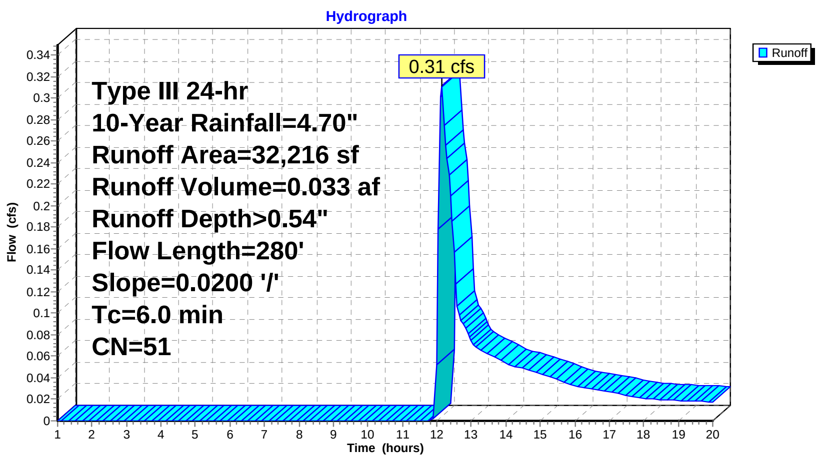
Runoff = 0.31 cfs @ 12.14 hrs, Volume= 0.033 af, Depth> 0.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

	Area (sf)	CN	Description
*	6,443	98	Paved Track, HSG A
	25,773	39	>75% Grass cover, Good, HSG A
	32,216	51	Weighted Average
	25,773		80.00% Pervious Area
	6,443		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0200	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.8	250	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.5					**Direct Entry,**
6.0	280	Total			

Subcatchment 37S: N-FIELD CBF6



Summary for Subcatchment 38S: FRONT LOT

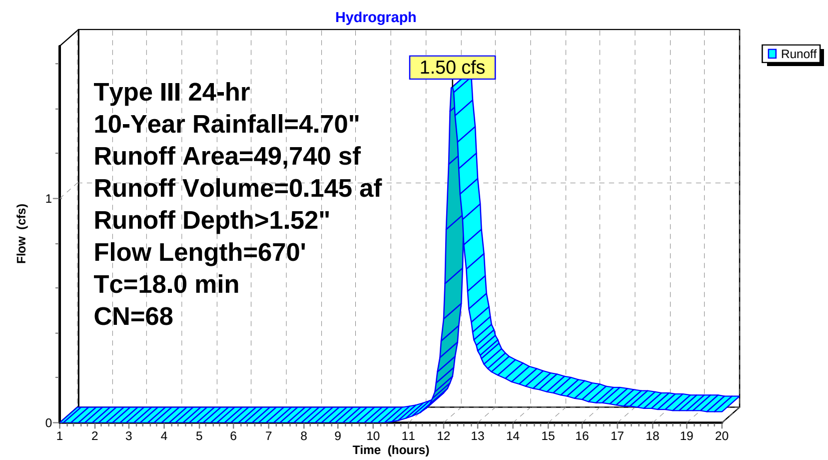
Runoff = 1.50 cfs @ 12.27 hrs, Volume= 0.145 af, Depth> 1.52"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
26,280	98	Paved parking, HSG A
5,218	39	>75% Grass cover, Good, HSG A
18,242	32	Woods/grass comb., Good, HSG A
49,740	68	Weighted Average
23,460		47.17% Pervious Area
26,280		52.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow, WOOD-FIELD** Woods: Light underbrush n= 0.400 P2= 3.20"
0.5	120	0.0590	3.91		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
4.2	360	0.0080	1.44		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
1.0	140	0.0140	2.40		**Shallow Concentrated Flow, PKG** Paved Kv= 20.3 fps
18.0	670	Total			

Subcatchment 38S: FRONT LOT



Summary for Subcatchment 40S: BLDG-FNT

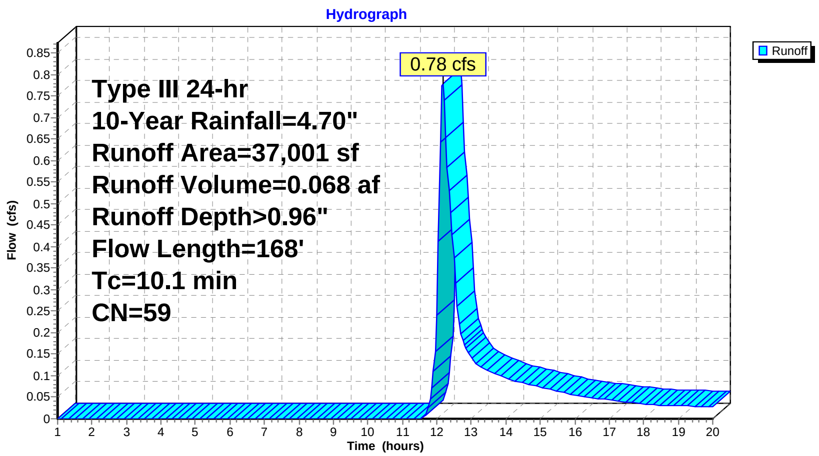
Runoff = 0.78 cfs @ 12.17 hrs, Volume= 0.068 af, Depth> 0.96"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
13,515	98	Paved parking, HSG A
21,205	32	Woods/grass comb., Good, HSG A
1,510	98	Unconnected pavement, HSG A
771	39	>75% Grass cover, Good, HSG A
37,001	59	Weighted Average
21,976		59.39% Pervious Area
15,025		40.61% Impervious Area
1,510		10.05% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.3	38	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.5	80	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
10.1	168	Total			

Subcatchment 40S: BLDG-FNT



Summary for Subcatchment E1: S LOT

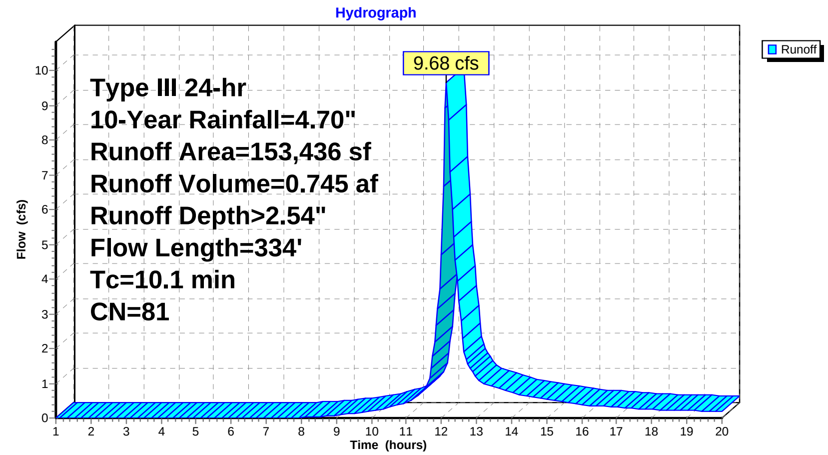
Runoff = 9.68 cfs @ 12.15 hrs, Volume= 0.745 af, Depth> 2.54"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
98,072	98	Paved parking, HSG A
21,058	72	Woods/grass comb., Good, HSG C
34,306	39	>75% Grass cover, Good, HSG A
153,436	81	Weighted Average
55,364		36.08% Pervious Area
98,072		63.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	50	0.0490	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.7	150	0.0486	3.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.8	134	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
10.1	334	Total			

Subcatchment E1: S LOT



Summary for Subcatchment E2: FRONT LOT

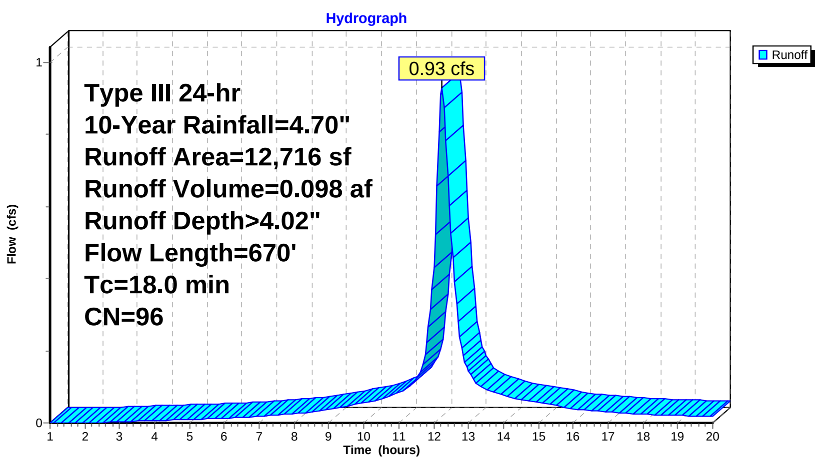
Runoff = 0.93 cfs @ 12.24 hrs, Volume= 0.098 af, Depth> 4.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
12,218	98	Paved parking, HSG A
498	39	>75% Grass cover, Good, HSG A
12,716	96	Weighted Average
498		3.92% Pervious Area
12,218		96.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow, WOOD-FIELD** Woods: Light underbrush n= 0.400 P2= 3.20"
0.5	120	0.0590	3.91		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
4.2	360	0.0080	1.44		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
1.0	140	0.0140	2.40		**Shallow Concentrated Flow, PKG** Paved Kv= 20.3 fps
18.0	670	Total			

Subcatchment E2: FRONT LOT



Summary for Subcatchment P2: SLOPE

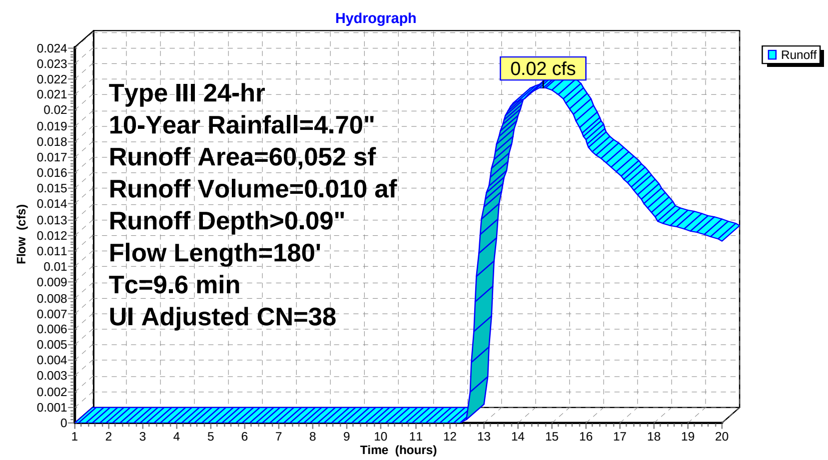
Runoff = 0.02 cfs @ 14.76 hrs, Volume= 0.010 af, Depth> 0.09"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Adj	Description
2,289	98		Unconnected pavement, HSG A
15,553	32		Woods/grass comb., Good, HSG A
42,210	39		>75% Grass cover, Good, HSG A
60,052	39	38	Weighted Average, UI Adjusted
57,763			96.19% Pervious Area
2,289			3.81% Impervious Area
2,289			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	50	0.0450	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.3	80	0.0800	4.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	50	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
9.6	180	Total			

Subcatchment P2: SLOPE



Summary for Subcatchment P4: BLDG FNT2

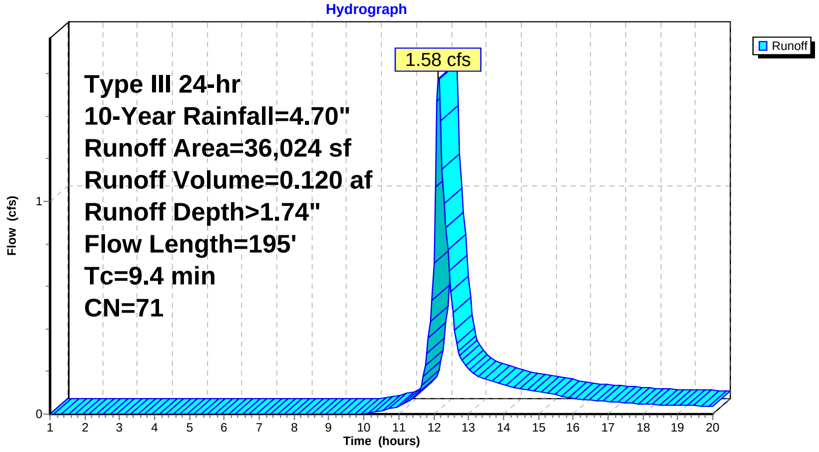
Runoff = 1.58 cfs @ 12.14 hrs, Volume= 0.120 af, Depth> 1.74"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.70"

Area (sf)	CN	Description
21,282	98	Paved parking, HSG A
841	39	>75% Grass cover, Good, HSG A
13,901	32	Woods/grass comb., Good, HSG A
36,024	71	Weighted Average
14,742		40.92% Pervious Area
21,282		59.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	50	0.0560	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.1	15	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.1	130	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
9.4	195	Total			

Subcatchment P4: BLDG FNT2

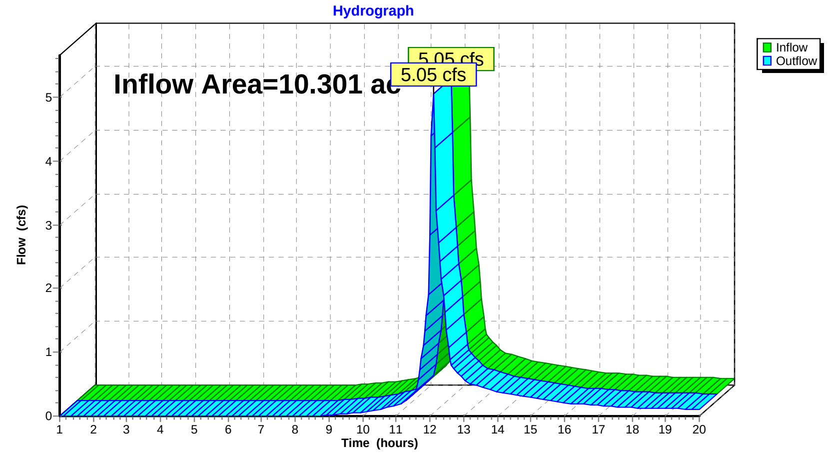


Summary for Reach 39R: HEADWALL 'A'

Inflow Area = 10.301 ac, 59.73% Impervious, Inflow Depth > 0.41" for 10-Year event
Inflow = 5.05 cfs @ 12.10 hrs, Volume= 0.354 af
Outflow = 5.05 cfs @ 12.10 hrs, Volume= 0.354 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3

Reach 39R: HEADWALL 'A'



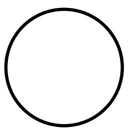
Summary for Reach 41R: discharge

Inflow Area = 7.817 ac, 62.31% Impervious, Inflow Depth = 0.00" for 10-Year event
Inflow = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af
Outflow = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

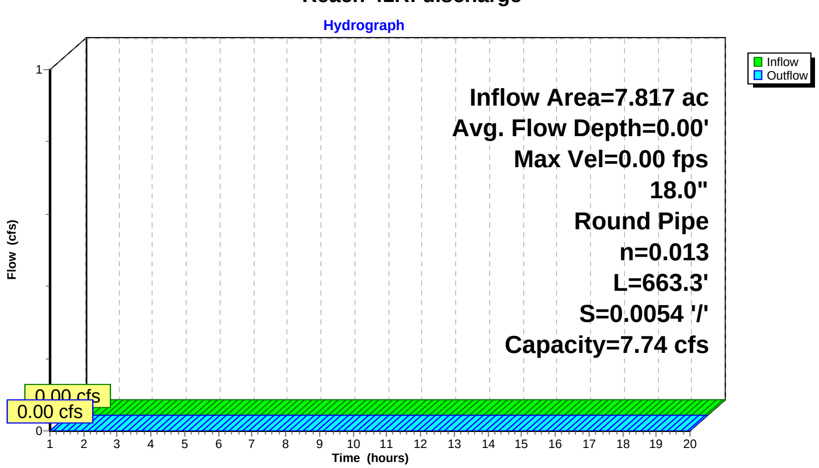
Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 0.00 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 0.00 fps, Avg. Travel Time= 0.0 min

Peak Storage= 0 cf @ 1.00 hrs
Average Depth at Peak Storage= 0.00'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.74 cfs

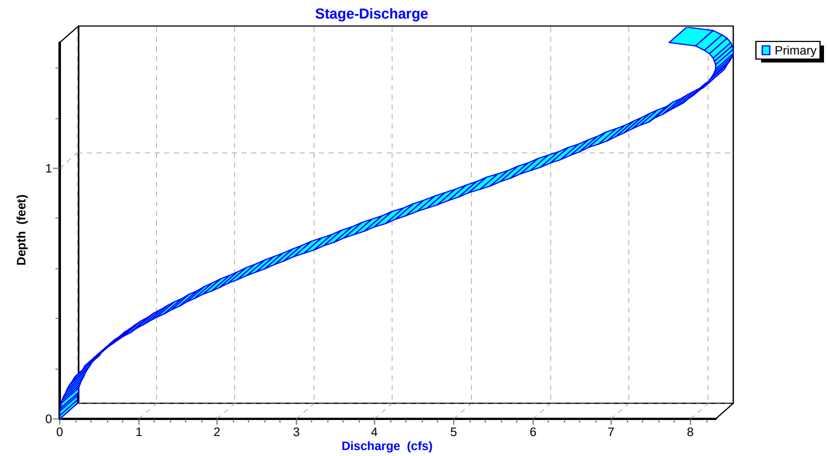
18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 663.3' Slope= 0.0054 '/'
Inlet Invert= 110.85', Outlet Invert= 107.25'



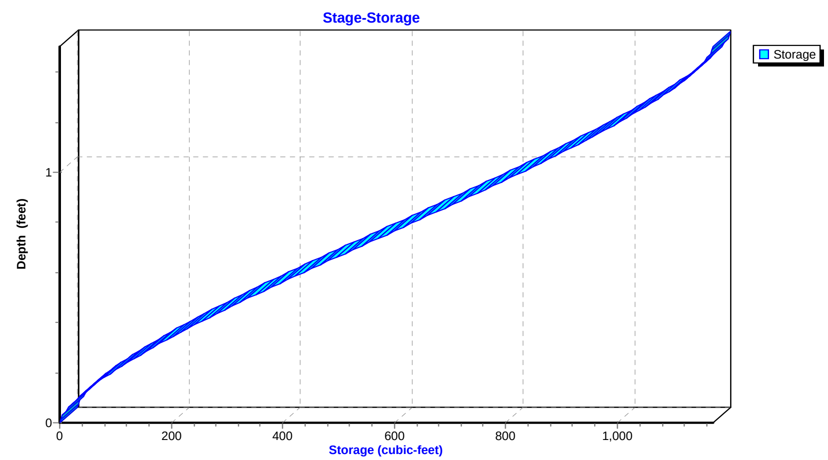
Reach 41R: discharge



Reach 41R: discharge



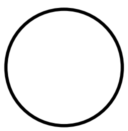
Reach 41R: discharge



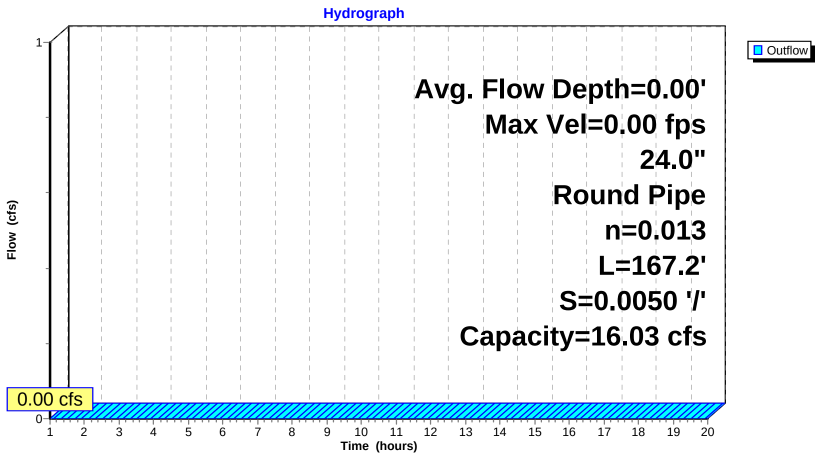
Summary for Reach 42R: PND DISCHARGE

Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 16.03 cfs

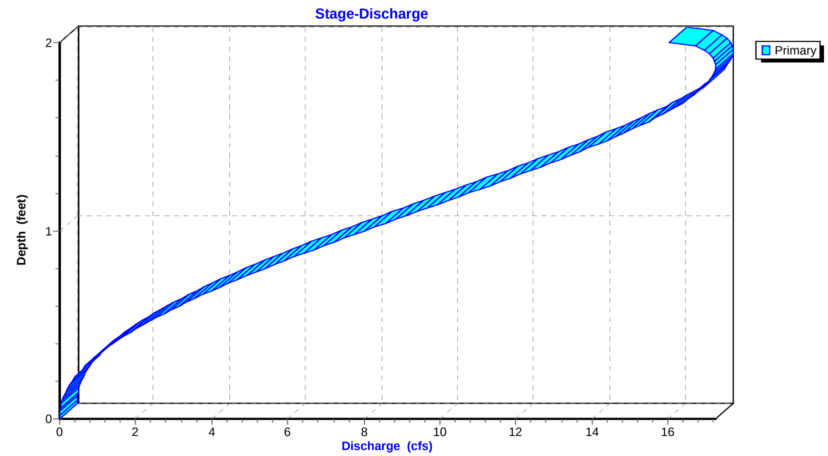
24.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 167.2' Slope= 0.0050 '/'
Inlet Invert= 115.90', Outlet Invert= 115.06'



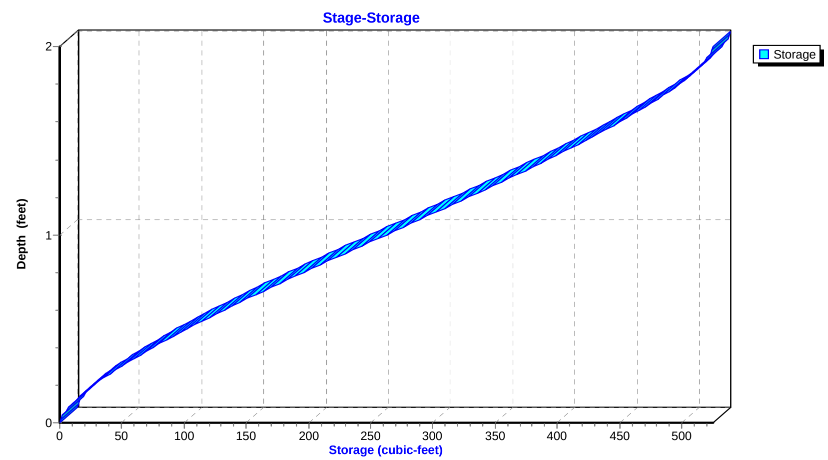
Reach 42R: PND DISCHARGE



Reach 42R: PND DISCHARGE



Reach 42R: PND DISCHARGE

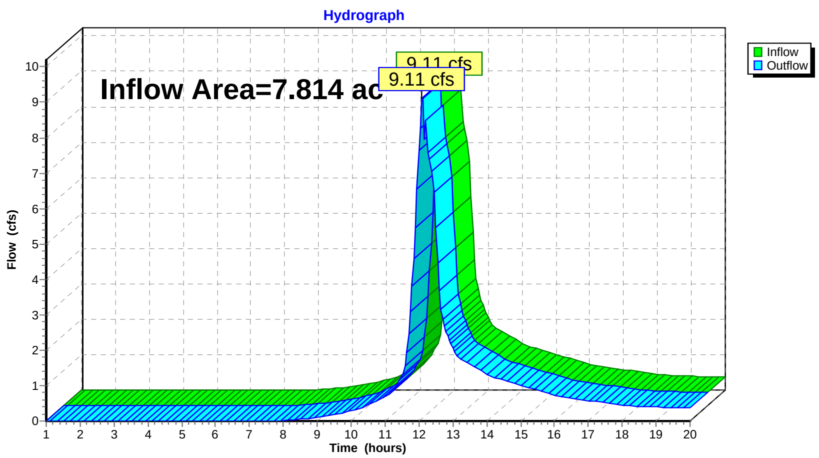


Summary for Reach RE1: HEADWALL 'B'

Inflow Area = 7.814 ac, 54.07% Impervious, Inflow Depth > 1.75" for 10-Year event
Inflow = 9.11 cfs @ 12.10 hrs, Volume= 1.142 af
Outflow = 9.11 cfs @ 12.10 hrs, Volume= 1.142 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3

Reach RE1: HEADWALL 'B'



Summary for Pond 1P: PKG ISL POND 1

Inflow Area = 0.849 ac, 40.61% Impervious, Inflow Depth > 0.96" for 10-Year event
Inflow = 0.78 cfs @ 12.17 hrs, Volume= 0.068 af
Outflow = 0.39 cfs @ 12.49 hrs, Volume= 0.067 af, Atten= 51%, Lag= 19.4 min
Discarded = 0.05 cfs @ 12.49 hrs, Volume= 0.021 af
Primary = 0.33 cfs @ 12.49 hrs, Volume= 0.046 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 119.79' @ 12.49 hrs Surf.Area= 900 sf Storage= 541 cf

Plug-Flow detention time= 19.7 min calculated for 0.067 af (99% of inflow)
Center-of-Mass det. time= 15.1 min (852.2 - 837.2)

Volume	Invert	Avail.Storage	Storage Description
#1	118.95'	1,682 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

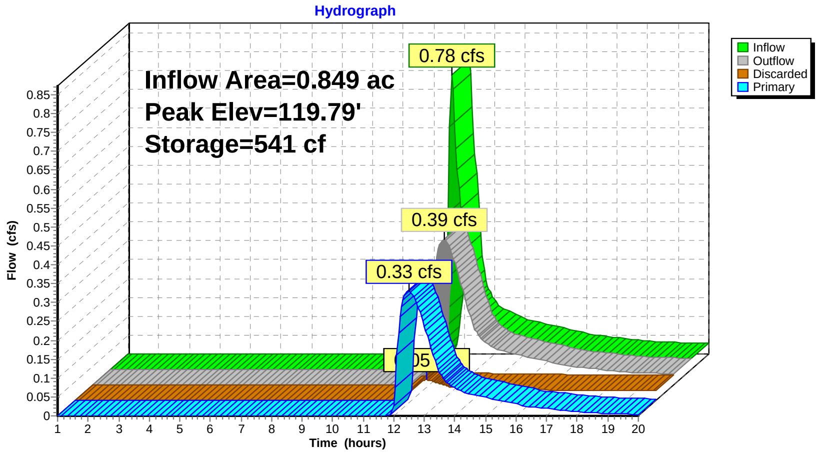
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.95	424	0.0	0	0
119.00	424	100.0	21	21
120.00	1,030	100.0	727	748
120.75	1,459	100.0	933	1,682

Device	Routing	Invert	Outlet Devices
#1	Primary	118.50'	**8.0" Round Culvert** L= 63.3' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 118.50' / 117.80' S= 0.0111 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	119.00'	**4.0" Vert. 4" Orifice** C= 0.600
#3	Device 1	120.70'	**2.5" x 2.5" Horiz. Overflow X 6.00 columns** X 6 rows C= 0.600 in 24.0" x 24.0" Grate (39% open area) Limited to weir flow at low heads
#4	Discarded	118.95'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 112.00'

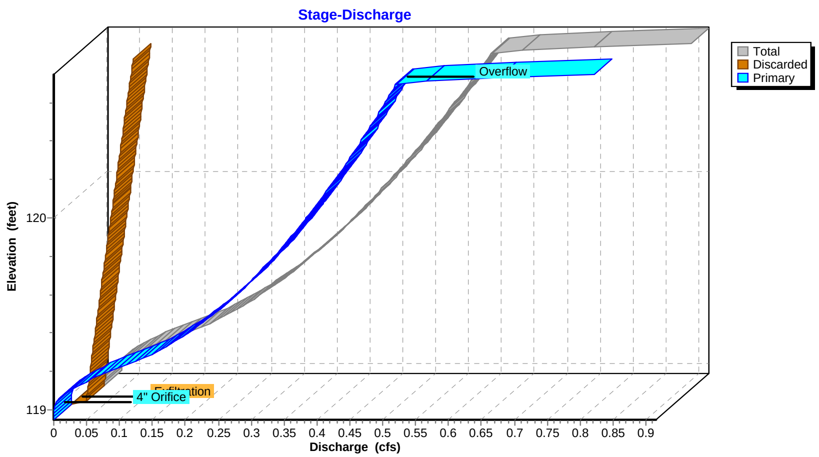
Discarded OutFlow Max=0.05 cfs @ 12.49 hrs HW=119.78' (Free Discharge)
└─**4=Exfiltration** (Controls 0.05 cfs)

Primary OutFlow Max=0.33 cfs @ 12.49 hrs HW=119.78' TW=117.45' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.33 cfs of 1.29 cfs potential flow)
  ├─**2=4" Orifice** (Orifice Controls 0.33 cfs @ 3.79 fps)
  └─**3=Overflow** (Controls 0.00 cfs)

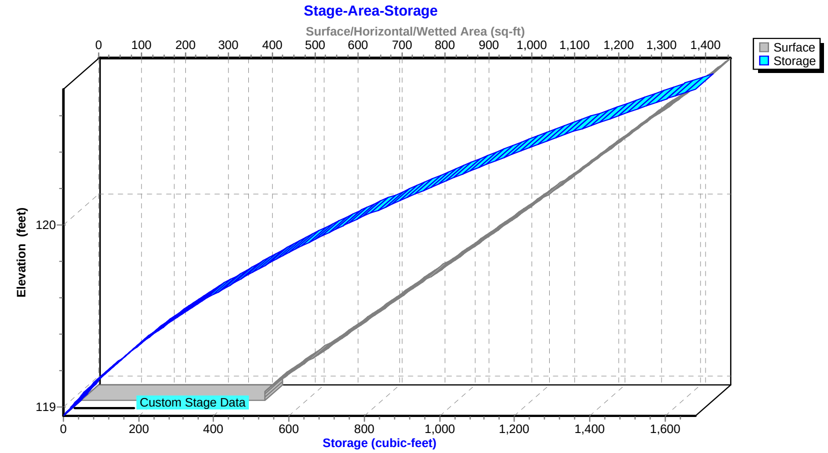
Pond 1P: PKG ISL POND 1



Pond 1P: PKG ISL POND 1



Pond 1P: PKG ISL POND 1



Summary for Pond 2P: PKG ISL 2

Inflow Area = 0.827 ac, 59.08% Impervious, Inflow Depth > 1.74" for 10-Year event
Inflow = 1.58 cfs @ 12.14 hrs, Volume= 0.120 af
Outflow = 0.99 cfs @ 12.31 hrs, Volume= 0.119 af, Atten= 37%, Lag= 9.8 min
Discarded = 0.09 cfs @ 12.31 hrs, Volume= 0.036 af
Primary = 0.90 cfs @ 12.31 hrs, Volume= 0.083 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 119.78' @ 12.31 hrs Surf.Area= 1,565 sf Storage= 862 cf

Plug-Flow detention time= 14.8 min calculated for 0.119 af (100% of inflow)
Center-of-Mass det. time= 12.9 min (823.6 - 810.6)

Volume	Invert	Avail.Storage	Storage Description
#1	118.99'	1,417 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

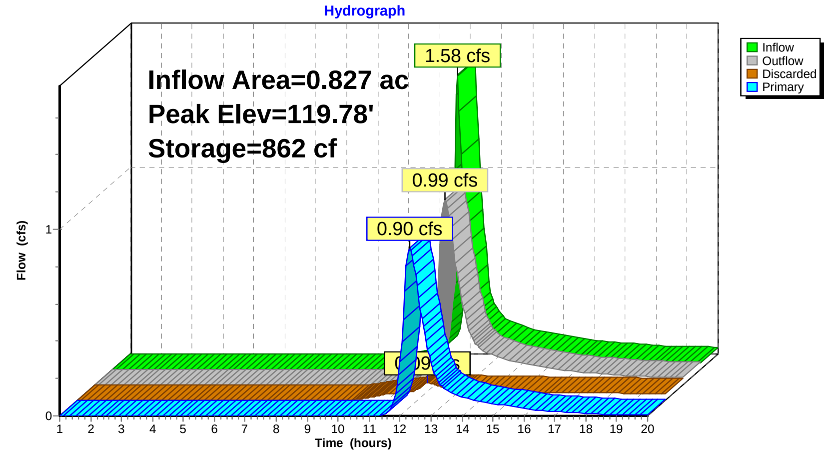
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.99	622	0.0	0	0
119.00	622	100.0	6	6
120.00	1,827	100.0	1,225	1,231
120.10	1,906	100.0	187	1,417

Device	Routing	Invert	Outlet Devices
#1	Primary	118.00'	**12.0" Round Culvert** L= 40.1' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 118.00' / 117.80' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	119.00'	**6.0" Vert. 4" Oriface** C= 0.600
#3	Device 1	119.50'	**6.0" Vert. 6" Oriface** C= 0.600
#4	Device 1	120.05'	**2.5" x 2.5" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 in 24.0" x 24.0" Grate (39% open area) Limited to weir flow at low heads
#5	Discarded	118.99'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 112.00'

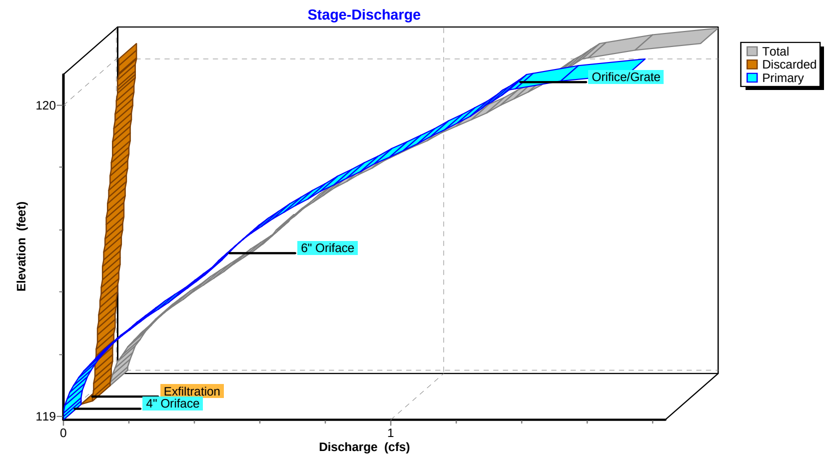
Discarded OutFlow Max=0.09 cfs @ 12.31 hrs HW=119.78' (Free Discharge)
└**5=Exfiltration** (Controls 0.09 cfs)

Primary OutFlow Max=0.90 cfs @ 12.31 hrs HW=119.78' TW=117.01' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.90 cfs of 3.38 cfs potential flow)
  ├**2=4" Oriface** (Orifice Controls 0.69 cfs @ 3.51 fps)
  ├**3=6" Oriface** (Orifice Controls 0.21 cfs @ 1.81 fps)
  └**4=Orifice/Grate** (Controls 0.00 cfs)

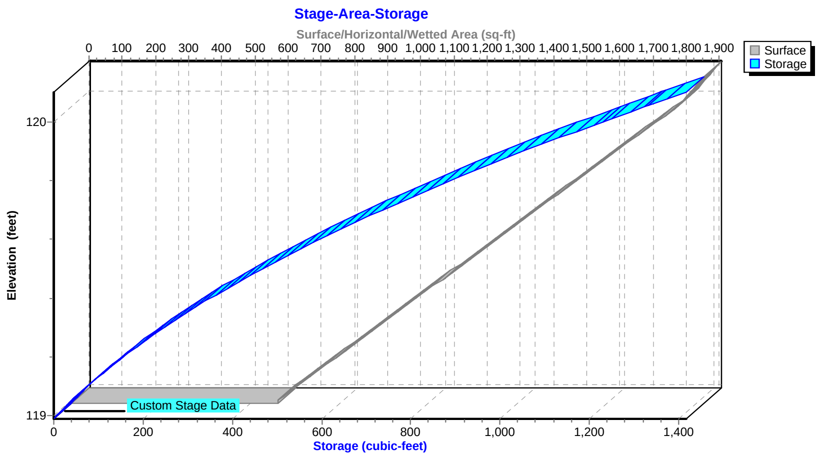
Pond 2P: PKG ISL 2



Pond 2P: PKG ISL 2



Pond 2P: PKG ISL 2



Summary for Pond 3P: PKG ISL 3

Inflow Area = 0.335 ac, 95.34% Impervious, Inflow Depth > 3.92" for 10-Year event
Inflow = 1.46 cfs @ 12.09 hrs, Volume= 0.109 af
Outflow = 0.55 cfs @ 12.33 hrs, Volume= 0.109 af, Atten= 62%, Lag= 14.5 min
Discarded = 0.11 cfs @ 12.33 hrs, Volume= 0.054 af
Primary = 0.44 cfs @ 12.33 hrs, Volume= 0.055 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 119.26' @ 12.33 hrs Surf.Area= 994 sf Storage= 962 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 13.3 min (754.8 - 741.5)

Volume	Invert	Avail.Storage	Storage Description
#1	117.99'	1,588 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

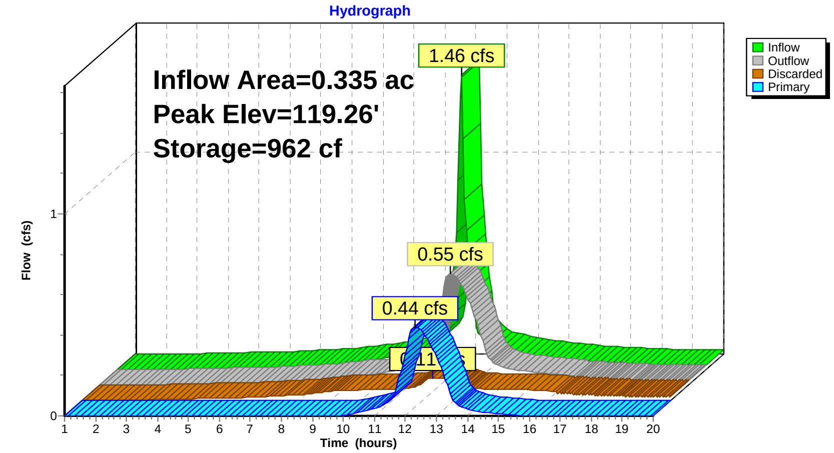
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.99	900	0.0	0	0
118.00	278	100.0	6	6
119.00	1,100	100.0	689	695
120.00	686	100.0	893	1,588

Device	Routing	Invert	Outlet Devices
#1	Primary	117.40'	**8.0" Round Culvert** L= 77.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 117.40' / 117.02' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	118.00'	**4.0" Vert. 4" Oriface** C= 0.600
#3	Device 1	119.50'	**2.5" x 2.5" Horiz. Overflow Grate X 6.00 columns** X 6 rows C= 0.600 in 24.0" x 24.0" Grate (39% open area) Limited to weir flow at low heads
#4	Discarded	117.99'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 112.00'

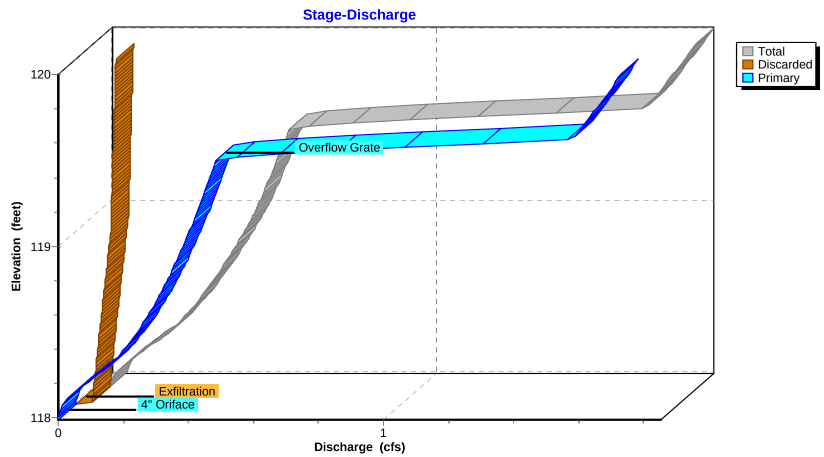
Discarded OutFlow Max=0.11 cfs @ 12.33 hrs HW=119.25' (Free Discharge)
└─**4=Exfiltration** (Controls 0.11 cfs)

Primary OutFlow Max=0.44 cfs @ 12.33 hrs HW=119.25' TW=117.08' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.44 cfs of 1.42 cfs potential flow)
  ├─**2=4" Oriface** (Orifice Controls 0.44 cfs @ 5.02 fps)
  └─**3=Overflow Grate** (Controls 0.00 cfs)

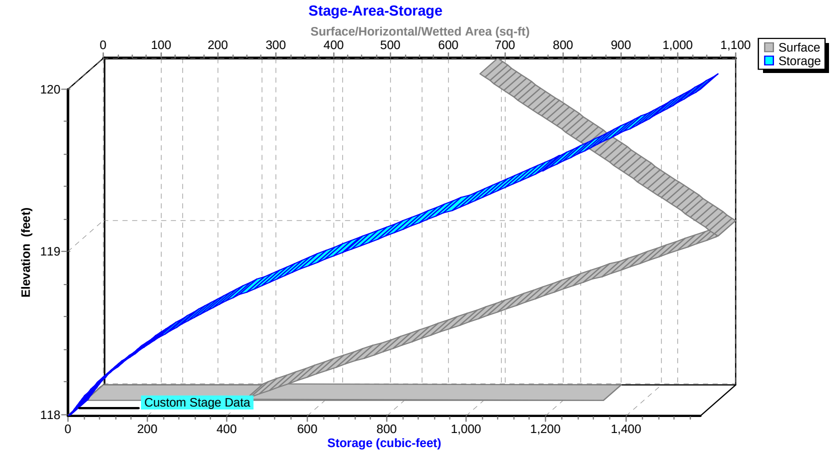
Pond 3P: PKG ISL 3



Pond 3P: PKG ISL 3



Pond 3P: PKG ISL 3



Summary for Pond 4P: REAR FB

Inflow Area = 7.817 ac, 62.31% Impervious, Inflow Depth = 0.24" for 10-Year event
Inflow = 1.30 cfs @ 12.94 hrs, Volume= 0.153 af
Outflow = 0.50 cfs @ 13.93 hrs, Volume= 0.154 af, Atten= 62%, Lag= 59.6 min
Discarded = 0.50 cfs @ 13.93 hrs, Volume= 0.154 af
Primary = 0.00 cfs @ 1.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 114.69' @ 13.93 hrs Surf.Area= 5,599 sf Storage= 3,113 cf

Plug-Flow detention time= 66.6 min calculated for 0.153 af (100% of inflow)
Center-of-Mass det. time= 66.9 min (860.1 - 793.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	113.50'	6,196 cf	**25.92'W x 216.04'L x 4.00'H Field A**
			22,396 cf Overall - 6,905 cf Embedded = 15,491 cf x 40.0% Voids
#2A	114.50'	6,905 cf	**ADS_StormTech SC-740** x 150 Inside #1
			Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
			Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
			Row Length Adjustment= +0.44' x 6.45 sf x 5 rows
		13,102 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	113.50'	**2.410 in/hr Exfiltration over Horizontal area**
			Conductivity to Groundwater Elevation = 111.47'
#2	Primary	115.50'	**12.0" Round Culvert**
			L= 15.0' CPP, projecting, no headwall, Ke= 0.900
			Inlet / Outlet Invert= 115.50' / 115.40' S= 0.0067 '/' Cc= 0.900
			n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Discarded OutFlow Max=0.50 cfs @ 13.93 hrs HW=114.69' (Free Discharge)
↑—**1=Exfiltration** (Controls 0.50 cfs)

Primary OutFlow Max=0.00 cfs @ 1.00 hrs HW=113.50' TW=110.85' (Dynamic Tailwater)
↑—**2=Culvert** (Controls 0.00 cfs)

Pond 4P: REAR FB - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 (ADS StormTech® SC-740 without end caps)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
Row Length Adjustment= +0.44' x 6.45 sf x 5 rows

51.0" Wide + 8.0" Spacing = 59.0" C-C Row Spacing

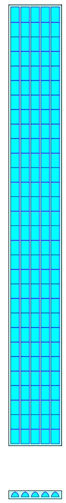
30 Chambers/Row x 7.12' Long +0.44' Row Adjustment = 214.04' Row Length +12.0" End Stone x 2 = 216.04' Base Length
5 Rows x 51.0" Wide + 8.0" Spacing x 4 + 12.0" Side Stone x 2 = 25.92' Base Width
12.0" Base + 30.0" Chamber Height + 6.0" Cover = 4.00' Field Height

150 Chambers x 45.9 cf +0.44' Row Adjustment x 6.45 sf x 5 Rows = 6,905.2 cf Chamber Storage

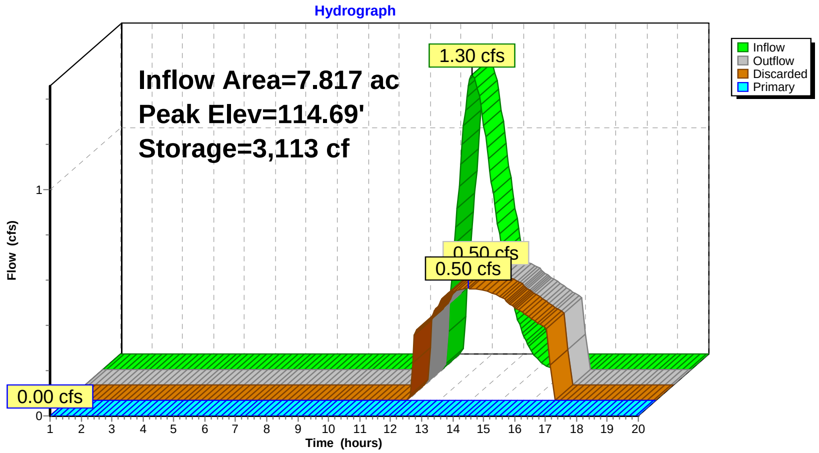
22,396.1 cf Field - 6,905.2 cf Chambers = 15,490.9 cf Stone x 40.0% Voids = 6,196.4 cf Stone Storage

Chamber Storage + Stone Storage = 13,101.6 cf = 0.301 af
Overall Storage Efficiency = 58.5%
Overall System Size = 216.04' x 25.92' x 4.00'

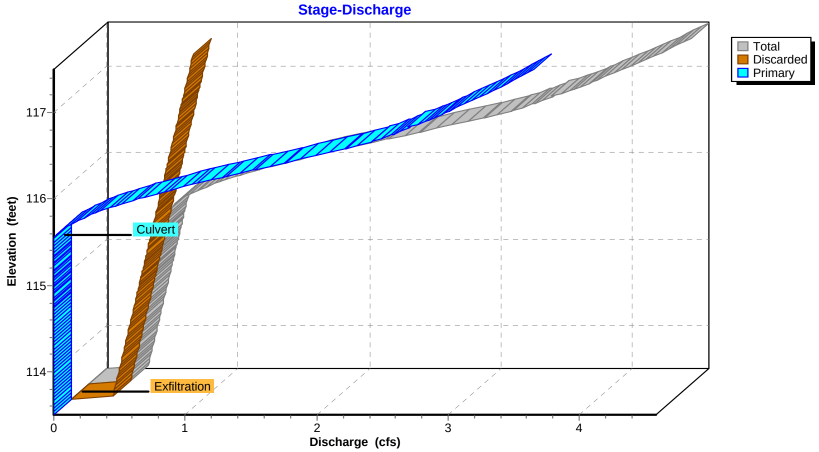
150 Chambers
829.5 cy Field
573.7 cy Stone



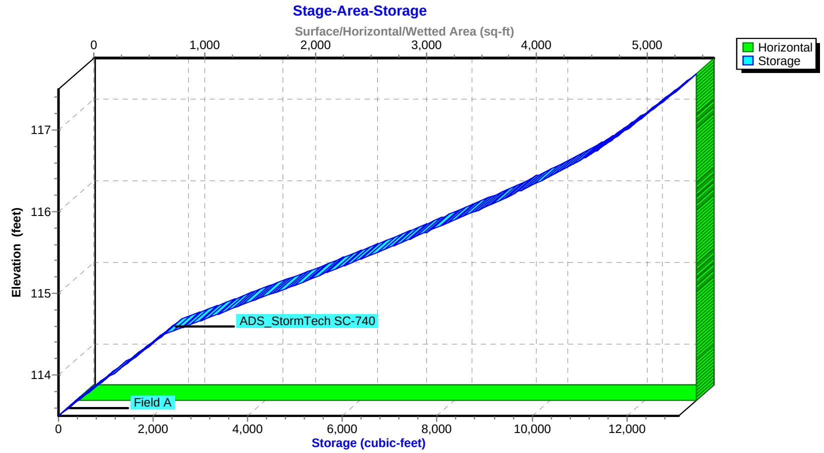
Pond 4P: REAR FB



Pond 4P: REAR FB



Pond 4P: REAR FB



Summary for Pond 6P: PKG

Inflow Area =	4.922 ac, 67.09% Impervious, Inflow Depth > 2.05" for 10-Year event			
Inflow =	8.24 cfs @	12.11 hrs, Volume=	0.839 af	
Outflow =	3.13 cfs @	12.64 hrs, Volume=	0.794 af,	Atten= 62%, Lag= 31.8 min
Discarded =	0.99 cfs @	12.64 hrs, Volume=	0.648 af	
Primary =	2.13 cfs @	12.64 hrs, Volume=	0.147 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 117.53' @ 12.64 hrs Surf.Area= 8,327 sf Storage= 13,065 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 86.8 min (858.5 - 771.8)

Volume	Invert	Avail.Storage	Storage Description
#1A	115.17'	7,782 cf	**80.75'W x 103.12'L x 3.50'H Field A** 29,144 cf Overall - 9,690 cf Embedded = 19,454 cf x 40.0% Voids
#2A	115.67'	9,690 cf	**ADS_StormTech SC-740** x 210 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 6.45 sf x 15 rows
		17,471 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	115.17'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 113.10'
#2	Primary	117.00'	**10.0" Round Culvert X 3.00** L= 80.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 117.00' / 116.00' S= 0.0125 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf

Discarded OutFlow Max=0.99 cfs @ 12.64 hrs HW=117.53' (Free Discharge)
└─**1=Exfiltration** (Controls 0.99 cfs)

Primary OutFlow Max=2.13 cfs @ 12.64 hrs HW=117.53' TW=115.29' (Dynamic Tailwater)
└─**2=Culvert** (Inlet Controls 2.13 cfs @ 1.95 fps)

Pond 6P: PKG - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 (ADS StormTech® SC-740 without end caps)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
Row Length Adjustment= +0.44' x 6.45 sf x 15 rows

51.0" Wide + 12.0" Spacing = 63.0" C-C Row Spacing

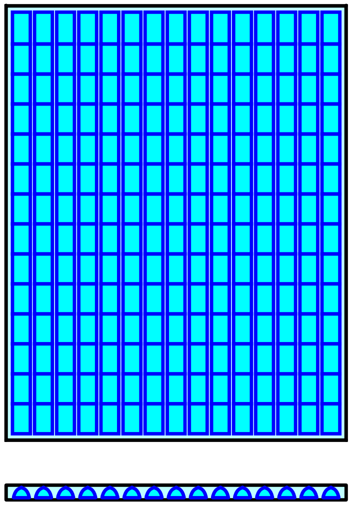
14 Chambers/Row x 7.12' Long +0.44' Row Adjustment = 100.12' Row Length +18.0" End Stone x 2 = 103.12' Base Length
15 Rows x 51.0" Wide + 12.0" Spacing x 14 + 18.0" Side Stone x 2 = 80.75' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

210 Chambers x 45.9 cf +0.44' Row Adjustment x 6.45 sf x 15 Rows = 9,689.8 cf Chamber Storage

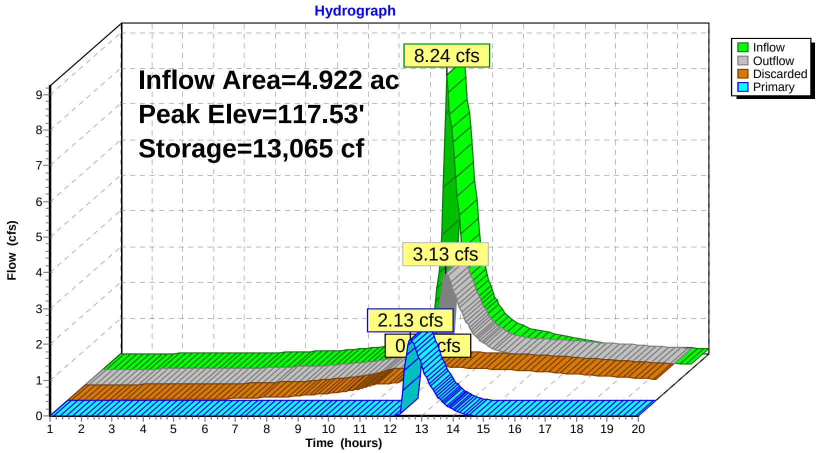
29,143.8 cf Field - 9,689.8 cf Chambers = 19,454.0 cf Stone x 40.0% Voids = 7,781.6 cf Stone Storage

Chamber Storage + Stone Storage = 17,471.4 cf = 0.401 af
Overall Storage Efficiency = 59.9%
Overall System Size = 103.12' x 80.75' x 3.50'

210 Chambers
1,079.4 cy Field
720.5 cy Stone



Pond 6P: PKG



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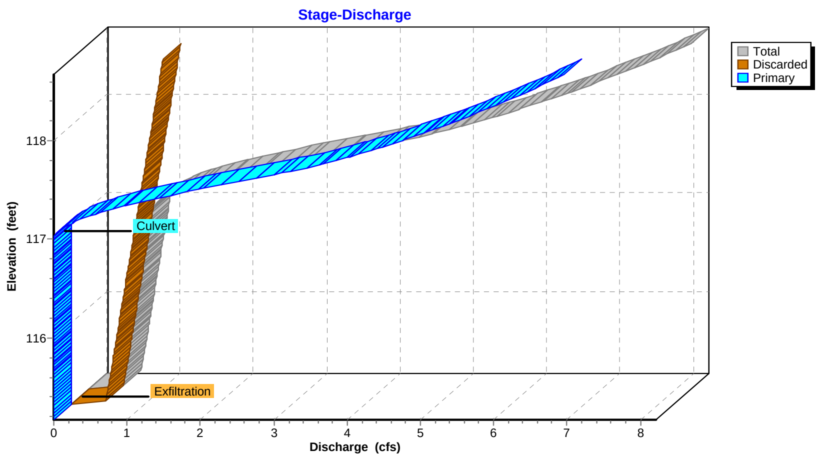
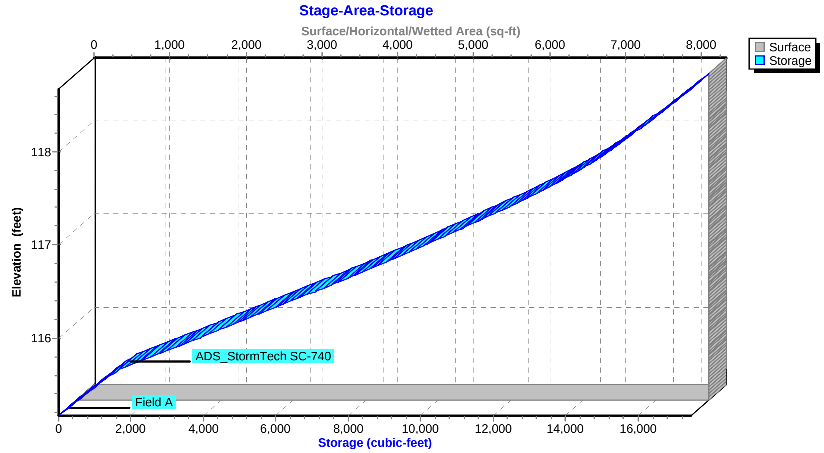


Pond 6P: PKG



Summary for Pond 7P: CB-SE Pkg

Inflow Area = 3.522 ac, 63.92% Impervious, Inflow Depth > 2.54" for 10-Year event
Inflow = 9.68 cfs @ 12.15 hrs, Volume= 0.745 af
Outflow = 9.68 cfs @ 12.15 hrs, Volume= 0.745 af, Atten= 0%, Lag= 0.0 min
Primary = 4.16 cfs @ 12.35 hrs, Volume= 0.605 af
Secondary = 8.16 cfs @ 12.13 hrs, Volume= 0.142 af

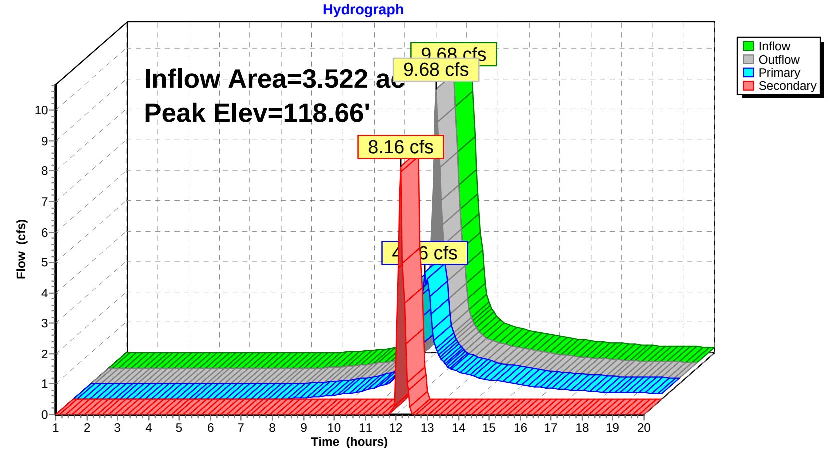
Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 118.66' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	113.30'	**12.0" Round RCP_Round 12"** L= 71.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 113.30' / 111.17' S= 0.0299 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	117.80'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area) Limited to weir flow at low heads
#3	Secondary	116.00'	**8.0" Round Culvert X 4.00** L= 39.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 113.20' / 116.00' S= -0.0709 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

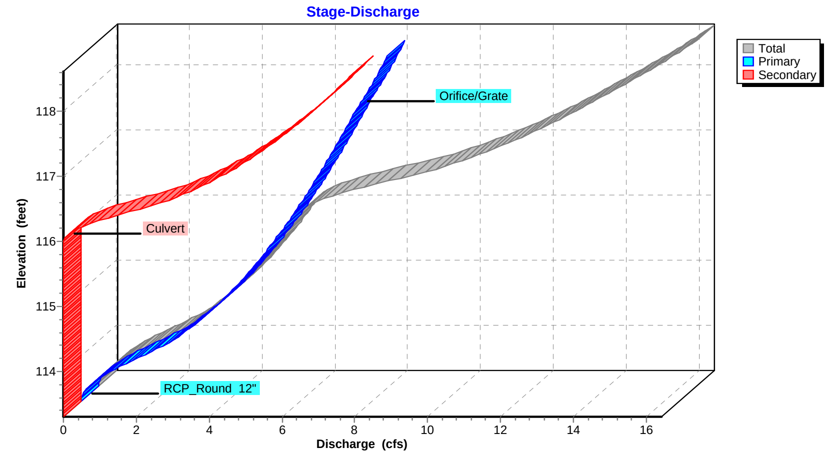
Primary OutFlow Max=3.55 cfs @ 12.35 hrs HW=116.33' TW=115.34' (Dynamic Tailwater)
└─**1=RCP_Round 12"** (Outlet Controls 3.55 cfs @ 4.52 fps)
└─**2=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=7.77 cfs @ 12.13 hrs HW=118.47' (Free Discharge)
└─**3=Culvert** (Inlet Controls 7.77 cfs @ 5.56 fps)

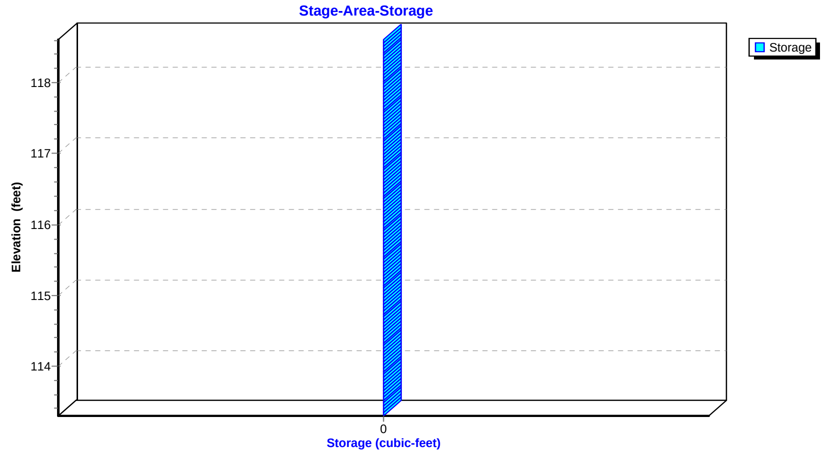
Pond 7P: CB-SE Pkg



Pond 7P: CB-SE Pkg



Pond 7P: CB-SE Pkg



Summary for Pond 8P: SC740

Inflow Area = 7.817 ac, 62.31% Impervious, Inflow Depth > 1.07" for 10-Year event
Inflow = 6.80 cfs @ 12.09 hrs, Volume= 0.695 af
Outflow = 2.20 cfs @ 12.94 hrs, Volume= 0.694 af, Atten= 68%, Lag= 51.1 min
Discarded = 0.90 cfs @ 12.94 hrs, Volume= 0.541 af
Primary = 1.30 cfs @ 12.94 hrs, Volume= 0.153 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 115.38' @ 12.94 hrs Surf.Area= 8,322 sf Storage= 9,185 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 57.3 min (794.4 - 737.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	113.50'	7,553 cf	**31.25'W x 217.22'L x 4.00'H Field A** 27,152 cf Overall - 8,269 cf Embedded = 18,883 cf x 40.0% Voids
#2A	114.50'	8,269 cf	**ADS_StormTech SC-740 +Cap** x 180 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 6 Rows of 30 Chambers
#3B	113.50'	1,719 cf	**20.50'W x 74.82'L x 4.00'H Field B** 6,135 cf Overall - 1,838 cf Embedded = 4,297 cf x 40.0% Voids
#4B	114.50'	1,838 cf	**ADS_StormTech SC-740 +Cap** x 40 Inside #3 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 4 Rows of 10 Chambers
		19,379 cf	Total Available Storage

Storage Group A created with Chamber Wizard
Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	114.50'	**15.0" Round Culvert** L= 77.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 114.50' / 114.50' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Discarded	113.50'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 111.50'

Discarded OutFlow Max=0.90 cfs @ 12.94 hrs HW=115.38' (Free Discharge)
└─**2=Exfiltration** (Controls 0.90 cfs)

Primary OutFlow Max=1.30 cfs @ 12.94 hrs HW=115.38' TW=114.15' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 1.30 cfs @ 1.98 fps)

Pond 8P: SC740 - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 9.0" Spacing = 60.0" C-C Row Spacing

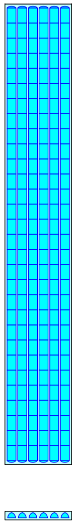
30 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 215.22' Row Length +12.0" End Stone x 2 = 217.22' Base Length
6 Rows x 51.0" Wide + 9.0" Spacing x 5 + 12.0" Side Stone x 2 = 31.25' Base Width
12.0" Base + 30.0" Chamber Height + 6.0" Cover = 4.00' Field Height

180 Chambers x 45.9 cf = 8,269.2 cf Chamber Storage

27,152.1 cf Field - 8,269.2 cf Chambers = 18,882.9 cf of Stone x 40.0% Voids = 7,553.2 cf Stone Storage

Chamber Storage + Stone Storage = 15,822.4 cf = 0.363 af
Overall Storage Efficiency = 58.3%
Overall System Size = 217.22' x 31.25' x 4.00'

180 Chambers
1,005.6 cy Field
699.4 cy Stone



Pond 8P: SC740 - Chamber Wizard Field B

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

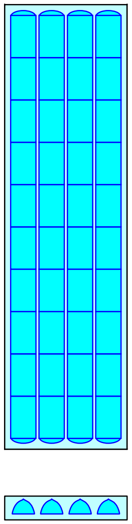
10 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 72.82' Row Length +12.0" End Stone x 2 = 74.82' Base Length
4 Rows x 51.0" Wide + 6.0" Spacing x 3 + 12.0" Side Stone x 2 = 20.50' Base Width
12.0" Base + 30.0" Chamber Height + 6.0" Cover = 4.00' Field Height

40 Chambers x 45.9 cf = 1,837.6 cf Chamber Storage

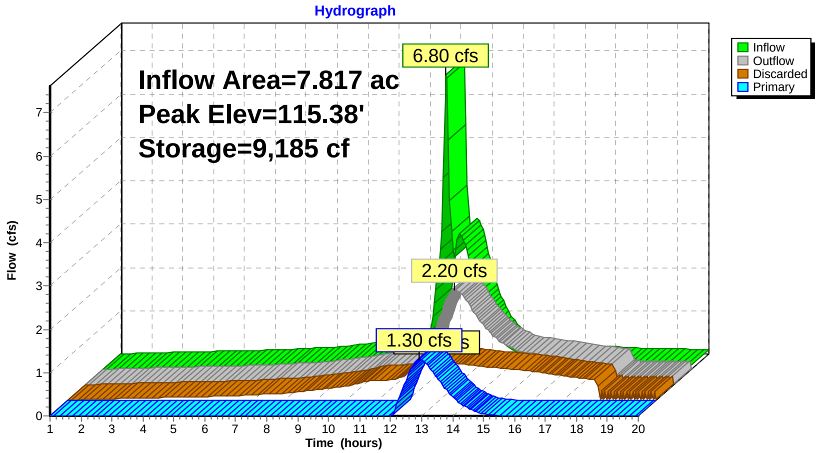
6,135.0 cf Field - 1,837.6 cf Chambers = 4,297.4 cf of Stone x 40.0% Voids = 1,718.9 cf Stone Storage

Chamber Storage + Stone Storage = 3,556.5 cf = 0.082 af
Overall Storage Efficiency = 58.0%
Overall System Size = 74.82' x 20.50' x 4.00'

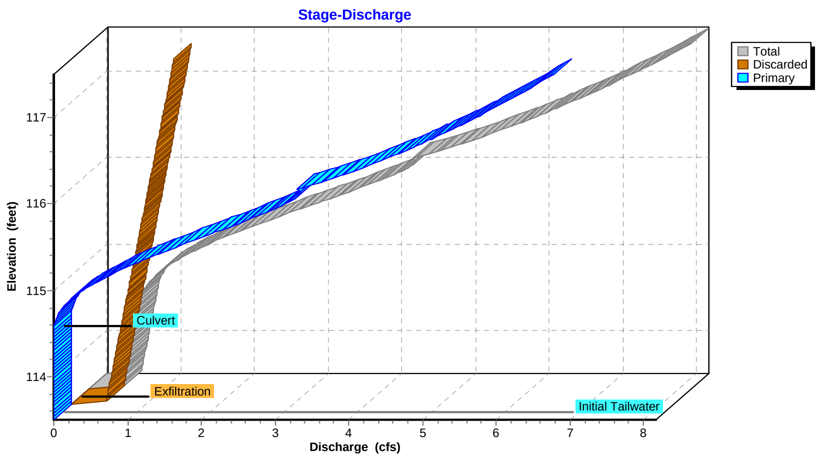
40 Chambers
227.2 cy Field
159.2 cy Stone



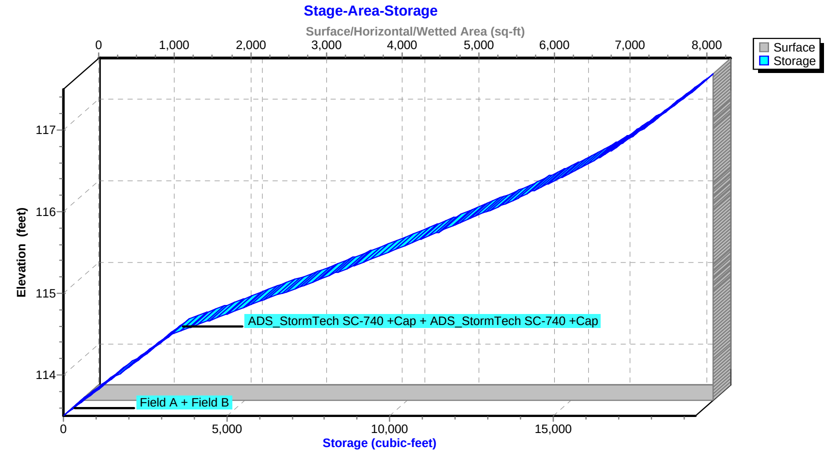
Pond 8P: SC740



Pond 8P: SC740



Pond 8P: SC740



Summary for Pond 9P: CB-SE Pkg1

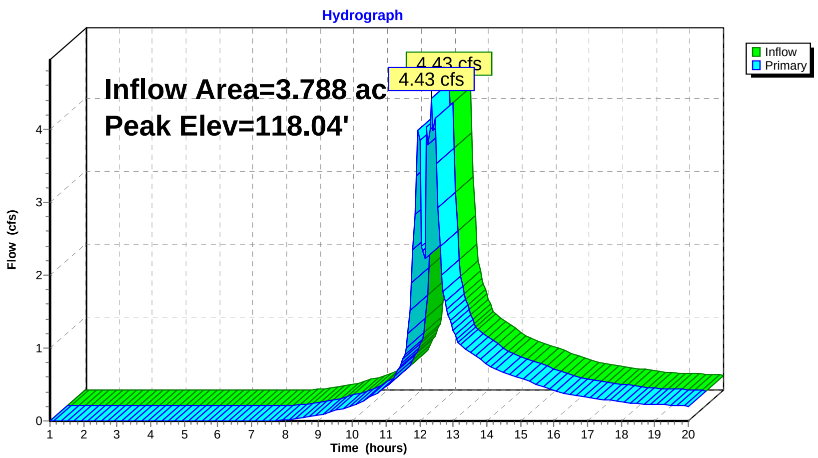
Inflow Area =	3.788 ac, 63.65% Impervious, Inflow Depth > 2.05" for 10-Year event			
Inflow =	4.43 cfs @	12.35 hrs, Volume=	0.648 af	
Outflow =	4.43 cfs @	12.35 hrs, Volume=	0.648 af,	Atten= 0%, Lag= 0.0 min
Primary =	4.43 cfs @	12.35 hrs, Volume=	0.648 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 118.04' @ 12.12 hrs

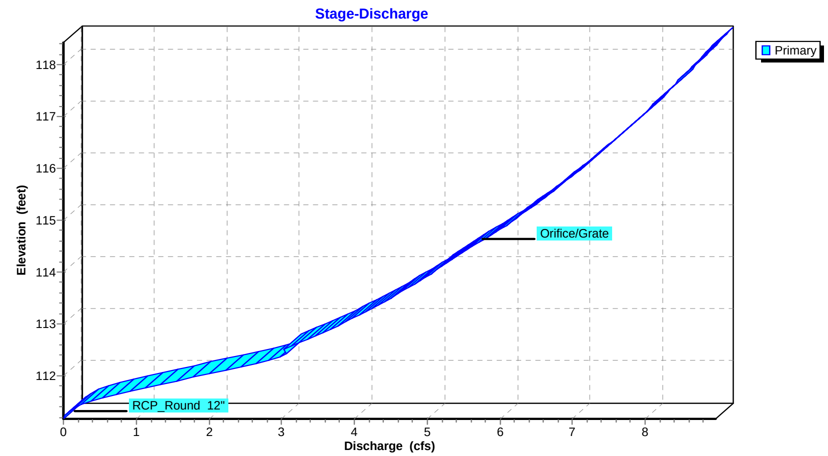
Device	Routing	Invert	Outlet Devices
#1	Primary	111.17'	**12.0" Round RCP_Round 12"** L= 90.3' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.17' / 110.70' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=4.02 cfs @ 12.35 hrs HW=115.35' TW=114.00' (Dynamic Tailwater)
1=RCP_Round 12" (Outlet Controls 3.90 cfs @ 4.96 fps)
2=Orifice/Grate (Orifice Controls 0.12 cfs @ 4.44 fps)

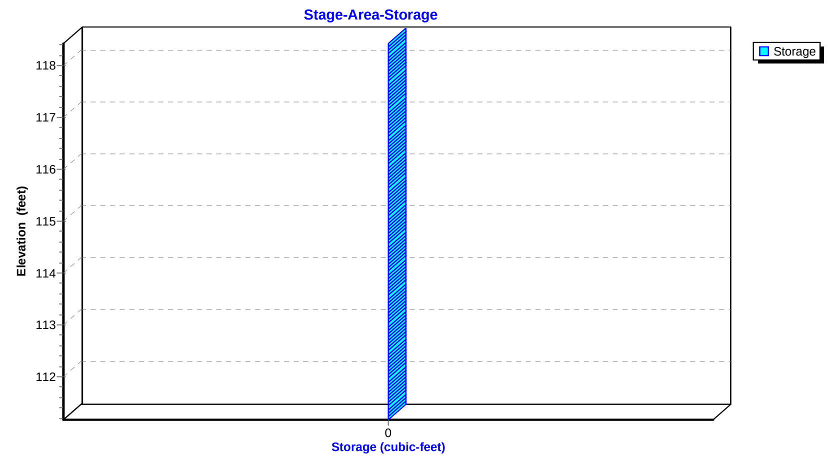
Pond 9P: CB-SE Pkg1



Pond 9P: CB-SE Pkg1



Pond 9P: CB-SE Pkg1



Summary for Pond 11P: CB-SE Pkg2

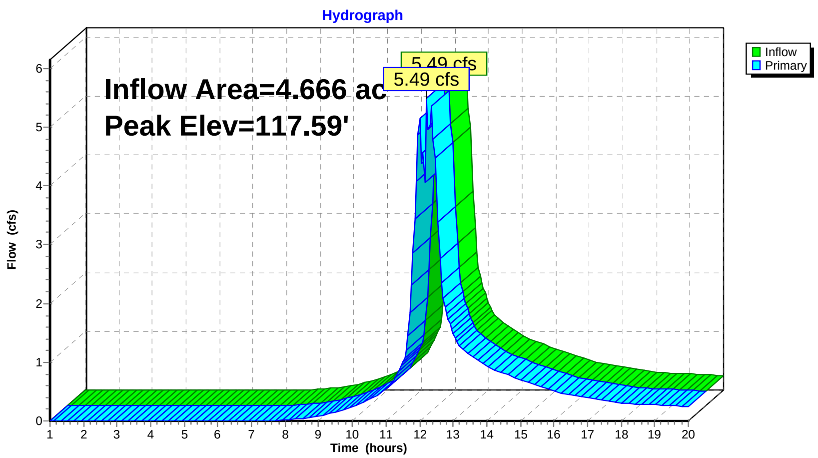
Inflow Area =	4.666 ac, 63.37% Impervious, Inflow Depth > 2.06" for 10-Year event			
Inflow =	5.49 cfs @	12.21 hrs, Volume=	0.799 af	
Outflow =	5.49 cfs @	12.21 hrs, Volume=	0.799 af,	Atten= 0%, Lag= 0.0 min
Primary =	5.49 cfs @	12.21 hrs, Volume=	0.799 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 117.59' @ 12.10 hrs

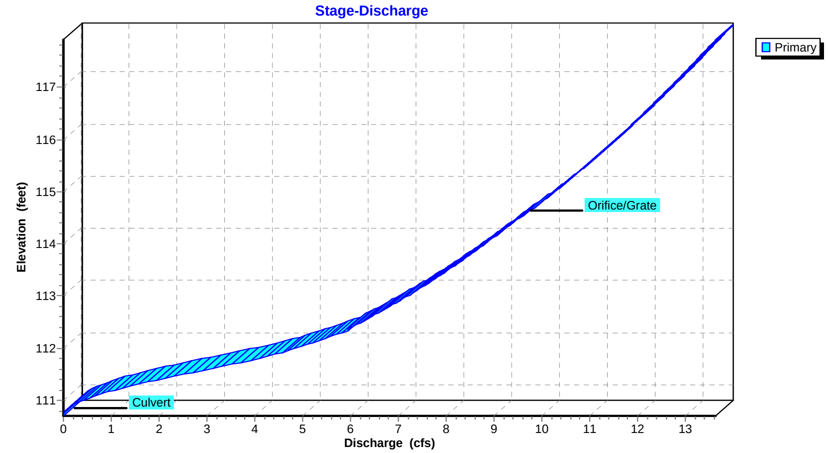
Device	Routing	Invert	Outlet Devices
#1	Primary	110.70'	**15.0" Round Culvert** L= 134.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.70' / 109.75' S= 0.0071 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=5.09 cfs @ 12.21 hrs HW=114.51' TW=113.52' (Dynamic Tailwater)
1=Culvert (Outlet Controls 5.07 cfs @ 4.13 fps)
2=Orifice/Grate (Orifice Controls 0.02 cfs @ 0.57 fps)

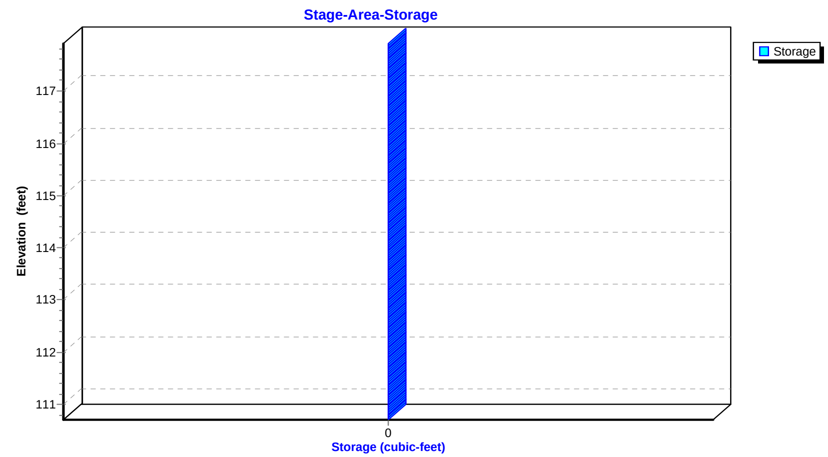
Pond 11P: CB-SE Pkg2



Pond 11P: CB-SE Pkg2



Pond 11P: CB-SE Pkg2

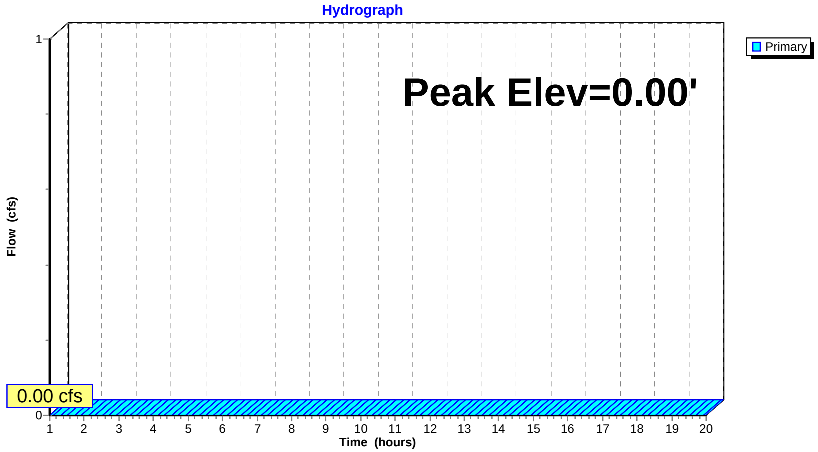


Summary for Pond 12P: CB-NE Pkg

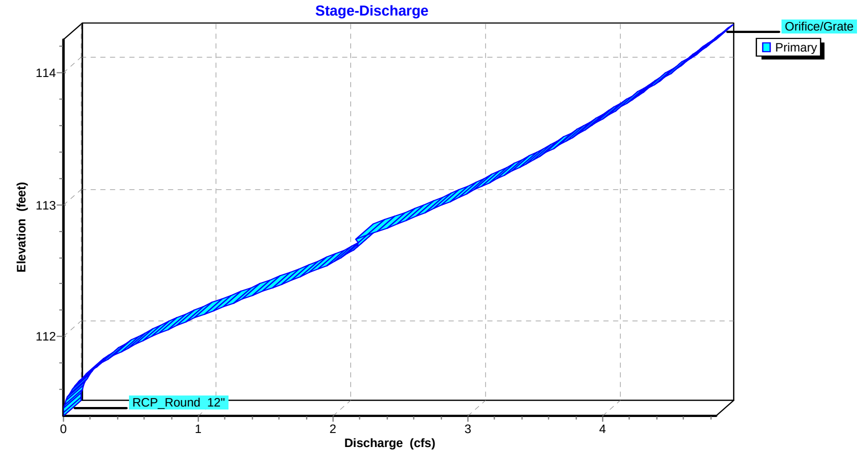
Device	Routing	Invert	Outlet Devices
#1	Primary	111.40'	**12.0" Round RCP_Round 12"** L= 76.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.40' / 111.36' S= 0.0005 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.25'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 1.00 hrs HW=0.00' TW=111.36' (Dynamic Tailwater)
1=RCP_Round 12" (Controls 0.00 cfs)
2=Orifice/Grate (Controls 0.00 cfs)

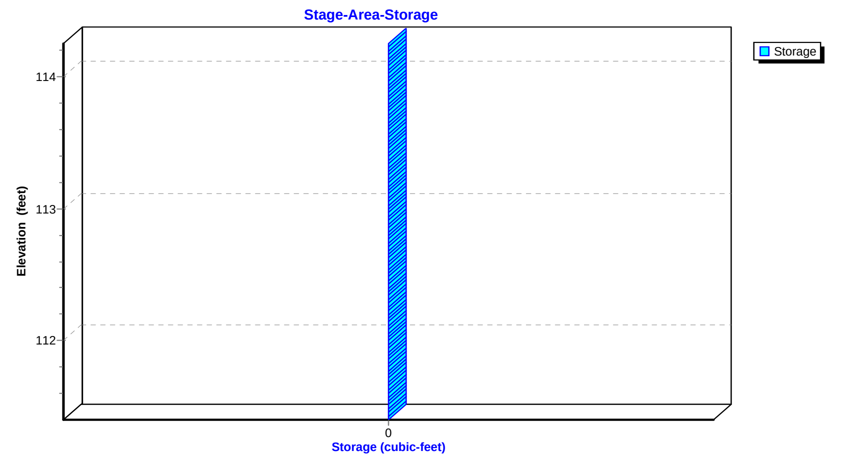
Pond 12P: CB-NE Pkg



Pond 12P: CB-NE Pkg



Pond 12P: CB-NE Pkg



Summary for Pond 14P: CB-NE Pkg2

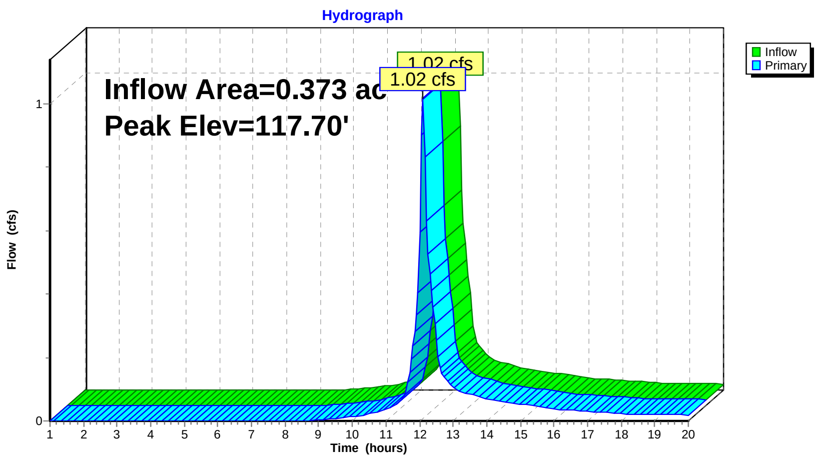
Inflow Area = 0.373 ac, 65.00% Impervious, Inflow Depth > 2.21" for 10-Year event
Inflow = 1.02 cfs @ 12.09 hrs, Volume= 0.069 af
Outflow = 1.02 cfs @ 12.09 hrs, Volume= 0.069 af, Atten= 0%, Lag= 0.0 min
Primary = 1.02 cfs @ 12.09 hrs, Volume= 0.069 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 117.70' @ 12.12 hrs

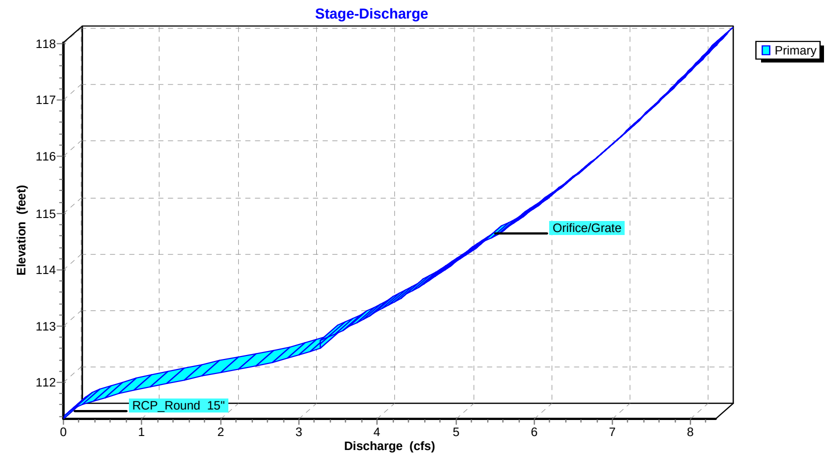
Device	Routing	Invert	Outlet Devices
#1	Primary	111.36'	**12.0" Round RCP_Round 15"** L= 105.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.36' / 110.70' S= 0.0063 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.24 cfs @ 12.09 hrs HW=117.46' TW=117.46' (Dynamic Tailwater)
1=RCP_Round 15" (Outlet Controls 0.23 cfs @ 0.29 fps)
2=Orifice/Grate (Orifice Controls 0.01 cfs @ 0.35 fps)

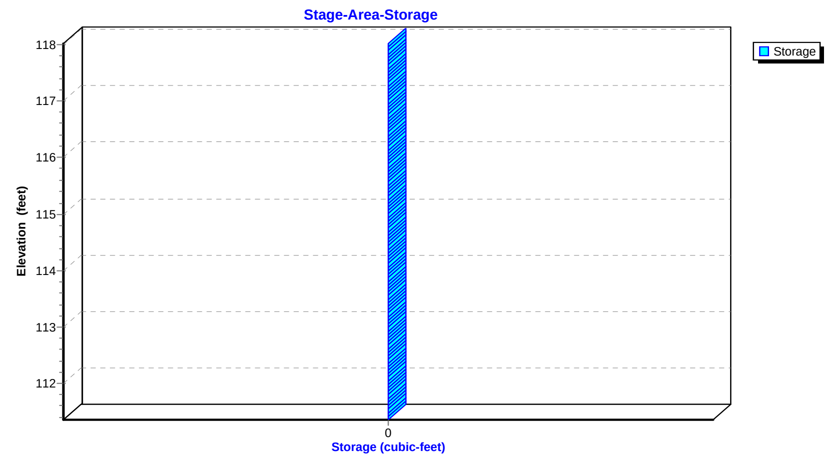
Pond 14P: CB-NE Pkg2



Pond 14P: CB-NE Pkg2



Pond 14P: CB-NE Pkg2



Summary for Pond 18P: CB-SE Pkg3

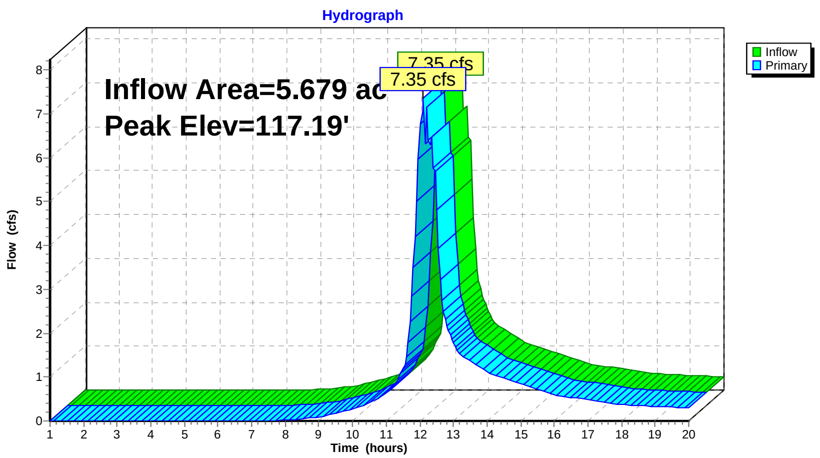
Inflow Area = 5.679 ac, 63.66% Impervious, Inflow Depth > 2.08" for 10-Year event
Inflow = 7.35 cfs @ 12.09 hrs, Volume= 0.986 af
Outflow = 7.35 cfs @ 12.09 hrs, Volume= 0.986 af, Atten= 0%, Lag= 0.0 min
Primary = 7.35 cfs @ 12.09 hrs, Volume= 0.986 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 117.19' @ 12.09 hrs

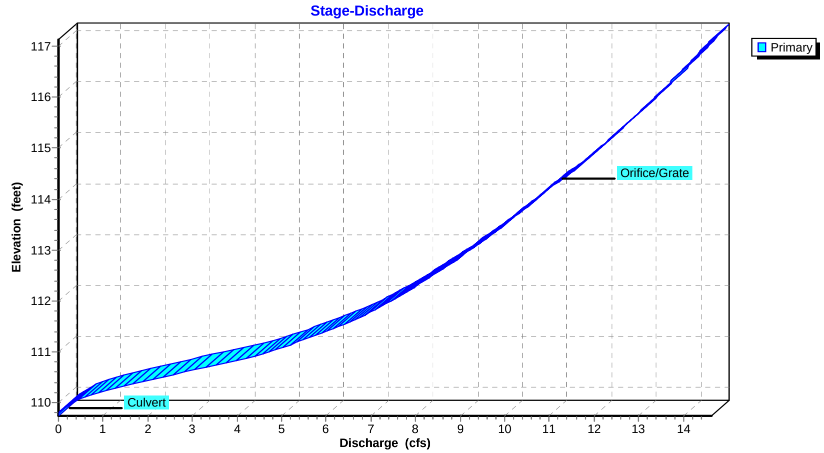
Device	Routing	Invert	Outlet Devices
#1	Primary	109.75'	**15.0" Round Culvert** L= 106.1' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 109.75' / 108.88' S= 0.0082 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.25'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=7.59 cfs @ 12.09 hrs HW=116.95' TW=115.09' (Dynamic Tailwater)
1=Culvert (Outlet Controls 7.41 cfs @ 6.04 fps)
2=Orifice/Grate (Orifice Controls 0.18 cfs @ 6.55 fps)

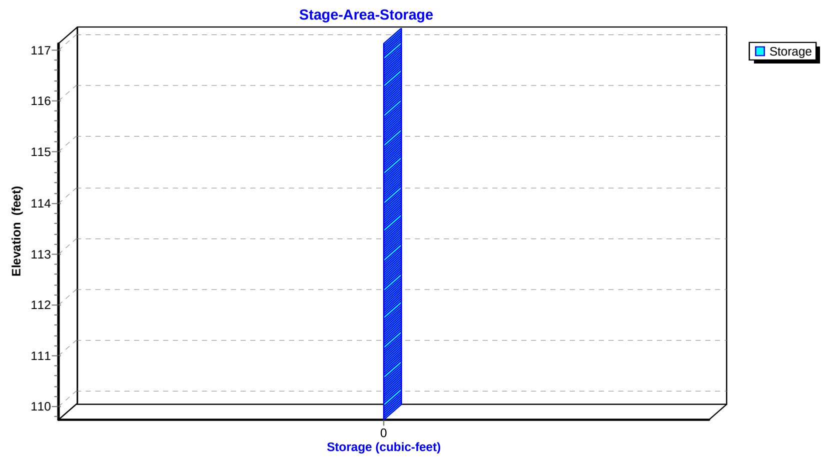
Pond 18P: CB-SE Pkg3



Pond 18P: CB-SE Pkg3



Pond 18P: CB-SE Pkg3



Summary for Pond 20P: CB-SE Pkg4

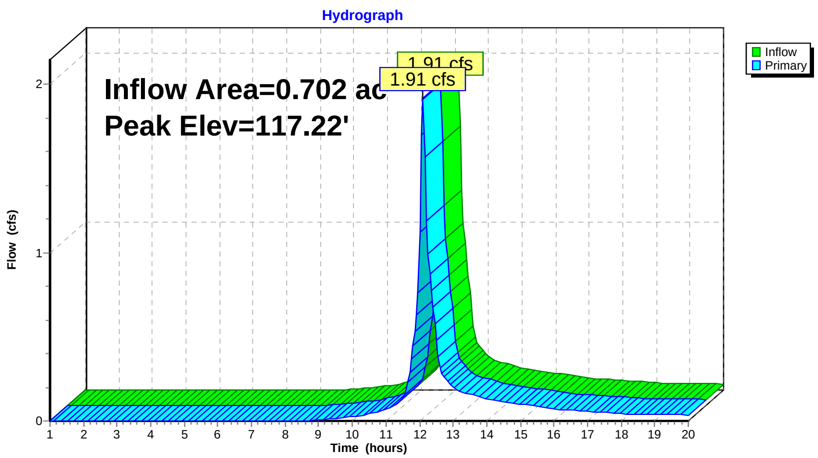
Inflow Area = 0.702 ac, 65.00% Impervious, Inflow Depth > 2.21" for 10-Year event
Inflow = 1.91 cfs @ 12.09 hrs, Volume= 0.129 af
Outflow = 1.91 cfs @ 12.09 hrs, Volume= 0.129 af, Atten= 0%, Lag= 0.0 min
Primary = 1.91 cfs @ 12.09 hrs, Volume= 0.129 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 117.22' @ 12.10 hrs

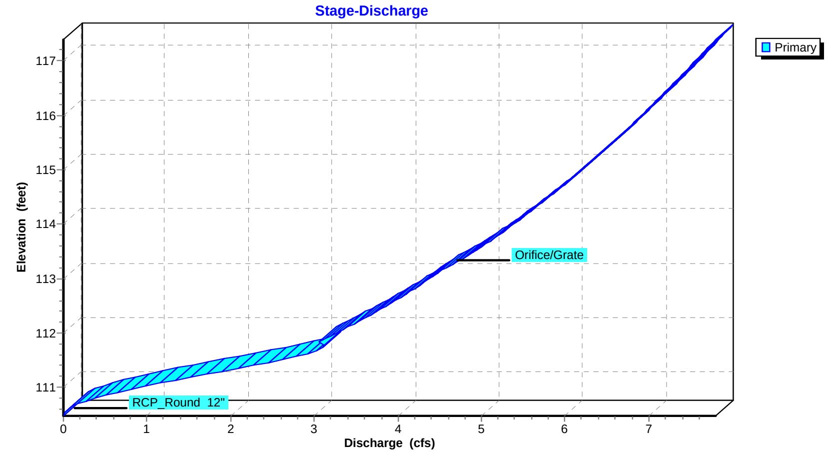
Device	Routing	Invert	Outlet Devices
#1	Primary	110.48'	**12.0" Round RCP_Round 12"** L= 140.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.48' / 109.75' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	113.20'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.88 cfs @ 12.09 hrs HW=117.08' TW=117.00' (Dynamic Tailwater)
1=RCP_Round 12" (Outlet Controls 0.84 cfs @ 1.07 fps)
2=Orifice/Grate (Orifice Controls 0.04 cfs @ 1.39 fps)

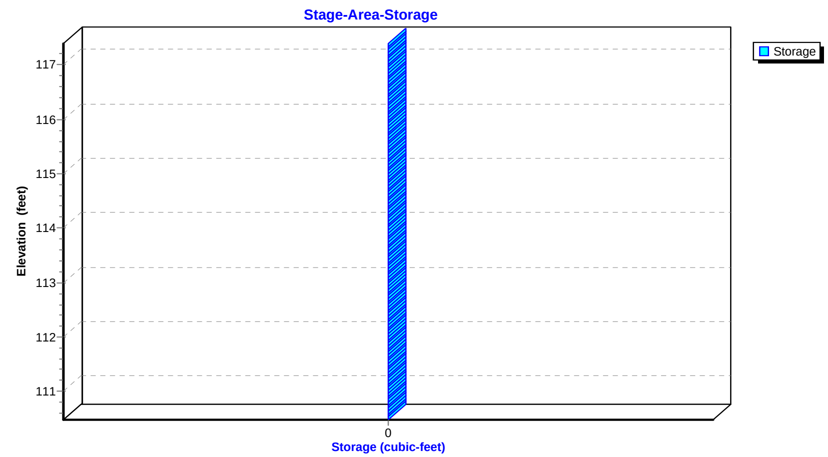
Pond 20P: CB-SE Pkg4



Pond 20P: CB-SE Pkg4



Pond 20P: CB-SE Pkg4



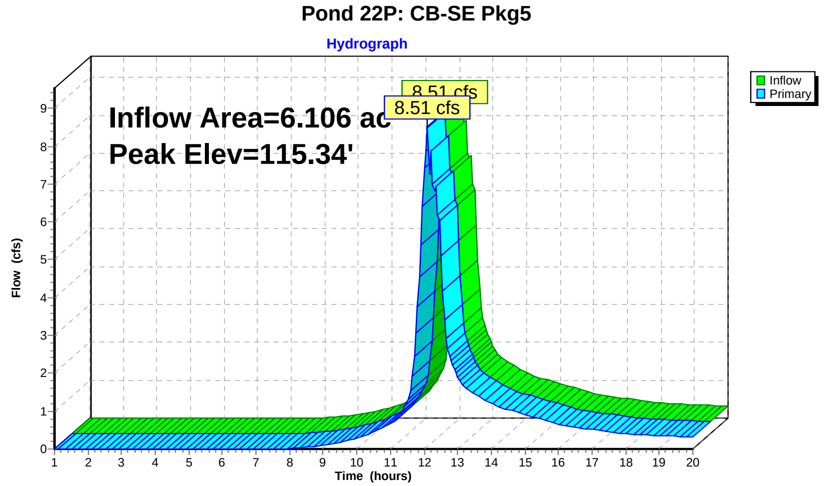
Summary for Pond 22P: CB-SE Pkg5

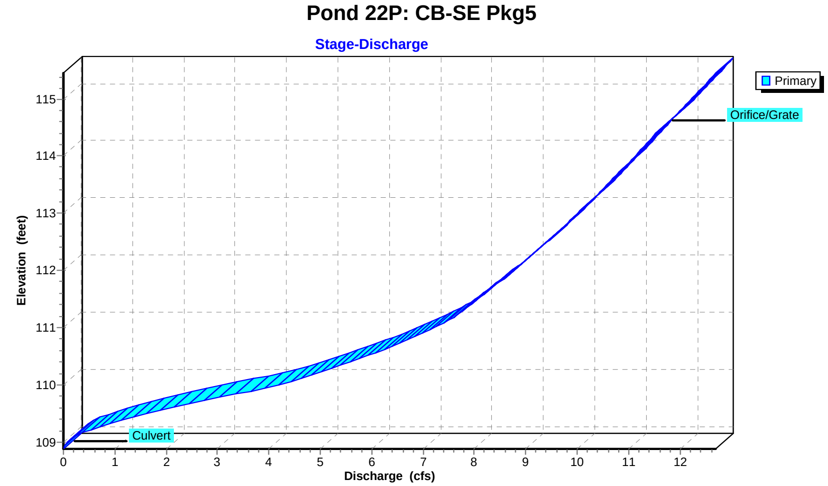
Inflow Area = 6.106 ac, 63.75% Impervious, Inflow Depth > 2.09" for 10-Year event
Inflow = 8.51 cfs @ 12.09 hrs, Volume= 1.064 af
Outflow = 8.51 cfs @ 12.09 hrs, Volume= 1.064 af, Atten= 0%, Lag= 0.0 min
Primary = 8.51 cfs @ 12.09 hrs, Volume= 1.064 af

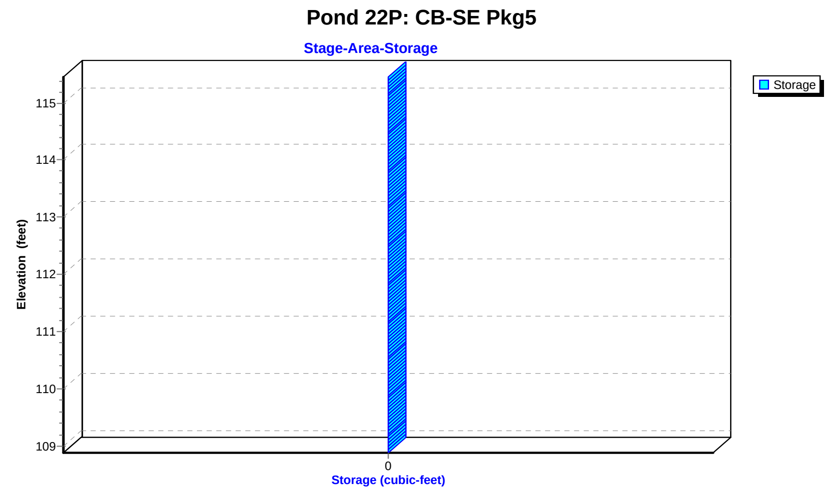
Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 115.34' @ 12.09 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	108.88'	**15.0" Round Culvert** L= 157.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 108.88' / 107.48' S= 0.0089 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=9.26 cfs @ 12.09 hrs HW=115.10' TW=111.53' (Dynamic Tailwater)
1=Culvert (Outlet Controls 9.16 cfs @ 7.46 fps)
2=Orifice/Grate (Orifice Controls 0.10 cfs @ 3.74 fps)







Summary for Pond 24P: CB-SE Pkg6

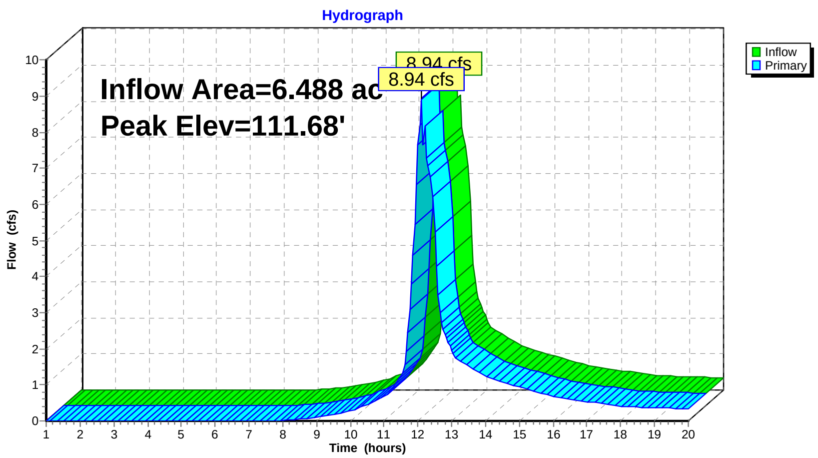
Inflow Area = 6.488 ac, 62.06% Impervious, Inflow Depth > 2.03" for 10-Year event
Inflow = 8.94 cfs @ 12.09 hrs, Volume= 1.096 af
Outflow = 8.94 cfs @ 12.09 hrs, Volume= 1.096 af, Atten= 0%, Lag= 0.0 min
Primary = 8.94 cfs @ 12.09 hrs, Volume= 1.096 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 111.68' @ 12.09 hrs

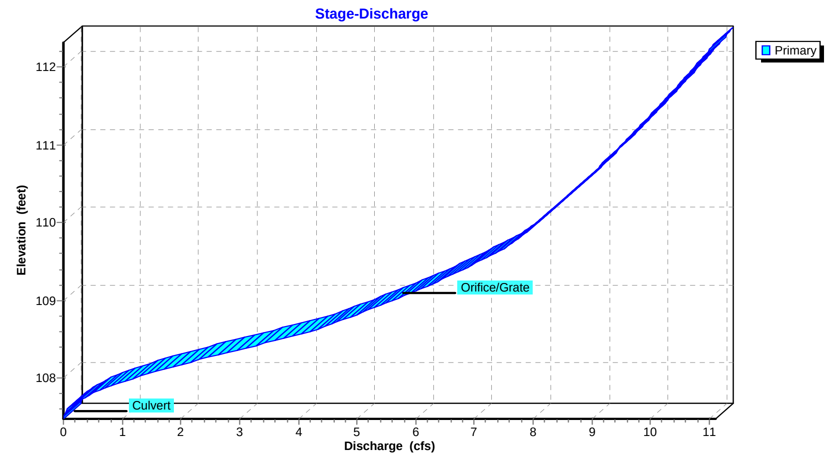
Device	Routing	Invert	Outlet Devices
#1	Primary	107.48'	**15.0" Round Culvert** L= 154.4' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 107.48' / 106.10' S= 0.0089 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	109.00'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=9.09 cfs @ 12.09 hrs HW=111.55' TW=108.24' (Dynamic Tailwater)
└─**1=Culvert** (Outlet Controls 8.87 cfs @ 7.23 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.21 cfs @ 7.69 fps)

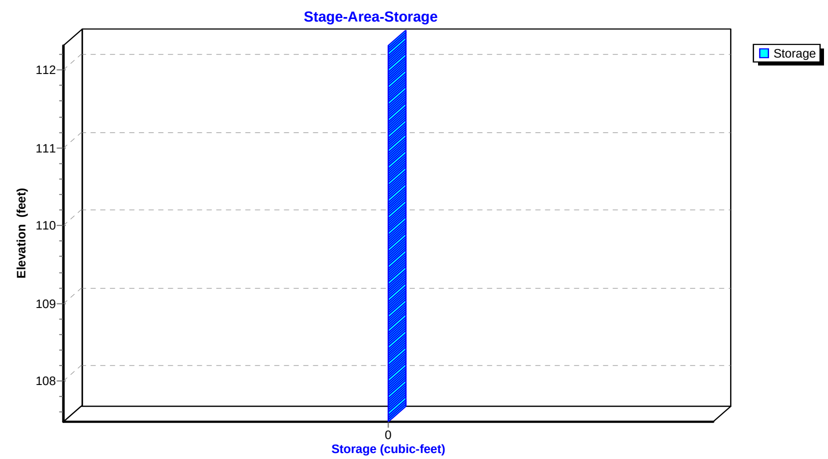
Pond 24P: CB-SE Pkg6



Pond 24P: CB-SE Pkg6



Pond 24P: CB-SE Pkg6



Summary for Pond 26P: CB-SE Pkg7

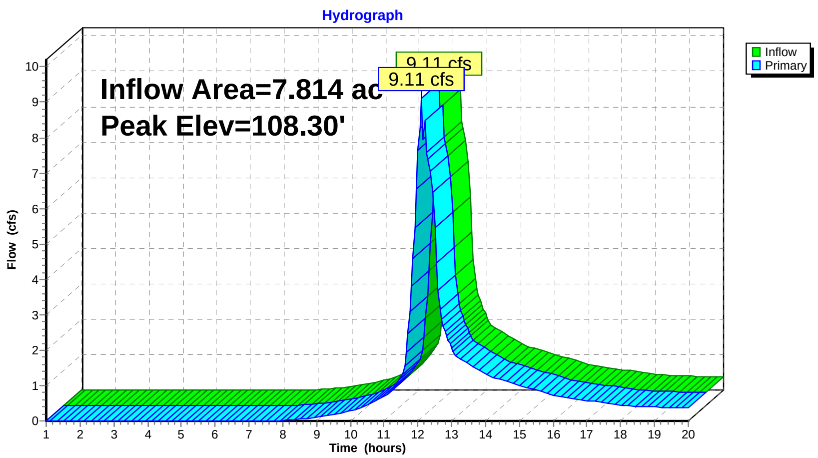
Inflow Area = 7.814 ac, 54.07% Impervious, Inflow Depth > 1.75" for 10-Year event
Inflow = 9.11 cfs @ 12.10 hrs, Volume= 1.142 af
Outflow = 9.11 cfs @ 12.10 hrs, Volume= 1.142 af, Atten= 0%, Lag= 0.0 min
Primary = 9.11 cfs @ 12.10 hrs, Volume= 1.142 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 108.30' @ 12.10 hrs

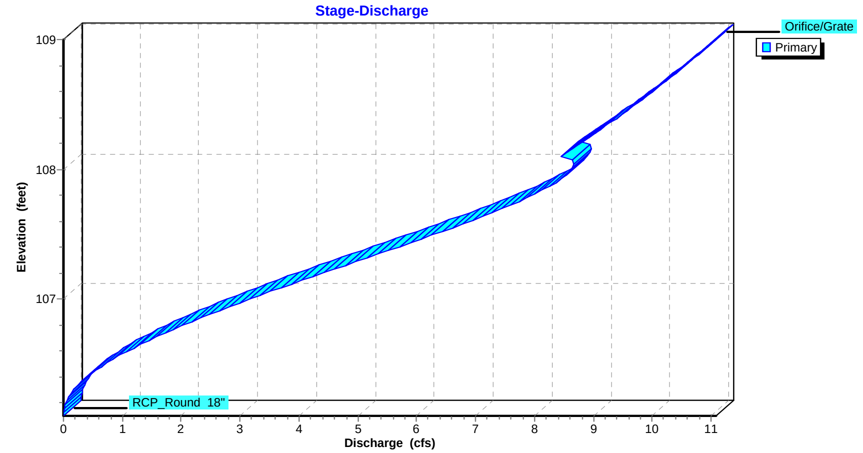
Device	Routing	Invert	Outlet Devices
#1	Primary	106.10'	**18.0" Round RCP_Round 18"** L= 154.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 106.10' / 105.35' S= 0.0049 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Primary	109.00'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=9.00 cfs @ 12.10 hrs HW=108.27' TW=0.00' (Dynamic Tailwater)
1=RCP_Round 18" (Barrel Controls 9.00 cfs @ 5.09 fps)
2=Orifice/Grate (Controls 0.00 cfs)

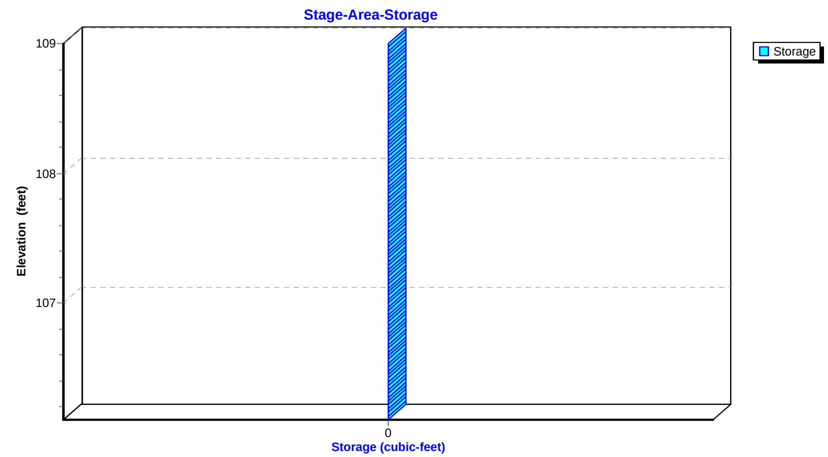
Pond 26P: CB-SE Pkg7



Pond 26P: CB-SE Pkg7



Pond 26P: CB-SE Pkg7



Summary for Pond 28P: CB-N F1

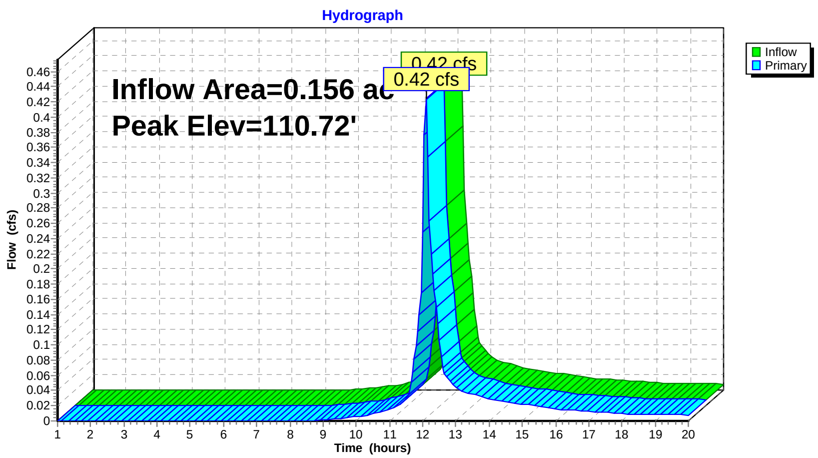
Inflow Area =	0.156 ac, 65.00% Impervious, Inflow Depth > 2.21" for 10-Year event			
Inflow =	0.42 cfs @	12.09 hrs, Volume=	0.029 af	
Outflow =	0.42 cfs @	12.09 hrs, Volume=	0.029 af, Atten= 0%, Lag= 0.0 min	
Primary =	0.42 cfs @	12.09 hrs, Volume=	0.029 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 110.72' @ 12.09 hrs

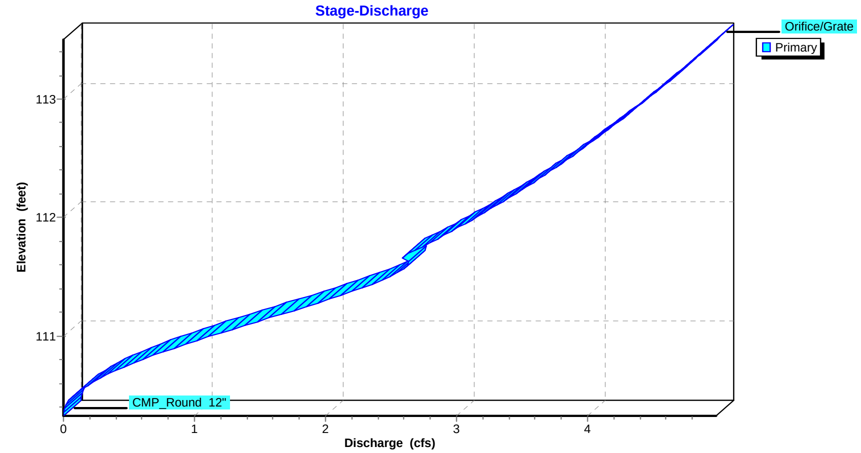
Device	Routing	Invert	Outlet Devices
#1	Primary	110.33'	**12.0" Round CMP_Round 12"** L= 111.7' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.33' / 110.00' S= 0.0030 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	113.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.42 cfs @ 12.09 hrs HW=110.72' TW=0.00' (Dynamic Tailwater)
└**1=CMP_Round 12"** (Barrel Controls 0.42 cfs @ 2.18 fps)
└**2=Orifice/Grate** (Controls 0.00 cfs)

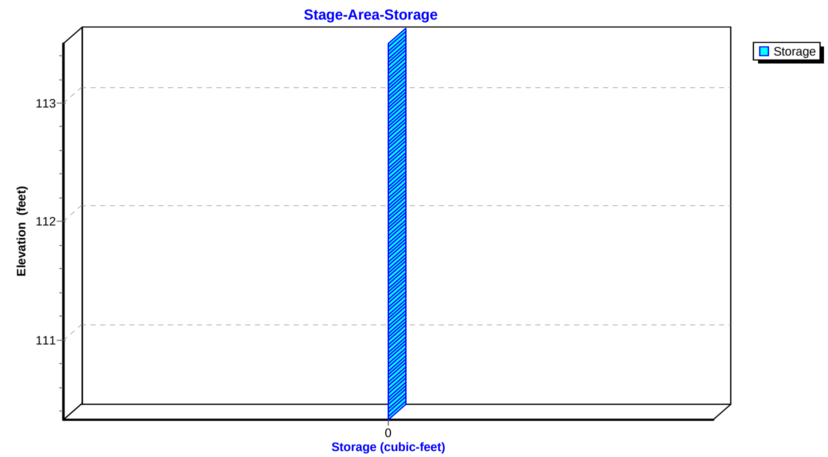
Pond 28P: CB-N F1



Pond 28P: CB-N F1



Pond 28P: CB-N F1



Summary for Pond 30P: CB-N F2

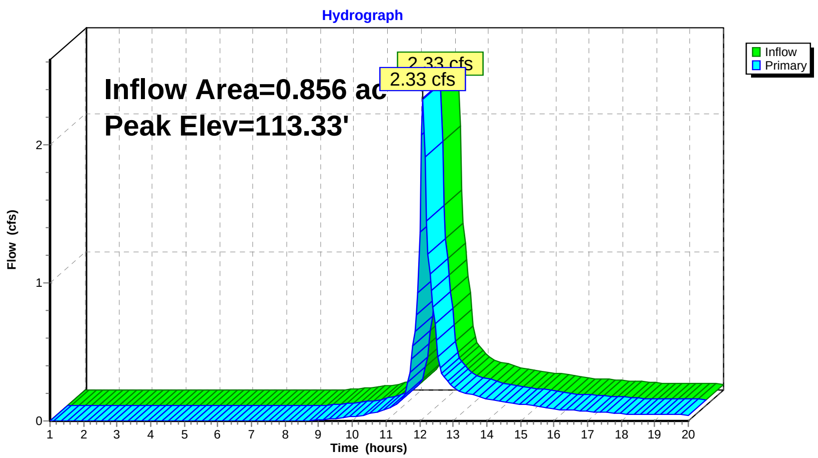
Inflow Area = 0.856 ac, 65.00% Impervious, Inflow Depth > 2.21" for 10-Year event
Inflow = 2.33 cfs @ 12.09 hrs, Volume= 0.157 af
Outflow = 2.33 cfs @ 12.09 hrs, Volume= 0.157 af, Atten= 0%, Lag= 0.0 min
Primary = 2.33 cfs @ 12.09 hrs, Volume= 0.157 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 113.33' @ 12.10 hrs

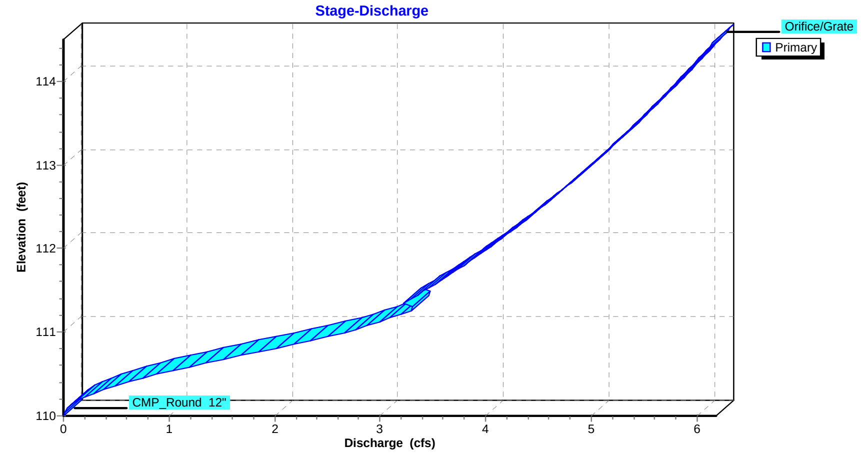
Device	Routing	Invert	Outlet Devices
#1	Primary	110.00'	**12.0" Round CMP_Round 12"** L= 133.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.00' / 109.17' S= 0.0062 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=2.30 cfs @ 12.09 hrs HW=113.19' TW=112.59' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 2.30 cfs @ 2.93 fps)
2=Orifice/Grate (Controls 0.00 cfs)

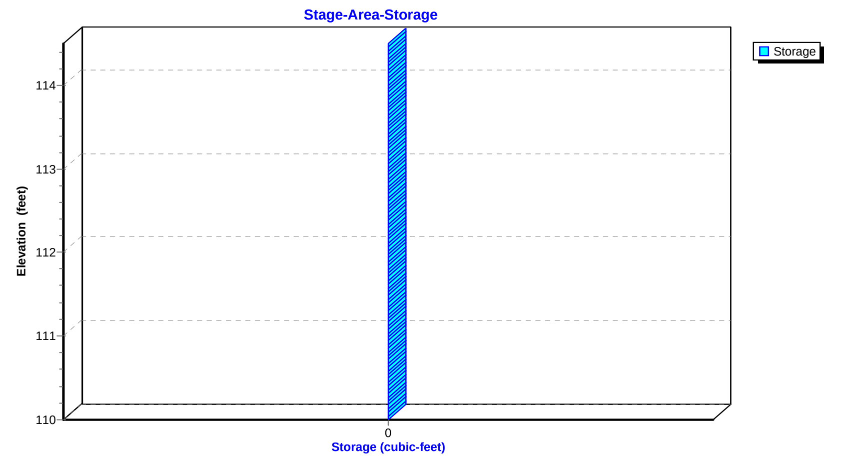
Pond 30P: CB-N F2



Pond 30P: CB-N F2



Pond 30P: CB-N F2



Summary for Pond 32P: CB-N F3

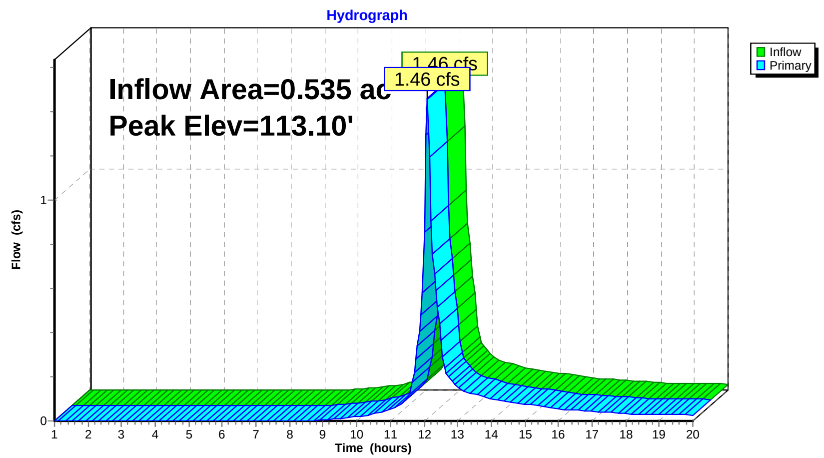
Inflow Area = 0.535 ac, 65.00% Impervious, Inflow Depth > 2.21" for 10-Year event
Inflow = 1.46 cfs @ 12.09 hrs, Volume= 0.098 af
Outflow = 1.46 cfs @ 12.09 hrs, Volume= 0.098 af, Atten= 0%, Lag= 0.0 min
Primary = 1.46 cfs @ 12.09 hrs, Volume= 0.098 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 113.10' @ 12.11 hrs

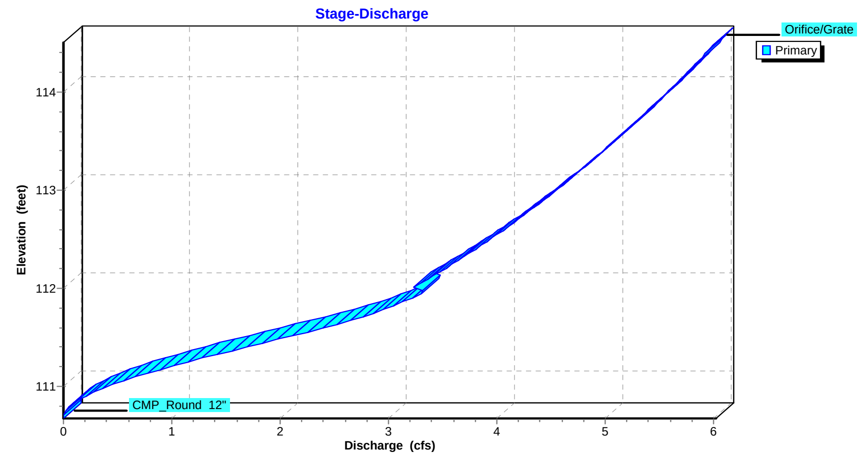
Device	Routing	Invert	Outlet Devices
#1	Primary	110.67'	**12.0" Round CMP_Round 12"** L= 103.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.67' / 110.00' S= 0.0065 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 12.09 hrs HW=112.87' TW=113.19' (Dynamic Tailwater)
1=CMP_Round 12" (Controls 0.00 cfs)
2=Orifice/Grate (Controls 0.00 cfs)

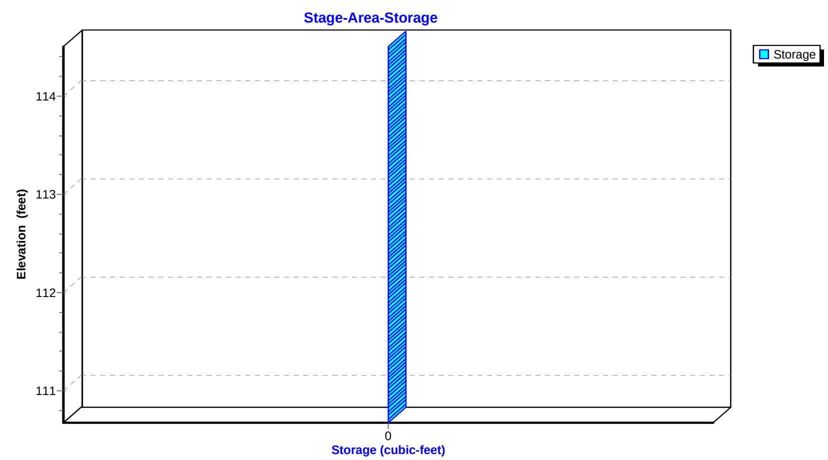
Pond 32P: CB-N F3



Pond 32P: CB-N F3



Pond 32P: CB-N F3



Summary for Pond 34P: CB-N F4

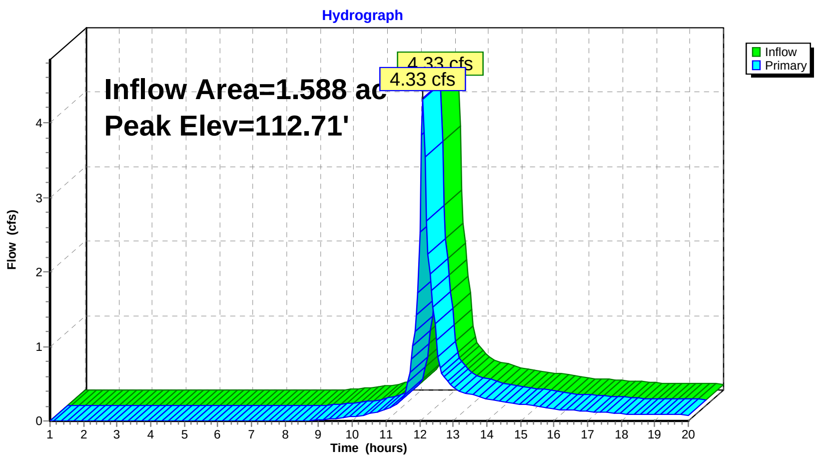
Inflow Area = 1.588 ac, 65.00% Impervious, Inflow Depth > 2.21" for 10-Year event
Inflow = 4.33 cfs @ 12.09 hrs, Volume= 0.292 af
Outflow = 4.33 cfs @ 12.09 hrs, Volume= 0.292 af, Atten= 0%, Lag= 0.0 min
Primary = 4.33 cfs @ 12.09 hrs, Volume= 0.292 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 112.71' @ 12.10 hrs

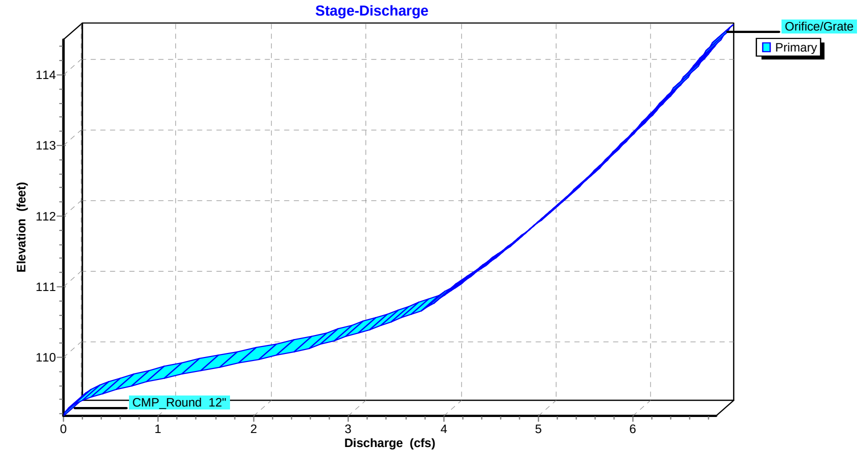
Device	Routing	Invert	Outlet Devices
#1	Primary	109.17'	**12.0" Round CMP_Round 12"** L= 139.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 109.17' / 108.00' S= 0.0084 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=4.27 cfs @ 12.09 hrs HW=112.59' TW=110.47' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 4.27 cfs @ 5.43 fps)
2=Orifice/Grate (Controls 0.00 cfs)

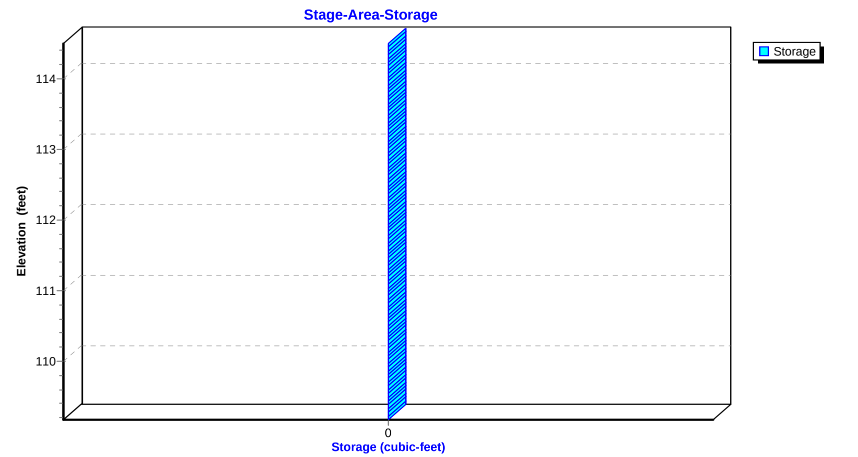
Pond 34P: CB-N F4



Pond 34P: CB-N F4



Pond 34P: CB-N F4



Summary for Pond 36P: CB-N F5

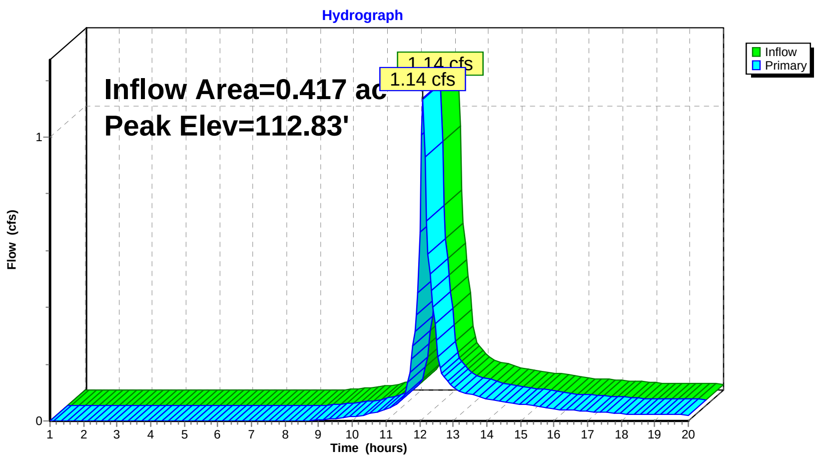
Inflow Area = 0.417 ac, 65.00% Impervious, Inflow Depth > 2.21" for 10-Year event
Inflow = 1.14 cfs @ 12.09 hrs, Volume= 0.077 af
Outflow = 1.14 cfs @ 12.09 hrs, Volume= 0.077 af, Atten= 0%, Lag= 0.0 min
Primary = 1.14 cfs @ 12.09 hrs, Volume= 0.077 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 112.83' @ 12.10 hrs

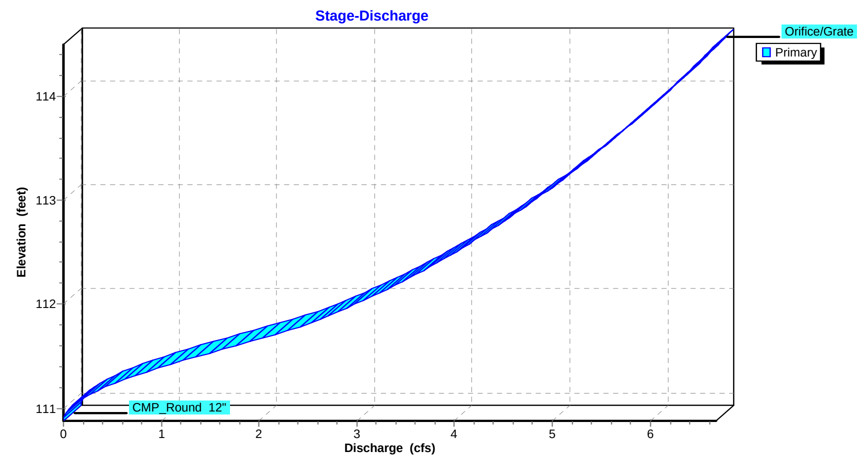
Device	Routing	Invert	Outlet Devices
#1	Primary	110.88'	**12.0" Round CMP_Round 12"** L= 105.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.88' / 109.17' S= 0.0163 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=1.14 cfs @ 12.09 hrs HW=112.72' TW=112.59' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 1.14 cfs @ 1.45 fps)
2=Orifice/Grate (Controls 0.00 cfs)

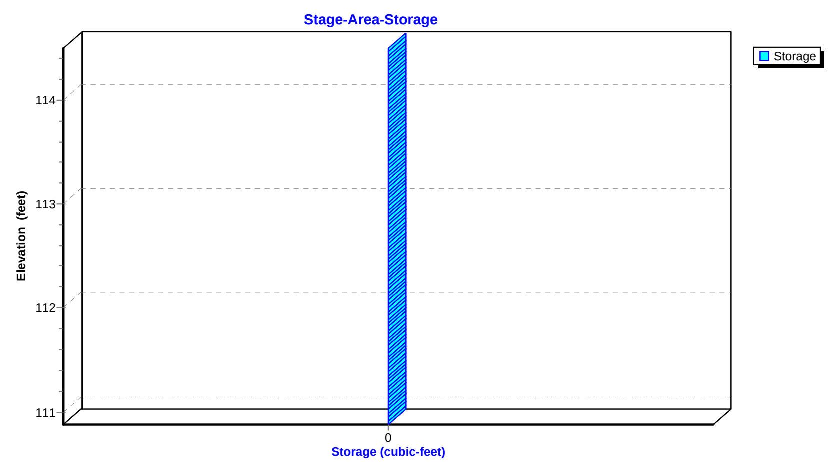
Pond 36P: CB-N F5



Pond 36P: CB-N F5



Pond 36P: CB-N F5



Summary for Pond 38P: CB-N F6

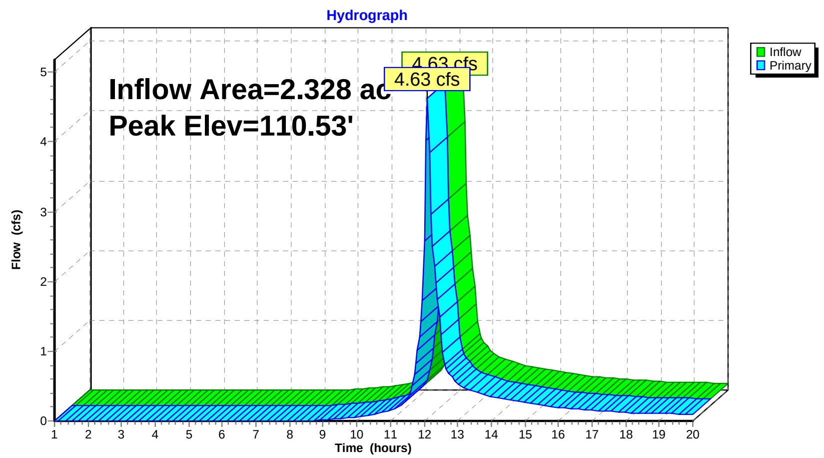
Inflow Area = 2.328 ac, 50.70% Impervious, Inflow Depth > 1.68" for 10-Year event
Inflow = 4.63 cfs @ 12.10 hrs, Volume= 0.325 af
Outflow = 4.63 cfs @ 12.10 hrs, Volume= 0.325 af, Atten= 0%, Lag= 0.0 min
Primary = 4.63 cfs @ 12.10 hrs, Volume= 0.325 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 110.53' @ 12.10 hrs

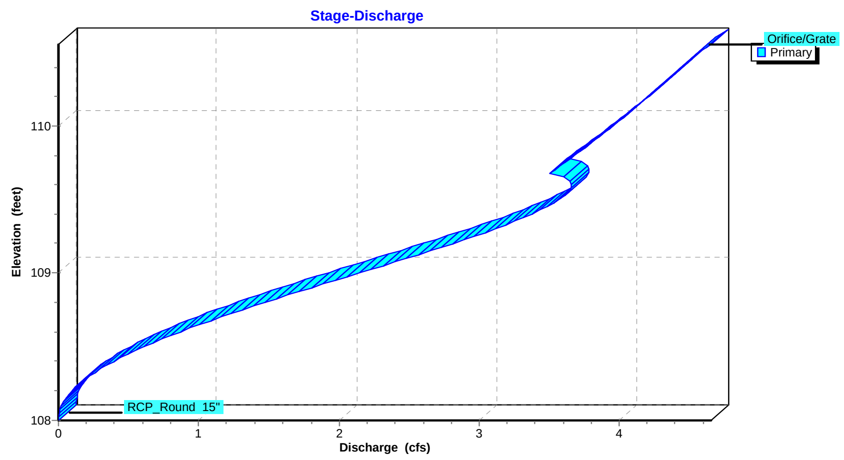
Device	Routing	Invert	Outlet Devices
#1	Primary	108.00'	**15.0" Round RCP_Round 15"** L= 466.8' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 108.00' / 107.25' S= 0.0016 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	110.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=4.57 cfs @ 12.10 hrs HW=110.50' TW=0.00' (Dynamic Tailwater)
└─**1=RCP_Round 15"** (Barrel Controls 4.57 cfs @ 3.72 fps)
└─**2=Orifice/Grate** (Controls 0.00 cfs)

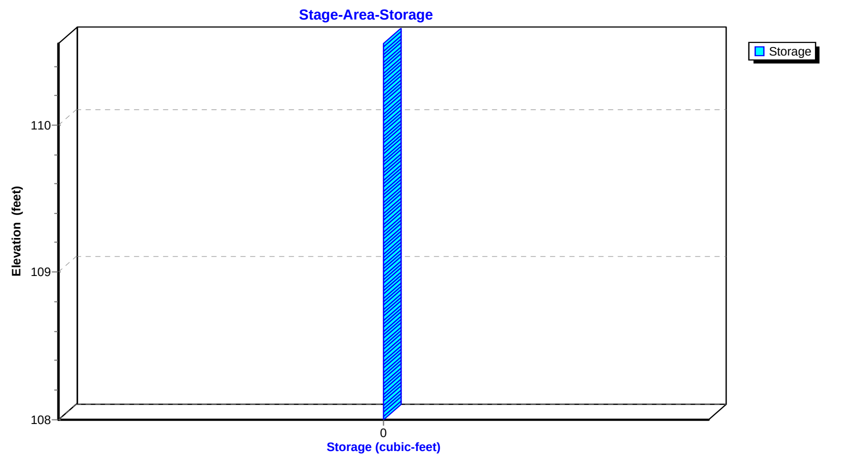
Pond 38P: CB-N F6



Pond 38P: CB-N F6



Pond 38P: CB-N F6

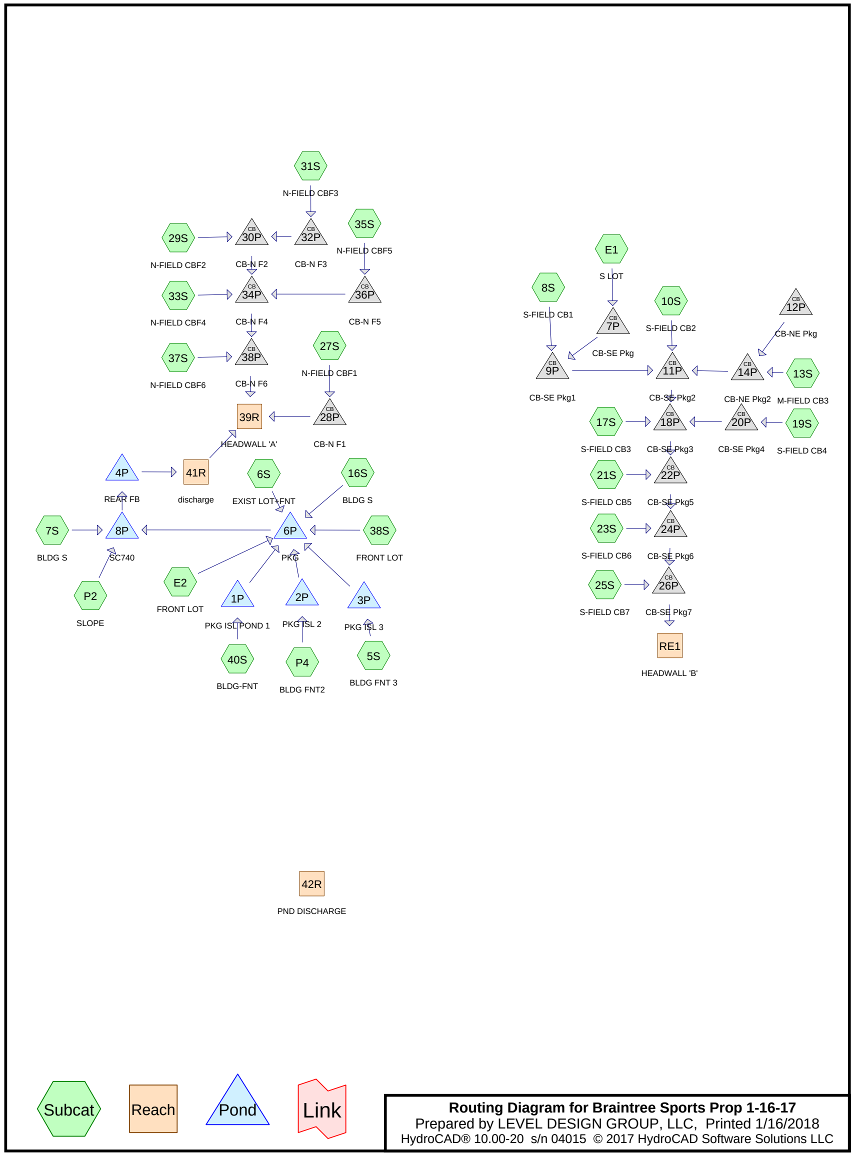


LEVEL
DESIGN GROUP

HydroCAD Analysis

Proposed Conditions - 25 Year Storm

249 SOUTH STREET UNIT 1 PLAINVILLE MA 02762
TEL 508 695 2221 FAX 508 695 2219 CONTACT@LEVELDG.COM LEVELDG.COM



Routing Diagram for Braintree Sports Prop 1-16-17
Prepared by LEVEL DESIGN GROUP, LLC, Printed 1/16/2018
HydroCAD® 10.00-20 s/n 04015 © 2017 HydroCAD Software Solutions LLC

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
5.672	39	>75% Grass cover, Good, HSG A (5S, 6S, 8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S, 38S, 40S, E1, E2, P2, P4)
3.255	98	Paved Track, HSG A (8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S)
5.022	98	Paved parking, HSG A (5S, 6S, 38S, 40S, E1, E2, P4)
0.497	98	Roofs, HSG A (16S)
0.087	98	Unconnected pavement, HSG A (40S, P2)
1.517	98	Unconnected roofs, HSG A (7S)
1.582	32	Woods/grass comb., Good, HSG A (38S, 40S, P2, P4)
0.483	72	Woods/grass comb., Good, HSG C (E1)
18.115	**73**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
17.632	HSG A	5S, 6S, 7S, 8S, 10S, 13S, 16S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S, 38S, 40S, E1, E2, P2, P4
0.000	HSG B	
0.483	HSG C	E1
0.000	HSG D	
0.000	Other	
18.115		**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
5.672	0.000	0.000	0.000	0.000	5.672	>75% Grass cover, Good	5S, 6S, 8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S, 38S, 40S, E1, E2, P2, P4
3.255	0.000	0.000	0.000	0.000	3.255	Paved Track	8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S
5.022	0.000	0.000	0.000	0.000	5.022	Paved parking	5S, 6S, 38S, 40S, E1, E2, P4
0.497	0.000	0.000	0.000	0.000	0.497	Roofs	16S
0.087	0.000	0.000	0.000	0.000	0.087	Unconnected pavement	40S, P2
1.517	0.000	0.000	0.000	0.000	1.517	Unconnected roofs	7S
1.582	0.000	0.483	0.000	0.000	2.065	Woods/grass comb., Good	38S, 40S, E1, P2, P4

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
17.632	**0.000**	**0.483**	**0.000**	**0.000**	**18.115**	**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	7S	0.00	0.00	30.0	1.0000	0.012	8.0	0.0	0.0
2	7S	0.00	0.00	560.0	0.0050	0.020	10.0	0.0	0.0
3	16S	0.00	0.00	30.0	1.0000	0.012	8.0	0.0	0.0
4	16S	0.00	0.00	300.0	0.0050	0.020	10.0	0.0	0.0
5	41R	110.85	107.25	663.3	0.0054	0.013	18.0	0.0	0.0
6	42R	115.90	115.06	167.2	0.0050	0.013	24.0	0.0	0.0
7	1P	118.50	117.80	63.3	0.0111	0.013	8.0	0.0	0.0
8	2P	118.00	117.80	40.1	0.0050	0.013	12.0	0.0	0.0
9	3P	117.40	117.02	77.2	0.0049	0.013	8.0	0.0	0.0
10	4P	115.50	115.40	15.0	0.0067	0.013	12.0	0.0	0.0
11	6P	117.00	116.00	80.0	0.0125	0.013	10.0	0.0	0.0
12	7P	113.30	111.17	71.2	0.0299	0.011	12.0	0.0	0.0
13	7P	113.20	116.00	39.5	-0.0709	0.013	8.0	0.0	0.0
14	8P	114.50	114.50	77.0	0.0000	0.013	15.0	0.0	0.0
15	9P	111.17	110.70	90.3	0.0052	0.011	12.0	0.0	0.0
16	11P	110.70	109.75	134.5	0.0071	0.011	15.0	0.0	0.0
17	12P	111.40	111.36	76.0	0.0005	0.011	12.0	0.0	0.0
18	14P	111.36	110.70	105.0	0.0063	0.011	12.0	0.0	0.0
19	18P	109.75	108.88	106.1	0.0082	0.011	15.0	0.0	0.0
20	20P	110.48	109.75	140.2	0.0052	0.011	12.0	0.0	0.0
21	22P	108.88	107.48	157.5	0.0089	0.011	15.0	0.0	0.0
22	24P	107.48	106.10	154.4	0.0089	0.011	15.0	0.0	0.0
23	26P	106.10	105.35	154.4	0.0049	0.011	18.0	0.0	0.0
24	28P	110.33	110.00	111.7	0.0030	0.011	12.0	0.0	0.0
25	30P	110.00	109.17	133.5	0.0062	0.011	12.0	0.0	0.0
26	32P	110.67	110.00	103.5	0.0065	0.011	12.0	0.0	0.0
27	34P	109.17	108.00	139.2	0.0084	0.011	12.0	0.0	0.0
28	36P	110.88	109.17	105.0	0.0163	0.011	12.0	0.0	0.0
29	38P	108.00	107.25	466.8	0.0016	0.011	15.0	0.0	0.0

Time span=1.00-20.00 hrs, dt=0.05 hrs, 381 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 5S: BLDG FNT 3 Runoff Area=14,580 sf 95.34% Impervious Runoff Depth>4.68"
Flow Length=172' Tc=6.0 min CN=95 Runoff=1.72 cfs 0.130 af

Subcatchment 6S: EXIST LOT+FNT Runoff Area=42,707 sf 78.43% Impervious Runoff Depth>3.61"
Flow Length=80' Slope=0.0300 '/' Tc=6.0 min CN=85 Runoff=4.25 cfs 0.295 af

Subcatchment 7S: BLDG S Runoff Area=66,063 sf 100.00% Impervious Runoff Depth>5.02"
Flow Length=760' Tc=6.0 min CN=98 Runoff=7.98 cfs 0.635 af

Subcatchment 8S: S-FIELD CB1 Runoff Area=11,548 sf 60.17% Impervious Runoff Depth>2.57"
Flow Length=80' Tc=6.0 min CN=74 Runoff=0.84 cfs 0.057 af

Subcatchment 10S: S-FIELD CB2 Runoff Area=21,998 sf 60.00% Impervious Runoff Depth>2.57"
Flow Length=230' Slope=0.0150 '/' Tc=6.0 min CN=74 Runoff=1.61 cfs 0.108 af

Subcatchment 13S: M-FIELD CB3 Runoff Area=16,265 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=151' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.31 cfs 0.088 af

Subcatchment 16S: BLDG S Runoff Area=21,647 sf 100.00% Impervious Runoff Depth>5.02"
Flow Length=393' Tc=6.0 min CN=98 Runoff=2.61 cfs 0.208 af

Subcatchment 17S: S-FIELD CB3 Runoff Area=13,522 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=85' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.09 cfs 0.073 af

Subcatchment 19S: S-FIELD CB4 Runoff Area=30,595 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=297' Tc=6.0 min CN=77 Runoff=2.46 cfs 0.166 af

Subcatchment 21S: S-FIELD CB5 Runoff Area=18,600 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=149' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.50 cfs 0.101 af

Subcatchment 23S: S-FIELD CB6 Runoff Area=16,672 sf 35.00% Impervious Runoff Depth>1.45"
Flow Length=131' Slope=0.0200 '/' Tc=6.2 min CN=60 Runoff=0.65 cfs 0.046 af

Subcatchment 25S: S-FIELD CB7 Runoff Area=57,741 sf 15.00% Impervious Runoff Depth>0.69"
Flow Length=330' Tc=7.6 min CN=48 Runoff=0.73 cfs 0.076 af

Subcatchment 27S: N-FIELD CBF1 Runoff Area=6,780 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=80' Tc=6.0 min CN=77 Runoff=0.55 cfs 0.037 af

Subcatchment 29S: N-FIELD CBF2 Runoff Area=13,971 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=100' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.12 cfs 0.076 af

Subcatchment 31S: N-FIELD CBF3 Runoff Area=23,311 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=129' Tc=6.0 min CN=77 Runoff=1.87 cfs 0.127 af

Subcatchment 33S: N-FIELD CBF4 Runoff Area=13,725 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=93' Tc=6.0 min CN=77 Runoff=1.10 cfs 0.075 af

Subcatchment 35S: N-FIELD CBF5 Runoff Area=18,186 sf 65.00% Impervious Runoff Depth>2.84"
Flow Length=170' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.46 cfs 0.099 af

Subcatchment 37S: N-FIELD CBF6 Runoff Area=32,216 sf 20.00% Impervious Runoff Depth>0.86"
Flow Length=280' Slope=0.0200 '/' Tc=6.0 min CN=51 Runoff=0.63 cfs 0.053 af

Subcatchment 38S: FRONT LOT Runoff Area=49,740 sf 52.83% Impervious Runoff Depth>2.06"
Flow Length=670' Tc=18.0 min CN=68 Runoff=2.06 cfs 0.196 af

Subcatchment 40S: BLDG-FNT Runoff Area=37,001 sf 40.61% Impervious Runoff Depth>1.38"
Flow Length=168' Tc=10.1 min CN=59 Runoff=1.19 cfs 0.098 af

Subcatchment E1: S LOT Runoff Area=153,436 sf 63.92% Impervious Runoff Depth>3.21"
Flow Length=334' Tc=10.1 min CN=81 Runoff=12.17 cfs 0.942 af

Subcatchment E2: FRONT LOT Runoff Area=12,716 sf 96.08% Impervious Runoff Depth>4.78"
Flow Length=670' Tc=18.0 min CN=96 Runoff=1.10 cfs 0.116 af

Subcatchment P2: SLOPE Runoff Area=60,052 sf 3.81% Impervious Runoff Depth>0.22"
Flow Length=180' Tc=9.6 min UI Adjusted CN=38 Runoff=0.09 cfs 0.025 af

Subcatchment P4: BLDG FNT2 Runoff Area=36,024 sf 59.08% Impervious Runoff Depth>2.31"
Flow Length=195' Tc=9.4 min CN=71 Runoff=2.11 cfs 0.159 af

Reach 39R: HEADWALL 'A' Inflow=6.72 cfs 0.468 af
Outflow=6.72 cfs 0.468 af

Reach 41R: discharge Avg. Flow Depth=0.08' Max Vel=1.21 fps Inflow=0.05 cfs 0.002 af
18.0" Round Pipe n=0.013 L=663.3' S=0.0054 '/' Capacity=7.74 cfs Outflow=0.05 cfs 0.002 af

Reach 42R: PND DISCHARGE Avg. Flow Depth=0.00' Max Vel=0.00 fps
24.0" Round Pipe n=0.013 L=167.2' S=0.0050 '/' Capacity=16.03 cfs Outflow=0.00 cfs 0.000 af

Reach RE1: HEADWALL 'B' Inflow=10.45 cfs 1.426 af
Outflow=10.45 cfs 1.426 af

Pond 1P: PKG ISL POND 1 Peak Elev=120.18' Storage=948 cf Inflow=1.19 cfs 0.098 af
Discarded=0.07 cfs 0.024 af Primary=0.42 cfs 0.072 af Outflow=0.49 cfs 0.097 af

Pond 2P: PKG ISL 2 Peak Elev=119.95' Storage=1,149 cf Inflow=2.11 cfs 0.159 af
Discarded=0.11 cfs 0.041 af Primary=1.22 cfs 0.118 af Outflow=1.33 cfs 0.158 af

Pond 3P: PKG ISL 3 Peak Elev=119.52' Storage=1,208 cf Inflow=1.72 cfs 0.130 af
Discarded=0.12 cfs 0.061 af Primary=0.54 cfs 0.070 af Outflow=0.66 cfs 0.130 af

Pond 4P: REAR FB Peak Elev=115.63' Storage=7,279 cf Inflow=2.91 cfs 0.282 af
Discarded=0.64 cfs 0.280 af Primary=0.05 cfs 0.002 af Outflow=0.69 cfs 0.282 af

Pond 6P: PKG Peak Elev=117.86' Storage=14,651 cf Inflow=10.26 cfs 1.074 af
Discarded=1.07 cfs 0.696 af Primary=4.14 cfs 0.303 af Outflow=5.21 cfs 1.000 af

Pond 7P: CB-SE Pkg Peak Elev=121.04' Inflow=12.17 cfs 0.942 af
Primary=4.14 cfs 0.709 af Secondary=11.59 cfs 0.235 af Outflow=12.17 cfs 0.942 af

Pond 8P: SC740	Peak Elev=115.91' Storage=12,447 cf Inflow=7.98 cfs 0.963 af Discarded=1.02 cfs 0.681 af Primary=2.91 cfs 0.282 af Outflow=3.93 cfs 0.963 af
Pond 9P: CB-SE Pkg1	Peak Elev=120.76' Inflow=4.38 cfs 0.766 af Outflow=4.38 cfs 0.766 af
Pond 11P: CB-SE Pkg2	Peak Elev=120.09' Inflow=5.36 cfs 0.963 af Outflow=5.36 cfs 0.963 af
Pond 12P: CB-NE Pkg	Peak Elev=0.00' Primary=0.00 cfs 0.000 af
Pond 14P: CB-NE Pkg2	Peak Elev=120.78' Inflow=1.31 cfs 0.088 af Outflow=1.31 cfs 0.088 af
Pond 18P: CB-SE Pkg3	Peak Elev=120.23' Inflow=7.69 cfs 1.202 af Outflow=7.69 cfs 1.202 af
Pond 20P: CB-SE Pkg4	Peak Elev=120.07' Inflow=2.46 cfs 0.166 af Outflow=2.46 cfs 0.166 af
Pond 22P: CB-SE Pkg5	Peak Elev=117.38' Inflow=9.19 cfs 1.303 af Outflow=9.19 cfs 1.303 af
Pond 24P: CB-SE Pkg6	Peak Elev=112.65' Inflow=9.83 cfs 1.350 af Outflow=9.83 cfs 1.350 af
Pond 26P: CB-SE Pkg7	Peak Elev=108.76' Inflow=10.45 cfs 1.426 af Outflow=10.45 cfs 1.426 af
Pond 28P: CB-N F1	Peak Elev=110.78' Inflow=0.55 cfs 0.037 af Outflow=0.55 cfs 0.037 af
Pond 30P: CB-N F2	Peak Elev=116.33' Inflow=3.00 cfs 0.203 af Outflow=3.00 cfs 0.203 af
Pond 32P: CB-N F3	Peak Elev=116.06' Inflow=1.87 cfs 0.127 af Outflow=1.87 cfs 0.127 af
Pond 34P: CB-N F4	Peak Elev=115.40' Inflow=5.56 cfs 0.376 af Outflow=5.56 cfs 0.376 af
Pond 36P: CB-N F5	Peak Elev=115.59' Inflow=1.46 cfs 0.099 af Outflow=1.46 cfs 0.099 af
Pond 38P: CB-N F6	Peak Elev=111.96' Inflow=6.17 cfs 0.429 af Outflow=6.17 cfs 0.429 af

Total Runoff Area = 18.115 ac Runoff Volume = 3.986 af Average Runoff Depth = 2.64"
42.71% Pervious = 7.737 ac 57.29% Impervious = 10.378 ac

Summary for Subcatchment 5S: BLDG FNT 3

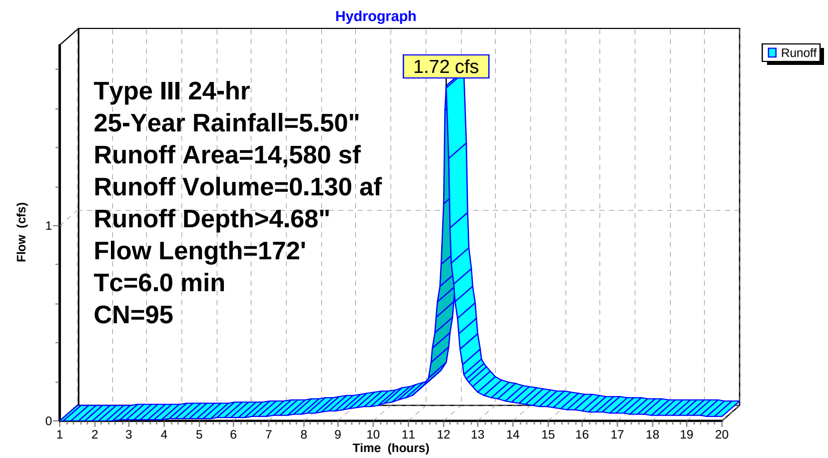
Runoff = 1.72 cfs @ 12.09 hrs, Volume= 0.130 af, Depth> 4.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
13,900	98	Paved parking, HSG A
680	39	>75% Grass cover, Good, HSG A
14,580	95	Weighted Average
680		4.66% Pervious Area
13,900		95.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	12	0.0100	0.68		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.8	160	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.9					**Direct Entry,**
6.0	172	Total			

Subcatchment 5S: BLDG FNT 3



Summary for Subcatchment 6S: EXIST LOT+FNT

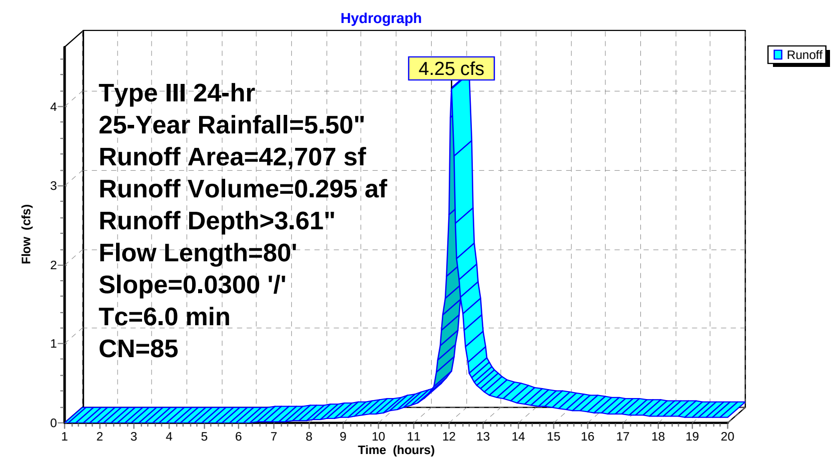
Runoff = 4.25 cfs @ 12.09 hrs, Volume= 0.295 af, Depth> 3.61"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
33,493	98	Paved parking, HSG A
9,214	39	>75% Grass cover, Good, HSG A
42,707	85	Weighted Average
9,214		21.57% Pervious Area
33,493		78.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0300	1.17		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.3	60	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
5.4					**Direct Entry,**
6.0	80	Total			

Subcatchment 6S: EXIST LOT+FNT



Summary for Subcatchment 7S: BLDG S

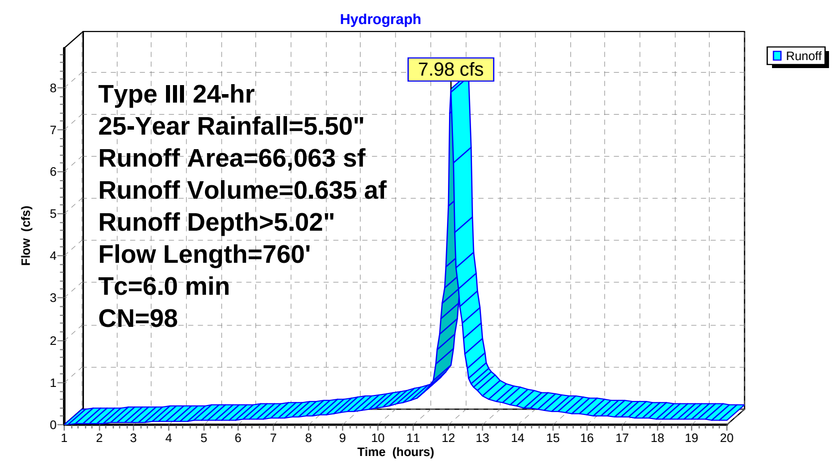
Runoff = 7.98 cfs @ 12.09 hrs, Volume= 0.635 af, Depth> 5.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
66,063	98	Unconnected roofs, HSG A
66,063		100.00% Impervious Area
66,063		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0800	2.08		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.3	120	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.0	30	1.0000	37.50	13.09	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.012 Steel, smooth
5.1	560	0.0050	1.85	1.01	**Pipe Channel,** 10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21' n= 0.020 Corrugated PE, corrugated interior
0.2					**Direct Entry,**
6.0	760	Total			

Subcatchment 7S: BLDG S



Summary for Subcatchment 8S: S-FIELD CB1

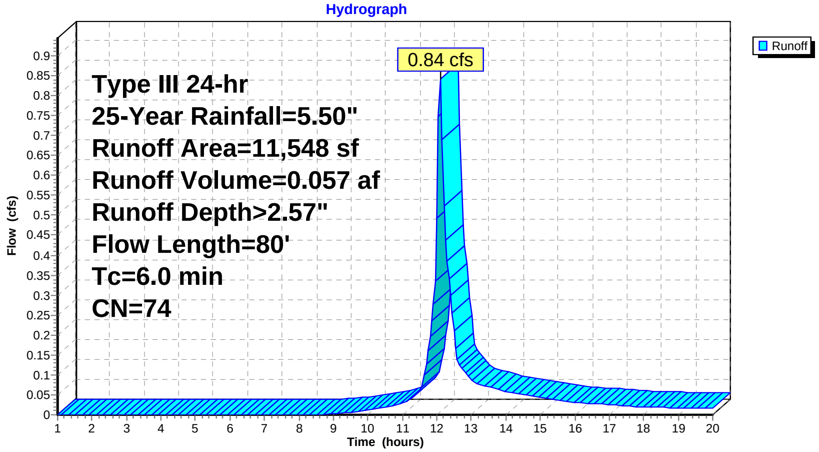
Runoff = 0.84 cfs @ 12.09 hrs, Volume= 0.057 af, Depth> 2.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	6,948	98	Paved Track, HSG A
	4,600	39	>75% Grass cover, Good, HSG A
	11,548	74	Weighted Average
	4,600		39.83% Pervious Area
	6,948		60.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	50	0.1180	0.30		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.2	30	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.0					**Direct Entry,**
6.0	80	Total			

Subcatchment 8S: S-FIELD CB1



Summary for Subcatchment 10S: S-FIELD CB2

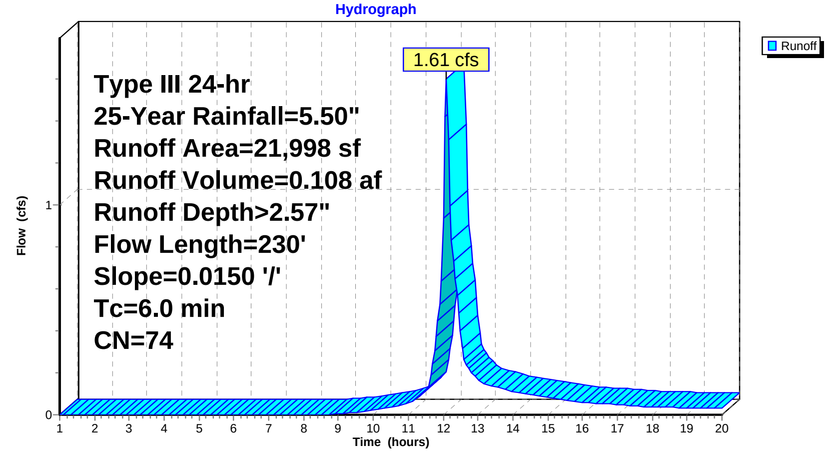
Runoff = 1.61 cfs @ 12.09 hrs, Volume= 0.108 af, Depth> 2.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	13,199	98	Paved Track, HSG A
	8,799	39	>75% Grass cover, Good, HSG A
	21,998	74	Weighted Average
	8,799		40.00% Pervious Area
	13,199		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.5	180	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.7					**Direct Entry, PARKING**
6.0	230	Total			

Subcatchment 10S: S-FIELD CB2



Summary for Subcatchment 13S: M-FIELD CB3

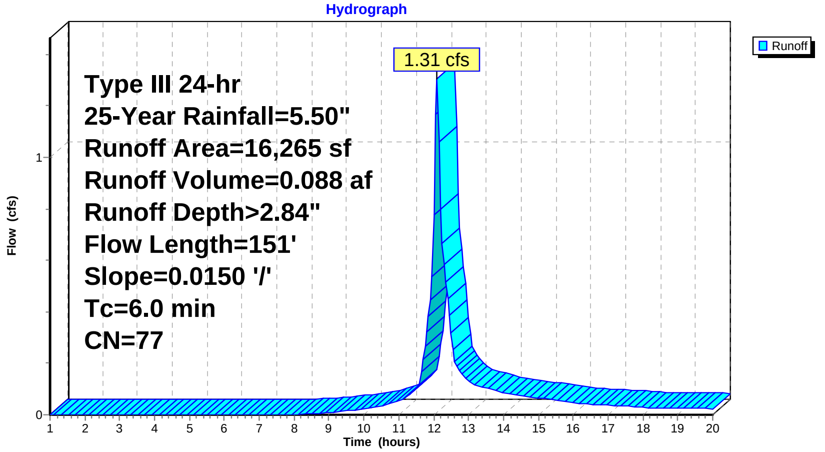
Runoff = 1.31 cfs @ 12.09 hrs, Volume= 0.088 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	10,572	98	Paved Track, HSG A
	5,693	39	>75% Grass cover, Good, HSG A
	16,265	77	Weighted Average
	5,693		35.00% Pervious Area
	10,572		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.9	101	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.3					**Direct Entry,**
6.0	151	Total			

Subcatchment 13S: M-FIELD CB3



Summary for Subcatchment 16S: BLDG S

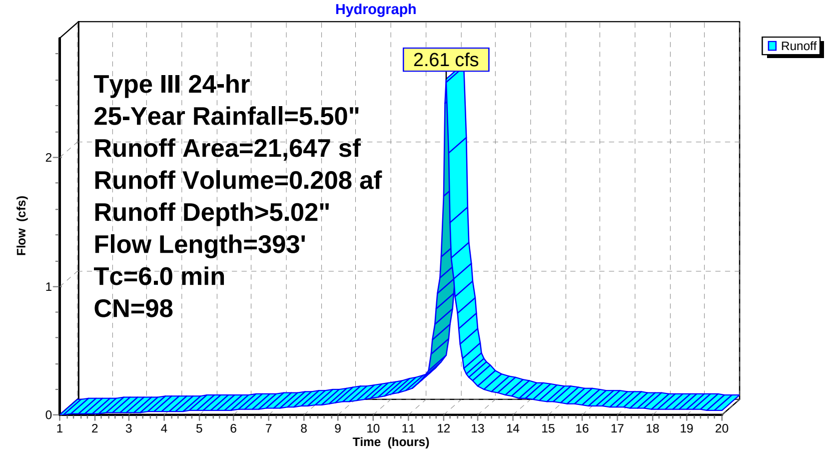
Runoff = 2.61 cfs @ 12.09 hrs, Volume= 0.208 af, Depth> 5.02"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
21,647	98	Roofs, HSG A
21,647		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0800	2.08		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.0	13	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.0	30	1.0000	37.50	13.09	**Pipe Channel, DOWNSPOUT** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.012 Steel, smooth
2.7	300	0.0050	1.85	1.01	**Pipe Channel, ROOFDRAIN** 10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21' n= 0.020 Corrugated PE, corrugated interior
2.9					**Direct Entry,**
6.0	393	Total			

Subcatchment 16S: BLDG S



Summary for Subcatchment 17S: S-FIELD CB3

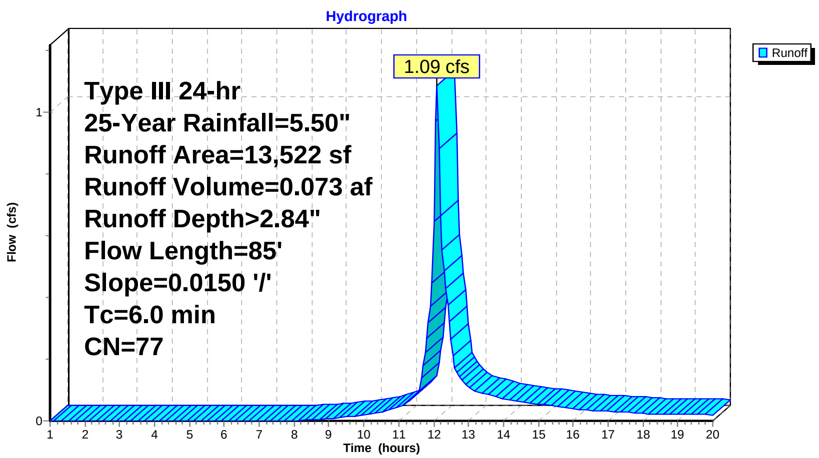
Runoff = 1.09 cfs @ 12.09 hrs, Volume= 0.073 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	8,789	98	Paved Track, HSG A
	4,733	39	>75% Grass cover, Good, HSG A
	13,522	77	Weighted Average
	4,733		35.00% Pervious Area
	8,789		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.3	35	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.9					**Direct Entry,**
6.0	85	Total			

Subcatchment 17S: S-FIELD CB3



Summary for Subcatchment 19S: S-FIELD CB4

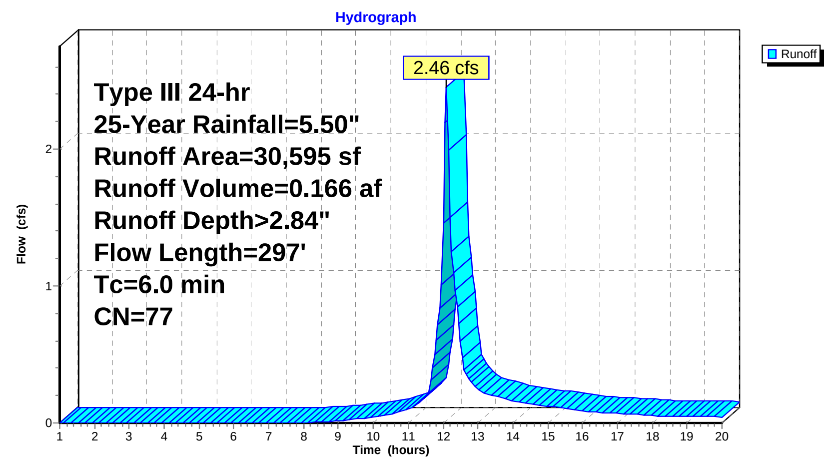
Runoff = 2.46 cfs @ 12.09 hrs, Volume= 0.166 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	19,887	98	Paved Track, HSG A
	10,708	39	>75% Grass cover, Good, HSG A
	30,595	77	Weighted Average
	10,708		35.00% Pervious Area
	19,887		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	37	0.0400	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.1	20	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	240	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.1					**Direct Entry,**
6.0	297	Total			

Subcatchment 19S: S-FIELD CB4



Summary for Subcatchment 21S: S-FIELD CB5

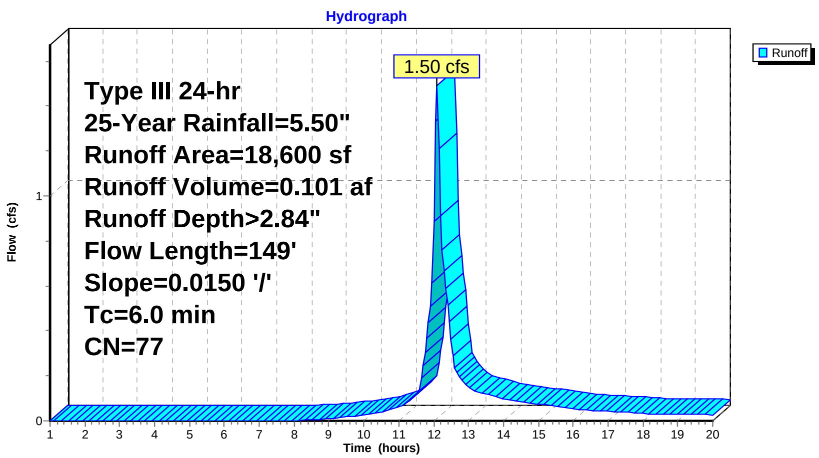
Runoff = 1.50 cfs @ 12.09 hrs, Volume= 0.101 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	12,090	98	Paved Track, HSG A
	6,510	39	>75% Grass cover, Good, HSG A
	18,600	77	Weighted Average
	6,510		35.00% Pervious Area
	12,090		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.8	99	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.4					**Direct Entry,**
6.0	149	Total			

Subcatchment 21S: S-FIELD CB5



Summary for Subcatchment 23S: S-FIELD CB6

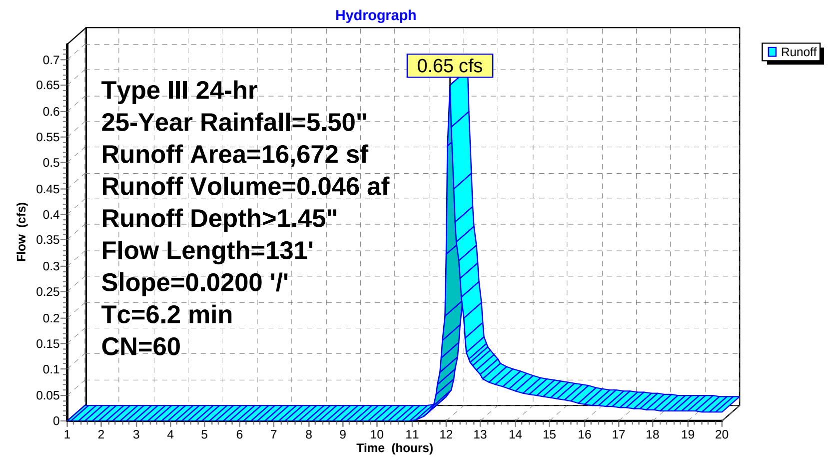
Runoff = 0.65 cfs @ 12.10 hrs, Volume= 0.046 af, Depth> 1.45"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	5,835	98	Paved Track, HSG A
	10,837	39	>75% Grass cover, Good, HSG A
	16,672	60	Weighted Average
	10,837		65.00% Pervious Area
	5,835		35.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.6	81	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.2	131	Total			

Subcatchment 23S: S-FIELD CB6



Summary for Subcatchment 25S: S-FIELD CB7

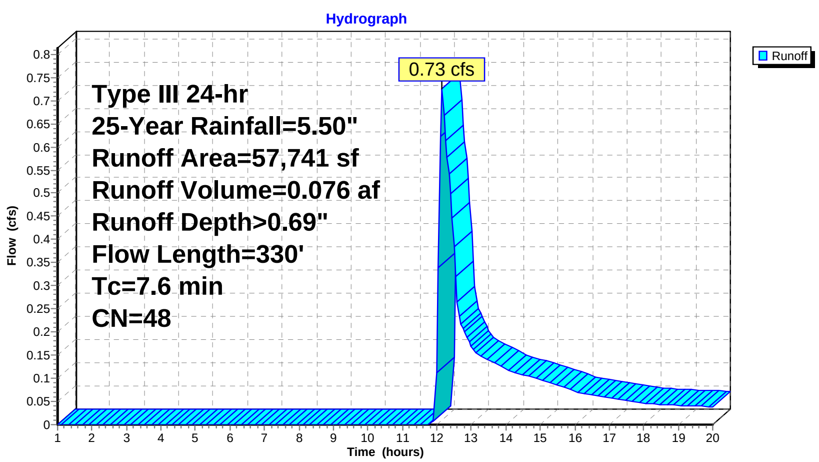
Runoff = 0.73 cfs @ 12.16 hrs, Volume= 0.076 af, Depth> 0.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	8,661	98	Paved Track, HSG A
	49,080	39	>75% Grass cover, Good, HSG A
	57,741	48	Weighted Average
	49,080		85.00% Pervious Area
	8,661		15.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.3	180	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.7	100	0.0250	2.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.6	330	Total			

Subcatchment 25S: S-FIELD CB7



Summary for Subcatchment 27S: N-FIELD CBF1

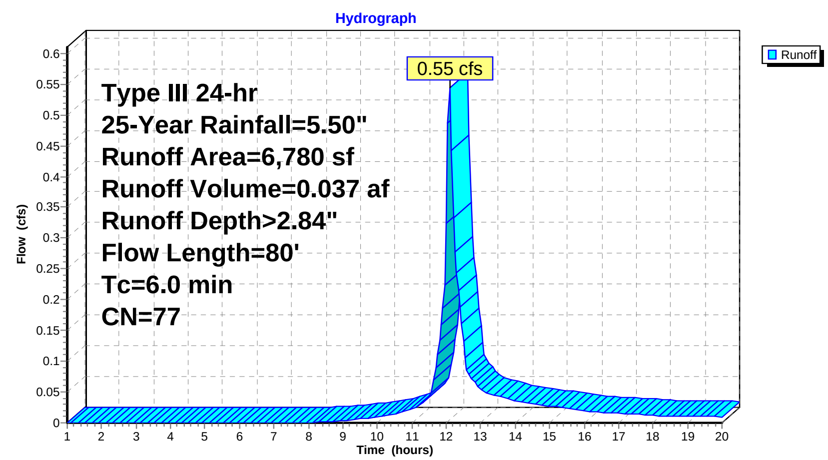
Runoff = 0.55 cfs @ 12.09 hrs, Volume= 0.037 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	4,407	98	Paved Track, HSG A
	2,373	39	>75% Grass cover, Good, HSG A
	6,780	77	Weighted Average
	2,373		35.00% Pervious Area
	4,407		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0100	0.91		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.2	30	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.9					**Direct Entry,**
6.0	80	Total			

Subcatchment 27S: N-FIELD CBF1



Summary for Subcatchment 29S: N-FIELD CBF2

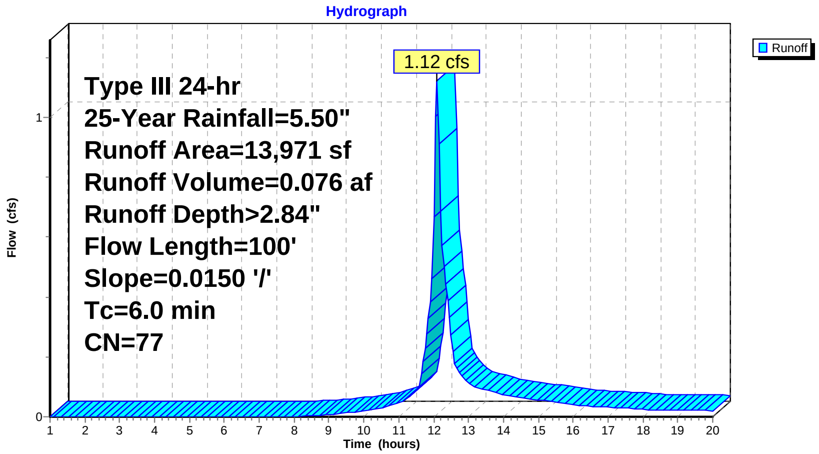
Runoff = 1.12 cfs @ 12.09 hrs, Volume= 0.076 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	9,081	98	Paved Track, HSG A
	4,890	39	>75% Grass cover, Good, HSG A
	13,971	77	Weighted Average
	4,890		35.00% Pervious Area
	9,081		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	20	0.0150	0.89		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.7	80	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.9					**Direct Entry,**
6.0	100	Total			

Subcatchment 29S: N-FIELD CBF2



Summary for Subcatchment 31S: N-FIELD CBF3

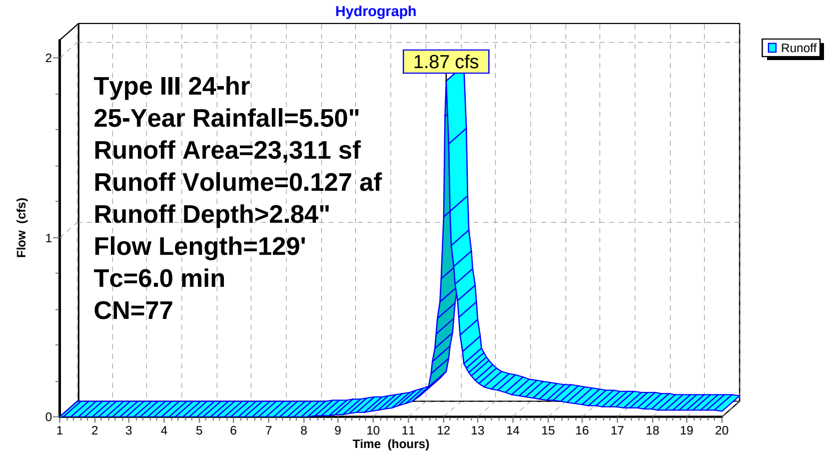
Runoff = 1.87 cfs @ 12.09 hrs, Volume= 0.127 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	15,152	98	Paved Track, HSG A
	8,159	39	>75% Grass cover, Good, HSG A
	23,311	77	Weighted Average
	8,159		35.00% Pervious Area
	15,152		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	29	0.0300	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.8	100	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.1					**Direct Entry,**
6.0	129	Total			

Subcatchment 31S: N-FIELD CBF3



Summary for Subcatchment 33S: N-FIELD CBF4

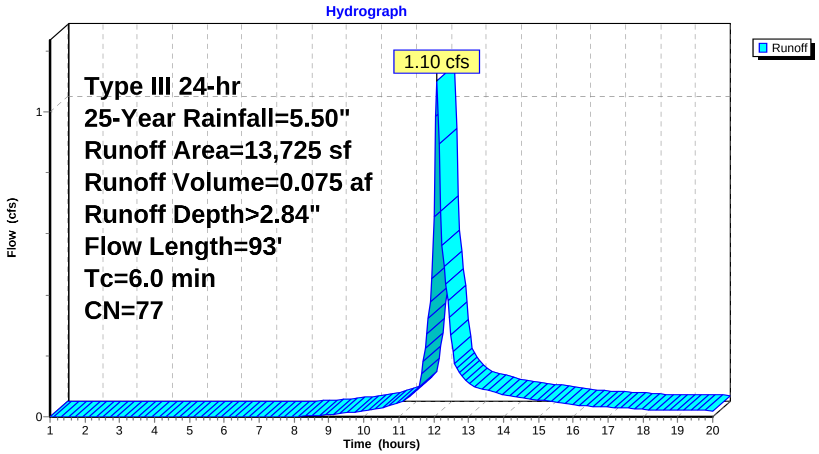
Runoff = 1.10 cfs @ 12.09 hrs, Volume= 0.075 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	8,921	98	Paved Track, HSG A
	4,804	39	>75% Grass cover, Good, HSG A
	13,725	77	Weighted Average
	4,804		35.00% Pervious Area
	8,921		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	20	0.0100	0.76		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.6	73	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
5.0					**Direct Entry,**
6.0	93	Total			

Subcatchment 33S: N-FIELD CBF4



Summary for Subcatchment 35S: N-FIELD CBF5

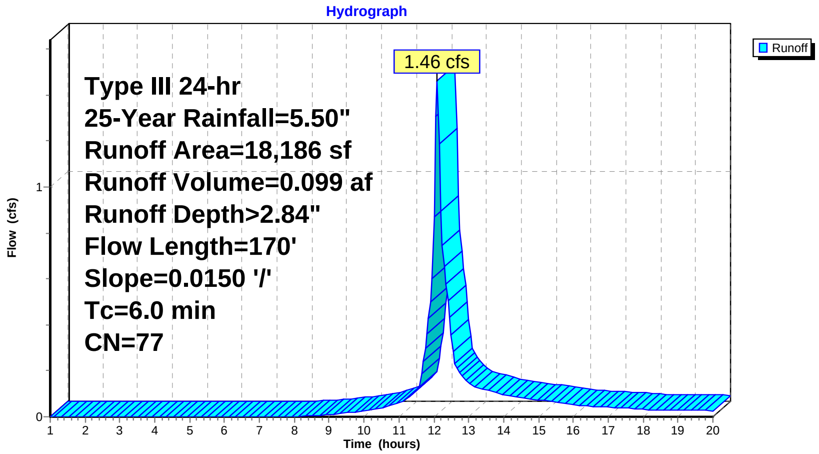
Runoff = 1.46 cfs @ 12.09 hrs, Volume= 0.099 af, Depth> 2.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	11,821	98	Paved Track, HSG A
	6,365	39	>75% Grass cover, Good, HSG A
	18,186	77	Weighted Average
	6,365		35.00% Pervious Area
	11,821		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.0	120	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.2					**Direct Entry,**
6.0	170	Total			

Subcatchment 35S: N-FIELD CBF5



Summary for Subcatchment 37S: N-FIELD CBF6

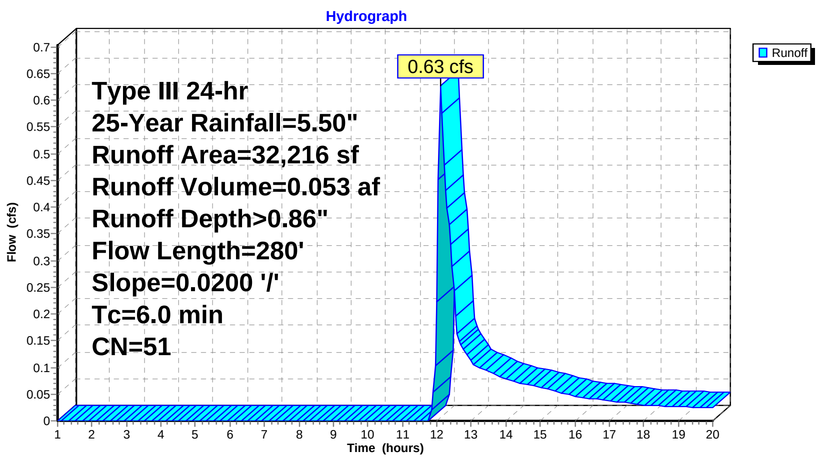
Runoff = 0.63 cfs @ 12.11 hrs, Volume= 0.053 af, Depth> 0.86"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

	Area (sf)	CN	Description
*	6,443	98	Paved Track, HSG A
	25,773	39	>75% Grass cover, Good, HSG A
	32,216	51	Weighted Average
	25,773		80.00% Pervious Area
	6,443		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0200	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.8	250	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.5					**Direct Entry,**
6.0	280	Total			

Subcatchment 37S: N-FIELD CBF6



Summary for Subcatchment 38S: FRONT LOT

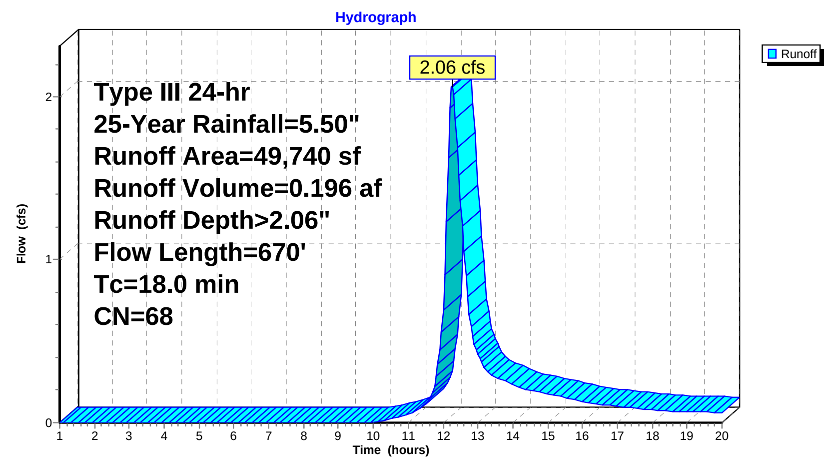
Runoff = 2.06 cfs @ 12.26 hrs, Volume= 0.196 af, Depth> 2.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
26,280	98	Paved parking, HSG A
5,218	39	>75% Grass cover, Good, HSG A
18,242	32	Woods/grass comb., Good, HSG A
49,740	68	Weighted Average
23,460		47.17% Pervious Area
26,280		52.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow, WOOD-FIELD** Woods: Light underbrush n= 0.400 P2= 3.20"
0.5	120	0.0590	3.91		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
4.2	360	0.0080	1.44		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
1.0	140	0.0140	2.40		**Shallow Concentrated Flow, PKG** Paved Kv= 20.3 fps
18.0	670	Total			

Subcatchment 38S: FRONT LOT



Summary for Subcatchment 40S: BLDG-FNT

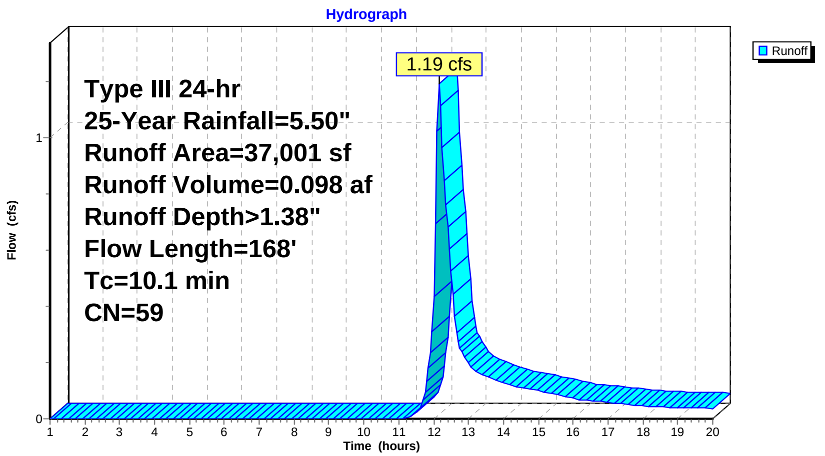
Runoff = 1.19 cfs @ 12.16 hrs, Volume= 0.098 af, Depth> 1.38"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
13,515	98	Paved parking, HSG A
21,205	32	Woods/grass comb., Good, HSG A
1,510	98	Unconnected pavement, HSG A
771	39	>75% Grass cover, Good, HSG A
37,001	59	Weighted Average
21,976		59.39% Pervious Area
15,025		40.61% Impervious Area
1,510		10.05% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.3	38	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.5	80	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
10.1	168	Total			

Subcatchment 40S: BLDG-FNT



Summary for Subcatchment E1: S LOT

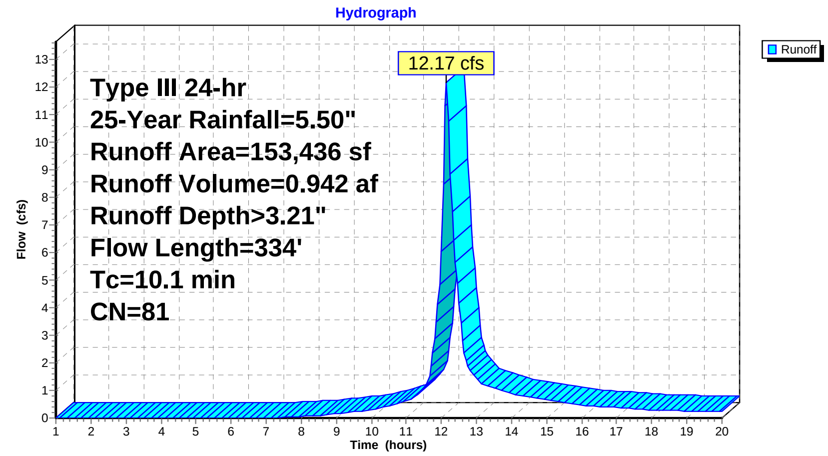
Runoff = 12.17 cfs @ 12.14 hrs, Volume= 0.942 af, Depth> 3.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
98,072	98	Paved parking, HSG A
21,058	72	Woods/grass comb., Good, HSG C
34,306	39	>75% Grass cover, Good, HSG A
153,436	81	Weighted Average
55,364		36.08% Pervious Area
98,072		63.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	50	0.0490	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.7	150	0.0486	3.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.8	134	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
10.1	334	Total			

Subcatchment E1: S LOT



Summary for Subcatchment E2: FRONT LOT

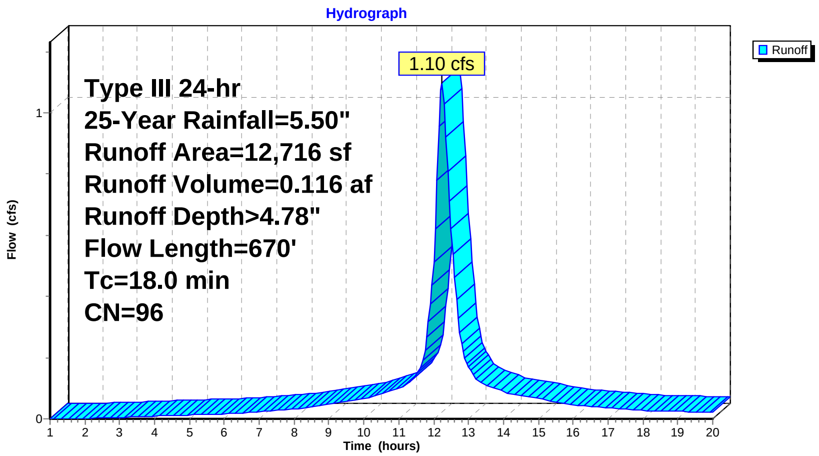
Runoff = 1.10 cfs @ 12.24 hrs, Volume= 0.116 af, Depth> 4.78"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
12,218	98	Paved parking, HSG A
498	39	>75% Grass cover, Good, HSG A
12,716	96	Weighted Average
498		3.92% Pervious Area
12,218		96.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow, WOOD-FIELD** Woods: Light underbrush n= 0.400 P2= 3.20"
0.5	120	0.0590	3.91		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
4.2	360	0.0080	1.44		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
1.0	140	0.0140	2.40		**Shallow Concentrated Flow, PKG** Paved Kv= 20.3 fps
18.0	670	Total			

Subcatchment E2: FRONT LOT



Summary for Subcatchment P2: SLOPE

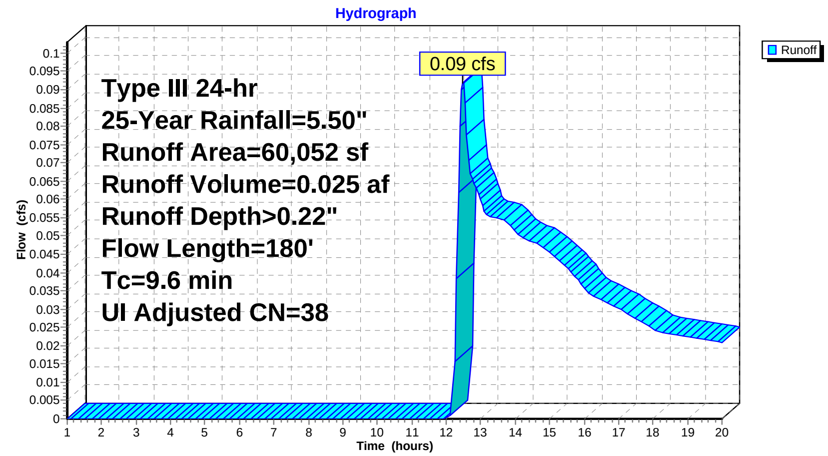
Runoff = 0.09 cfs @ 12.49 hrs, Volume= 0.025 af, Depth> 0.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Adj	Description
2,289	98		Unconnected pavement, HSG A
15,553	32		Woods/grass comb., Good, HSG A
42,210	39		>75% Grass cover, Good, HSG A
60,052	39	38	Weighted Average, UI Adjusted
57,763			96.19% Pervious Area
2,289			3.81% Impervious Area
2,289			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	50	0.0450	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.3	80	0.0800	4.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	50	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
9.6	180	Total			

Subcatchment P2: SLOPE



Summary for Subcatchment P4: BLDG FNT2

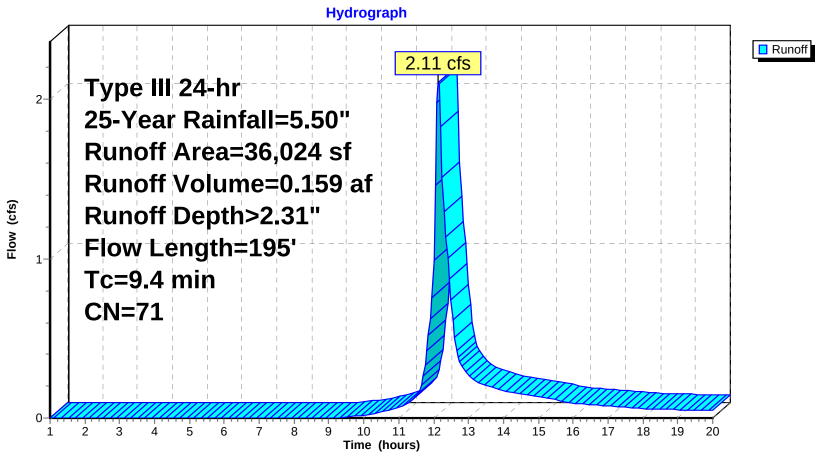
Runoff = 2.11 cfs @ 12.14 hrs, Volume= 0.159 af, Depth> 2.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 25-Year Rainfall=5.50"

Area (sf)	CN	Description
21,282	98	Paved parking, HSG A
841	39	>75% Grass cover, Good, HSG A
13,901	32	Woods/grass comb., Good, HSG A
36,024	71	Weighted Average
14,742		40.92% Pervious Area
21,282		59.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	50	0.0560	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.1	15	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.1	130	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
9.4	195	Total			

Subcatchment P4: BLDG FNT2

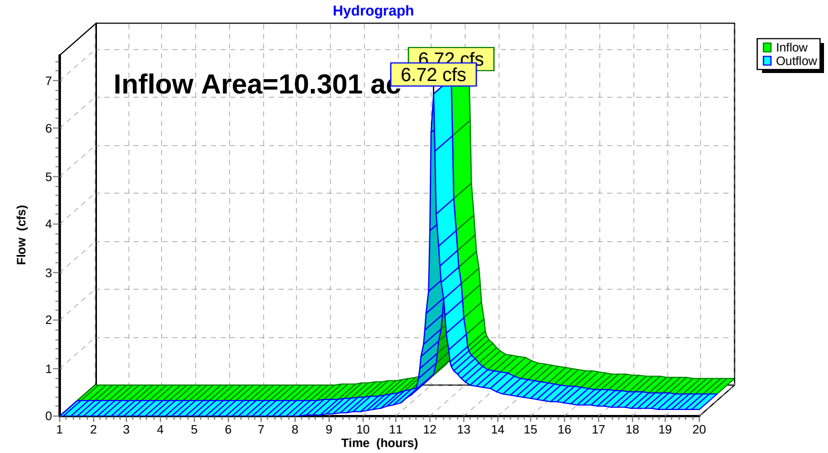


Summary for Reach 39R: HEADWALL 'A'

Inflow Area = 10.301 ac, 59.73% Impervious, Inflow Depth > 0.55" for 25-Year event
Inflow = 6.72 cfs @ 12.10 hrs, Volume= 0.468 af
Outflow = 6.72 cfs @ 12.10 hrs, Volume= 0.468 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3

Reach 39R: HEADWALL 'A'



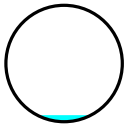
Summary for Reach 41R: discharge

Inflow Area = 7.817 ac, 62.31% Impervious, Inflow Depth = 0.00" for 25-Year event
Inflow = 0.05 cfs @ 13.52 hrs, Volume= 0.002 af
Outflow = 0.05 cfs @ 13.66 hrs, Volume= 0.002 af, Atten= 12%, Lag= 8.7 min

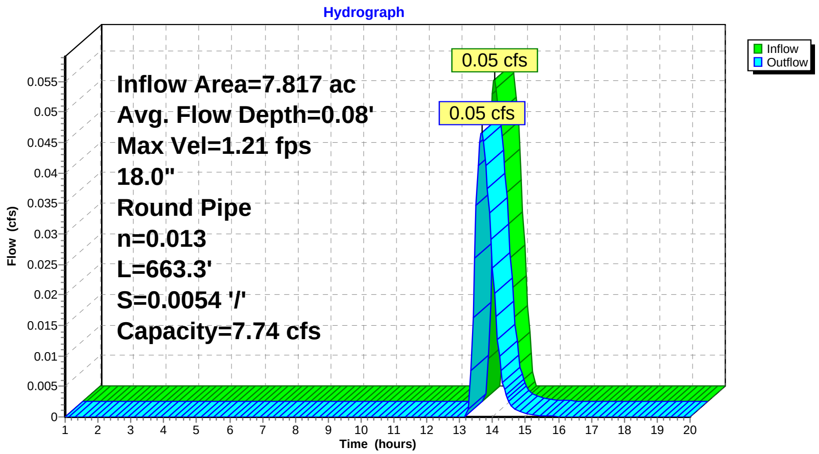
Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 1.21 fps, Min. Travel Time= 9.1 min
Avg. Velocity = 0.60 fps, Avg. Travel Time= 18.3 min

Peak Storage= 26 cf @ 13.66 hrs
Average Depth at Peak Storage= 0.08'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.74 cfs

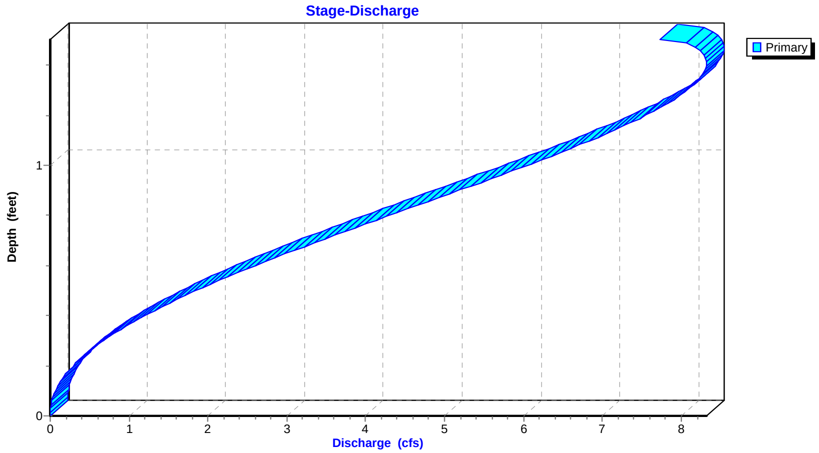
18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 663.3' Slope= 0.0054 '/'
Inlet Invert= 110.85', Outlet Invert= 107.25'



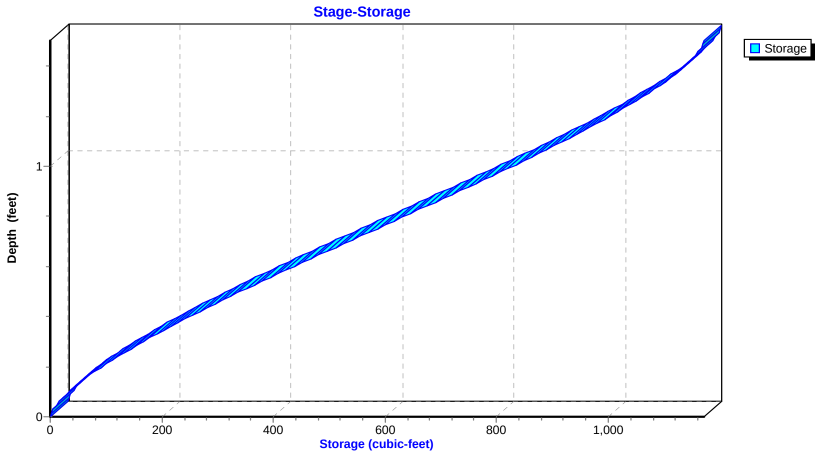
Reach 41R: discharge



Reach 41R: discharge



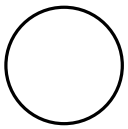
Reach 41R: discharge



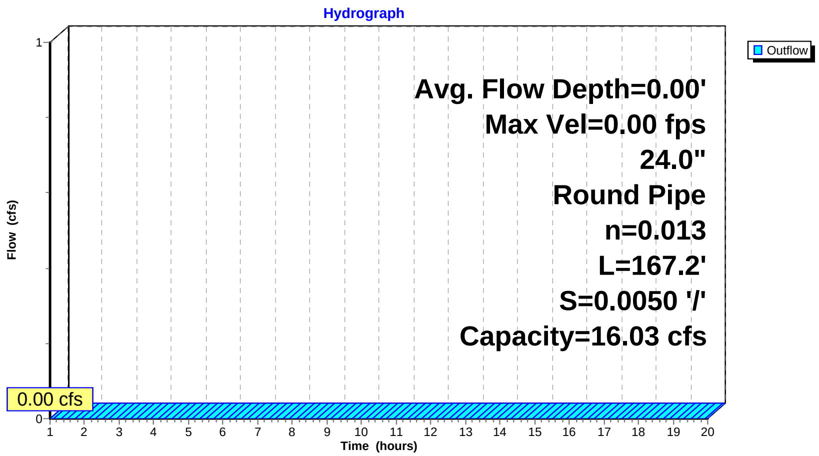
Summary for Reach 42R: PND DISCHARGE

Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 16.03 cfs

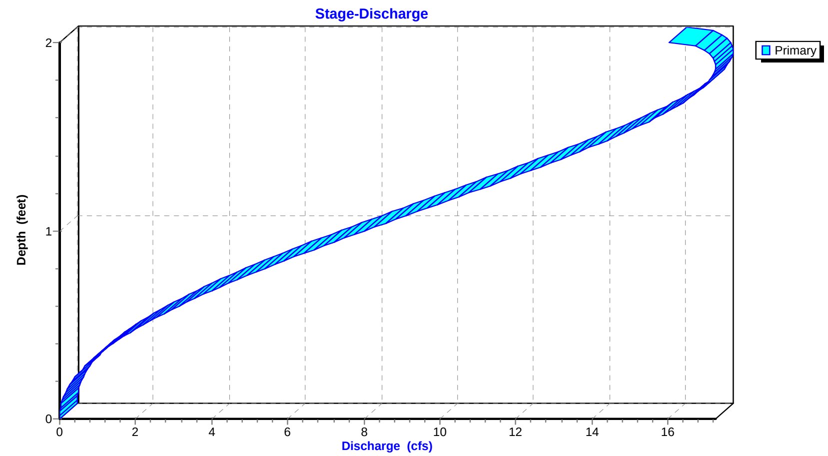
24.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 167.2' Slope= 0.0050 '/'
Inlet Invert= 115.90', Outlet Invert= 115.06'



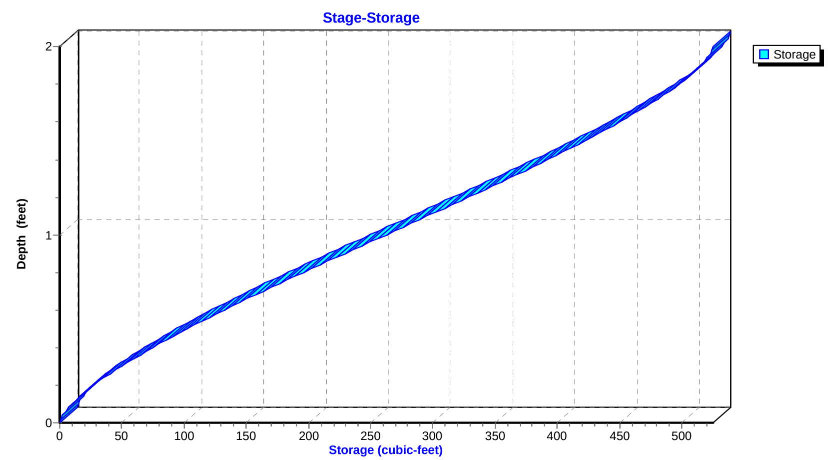
Reach 42R: PND DISCHARGE



Reach 42R: PND DISCHARGE



Reach 42R: PND DISCHARGE

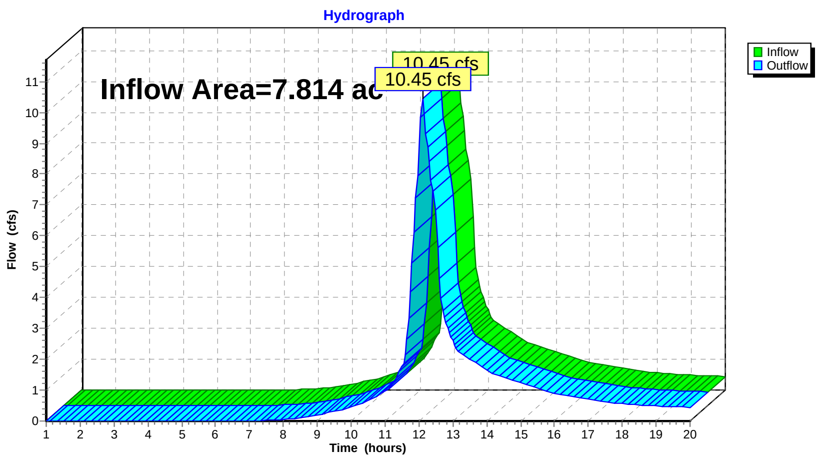


Summary for Reach RE1: HEADWALL 'B'

Inflow Area =	7.814 ac, 54.07% Impervious, Inflow Depth > 2.19"	for 25-Year event
Inflow =	10.45 cfs @ 12.10 hrs, Volume=	1.426 af
Outflow =	10.45 cfs @ 12.10 hrs, Volume=	1.426 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3

Reach RE1: HEADWALL 'B'



Summary for Pond 1P: PKG ISL POND 1

Inflow Area =	0.849 ac, 40.61% Impervious, Inflow Depth > 1.38"	for 25-Year event
Inflow =	1.19 cfs @ 12.16 hrs, Volume=	0.098 af
Outflow =	0.49 cfs @ 12.52 hrs, Volume=	0.097 af, Atten= 59%, Lag= 21.5 min
Discarded =	0.07 cfs @ 12.52 hrs, Volume=	0.024 af
Primary =	0.42 cfs @ 12.52 hrs, Volume=	0.072 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 120.18' @ 12.52 hrs Surf.Area= 1,136 sf Storage= 948 cf

Plug-Flow detention time= 22.4 min calculated for 0.096 af (99% of inflow)
Center-of-Mass det. time= 18.0 min (846.3 - 828.3)

Volume	Invert	Avail.Storage	Storage Description
#1	118.95'	1,682 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

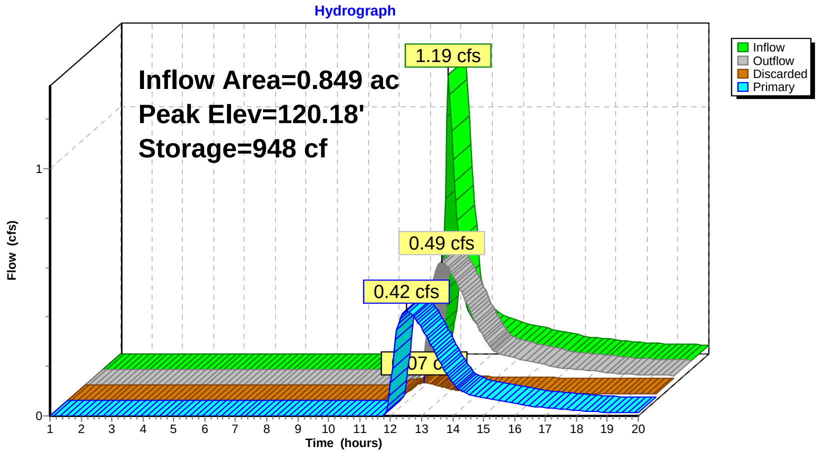
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.95	424	0.0	0	0
119.00	424	100.0	21	21
120.00	1,030	100.0	727	748
120.75	1,459	100.0	933	1,682

Device	Routing	Invert	Outlet Devices
#1	Primary	118.50'	**8.0" Round Culvert** L= 63.3' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 118.50' / 117.80' S= 0.0111 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	119.00'	**4.0" Vert. 4" Orifice** C= 0.600
#3	Device 1	120.70'	**2.5" x 2.5" Horiz. Overflow X 6.00 columns** X 6 rows C= 0.600 in 24.0" x 24.0" Grate (39% open area) Limited to weir flow at low heads
#4	Discarded	118.95'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 112.00'

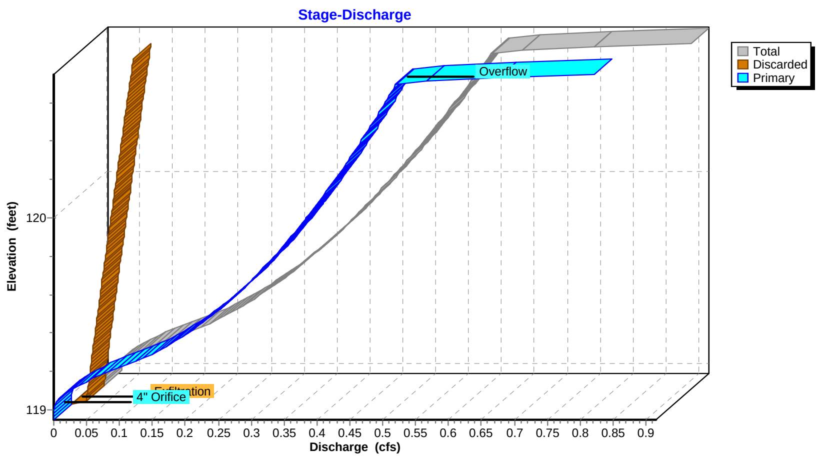
Discarded OutFlow Max=0.07 cfs @ 12.52 hrs HW=120.18' (Free Discharge)
└─**4=Exfiltration** (Controls 0.07 cfs)

Primary OutFlow Max=0.42 cfs @ 12.52 hrs HW=120.18' TW=117.86' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.42 cfs of 1.54 cfs potential flow)
  ├─**2=4" Orifice** (Orifice Controls 0.42 cfs @ 4.85 fps)
  └─**3=Overflow** (Controls 0.00 cfs)

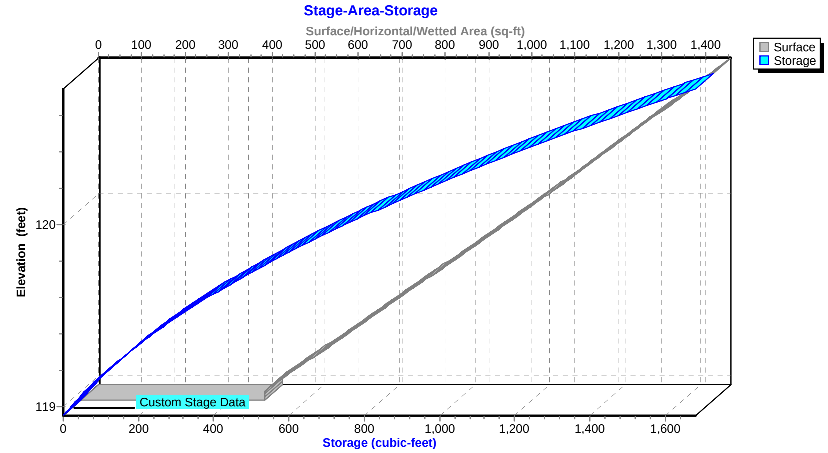
Pond 1P: PKG ISL POND 1



Pond 1P: PKG ISL POND 1



Pond 1P: PKG ISL POND 1



Summary for Pond 2P: PKG ISL 2

Inflow Area = 0.827 ac, 59.08% Impervious, Inflow Depth > 2.31" for 25-Year event
Inflow = 2.11 cfs @ 12.14 hrs, Volume= 0.159 af
Outflow = 1.33 cfs @ 12.30 hrs, Volume= 0.158 af, Atten= 37%, Lag= 9.4 min
Discarded = 0.11 cfs @ 12.30 hrs, Volume= 0.041 af
Primary = 1.22 cfs @ 12.30 hrs, Volume= 0.118 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 119.95' @ 12.30 hrs Surf.Area= 1,772 sf Storage= 1,149 cf

Plug-Flow detention time= 14.8 min calculated for 0.158 af (99% of inflow)
Center-of-Mass det. time= 12.4 min (816.7 - 804.3)

Volume	Invert	Avail.Storage	Storage Description
#1	118.99'	1,417 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

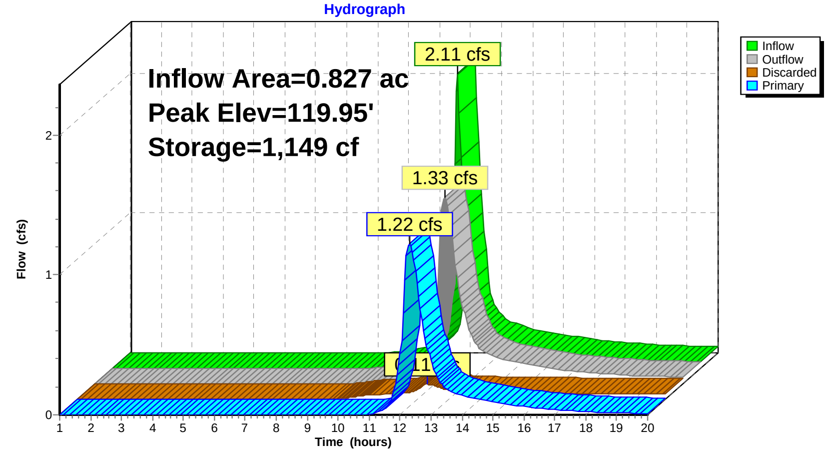
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.99	622	0.0	0	0
119.00	622	100.0	6	6
120.00	1,827	100.0	1,225	1,231
120.10	1,906	100.0	187	1,417

Device	Routing	Invert	Outlet Devices
#1	Primary	118.00'	**12.0" Round Culvert** L= 40.1' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 118.00' / 117.80' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	119.00'	**6.0" Vert. 4" Oriface** C= 0.600
#3	Device 1	119.50'	**6.0" Vert. 6" Oriface** C= 0.600
#4	Device 1	120.05'	**2.5" x 2.5" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 in 24.0" x 24.0" Grate (39% open area) Limited to weir flow at low heads
#5	Discarded	118.99'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 112.00'

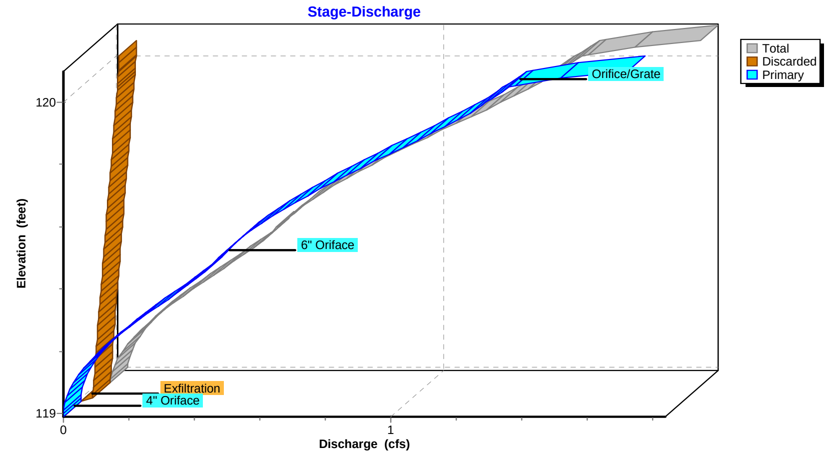
Discarded OutFlow Max=0.11 cfs @ 12.30 hrs HW=119.95' (Free Discharge)
└─**5=Exfiltration** (Controls 0.11 cfs)

Primary OutFlow Max=1.22 cfs @ 12.30 hrs HW=119.95' TW=117.51' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.22 cfs of 3.60 cfs potential flow)
  ├─**2=4" Oriface** (Orifice Controls 0.79 cfs @ 4.04 fps)
  ├─**3=6" Oriface** (Orifice Controls 0.43 cfs @ 2.29 fps)
  └─**4=Orifice/Grate** (Controls 0.00 cfs)

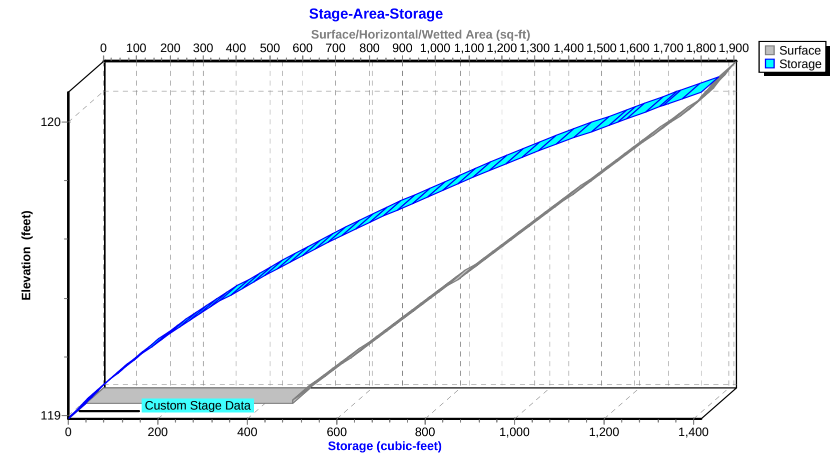
Pond 2P: PKG ISL 2



Pond 2P: PKG ISL 2



Pond 2P: PKG ISL 2



Summary for Pond 3P: PKG ISL 3

Inflow Area = 0.335 ac, 95.34% Impervious, Inflow Depth > 4.68" for 25-Year event
Inflow = 1.72 cfs @ 12.09 hrs, Volume= 0.130 af
Outflow = 0.66 cfs @ 12.33 hrs, Volume= 0.130 af, Atten= 62%, Lag= 14.4 min
Discarded = 0.12 cfs @ 12.33 hrs, Volume= 0.061 af
Primary = 0.54 cfs @ 12.33 hrs, Volume= 0.070 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 119.52' @ 12.33 hrs Surf.Area= 886 sf Storage= 1,208 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 15.2 min (752.8 - 737.7)

Volume	Invert	Avail.Storage	Storage Description
#1	117.99'	1,588 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

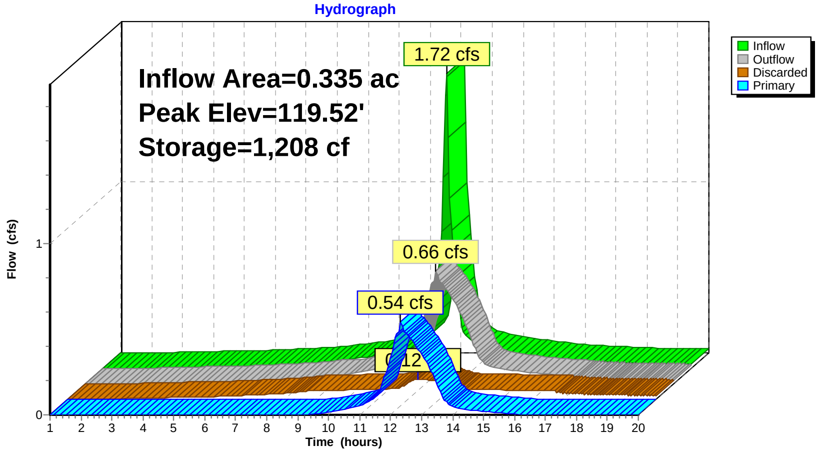
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.99	900	0.0	0	0
118.00	278	100.0	6	6
119.00	1,100	100.0	689	695
120.00	686	100.0	893	1,588

Device	Routing	Invert	Outlet Devices
#1	Primary	117.40'	**8.0" Round Culvert** L= 77.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 117.40' / 117.02' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	118.00'	**4.0" Vert. 4" Oriface** C= 0.600
#3	Device 1	119.50'	**2.5" x 2.5" Horiz. Overflow Grate X 6.00 columns** X 6 rows C= 0.600 in 24.0" x 24.0" Grate (39% open area) Limited to weir flow at low heads
#4	Discarded	117.99'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 112.00'

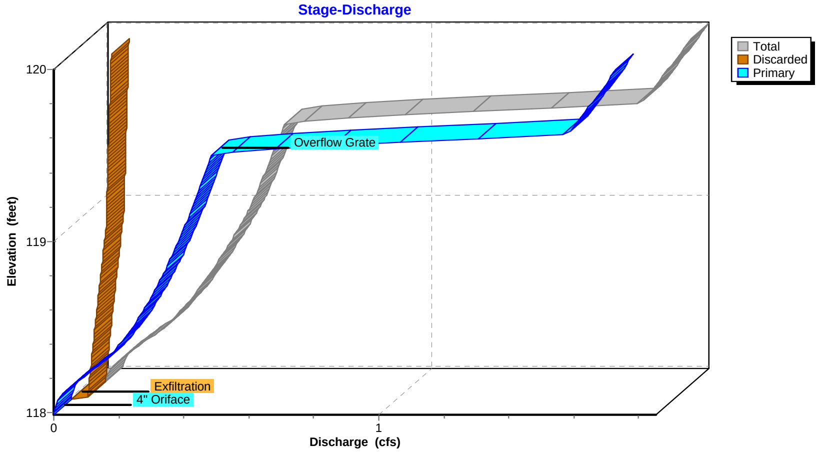
Discarded OutFlow Max=0.12 cfs @ 12.33 hrs HW=119.52' (Free Discharge)
└**4=Exfiltration** (Controls 0.12 cfs)

Primary OutFlow Max=0.54 cfs @ 12.33 hrs HW=119.52' TW=117.61' (Dynamic Tailwater)
└**1=Culvert** (Passes 0.54 cfs of 1.54 cfs potential flow)
  ├**2=4" Oriface** (Orifice Controls 0.49 cfs @ 5.59 fps)
  └**3=Overflow Grate** (Weir Controls 0.05 cfs @ 0.40 fps)

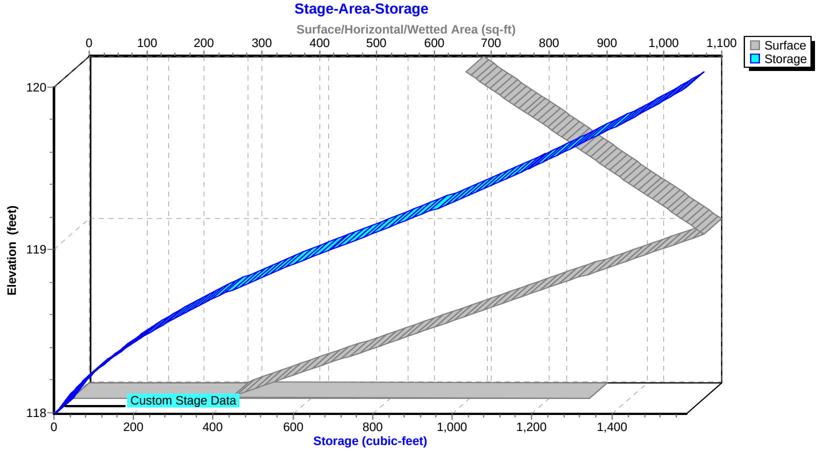
Pond 3P: PKG ISL 3



Pond 3P: PKG ISL 3



Pond 3P: PKG ISL 3



Summary for Pond 4P: REAR FB

Inflow Area =	7.817 ac, 62.31% Impervious, Inflow Depth = 0.43"	for 25-Year event	
Inflow =	2.91 cfs @ 12.80 hrs, Volume=	0.282 af	
Outflow =	0.69 cfs @ 13.52 hrs, Volume=	0.282 af,	Atten= 76%, Lag= 43.1 min
Discarded =	0.64 cfs @ 13.52 hrs, Volume=	0.280 af	
Primary =	0.05 cfs @ 13.52 hrs, Volume=	0.002 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 115.63' @ 13.52 hrs Surf.Area= 5,599 sf Storage= 7,279 cf

Plug-Flow detention time= 124.3 min calculated for 0.281 af (100% of inflow)
Center-of-Mass det. time= 124.4 min (913.8 - 789.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	113.50'	6,196 cf	**25.92'W x 216.04'L x 4.00'H Field A** 22,396 cf Overall - 6,905 cf Embedded = 15,491 cf x 40.0% Voids
#2A	114.50'	6,905 cf	**ADS_StormTech SC-740** x 150 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 6.45 sf x 5 rows
		13,102 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	113.50'	**2.410 in/hr Exfiltration over Horizontal area** Conductivity to Groundwater Elevation = 111.47'
#2	Primary	115.50'	**12.0" Round Culvert** L= 15.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 115.50' / 115.40' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Discarded OutFlow Max=0.64 cfs @ 13.52 hrs HW=115.63' (Free Discharge)
└**1=Exfiltration** (Controls 0.64 cfs)

Primary OutFlow Max=0.05 cfs @ 13.52 hrs HW=115.63' TW=110.92' (Dynamic Tailwater)
└**2=Culvert** (Barrel Controls 0.05 cfs @ 1.32 fps)

Pond 4P: REAR FB - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 (ADS StormTech® SC-740 without end caps)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
Row Length Adjustment= +0.44' x 6.45 sf x 5 rows

51.0" Wide + 8.0" Spacing = 59.0" C-C Row Spacing

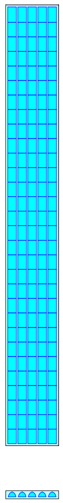
30 Chambers/Row x 7.12' Long +0.44' Row Adjustment = 214.04' Row Length +12.0" End Stone x 2 = 216.04' Base Length
5 Rows x 51.0" Wide + 8.0" Spacing x 4 + 12.0" Side Stone x 2 = 25.92' Base Width
12.0" Base + 30.0" Chamber Height + 6.0" Cover = 4.00' Field Height

150 Chambers x 45.9 cf +0.44' Row Adjustment x 6.45 sf x 5 Rows = 6,905.2 cf Chamber Storage

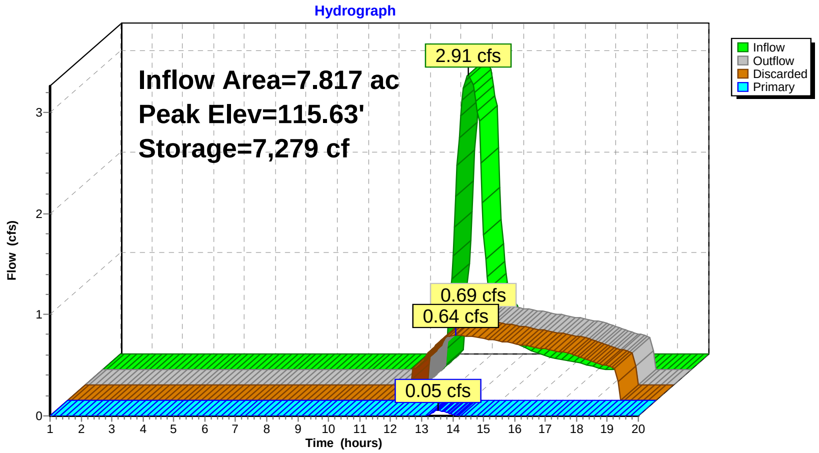
22,396.1 cf Field - 6,905.2 cf Chambers = 15,490.9 cf Stone x 40.0% Voids = 6,196.4 cf Stone Storage

Chamber Storage + Stone Storage = 13,101.6 cf = 0.301 af
Overall Storage Efficiency = 58.5%
Overall System Size = 216.04' x 25.92' x 4.00'

150 Chambers
829.5 cy Field
573.7 cy Stone



Pond 4P: REAR FB



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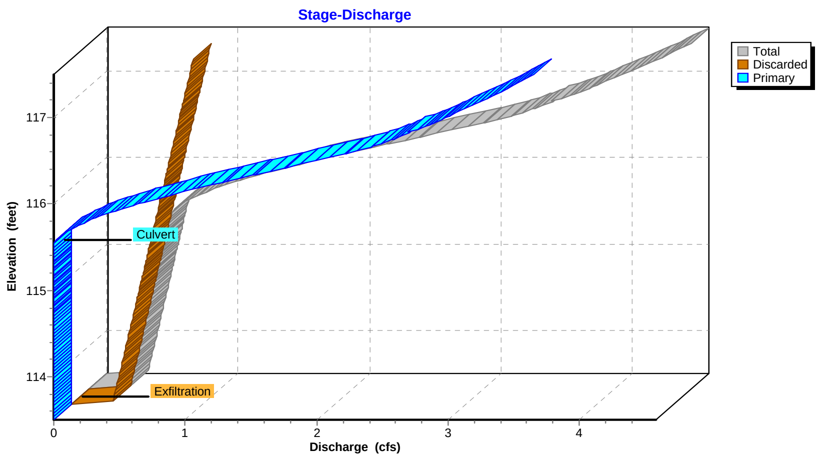
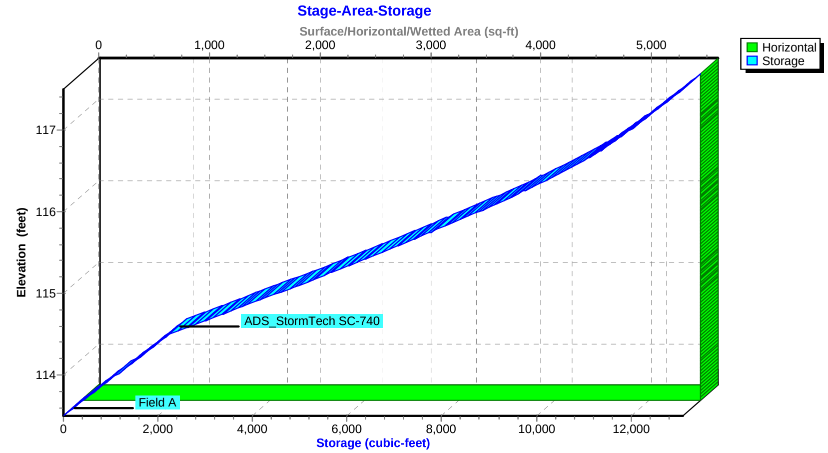


Pond 4P: REAR FB



Summary for Pond 6P: PKG

Inflow Area =	4.922 ac, 67.09% Impervious, Inflow Depth > 2.62"	for 25-Year event	
Inflow =	10.26 cfs @ 12.11 hrs, Volume=	1.074 af	
Outflow =	5.21 cfs @ 12.52 hrs, Volume=	1.000 af, Atten= 49%, Lag= 24.4 min	
Discarded =	1.07 cfs @ 12.52 hrs, Volume=	0.696 af	
Primary =	4.14 cfs @ 12.52 hrs, Volume=	0.303 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 117.86' @ 12.52 hrs Surf.Area= 8,327 sf Storage= 14,651 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 68.3 min (839.8 - 771.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	115.17'	7,782 cf	**80.75'W x 103.12'L x 3.50'H Field A** 29,144 cf Overall - 9,690 cf Embedded = 19,454 cf x 40.0% Voids
#2A	115.67'	9,690 cf	**ADS_StormTech SC-740** x 210 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 6.45 sf x 15 rows
		17,471 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	115.17'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 113.10'
#2	Primary	117.00'	**10.0" Round Culvert X 3.00** L= 80.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 117.00' / 116.00' S= 0.0125 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf

Discarded OutFlow Max=1.07 cfs @ 12.52 hrs HW=117.86' (Free Discharge)
└─**1=Exfiltration** (Controls 1.07 cfs)

Primary OutFlow Max=4.12 cfs @ 12.52 hrs HW=117.86' TW=115.73' (Dynamic Tailwater)
└─**2=Culvert** (Inlet Controls 4.12 cfs @ 2.52 fps)

Pond 6P: PKG - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 (ADS StormTech® SC-740 without end caps)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
Row Length Adjustment= +0.44' x 6.45 sf x 15 rows

51.0" Wide + 12.0" Spacing = 63.0" C-C Row Spacing

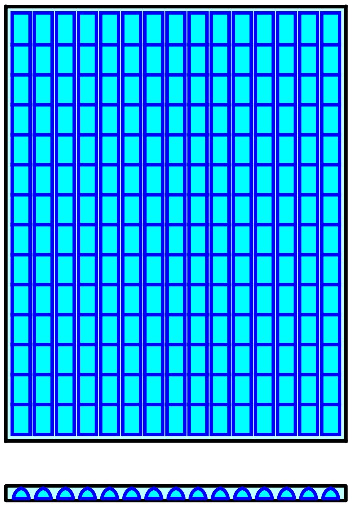
14 Chambers/Row x 7.12' Long +0.44' Row Adjustment = 100.12' Row Length +18.0" End Stone x 2 = 103.12' Base Length
15 Rows x 51.0" Wide + 12.0" Spacing x 14 + 18.0" Side Stone x 2 = 80.75' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

210 Chambers x 45.9 cf +0.44' Row Adjustment x 6.45 sf x 15 Rows = 9,689.8 cf Chamber Storage

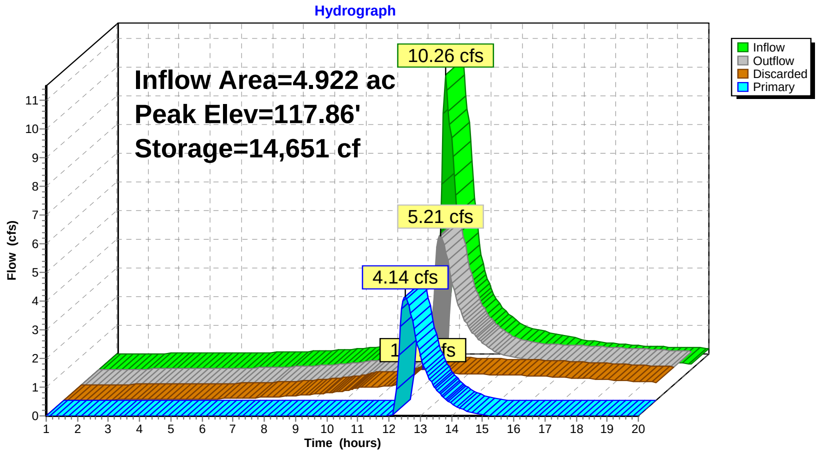
29,143.8 cf Field - 9,689.8 cf Chambers = 19,454.0 cf Stone x 40.0% Voids = 7,781.6 cf Stone Storage

Chamber Storage + Stone Storage = 17,471.4 cf = 0.401 af
Overall Storage Efficiency = 59.9%
Overall System Size = 103.12' x 80.75' x 3.50'

210 Chambers
1,079.4 cy Field
720.5 cy Stone



Pond 6P: PKG



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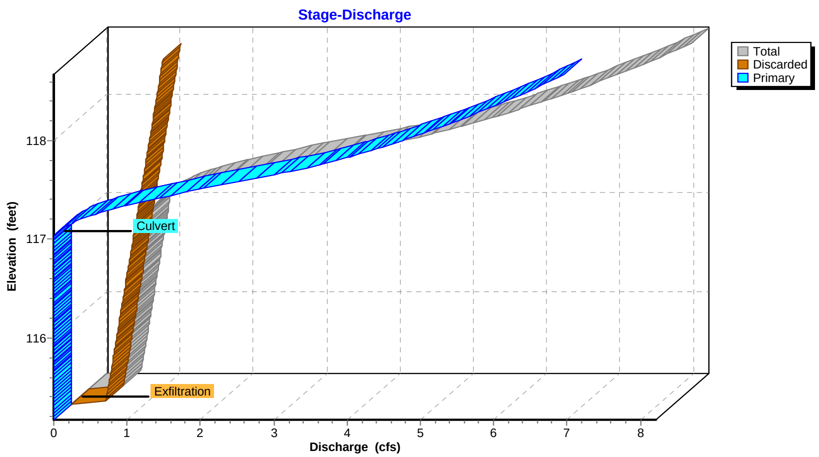
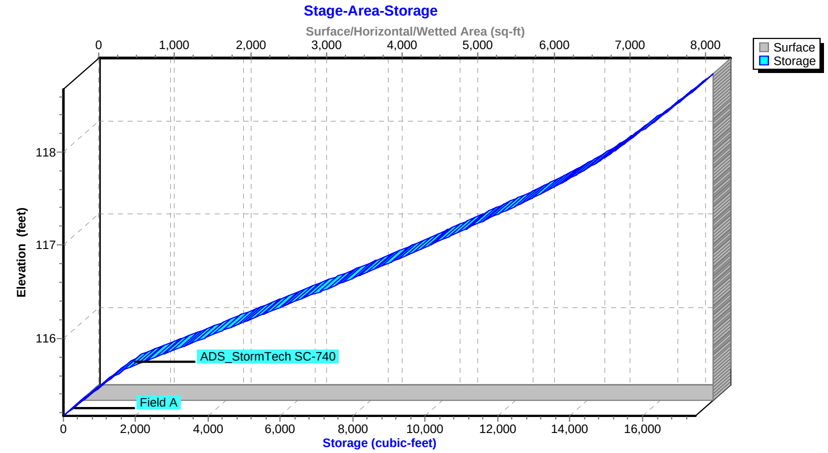


Pond 6P: PKG



Summary for Pond 7P: CB-SE Pkg

Inflow Area = 3.522 ac, 63.92% Impervious, Inflow Depth > 3.21" for 25-Year event
Inflow = 12.17 cfs @ 12.14 hrs, Volume= 0.942 af
Outflow = 12.17 cfs @ 12.14 hrs, Volume= 0.942 af, Atten= 0%, Lag= 0.0 min
Primary = 4.14 cfs @ 12.49 hrs, Volume= 0.709 af
Secondary = 11.59 cfs @ 12.12 hrs, Volume= 0.235 af

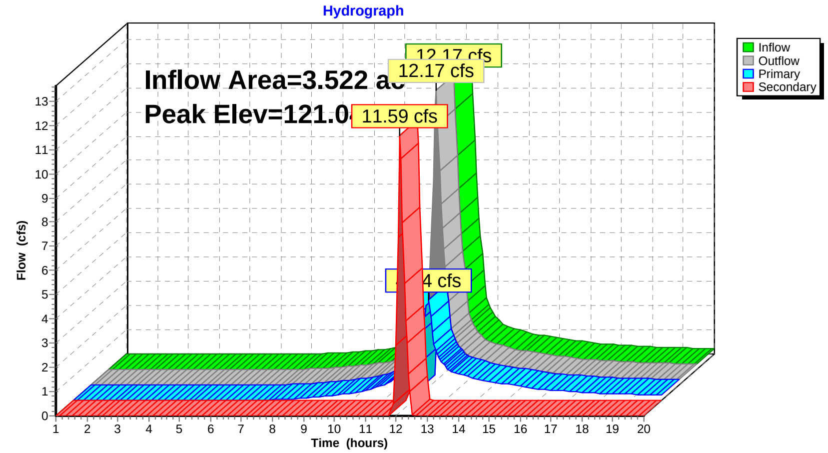
Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 121.04' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	113.30'	**12.0" Round RCP_Round 12"** L= 71.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 113.30' / 111.17' S= 0.0299 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	117.80'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area) Limited to weir flow at low heads
#3	Secondary	116.00'	**8.0" Round Culvert X 4.00** L= 39.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 113.20' / 116.00' S= -0.0709 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

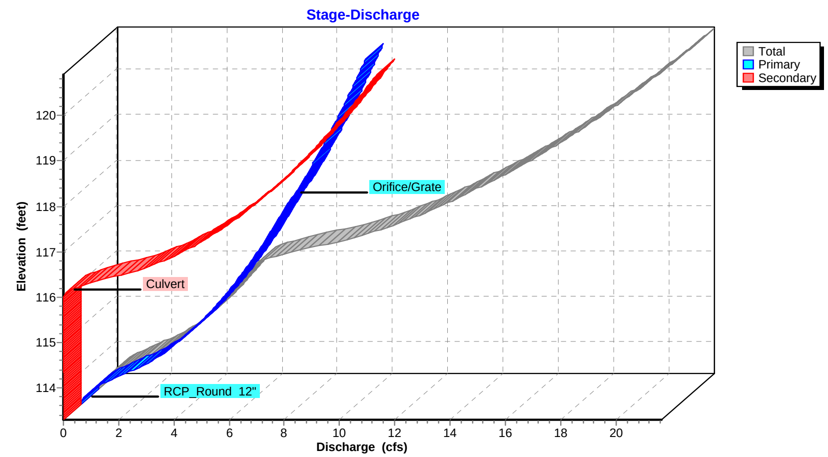
Primary OutFlow Max=4.05 cfs @ 12.49 hrs HW=116.12' TW=114.83' (Dynamic Tailwater)
└─**1=RCP_Round 12"** (Outlet Controls 4.05 cfs @ 5.16 fps)
└─**2=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=11.07 cfs @ 12.12 hrs HW=120.68' (Free Discharge)
└─**3=Culvert** (Inlet Controls 11.07 cfs @ 7.93 fps)

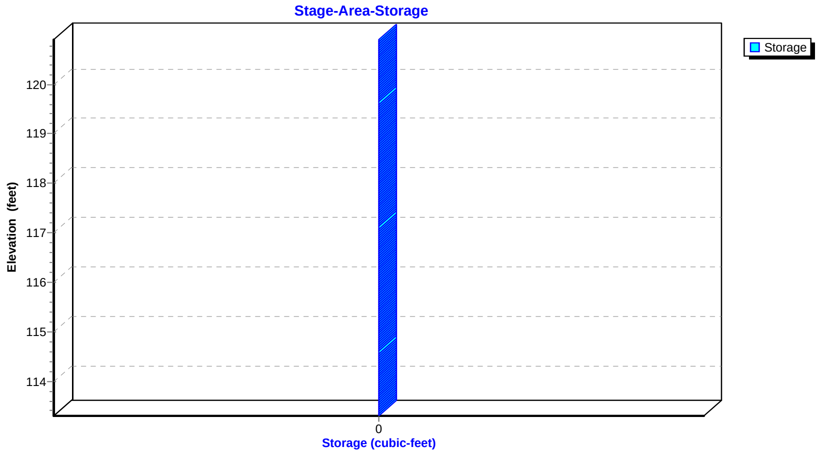
Pond 7P: CB-SE Pkg



Pond 7P: CB-SE Pkg



Pond 7P: CB-SE Pkg



Summary for Pond 8P: SC740

Inflow Area = 7.817 ac, 62.31% Impervious, Inflow Depth > 1.48" for 25-Year event
Inflow = 7.98 cfs @ 12.09 hrs, Volume= 0.963 af
Outflow = 3.93 cfs @ 12.80 hrs, Volume= 0.963 af, Atten= 51%, Lag= 42.8 min
Discarded = 1.02 cfs @ 12.80 hrs, Volume= 0.681 af
Primary = 2.91 cfs @ 12.80 hrs, Volume= 0.282 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 115.91' @ 12.80 hrs Surf.Area= 8,322 sf Storage= 12,447 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 70.1 min (812.1 - 742.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	113.50'	7,553 cf	**31.25'W x 217.22'L x 4.00'H Field A** 27,152 cf Overall - 8,269 cf Embedded = 18,883 cf x 40.0% Voids
#2A	114.50'	8,269 cf	**ADS_StormTech SC-740 +Cap** x 180 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 6 Rows of 30 Chambers
#3B	113.50'	1,719 cf	**20.50'W x 74.82'L x 4.00'H Field B** 6,135 cf Overall - 1,838 cf Embedded = 4,297 cf x 40.0% Voids
#4B	114.50'	1,838 cf	**ADS_StormTech SC-740 +Cap** x 40 Inside #3 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 4 Rows of 10 Chambers
		19,379 cf	Total Available Storage

Storage Group A created with Chamber Wizard
Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	114.50'	**15.0" Round Culvert** L= 77.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 114.50' / 114.50' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Discarded	113.50'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 111.50'

Discarded OutFlow Max=1.02 cfs @ 12.80 hrs HW=115.91' (Free Discharge)
└─**2=Exfiltration** (Controls 1.02 cfs)

Primary OutFlow Max=2.91 cfs @ 12.80 hrs HW=115.91' TW=114.81' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 2.91 cfs @ 2.63 fps)

Pond 8P: SC740 - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 9.0" Spacing = 60.0" C-C Row Spacing

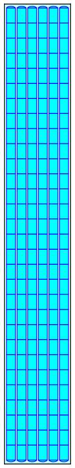
30 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 215.22' Row Length +12.0" End Stone x 2 = 217.22' Base Length
6 Rows x 51.0" Wide + 9.0" Spacing x 5 + 12.0" Side Stone x 2 = 31.25' Base Width
12.0" Base + 30.0" Chamber Height + 6.0" Cover = 4.00' Field Height

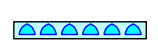
180 Chambers x 45.9 cf = 8,269.2 cf Chamber Storage

27,152.1 cf Field - 8,269.2 cf Chambers = 18,882.9 cf of Stone x 40.0% Voids = 7,553.2 cf Stone Storage

Chamber Storage + Stone Storage = 15,822.4 cf = 0.363 af
Overall Storage Efficiency = 58.3%
Overall System Size = 217.22' x 31.25' x 4.00'

180 Chambers
1,005.6 cy Field
699.4 cy Stone





Pond 8P: SC740 - Chamber Wizard Field B

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

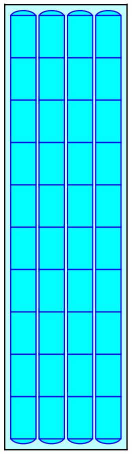
10 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 72.82' Row Length +12.0" End Stone x 2 = 74.82' Base Length
4 Rows x 51.0" Wide + 6.0" Spacing x 3 + 12.0" Side Stone x 2 = 20.50' Base Width
12.0" Base + 30.0" Chamber Height + 6.0" Cover = 4.00' Field Height

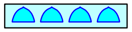
40 Chambers x 45.9 cf = 1,837.6 cf Chamber Storage

6,135.0 cf Field - 1,837.6 cf Chambers = 4,297.4 cf of Stone x 40.0% Voids = 1,718.9 cf Stone Storage

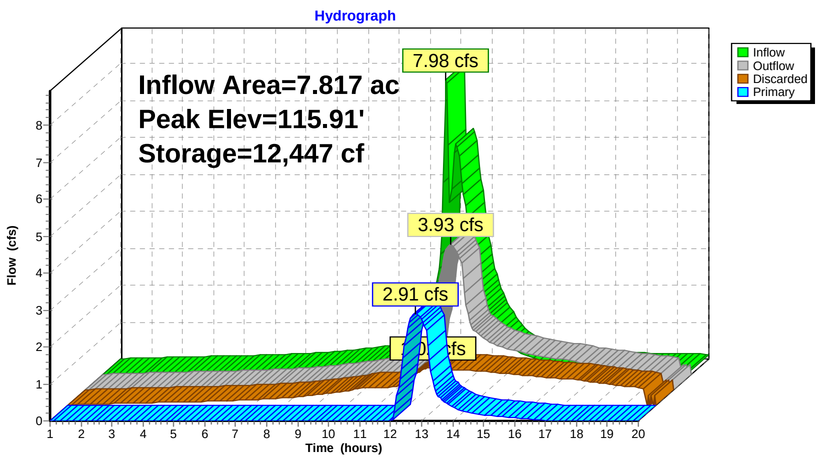
Chamber Storage + Stone Storage = 3,556.5 cf = 0.082 af
Overall Storage Efficiency = 58.0%
Overall System Size = 74.82' x 20.50' x 4.00'

40 Chambers
227.2 cy Field
159.2 cy Stone





Pond 8P: SC740



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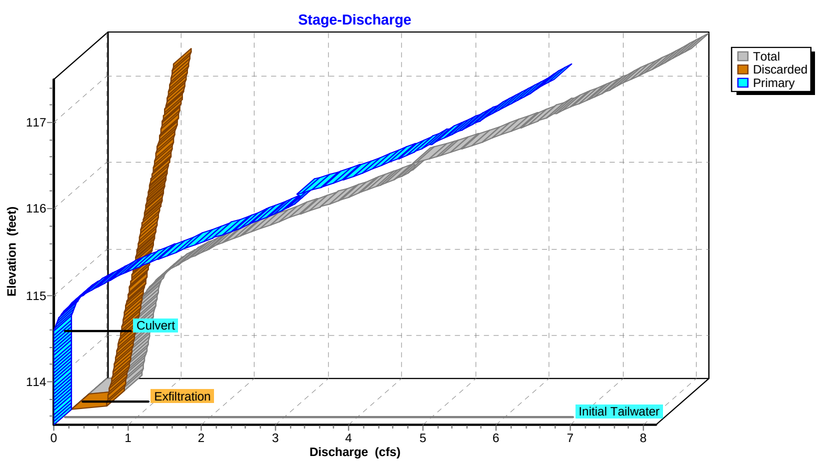

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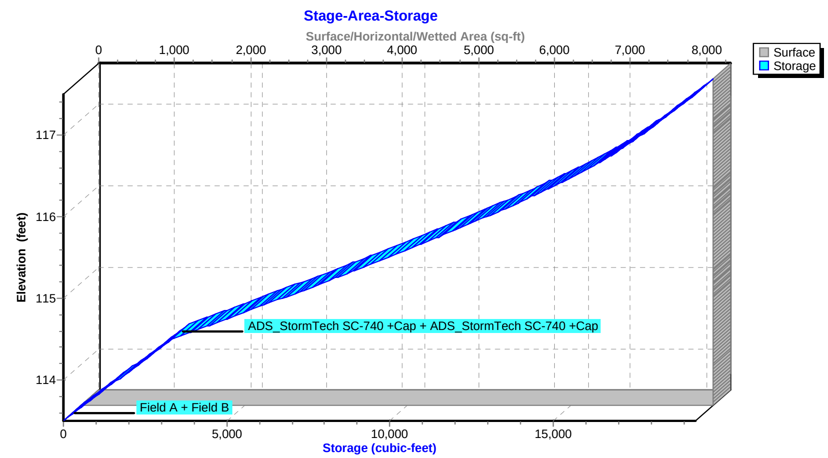


Summary for Pond 9P: CB-SE Pkg1

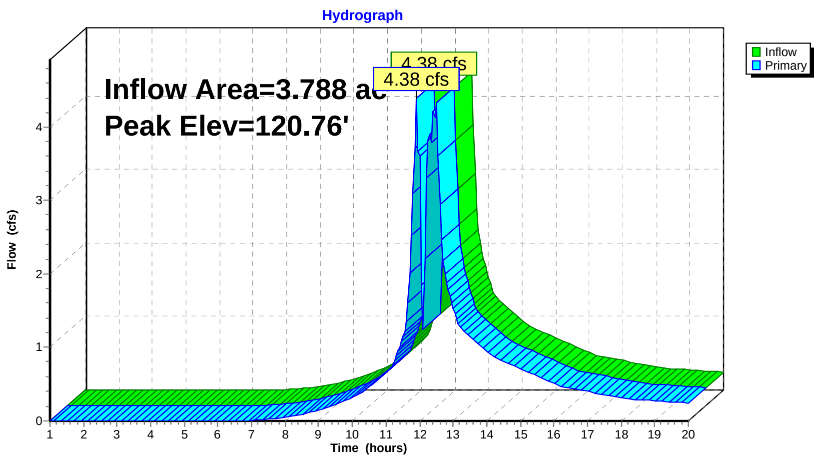
Inflow Area = 3.788 ac, 63.65% Impervious, Inflow Depth > 2.43" for 25-Year event
Inflow = 4.38 cfs @ 11.90 hrs, Volume= 0.766 af
Outflow = 4.38 cfs @ 11.90 hrs, Volume= 0.766 af, Atten= 0%, Lag= 0.0 min
Primary = 4.38 cfs @ 11.90 hrs, Volume= 0.766 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 120.76' @ 12.10 hrs

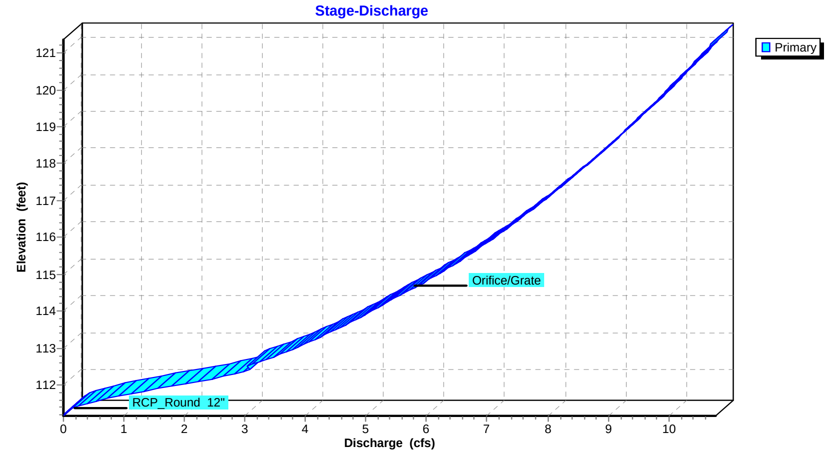
Device	Routing	Invert	Outlet Devices
#1	Primary	111.17'	**12.0" Round RCP_Round 12"** L= 90.3' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.17' / 110.70' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=3.51 cfs @ 11.90 hrs HW=114.88' TW=113.84' (Dynamic Tailwater)
1=RCP_Round 12" (Outlet Controls 3.43 cfs @ 4.36 fps)
2=Orifice/Grate (Orifice Controls 0.08 cfs @ 2.96 fps)

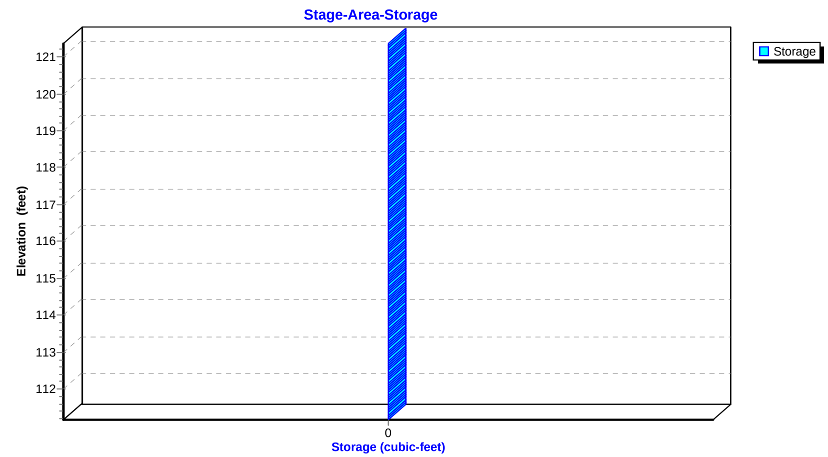
Pond 9P: CB-SE Pkg1



Pond 9P: CB-SE Pkg1



Pond 9P: CB-SE Pkg1



Summary for Pond 11P: CB-SE Pkg2

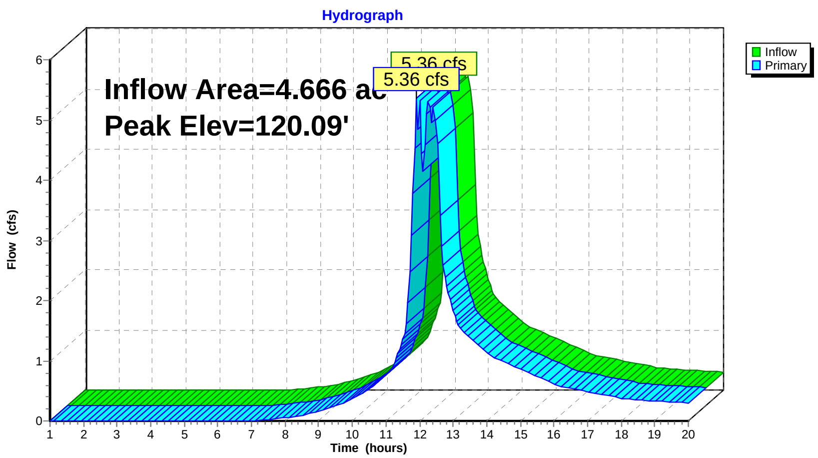
Inflow Area = 4.666 ac, 63.37% Impervious, Inflow Depth > 2.48" for 25-Year event
Inflow = 5.36 cfs @ 11.90 hrs, Volume= 0.963 af
Outflow = 5.36 cfs @ 11.90 hrs, Volume= 0.963 af, Atten= 0%, Lag= 0.0 min
Primary = 5.36 cfs @ 11.90 hrs, Volume= 0.963 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 120.09' @ 12.08 hrs

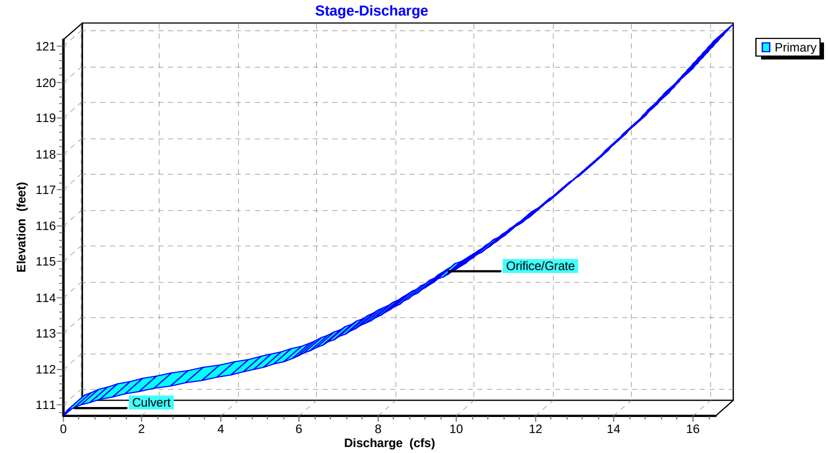
Device	Routing	Invert	Outlet Devices
#1	Primary	110.70'	**15.0" Round Culvert** L= 134.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.70' / 109.75' S= 0.0071 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=4.14 cfs @ 11.90 hrs HW=113.86' TW=113.20' (Dynamic Tailwater)
└**1=Culvert** (Outlet Controls 4.14 cfs @ 3.37 fps)
└**2=Orifice/Grate** (Controls 0.00 cfs)

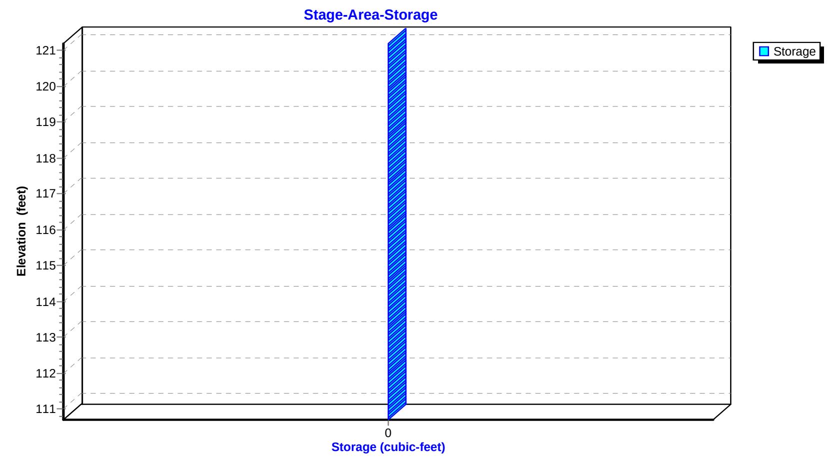
Pond 11P: CB-SE Pkg2



Pond 11P: CB-SE Pkg2



Pond 11P: CB-SE Pkg2

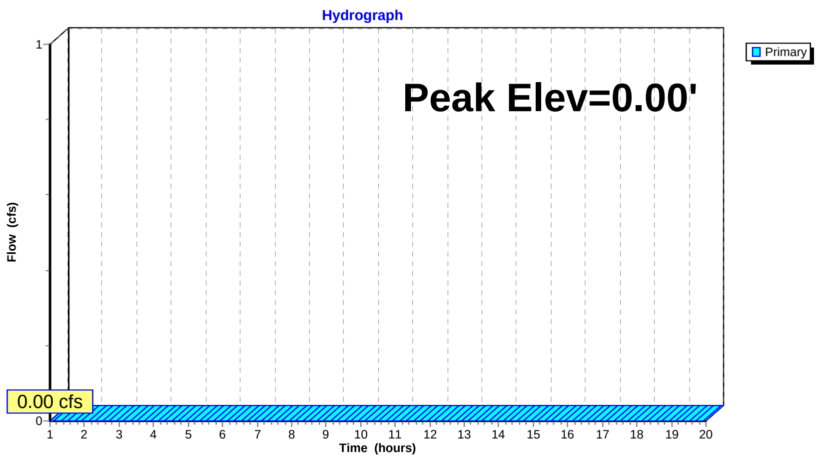


Summary for Pond 12P: CB-NE Pkg

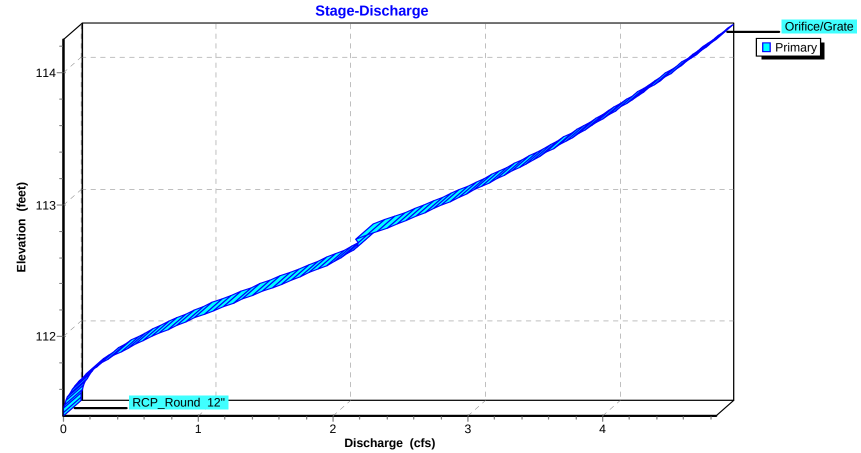
Device	Routing	Invert	Outlet Devices
#1	Primary	111.40'	**12.0" Round RCP_Round 12"** L= 76.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.40' / 111.36' S= 0.0005 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.25'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 1.00 hrs HW=0.00' TW=111.36' (Dynamic Tailwater)
1=RCP_Round 12" (Controls 0.00 cfs)
2=Orifice/Grate (Controls 0.00 cfs)

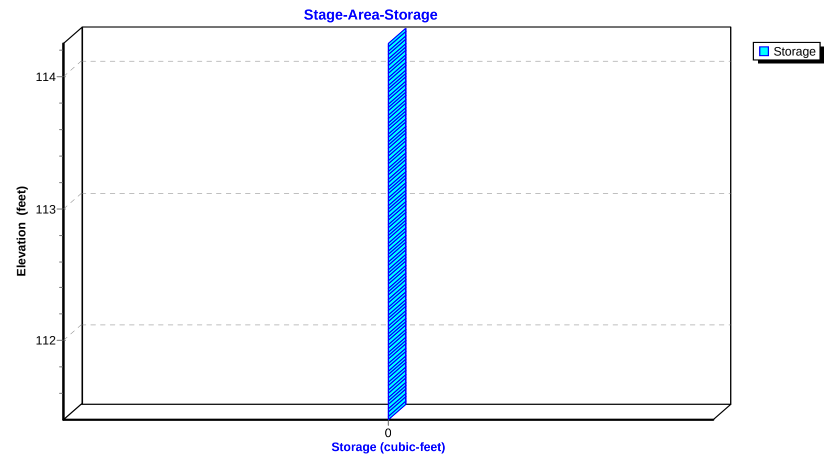
Pond 12P: CB-NE Pkg



Pond 12P: CB-NE Pkg



Pond 12P: CB-NE Pkg



Summary for Pond 14P: CB-NE Pkg2

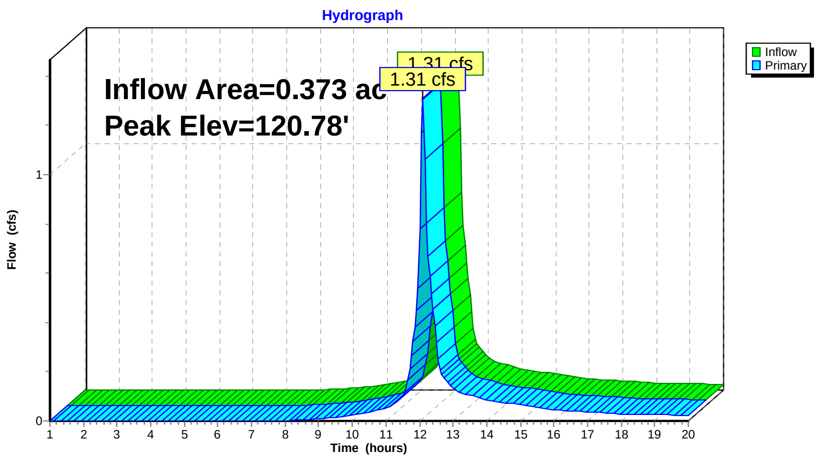
Inflow Area = 0.373 ac, 65.00% Impervious, Inflow Depth > 2.84" for 25-Year event
Inflow = 1.31 cfs @ 12.09 hrs, Volume= 0.088 af
Outflow = 1.31 cfs @ 12.09 hrs, Volume= 0.088 af, Atten= 0%, Lag= 0.0 min
Primary = 1.31 cfs @ 12.09 hrs, Volume= 0.088 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 120.78' @ 12.10 hrs

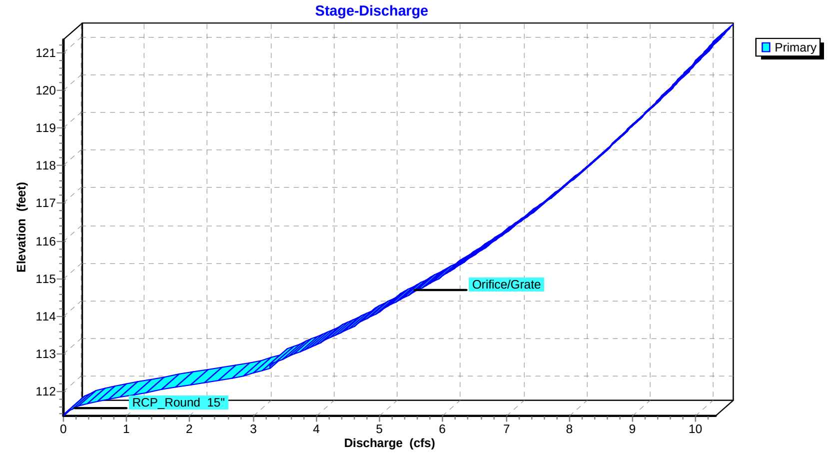
Device	Routing	Invert	Outlet Devices
#1	Primary	111.36'	**12.0" Round RCP_Round 15"** L= 105.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.36' / 110.70' S= 0.0063 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=2.69 cfs @ 12.09 hrs HW=120.50' TW=119.85' (Dynamic Tailwater)
1=RCP_Round 15" (Outlet Controls 2.58 cfs @ 3.29 fps)
2=Orifice/Grate (Orifice Controls 0.11 cfs @ 3.88 fps)

Pond 14P: CB-NE Pkg2



Pond 14P: CB-NE Pkg2



Pond 14P: CB-NE Pkg2

Summary for Pond 18P: CB-SE Pkg3

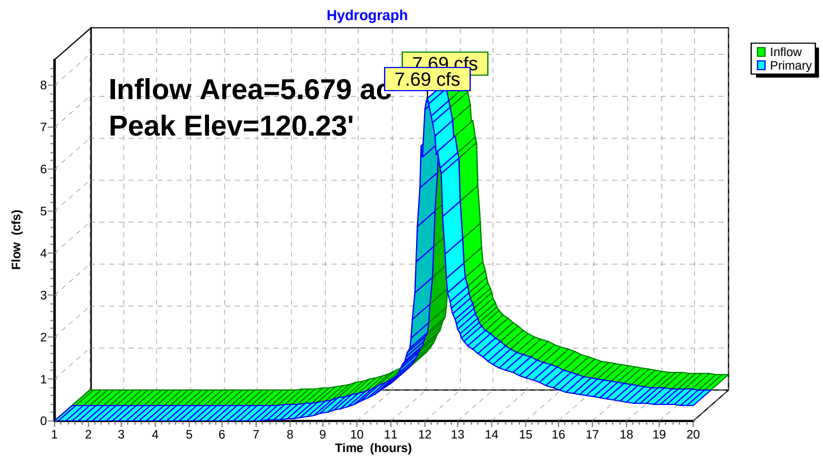
Inflow Area =	5.679 ac, 63.66% Impervious, Inflow Depth > 2.54" for 25-Year event			
Inflow =	7.69 cfs @	12.09 hrs, Volume=	1.202 af	
Outflow =	7.69 cfs @	12.09 hrs, Volume=	1.202 af,	Atten= 0%, Lag= 0.0 min
Primary =	7.69 cfs @	12.09 hrs, Volume=	1.202 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 120.23' @ 12.07 hrs

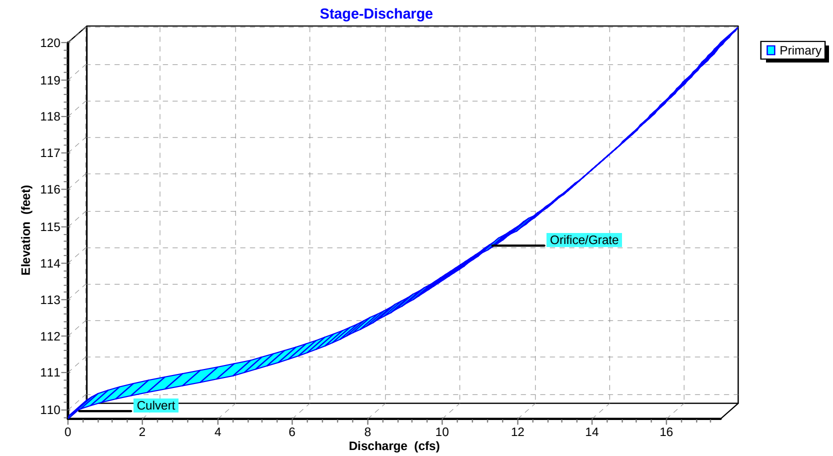
Device	Routing	Invert	Outlet Devices
#1	Primary	109.75'	**15.0" Round Culvert** L= 106.1' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 109.75' / 108.88' S= 0.0082 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.25'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=8.93 cfs @ 12.09 hrs HW=119.37' TW=116.81' (Dynamic Tailwater)
1=Culvert (Outlet Controls 8.71 cfs @ 7.10 fps)
2=Orifice/Grate (Orifice Controls 0.21 cfs @ 7.70 fps)

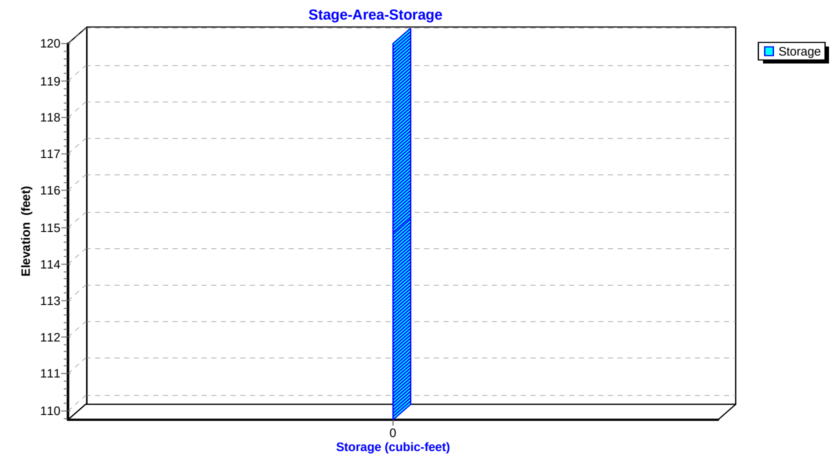
Pond 18P: CB-SE Pkg3



Pond 18P: CB-SE Pkg3



Pond 18P: CB-SE Pkg3



Summary for Pond 20P: CB-SE Pkg4

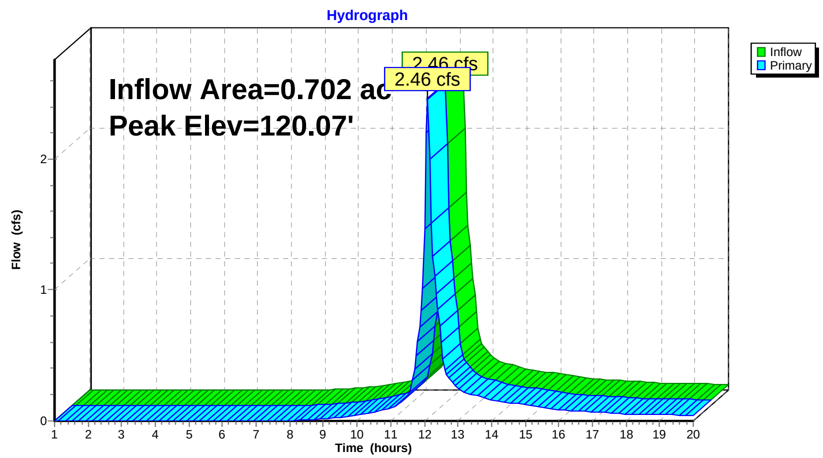
Inflow Area = 0.702 ac, 65.00% Impervious, Inflow Depth > 2.84" for 25-Year event
Inflow = 2.46 cfs @ 12.09 hrs, Volume= 0.166 af
Outflow = 2.46 cfs @ 12.09 hrs, Volume= 0.166 af, Atten= 0%, Lag= 0.0 min
Primary = 2.46 cfs @ 12.09 hrs, Volume= 0.166 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 120.07' @ 12.08 hrs

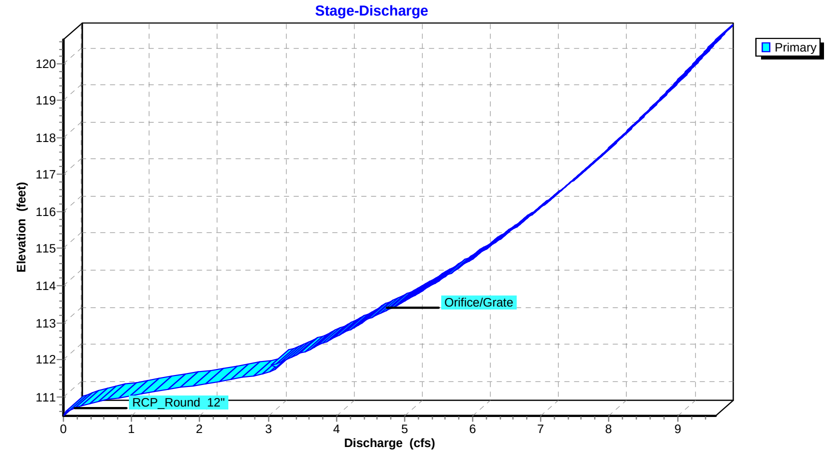
Device	Routing	Invert	Outlet Devices
#1	Primary	110.48'	**12.0" Round RCP_Round 12"** L= 140.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.48' / 109.75' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	113.20'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=2.30 cfs @ 12.09 hrs HW=119.83' TW=119.27' (Dynamic Tailwater)
1=RCP_Round 12" (Outlet Controls 2.20 cfs @ 2.80 fps)
2=Orifice/Grate (Orifice Controls 0.10 cfs @ 3.62 fps)

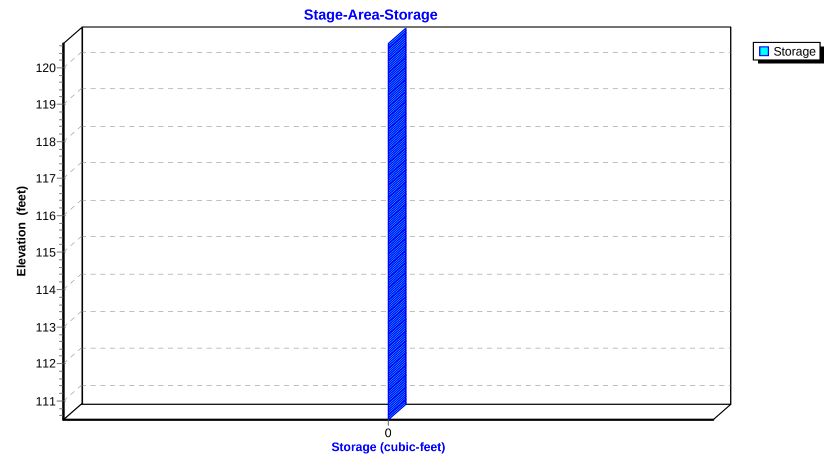
Pond 20P: CB-SE Pkg4



Pond 20P: CB-SE Pkg4



Pond 20P: CB-SE Pkg4



Summary for Pond 22P: CB-SE Pkg5

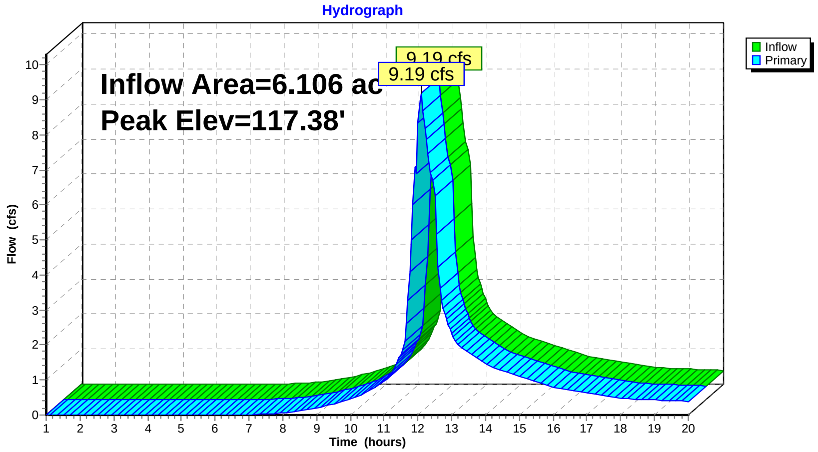
Inflow Area = 6.106 ac, 63.75% Impervious, Inflow Depth > 2.56" for 25-Year event
Inflow = 9.19 cfs @ 12.09 hrs, Volume= 1.303 af
Outflow = 9.19 cfs @ 12.09 hrs, Volume= 1.303 af, Atten= 0%, Lag= 0.0 min
Primary = 9.19 cfs @ 12.09 hrs, Volume= 1.303 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 117.38' @ 12.07 hrs

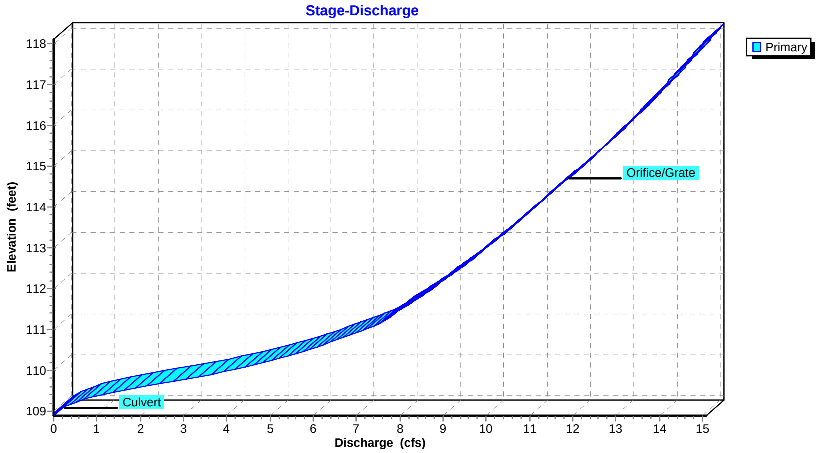
Device	Routing	Invert	Outlet Devices
#1	Primary	108.88'	**15.0" Round Culvert** L= 157.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 108.88' / 107.48' S= 0.0089 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=10.11 cfs @ 12.09 hrs HW=116.77' TW=112.59' (Dynamic Tailwater)
1=Culvert (Outlet Controls 9.91 cfs @ 8.07 fps)
2=Orifice/Grate (Orifice Controls 0.20 cfs @ 7.26 fps)

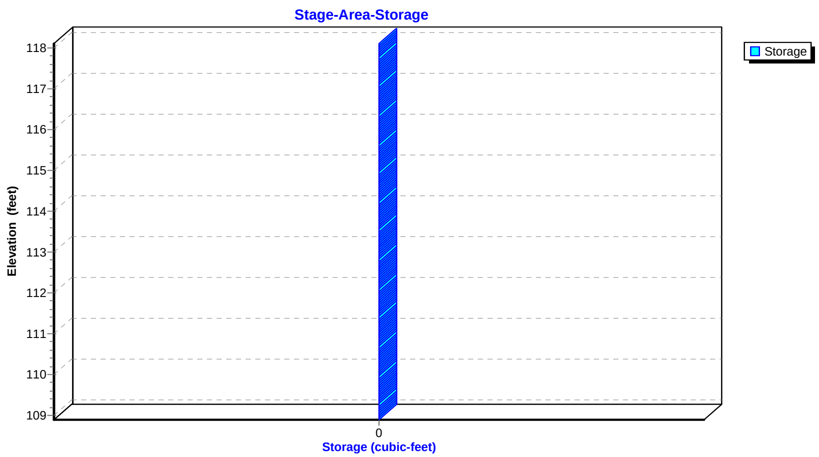
Pond 22P: CB-SE Pkg5



Pond 22P: CB-SE Pkg5



Pond 22P: CB-SE Pkg5



Summary for Pond 24P: CB-SE Pkg6

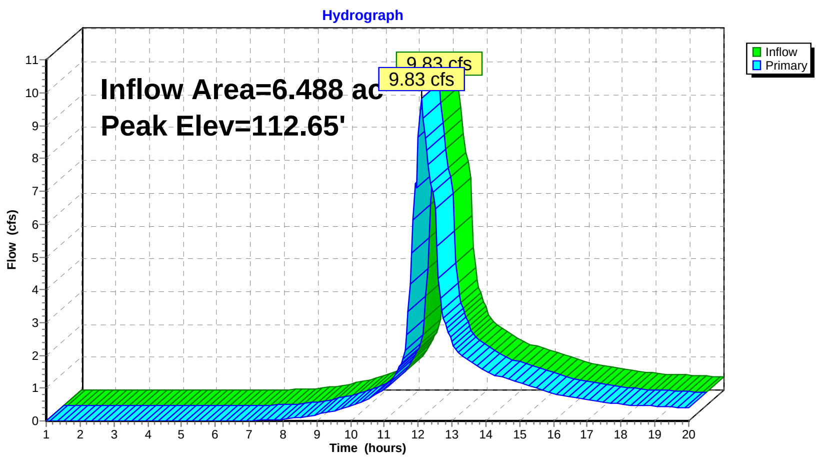
Inflow Area = 6.488 ac, 62.06% Impervious, Inflow Depth > 2.50" for 25-Year event
Inflow = 9.83 cfs @ 12.09 hrs, Volume= 1.350 af
Outflow = 9.83 cfs @ 12.09 hrs, Volume= 1.350 af, Atten= 0%, Lag= 0.0 min
Primary = 9.83 cfs @ 12.09 hrs, Volume= 1.350 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 112.65' @ 12.08 hrs

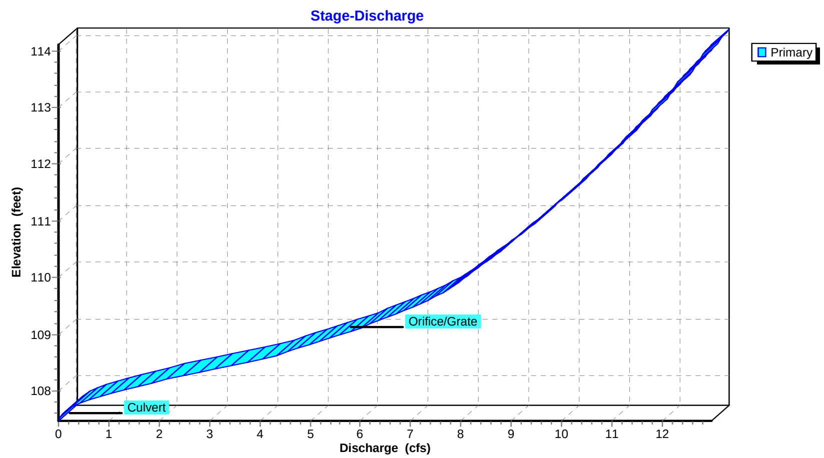
Device	Routing	Invert	Outlet Devices
#1	Primary	107.48'	**15.0" Round Culvert** L= 154.4' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 107.48' / 106.10' S= 0.0089 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	109.00'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=9.84 cfs @ 12.09 hrs HW=112.60' TW=108.73' (Dynamic Tailwater)
1=Culvert (Outlet Controls 9.59 cfs @ 7.81 fps)
2=Orifice/Grate (Orifice Controls 0.25 cfs @ 9.13 fps)

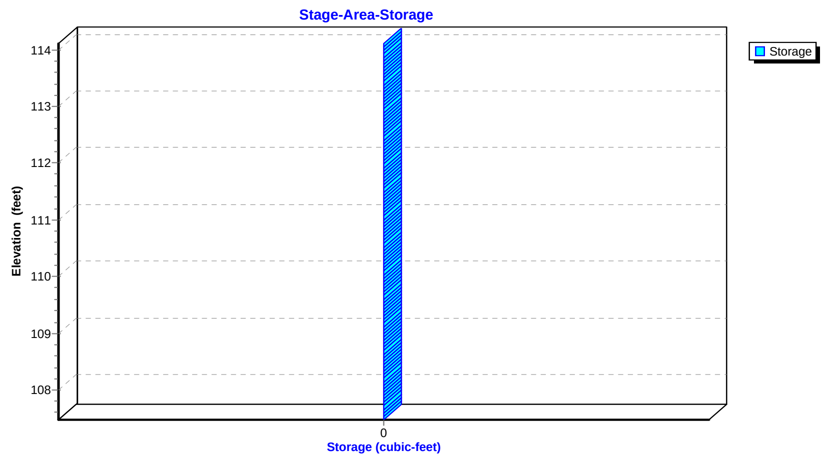
Pond 24P: CB-SE Pkg6



Pond 24P: CB-SE Pkg6



Pond 24P: CB-SE Pkg6



Summary for Pond 26P: CB-SE Pkg7

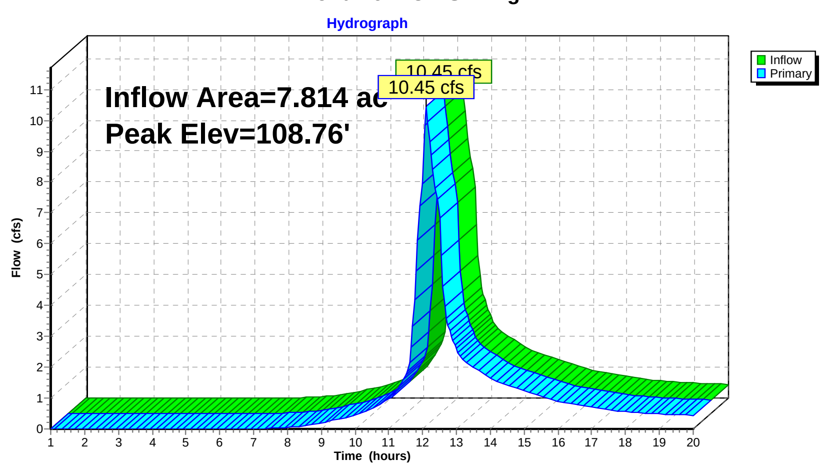
Inflow Area = 7.814 ac, 54.07% Impervious, Inflow Depth > 2.19" for 25-Year event
Inflow = 10.45 cfs @ 12.10 hrs, Volume= 1.426 af
Outflow = 10.45 cfs @ 12.10 hrs, Volume= 1.426 af, Atten= 0%, Lag= 0.0 min
Primary = 10.45 cfs @ 12.10 hrs, Volume= 1.426 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 108.76' @ 12.10 hrs

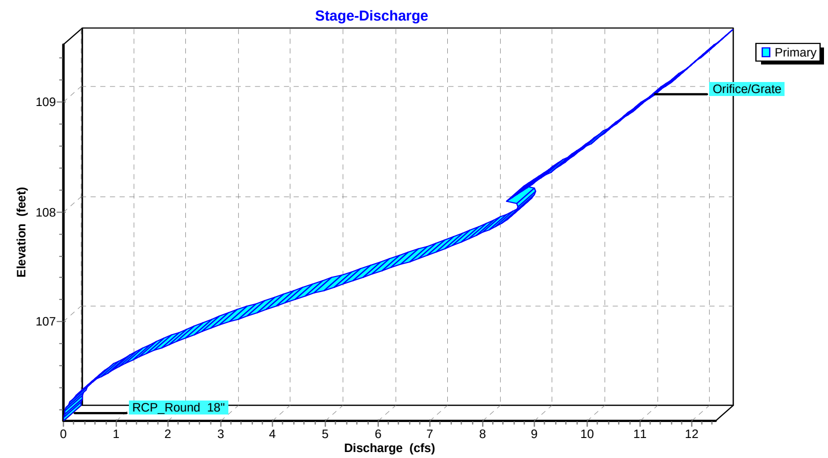
Device	Routing	Invert	Outlet Devices
#1	Primary	106.10'	**18.0" Round RCP_Round 18"** L= 154.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 106.10' / 105.35' S= 0.0049 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Primary	109.00'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=10.42 cfs @ 12.10 hrs HW=108.75' TW=0.00' (Dynamic Tailwater)
└─**1=RCP_Round 18"** (Barrel Controls 10.42 cfs @ 5.90 fps)
└─**2=Orifice/Grate** (Controls 0.00 cfs)

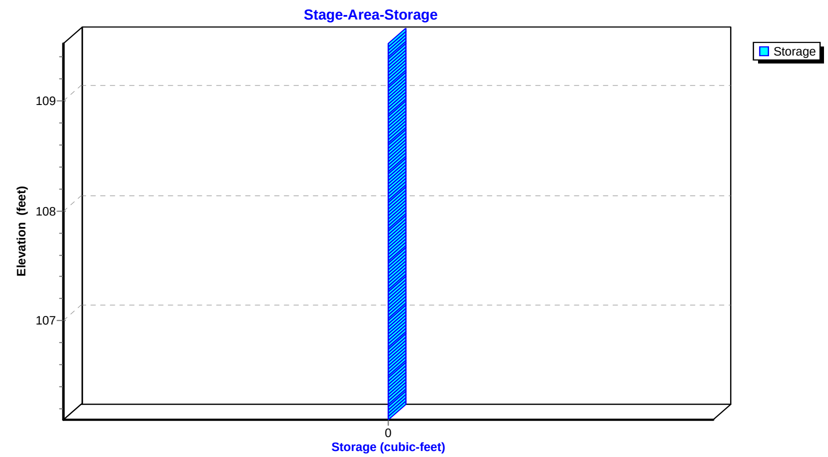
Pond 26P: CB-SE Pkg7



Pond 26P: CB-SE Pkg7



Pond 26P: CB-SE Pkg7



Summary for Pond 28P: CB-N F1

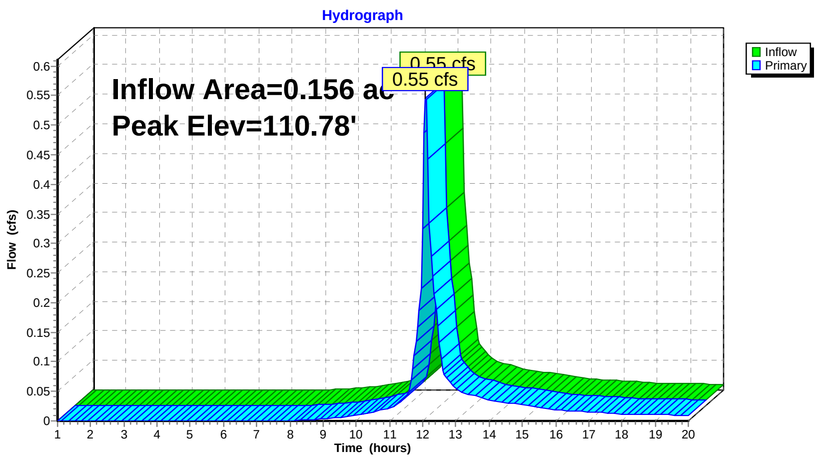
Inflow Area = 0.156 ac, 65.00% Impervious, Inflow Depth > 2.84" for 25-Year event
Inflow = 0.55 cfs @ 12.09 hrs, Volume= 0.037 af
Outflow = 0.55 cfs @ 12.09 hrs, Volume= 0.037 af, Atten= 0%, Lag= 0.0 min
Primary = 0.55 cfs @ 12.09 hrs, Volume= 0.037 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 110.78' @ 12.09 hrs

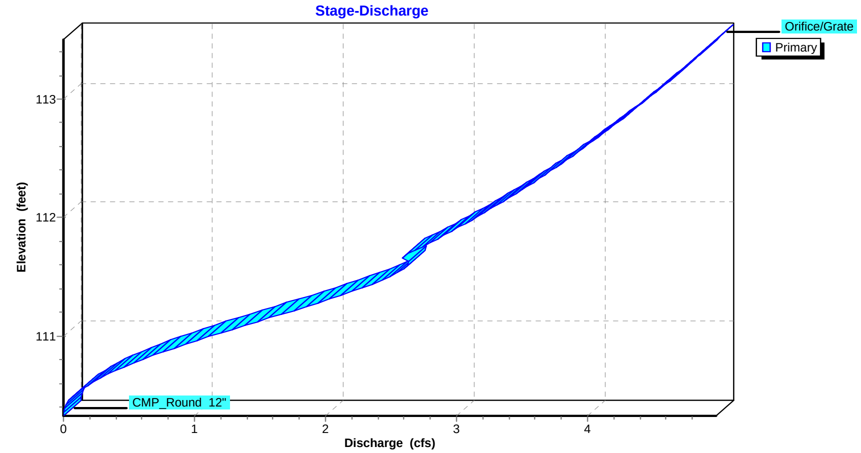
Device	Routing	Invert	Outlet Devices
#1	Primary	110.33'	**12.0" Round CMP_Round 12"** L= 111.7' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.33' / 110.00' S= 0.0030 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	113.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.54 cfs @ 12.09 hrs HW=110.77' TW=0.00' (Dynamic Tailwater)
1=CMP_Round 12" (Barrel Controls 0.54 cfs @ 2.33 fps)
2=Orifice/Grate (Controls 0.00 cfs)

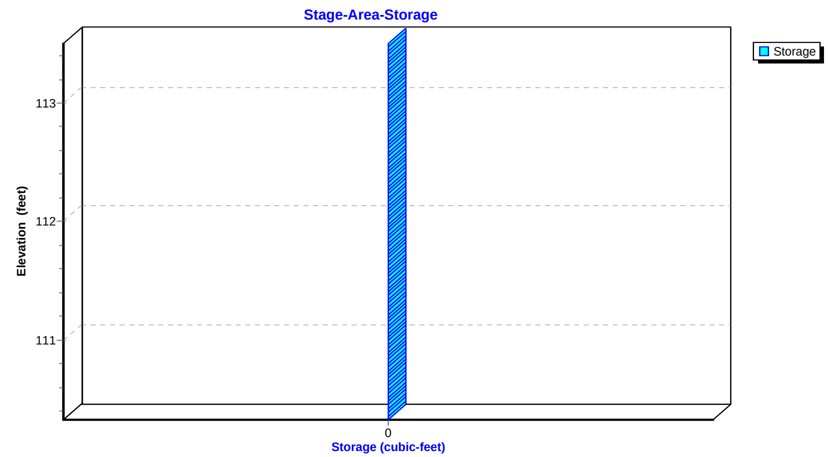
Pond 28P: CB-N F1



Pond 28P: CB-N F1



Pond 28P: CB-N F1



Summary for Pond 30P: CB-N F2

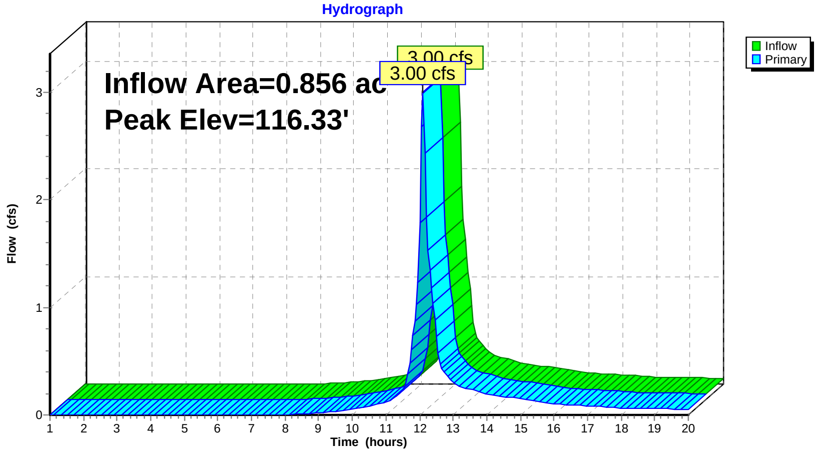
Inflow Area = 0.856 ac, 65.00% Impervious, Inflow Depth > 2.84" for 25-Year event
Inflow = 3.00 cfs @ 12.09 hrs, Volume= 0.203 af
Outflow = 3.00 cfs @ 12.09 hrs, Volume= 0.203 af, Atten= 0%, Lag= 0.0 min
Primary = 3.00 cfs @ 12.09 hrs, Volume= 0.203 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 116.33' @ 12.09 hrs

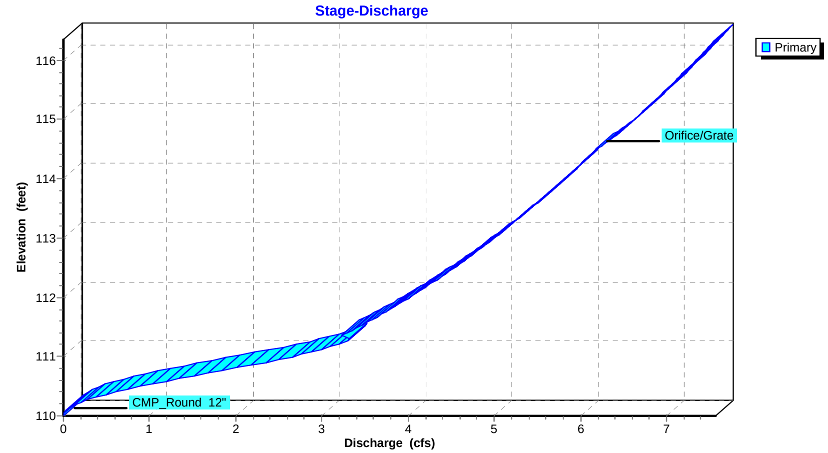
Device	Routing	Invert	Outlet Devices
#1	Primary	110.00'	**12.0" Round CMP_Round 12"** L= 133.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.00' / 109.17' S= 0.0062 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=2.95 cfs @ 12.09 hrs HW=116.09' TW=115.19' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 2.82 cfs @ 3.59 fps)
2=Orifice/Grate (Orifice Controls 0.13 cfs @ 4.58 fps)

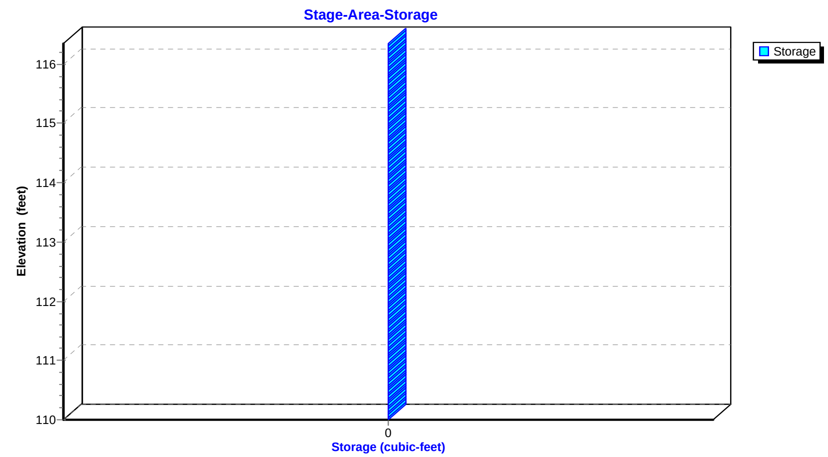
Pond 30P: CB-N F2



Pond 30P: CB-N F2



Pond 30P: CB-N F2



Summary for Pond 32P: CB-N F3

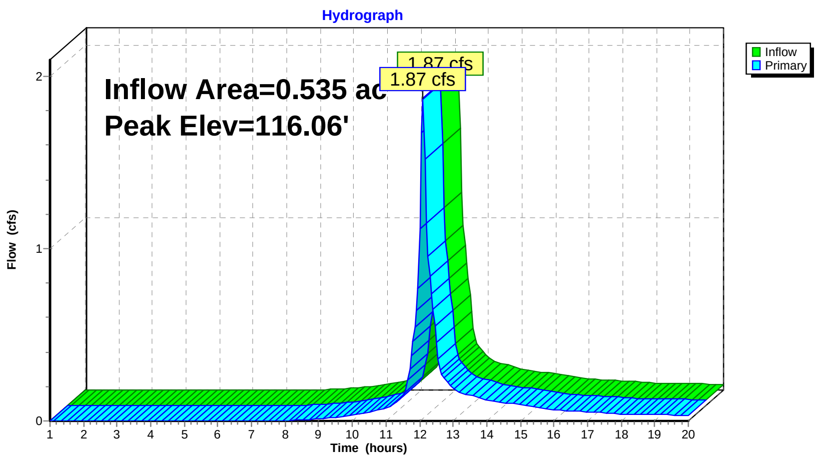
Inflow Area = 0.535 ac, 65.00% Impervious, Inflow Depth > 2.84" for 25-Year event
Inflow = 1.87 cfs @ 12.09 hrs, Volume= 0.127 af
Outflow = 1.87 cfs @ 12.09 hrs, Volume= 0.127 af, Atten= 0%, Lag= 0.0 min
Primary = 1.87 cfs @ 12.09 hrs, Volume= 0.127 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 116.06' @ 12.11 hrs

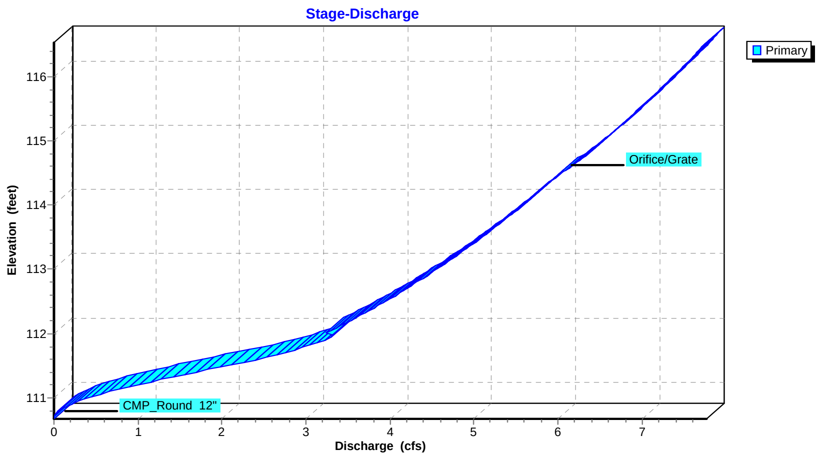
Device	Routing	Invert	Outlet Devices
#1	Primary	110.67'	**12.0" Round CMP_Round 12"** L= 103.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.67' / 110.00' S= 0.0065 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 12.09 hrs HW=115.59' TW=116.09' (Dynamic Tailwater)
1=CMP_Round 12" (Controls 0.00 cfs)
2=Orifice/Grate (Controls 0.00 cfs)

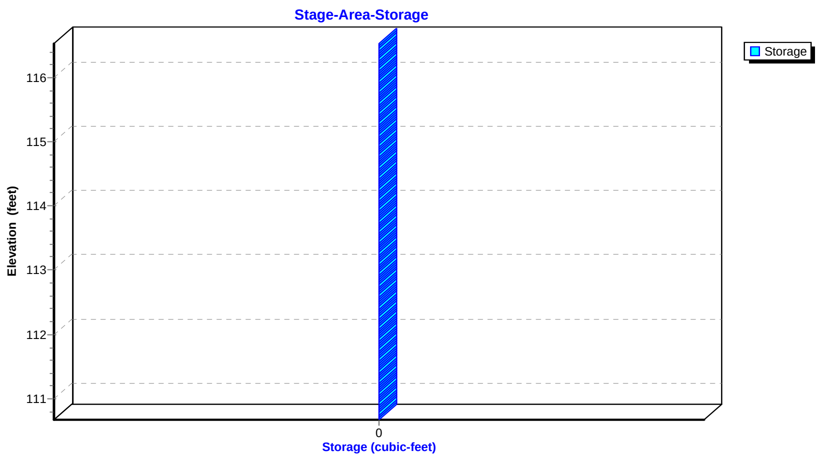
Pond 32P: CB-N F3



Pond 32P: CB-N F3



Pond 32P: CB-N F3



Summary for Pond 34P: CB-N F4

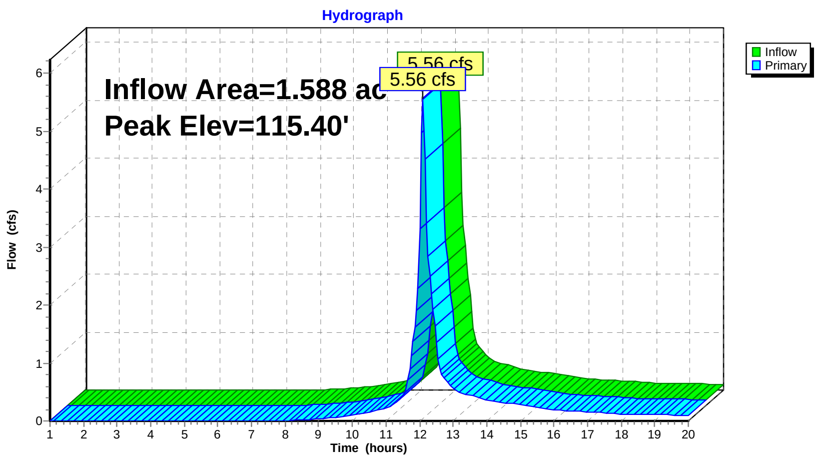
Inflow Area =	1.588 ac, 65.00% Impervious, Inflow Depth > 2.84" for 25-Year event			
Inflow =	5.56 cfs @	12.09 hrs,	Volume=	0.376 af
Outflow =	5.56 cfs @	12.09 hrs,	Volume=	0.376 af, Atten= 0%, Lag= 0.0 min
Primary =	5.56 cfs @	12.09 hrs,	Volume=	0.376 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 115.40' @ 12.09 hrs

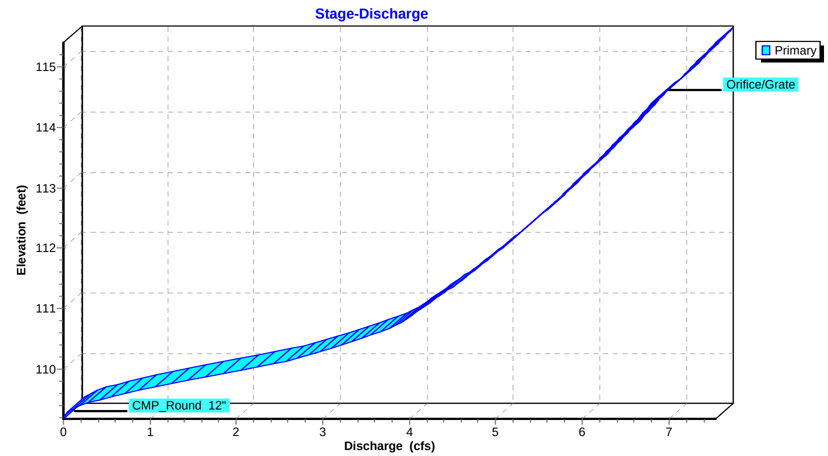
Device	Routing	Invert	Outlet Devices
#1	Primary	109.17'	**12.0" Round CMP_Round 12"** L= 139.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 109.17' / 108.00' S= 0.0084 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=5.47 cfs @ 12.09 hrs HW=115.19' TW=111.85' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 5.36 cfs @ 6.82 fps)
2=Orifice/Grate (Orifice Controls 0.11 cfs @ 4.00 fps)

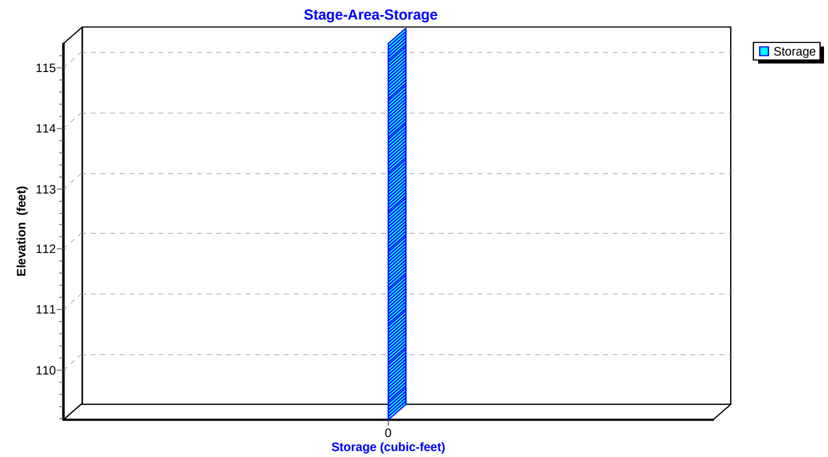
Pond 34P: CB-N F4



Pond 34P: CB-N F4



Pond 34P: CB-N F4



Summary for Pond 36P: CB-N F5

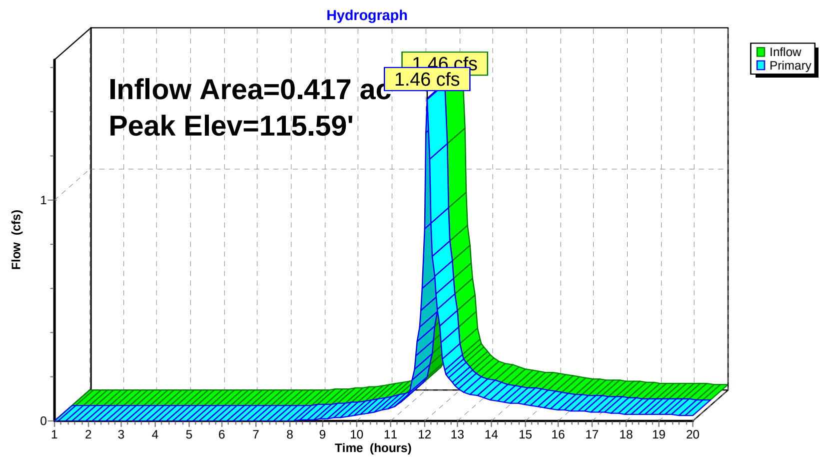
Inflow Area = 0.417 ac, 65.00% Impervious, Inflow Depth > 2.84" for 25-Year event
Inflow = 1.46 cfs @ 12.09 hrs, Volume= 0.099 af
Outflow = 1.46 cfs @ 12.09 hrs, Volume= 0.099 af, Atten= 0%, Lag= 0.0 min
Primary = 1.46 cfs @ 12.09 hrs, Volume= 0.099 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 115.59' @ 12.09 hrs

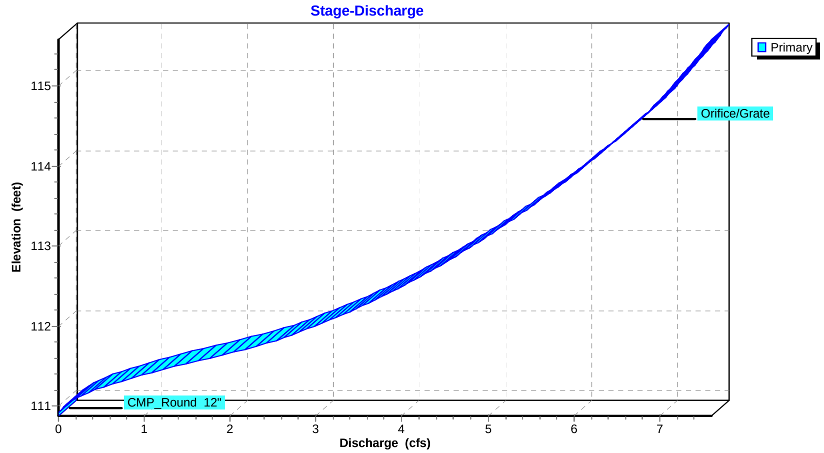
Device	Routing	Invert	Outlet Devices
#1	Primary	110.88'	**12.0" Round CMP_Round 12"** L= 105.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.88' / 109.17' S= 0.0163 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=1.44 cfs @ 12.09 hrs HW=115.38' TW=115.19' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 1.39 cfs @ 1.77 fps)
2=Orifice/Grate (Orifice Controls 0.06 cfs @ 2.08 fps)

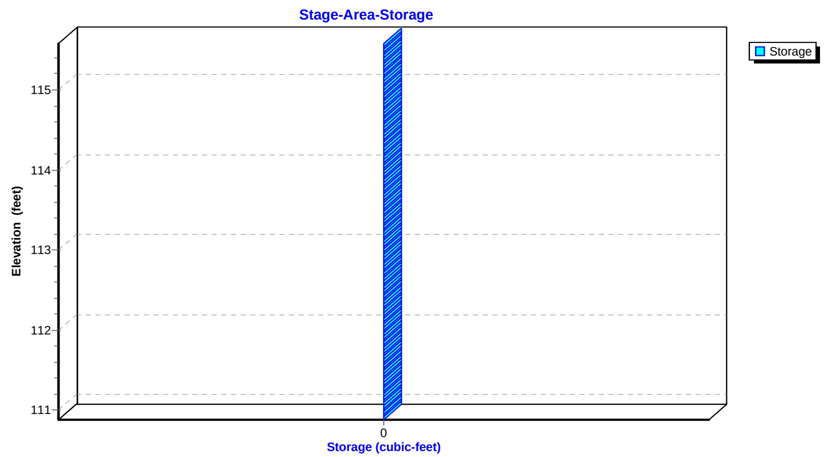
Pond 36P: CB-N F5



Pond 36P: CB-N F5



Pond 36P: CB-N F5



Summary for Pond 38P: CB-N F6

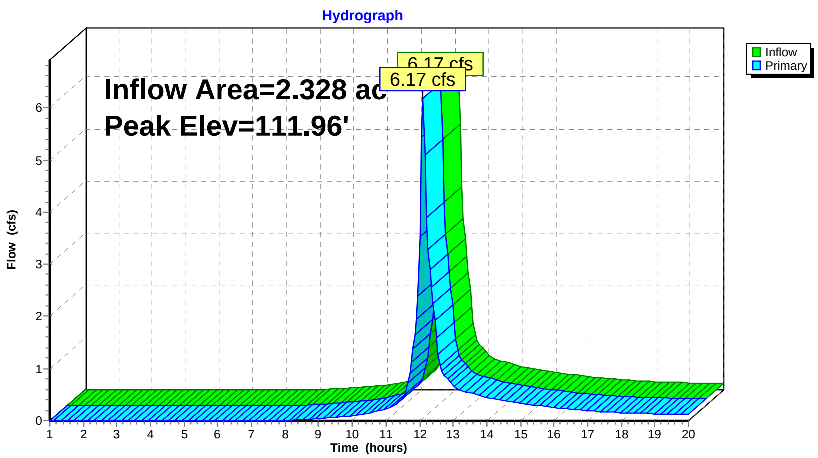
Inflow Area = 2.328 ac, 50.70% Impervious, Inflow Depth > 2.21" for 25-Year event
Inflow = 6.17 cfs @ 12.10 hrs, Volume= 0.429 af
Outflow = 6.17 cfs @ 12.10 hrs, Volume= 0.429 af, Atten= 0%, Lag= 0.0 min
Primary = 6.17 cfs @ 12.10 hrs, Volume= 0.429 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 111.96' @ 12.10 hrs

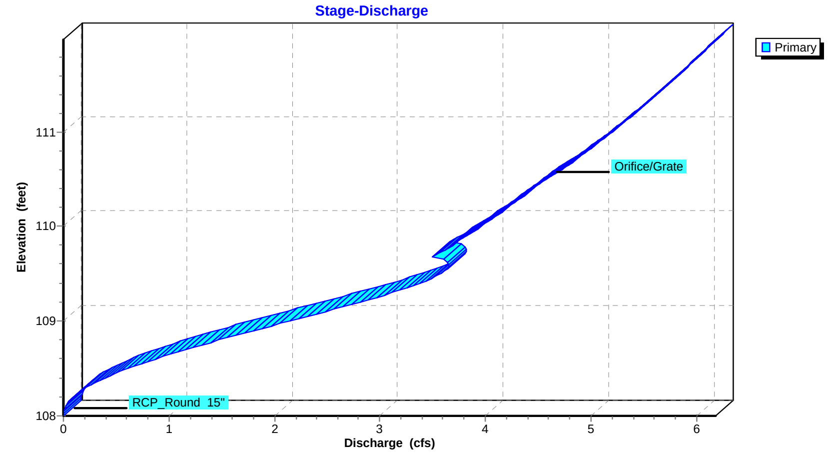
Device	Routing	Invert	Outlet Devices
#1	Primary	108.00'	**15.0" Round RCP_Round 15"** L= 466.8' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 108.00' / 107.25' S= 0.0016 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	110.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=6.10 cfs @ 12.10 hrs HW=111.88' TW=0.00' (Dynamic Tailwater)
1=RCP_Round 15" (Barrel Controls 5.94 cfs @ 4.84 fps)
2=Orifice/Grate (Orifice Controls 0.16 cfs @ 5.66 fps)

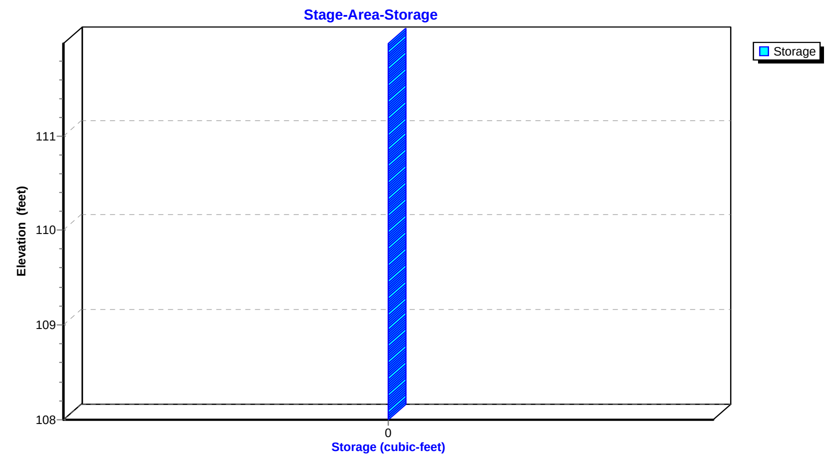
Pond 38P: CB-N F6



Pond 38P: CB-N F6



Pond 38P: CB-N F6



Time span=1.00-20.00 hrs, dt=0.05 hrs, 381 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 5S: BLDG FNT 3 Runoff Area=14,580 sf 95.34% Impervious Runoff Depth>5.81"
Flow Length=172' Tc=6.0 min CN=95 Runoff=2.11 cfs 0.162 af

Subcatchment 6S: EXIST LOT+FNT Runoff Area=42,707 sf 78.43% Impervious Runoff Depth>4.69"
Flow Length=80' Slope=0.0300 '/' Tc=6.0 min CN=85 Runoff=5.44 cfs 0.383 af

Subcatchment 7S: BLDG S Runoff Area=66,063 sf 100.00% Impervious Runoff Depth>6.17"
Flow Length=760' Tc=6.0 min CN=98 Runoff=9.73 cfs 0.779 af

Subcatchment 8S: S-FIELD CB1 Runoff Area=11,548 sf 60.17% Impervious Runoff Depth>3.53"
Flow Length=80' Tc=6.0 min CN=74 Runoff=1.15 cfs 0.078 af

Subcatchment 10S: S-FIELD CB2 Runoff Area=21,998 sf 60.00% Impervious Runoff Depth>3.53"
Flow Length=230' Slope=0.0150 '/' Tc=6.0 min CN=74 Runoff=2.19 cfs 0.149 af

Subcatchment 13S: M-FIELD CB3 Runoff Area=16,265 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=151' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.75 cfs 0.119 af

Subcatchment 16S: BLDG S Runoff Area=21,647 sf 100.00% Impervious Runoff Depth>6.17"
Flow Length=393' Tc=6.0 min CN=98 Runoff=3.19 cfs 0.255 af

Subcatchment 17S: S-FIELD CB3 Runoff Area=13,522 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=85' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.46 cfs 0.099 af

Subcatchment 19S: S-FIELD CB4 Runoff Area=30,595 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=297' Tc=6.0 min CN=77 Runoff=3.30 cfs 0.225 af

Subcatchment 21S: S-FIELD CB5 Runoff Area=18,600 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=149' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=2.00 cfs 0.136 af

Subcatchment 23S: S-FIELD CB6 Runoff Area=16,672 sf 35.00% Impervious Runoff Depth>2.19"
Flow Length=131' Slope=0.0200 '/' Tc=6.2 min CN=60 Runoff=1.01 cfs 0.070 af

Subcatchment 25S: S-FIELD CB7 Runoff Area=57,741 sf 15.00% Impervious Runoff Depth>1.19"
Flow Length=330' Tc=7.6 min CN=48 Runoff=1.54 cfs 0.132 af

Subcatchment 27S: N-FIELD CBF1 Runoff Area=6,780 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=80' Tc=6.0 min CN=77 Runoff=0.73 cfs 0.050 af

Subcatchment 29S: N-FIELD CBF2 Runoff Area=13,971 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=100' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.51 cfs 0.103 af

Subcatchment 31S: N-FIELD CBF3 Runoff Area=23,311 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=129' Tc=6.0 min CN=77 Runoff=2.51 cfs 0.171 af

Subcatchment 33S: N-FIELD CBF4 Runoff Area=13,725 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=93' Tc=6.0 min CN=77 Runoff=1.48 cfs 0.101 af

Subcatchment 35S: N-FIELD CBF5 Runoff Area=18,186 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=170' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.96 cfs 0.133 af

Subcatchment 37S: N-FIELD CBF6 Runoff Area=32,216 sf 20.00% Impervious Runoff Depth>1.43"
Flow Length=280' Slope=0.0200 '/' Tc=6.0 min CN=51 Runoff=1.18 cfs 0.088 af

Subcatchment 38S: FRONT LOT Runoff Area=49,740 sf 52.83% Impervious Runoff Depth>2.92"
Flow Length=670' Tc=18.0 min CN=68 Runoff=2.96 cfs 0.278 af

Subcatchment 40S: BLDG-FNT Runoff Area=37,001 sf 40.61% Impervious Runoff Depth>2.10"
Flow Length=168' Tc=10.1 min CN=59 Runoff=1.89 cfs 0.149 af

Subcatchment E1: S LOT Runoff Area=153,436 sf 63.92% Impervious Runoff Depth>4.25"
Flow Length=334' Tc=10.1 min CN=81 Runoff=15.94 cfs 1.248 af

Subcatchment E2: FRONT LOT Runoff Area=12,716 sf 96.08% Impervious Runoff Depth>5.92"
Flow Length=670' Tc=18.0 min CN=96 Runoff=1.35 cfs 0.144 af

Subcatchment P2: SLOPE Runoff Area=60,052 sf 3.81% Impervious Runoff Depth>0.51"
Flow Length=180' Tc=9.6 min UI Adjusted CN=38 Runoff=0.36 cfs 0.058 af

Subcatchment P4: BLDG FNT2 Runoff Area=36,024 sf 59.08% Impervious Runoff Depth>3.23"
Flow Length=195' Tc=9.4 min CN=71 Runoff=2.95 cfs 0.222 af

Reach 39R: HEADWALL 'A' Inflow=9.35 cfs 0.842 af
Outflow=9.35 cfs 0.842 af

Reach 41R: discharge Avg. Flow Depth=0.50' Max Vel=3.60 fps Inflow=1.86 cfs 0.197 af
18.0" Round Pipe n=0.013 L=663.3' S=0.0054 '/' Capacity=7.74 cfs Outflow=1.85 cfs 0.197 af

Reach 42R: PND DISCHARGE Avg. Flow Depth=0.00' Max Vel=0.00 fps
24.0" Round Pipe n=0.013 L=167.2' S=0.0050 '/' Capacity=16.03 cfs Outflow=0.00 cfs 0.000 af

Reach RE1: HEADWALL 'B' Inflow=15.86 cfs 1.865 af
Outflow=15.86 cfs 1.865 af

Pond 1P: PKG ISL POND 1 Peak Elev=120.74' Storage=1,668 cf Inflow=1.89 cfs 0.149 af
Discarded=0.09 cfs 0.031 af Primary=0.74 cfs 0.117 af Outflow=0.84 cfs 0.147 af

Pond 2P: PKG ISL 2 Peak Elev=120.18' Storage=1,417 cf Inflow=2.95 cfs 0.222 af
Discarded=0.12 cfs 0.046 af Primary=2.77 cfs 0.175 af Outflow=2.89 cfs 0.221 af

Pond 3P: PKG ISL 3 Peak Elev=119.60' Storage=1,281 cf Inflow=2.11 cfs 0.162 af
Discarded=0.12 cfs 0.068 af Primary=1.34 cfs 0.094 af Outflow=1.46 cfs 0.162 af

Pond 4P: REAR FB Peak Elev=116.45' Storage=10,441 cf Inflow=5.51 cfs 0.568 af
Discarded=0.77 cfs 0.371 af Primary=1.86 cfs 0.197 af Outflow=2.62 cfs 0.567 af

Pond 6P: PKG Peak Elev=118.65' Storage=17,389 cf Inflow=13.84 cfs 1.446 af
Discarded=1.24 cfs 0.763 af Primary=6.89 cfs 0.571 af Outflow=8.14 cfs 1.334 af

Pond 7P: CB-SE Pkg Peak Elev=125.48' Inflow=15.94 cfs 1.248 af
Primary=4.62 cfs 0.857 af Secondary=16.08 cfs 0.403 af Outflow=15.94 cfs 1.248 af

Pond 8P: SC740	Peak Elev=116.93' Storage=17,483 cf Inflow=10.56 cfs 1.408 af Discarded=1.26 cfs 0.813 af Primary=5.51 cfs 0.568 af Outflow=6.77 cfs 1.380 af
Pond 9P: CB-SE Pkg1	Peak Elev=130.47' Inflow=4.89 cfs 0.935 af Outflow=4.89 cfs 0.935 af
Pond 11P: CB-SE Pkg2	Peak Elev=129.64' Inflow=6.71 cfs 1.203 af Outflow=6.71 cfs 1.203 af
Pond 12P: CB-NE Pkg	Peak Elev=0.00' Primary=0.00 cfs 0.000 af
Pond 14P: CB-NE Pkg2	Peak Elev=130.30' Inflow=1.75 cfs 0.119 af Outflow=1.75 cfs 0.119 af
Pond 18P: CB-SE Pkg3	Peak Elev=129.85' Inflow=11.45 cfs 1.527 af Outflow=11.45 cfs 1.527 af
Pond 20P: CB-SE Pkg4	Peak Elev=129.24' Inflow=3.30 cfs 0.225 af Outflow=3.30 cfs 0.225 af
Pond 22P: CB-SE Pkg5	Peak Elev=126.79' Inflow=13.45 cfs 1.663 af Outflow=13.45 cfs 1.663 af
Pond 24P: CB-SE Pkg6	Peak Elev=119.41' Inflow=14.46 cfs 1.733 af Outflow=14.46 cfs 1.733 af
Pond 26P: CB-SE Pkg7	Peak Elev=111.14' Inflow=15.86 cfs 1.865 af Outflow=15.86 cfs 1.865 af
Pond 28P: CB-N F1	Peak Elev=110.86' Inflow=0.73 cfs 0.050 af Outflow=0.73 cfs 0.050 af
Pond 30P: CB-N F2	Peak Elev=122.73' Inflow=4.02 cfs 0.274 af Outflow=4.02 cfs 0.274 af
Pond 32P: CB-N F3	Peak Elev=122.06' Inflow=2.51 cfs 0.171 af Outflow=2.51 cfs 0.171 af
Pond 34P: CB-N F4	Peak Elev=121.06' Inflow=7.46 cfs 0.508 af Outflow=7.46 cfs 0.508 af
Pond 36P: CB-N F5	Peak Elev=121.40' Inflow=1.96 cfs 0.133 af Outflow=1.96 cfs 0.133 af
Pond 38P: CB-N F6	Peak Elev=115.15' Inflow=8.62 cfs 0.596 af Outflow=8.62 cfs 0.596 af

Total Runoff Area = 18.115 ac Runoff Volume = 5.331 af Average Runoff Depth = 3.53"
42.71% Pervious = 7.737 ac 57.29% Impervious = 10.378 ac

Summary for Subcatchment 5S: BLDG FNT 3

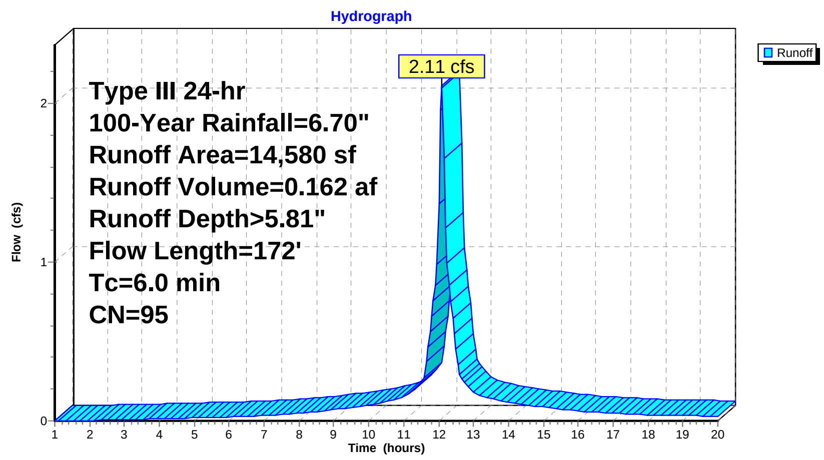
Runoff = 2.11 cfs @ 12.09 hrs, Volume= 0.162 af, Depth> 5.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
13,900	98	Paved parking, HSG A
680	39	>75% Grass cover, Good, HSG A
14,580	95	Weighted Average
680		4.66% Pervious Area
13,900		95.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	12	0.0100	0.68		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.8	160	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.9					**Direct Entry,**
6.0	172	Total			

Subcatchment 5S: BLDG FNT 3



Summary for Subcatchment 6S: EXIST LOT+FNT

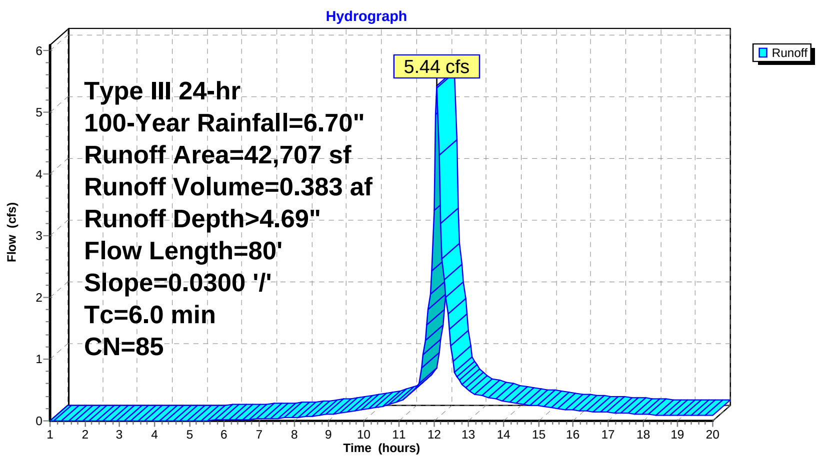
Runoff = 5.44 cfs @ 12.09 hrs, Volume= 0.383 af, Depth> 4.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
33,493	98	Paved parking, HSG A
9,214	39	>75% Grass cover, Good, HSG A
42,707	85	Weighted Average
9,214		21.57% Pervious Area
33,493		78.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0300	1.17		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.3	60	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
5.4					**Direct Entry,**
6.0	80	Total			

Subcatchment 6S: EXIST LOT+FNT



Summary for Subcatchment 7S: BLDG S

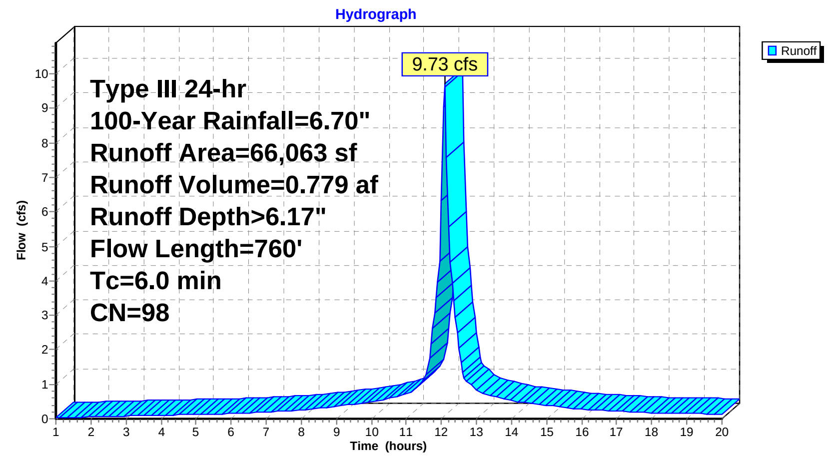
Runoff = 9.73 cfs @ 12.09 hrs, Volume= 0.779 af, Depth> 6.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
66,063	98	Unconnected roofs, HSG A
66,063		100.00% Impervious Area
66,063		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0800	2.08		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.3	120	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.0	30	1.0000	37.50	13.09	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.012 Steel, smooth
5.1	560	0.0050	1.85	1.01	**Pipe Channel,** 10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21' n= 0.020 Corrugated PE, corrugated interior
0.2					**Direct Entry,**
6.0	760	Total			

Subcatchment 7S: BLDG S



Summary for Subcatchment 8S: S-FIELD CB1

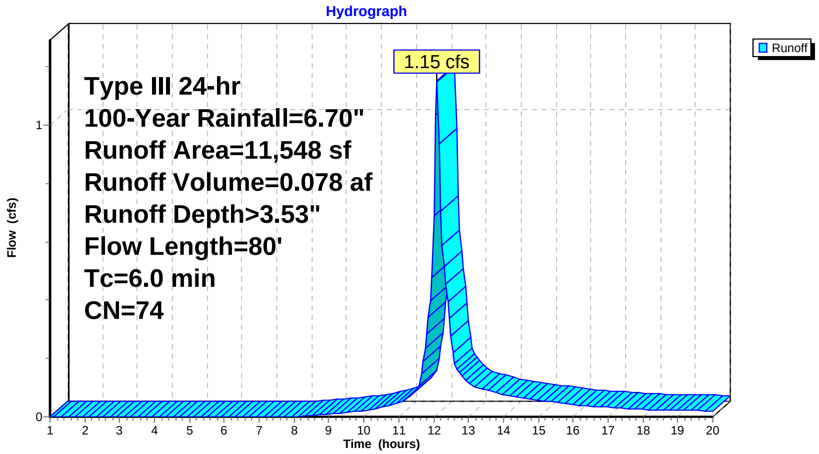
Runoff = 1.15 cfs @ 12.09 hrs, Volume= 0.078 af, Depth> 3.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	6,948	98	Paved Track, HSG A
	4,600	39	>75% Grass cover, Good, HSG A
	11,548	74	Weighted Average
	4,600		39.83% Pervious Area
	6,948		60.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	50	0.1180	0.30		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.2	30	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.0					**Direct Entry,**
6.0	80	Total			

Subcatchment 8S: S-FIELD CB1



Summary for Subcatchment 10S: S-FIELD CB2

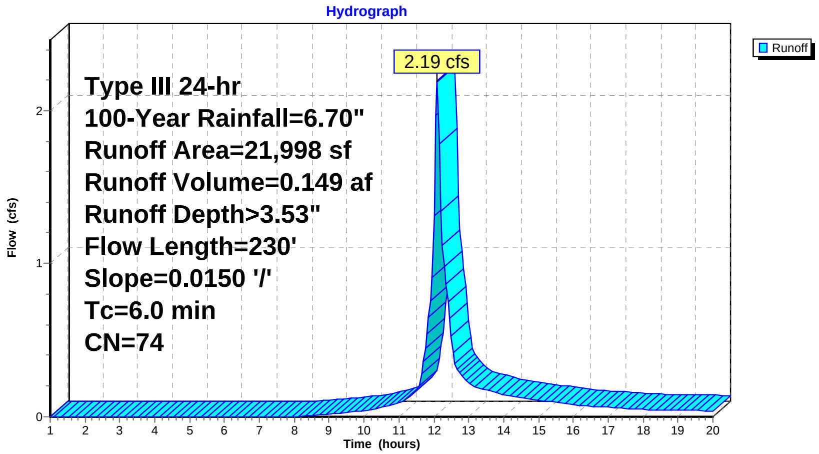
Runoff = 2.19 cfs @ 12.09 hrs, Volume= 0.149 af, Depth> 3.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	13,199	98	Paved Track, HSG A
	8,799	39	>75% Grass cover, Good, HSG A
	21,998	74	Weighted Average
	8,799		40.00% Pervious Area
	13,199		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.5	180	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.7					**Direct Entry, PARKING**
6.0	230	Total			

Subcatchment 10S: S-FIELD CB2



Summary for Subcatchment 13S: M-FIELD CB3

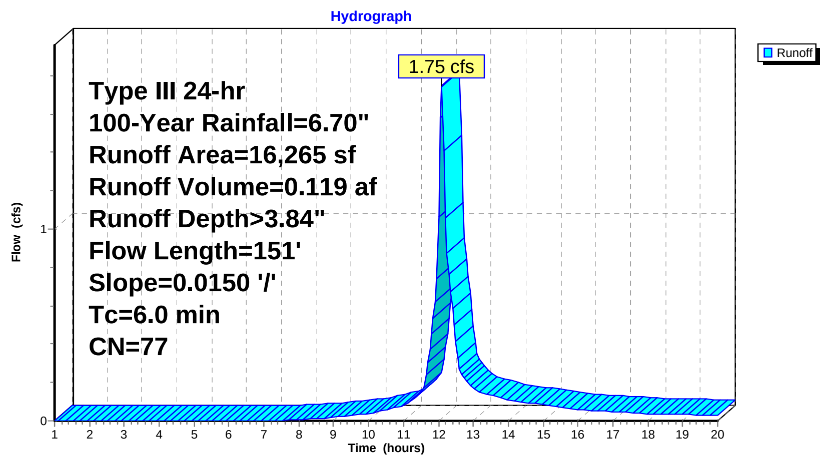
Runoff = 1.75 cfs @ 12.09 hrs, Volume= 0.119 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	10,572	98	Paved Track, HSG A
	5,693	39	>75% Grass cover, Good, HSG A
	16,265	77	Weighted Average
	5,693		35.00% Pervious Area
	10,572		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.9	101	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.3					**Direct Entry,**
6.0	151	Total			

Subcatchment 13S: M-FIELD CB3



Summary for Subcatchment 16S: BLDG S

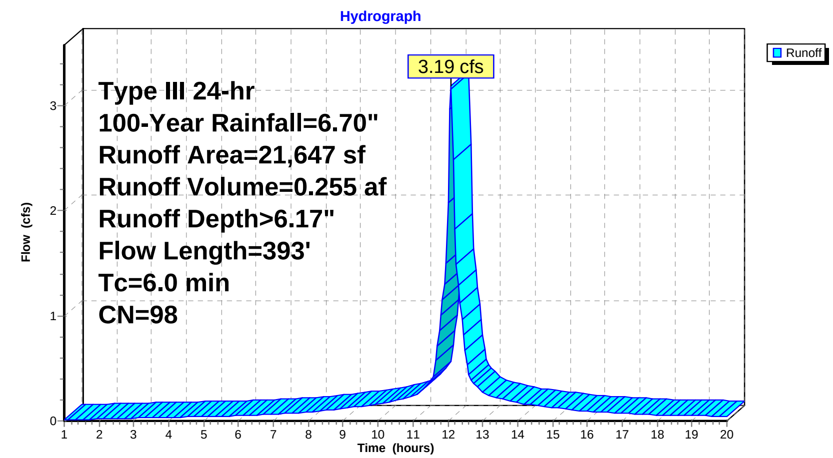
Runoff = 3.19 cfs @ 12.09 hrs, Volume= 0.255 af, Depth> 6.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
21,647	98	Roofs, HSG A
21,647		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0800	2.08		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.0	13	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.0	30	1.0000	37.50	13.09	**Pipe Channel, DOWNSPOUT** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.012 Steel, smooth
2.7	300	0.0050	1.85	1.01	**Pipe Channel, ROOFDRAIN** 10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21' n= 0.020 Corrugated PE, corrugated interior
2.9					**Direct Entry,**
6.0	393	Total			

Subcatchment 16S: BLDG S



Summary for Subcatchment 17S: S-FIELD CB3

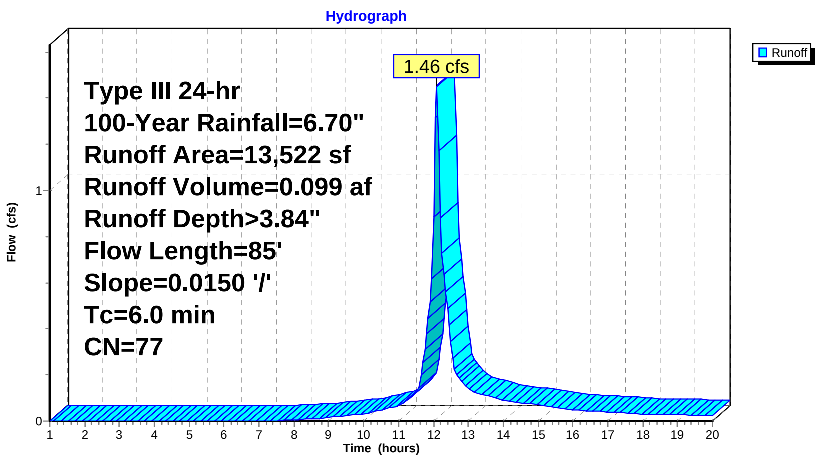
Runoff = 1.46 cfs @ 12.09 hrs, Volume= 0.099 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	8,789	98	Paved Track, HSG A
	4,733	39	>75% Grass cover, Good, HSG A
	13,522	77	Weighted Average
	4,733		35.00% Pervious Area
	8,789		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,**
					Smooth surfaces n= 0.011 P2= 3.20"
0.3	35	0.0150	1.97		**Shallow Concentrated Flow,**
					Unpaved Kv= 16.1 fps
4.9					**Direct Entry,**
6.0	85	Total			

Subcatchment 17S: S-FIELD CB3



Summary for Subcatchment 19S: S-FIELD CB4

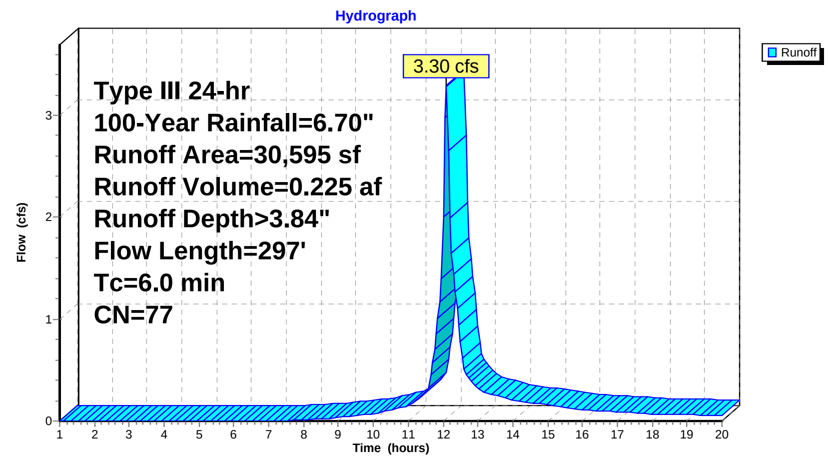
Runoff = 3.30 cfs @ 12.09 hrs, Volume= 0.225 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	19,887	98	Paved Track, HSG A
	10,708	39	>75% Grass cover, Good, HSG A
	30,595	77	Weighted Average
	10,708		35.00% Pervious Area
	19,887		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	37	0.0400	0.18		**Sheet Flow,**
					Grass: Short n= 0.150 P2= 3.20"
0.1	20	0.0150	2.49		**Shallow Concentrated Flow,**
					Paved Kv= 20.3 fps
1.4	240	0.0300	2.79		**Shallow Concentrated Flow,**
					Unpaved Kv= 16.1 fps
1.1					**Direct Entry,**
6.0	297	Total			

Subcatchment 19S: S-FIELD CB4



Summary for Subcatchment 21S: S-FIELD CB5

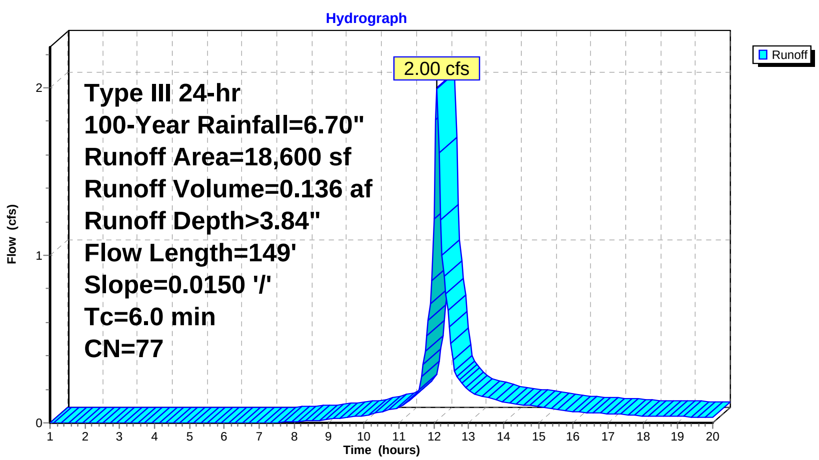
Runoff = 2.00 cfs @ 12.09 hrs, Volume= 0.136 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	12,090	98	Paved Track, HSG A
	6,510	39	>75% Grass cover, Good, HSG A
	18,600	77	Weighted Average
	6,510		35.00% Pervious Area
	12,090		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.8	99	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.4					**Direct Entry,**
6.0	149	Total			

Subcatchment 21S: S-FIELD CB5



Summary for Subcatchment 23S: S-FIELD CB6

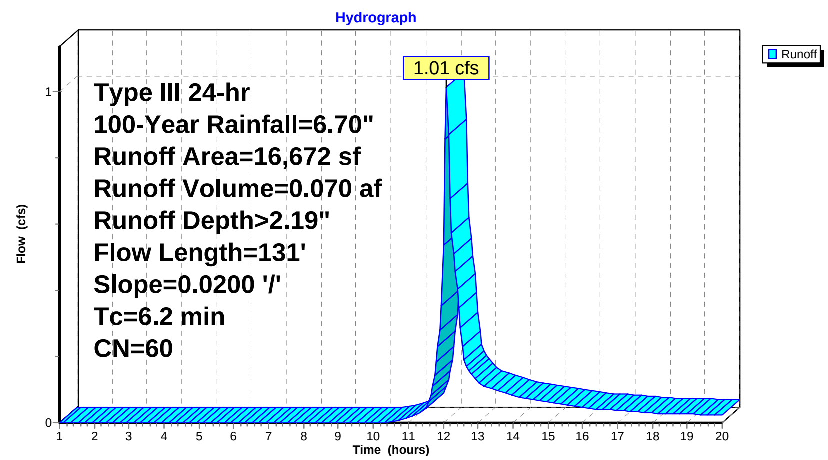
Runoff = 1.01 cfs @ 12.10 hrs, Volume= 0.070 af, Depth> 2.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	5,835	98	Paved Track, HSG A
	10,837	39	>75% Grass cover, Good, HSG A
	16,672	60	Weighted Average
	10,837		65.00% Pervious Area
	5,835		35.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.6	81	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.2	131	Total			

Subcatchment 23S: S-FIELD CB6



Summary for Subcatchment 25S: S-FIELD CB7

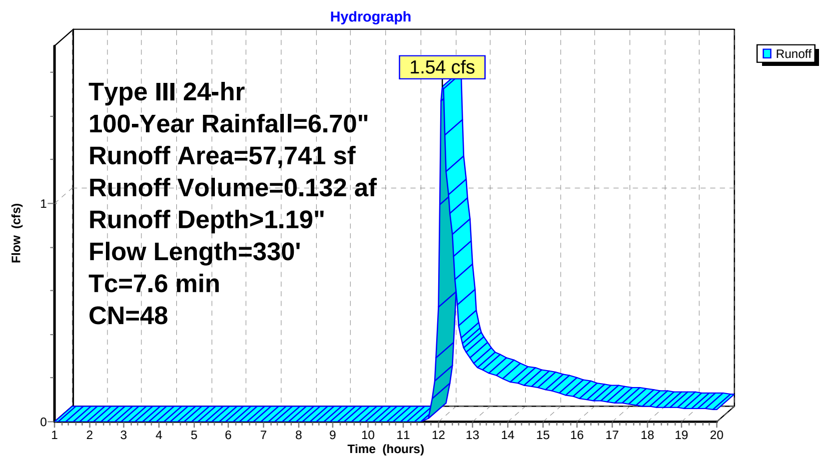
Runoff = 1.54 cfs @ 12.14 hrs, Volume= 0.132 af, Depth> 1.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	8,661	98	Paved Track, HSG A
	49,080	39	>75% Grass cover, Good, HSG A
	57,741	48	Weighted Average
	49,080		85.00% Pervious Area
	8,661		15.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.3	180	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.7	100	0.0250	2.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.6	330	Total			

Subcatchment 25S: S-FIELD CB7



Summary for Subcatchment 27S: N-FIELD CBF1

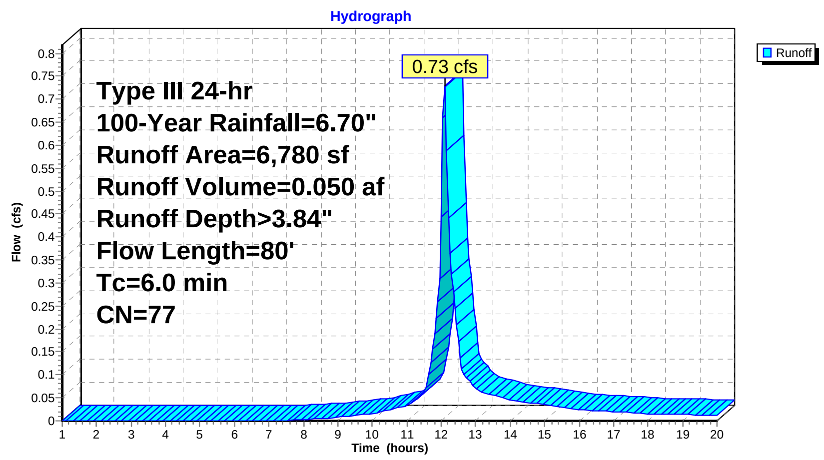
Runoff = 0.73 cfs @ 12.09 hrs, Volume= 0.050 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	4,407	98	Paved Track, HSG A
	2,373	39	>75% Grass cover, Good, HSG A
	6,780	77	Weighted Average
	2,373		35.00% Pervious Area
	4,407		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0100	0.91		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.2	30	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.9					**Direct Entry,**
6.0	80	Total			

Subcatchment 27S: N-FIELD CBF1



Summary for Subcatchment 29S: N-FIELD CBF2

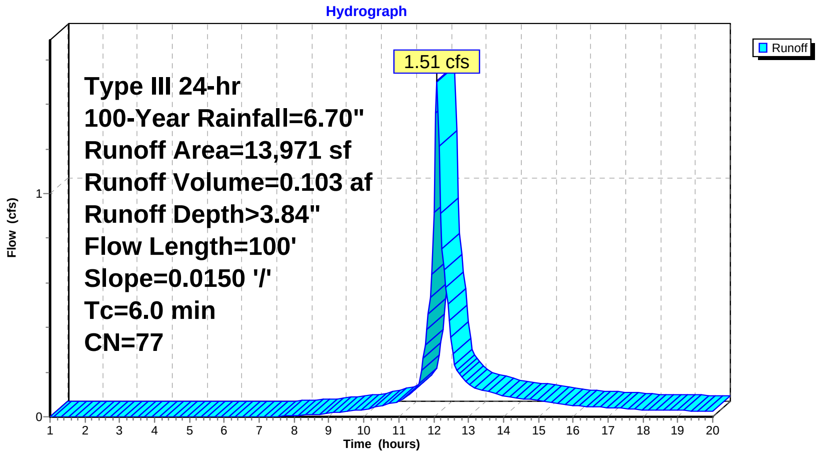
Runoff = 1.51 cfs @ 12.09 hrs, Volume= 0.103 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	9,081	98	Paved Track, HSG A
	4,890	39	>75% Grass cover, Good, HSG A
	13,971	77	Weighted Average
	4,890		35.00% Pervious Area
	9,081		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	20	0.0150	0.89		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.7	80	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.9					**Direct Entry,**
6.0	100	Total			

Subcatchment 29S: N-FIELD CBF2



Summary for Subcatchment 31S: N-FIELD CBF3

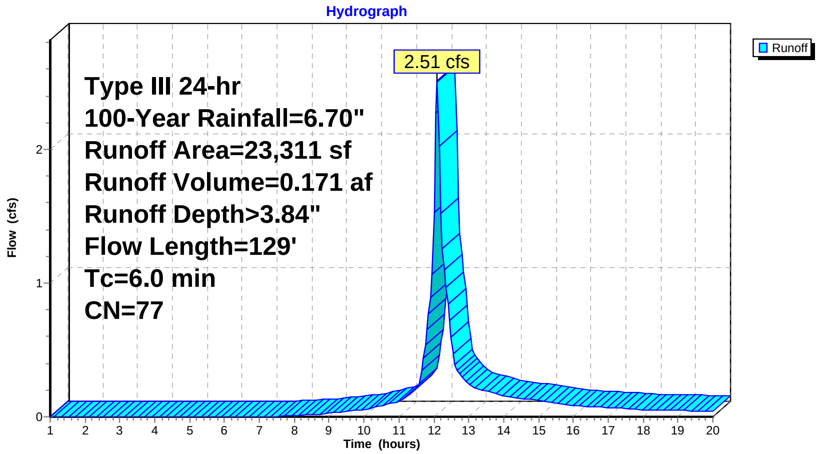
Runoff = 2.51 cfs @ 12.09 hrs, Volume= 0.171 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	15,152	98	Paved Track, HSG A
	8,159	39	>75% Grass cover, Good, HSG A
	23,311	77	Weighted Average
	8,159		35.00% Pervious Area
	15,152		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	29	0.0300	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.8	100	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.1					**Direct Entry,**
6.0	129	Total			

Subcatchment 31S: N-FIELD CBF3



Summary for Subcatchment 33S: N-FIELD CBF4

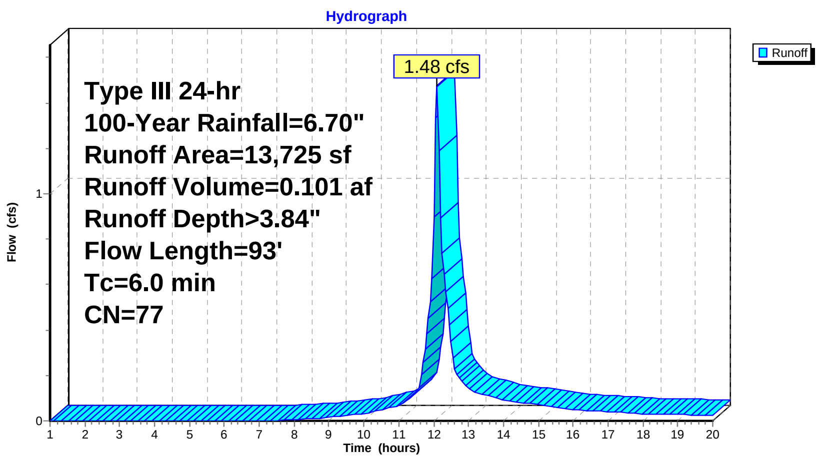
Runoff = 1.48 cfs @ 12.09 hrs, Volume= 0.101 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	8,921	98	Paved Track, HSG A
	4,804	39	>75% Grass cover, Good, HSG A
	13,725	77	Weighted Average
	4,804		35.00% Pervious Area
	8,921		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	20	0.0100	0.76		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.6	73	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
5.0					**Direct Entry,**
6.0	93	Total			

Subcatchment 33S: N-FIELD CBF4



Summary for Subcatchment 35S: N-FIELD CBF5

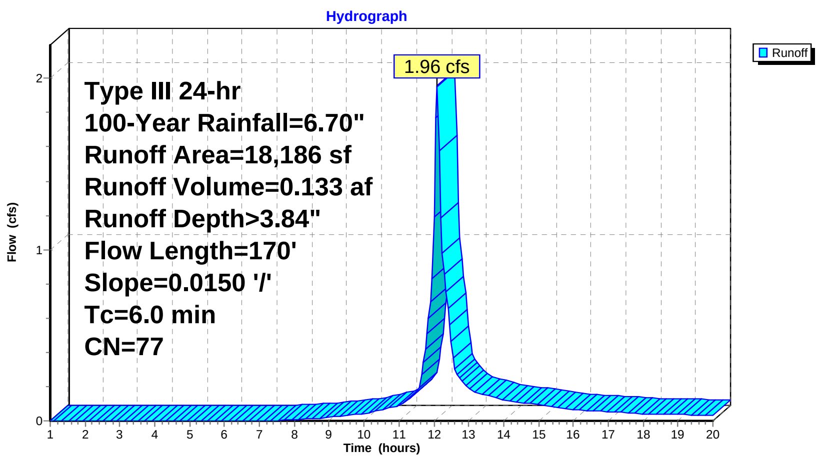
Runoff = 1.96 cfs @ 12.09 hrs, Volume= 0.133 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	11,821	98	Paved Track, HSG A
	6,365	39	>75% Grass cover, Good, HSG A
	18,186	77	Weighted Average
	6,365		35.00% Pervious Area
	11,821		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.0	120	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.2					**Direct Entry,**
6.0	170	Total			

Subcatchment 35S: N-FIELD CBF5



Summary for Subcatchment 37S: N-FIELD CBF6

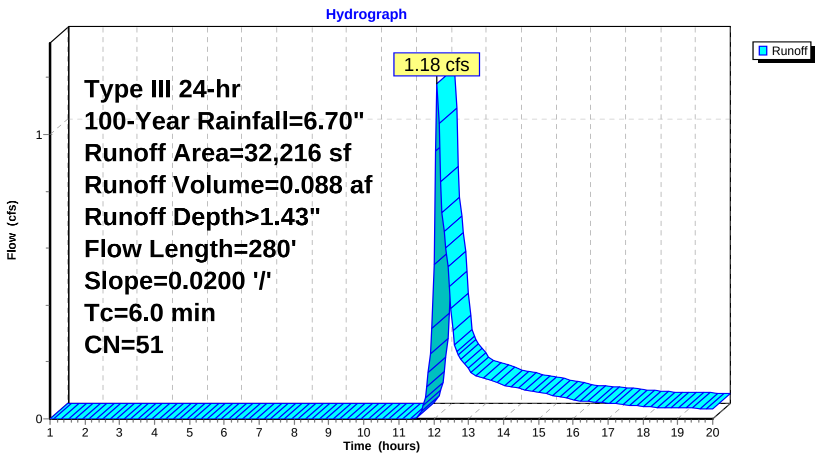
Runoff = 1.18 cfs @ 12.11 hrs, Volume= 0.088 af, Depth> 1.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	6,443	98	Paved Track, HSG A
	25,773	39	>75% Grass cover, Good, HSG A
	32,216	51	Weighted Average
	25,773		80.00% Pervious Area
	6,443		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0200	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.8	250	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.5					**Direct Entry,**
6.0	280	Total			

Subcatchment 37S: N-FIELD CBF6



Summary for Subcatchment 38S: FRONT LOT

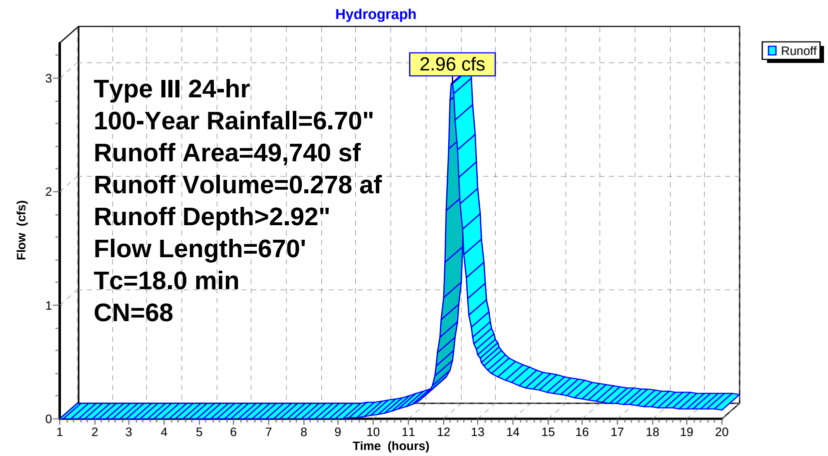
Runoff = 2.96 cfs @ 12.26 hrs, Volume= 0.278 af, Depth> 2.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
26,280	98	Paved parking, HSG A
5,218	39	>75% Grass cover, Good, HSG A
18,242	32	Woods/grass comb., Good, HSG A
49,740	68	Weighted Average
23,460		47.17% Pervious Area
26,280		52.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow, WOOD-FIELD** Woods: Light underbrush n= 0.400 P2= 3.20"
0.5	120	0.0590	3.91		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
4.2	360	0.0080	1.44		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
1.0	140	0.0140	2.40		**Shallow Concentrated Flow, PKG** Paved Kv= 20.3 fps
18.0	670	Total			

Subcatchment 38S: FRONT LOT



Summary for Subcatchment 40S: BLDG-FNT

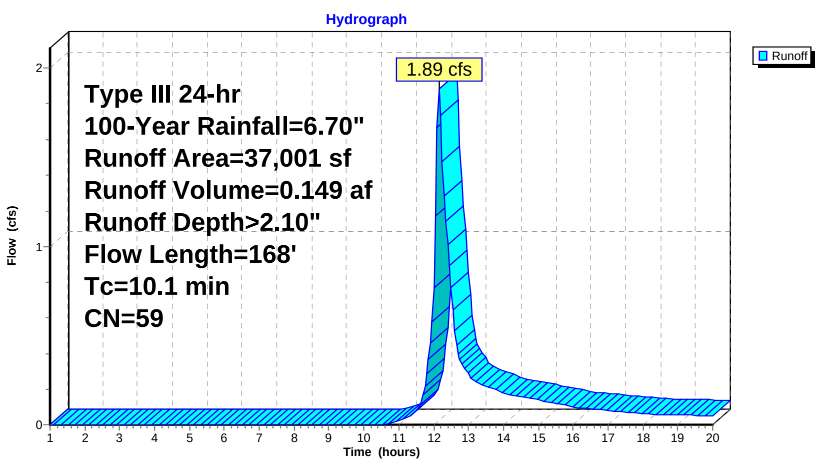
Runoff = 1.89 cfs @ 12.15 hrs, Volume= 0.149 af, Depth> 2.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
13,515	98	Paved parking, HSG A
21,205	32	Woods/grass comb., Good, HSG A
1,510	98	Unconnected pavement, HSG A
771	39	>75% Grass cover, Good, HSG A
37,001	59	Weighted Average
21,976		59.39% Pervious Area
15,025		40.61% Impervious Area
1,510		10.05% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.3	38	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.5	80	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
10.1	168	Total			

Subcatchment 40S: BLDG-FNT



Summary for Subcatchment E1: S LOT

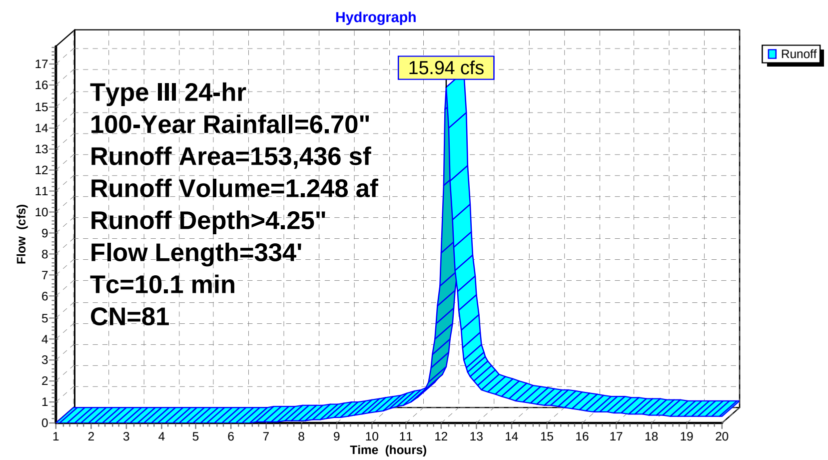
Runoff = 15.94 cfs @ 12.14 hrs, Volume= 1.248 af, Depth> 4.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
98,072	98	Paved parking, HSG A
21,058	72	Woods/grass comb., Good, HSG C
34,306	39	>75% Grass cover, Good, HSG A
153,436	81	Weighted Average
55,364		36.08% Pervious Area
98,072		63.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	50	0.0490	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.7	150	0.0486	3.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.8	134	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
10.1	334	Total			

Subcatchment E1: S LOT



Summary for Subcatchment E2: FRONT LOT

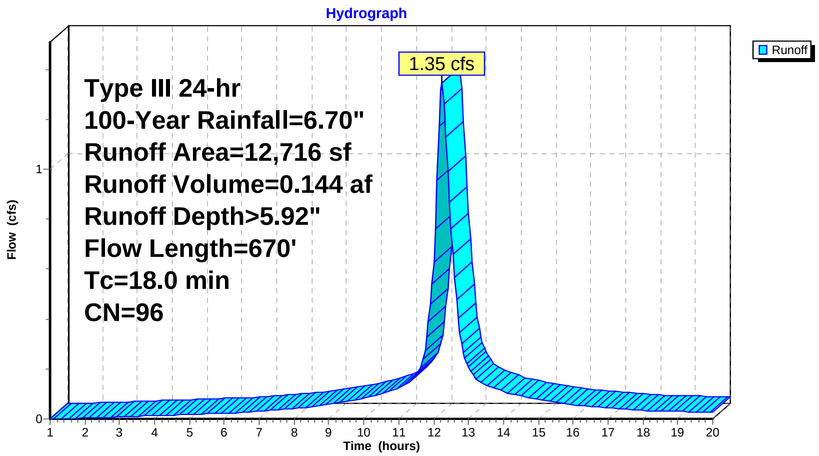
Runoff = 1.35 cfs @ 12.24 hrs, Volume= 0.144 af, Depth> 5.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
12,218	98	Paved parking, HSG A
498	39	>75% Grass cover, Good, HSG A
12,716	96	Weighted Average
498		3.92% Pervious Area
12,218		96.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow, WOOD-FIELD** Woods: Light underbrush n= 0.400 P2= 3.20"
0.5	120	0.0590	3.91		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
4.2	360	0.0080	1.44		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
1.0	140	0.0140	2.40		**Shallow Concentrated Flow, PKG** Paved Kv= 20.3 fps
18.0	670	Total			

Subcatchment E2: FRONT LOT



Summary for Subcatchment P2: SLOPE

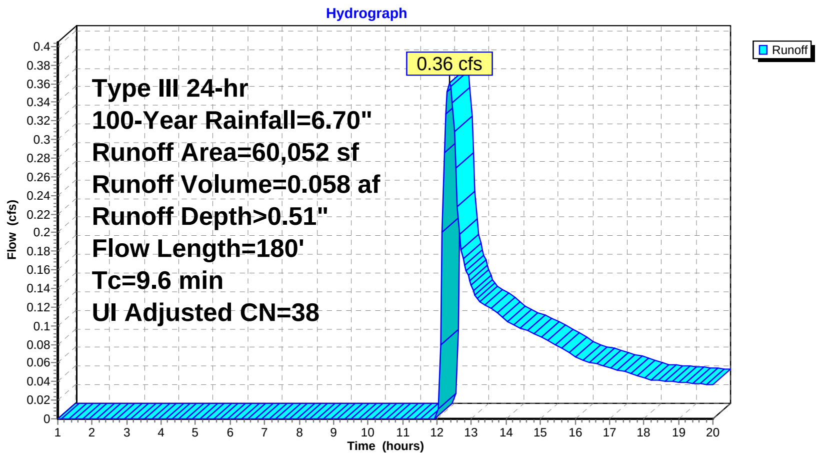
Runoff = 0.36 cfs @ 12.36 hrs, Volume= 0.058 af, Depth> 0.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Adj	Description
2,289	98		Unconnected pavement, HSG A
15,553	32		Woods/grass comb., Good, HSG A
42,210	39		>75% Grass cover, Good, HSG A
60,052	39	38	Weighted Average, UI Adjusted
57,763			96.19% Pervious Area
2,289			3.81% Impervious Area
2,289			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	50	0.0450	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.3	80	0.0800	4.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	50	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
9.6	180	Total			

Subcatchment P2: SLOPE



Summary for Subcatchment P4: BLDG FNT2

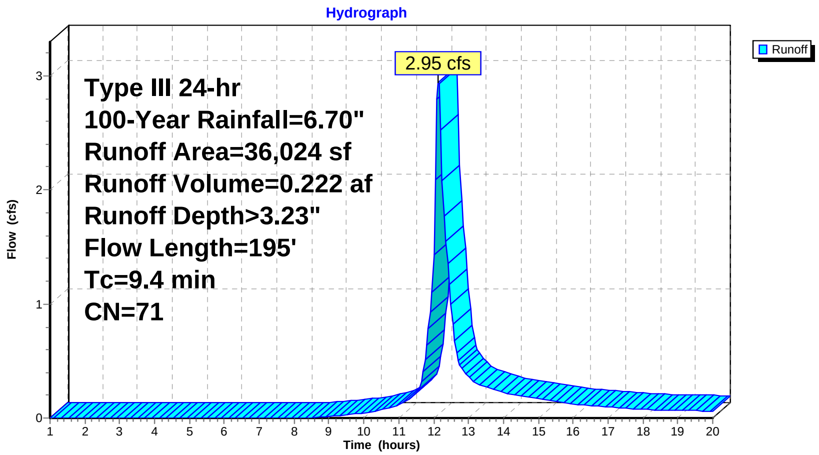
Runoff = 2.95 cfs @ 12.14 hrs, Volume= 0.222 af, Depth> 3.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
21,282	98	Paved parking, HSG A
841	39	>75% Grass cover, Good, HSG A
13,901	32	Woods/grass comb., Good, HSG A
36,024	71	Weighted Average
14,742		40.92% Pervious Area
21,282		59.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	50	0.0560	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.1	15	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.1	130	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
9.4	195	Total			

Subcatchment P4: BLDG FNT2

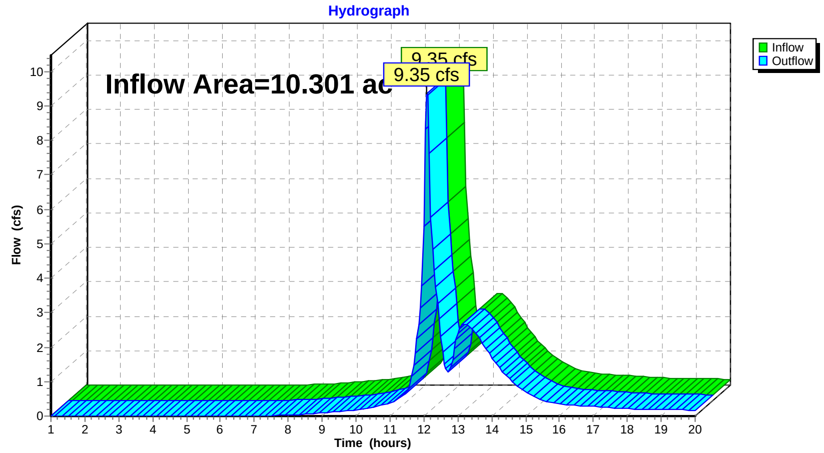


Summary for Reach 39R: HEADWALL 'A'

Inflow Area = 10.301 ac, 59.73% Impervious, Inflow Depth > 0.98" for 100-Year event
Inflow = 9.35 cfs @ 12.09 hrs, Volume= 0.842 af
Outflow = 9.35 cfs @ 12.09 hrs, Volume= 0.842 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3

Reach 39R: HEADWALL 'A'



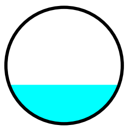
Summary for Reach 41R: discharge

Inflow Area = 7.817 ac, 62.31% Impervious, Inflow Depth = 0.30" for 100-Year event
Inflow = 1.86 cfs @ 13.20 hrs, Volume= 0.197 af
Outflow = 1.85 cfs @ 13.24 hrs, Volume= 0.197 af, Atten= 0%, Lag= 2.5 min

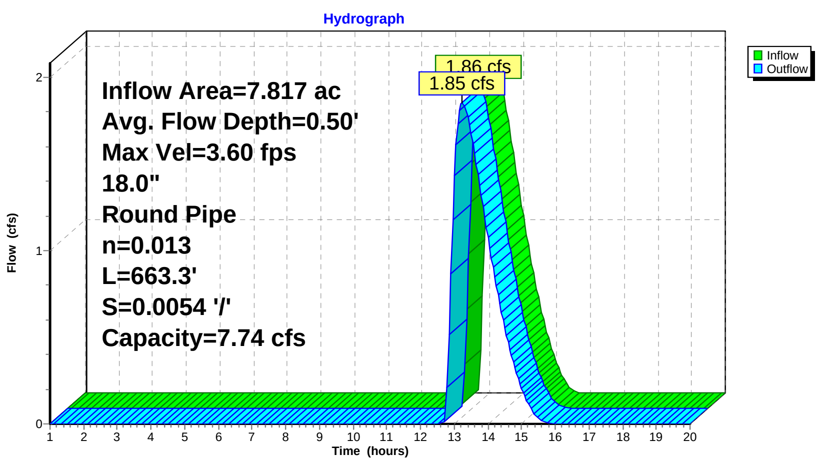
Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 3.60 fps, Min. Travel Time= 3.1 min
Avg. Velocity = 1.66 fps, Avg. Travel Time= 6.7 min

Peak Storage= 341 cf @ 13.24 hrs
Average Depth at Peak Storage= 0.50'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.74 cfs

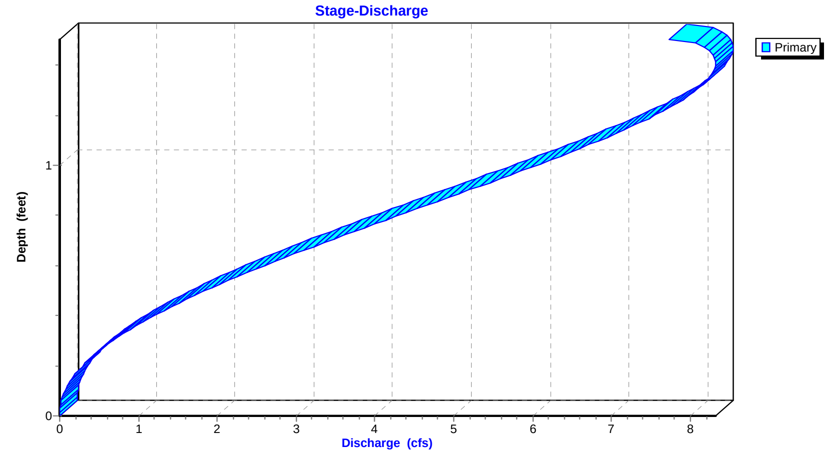
18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 663.3' Slope= 0.0054 '/'
Inlet Invert= 110.85', Outlet Invert= 107.25'



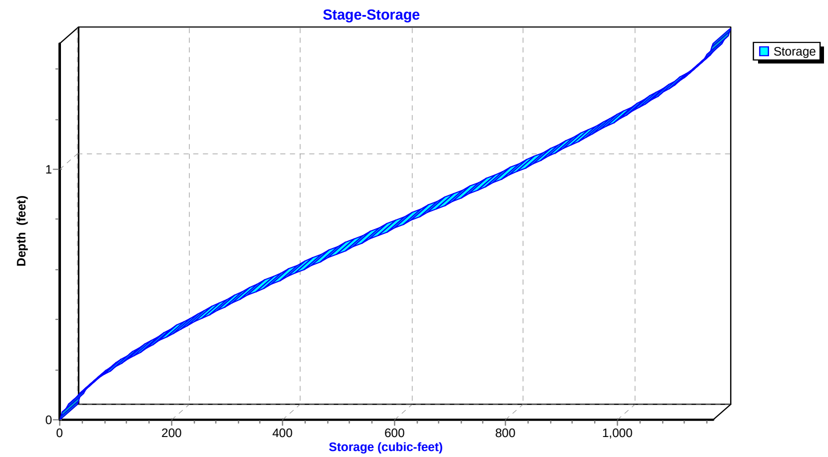
Reach 41R: discharge



Reach 41R: discharge



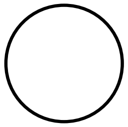
Reach 41R: discharge



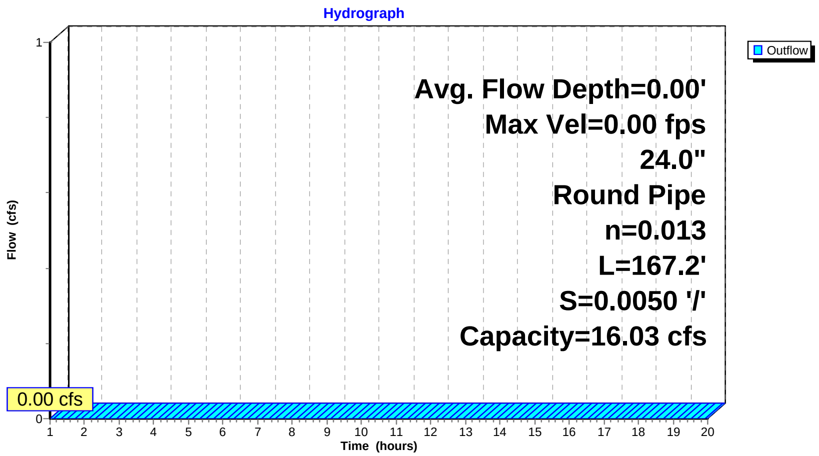
Summary for Reach 42R: PND DISCHARGE

Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 16.03 cfs

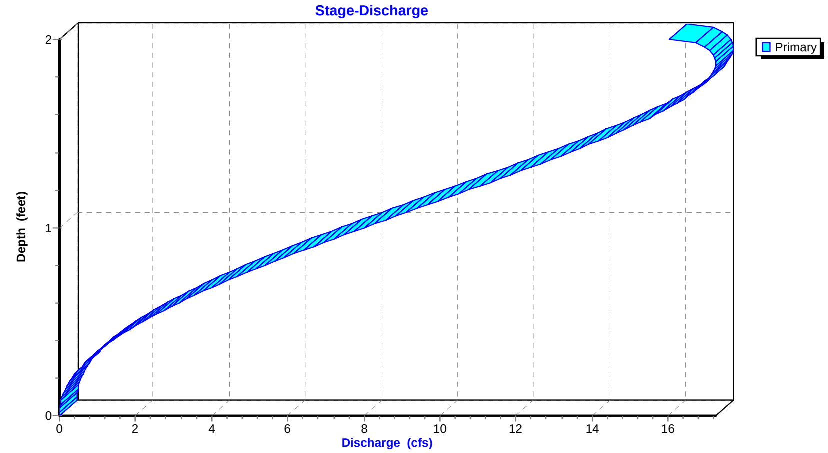
24.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 167.2' Slope= 0.0050 '/'
Inlet Invert= 115.90', Outlet Invert= 115.06'



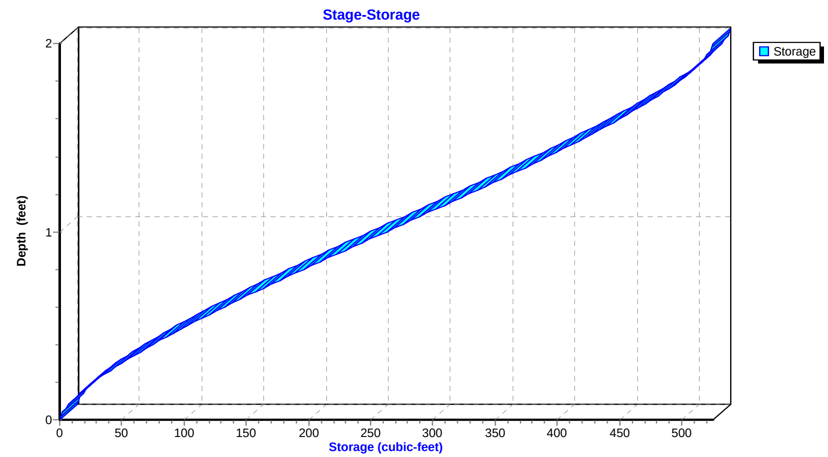
Reach 42R: PND DISCHARGE



Reach 42R: PND DISCHARGE



Reach 42R: PND DISCHARGE

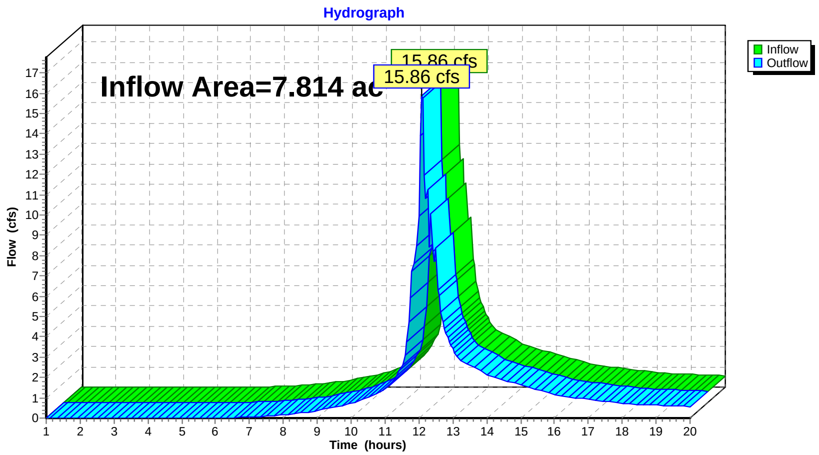


Summary for Reach RE1: HEADWALL 'B'

Inflow Area = 7.814 ac, 54.07% Impervious, Inflow Depth > 2.86" for 100-Year event
Inflow = 15.86 cfs @ 12.09 hrs, Volume= 1.865 af
Outflow = 15.86 cfs @ 12.09 hrs, Volume= 1.865 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3

Reach RE1: HEADWALL 'B'



Summary for Pond 1P: PKG ISL POND 1

Inflow Area = 0.849 ac, 40.61% Impervious, Inflow Depth > 2.10" for 100-Year event
Inflow = 1.89 cfs @ 12.15 hrs, Volume= 0.149 af
Outflow = 0.84 cfs @ 12.48 hrs, Volume= 0.147 af, Atten= 56%, Lag= 19.3 min
Discarded = 0.09 cfs @ 12.48 hrs, Volume= 0.031 af
Primary = 0.74 cfs @ 12.48 hrs, Volume= 0.117 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 120.74' @ 12.48 hrs Surf.Area= 1,454 sf Storage= 1,668 cf

Plug-Flow detention time= 27.4 min calculated for 0.147 af (99% of inflow)
Center-of-Mass det. time= 23.5 min (842.4 - 818.8)

Volume	Invert	Avail.Storage	Storage Description
#1	118.95'	1,682 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

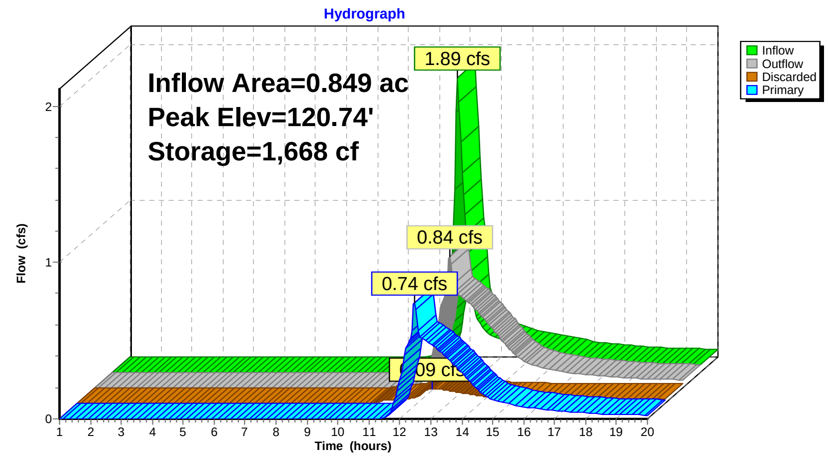
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.95	424	0.0	0	0
119.00	424	100.0	21	21
120.00	1,030	100.0	727	748
120.75	1,459	100.0	933	1,682

Device	Routing	Invert	Outlet Devices
#1	Primary	118.50'	**8.0" Round Culvert** L= 63.3' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 118.50' / 117.80' S= 0.0111 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	119.00'	**4.0" Vert. 4" Orifice** C= 0.600
#3	Device 1	120.70'	**2.5" x 2.5" Horiz. Overflow X 6.00 columns** X 6 rows C= 0.600 in 24.0" x 24.0" Grate (39% open area) Limited to weir flow at low heads
#4	Discarded	118.95'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 112.00'

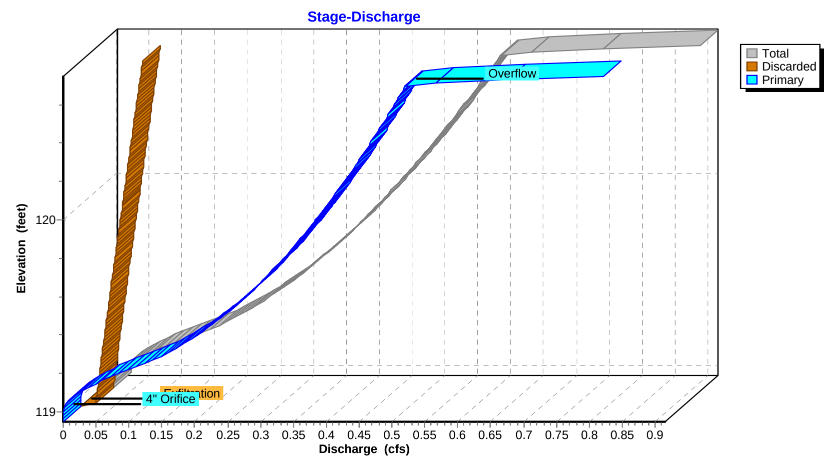
Discarded OutFlow Max=0.09 cfs @ 12.48 hrs HW=120.74' (Free Discharge)
└─**4=Exfiltration** (Controls 0.09 cfs)

Primary OutFlow Max=0.73 cfs @ 12.48 hrs HW=120.74' TW=118.62' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.73 cfs of 1.77 cfs potential flow)
  ├─**2=4" Orifice** (Orifice Controls 0.53 cfs @ 6.04 fps)
  └─**3=Overflow** (Weir Controls 0.21 cfs @ 0.65 fps)

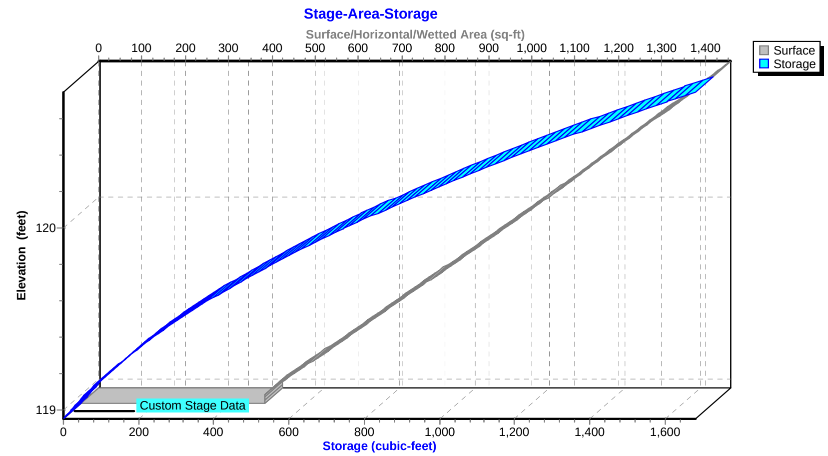
Pond 1P: PKG ISL POND 1



Pond 1P: PKG ISL POND 1



Pond 1P: PKG ISL POND 1



Summary for Pond 2P: PKG ISL 2

Inflow Area = 0.827 ac, 59.08% Impervious, Inflow Depth > 3.23" for 100-Year event
Inflow = 2.95 cfs @ 12.14 hrs, Volume= 0.222 af
Outflow = 2.89 cfs @ 12.20 hrs, Volume= 0.221 af, Atten= 2%, Lag= 3.9 min
Discarded = 0.12 cfs @ 12.21 hrs, Volume= 0.046 af
Primary = 2.77 cfs @ 12.20 hrs, Volume= 0.175 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 120.18' @ 12.21 hrs Surf.Area= 1,906 sf Storage= 1,417 cf

Plug-Flow detention time= 14.3 min calculated for 0.221 af (99% of inflow)
Center-of-Mass det. time= 11.7 min (808.5 - 796.8)

Volume	Invert	Avail.Storage	Storage Description
#1	118.99'	1,417 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc)

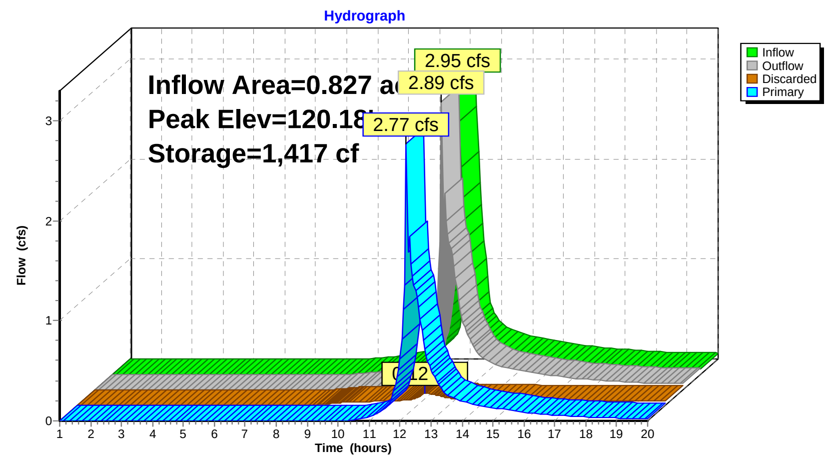
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.99	622	0.0	0	0
119.00	622	100.0	6	6
120.00	1,827	100.0	1,225	1,231
120.10	1,906	100.0	187	1,417

Device	Routing	Invert	Outlet Devices
#1	Primary	118.00'	**12.0" Round Culvert** L= 40.1' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 118.00' / 117.80' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	119.00'	**6.0" Vert. 4" Oriface** C= 0.600
#3	Device 1	119.50'	**6.0" Vert. 6" Oriface** C= 0.600
#4	Device 1	120.05'	**2.5" x 2.5" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 in 24.0" x 24.0" Grate (39% open area) Limited to weir flow at low heads
#5	Discarded	118.99'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 112.00'

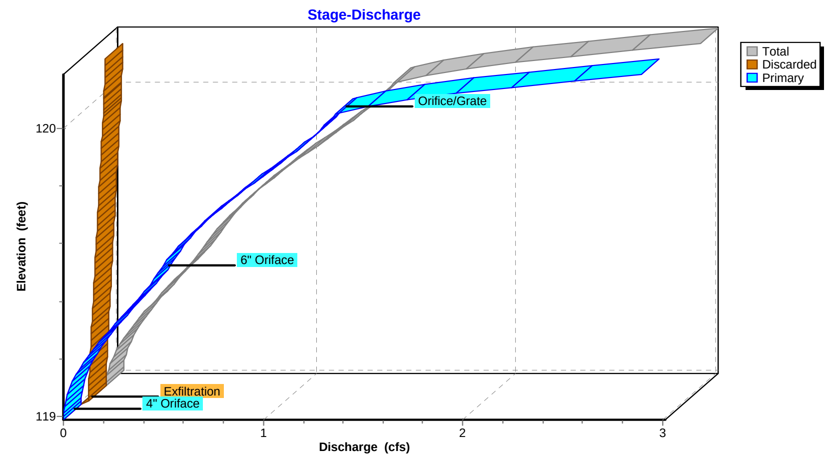
Discarded OutFlow Max=0.12 cfs @ 12.21 hrs HW=120.16' (Free Discharge)
└**5=Exfiltration** (Controls 0.12 cfs)

Primary OutFlow Max=2.68 cfs @ 12.20 hrs HW=120.17' TW=117.91' (Dynamic Tailwater)
└**1=Culvert** (Passes 2.68 cfs of 3.86 cfs potential flow)
 ├**2=4" Oriface** (Orifice Controls 0.91 cfs @ 4.63 fps)
 ├**3=6" Oriface** (Orifice Controls 0.62 cfs @ 3.14 fps)
 └**4=Orifice/Grate** (Weir Controls 1.15 cfs @ 1.16 fps)

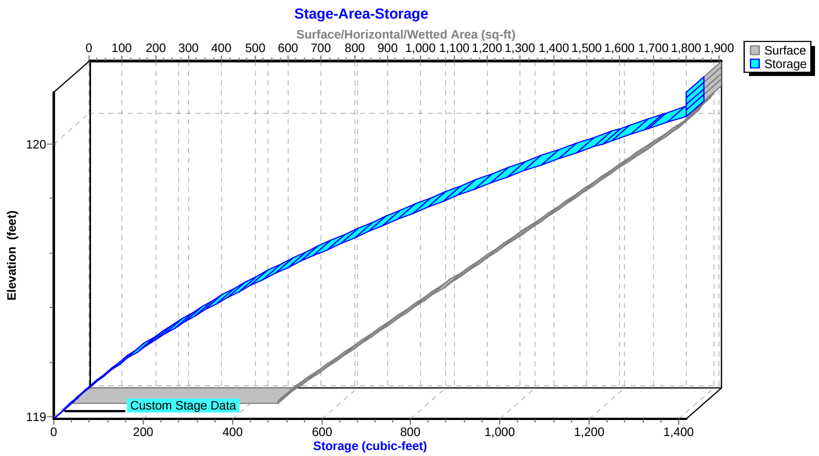
Pond 2P: PKG ISL 2



Pond 2P: PKG ISL 2



Pond 2P: PKG ISL 2



Summary for Pond 3P: PKG ISL 3

Inflow Area =	0.335 ac, 95.34% Impervious, Inflow Depth > 5.81" for 100-Year event		
Inflow =	2.11 cfs @ 12.09 hrs,	Volume=	0.162 af
Outflow =	1.46 cfs @ 12.19 hrs,	Volume=	0.162 af, Atten= 31%, Lag= 6.1 min
Discarded =	0.12 cfs @ 12.19 hrs,	Volume=	0.068 af
Primary =	1.34 cfs @ 12.19 hrs,	Volume=	0.094 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 119.60' @ 12.19 hrs Surf.Area= 851 sf Storage= 1,281 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 15.0 min (748.1 - 733.2)

Volume	Invert	Avail.Storage	Storage Description
#1	117.99'	1,588 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

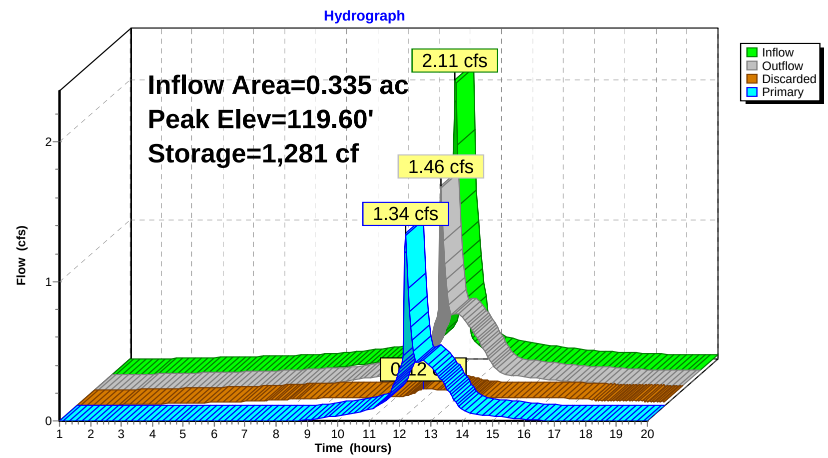
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.99	900	0.0	0	0
118.00	278	100.0	6	6
119.00	1,100	100.0	689	695
120.00	686	100.0	893	1,588

Device	Routing	Invert	Outlet Devices
#1	Primary	117.40'	**8.0" Round Culvert** L= 77.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 117.40' / 117.02' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	118.00'	**4.0" Vert. 4" Oriface** C= 0.600
#3	Device 1	119.50'	**2.5" x 2.5" Horiz. Overflow Grate X 6.00 columns** X 6 rows C= 0.600 in 24.0" x 24.0" Grate (39% open area) Limited to weir flow at low heads
#4	Discarded	117.99'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 112.00'

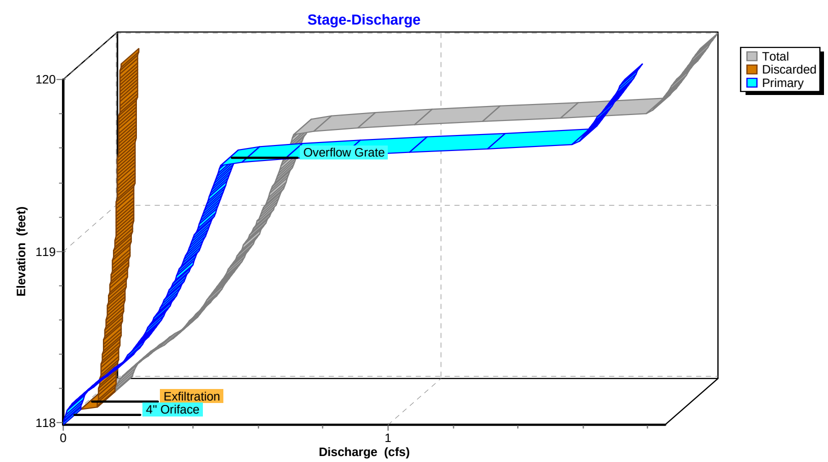
Discarded OutFlow Max=0.12 cfs @ 12.19 hrs HW=119.60' (Free Discharge)
└─**4=Exfiltration** (Controls 0.12 cfs)

Primary OutFlow Max=1.30 cfs @ 12.19 hrs HW=119.60' TW=117.80' (Dynamic Tailwater)
└─**1=Culvert** (Passes 1.30 cfs of 1.52 cfs potential flow)
  ├─**2=4" Oriface** (Orifice Controls 0.50 cfs @ 5.76 fps)
  └─**3=Overflow Grate** (Weir Controls 0.79 cfs @ 1.02 fps)

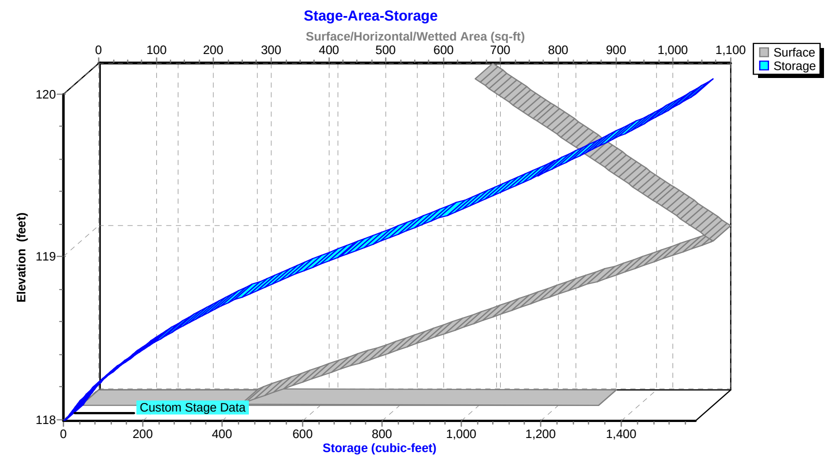
Pond 3P: PKG ISL 3



Pond 3P: PKG ISL 3



Pond 3P: PKG ISL 3



Summary for Pond 4P: REAR FB

Inflow Area =	7.817 ac, 62.31% Impervious, Inflow Depth = 0.87"	for 100-Year event	
Inflow =	5.51 cfs @ 12.65 hrs, Volume=	0.568 af	
Outflow =	2.62 cfs @ 13.20 hrs, Volume=	0.567 af,	Atten= 52%, Lag= 33.4 min
Discarded =	0.77 cfs @ 13.20 hrs, Volume=	0.371 af	
Primary =	1.86 cfs @ 13.20 hrs, Volume=	0.197 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 116.45' @ 13.20 hrs Surf.Area= 5,599 sf Storage= 10,441 cf

Plug-Flow detention time= 101.3 min calculated for 0.566 af (100% of inflow)
Center-of-Mass det. time= 101.2 min (897.3 - 796.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	113.50'	6,196 cf	**25.92'W x 216.04'L x 4.00'H Field A** 22,396 cf Overall - 6,905 cf Embedded = 15,491 cf x 40.0% Voids
#2A	114.50'	6,905 cf	**ADS_StormTech SC-740** x 150 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 6.45 sf x 5 rows
		13,102 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	113.50'	**2.410 in/hr Exfiltration over Horizontal area** Conductivity to Groundwater Elevation = 111.47'
#2	Primary	115.50'	**12.0" Round Culvert** L= 15.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 115.50' / 115.40' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Discarded OutFlow Max=0.77 cfs @ 13.20 hrs HW=116.45' (Free Discharge)
└─**1=Exfiltration** (Controls 0.77 cfs)

Primary OutFlow Max=1.86 cfs @ 13.20 hrs HW=116.45' TW=111.35' (Dynamic Tailwater)
└─**2=Culvert** (Barrel Controls 1.86 cfs @ 3.09 fps)

Pond 4P: REAR FB - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 (ADS StormTech® SC-740 without end caps)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
Row Length Adjustment= +0.44' x 6.45 sf x 5 rows

51.0" Wide + 8.0" Spacing = 59.0" C-C Row Spacing

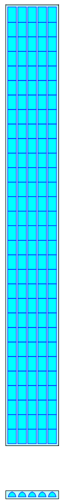
30 Chambers/Row x 7.12' Long +0.44' Row Adjustment = 214.04' Row Length +12.0" End Stone x 2 = 216.04' Base Length
5 Rows x 51.0" Wide + 8.0" Spacing x 4 + 12.0" Side Stone x 2 = 25.92' Base Width
12.0" Base + 30.0" Chamber Height + 6.0" Cover = 4.00' Field Height

150 Chambers x 45.9 cf +0.44' Row Adjustment x 6.45 sf x 5 Rows = 6,905.2 cf Chamber Storage

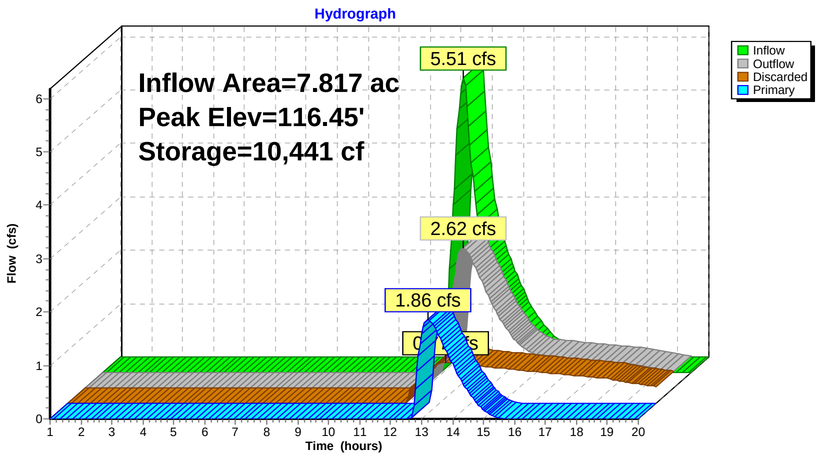
22,396.1 cf Field - 6,905.2 cf Chambers = 15,490.9 cf Stone x 40.0% Voids = 6,196.4 cf Stone Storage

Chamber Storage + Stone Storage = 13,101.6 cf = 0.301 af
Overall Storage Efficiency = 58.5%
Overall System Size = 216.04' x 25.92' x 4.00'

150 Chambers
829.5 cy Field
573.7 cy Stone



Pond 4P: REAR FB



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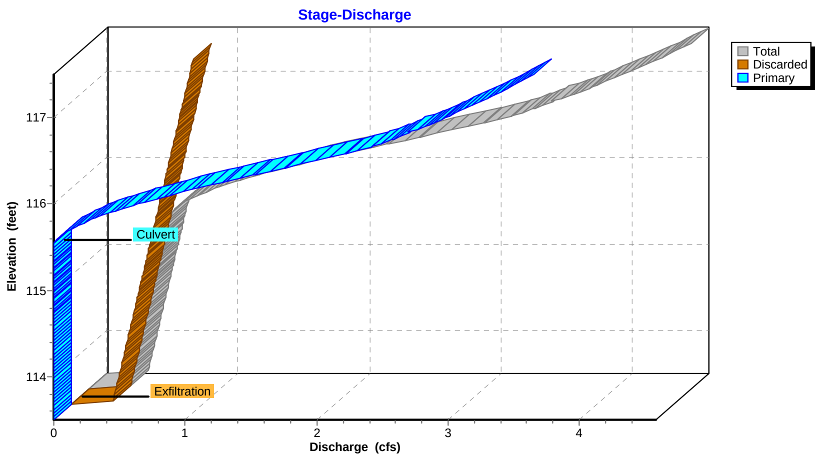

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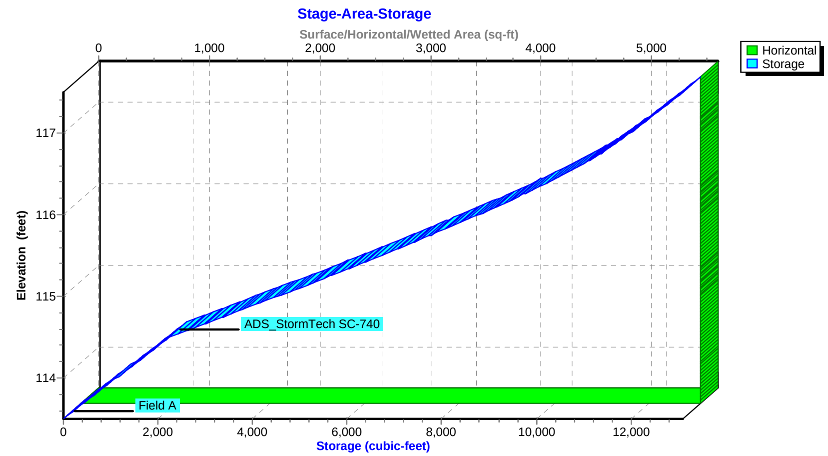


Summary for Pond 6P: PKG

Inflow Area =	4.922 ac, 67.09% Impervious, Inflow Depth > 3.52"	for 100-Year event	
Inflow =	13.84 cfs @ 12.18 hrs, Volume=	1.446 af	
Outflow =	8.14 cfs @ 12.43 hrs, Volume=	1.334 af, Atten= 41%, Lag= 15.1 min	
Discarded =	1.24 cfs @ 12.43 hrs, Volume=	0.763 af	
Primary =	6.89 cfs @ 12.43 hrs, Volume=	0.571 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 118.65' @ 12.43 hrs Surf.Area= 8,327 sf Storage= 17,389 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 50.6 min (821.0 - 770.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	115.17'	7,782 cf	**80.75'W x 103.12'L x 3.50'H Field A** 29,144 cf Overall - 9,690 cf Embedded = 19,454 cf x 40.0% Voids
#2A	115.67'	9,690 cf	**ADS_StormTech SC-740** x 210 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 6.45 sf x 15 rows
		17,471 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	115.17'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 113.10'
#2	Primary	117.00'	**10.0" Round Culvert X 3.00** L= 80.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 117.00' / 116.00' S= 0.0125 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf

Discarded OutFlow Max=1.24 cfs @ 12.43 hrs HW=118.64' (Free Discharge)
└─**1=Exfiltration** (Controls 1.24 cfs)

Primary OutFlow Max=6.88 cfs @ 12.43 hrs HW=118.64' TW=116.49' (Dynamic Tailwater)
└─**2=Culvert** (Inlet Controls 6.88 cfs @ 4.21 fps)

Pond 6P: PKG - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 (ADS StormTech® SC-740 without end caps)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
Row Length Adjustment= +0.44' x 6.45 sf x 15 rows

51.0" Wide + 12.0" Spacing = 63.0" C-C Row Spacing

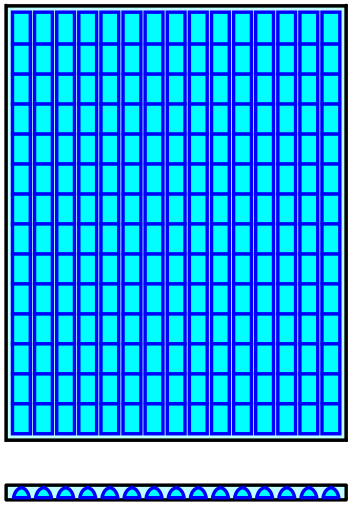
14 Chambers/Row x 7.12' Long +0.44' Row Adjustment = 100.12' Row Length +18.0" End Stone x 2 = 103.12' Base Length
15 Rows x 51.0" Wide + 12.0" Spacing x 14 + 18.0" Side Stone x 2 = 80.75' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

210 Chambers x 45.9 cf +0.44' Row Adjustment x 6.45 sf x 15 Rows = 9,689.8 cf Chamber Storage

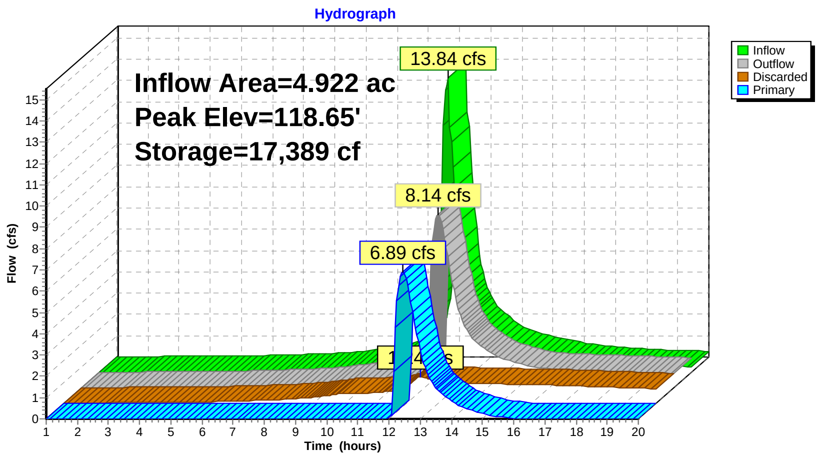
29,143.8 cf Field - 9,689.8 cf Chambers = 19,454.0 cf Stone x 40.0% Voids = 7,781.6 cf Stone Storage

Chamber Storage + Stone Storage = 17,471.4 cf = 0.401 af
Overall Storage Efficiency = 59.9%
Overall System Size = 103.12' x 80.75' x 3.50'

210 Chambers
1,079.4 cy Field
720.5 cy Stone



Pond 6P: PKG



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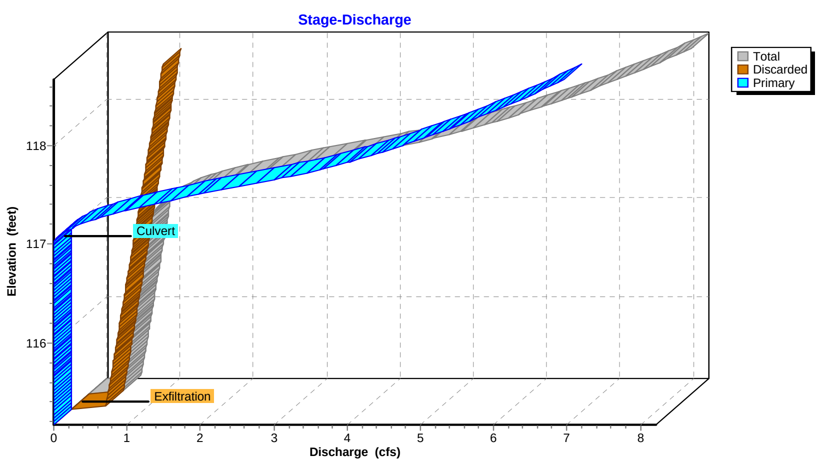
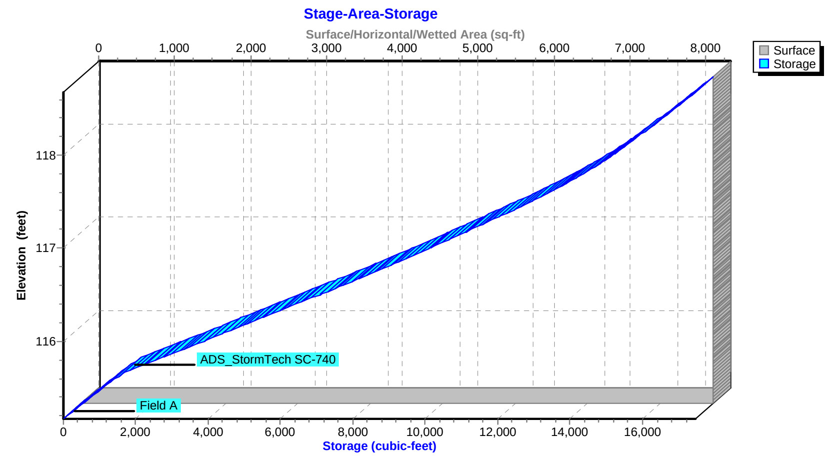


Pond 6P: PKG



Summary for Pond 7P: CB-SE Pkg

Inflow Area = 3.522 ac, 63.92% Impervious, Inflow Depth > 4.25" for 100-Year event
Inflow = 15.94 cfs @ 12.14 hrs, Volume= 1.248 af
Outflow = 15.94 cfs @ 12.14 hrs, Volume= 1.248 af, Atten= 0%, Lag= 0.0 min
Primary = 4.62 cfs @ 12.50 hrs, Volume= 0.857 af
Secondary = 16.08 cfs @ 12.14 hrs, Volume= 0.403 af

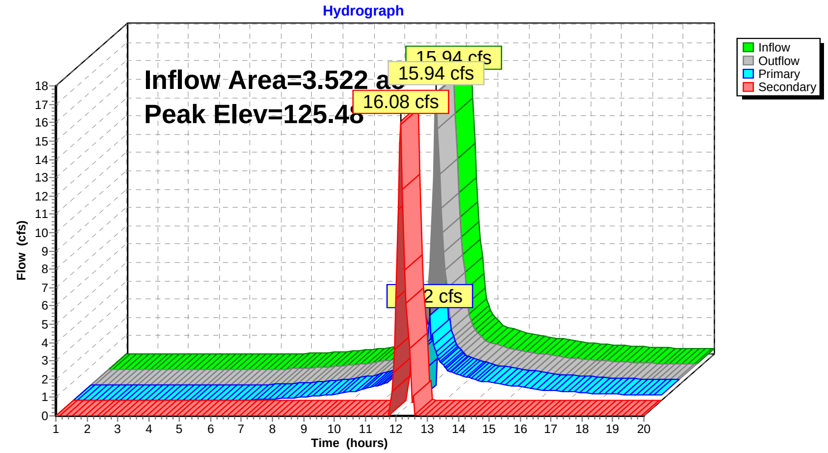
Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 125.48' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	113.30'	**12.0" Round RCP_Round 12"** L= 71.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 113.30' / 111.17' S= 0.0299 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	117.80'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area) Limited to weir flow at low heads
#3	Secondary	116.00'	**8.0" Round Culvert X 4.00** L= 39.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 113.20' / 116.00' S= -0.0709 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

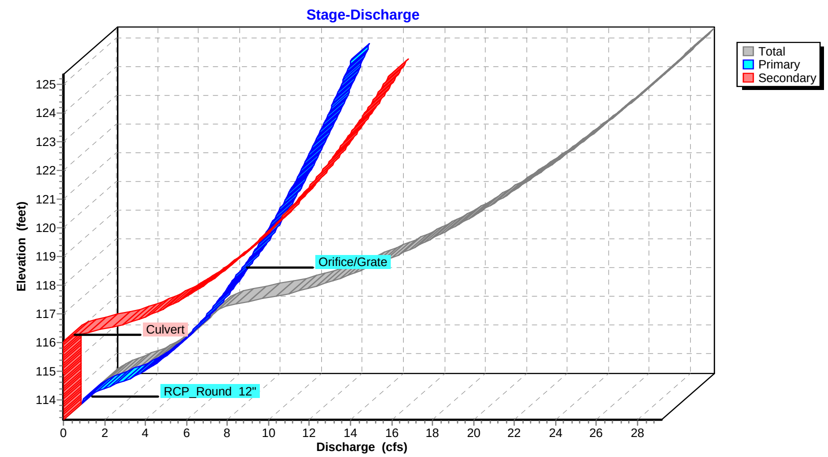
Primary OutFlow Max=3.08 cfs @ 12.50 hrs HW=116.26' TW=115.53' (Dynamic Tailwater)
1=RCP_Round 12" (Outlet Controls 3.08 cfs @ 3.92 fps)
2=Orifice/Grate (Controls 0.00 cfs)

Secondary OutFlow Max=15.63 cfs @ 12.14 hrs HW=125.01' (Free Discharge)
3=Culvert (Inlet Controls 15.63 cfs @ 11.19 fps)

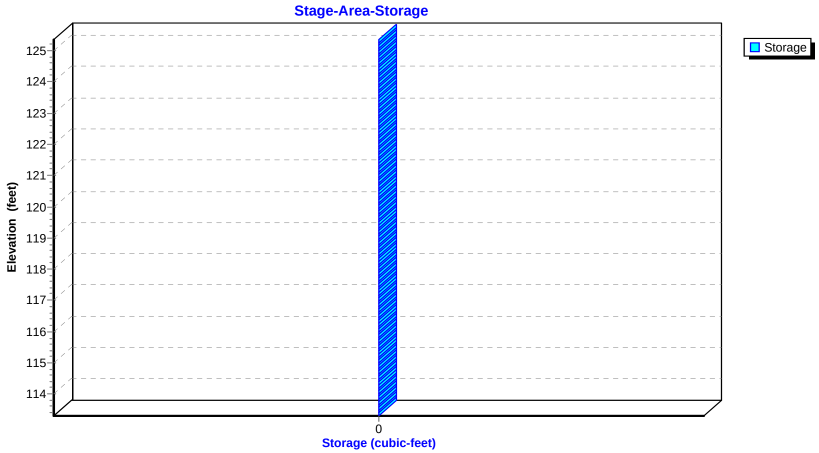
Pond 7P: CB-SE Pkg



Pond 7P: CB-SE Pkg



Pond 7P: CB-SE Pkg



Summary for Pond 8P: SC740

Inflow Area = 7.817 ac, 62.31% Impervious, Inflow Depth > 2.16" for 100-Year event
Inflow = 10.56 cfs @ 12.30 hrs, Volume= 1.408 af
Outflow = 6.77 cfs @ 12.65 hrs, Volume= 1.380 af, Atten= 36%, Lag= 20.6 min
Discarded = 1.26 cfs @ 12.78 hrs, Volume= 0.813 af
Primary = 5.51 cfs @ 12.65 hrs, Volume= 0.568 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 116.93' @ 12.78 hrs Surf.Area= 8,322 sf Storage= 17,483 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 65.2 min (812.4 - 747.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	113.50'	7,553 cf	**31.25'W x 217.22'L x 4.00'H Field A** 27,152 cf Overall - 8,269 cf Embedded = 18,883 cf x 40.0% Voids
#2A	114.50'	8,269 cf	**ADS_StormTech SC-740 +Cap** x 180 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 6 Rows of 30 Chambers
#3B	113.50'	1,719 cf	**20.50'W x 74.82'L x 4.00'H Field B** 6,135 cf Overall - 1,838 cf Embedded = 4,297 cf x 40.0% Voids
#4B	114.50'	1,838 cf	**ADS_StormTech SC-740 +Cap** x 40 Inside #3 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 4 Rows of 10 Chambers
		19,379 cf	Total Available Storage

Storage Group A created with Chamber Wizard
Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	114.50'	**15.0" Round Culvert** L= 77.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 114.50' / 114.50' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Discarded	113.50'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 111.50'

Discarded OutFlow Max=1.26 cfs @ 12.78 hrs HW=116.93' (Free Discharge)
└**2=Exfiltration** (Controls 1.26 cfs)

Primary OutFlow Max=5.50 cfs @ 12.65 hrs HW=116.90' TW=115.38' (Dynamic Tailwater)
└**1=Culvert** (Barrel Controls 5.50 cfs @ 4.48 fps)

Pond 8P: SC740 - Chamber Wizard Field A

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 9.0" Spacing = 60.0" C-C Row Spacing

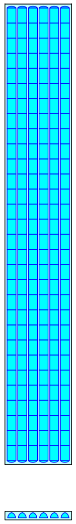
30 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 215.22' Row Length +12.0" End Stone x 2 = 217.22' Base Length
6 Rows x 51.0" Wide + 9.0" Spacing x 5 + 12.0" Side Stone x 2 = 31.25' Base Width
12.0" Base + 30.0" Chamber Height + 6.0" Cover = 4.00' Field Height

180 Chambers x 45.9 cf = 8,269.2 cf Chamber Storage

27,152.1 cf Field - 8,269.2 cf Chambers = 18,882.9 cf of Stone x 40.0% Voids = 7,553.2 cf Stone Storage

Chamber Storage + Stone Storage = 15,822.4 cf = 0.363 af
Overall Storage Efficiency = 58.3%
Overall System Size = 217.22' x 31.25' x 4.00'

180 Chambers
1,005.6 cy Field
699.4 cy Stone



Pond 8P: SC740 - Chamber Wizard Field B

Chamber Model = ADS_StormTechSC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

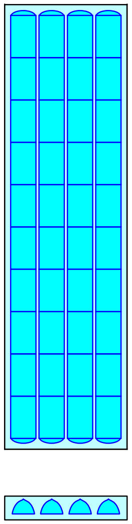
10 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 72.82' Row Length +12.0" End Stone x 2 = 74.82' Base Length
4 Rows x 51.0" Wide + 6.0" Spacing x 3 + 12.0" Side Stone x 2 = 20.50' Base Width
12.0" Base + 30.0" Chamber Height + 6.0" Cover = 4.00' Field Height

40 Chambers x 45.9 cf = 1,837.6 cf Chamber Storage

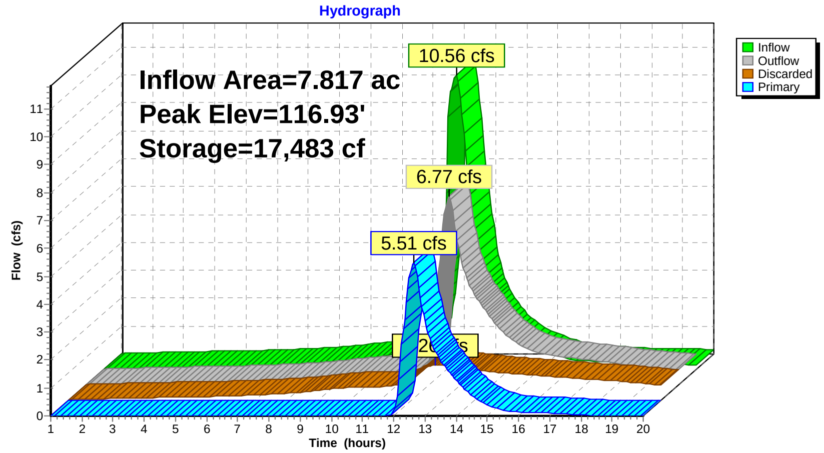
6,135.0 cf Field - 1,837.6 cf Chambers = 4,297.4 cf of Stone x 40.0% Voids = 1,718.9 cf Stone Storage

Chamber Storage + Stone Storage = 3,556.5 cf = 0.082 af
Overall Storage Efficiency = 58.0%
Overall System Size = 74.82' x 20.50' x 4.00'

40 Chambers
227.2 cy Field
159.2 cy Stone



Pond 8P: SC740



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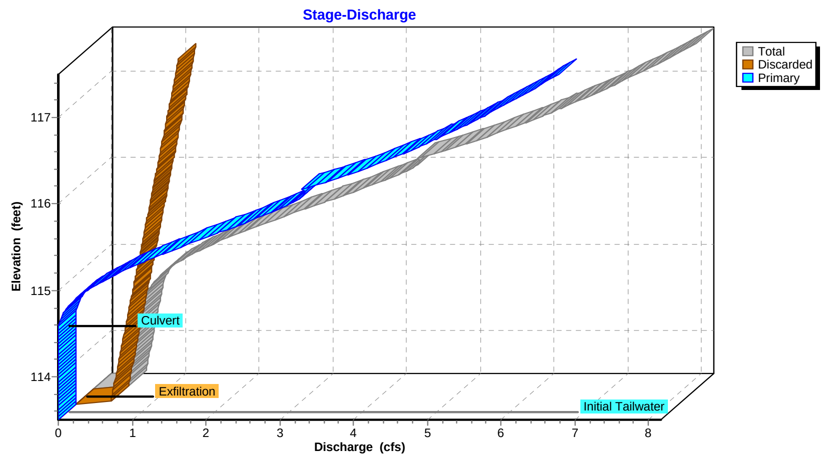

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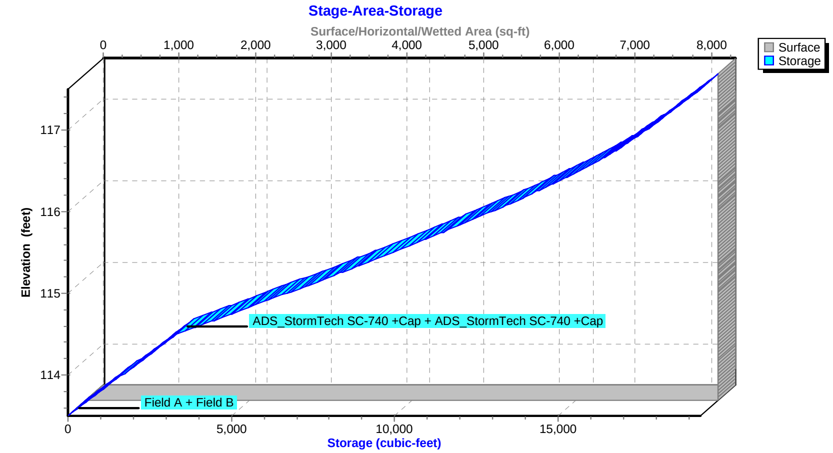


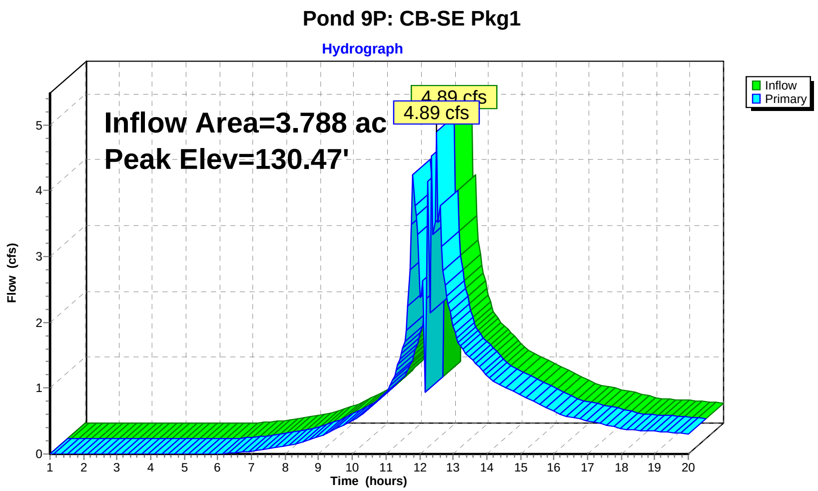
Summary for Pond 9P: CB-SE Pkg1

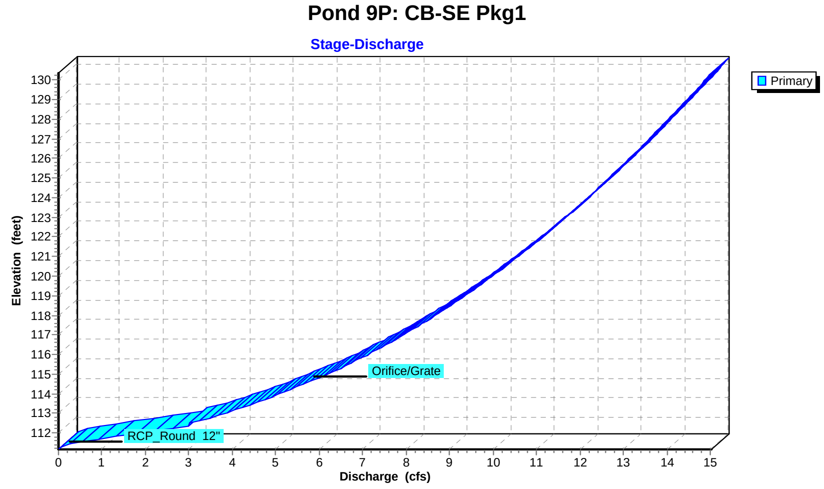
Inflow Area = 3.788 ac, 63.65% Impervious, Inflow Depth > 2.96" for 100-Year event
Inflow = 4.89 cfs @ 12.50 hrs, Volume= 0.935 af
Outflow = 4.89 cfs @ 12.50 hrs, Volume= 0.935 af, Atten= 0%, Lag= 0.0 min
Primary = 4.89 cfs @ 12.50 hrs, Volume= 0.935 af

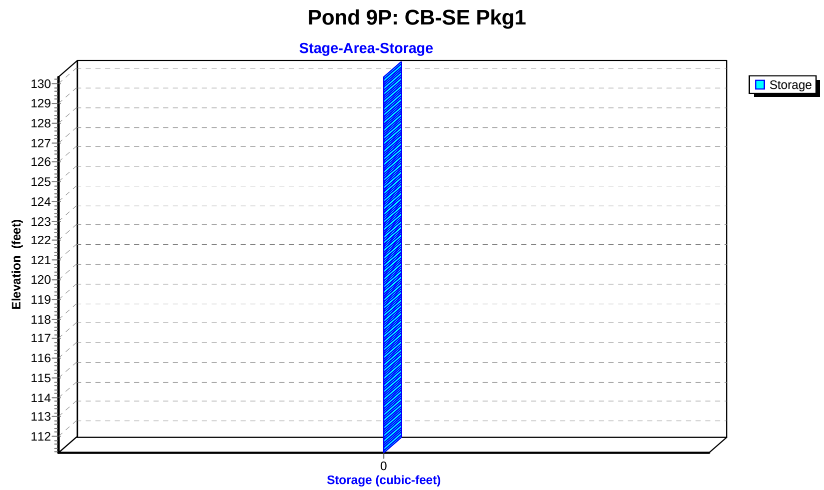
Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 130.47' @ 12.12 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	111.17'	**12.0" Round RCP_Round 12"** L= 90.3' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.17' / 110.70' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=3.77 cfs @ 12.50 hrs HW=115.53' TW=114.36' (Dynamic Tailwater)
1=RCP_Round 12" (Outlet Controls 3.63 cfs @ 4.62 fps)
2=Orifice/Grate (Orifice Controls 0.14 cfs @ 4.90 fps)







Summary for Pond 11P: CB-SE Pkg2

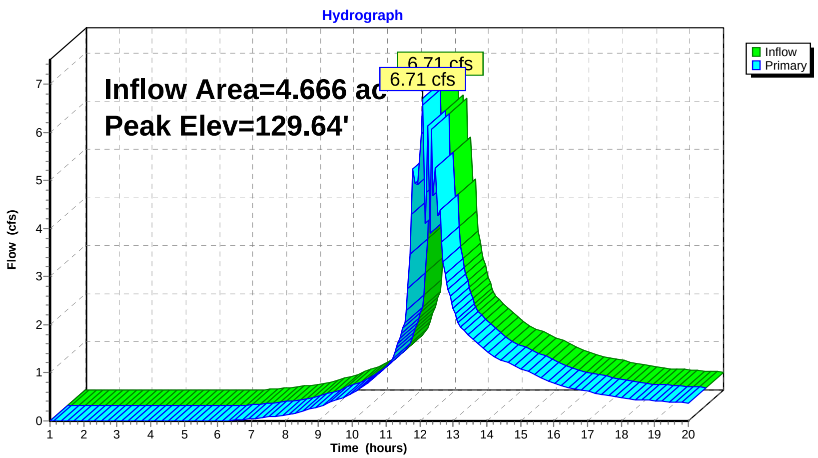
Inflow Area = 4.666 ac, 63.37% Impervious, Inflow Depth > 3.09" for 100-Year event
Inflow = 6.71 cfs @ 12.08 hrs, Volume= 1.203 af
Outflow = 6.71 cfs @ 12.08 hrs, Volume= 1.203 af, Atten= 0%, Lag= 0.0 min
Primary = 6.71 cfs @ 12.08 hrs, Volume= 1.203 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 129.64' @ 12.10 hrs

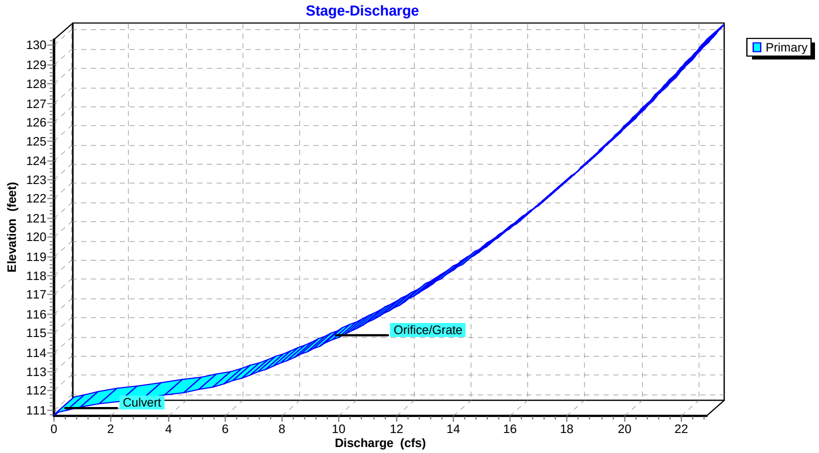
Device	Routing	Invert	Outlet Devices
#1	Primary	110.70'	**15.0" Round Culvert** L= 134.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.70' / 109.75' S= 0.0071 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 12.08 hrs HW=128.11' TW=128.58' (Dynamic Tailwater)
1=Culvert (Controls 0.00 cfs)
2=Orifice/Grate (Controls 0.00 cfs)

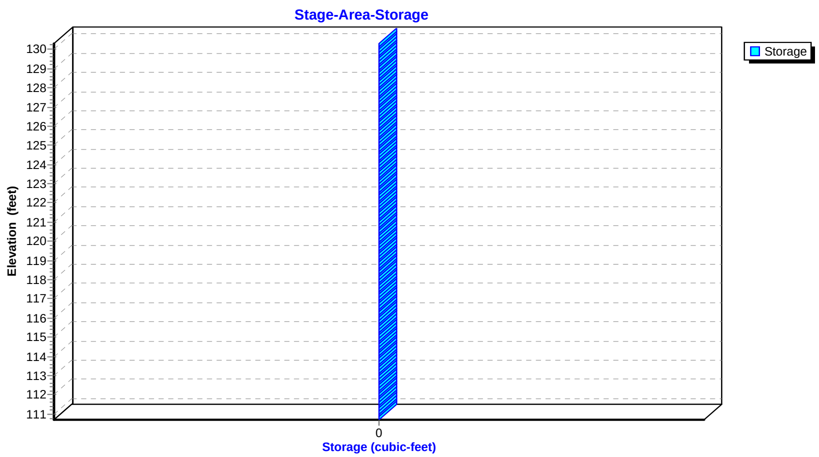
Pond 11P: CB-SE Pkg2



Pond 11P: CB-SE Pkg2



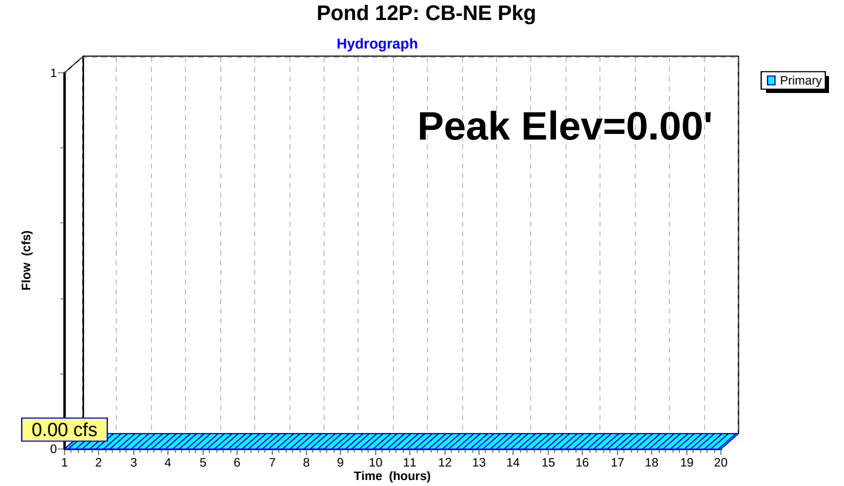
Pond 11P: CB-SE Pkg2

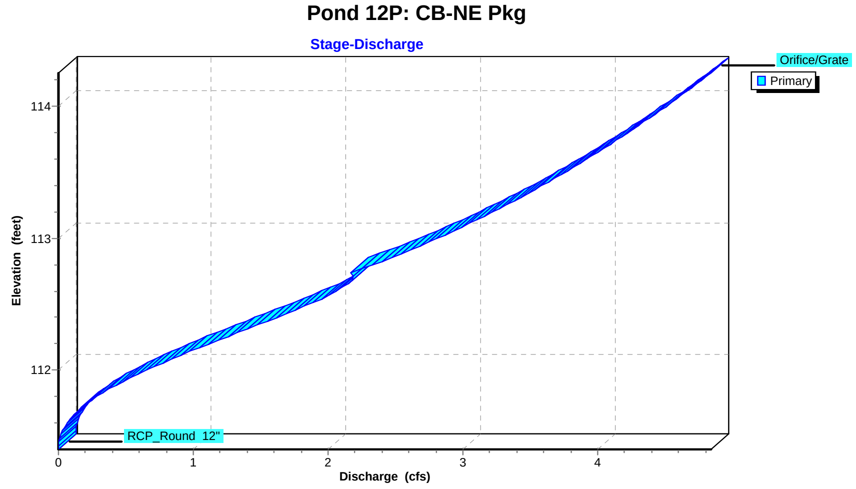


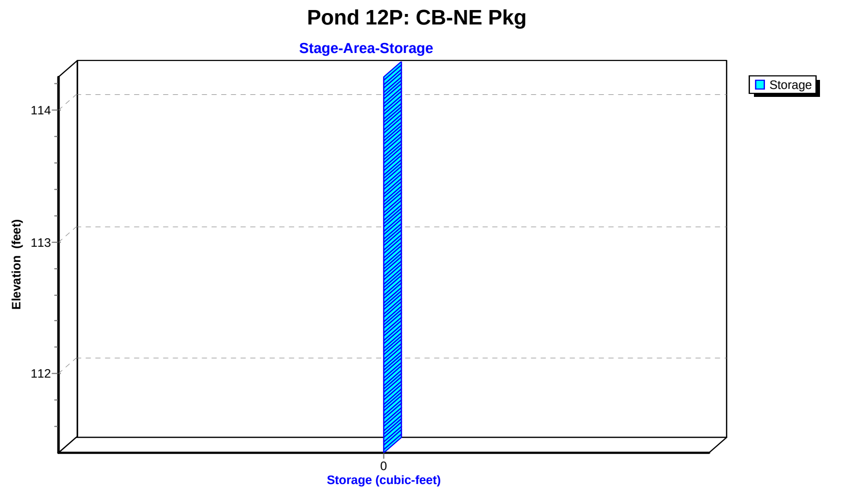
Summary for Pond 12P: CB-NE Pkg

Device	Routing	Invert	Outlet Devices
#1	Primary	111.40'	**12.0" Round RCP_Round 12"** L= 76.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.40' / 111.36' S= 0.0005 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.25'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 1.00 hrs HW=0.00' TW=111.36' (Dynamic Tailwater)
1=RCP_Round 12" (Controls 0.00 cfs)
2=Orifice/Grate (Controls 0.00 cfs)







Summary for Pond 14P: CB-NE Pkg2

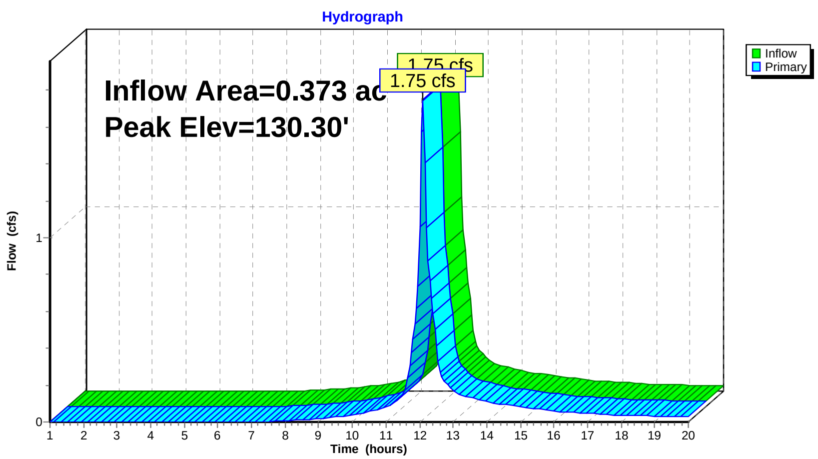
Inflow Area =	0.373 ac, 65.00% Impervious, Inflow Depth > 3.84"	for 100-Year event	
Inflow =	1.75 cfs @ 12.09 hrs, Volume=	0.119 af	
Outflow =	1.75 cfs @ 12.09 hrs, Volume=	0.119 af, Atten= 0%, Lag= 0.0 min	
Primary =	1.75 cfs @ 12.09 hrs, Volume=	0.119 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 130.30' @ 12.12 hrs

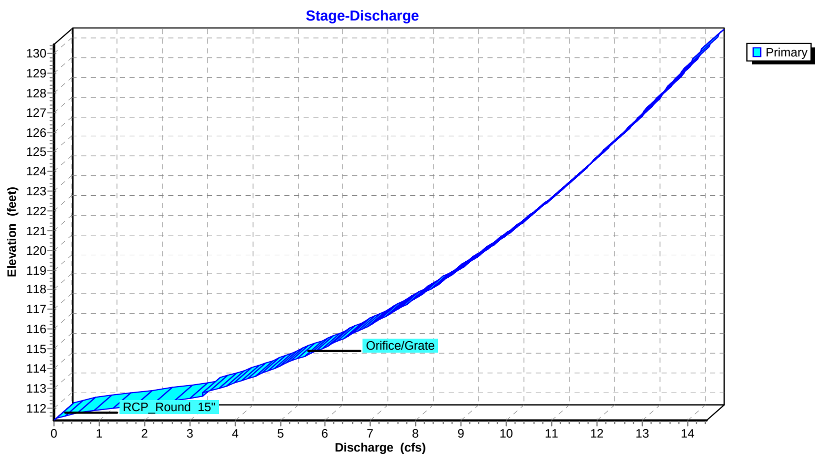
Device	Routing	Invert	Outlet Devices
#1	Primary	111.36'	**12.0" Round RCP_Round 15"** L= 105.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.36' / 110.70' S= 0.0063 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 12.09 hrs HW=128.27' TW=128.78' (Dynamic Tailwater)
1=RCP_Round 15" (Controls 0.00 cfs)
2=Orifice/Grate (Controls 0.00 cfs)

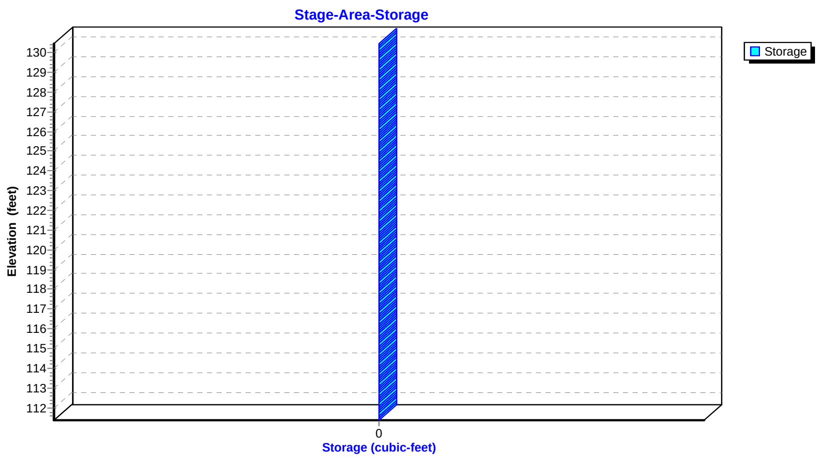
Pond 14P: CB-NE Pkg2



Pond 14P: CB-NE Pkg2



Pond 14P: CB-NE Pkg2



Summary for Pond 18P: CB-SE Pkg3

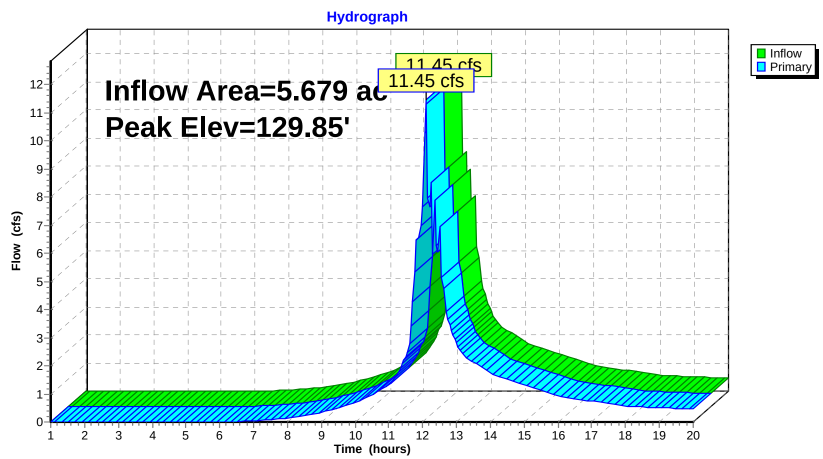
Inflow Area = 5.679 ac, 63.66% Impervious, Inflow Depth > 3.23" for 100-Year event
Inflow = 11.45 cfs @ 12.09 hrs, Volume= 1.527 af
Outflow = 11.45 cfs @ 12.09 hrs, Volume= 1.527 af, Atten= 0%, Lag= 0.0 min
Primary = 11.45 cfs @ 12.09 hrs, Volume= 1.527 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 129.85' @ 12.09 hrs

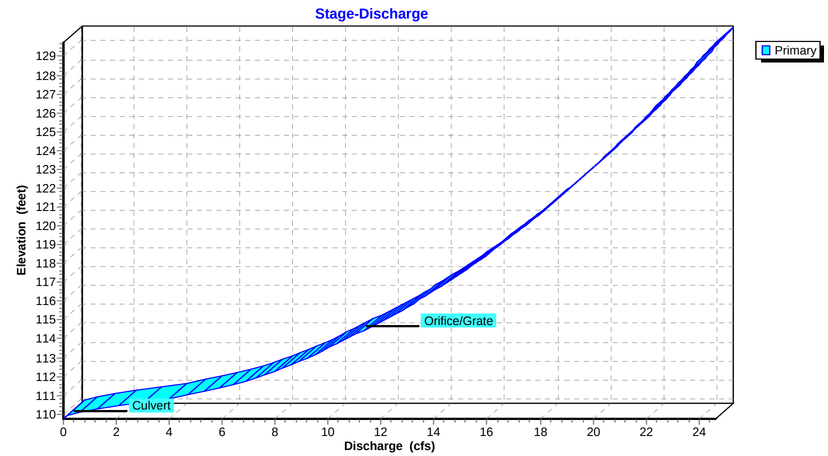
Device	Routing	Invert	Outlet Devices
#1	Primary	109.75'	**15.0" Round Culvert** L= 106.1' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 109.75' / 108.88' S= 0.0082 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.25'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=9.79 cfs @ 12.09 hrs HW=128.71' TW=125.64' (Dynamic Tailwater)
1=Culvert (Outlet Controls 9.55 cfs @ 7.78 fps)
2=Orifice/Grate (Orifice Controls 0.23 cfs @ 8.45 fps)

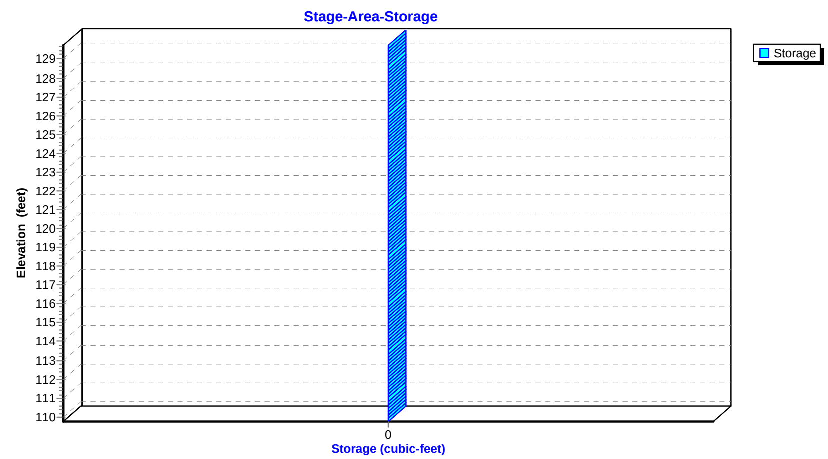
Pond 18P: CB-SE Pkg3



Pond 18P: CB-SE Pkg3



Pond 18P: CB-SE Pkg3



Summary for Pond 20P: CB-SE Pkg4

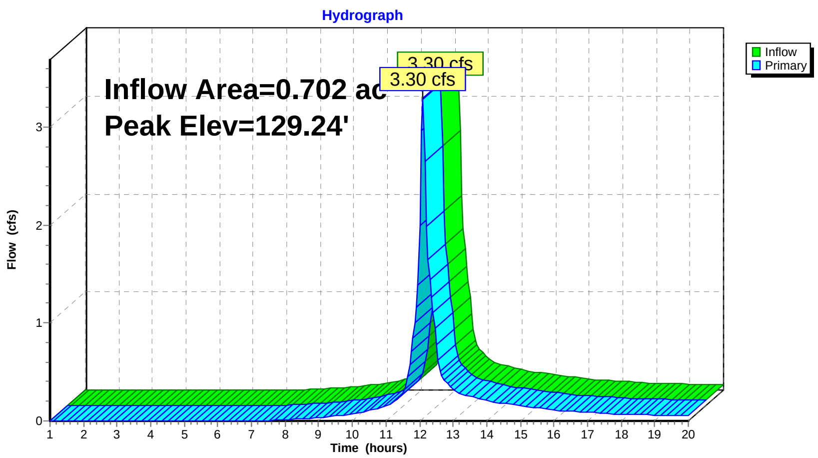
Inflow Area = 0.702 ac, 65.00% Impervious, Inflow Depth > 3.84" for 100-Year event
Inflow = 3.30 cfs @ 12.09 hrs, Volume= 0.225 af
Outflow = 3.30 cfs @ 12.09 hrs, Volume= 0.225 af, Atten= 0%, Lag= 0.0 min
Primary = 3.30 cfs @ 12.09 hrs, Volume= 0.225 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 129.24' @ 12.10 hrs

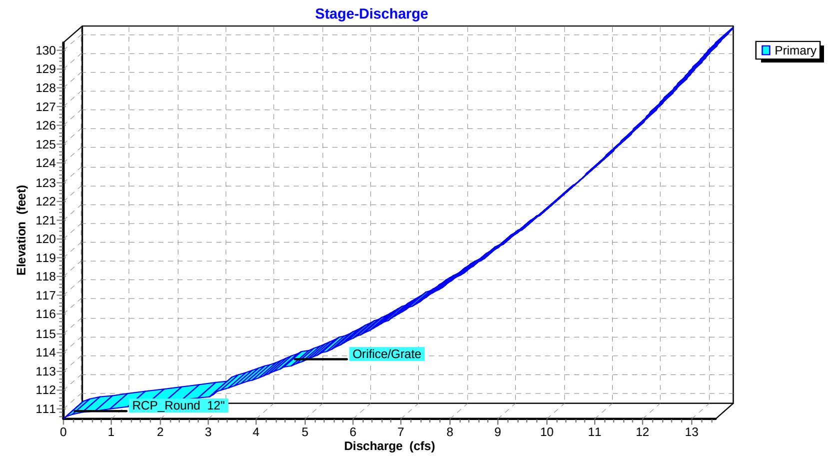
Device	Routing	Invert	Outlet Devices
#1	Primary	110.48'	**12.0" Round RCP_Round 12"** L= 140.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.48' / 109.75' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	113.20'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 12.09 hrs HW=128.37' TW=129.01' (Dynamic Tailwater)
1=RCP_Round 12" (Controls 0.00 cfs)
2=Orifice/Grate (Controls 0.00 cfs)

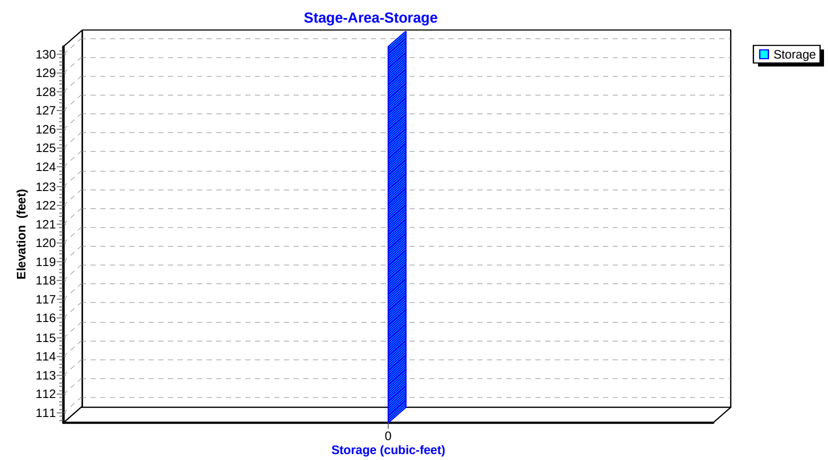
Pond 20P: CB-SE Pkg4



Pond 20P: CB-SE Pkg4



Pond 20P: CB-SE Pkg4



Summary for Pond 22P: CB-SE Pkg5

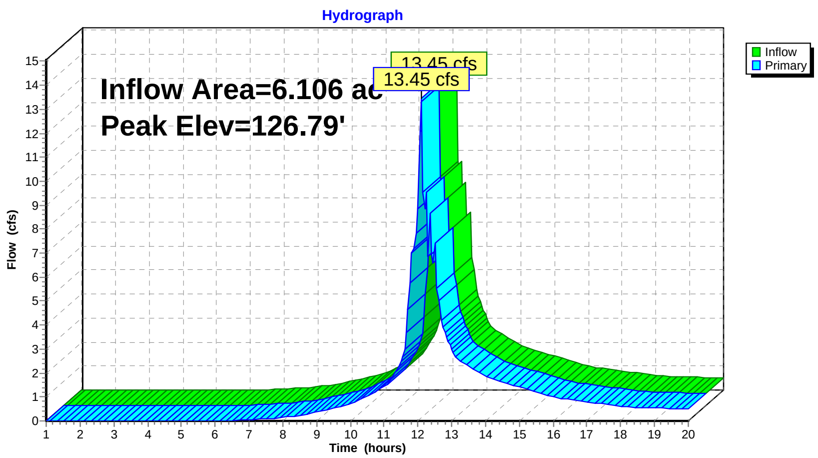
Inflow Area =	6.106 ac, 63.75% Impervious, Inflow Depth > 3.27" for 100-Year event			
Inflow =	13.45 cfs @	12.09 hrs, Volume=	1.663 af	
Outflow =	13.45 cfs @	12.09 hrs, Volume=	1.663 af,	Atten= 0%, Lag= 0.0 min
Primary =	13.45 cfs @	12.09 hrs, Volume=	1.663 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 126.79' @ 12.09 hrs

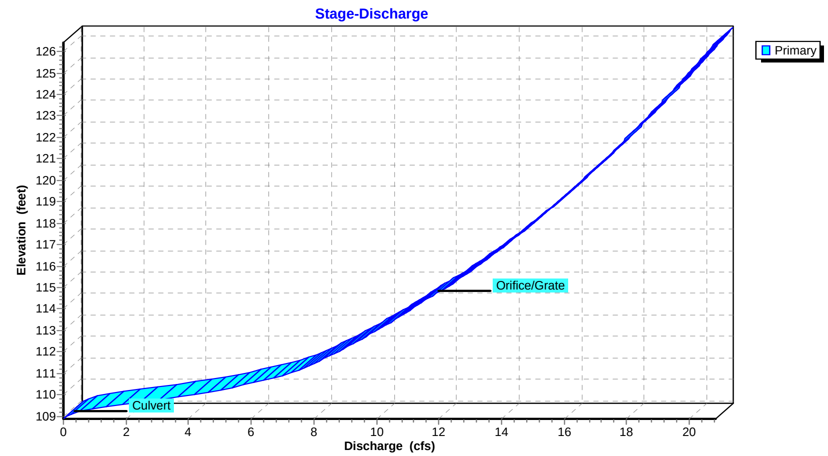
Device	Routing	Invert	Outlet Devices
#1	Primary	108.88'	**15.0" Round Culvert** L= 157.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 108.88' / 107.48' S= 0.0089 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=13.20 cfs @ 12.09 hrs HW=125.67' TW=118.64' (Dynamic Tailwater)
1=Culvert (Outlet Controls 12.84 cfs @ 10.47 fps)
2=Orifice/Grate (Orifice Controls 0.35 cfs @ 12.76 fps)

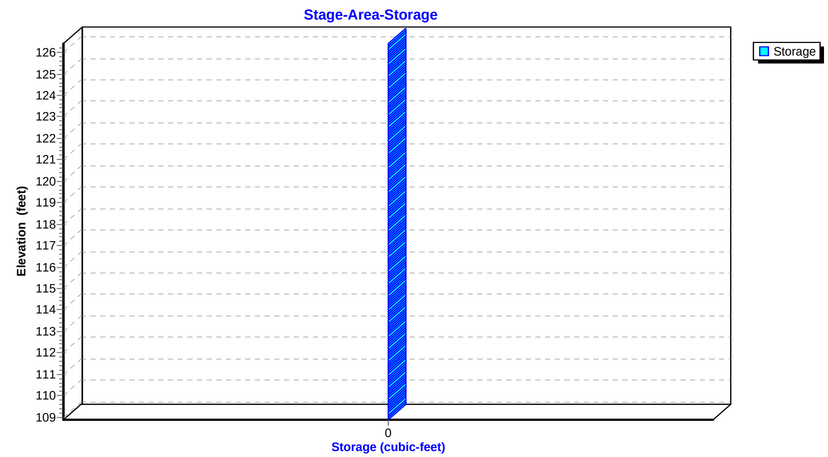
Pond 22P: CB-SE Pkg5



Pond 22P: CB-SE Pkg5



Pond 22P: CB-SE Pkg5



Summary for Pond 24P: CB-SE Pkg6

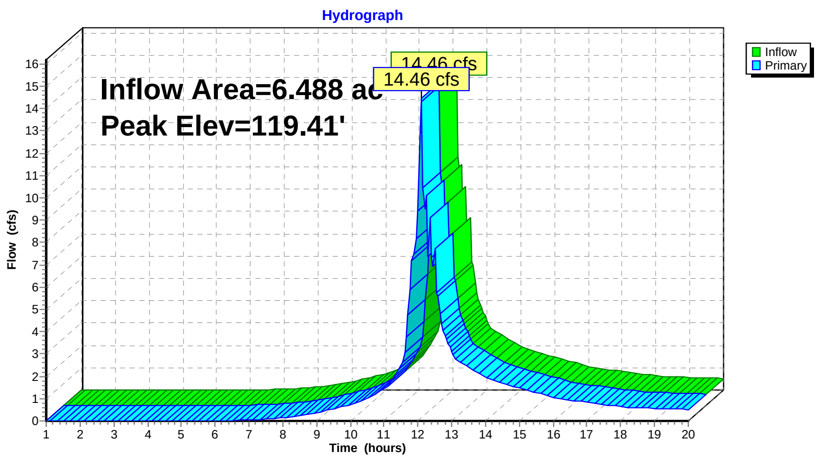
Inflow Area = 6.488 ac, 62.06% Impervious, Inflow Depth > 3.20" for 100-Year event
Inflow = 14.46 cfs @ 12.09 hrs, Volume= 1.733 af
Outflow = 14.46 cfs @ 12.09 hrs, Volume= 1.733 af, Atten= 0%, Lag= 0.0 min
Primary = 14.46 cfs @ 12.09 hrs, Volume= 1.733 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 119.41' @ 12.09 hrs

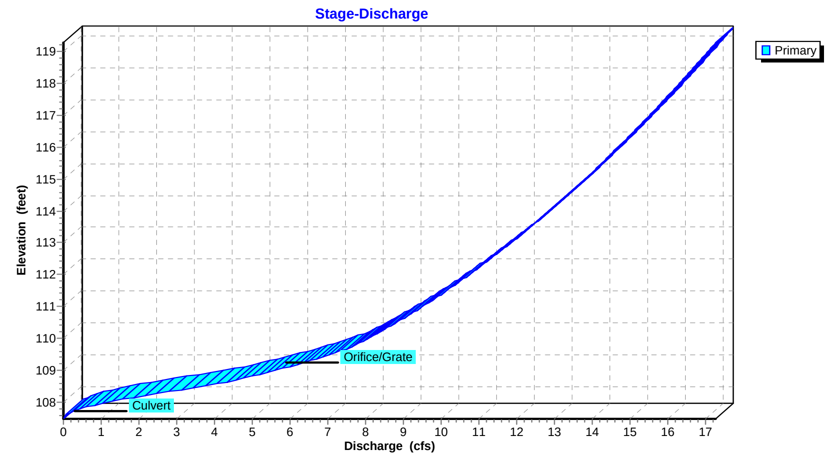
Device	Routing	Invert	Outlet Devices
#1	Primary	107.48'	**15.0" Round Culvert** L= 154.4' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 107.48' / 106.10' S= 0.0089 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	109.00'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=13.99 cfs @ 12.09 hrs HW=118.68' TW=110.88' (Dynamic Tailwater)
1=Culvert (Outlet Controls 13.62 cfs @ 11.10 fps)
2=Orifice/Grate (Orifice Controls 0.37 cfs @ 13.45 fps)

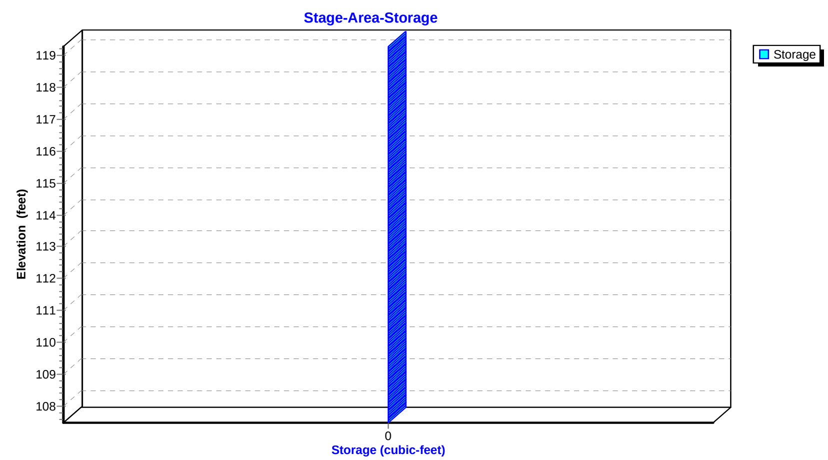
Pond 24P: CB-SE Pkg6



Pond 24P: CB-SE Pkg6



Pond 24P: CB-SE Pkg6



Summary for Pond 26P: CB-SE Pkg7

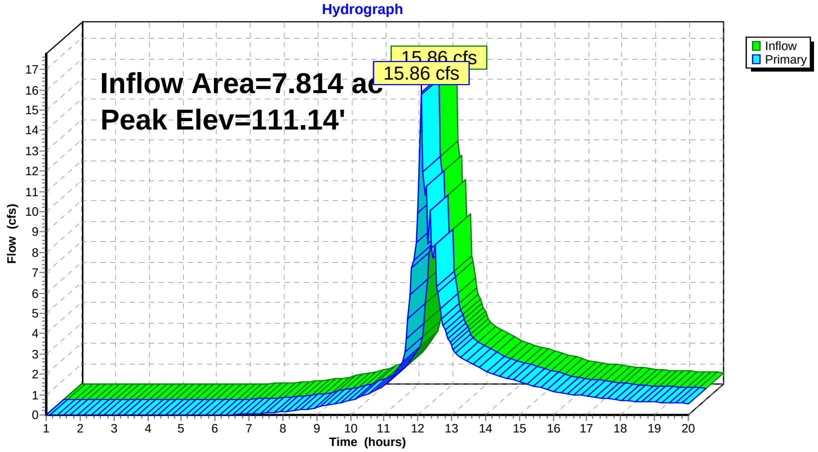
Inflow Area =	7.814 ac, 54.07% Impervious, Inflow Depth > 2.86"	for 100-Year event		
Inflow =	15.86 cfs @	12.09 hrs, Volume=	1.865 af	
Outflow =	15.86 cfs @	12.09 hrs, Volume=	1.865 af,	Atten= 0%, Lag= 0.0 min
Primary =	15.86 cfs @	12.09 hrs, Volume=	1.865 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 111.14' @ 12.09 hrs

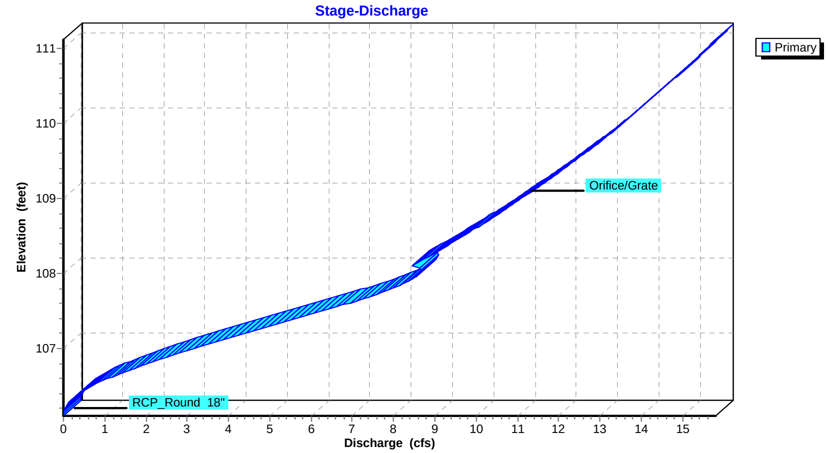
Device	Routing	Invert	Outlet Devices
#1	Primary	106.10'	**18.0" Round RCP_Round 18"** L= 154.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 106.10' / 105.35' S= 0.0049 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Primary	109.00'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=15.47 cfs @ 12.09 hrs HW=110.94' TW=0.00' (Dynamic Tailwater)
1=RCP_Round 18" (Barrel Controls 15.29 cfs @ 8.65 fps)
2=Orifice/Grate (Orifice Controls 0.19 cfs @ 6.71 fps)

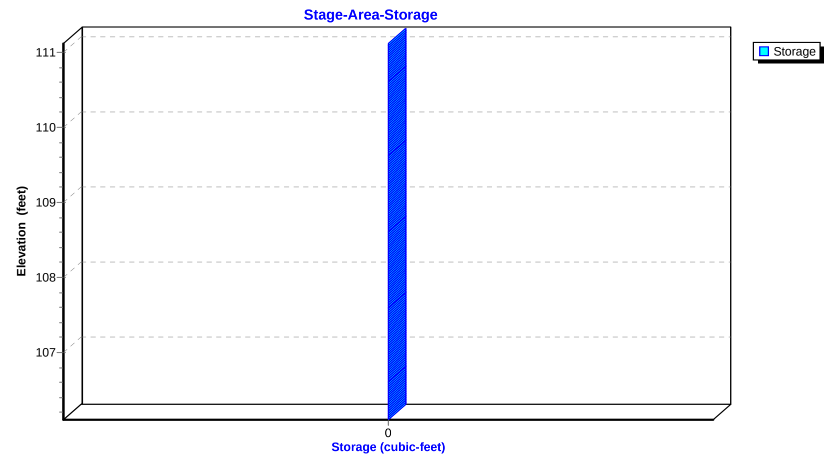
Pond 26P: CB-SE Pkg7



Pond 26P: CB-SE Pkg7



Pond 26P: CB-SE Pkg7



Summary for Pond 28P: CB-N F1

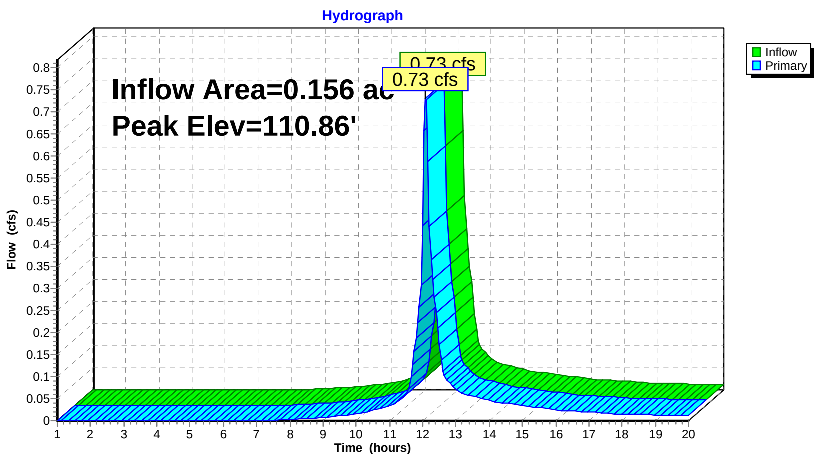
Inflow Area = 0.156 ac, 65.00% Impervious, Inflow Depth > 3.84" for 100-Year event
Inflow = 0.73 cfs @ 12.09 hrs, Volume= 0.050 af
Outflow = 0.73 cfs @ 12.09 hrs, Volume= 0.050 af, Atten= 0%, Lag= 0.0 min
Primary = 0.73 cfs @ 12.09 hrs, Volume= 0.050 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 110.86' @ 12.09 hrs

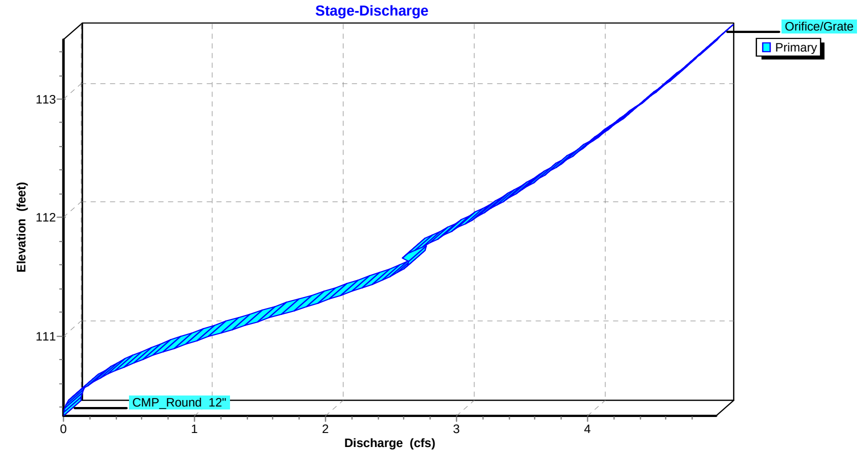
Device	Routing	Invert	Outlet Devices
#1	Primary	110.33'	**12.0" Round CMP_Round 12"** L= 111.7' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.33' / 110.00' S= 0.0030 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	113.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.72 cfs @ 12.09 hrs HW=110.85' TW=0.00' (Dynamic Tailwater)
1=CMP_Round 12" (Barrel Controls 0.72 cfs @ 2.52 fps)
2=Orifice/Grate (Controls 0.00 cfs)

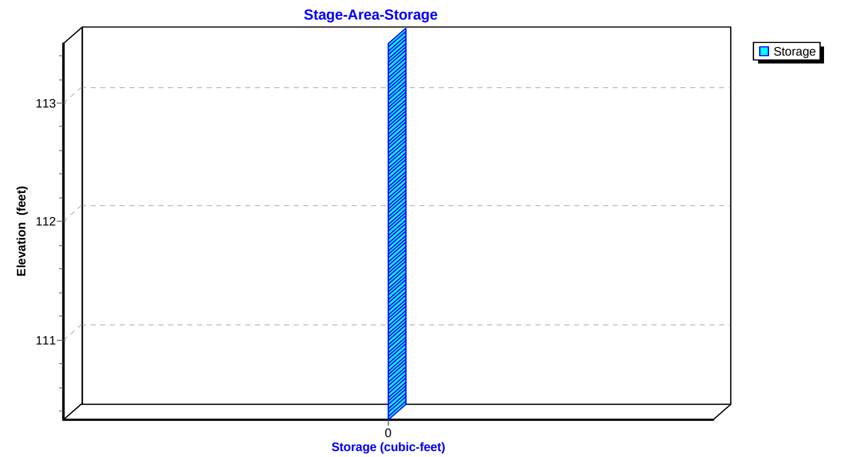
Pond 28P: CB-N F1



Pond 28P: CB-N F1



Pond 28P: CB-N F1



Summary for Pond 30P: CB-N F2

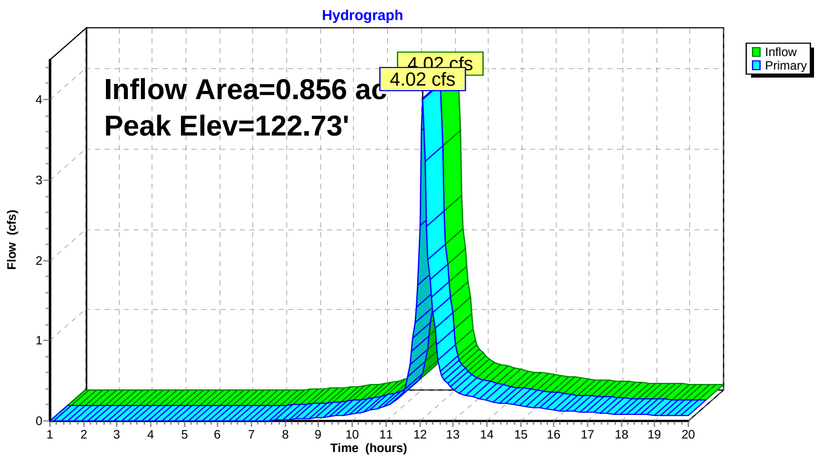
Inflow Area = 0.856 ac, 65.00% Impervious, Inflow Depth > 3.84" for 100-Year event
Inflow = 4.02 cfs @ 12.09 hrs, Volume= 0.274 af
Outflow = 4.02 cfs @ 12.09 hrs, Volume= 0.274 af, Atten= 0%, Lag= 0.0 min
Primary = 4.02 cfs @ 12.09 hrs, Volume= 0.274 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 122.73' @ 12.09 hrs

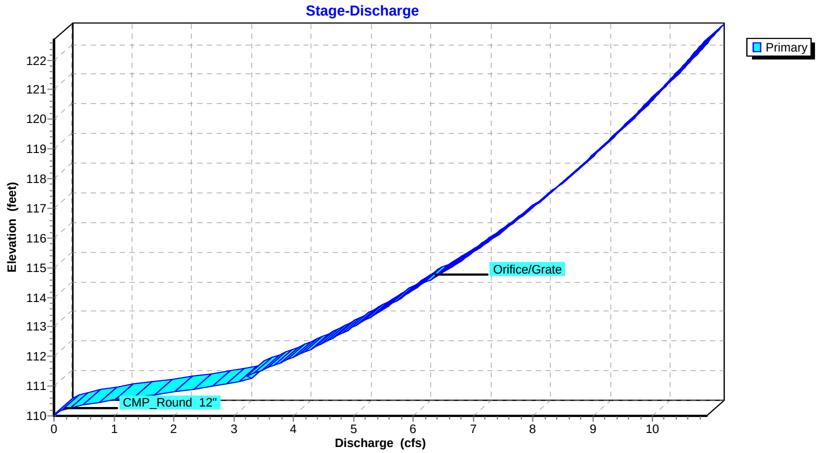
Device	Routing	Invert	Outlet Devices
#1	Primary	110.00'	**12.0" Round CMP_Round 12"** L= 133.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.00' / 109.17' S= 0.0062 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=3.94 cfs @ 12.09 hrs HW=122.21' TW=120.60' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 3.77 cfs @ 4.80 fps)
2=Orifice/Grate (Orifice Controls 0.17 cfs @ 6.11 fps)

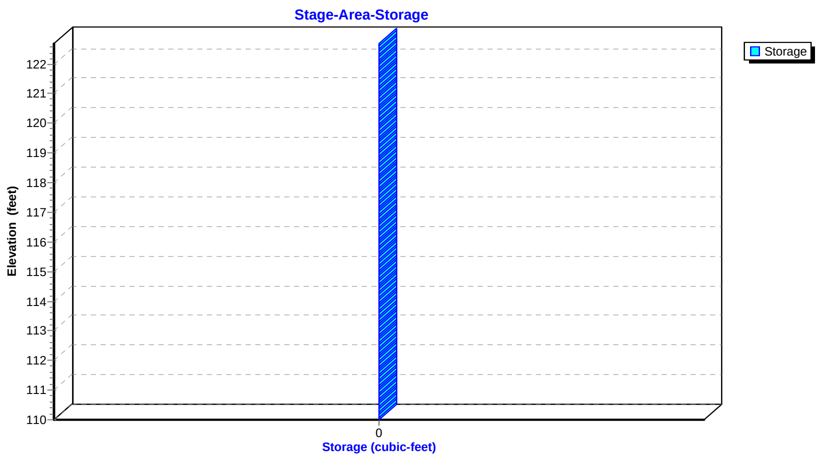
Pond 30P: CB-N F2



Pond 30P: CB-N F2



Pond 30P: CB-N F2



Summary for Pond 32P: CB-N F3

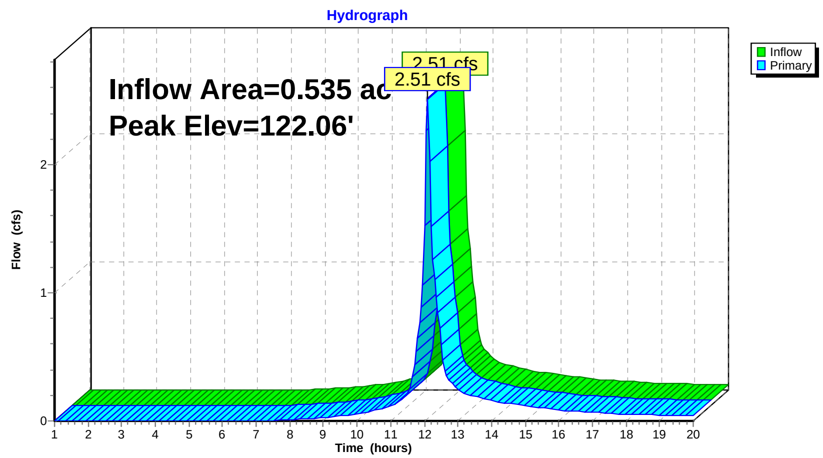
Inflow Area = 0.535 ac, 65.00% Impervious, Inflow Depth > 3.84" for 100-Year event
Inflow = 2.51 cfs @ 12.09 hrs, Volume= 0.171 af
Outflow = 2.51 cfs @ 12.09 hrs, Volume= 0.171 af, Atten= 0%, Lag= 0.0 min
Primary = 2.51 cfs @ 12.09 hrs, Volume= 0.171 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 122.06' @ 12.11 hrs

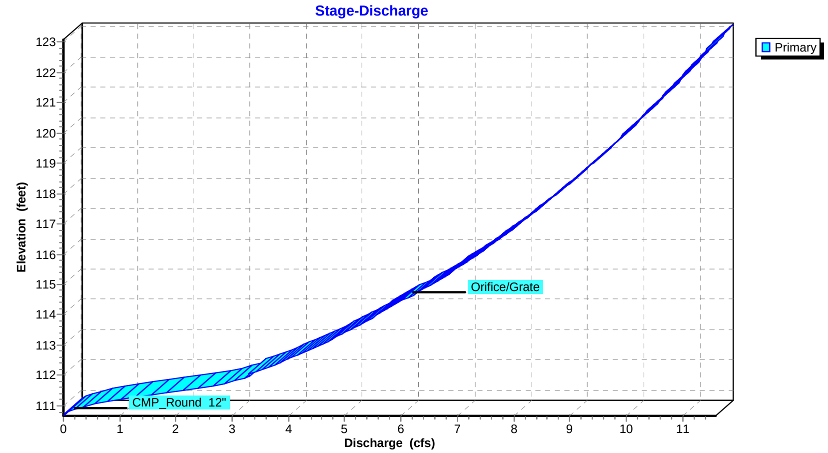
Device	Routing	Invert	Outlet Devices
#1	Primary	110.67'	**12.0" Round CMP_Round 12"** L= 103.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.67' / 110.00' S= 0.0065 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 12.09 hrs HW=121.19' TW=122.21' (Dynamic Tailwater)
└**1=CMP_Round 12"** (Controls 0.00 cfs)
└**2=Orifice/Grate** (Controls 0.00 cfs)

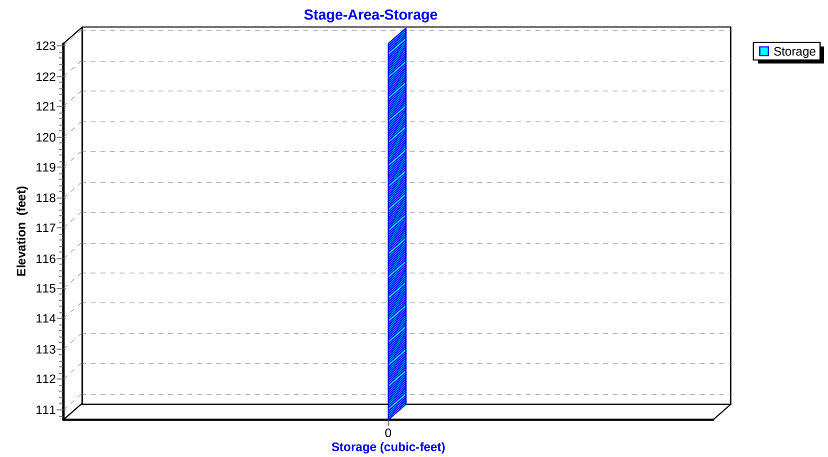
Pond 32P: CB-N F3



Pond 32P: CB-N F3



Pond 32P: CB-N F3



Summary for Pond 34P: CB-N F4

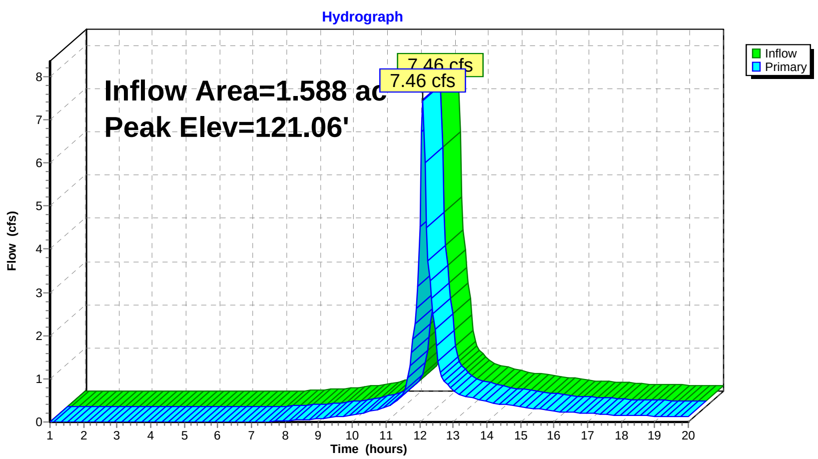
Inflow Area = 1.588 ac, 65.00% Impervious, Inflow Depth > 3.84" for 100-Year event
Inflow = 7.46 cfs @ 12.09 hrs, Volume= 0.508 af
Outflow = 7.46 cfs @ 12.09 hrs, Volume= 0.508 af, Atten= 0%, Lag= 0.0 min
Primary = 7.46 cfs @ 12.09 hrs, Volume= 0.508 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 121.06' @ 12.09 hrs

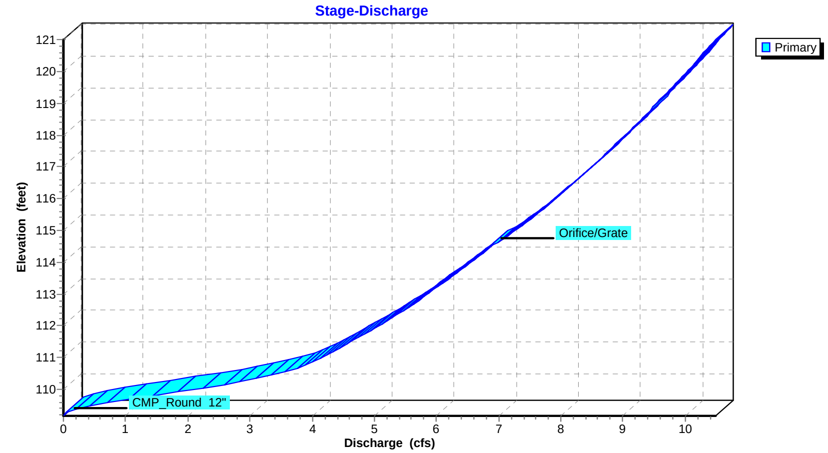
Device	Routing	Invert	Outlet Devices
#1	Primary	109.17'	**12.0" Round CMP_Round 12"** L= 139.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 109.17' / 108.00' S= 0.0084 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=7.31 cfs @ 12.09 hrs HW=120.60' TW=114.90' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 6.99 cfs @ 8.91 fps)
2=Orifice/Grate (Orifice Controls 0.32 cfs @ 11.50 fps)

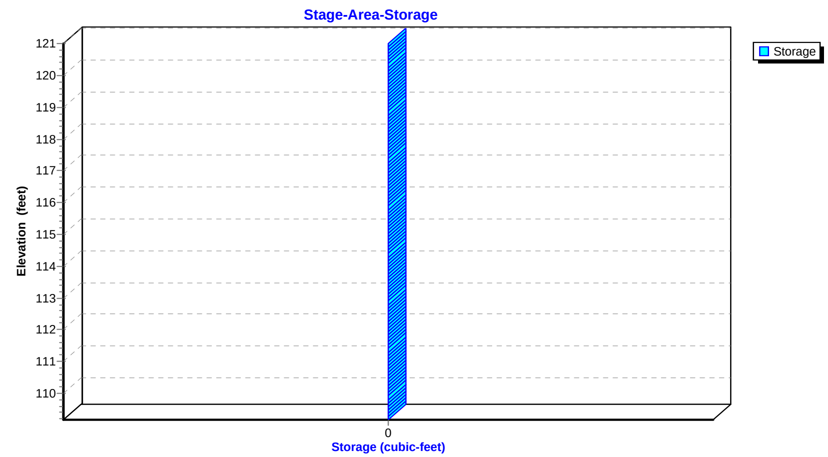
Pond 34P: CB-N F4



Pond 34P: CB-N F4



Pond 34P: CB-N F4



Summary for Pond 36P: CB-N F5

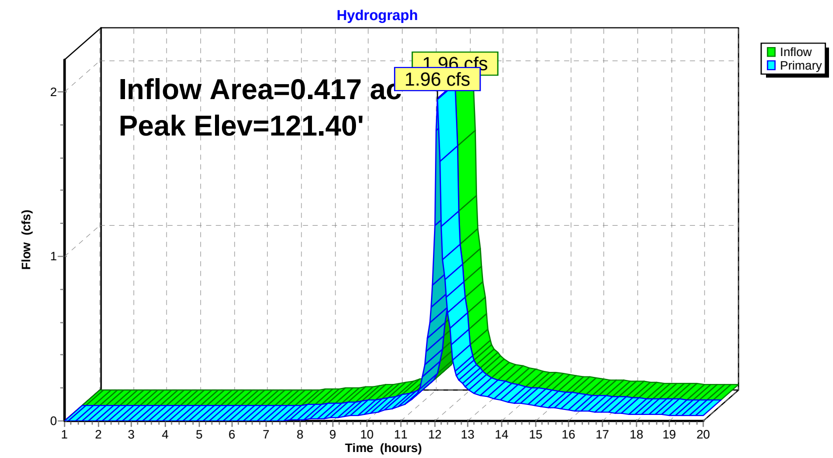
Inflow Area = 0.417 ac, 65.00% Impervious, Inflow Depth > 3.84" for 100-Year event
Inflow = 1.96 cfs @ 12.09 hrs, Volume= 0.133 af
Outflow = 1.96 cfs @ 12.09 hrs, Volume= 0.133 af, Atten= 0%, Lag= 0.0 min
Primary = 1.96 cfs @ 12.09 hrs, Volume= 0.133 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 121.40' @ 12.09 hrs

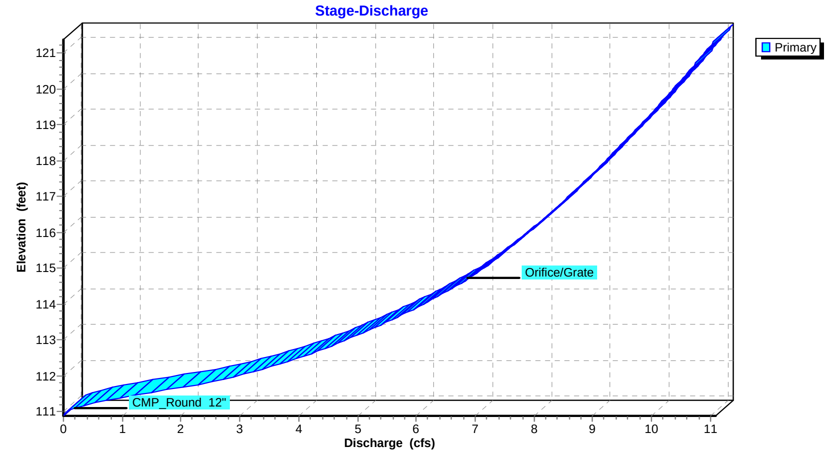
Device	Routing	Invert	Outlet Devices
#1	Primary	110.88'	**12.0" Round CMP_Round 12"** L= 105.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.88' / 109.17' S= 0.0163 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=1.92 cfs @ 12.09 hrs HW=120.93' TW=120.60' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 1.84 cfs @ 2.35 fps)
2=Orifice/Grate (Orifice Controls 0.08 cfs @ 2.77 fps)

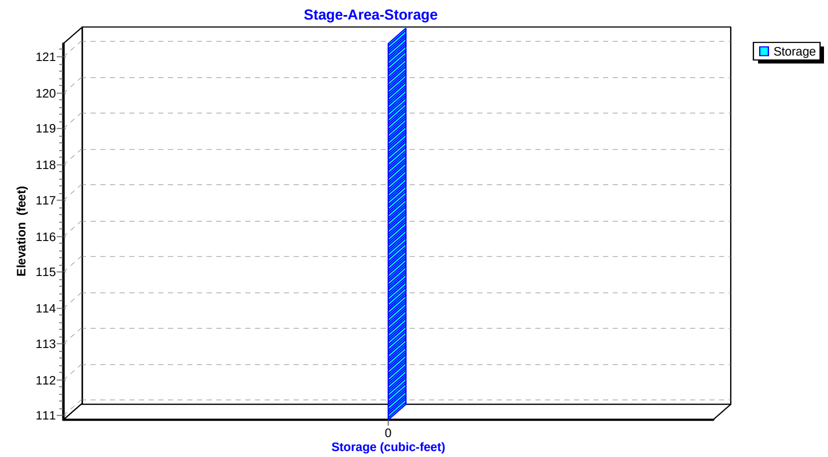
Pond 36P: CB-N F5



Pond 36P: CB-N F5



Pond 36P: CB-N F5



Summary for Pond 38P: CB-N F6

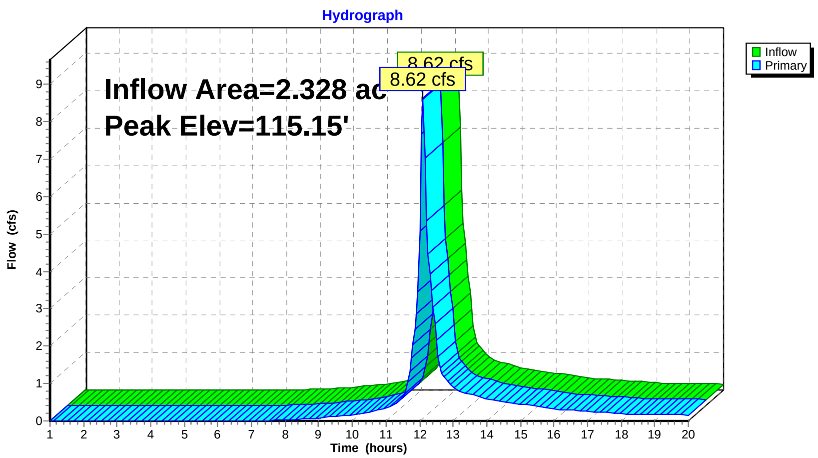
Inflow Area = 2.328 ac, 50.70% Impervious, Inflow Depth > 3.07" for 100-Year event
Inflow = 8.62 cfs @ 12.09 hrs, Volume= 0.596 af
Outflow = 8.62 cfs @ 12.09 hrs, Volume= 0.596 af, Atten= 0%, Lag= 0.0 min
Primary = 8.62 cfs @ 12.09 hrs, Volume= 0.596 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 115.15' @ 12.09 hrs

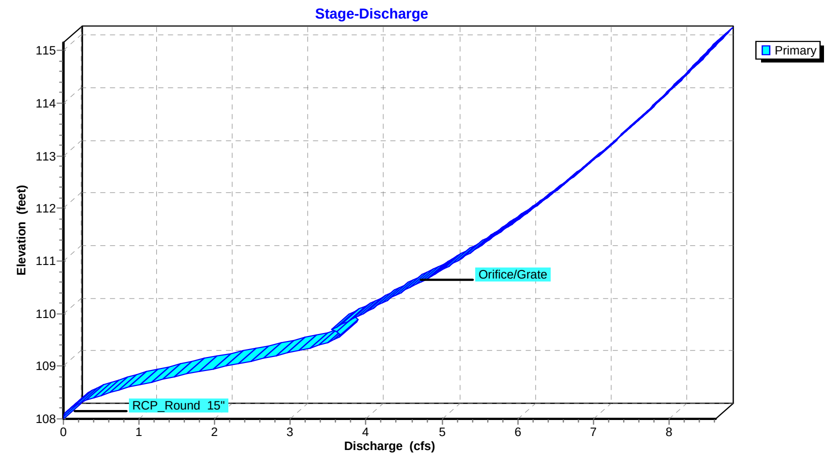
Device	Routing	Invert	Outlet Devices
#1	Primary	108.00'	**15.0" Round RCP_Round 15"** L= 466.8' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 108.00' / 107.25' S= 0.0016 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	110.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=8.49 cfs @ 12.09 hrs HW=114.95' TW=0.00' (Dynamic Tailwater)
1=RCP_Round 15" (Barrel Controls 8.21 cfs @ 6.69 fps)
2=Orifice/Grate (Orifice Controls 0.28 cfs @ 10.16 fps)

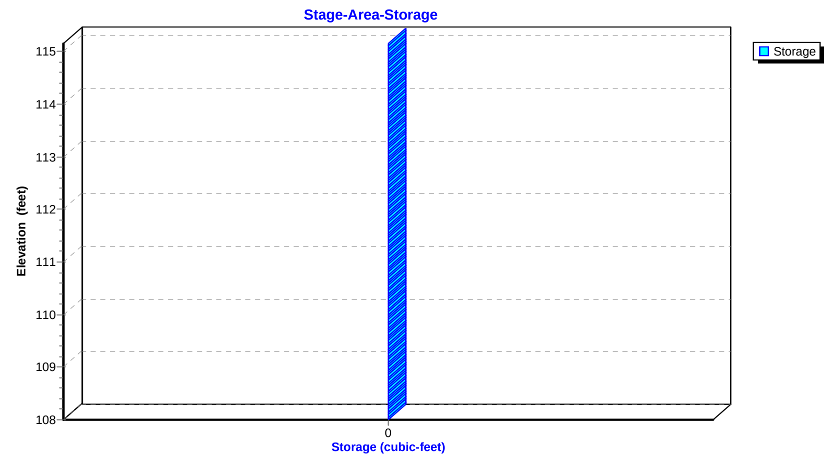
Pond 38P: CB-N F6



Pond 38P: CB-N F6



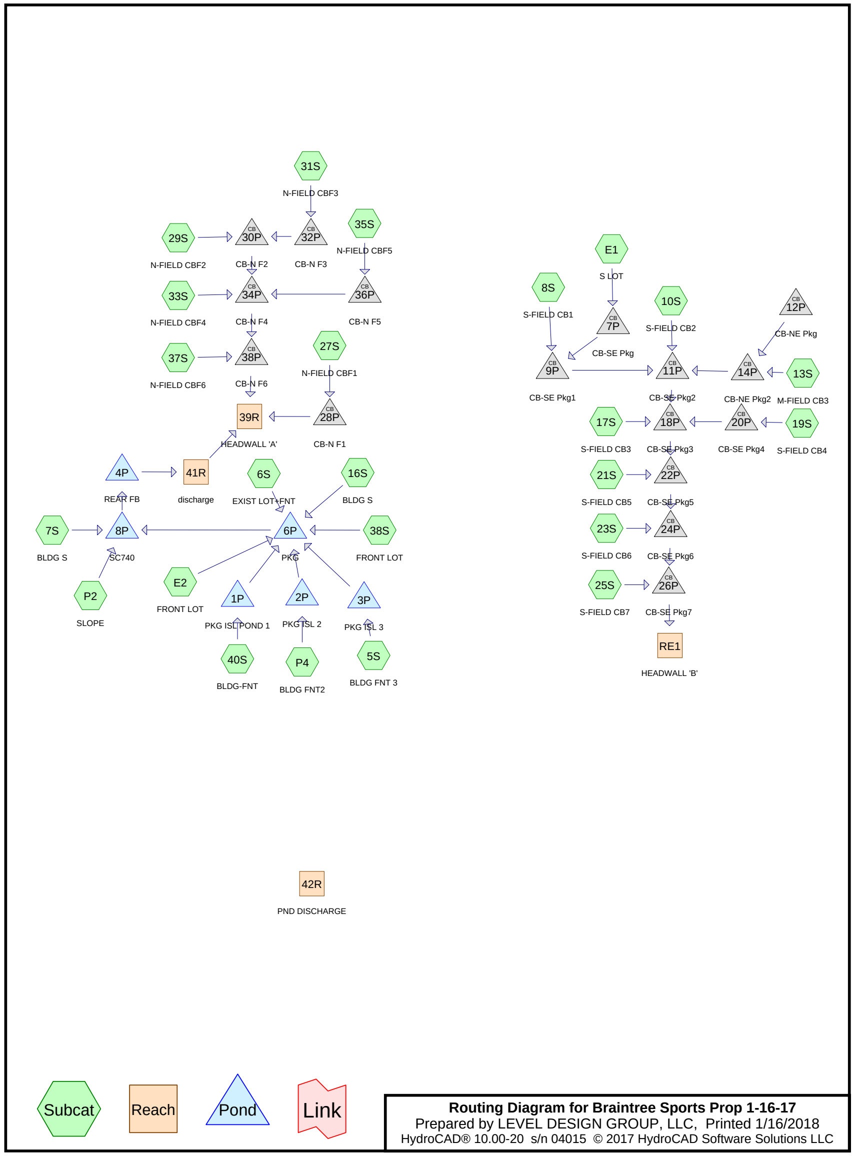
Pond 38P: CB-N F6



HydroCAD Analysis

Proposed Conditions - 100 Year Storm

249 SOUTH STREET UNIT 1 PLAINVILLE MA 02762
TEL 508 695 2221 FAX 508 695 2219 CONTACT@LEVELDG.COM LEVELDG.COM



Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
5.672	39	>75% Grass cover, Good, HSG A (5S, 6S, 8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S, 38S, 40S, E1, E2, P2, P4)
3.255	98	Paved Track, HSG A (8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S)
5.022	98	Paved parking, HSG A (5S, 6S, 38S, 40S, E1, E2, P4)
0.497	98	Roofs, HSG A (16S)
0.087	98	Unconnected pavement, HSG A (40S, P2)
1.517	98	Unconnected roofs, HSG A (7S)
1.582	32	Woods/grass comb., Good, HSG A (38S, 40S, P2, P4)
0.483	72	Woods/grass comb., Good, HSG C (E1)
18.115	**73**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
17.632	HSG A	5S, 6S, 7S, 8S, 10S, 13S, 16S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S, 38S, 40S, E1, E2, P2, P4
0.000	HSG B	
0.483	HSG C	E1
0.000	HSG D	
0.000	Other	
18.115		**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
5.672	0.000	0.000	0.000	0.000	5.672	>75% Grass cover, Good	5S, 6S, 8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S, 38S, 40S, E1, E2, P2, P4
3.255	0.000	0.000	0.000	0.000	3.255	Paved Track	8S, 10S, 13S, 17S, 19S, 21S, 23S, 25S, 27S, 29S, 31S, 33S, 35S, 37S
5.022	0.000	0.000	0.000	0.000	5.022	Paved parking	5S, 6S, 38S, 40S, E1, E2, P4
0.497	0.000	0.000	0.000	0.000	0.497	Roofs	16S
0.087	0.000	0.000	0.000	0.000	0.087	Unconnected pavement	40S, P2
1.517	0.000	0.000	0.000	0.000	1.517	Unconnected roofs	7S
1.582	0.000	0.483	0.000	0.000	2.065	Woods/grass comb., Good	38S, 40S, E1, P2, P4

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
17.632	**0.000**	**0.483**	**0.000**	**0.000**	**18.115**	**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	7S	0.00	0.00	30.0	1.0000	0.012	8.0	0.0	0.0
2	7S	0.00	0.00	560.0	0.0050	0.020	10.0	0.0	0.0
3	16S	0.00	0.00	30.0	1.0000	0.012	8.0	0.0	0.0
4	16S	0.00	0.00	300.0	0.0050	0.020	10.0	0.0	0.0
5	41R	110.85	107.25	663.3	0.0054	0.013	18.0	0.0	0.0
6	42R	115.90	115.06	167.2	0.0050	0.013	24.0	0.0	0.0
7	1P	118.50	117.80	63.3	0.0111	0.013	8.0	0.0	0.0
8	2P	118.00	117.80	40.1	0.0050	0.013	12.0	0.0	0.0
9	3P	117.40	117.02	77.2	0.0049	0.013	8.0	0.0	0.0
10	4P	115.50	115.40	15.0	0.0067	0.013	12.0	0.0	0.0
11	6P	117.00	116.00	80.0	0.0125	0.013	10.0	0.0	0.0
12	7P	113.30	111.17	71.2	0.0299	0.011	12.0	0.0	0.0
13	7P	113.20	116.00	39.5	-0.0709	0.013	8.0	0.0	0.0
14	8P	114.50	114.50	77.0	0.0000	0.013	15.0	0.0	0.0
15	9P	111.17	110.70	90.3	0.0052	0.011	12.0	0.0	0.0
16	11P	110.70	109.75	134.5	0.0071	0.011	15.0	0.0	0.0
17	12P	111.40	111.36	76.0	0.0005	0.011	12.0	0.0	0.0
18	14P	111.36	110.70	105.0	0.0063	0.011	12.0	0.0	0.0
19	18P	109.75	108.88	106.1	0.0082	0.011	15.0	0.0	0.0
20	20P	110.48	109.75	140.2	0.0052	0.011	12.0	0.0	0.0
21	22P	108.88	107.48	157.5	0.0089	0.011	15.0	0.0	0.0
22	24P	107.48	106.10	154.4	0.0089	0.011	15.0	0.0	0.0
23	26P	106.10	105.35	154.4	0.0049	0.011	18.0	0.0	0.0
24	28P	110.33	110.00	111.7	0.0030	0.011	12.0	0.0	0.0
25	30P	110.00	109.17	133.5	0.0062	0.011	12.0	0.0	0.0
26	32P	110.67	110.00	103.5	0.0065	0.011	12.0	0.0	0.0
27	34P	109.17	108.00	139.2	0.0084	0.011	12.0	0.0	0.0
28	36P	110.88	109.17	105.0	0.0163	0.011	12.0	0.0	0.0
29	38P	108.00	107.25	466.8	0.0016	0.011	15.0	0.0	0.0

Time span=1.00-20.00 hrs, dt=0.05 hrs, 381 points x 3
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment 5S: BLDG FNT 3 Runoff Area=14,580 sf 95.34% Impervious Runoff Depth>5.81"
Flow Length=172' Tc=6.0 min CN=95 Runoff=2.11 cfs 0.162 af

Subcatchment 6S: EXIST LOT+FNT Runoff Area=42,707 sf 78.43% Impervious Runoff Depth>4.69"
Flow Length=80' Slope=0.0300 '/' Tc=6.0 min CN=85 Runoff=5.44 cfs 0.383 af

Subcatchment 7S: BLDG S Runoff Area=66,063 sf 100.00% Impervious Runoff Depth>6.17"
Flow Length=760' Tc=6.0 min CN=98 Runoff=9.73 cfs 0.779 af

Subcatchment 8S: S-FIELD CB1 Runoff Area=11,548 sf 60.17% Impervious Runoff Depth>3.53"
Flow Length=80' Tc=6.0 min CN=74 Runoff=1.15 cfs 0.078 af

Subcatchment 10S: S-FIELD CB2 Runoff Area=21,998 sf 60.00% Impervious Runoff Depth>3.53"
Flow Length=230' Slope=0.0150 '/' Tc=6.0 min CN=74 Runoff=2.19 cfs 0.149 af

Subcatchment 13S: M-FIELD CB3 Runoff Area=16,265 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=151' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.75 cfs 0.119 af

Subcatchment 16S: BLDG S Runoff Area=21,647 sf 100.00% Impervious Runoff Depth>6.17"
Flow Length=393' Tc=6.0 min CN=98 Runoff=3.19 cfs 0.255 af

Subcatchment 17S: S-FIELD CB3 Runoff Area=13,522 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=85' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.46 cfs 0.099 af

Subcatchment 19S: S-FIELD CB4 Runoff Area=30,595 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=297' Tc=6.0 min CN=77 Runoff=3.30 cfs 0.225 af

Subcatchment 21S: S-FIELD CB5 Runoff Area=18,600 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=149' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=2.00 cfs 0.136 af

Subcatchment 23S: S-FIELD CB6 Runoff Area=16,672 sf 35.00% Impervious Runoff Depth>2.19"
Flow Length=131' Slope=0.0200 '/' Tc=6.2 min CN=60 Runoff=1.01 cfs 0.070 af

Subcatchment 25S: S-FIELD CB7 Runoff Area=57,741 sf 15.00% Impervious Runoff Depth>1.19"
Flow Length=330' Tc=7.6 min CN=48 Runoff=1.54 cfs 0.132 af

Subcatchment 27S: N-FIELD CBF1 Runoff Area=6,780 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=80' Tc=6.0 min CN=77 Runoff=0.73 cfs 0.050 af

Subcatchment 29S: N-FIELD CBF2 Runoff Area=13,971 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=100' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.51 cfs 0.103 af

Subcatchment 31S: N-FIELD CBF3 Runoff Area=23,311 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=129' Tc=6.0 min CN=77 Runoff=2.51 cfs 0.171 af

Subcatchment 33S: N-FIELD CBF4 Runoff Area=13,725 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=93' Tc=6.0 min CN=77 Runoff=1.48 cfs 0.101 af

Subcatchment 35S: N-FIELD CBF5 Runoff Area=18,186 sf 65.00% Impervious Runoff Depth>3.84"
Flow Length=170' Slope=0.0150 '/' Tc=6.0 min CN=77 Runoff=1.96 cfs 0.133 af

Subcatchment 37S: N-FIELD CBF6 Runoff Area=32,216 sf 20.00% Impervious Runoff Depth>1.43"
Flow Length=280' Slope=0.0200 '/' Tc=6.0 min CN=51 Runoff=1.18 cfs 0.088 af

Subcatchment 38S: FRONT LOT Runoff Area=49,740 sf 52.83% Impervious Runoff Depth>2.92"
Flow Length=670' Tc=18.0 min CN=68 Runoff=2.96 cfs 0.278 af

Subcatchment 40S: BLDG-FNT Runoff Area=37,001 sf 40.61% Impervious Runoff Depth>2.10"
Flow Length=168' Tc=10.1 min CN=59 Runoff=1.89 cfs 0.149 af

Subcatchment E1: S LOT Runoff Area=153,436 sf 63.92% Impervious Runoff Depth>4.25"
Flow Length=334' Tc=10.1 min CN=81 Runoff=15.94 cfs 1.248 af

Subcatchment E2: FRONT LOT Runoff Area=12,716 sf 96.08% Impervious Runoff Depth>5.92"
Flow Length=670' Tc=18.0 min CN=96 Runoff=1.35 cfs 0.144 af

Subcatchment P2: SLOPE Runoff Area=60,052 sf 3.81% Impervious Runoff Depth>0.51"
Flow Length=180' Tc=9.6 min UI Adjusted CN=38 Runoff=0.36 cfs 0.058 af

Subcatchment P4: BLDG FNT2 Runoff Area=36,024 sf 59.08% Impervious Runoff Depth>3.23"
Flow Length=195' Tc=9.4 min CN=71 Runoff=2.95 cfs 0.222 af

Reach 39R: HEADWALL 'A' Inflow=9.35 cfs 0.842 af
Outflow=9.35 cfs 0.842 af

Reach 41R: discharge Avg. Flow Depth=0.50' Max Vel=3.60 fps Inflow=1.86 cfs 0.197 af
18.0" Round Pipe n=0.013 L=663.3' S=0.0054 '/' Capacity=7.74 cfs Outflow=1.85 cfs 0.197 af

Reach 42R: PND DISCHARGE Avg. Flow Depth=0.00' Max Vel=0.00 fps
24.0" Round Pipe n=0.013 L=167.2' S=0.0050 '/' Capacity=16.03 cfs Outflow=0.00 cfs 0.000 af

Reach RE1: HEADWALL 'B' Inflow=15.86 cfs 1.865 af
Outflow=15.86 cfs 1.865 af

Pond 1P: PKG ISL POND 1 Peak Elev=120.74' Storage=1,668 cf Inflow=1.89 cfs 0.149 af
Discarded=0.09 cfs 0.031 af Primary=0.74 cfs 0.117 af Outflow=0.84 cfs 0.147 af

Pond 2P: PKG ISL 2 Peak Elev=120.18' Storage=1,417 cf Inflow=2.95 cfs 0.222 af
Discarded=0.12 cfs 0.046 af Primary=2.77 cfs 0.175 af Outflow=2.89 cfs 0.221 af

Pond 3P: PKG ISL 3 Peak Elev=119.60' Storage=1,281 cf Inflow=2.11 cfs 0.162 af
Discarded=0.12 cfs 0.068 af Primary=1.34 cfs 0.094 af Outflow=1.46 cfs 0.162 af

Pond 4P: REAR FB Peak Elev=116.45' Storage=10,441 cf Inflow=5.51 cfs 0.568 af
Discarded=0.77 cfs 0.371 af Primary=1.86 cfs 0.197 af Outflow=2.62 cfs 0.567 af

Pond 6P: PKG Peak Elev=118.65' Storage=17,389 cf Inflow=13.84 cfs 1.446 af
Discarded=1.24 cfs 0.763 af Primary=6.89 cfs 0.571 af Outflow=8.14 cfs 1.334 af

Pond 7P: CB-SE Pkg Peak Elev=125.48' Inflow=15.94 cfs 1.248 af
Primary=4.62 cfs 0.857 af Secondary=16.08 cfs 0.403 af Outflow=15.94 cfs 1.248 af

Pond 8P: SC740 Peak Elev=116.93' Storage=17,483 cf Inflow=10.56 cfs 1.408 af
Discarded=1.26 cfs 0.813 af Primary=5.51 cfs 0.568 af Outflow=6.77 cfs 1.380 af

Pond 9P: CB-SE Pkg1 Peak Elev=130.47' Inflow=4.89 cfs 0.935 af
Outflow=4.89 cfs 0.935 af

Pond 11P: CB-SE Pkg2 Peak Elev=129.64' Inflow=6.71 cfs 1.203 af
Outflow=6.71 cfs 1.203 af

Pond 12P: CB-NE Pkg Peak Elev=0.00'
Primary=0.00 cfs 0.000 af

Pond 14P: CB-NE Pkg2 Peak Elev=130.30' Inflow=1.75 cfs 0.119 af
Outflow=1.75 cfs 0.119 af

Pond 18P: CB-SE Pkg3 Peak Elev=129.85' Inflow=11.45 cfs 1.527 af
Outflow=11.45 cfs 1.527 af

Pond 20P: CB-SE Pkg4 Peak Elev=129.24' Inflow=3.30 cfs 0.225 af
Outflow=3.30 cfs 0.225 af

Pond 22P: CB-SE Pkg5 Peak Elev=126.79' Inflow=13.45 cfs 1.663 af
Outflow=13.45 cfs 1.663 af

Pond 24P: CB-SE Pkg6 Peak Elev=119.41' Inflow=14.46 cfs 1.733 af
Outflow=14.46 cfs 1.733 af

Pond 26P: CB-SE Pkg7 Peak Elev=111.14' Inflow=15.86 cfs 1.865 af
Outflow=15.86 cfs 1.865 af

Pond 28P: CB-N F1 Peak Elev=110.86' Inflow=0.73 cfs 0.050 af
Outflow=0.73 cfs 0.050 af

Pond 30P: CB-N F2 Peak Elev=122.73' Inflow=4.02 cfs 0.274 af
Outflow=4.02 cfs 0.274 af

Pond 32P: CB-N F3 Peak Elev=122.06' Inflow=2.51 cfs 0.171 af
Outflow=2.51 cfs 0.171 af

Pond 34P: CB-N F4 Peak Elev=121.06' Inflow=7.46 cfs 0.508 af
Outflow=7.46 cfs 0.508 af

Pond 36P: CB-N F5 Peak Elev=121.40' Inflow=1.96 cfs 0.133 af
Outflow=1.96 cfs 0.133 af

Pond 38P: CB-N F6 Peak Elev=115.15' Inflow=8.62 cfs 0.596 af
Outflow=8.62 cfs 0.596 af

Total Runoff Area = 18.115 ac Runoff Volume = 5.331 af Average Runoff Depth = 3.53"
42.71% Pervious = 7.737 ac 57.29% Impervious = 10.378 ac

Summary for Subcatchment 5S: BLDG FNT 3

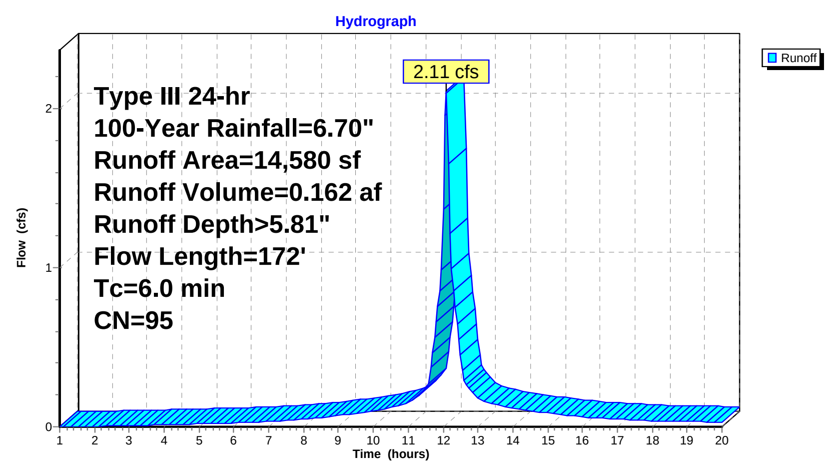
Runoff = 2.11 cfs @ 12.09 hrs, Volume= 0.162 af, Depth> 5.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
13,900	98	Paved parking, HSG A
680	39	>75% Grass cover, Good, HSG A
14,580	95	Weighted Average
680		4.66% Pervious Area
13,900		95.34% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	12	0.0100	0.68		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.8	160	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.9					**Direct Entry,**
6.0	172	Total			

Subcatchment 5S: BLDG FNT 3



Summary for Subcatchment 6S: EXIST LOT+FNT

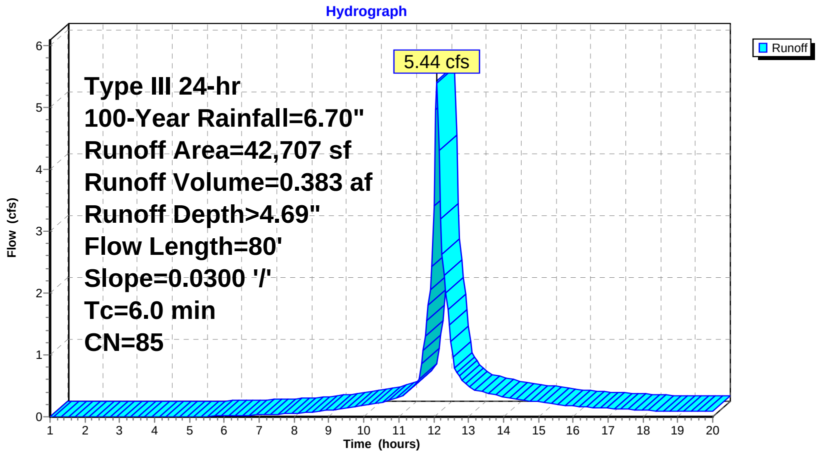
Runoff = 5.44 cfs @ 12.09 hrs, Volume= 0.383 af, Depth> 4.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
33,493	98	Paved parking, HSG A
9,214	39	>75% Grass cover, Good, HSG A
42,707	85	Weighted Average
9,214		21.57% Pervious Area
33,493		78.43% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.3	20	0.0300	1.17		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.3	60	0.0300	3.52		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
5.4					**Direct Entry,**
6.0	80	Total			

Subcatchment 6S: EXIST LOT+FNT



Summary for Subcatchment 7S: BLDG S

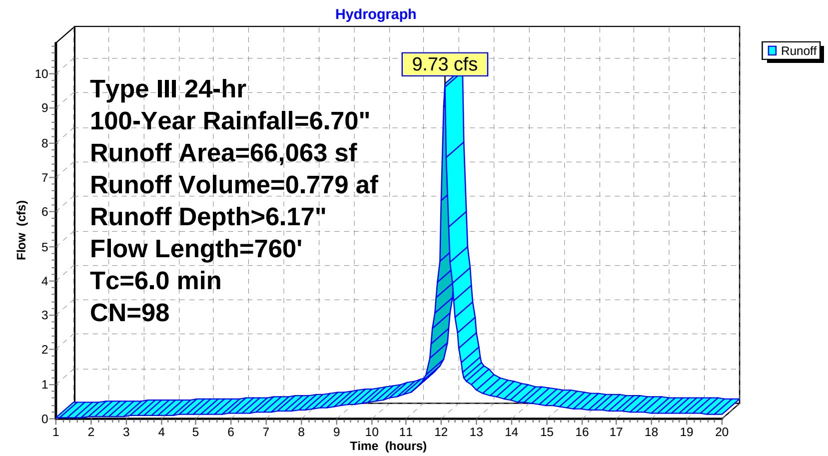
Runoff = 9.73 cfs @ 12.09 hrs, Volume= 0.779 af, Depth> 6.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
66,063	98	Unconnected roofs, HSG A
66,063		100.00% Impervious Area
66,063		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0800	2.08		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.3	120	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.0	30	1.0000	37.50	13.09	**Pipe Channel,** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.012 Steel, smooth
5.1	560	0.0050	1.85	1.01	**Pipe Channel,** 10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21' n= 0.020 Corrugated PE, corrugated interior
0.2					**Direct Entry,**
6.0	760	Total			

Subcatchment 7S: BLDG S



Summary for Subcatchment 8S: S-FIELD CB1

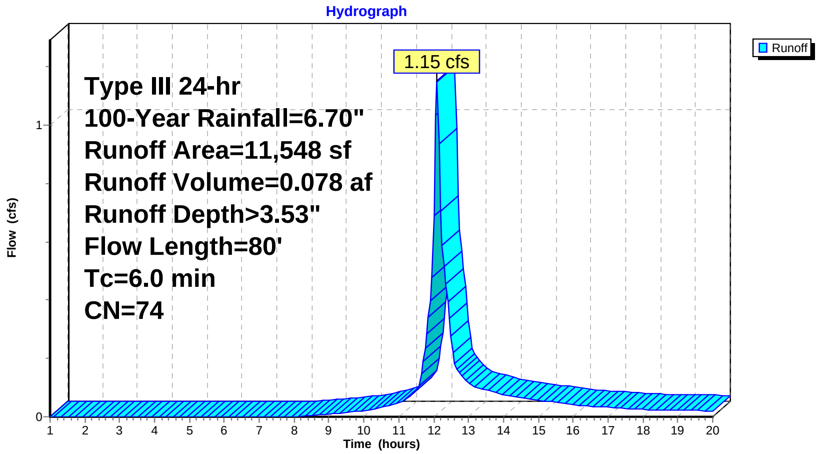
Runoff = 1.15 cfs @ 12.09 hrs, Volume= 0.078 af, Depth> 3.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	6,948	98	Paved Track, HSG A
	4,600	39	>75% Grass cover, Good, HSG A
	11,548	74	Weighted Average
	4,600		39.83% Pervious Area
	6,948		60.17% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.8	50	0.1180	0.30		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.2	30	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
3.0					**Direct Entry,**
6.0	80	Total			

Subcatchment 8S: S-FIELD CB1



Summary for Subcatchment 10S: S-FIELD CB2

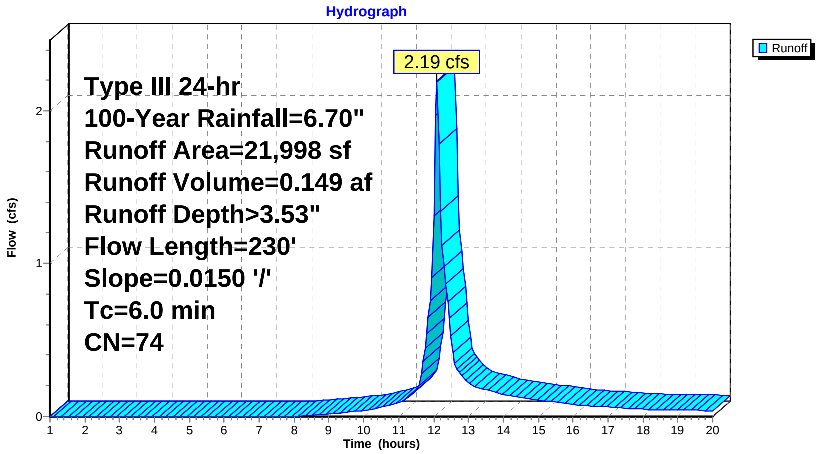
Runoff = 2.19 cfs @ 12.09 hrs, Volume= 0.149 af, Depth> 3.53"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	13,199	98	Paved Track, HSG A
	8,799	39	>75% Grass cover, Good, HSG A
	21,998	74	Weighted Average
	8,799		40.00% Pervious Area
	13,199		60.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.5	180	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
3.7					**Direct Entry, PARKING**
6.0	230	Total			

Subcatchment 10S: S-FIELD CB2



Summary for Subcatchment 13S: M-FIELD CB3

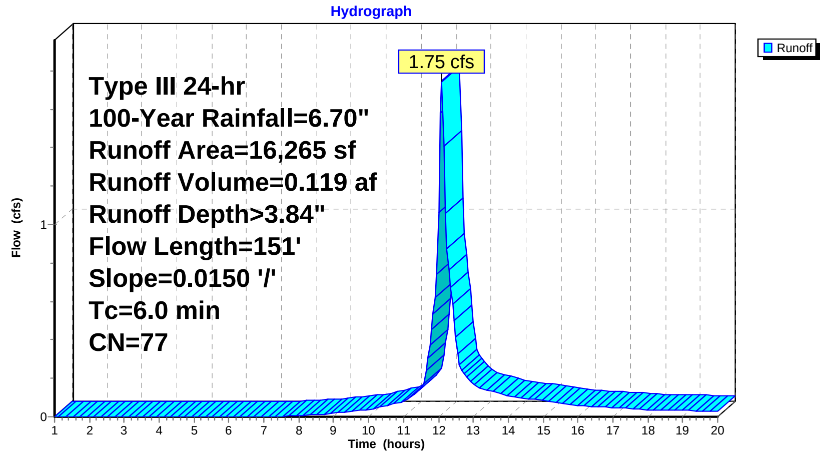
Runoff = 1.75 cfs @ 12.09 hrs, Volume= 0.119 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	10,572	98	Paved Track, HSG A
	5,693	39	>75% Grass cover, Good, HSG A
	16,265	77	Weighted Average
	5,693		35.00% Pervious Area
	10,572		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.9	101	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.3					**Direct Entry,**
6.0	151	Total			

Subcatchment 13S: M-FIELD CB3



Summary for Subcatchment 16S: BLDG S

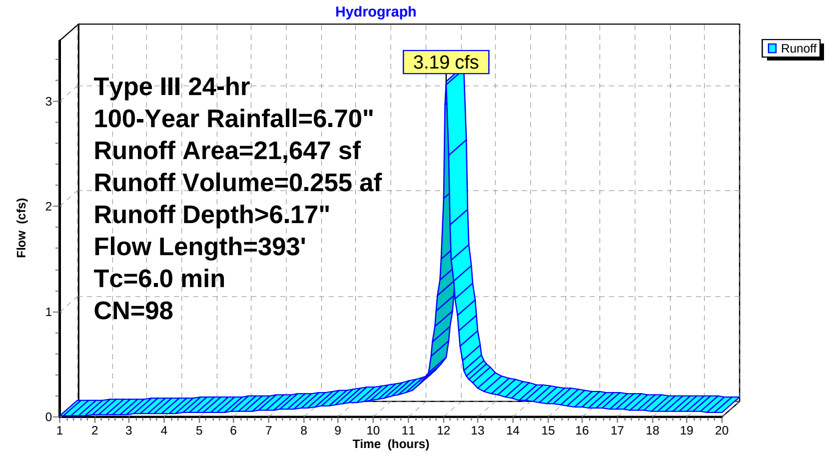
Runoff = 3.19 cfs @ 12.09 hrs, Volume= 0.255 af, Depth> 6.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
21,647	98	Roofs, HSG A
21,647		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	50	0.0800	2.08		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.0	13	0.0800	5.74		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
0.0	30	1.0000	37.50	13.09	**Pipe Channel, DOWNSPOUT** 8.0" Round Area= 0.3 sf Perim= 2.1' r= 0.17' n= 0.012 Steel, smooth
2.7	300	0.0050	1.85	1.01	**Pipe Channel, ROOFDRAIN** 10.0" Round Area= 0.5 sf Perim= 2.6' r= 0.21' n= 0.020 Corrugated PE, corrugated interior
2.9					**Direct Entry,**
6.0	393	Total			

Subcatchment 16S: BLDG S



Summary for Subcatchment 17S: S-FIELD CB3

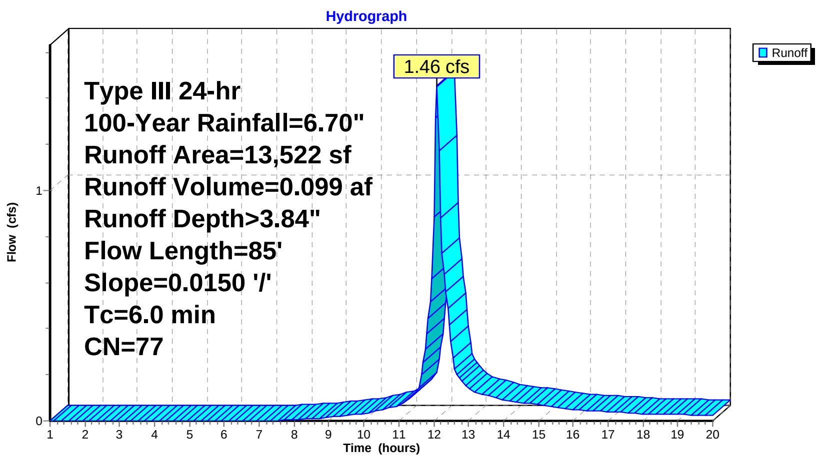
Runoff = 1.46 cfs @ 12.09 hrs, Volume= 0.099 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	8,789	98	Paved Track, HSG A
	4,733	39	>75% Grass cover, Good, HSG A
	13,522	77	Weighted Average
	4,733		35.00% Pervious Area
	8,789		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.3	35	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.9					**Direct Entry,**
6.0	85	Total			

Subcatchment 17S: S-FIELD CB3



Summary for Subcatchment 19S: S-FIELD CB4

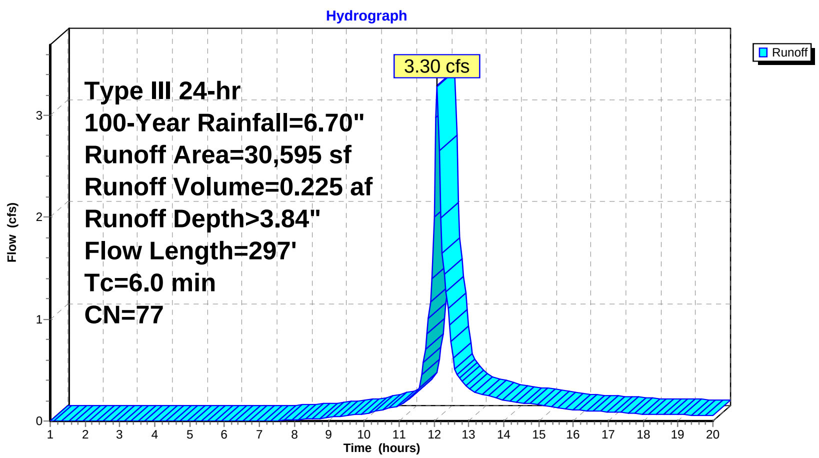
Runoff = 3.30 cfs @ 12.09 hrs, Volume= 0.225 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	19,887	98	Paved Track, HSG A
	10,708	39	>75% Grass cover, Good, HSG A
	30,595	77	Weighted Average
	10,708		35.00% Pervious Area
	19,887		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.4	37	0.0400	0.18		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.1	20	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
1.4	240	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.1					**Direct Entry,**
6.0	297	Total			

Subcatchment 19S: S-FIELD CB4



Summary for Subcatchment 21S: S-FIELD CB5

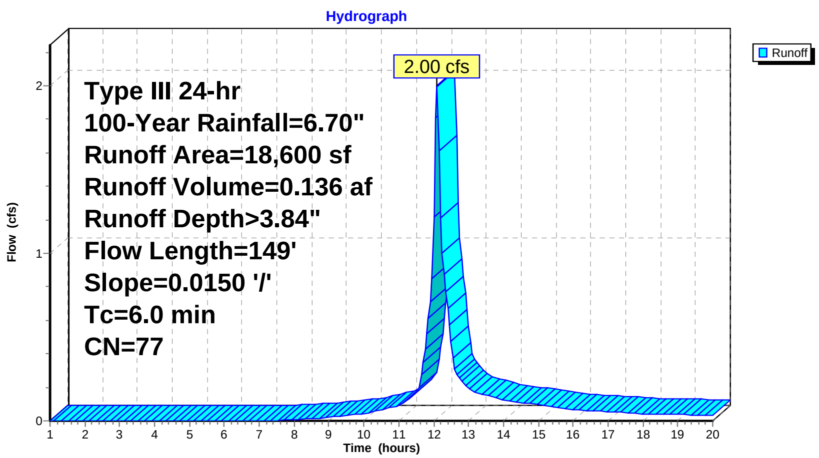
Runoff = 2.00 cfs @ 12.09 hrs, Volume= 0.136 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	12,090	98	Paved Track, HSG A
	6,510	39	>75% Grass cover, Good, HSG A
	18,600	77	Weighted Average
	6,510		35.00% Pervious Area
	12,090		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.8	99	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.4					**Direct Entry,**
6.0	149	Total			

Subcatchment 21S: S-FIELD CB5



Summary for Subcatchment 23S: S-FIELD CB6

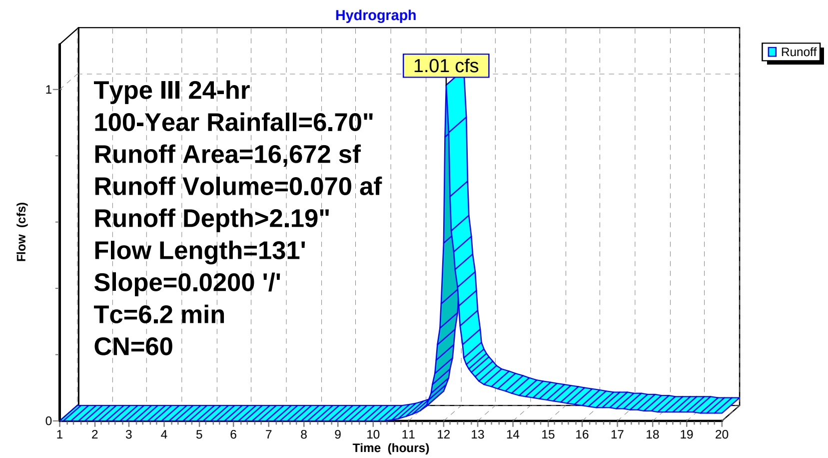
Runoff = 1.01 cfs @ 12.10 hrs, Volume= 0.070 af, Depth> 2.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	5,835	98	Paved Track, HSG A
	10,837	39	>75% Grass cover, Good, HSG A
	16,672	60	Weighted Average
	10,837		65.00% Pervious Area
	5,835		35.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.6	81	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
6.2	131	Total			

Subcatchment 23S: S-FIELD CB6



Summary for Subcatchment 25S: S-FIELD CB7

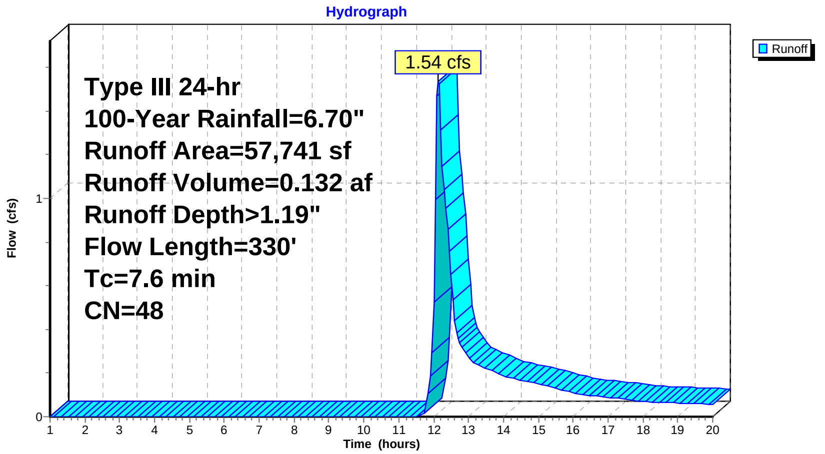
Runoff = 1.54 cfs @ 12.14 hrs, Volume= 0.132 af, Depth> 1.19"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	8,661	98	Paved Track, HSG A
	49,080	39	>75% Grass cover, Good, HSG A
	57,741	48	Weighted Average
	49,080		85.00% Pervious Area
	8,661		15.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.6	50	0.0200	0.15		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.3	180	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.7	100	0.0250	2.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.6	330	Total			

Subcatchment 25S: S-FIELD CB7



Summary for Subcatchment 27S: N-FIELD CBF1

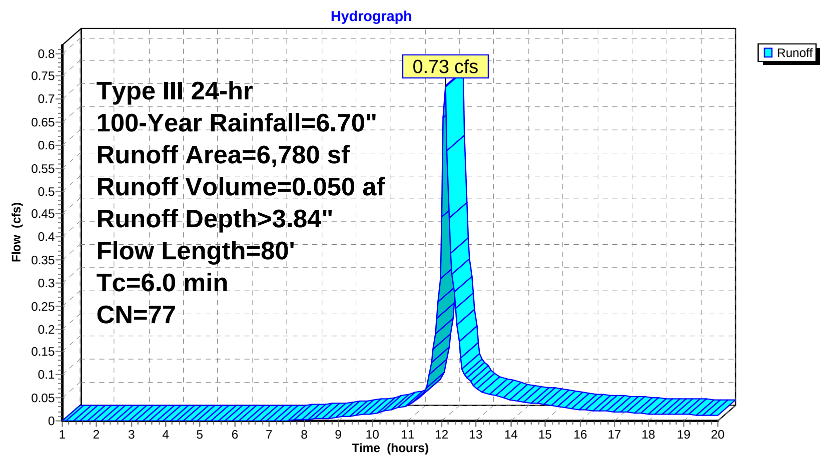
Runoff = 0.73 cfs @ 12.09 hrs, Volume= 0.050 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	4,407	98	Paved Track, HSG A
	2,373	39	>75% Grass cover, Good, HSG A
	6,780	77	Weighted Average
	2,373		35.00% Pervious Area
	4,407		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.9	50	0.0100	0.91		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.2	30	0.0250	3.21		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
4.9					**Direct Entry,**
6.0	80	Total			

Subcatchment 27S: N-FIELD CBF1



Summary for Subcatchment 29S: N-FIELD CBF2

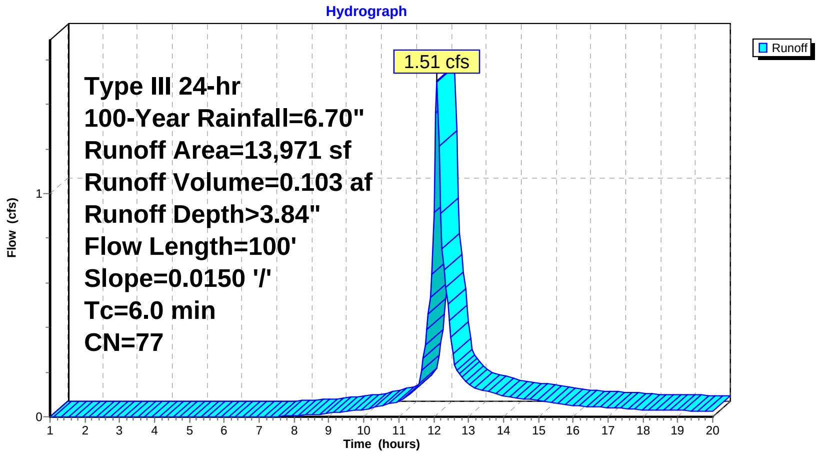
Runoff = 1.51 cfs @ 12.09 hrs, Volume= 0.103 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	9,081	98	Paved Track, HSG A
	4,890	39	>75% Grass cover, Good, HSG A
	13,971	77	Weighted Average
	4,890		35.00% Pervious Area
	9,081		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	20	0.0150	0.89		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.7	80	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.9					**Direct Entry,**
6.0	100	Total			

Subcatchment 29S: N-FIELD CBF2



Summary for Subcatchment 31S: N-FIELD CBF3

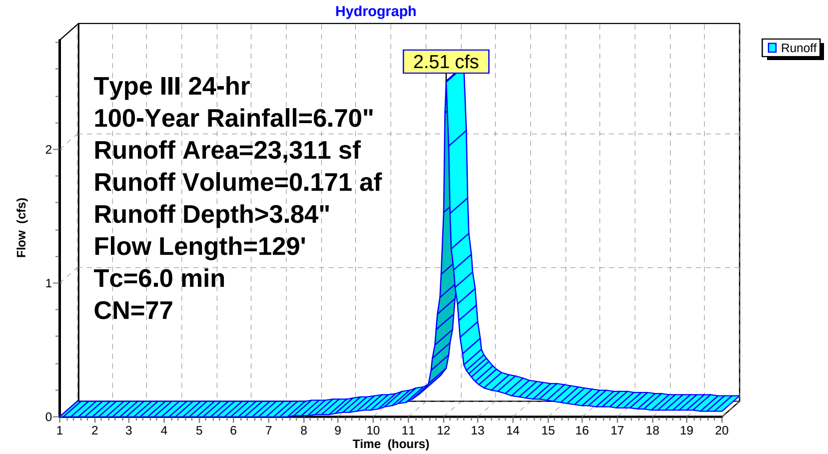
Runoff = 2.51 cfs @ 12.09 hrs, Volume= 0.171 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	15,152	98	Paved Track, HSG A
	8,159	39	>75% Grass cover, Good, HSG A
	23,311	77	Weighted Average
	8,159		35.00% Pervious Area
	15,152		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	29	0.0300	0.16		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
0.8	100	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
2.1					**Direct Entry,**
6.0	129	Total			

Subcatchment 31S: N-FIELD CBF3



Summary for Subcatchment 33S: N-FIELD CBF4

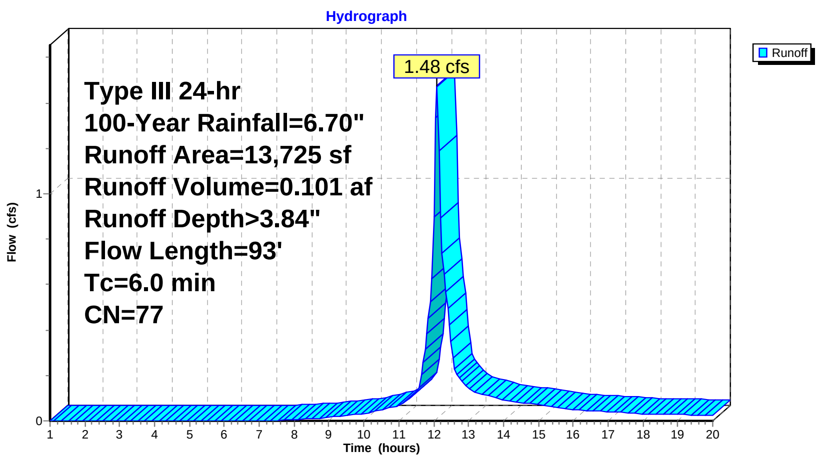
Runoff = 1.48 cfs @ 12.09 hrs, Volume= 0.101 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	8,921	98	Paved Track, HSG A
	4,804	39	>75% Grass cover, Good, HSG A
	13,725	77	Weighted Average
	4,804		35.00% Pervious Area
	8,921		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.4	20	0.0100	0.76		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
0.6	73	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
5.0					**Direct Entry,**
6.0	93	Total			

Subcatchment 33S: N-FIELD CBF4



Summary for Subcatchment 35S: N-FIELD CBF5

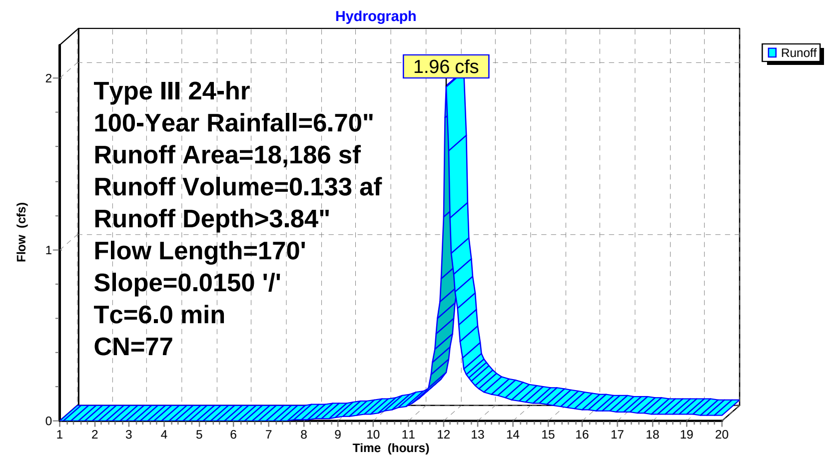
Runoff = 1.96 cfs @ 12.09 hrs, Volume= 0.133 af, Depth> 3.84"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	11,821	98	Paved Track, HSG A
	6,365	39	>75% Grass cover, Good, HSG A
	18,186	77	Weighted Average
	6,365		35.00% Pervious Area
	11,821		65.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
0.8	50	0.0150	1.07		**Sheet Flow,** Smooth surfaces n= 0.011 P2= 3.20"
1.0	120	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
4.2					**Direct Entry,**
6.0	170	Total			

Subcatchment 35S: N-FIELD CBF5



Summary for Subcatchment 37S: N-FIELD CBF6

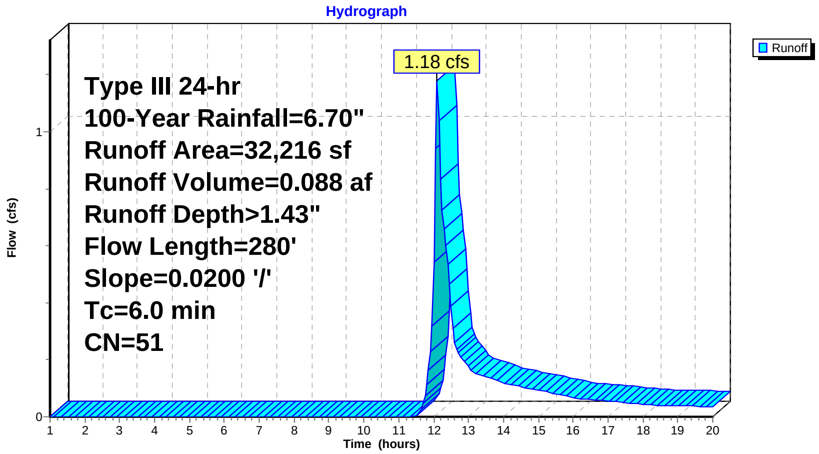
Runoff = 1.18 cfs @ 12.11 hrs, Volume= 0.088 af, Depth> 1.43"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

	Area (sf)	CN	Description
*	6,443	98	Paved Track, HSG A
	25,773	39	>75% Grass cover, Good, HSG A
	32,216	51	Weighted Average
	25,773		80.00% Pervious Area
	6,443		20.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0200	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.20"
1.8	250	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.5					**Direct Entry,**
6.0	280	Total			

Subcatchment 37S: N-FIELD CBF6



Summary for Subcatchment 38S: FRONT LOT

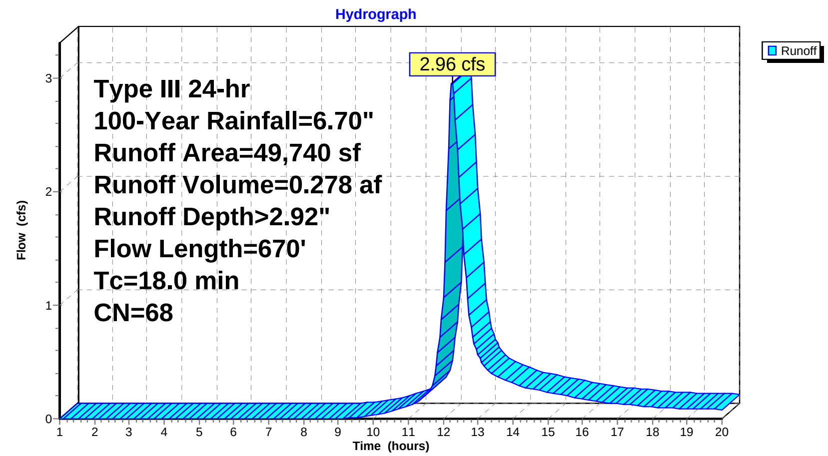
Runoff = 2.96 cfs @ 12.26 hrs, Volume= 0.278 af, Depth> 2.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
26,280	98	Paved parking, HSG A
5,218	39	>75% Grass cover, Good, HSG A
18,242	32	Woods/grass comb., Good, HSG A
49,740	68	Weighted Average
23,460		47.17% Pervious Area
26,280		52.83% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow, WOOD-FIELD** Woods: Light underbrush n= 0.400 P2= 3.20"
0.5	120	0.0590	3.91		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
4.2	360	0.0080	1.44		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
1.0	140	0.0140	2.40		**Shallow Concentrated Flow, PKG** Paved Kv= 20.3 fps
18.0	670	Total			

Subcatchment 38S: FRONT LOT



Summary for Subcatchment 40S: BLDG-FNT

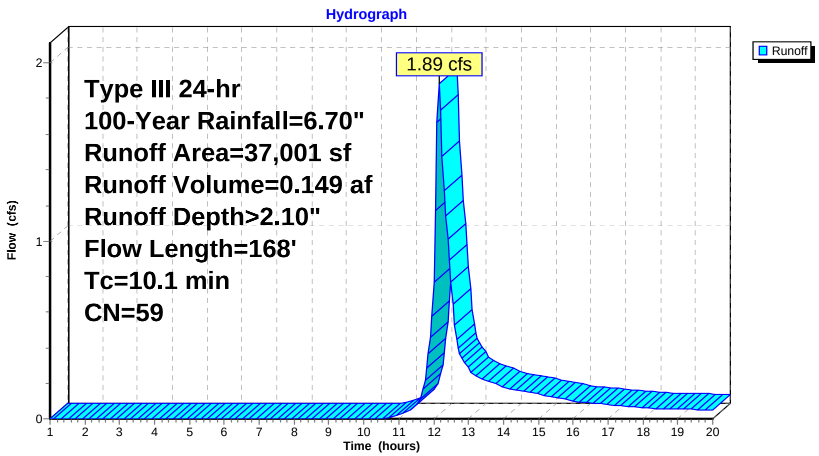
Runoff = 1.89 cfs @ 12.15 hrs, Volume= 0.149 af, Depth> 2.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
13,515	98	Paved parking, HSG A
21,205	32	Woods/grass comb., Good, HSG A
1,510	98	Unconnected pavement, HSG A
771	39	>75% Grass cover, Good, HSG A
37,001	59	Weighted Average
21,976		59.39% Pervious Area
15,025		40.61% Impervious Area
1,510		10.05% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.3	50	0.0400	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.3	38	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.5	80	0.0150	2.49		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
10.1	168	Total			

Subcatchment 40S: BLDG-FNT



Summary for Subcatchment E1: S LOT

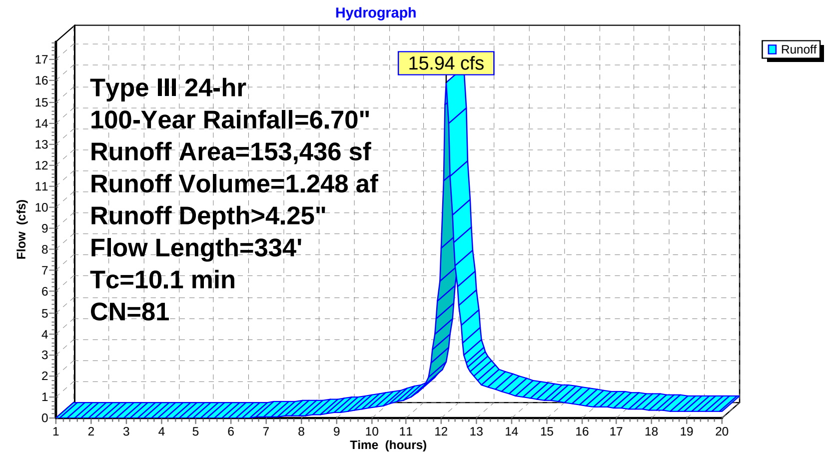
Runoff = 15.94 cfs @ 12.14 hrs, Volume= 1.248 af, Depth> 4.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
98,072	98	Paved parking, HSG A
21,058	72	Woods/grass comb., Good, HSG C
34,306	39	>75% Grass cover, Good, HSG A
153,436	81	Weighted Average
55,364		36.08% Pervious Area
98,072		63.92% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.6	50	0.0490	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.7	150	0.0486	3.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.8	134	0.0200	2.87		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
10.1	334	Total			

Subcatchment E1: S LOT



Summary for Subcatchment E2: FRONT LOT

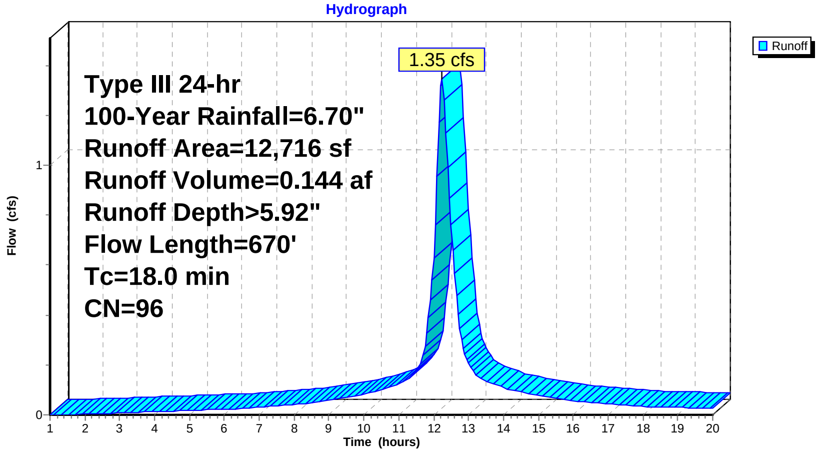
Runoff = 1.35 cfs @ 12.24 hrs, Volume= 0.144 af, Depth> 5.92"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
12,218	98	Paved parking, HSG A
498	39	>75% Grass cover, Good, HSG A
12,716	96	Weighted Average
498		3.92% Pervious Area
12,218		96.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
12.3	50	0.0200	0.07		**Sheet Flow, WOOD-FIELD** Woods: Light underbrush n= 0.400 P2= 3.20"
0.5	120	0.0590	3.91		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
4.2	360	0.0080	1.44		**Shallow Concentrated Flow, WOOD** Unpaved Kv= 16.1 fps
1.0	140	0.0140	2.40		**Shallow Concentrated Flow, PKG** Paved Kv= 20.3 fps
18.0	670	Total			

Subcatchment E2: FRONT LOT



Summary for Subcatchment P2: SLOPE

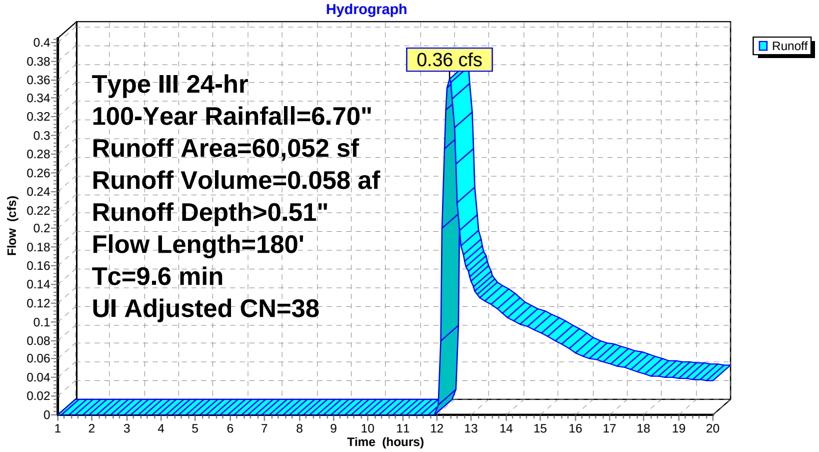
Runoff = 0.36 cfs @ 12.36 hrs, Volume= 0.058 af, Depth> 0.51"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Adj	Description
2,289	98		Unconnected pavement, HSG A
15,553	32		Woods/grass comb., Good, HSG A
42,210	39		>75% Grass cover, Good, HSG A
60,052	39	38	Weighted Average, UI Adjusted
57,763			96.19% Pervious Area
2,289			3.81% Impervious Area
2,289			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.9	50	0.0450	0.09		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.3	80	0.0800	4.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
0.4	50	0.0150	1.97		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
9.6	180	Total			

Subcatchment P2: SLOPE



Summary for Subcatchment P4: BLDG FNT2

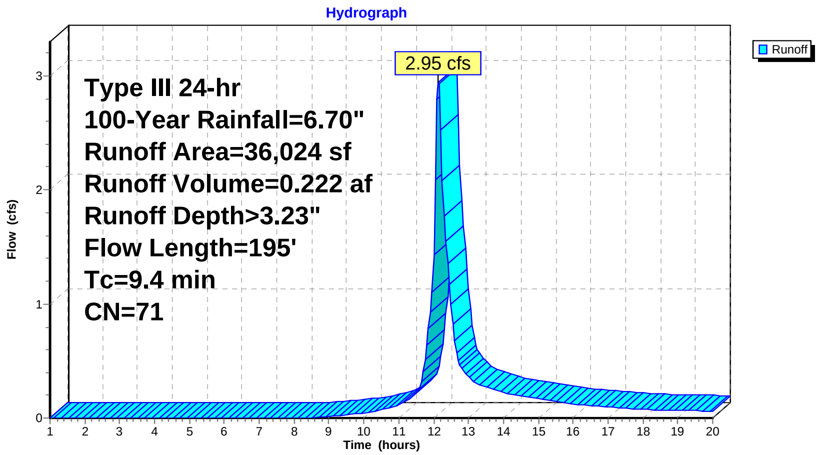
Runoff = 2.95 cfs @ 12.14 hrs, Volume= 0.222 af, Depth> 3.23"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.70"

Area (sf)	CN	Description
21,282	98	Paved parking, HSG A
841	39	>75% Grass cover, Good, HSG A
13,901	32	Woods/grass comb., Good, HSG A
36,024	71	Weighted Average
14,742		40.92% Pervious Area
21,282		59.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	50	0.0560	0.10		**Sheet Flow,** Woods: Light underbrush n= 0.400 P2= 3.20"
0.1	15	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.1	130	0.0100	2.03		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
9.4	195	Total			

Subcatchment P4: BLDG FNT2

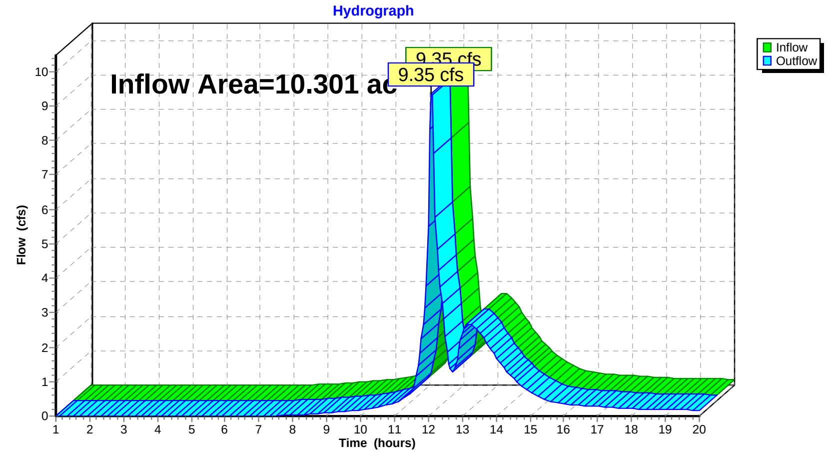


Summary for Reach 39R: HEADWALL 'A'

Inflow Area = 10.301 ac, 59.73% Impervious, Inflow Depth > 0.98" for 100-Year event
Inflow = 9.35 cfs @ 12.09 hrs, Volume= 0.842 af
Outflow = 9.35 cfs @ 12.09 hrs, Volume= 0.842 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3

Reach 39R: HEADWALL 'A'



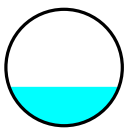
Summary for Reach 41R: discharge

Inflow Area = 7.817 ac, 62.31% Impervious, Inflow Depth = 0.30" for 100-Year event
Inflow = 1.86 cfs @ 13.20 hrs, Volume= 0.197 af
Outflow = 1.85 cfs @ 13.24 hrs, Volume= 0.197 af, Atten= 0%, Lag= 2.5 min

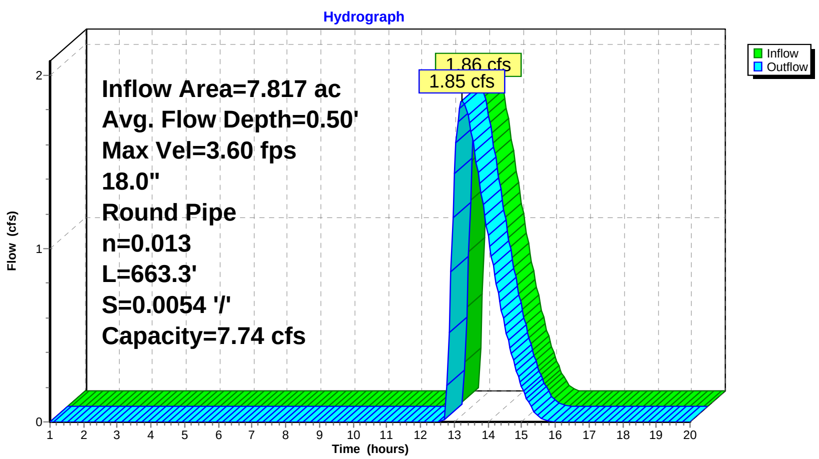
Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Max. Velocity= 3.60 fps, Min. Travel Time= 3.1 min
Avg. Velocity = 1.66 fps, Avg. Travel Time= 6.7 min

Peak Storage= 341 cf @ 13.24 hrs
Average Depth at Peak Storage= 0.50'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 7.74 cfs

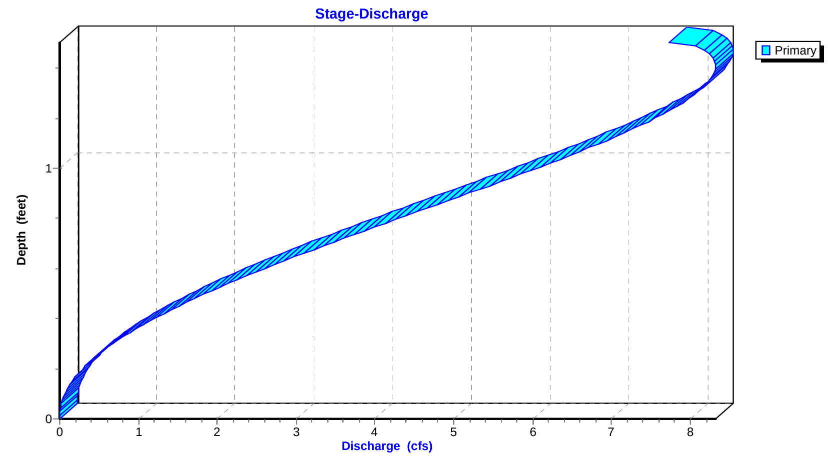
18.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 663.3' Slope= 0.0054 '/'
Inlet Invert= 110.85', Outlet Invert= 107.25'



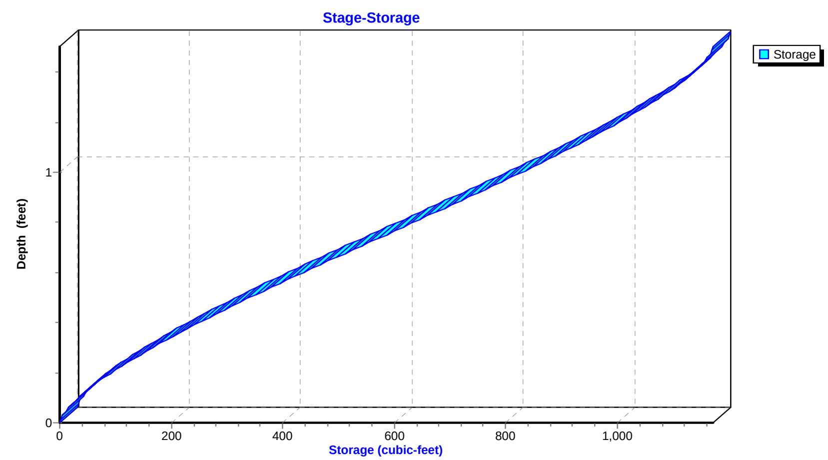
Reach 41R: discharge



Reach 41R: discharge



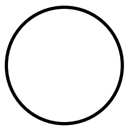
Reach 41R: discharge



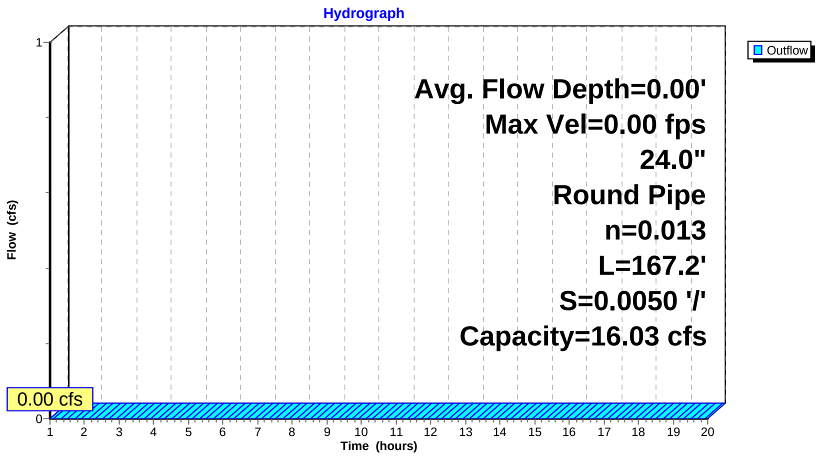
Summary for Reach 42R: PND DISCHARGE

Bank-Full Depth= 2.00' Flow Area= 3.1 sf, Capacity= 16.03 cfs

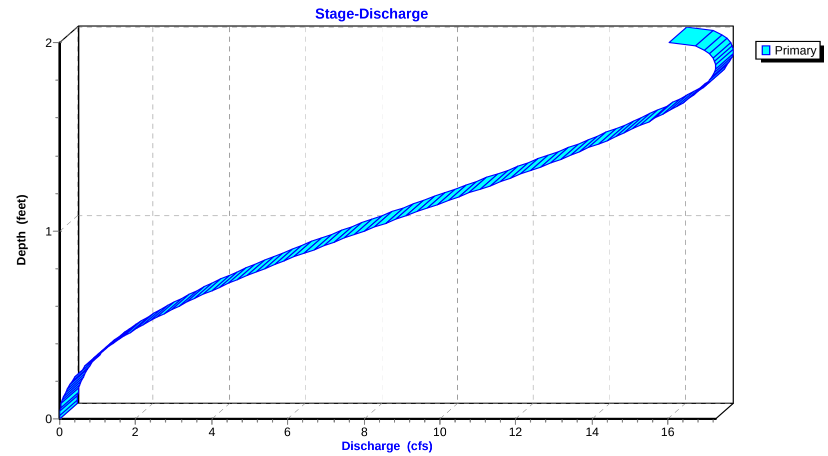
24.0" Round Pipe
n= 0.013 Corrugated PE, smooth interior
Length= 167.2' Slope= 0.0050 '/'
Inlet Invert= 115.90', Outlet Invert= 115.06'



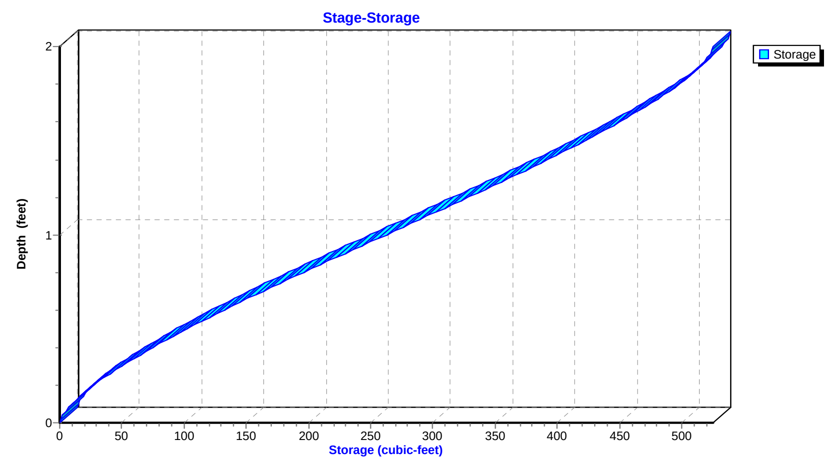
Reach 42R: PND DISCHARGE



Reach 42R: PND DISCHARGE



Reach 42R: PND DISCHARGE

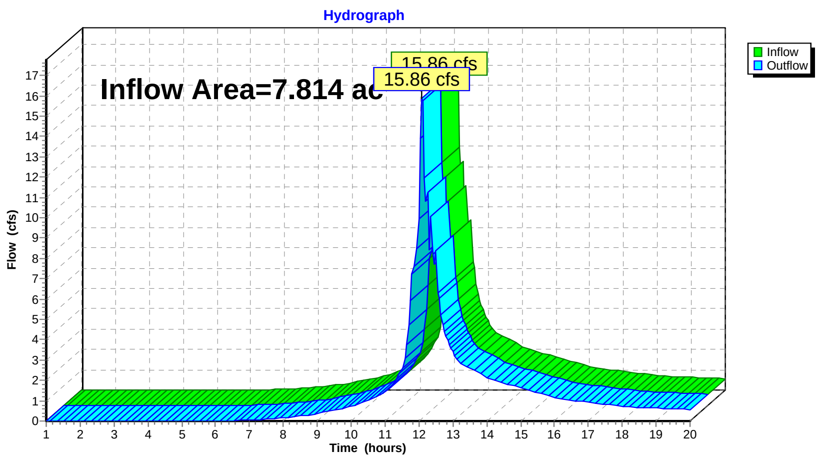


Summary for Reach RE1: HEADWALL 'B'

Inflow Area = 7.814 ac, 54.07% Impervious, Inflow Depth > 2.86" for 100-Year event
Inflow = 15.86 cfs @ 12.09 hrs, Volume= 1.865 af
Outflow = 15.86 cfs @ 12.09 hrs, Volume= 1.865 af, Atten= 0%, Lag= 0.0 min

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3

Reach RE1: HEADWALL 'B'



Summary for Pond 1P: PKG ISL POND 1

Inflow Area = 0.849 ac, 40.61% Impervious, Inflow Depth > 2.10" for 100-Year event
Inflow = 1.89 cfs @ 12.15 hrs, Volume= 0.149 af
Outflow = 0.84 cfs @ 12.48 hrs, Volume= 0.147 af, Atten= 56%, Lag= 19.3 min
Discarded = 0.09 cfs @ 12.48 hrs, Volume= 0.031 af
Primary = 0.74 cfs @ 12.48 hrs, Volume= 0.117 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 120.74' @ 12.48 hrs Surf.Area= 1,454 sf Storage= 1,668 cf

Plug-Flow detention time= 27.4 min calculated for 0.147 af (99% of inflow)
Center-of-Mass det. time= 23.5 min (842.4 - 818.8)

Volume	Invert	Avail.Storage	Storage Description
#1	118.95'	1,682 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

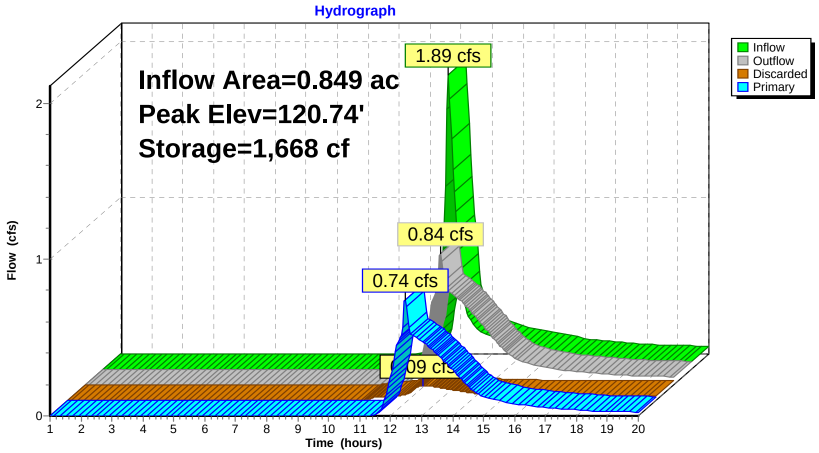
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.95	424	0.0	0	0
119.00	424	100.0	21	21
120.00	1,030	100.0	727	748
120.75	1,459	100.0	933	1,682

Device	Routing	Invert	Outlet Devices
#1	Primary	118.50'	**8.0" Round Culvert** L= 63.3' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 118.50' / 117.80' S= 0.0111 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	119.00'	**4.0" Vert. 4" Orifice** C= 0.600
#3	Device 1	120.70'	**2.5" x 2.5" Horiz. Overflow X 6.00 columns** X 6 rows C= 0.600 in 24.0" x 24.0" Grate (39% open area) Limited to weir flow at low heads
#4	Discarded	118.95'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 112.00'

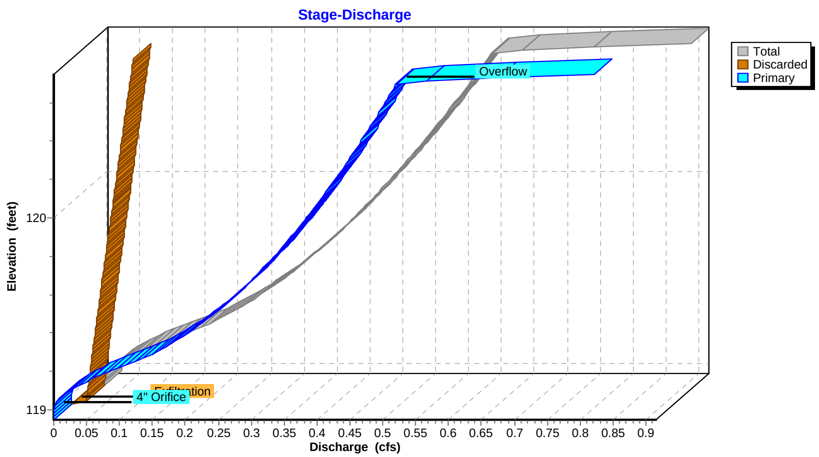
Discarded OutFlow Max=0.09 cfs @ 12.48 hrs HW=120.74' (Free Discharge)
└─**4=Exfiltration** (Controls 0.09 cfs)

Primary OutFlow Max=0.73 cfs @ 12.48 hrs HW=120.74' TW=118.62' (Dynamic Tailwater)
└─**1=Culvert** (Passes 0.73 cfs of 1.77 cfs potential flow)
  ├─**2=4" Orifice** (Orifice Controls 0.53 cfs @ 6.04 fps)
  └─**3=Overflow** (Weir Controls 0.21 cfs @ 0.65 fps)

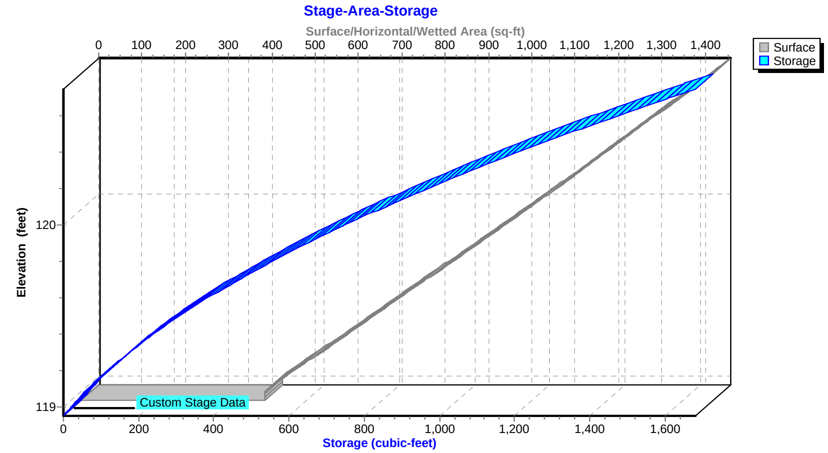
Pond 1P: PKG ISL POND 1



Pond 1P: PKG ISL POND 1



Pond 1P: PKG ISL POND 1



Summary for Pond 2P: PKG ISL 2

Inflow Area = 0.827 ac, 59.08% Impervious, Inflow Depth > 3.23" for 100-Year event
Inflow = 2.95 cfs @ 12.14 hrs, Volume= 0.222 af
Outflow = 2.89 cfs @ 12.20 hrs, Volume= 0.221 af, Atten= 2%, Lag= 3.9 min
Discarded = 0.12 cfs @ 12.21 hrs, Volume= 0.046 af
Primary = 2.77 cfs @ 12.20 hrs, Volume= 0.175 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 120.18' @ 12.21 hrs Surf.Area= 1,906 sf Storage= 1,417 cf

Plug-Flow detention time= 14.3 min calculated for 0.221 af (99% of inflow)
Center-of-Mass det. time= 11.7 min (808.5 - 796.8)

Volume	Invert	Avail.Storage	Storage Description
#1	118.99'	1,417 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

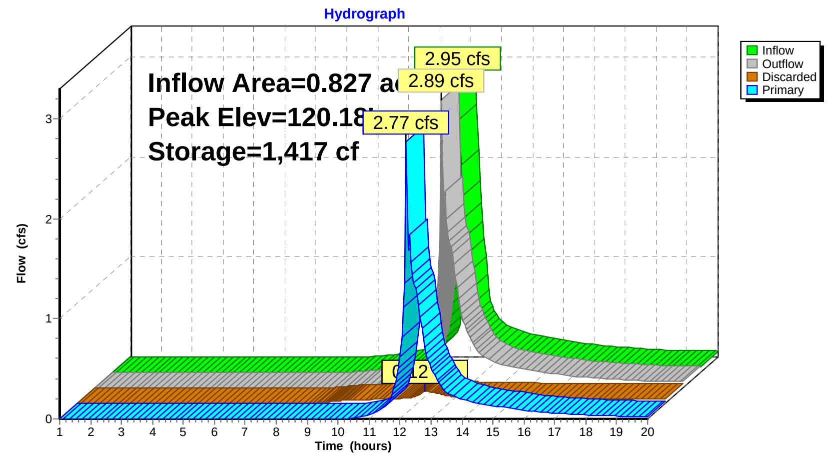
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
118.99	622	0.0	0	0
119.00	622	100.0	6	6
120.00	1,827	100.0	1,225	1,231
120.10	1,906	100.0	187	1,417

Device	Routing	Invert	Outlet Devices
#1	Primary	118.00'	**12.0" Round Culvert** L= 40.1' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 118.00' / 117.80' S= 0.0050 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf
#2	Device 1	119.00'	**6.0" Vert. 4" Oriface** C= 0.600
#3	Device 1	119.50'	**6.0" Vert. 6" Oriface** C= 0.600
#4	Device 1	120.05'	**2.5" x 2.5" Horiz. Orifice/Grate X 6.00 columns** X 6 rows C= 0.600 in 24.0" x 24.0" Grate (39% open area) Limited to weir flow at low heads
#5	Discarded	118.99'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 112.00'

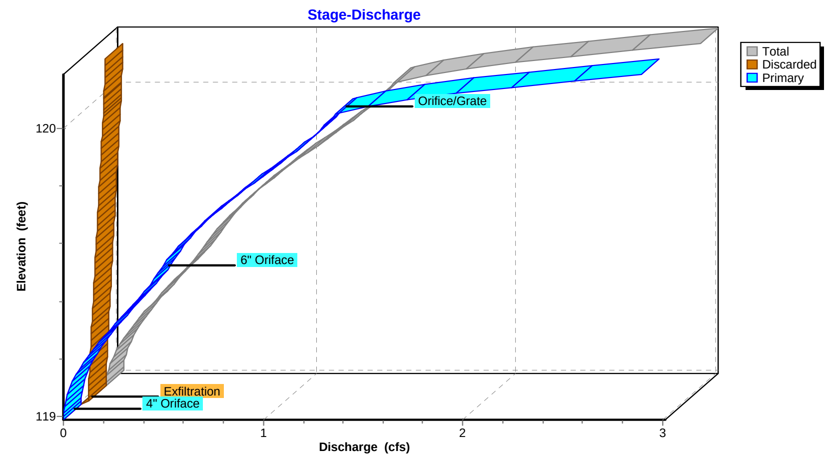
Discarded OutFlow Max=0.12 cfs @ 12.21 hrs HW=120.16' (Free Discharge)
└─**5=Exfiltration** (Controls 0.12 cfs)

Primary OutFlow Max=2.68 cfs @ 12.20 hrs HW=120.17' TW=117.91' (Dynamic Tailwater)
└─**1=Culvert** (Passes 2.68 cfs of 3.86 cfs potential flow)
  ├─**2=4" Oriface** (Orifice Controls 0.91 cfs @ 4.63 fps)
  ├─**3=6" Oriface** (Orifice Controls 0.62 cfs @ 3.14 fps)
  └─**4=Orifice/Grate** (Weir Controls 1.15 cfs @ 1.16 fps)

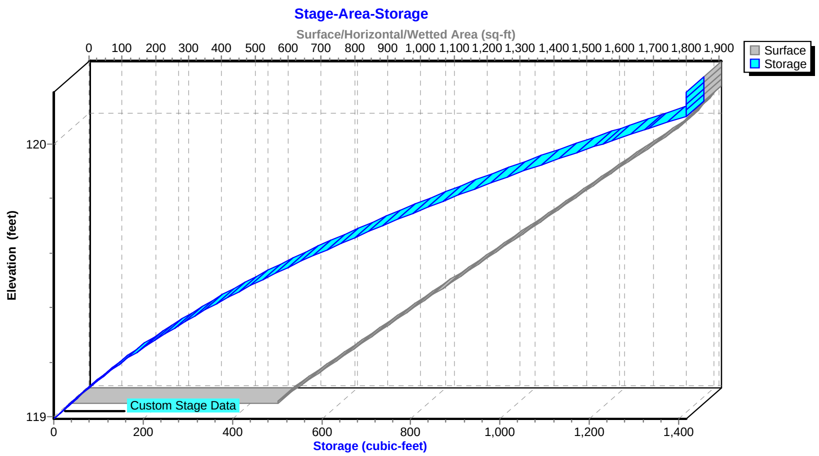
Pond 2P: PKG ISL 2



Pond 2P: PKG ISL 2



Pond 2P: PKG ISL 2



Summary for Pond 3P: PKG ISL 3

Inflow Area = 0.335 ac, 95.34% Impervious, Inflow Depth > 5.81" for 100-Year event
Inflow = 2.11 cfs @ 12.09 hrs, Volume= 0.162 af
Outflow = 1.46 cfs @ 12.19 hrs, Volume= 0.162 af, Atten= 31%, Lag= 6.1 min
Discarded = 0.12 cfs @ 12.19 hrs, Volume= 0.068 af
Primary = 1.34 cfs @ 12.19 hrs, Volume= 0.094 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 119.60' @ 12.19 hrs Surf.Area= 851 sf Storage= 1,281 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 15.0 min (748.1 - 733.2)

Volume	Invert	Avail.Storage	Storage Description
#1	117.99'	1,588 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc)

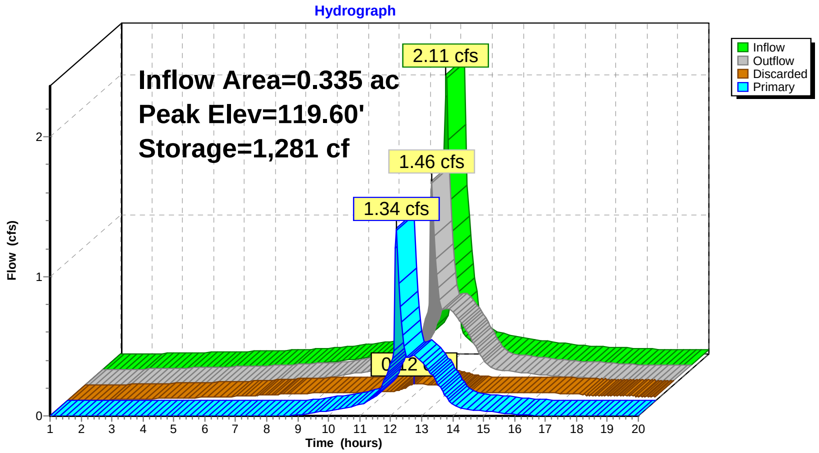
Elevation (feet)	Surf.Area (sq-ft)	Voids (%)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
117.99	900	0.0	0	0
118.00	278	100.0	6	6
119.00	1,100	100.0	689	695
120.00	686	100.0	893	1,588

Device	Routing	Invert	Outlet Devices
#1	Primary	117.40'	**8.0" Round Culvert** L= 77.2' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 117.40' / 117.02' S= 0.0049 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf
#2	Device 1	118.00'	**4.0" Vert. 4" Oriface** C= 0.600
#3	Device 1	119.50'	**2.5" x 2.5" Horiz. Overflow Grate X 6.00 columns** X 6 rows C= 0.600 in 24.0" x 24.0" Grate (39% open area) Limited to weir flow at low heads
#4	Discarded	117.99'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 112.00'

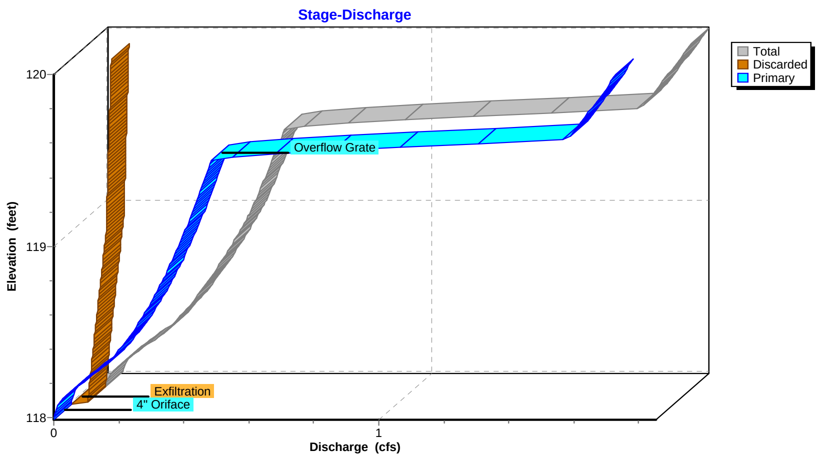
Discarded OutFlow Max=0.12 cfs @ 12.19 hrs HW=119.60' (Free Discharge)
└**4=Exfiltration** (Controls 0.12 cfs)

Primary OutFlow Max=1.30 cfs @ 12.19 hrs HW=119.60' TW=117.80' (Dynamic Tailwater)
└**1=Culvert** (Passes 1.30 cfs of 1.52 cfs potential flow)
  ├**2=4" Oriface** (Orifice Controls 0.50 cfs @ 5.76 fps)
  └**3=Overflow Grate** (Weir Controls 0.79 cfs @ 1.02 fps)

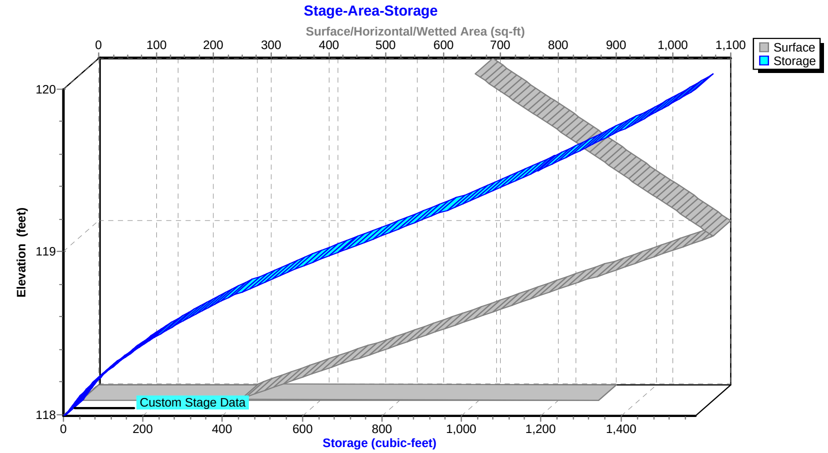
Pond 3P: PKG ISL 3



Pond 3P: PKG ISL 3



Pond 3P: PKG ISL 3



Summary for Pond 4P: REAR FB

Inflow Area =	7.817 ac, 62.31% Impervious, Inflow Depth = 0.87" for 100-Year event			
Inflow =	5.51 cfs @	12.65 hrs, Volume=	0.568 af	
Outflow =	2.62 cfs @	13.20 hrs, Volume=	0.567 af,	Atten= 52%, Lag= 33.4 min
Discarded =	0.77 cfs @	13.20 hrs, Volume=	0.371 af	
Primary =	1.86 cfs @	13.20 hrs, Volume=	0.197 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 116.45' @ 13.20 hrs Surf.Area= 5,599 sf Storage= 10,441 cf

Plug-Flow detention time= 101.3 min calculated for 0.566 af (100% of inflow)
Center-of-Mass det. time= 101.2 min (897.3 - 796.1)

Volume	Invert	Avail.Storage	Storage Description
#1A	113.50'	6,196 cf	**25.92'W x 216.04'L x 4.00'H Field A** 22,396 cf Overall - 6,905 cf Embedded = 15,491 cf x 40.0% Voids
#2A	114.50'	6,905 cf	**ADS_StormTech SC-740** x 150 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 6.45 sf x 5 rows
		13,102 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	113.50'	**2.410 in/hr Exfiltration over Horizontal area** Conductivity to Groundwater Elevation = 111.47'
#2	Primary	115.50'	**12.0" Round Culvert** L= 15.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 115.50' / 115.40' S= 0.0067 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.79 sf

Discarded OutFlow Max=0.77 cfs @ 13.20 hrs HW=116.45' (Free Discharge)
1=Exfiltration (Controls 0.77 cfs)

Primary OutFlow Max=1.86 cfs @ 13.20 hrs HW=116.45' TW=111.35' (Dynamic Tailwater)
2=Culvert (Barrel Controls 1.86 cfs @ 3.09 fps)

Pond 4P: REAR FB - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 (ADS StormTech® SC-740 without end caps)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
Row Length Adjustment= +0.44' x 6.45 sf x 5 rows

51.0" Wide + 8.0" Spacing = 59.0" C-C Row Spacing

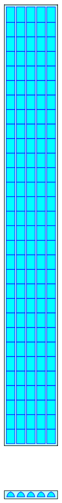
30 Chambers/Row x 7.12' Long +0.44' Row Adjustment = 214.04' Row Length +12.0" End Stone x 2 = 216.04' Base Length
5 Rows x 51.0" Wide + 8.0" Spacing x 4 + 12.0" Side Stone x 2 = 25.92' Base Width
12.0" Base + 30.0" Chamber Height + 6.0" Cover = 4.00' Field Height

150 Chambers x 45.9 cf +0.44' Row Adjustment x 6.45 sf x 5 Rows = 6,905.2 cf Chamber Storage

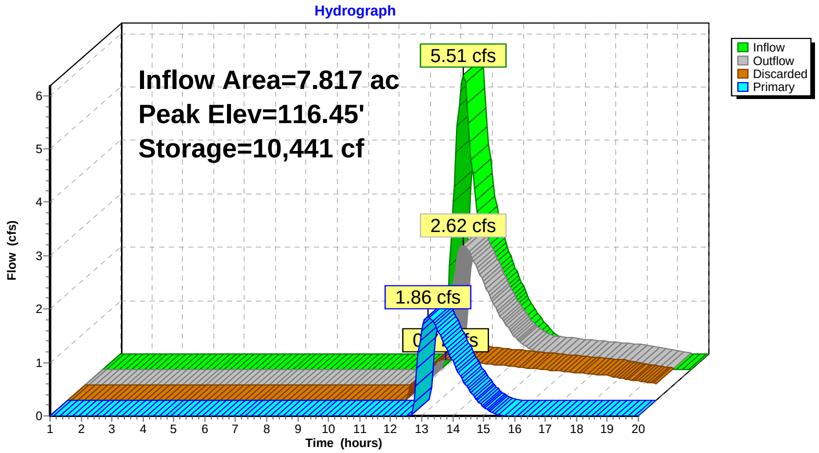
22,396.1 cf Field - 6,905.2 cf Chambers = 15,490.9 cf Stone x 40.0% Voids = 6,196.4 cf Stone Storage

Chamber Storage + Stone Storage = 13,101.6 cf = 0.301 af
Overall Storage Efficiency = 58.5%
Overall System Size = 216.04' x 25.92' x 4.00'

150 Chambers
829.5 cy Field
573.7 cy Stone



Pond 4P: REAR FB



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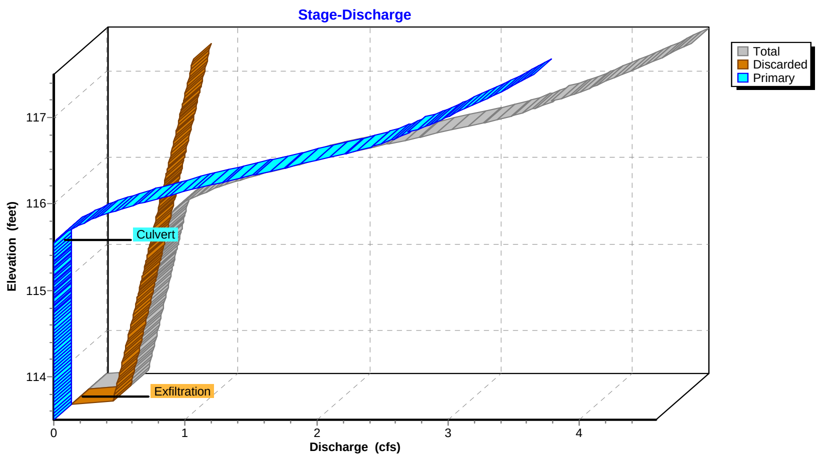

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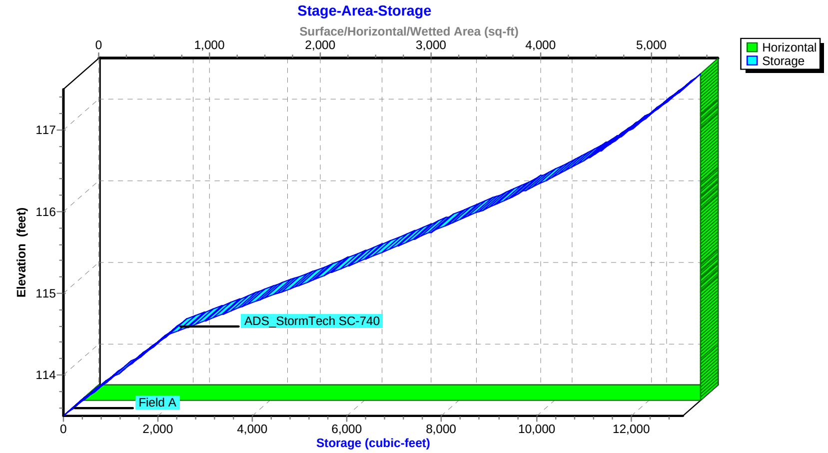


Summary for Pond 6P: PKG

Inflow Area =	4.922 ac, 67.09% Impervious, Inflow Depth > 3.52"	for 100-Year event	
Inflow =	13.84 cfs @ 12.18 hrs, Volume=	1.446 af	
Outflow =	8.14 cfs @ 12.43 hrs, Volume=	1.334 af, Atten= 41%, Lag= 15.1 min	
Discarded =	1.24 cfs @ 12.43 hrs, Volume=	0.763 af	
Primary =	6.89 cfs @ 12.43 hrs, Volume=	0.571 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 118.65' @ 12.43 hrs Surf.Area= 8,327 sf Storage= 17,389 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 50.6 min (821.0 - 770.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	115.17'	7,782 cf	**80.75'W x 103.12'L x 3.50'H Field A** 29,144 cf Overall - 9,690 cf Embedded = 19,454 cf x 40.0% Voids
#2A	115.67'	9,690 cf	**ADS_StormTech SC-740** x 210 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap Row Length Adjustment= +0.44' x 6.45 sf x 15 rows
		17,471 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	115.17'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 113.10'
#2	Primary	117.00'	**10.0" Round Culvert X 3.00** L= 80.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 117.00' / 116.00' S= 0.0125 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.55 sf

Discarded OutFlow Max=1.24 cfs @ 12.43 hrs HW=118.64' (Free Discharge)
└─**1=Exfiltration** (Controls 1.24 cfs)

Primary OutFlow Max=6.88 cfs @ 12.43 hrs HW=118.64' TW=116.49' (Dynamic Tailwater)
└─**2=Culvert** (Inlet Controls 6.88 cfs @ 4.21 fps)

Pond 6P: PKG - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 (ADS StormTech® SC-740 without end caps)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
Row Length Adjustment= +0.44' x 6.45 sf x 15 rows

51.0" Wide + 12.0" Spacing = 63.0" C-C Row Spacing

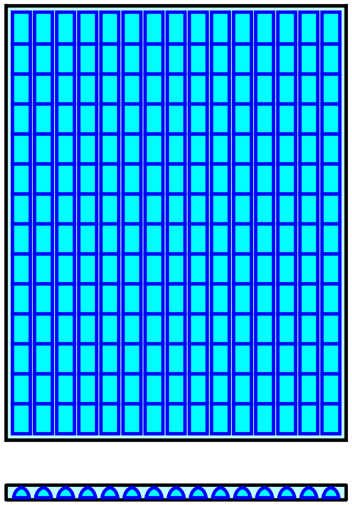
14 Chambers/Row x 7.12' Long +0.44' Row Adjustment = 100.12' Row Length +18.0" End Stone x 2 = 103.12' Base Length
15 Rows x 51.0" Wide + 12.0" Spacing x 14 + 18.0" Side Stone x 2 = 80.75' Base Width
6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

210 Chambers x 45.9 cf +0.44' Row Adjustment x 6.45 sf x 15 Rows = 9,689.8 cf Chamber Storage

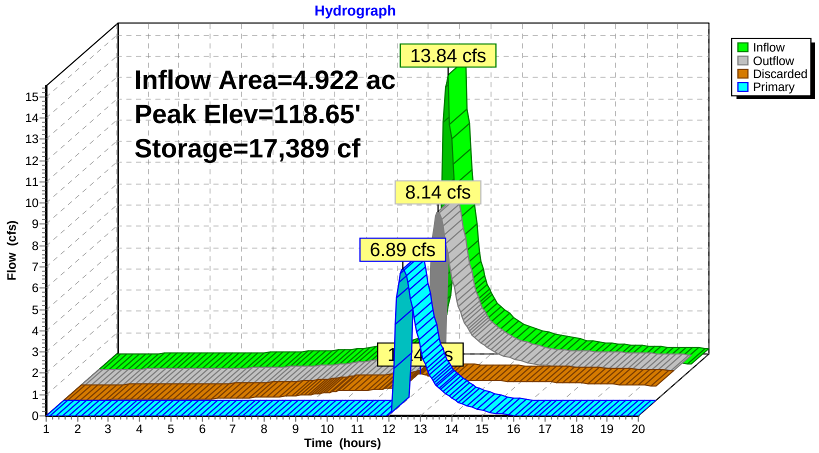
29,143.8 cf Field - 9,689.8 cf Chambers = 19,454.0 cf Stone x 40.0% Voids = 7,781.6 cf Stone Storage

Chamber Storage + Stone Storage = 17,471.4 cf = 0.401 af
Overall Storage Efficiency = 59.9%
Overall System Size = 103.12' x 80.75' x 3.50'

210 Chambers
1,079.4 cy Field
720.5 cy Stone



Pond 6P: PKG



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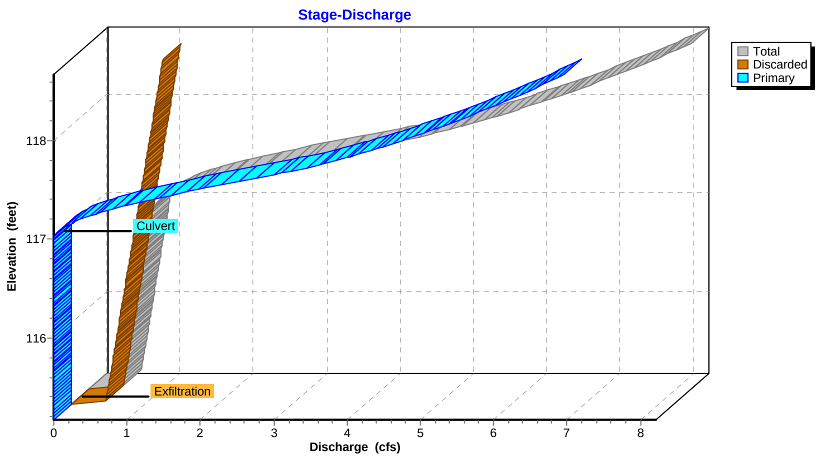

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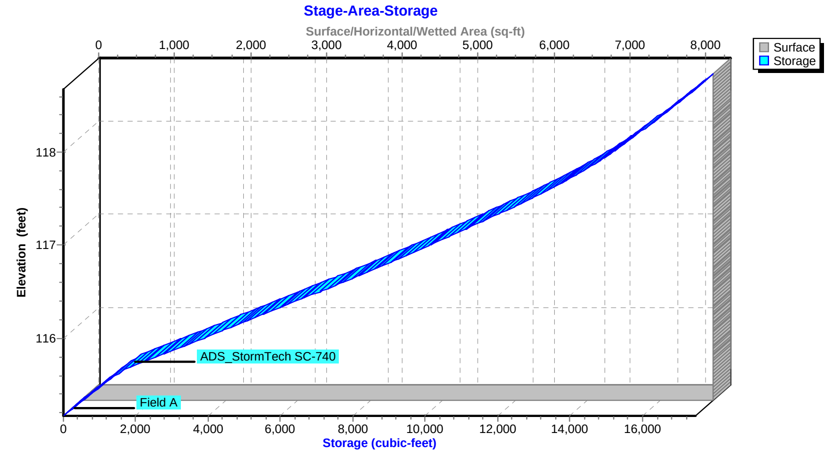


Summary for Pond 7P: CB-SE Pkg

Inflow Area = 3.522 ac, 63.92% Impervious, Inflow Depth > 4.25" for 100-Year event
Inflow = 15.94 cfs @ 12.14 hrs, Volume= 1.248 af
Outflow = 15.94 cfs @ 12.14 hrs, Volume= 1.248 af, Atten= 0%, Lag= 0.0 min
Primary = 4.62 cfs @ 12.50 hrs, Volume= 0.857 af
Secondary = 16.08 cfs @ 12.14 hrs, Volume= 0.403 af

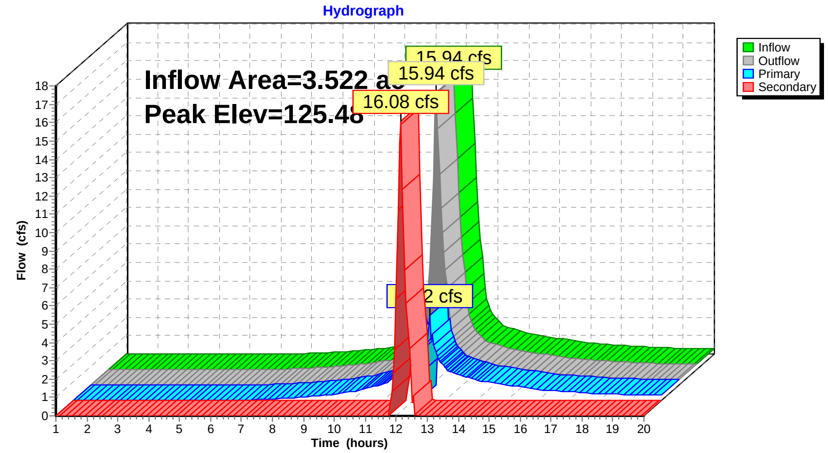
Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 125.48' @ 12.14 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	113.30'	**12.0" Round RCP_Round 12"** L= 71.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 113.30' / 111.17' S= 0.0299 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	117.80'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area) Limited to weir flow at low heads
#3	Secondary	116.00'	**8.0" Round Culvert X 4.00** L= 39.5' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 113.20' / 116.00' S= -0.0709 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 0.35 sf

Primary OutFlow Max=3.08 cfs @ 12.50 hrs HW=116.26' TW=115.53' (Dynamic Tailwater)
—**1=RCP_Round 12"** (Outlet Controls 3.08 cfs @ 3.92 fps)
—**2=Orifice/Grate** (Controls 0.00 cfs)

Secondary OutFlow Max=15.63 cfs @ 12.14 hrs HW=125.01' (Free Discharge)
—**3=Culvert** (Inlet Controls 15.63 cfs @ 11.19 fps)

Pond 7P: CB-SE Pkg



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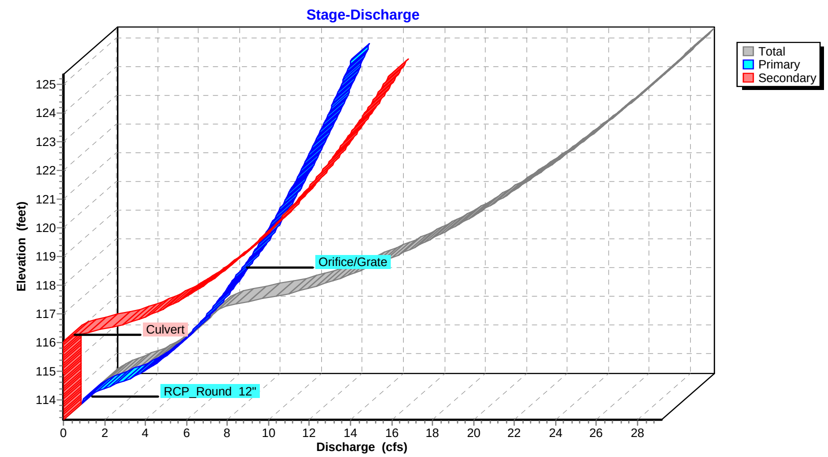
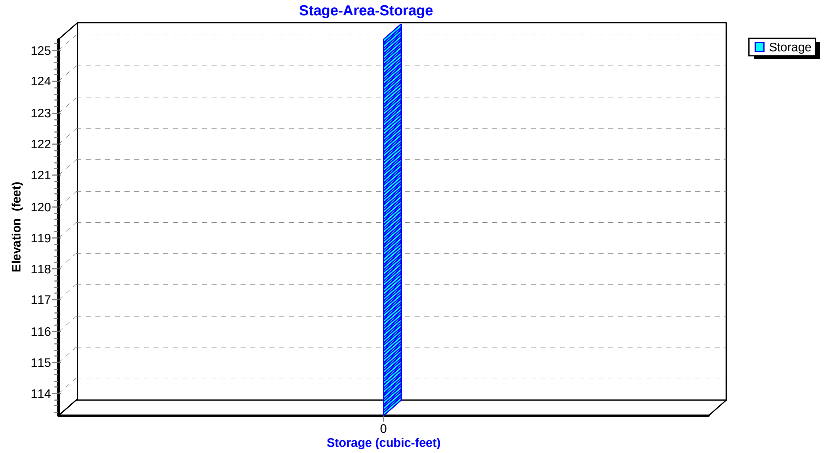


Pond 7P: CB-SE Pkg



Summary for Pond 8P: SC740

Inflow Area = 7.817 ac, 62.31% Impervious, Inflow Depth > 2.16" for 100-Year event
Inflow = 10.56 cfs @ 12.30 hrs, Volume= 1.408 af
Outflow = 6.77 cfs @ 12.65 hrs, Volume= 1.380 af, Atten= 36%, Lag= 20.6 min
Discarded = 1.26 cfs @ 12.78 hrs, Volume= 0.813 af
Primary = 5.51 cfs @ 12.65 hrs, Volume= 0.568 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 116.93' @ 12.78 hrs Surf.Area= 8,322 sf Storage= 17,483 cf

Plug-Flow detention time= (not calculated: outflow precedes inflow)
Center-of-Mass det. time= 65.2 min (812.4 - 747.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	113.50'	7,553 cf	**31.25'W x 217.22'L x 4.00'H Field A** 27,152 cf Overall - 8,269 cf Embedded = 18,883 cf x 40.0% Voids
#2A	114.50'	8,269 cf	**ADS_StormTech SC-740 +Cap** x 180 Inside #1 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 6 Rows of 30 Chambers
#3B	113.50'	1,719 cf	**20.50'W x 74.82'L x 4.00'H Field B** 6,135 cf Overall - 1,838 cf Embedded = 4,297 cf x 40.0% Voids
#4B	114.50'	1,838 cf	**ADS_StormTech SC-740 +Cap** x 40 Inside #3 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap 4 Rows of 10 Chambers
		19,379 cf	Total Available Storage

Storage Group A created with Chamber Wizard
Storage Group B created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	114.50'	**15.0" Round Culvert** L= 77.0' CPP, projecting, no headwall, Ke= 0.900 Inlet / Outlet Invert= 114.50' / 114.50' S= 0.0000 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.23 sf
#2	Discarded	113.50'	**2.410 in/hr Exfiltration over Surface area** Conductivity to Groundwater Elevation = 111.50'

Discarded OutFlow Max=1.26 cfs @ 12.78 hrs HW=116.93' (Free Discharge)
└─**2=Exfiltration** (Controls 1.26 cfs)

Primary OutFlow Max=5.50 cfs @ 12.65 hrs HW=116.90' TW=115.38' (Dynamic Tailwater)
└─**1=Culvert** (Barrel Controls 5.50 cfs @ 4.48 fps)

Pond 8P: SC740 - Chamber Wizard Field A

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 9.0" Spacing = 60.0" C-C Row Spacing

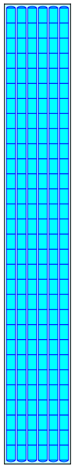
30 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 215.22' Row Length +12.0" End Stone x 2 = 217.22' Base Length
6 Rows x 51.0" Wide + 9.0" Spacing x 5 + 12.0" Side Stone x 2 = 31.25' Base Width
12.0" Base + 30.0" Chamber Height + 6.0" Cover = 4.00' Field Height

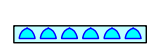
180 Chambers x 45.9 cf = 8,269.2 cf Chamber Storage

27,152.1 cf Field - 8,269.2 cf Chambers = 18,882.9 cf of Stone x 40.0% Voids = 7,553.2 cf Stone Storage

Chamber Storage + Stone Storage = 15,822.4 cf = 0.363 af
Overall Storage Efficiency = 58.3%
Overall System Size = 217.22' x 31.25' x 4.00'

180 Chambers
1,005.6 cy Field
699.4 cy Stone





Pond 8P: SC740 - Chamber Wizard Field B

Chamber Model = ADS_StormTech SC-740 +Cap (ADS StormTech® SC-740 with cap length)
Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf
Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C Row Spacing

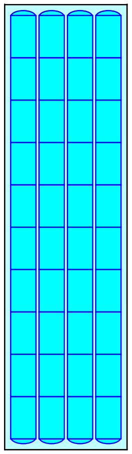
10 Chambers/Row x 7.12' Long +0.81' Cap Length x 2 = 72.82' Row Length +12.0" End Stone x 2 = 74.82' Base Length
4 Rows x 51.0" Wide + 6.0" Spacing x 3 + 12.0" Side Stone x 2 = 20.50' Base Width
12.0" Base + 30.0" Chamber Height + 6.0" Cover = 4.00' Field Height

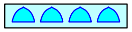
40 Chambers x 45.9 cf = 1,837.6 cf Chamber Storage

6,135.0 cf Field - 1,837.6 cf Chambers = 4,297.4 cf of Stone x 40.0% Voids = 1,718.9 cf Stone Storage

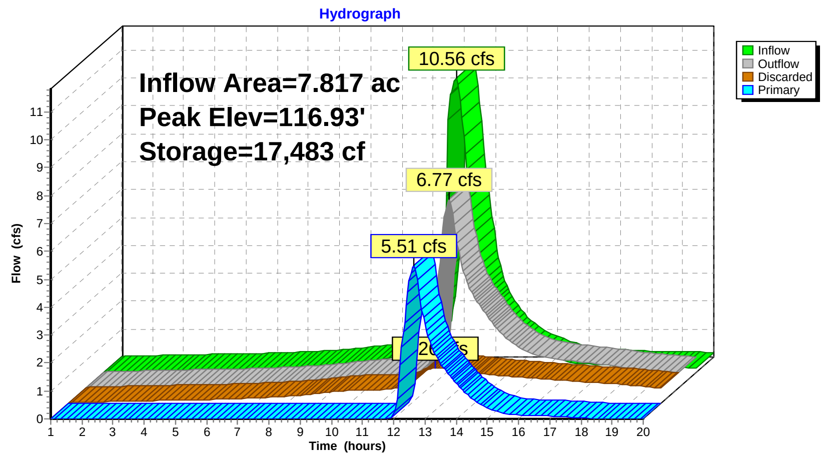
Chamber Storage + Stone Storage = 3,556.5 cf = 0.082 af
Overall Storage Efficiency = 58.0%
Overall System Size = 74.82' x 20.50' x 4.00'

40 Chambers
227.2 cy Field
159.2 cy Stone





Pond 8P: SC740



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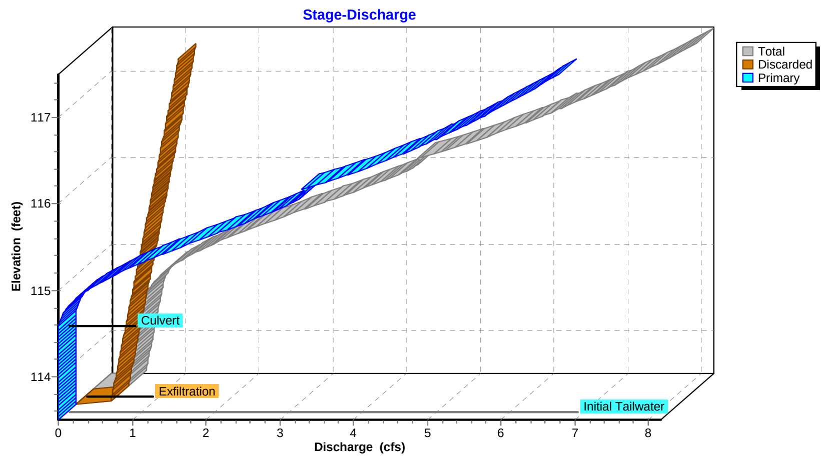

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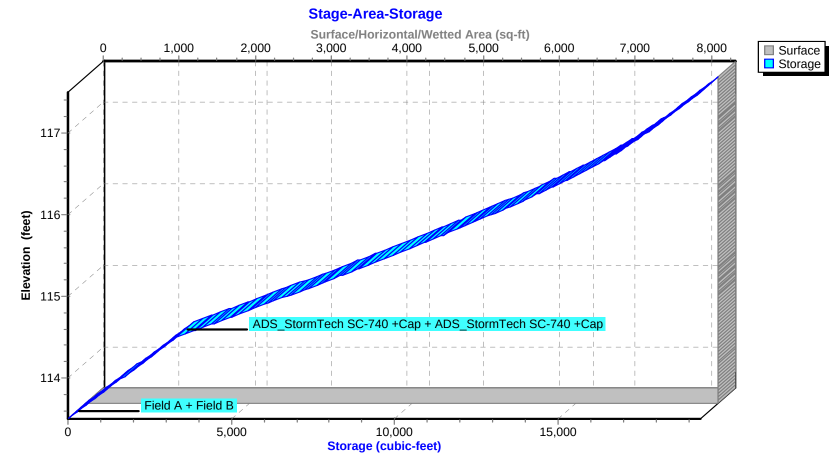


Summary for Pond 9P: CB-SE Pkg1

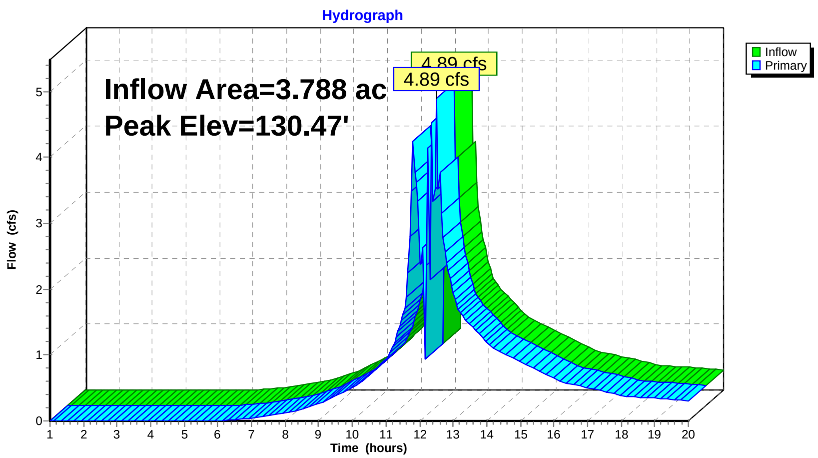
Inflow Area = 3.788 ac, 63.65% Impervious, Inflow Depth > 2.96" for 100-Year event
Inflow = 4.89 cfs @ 12.50 hrs, Volume= 0.935 af
Outflow = 4.89 cfs @ 12.50 hrs, Volume= 0.935 af, Atten= 0%, Lag= 0.0 min
Primary = 4.89 cfs @ 12.50 hrs, Volume= 0.935 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 130.47' @ 12.12 hrs

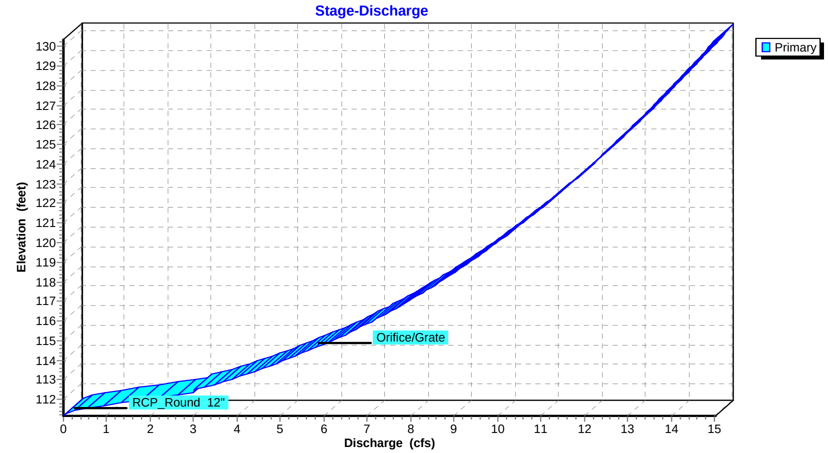
Device	Routing	Invert	Outlet Devices
#1	Primary	111.17'	**12.0" Round RCP_Round 12"** L= 90.3' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.17' / 110.70' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=3.77 cfs @ 12.50 hrs HW=115.53' TW=114.36' (Dynamic Tailwater)
1=RCP_Round 12" (Outlet Controls 3.63 cfs @ 4.62 fps)
2=Orifice/Grate (Orifice Controls 0.14 cfs @ 4.90 fps)

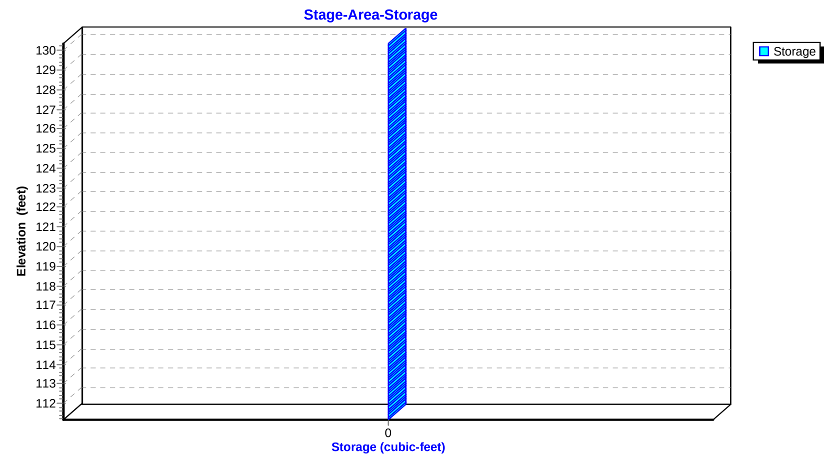
Pond 9P: CB-SE Pkg1



Pond 9P: CB-SE Pkg1



Pond 9P: CB-SE Pkg1



Summary for Pond 11P: CB-SE Pkg2

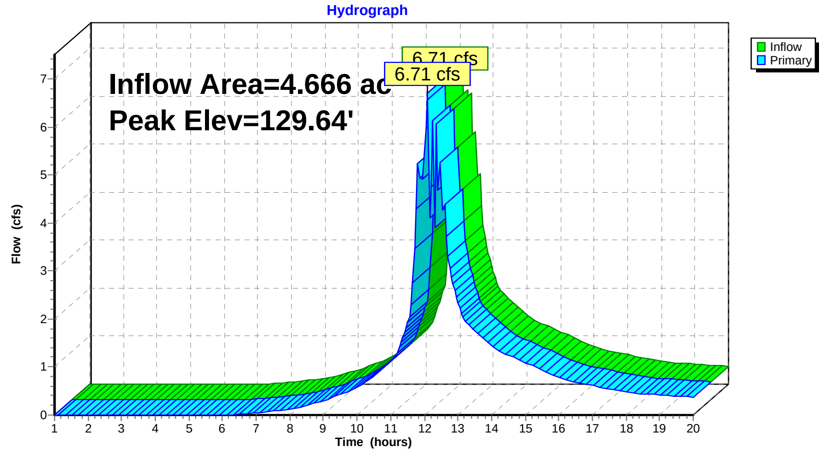
Inflow Area =	4.666 ac, 63.37% Impervious,	Inflow Depth > 3.09"		for 100-Year event
Inflow =	6.71 cfs @	12.08 hrs, Volume=	1.203 af	
Outflow =	6.71 cfs @	12.08 hrs, Volume=	1.203 af,	Atten= 0%, Lag= 0.0 min
Primary =	6.71 cfs @	12.08 hrs, Volume=	1.203 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 129.64' @ 12.10 hrs

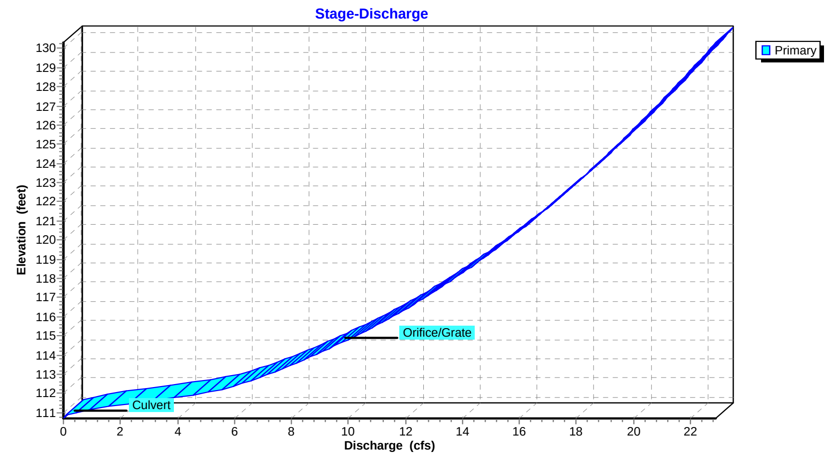
Device	Routing	Invert	Outlet Devices
#1	Primary	110.70'	**15.0" Round Culvert** L= 134.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.70' / 109.75' S= 0.0071 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 12.08 hrs HW=128.11' TW=128.58' (Dynamic Tailwater)
1=Culvert (Controls 0.00 cfs)
2=Orifice/Grate (Controls 0.00 cfs)

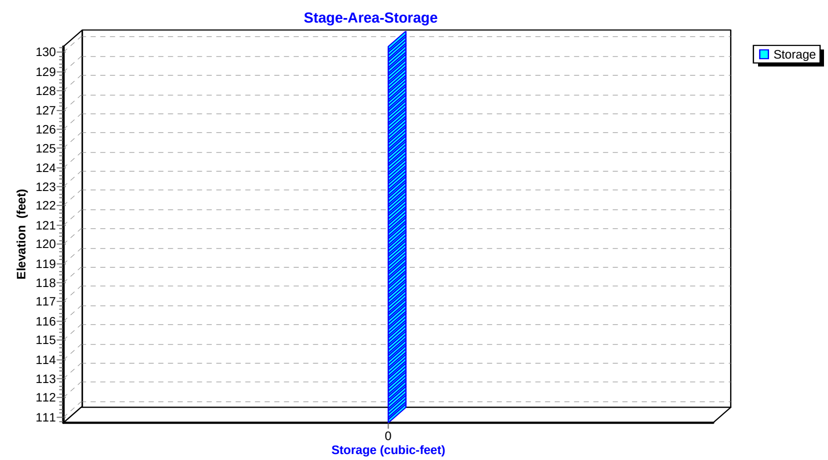
Pond 11P: CB-SE Pkg2



Pond 11P: CB-SE Pkg2



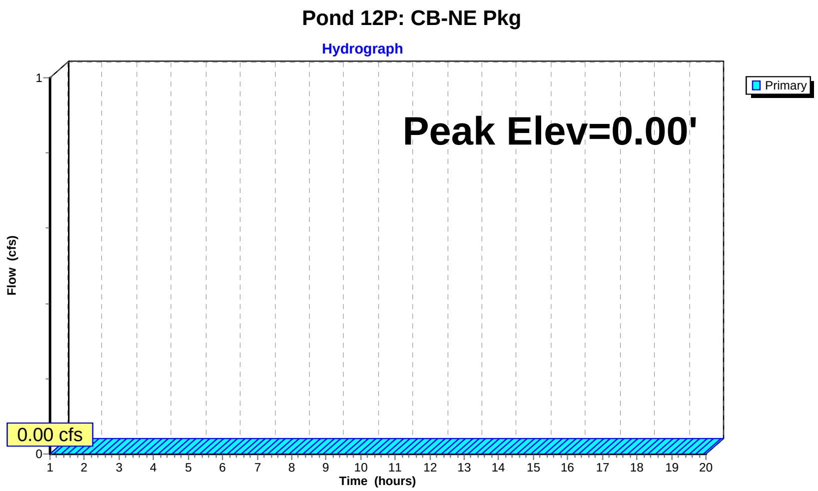
Pond 11P: CB-SE Pkg2

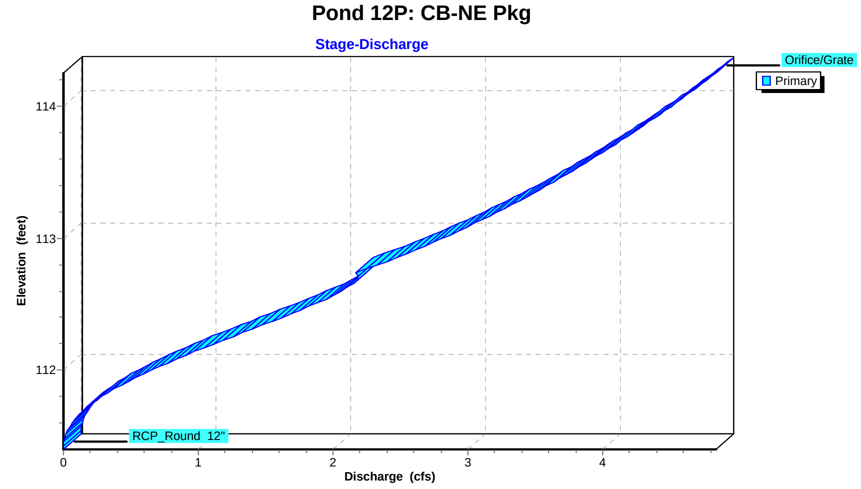


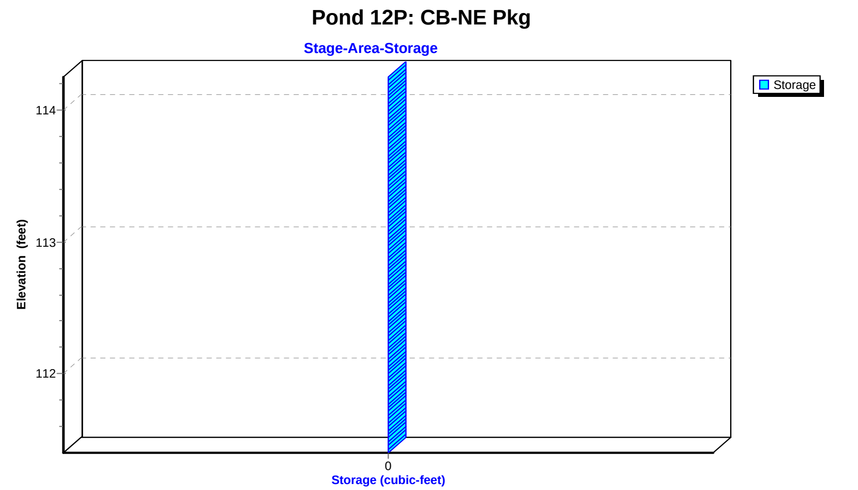
Summary for Pond 12P: CB-NE Pkg

Device	Routing	Invert	Outlet Devices
#1	Primary	111.40'	**12.0" Round RCP_Round 12"** L= 76.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.40' / 111.36' S= 0.0005 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.25'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 1.00 hrs HW=0.00' TW=111.36' (Dynamic Tailwater)
1=RCP_Round 12" (Controls 0.00 cfs)
2=Orifice/Grate (Controls 0.00 cfs)







Summary for Pond 14P: CB-NE Pkg2

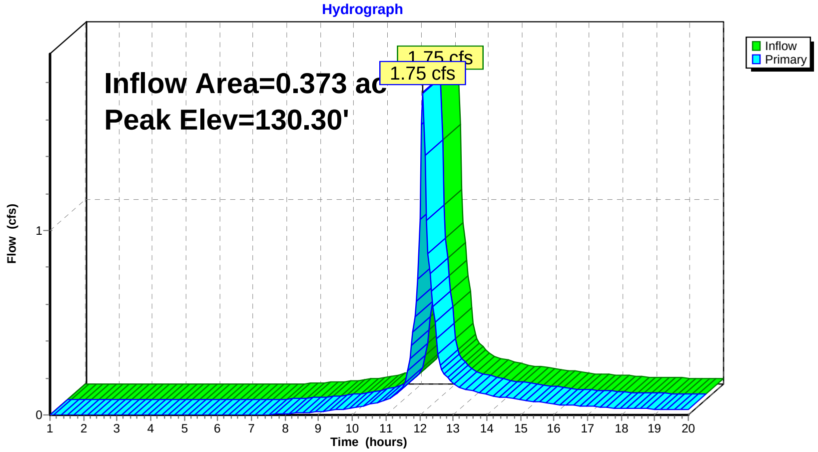
Inflow Area = 0.373 ac, 65.00% Impervious, Inflow Depth > 3.84" for 100-Year event
Inflow = 1.75 cfs @ 12.09 hrs, Volume= 0.119 af
Outflow = 1.75 cfs @ 12.09 hrs, Volume= 0.119 af, Atten= 0%, Lag= 0.0 min
Primary = 1.75 cfs @ 12.09 hrs, Volume= 0.119 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 130.30' @ 12.12 hrs

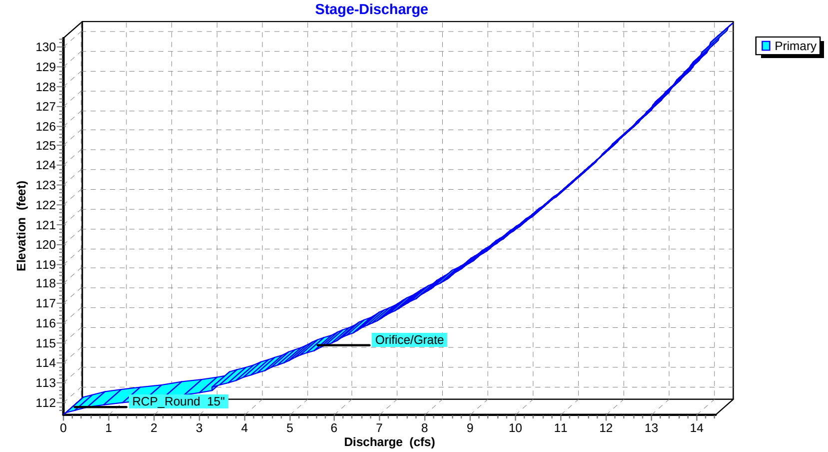
Device	Routing	Invert	Outlet Devices
#1	Primary	111.36'	**12.0" Round RCP_Round 15"** L= 105.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 111.36' / 110.70' S= 0.0063 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 12.09 hrs HW=128.27' TW=128.78' (Dynamic Tailwater)
└1=**RCP_Round 15"** (Controls 0.00 cfs)
└2=**Orifice/Grate** (Controls 0.00 cfs)

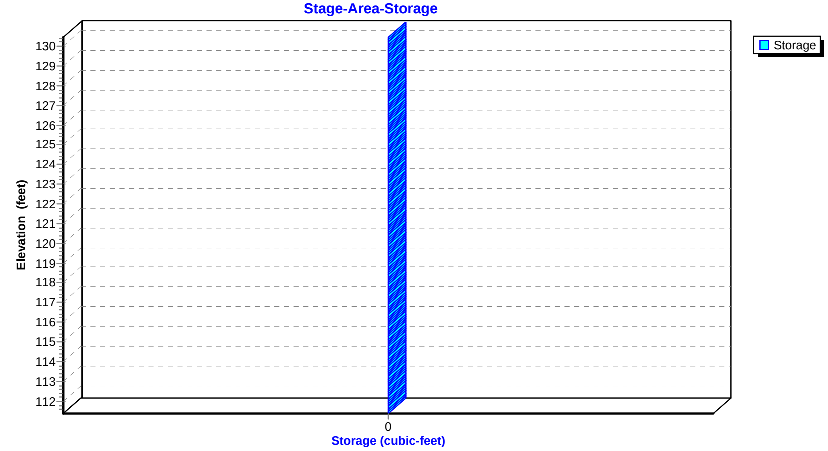
Pond 14P: CB-NE Pkg2



Pond 14P: CB-NE Pkg2



Pond 14P: CB-NE Pkg2



Summary for Pond 18P: CB-SE Pkg3

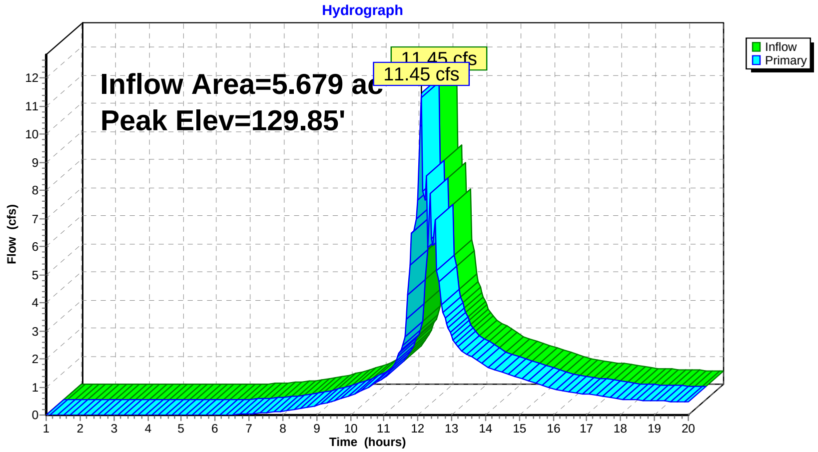
Inflow Area = 5.679 ac, 63.66% Impervious, Inflow Depth > 3.23" for 100-Year event
Inflow = 11.45 cfs @ 12.09 hrs, Volume= 1.527 af
Outflow = 11.45 cfs @ 12.09 hrs, Volume= 1.527 af, Atten= 0%, Lag= 0.0 min
Primary = 11.45 cfs @ 12.09 hrs, Volume= 1.527 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 129.85' @ 12.09 hrs

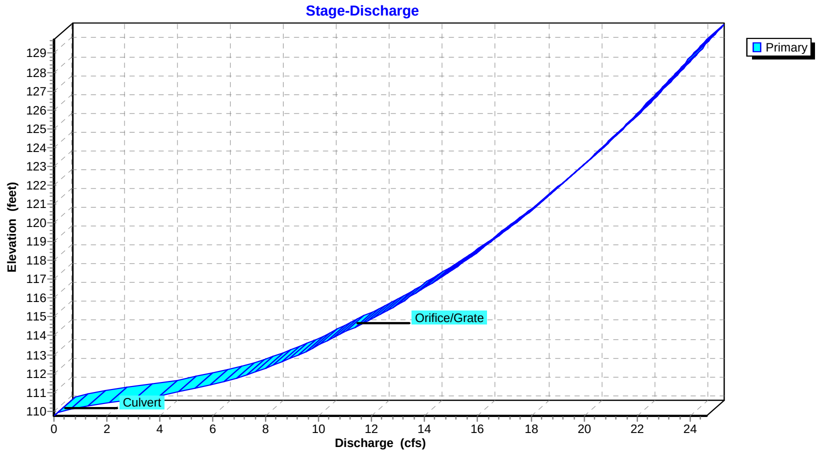
Device	Routing	Invert	Outlet Devices
#1	Primary	109.75'	**15.0" Round Culvert** L= 106.1' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 109.75' / 108.88' S= 0.0082 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.25'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=9.79 cfs @ 12.09 hrs HW=128.71' TW=125.64' (Dynamic Tailwater)
1=Culvert (Outlet Controls 9.55 cfs @ 7.78 fps)
2=Orifice/Grate (Orifice Controls 0.23 cfs @ 8.45 fps)

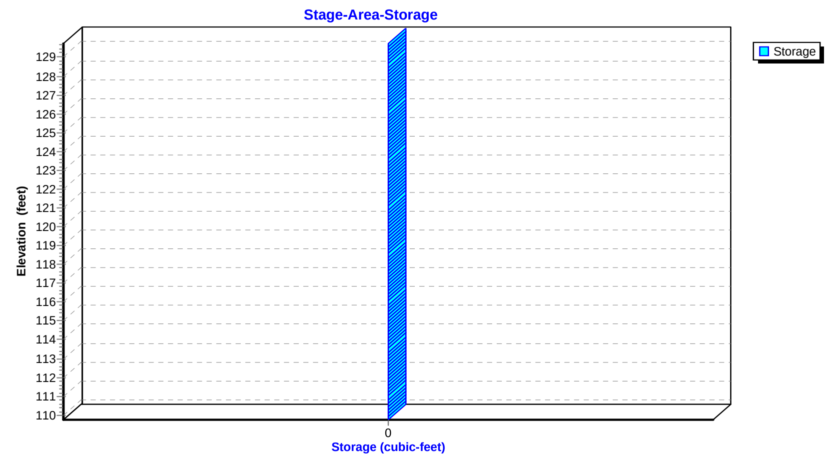
Pond 18P: CB-SE Pkg3



Pond 18P: CB-SE Pkg3



Pond 18P: CB-SE Pkg3



Summary for Pond 20P: CB-SE Pkg4

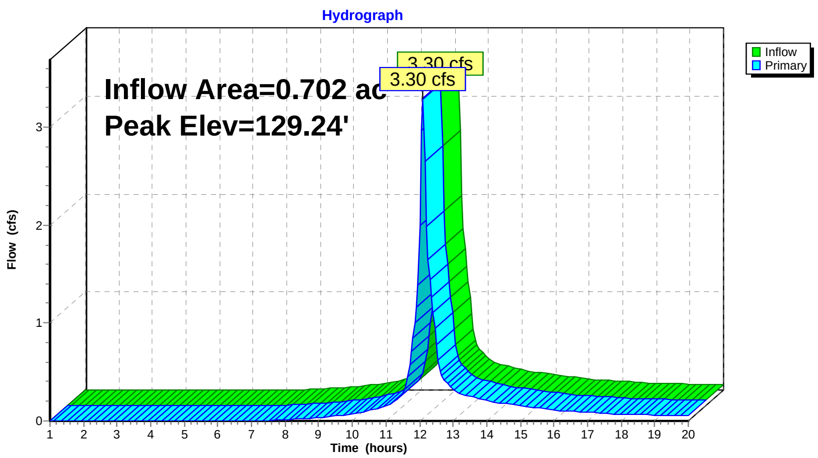
Inflow Area = 0.702 ac, 65.00% Impervious, Inflow Depth > 3.84" for 100-Year event
Inflow = 3.30 cfs @ 12.09 hrs, Volume= 0.225 af
Outflow = 3.30 cfs @ 12.09 hrs, Volume= 0.225 af, Atten= 0%, Lag= 0.0 min
Primary = 3.30 cfs @ 12.09 hrs, Volume= 0.225 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 129.24' @ 12.10 hrs

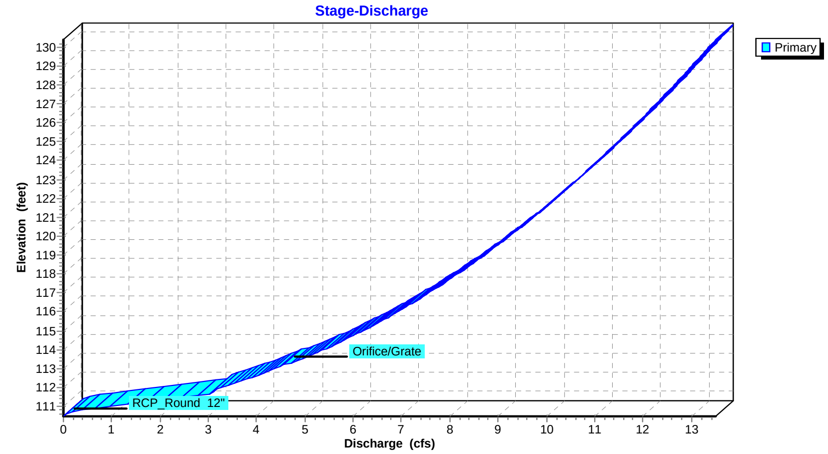
Device	Routing	Invert	Outlet Devices
#1	Primary	110.48'	**12.0" Round RCP_Round 12"** L= 140.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.48' / 109.75' S= 0.0052 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	113.20'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 12.09 hrs HW=128.37' TW=129.01' (Dynamic Tailwater)
1=RCP_Round 12" (Controls 0.00 cfs)
2=Orifice/Grate (Controls 0.00 cfs)

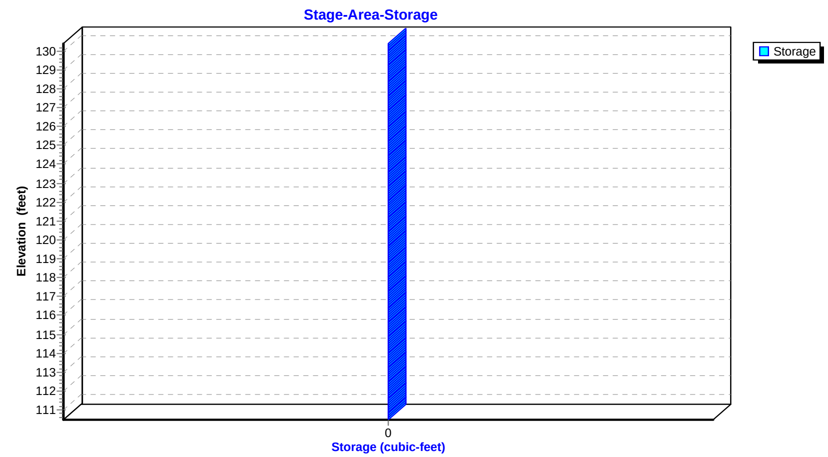
Pond 20P: CB-SE Pkg4



Pond 20P: CB-SE Pkg4



Pond 20P: CB-SE Pkg4



Summary for Pond 22P: CB-SE Pkg5

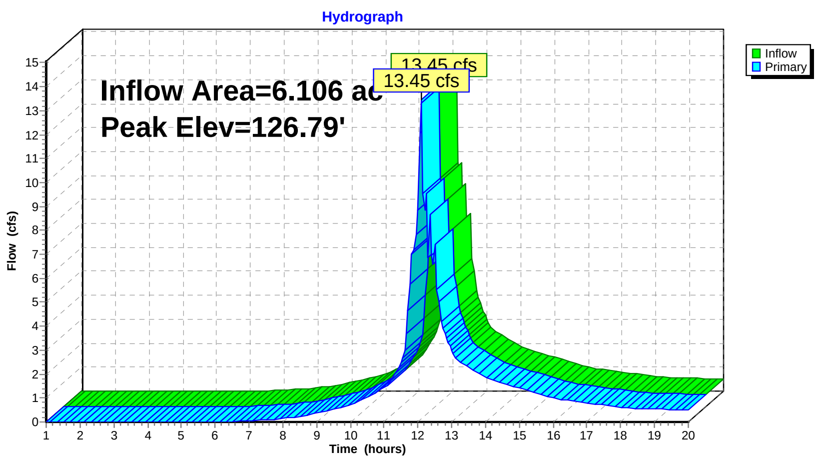
Inflow Area = 6.106 ac, 63.75% Impervious, Inflow Depth > 3.27" for 100-Year event
Inflow = 13.45 cfs @ 12.09 hrs, Volume= 1.663 af
Outflow = 13.45 cfs @ 12.09 hrs, Volume= 1.663 af, Atten= 0%, Lag= 0.0 min
Primary = 13.45 cfs @ 12.09 hrs, Volume= 1.663 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 126.79' @ 12.09 hrs

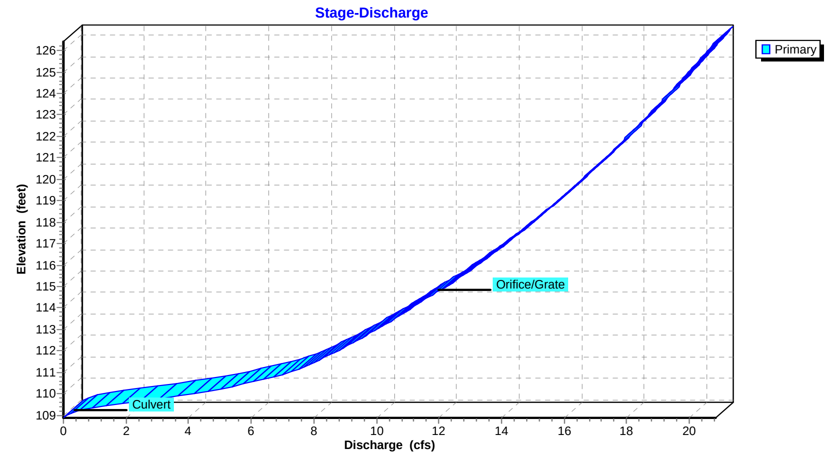
Device	Routing	Invert	Outlet Devices
#1	Primary	108.88'	**15.0" Round Culvert** L= 157.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 108.88' / 107.48' S= 0.0089 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=13.20 cfs @ 12.09 hrs HW=125.67' TW=118.64' (Dynamic Tailwater)
1=Culvert (Outlet Controls 12.84 cfs @ 10.47 fps)
2=Orifice/Grate (Orifice Controls 0.35 cfs @ 12.76 fps)

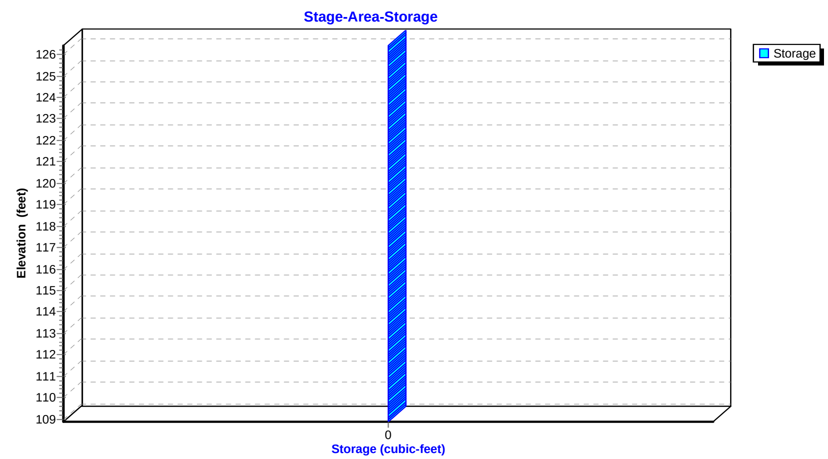
Pond 22P: CB-SE Pkg5



Pond 22P: CB-SE Pkg5



Pond 22P: CB-SE Pkg5



Summary for Pond 24P: CB-SE Pkg6

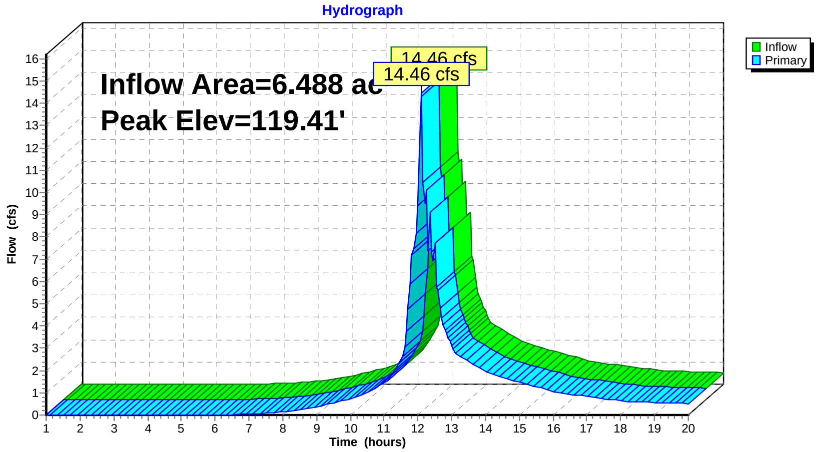
Inflow Area =	6.488 ac, 62.06% Impervious, Inflow Depth > 3.20" for 100-Year event			
Inflow =	14.46 cfs @	12.09 hrs, Volume=	1.733 af	
Outflow =	14.46 cfs @	12.09 hrs, Volume=	1.733 af,	Atten= 0%, Lag= 0.0 min
Primary =	14.46 cfs @	12.09 hrs, Volume=	1.733 af	

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 119.41' @ 12.09 hrs

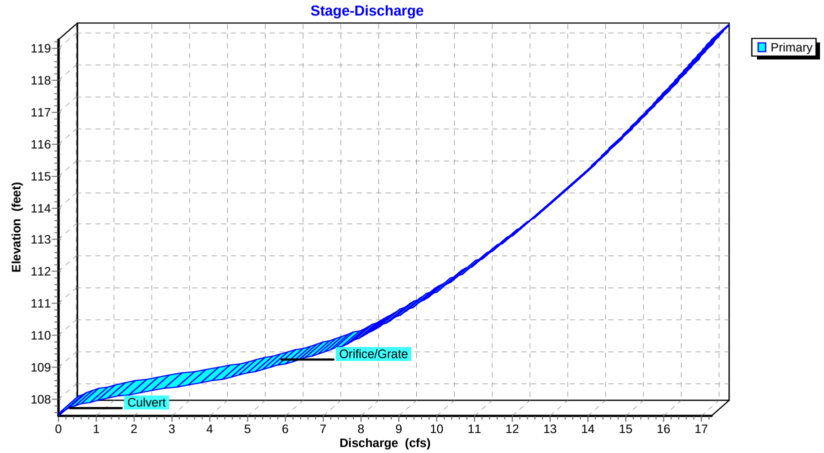
Device	Routing	Invert	Outlet Devices
#1	Primary	107.48'	**15.0" Round Culvert** L= 154.4' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 107.48' / 106.10' S= 0.0089 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	109.00'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=13.99 cfs @ 12.09 hrs HW=118.68' TW=110.88' (Dynamic Tailwater)
1=Culvert (Outlet Controls 13.62 cfs @ 11.10 fps)
2=Orifice/Grate (Orifice Controls 0.37 cfs @ 13.45 fps)

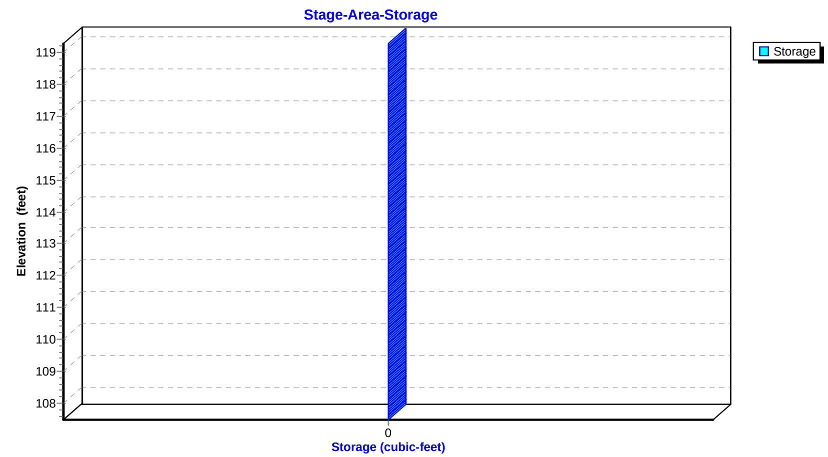
Pond 24P: CB-SE Pkg6



Pond 24P: CB-SE Pkg6



Pond 24P: CB-SE Pkg6



Summary for Pond 26P: CB-SE Pkg7

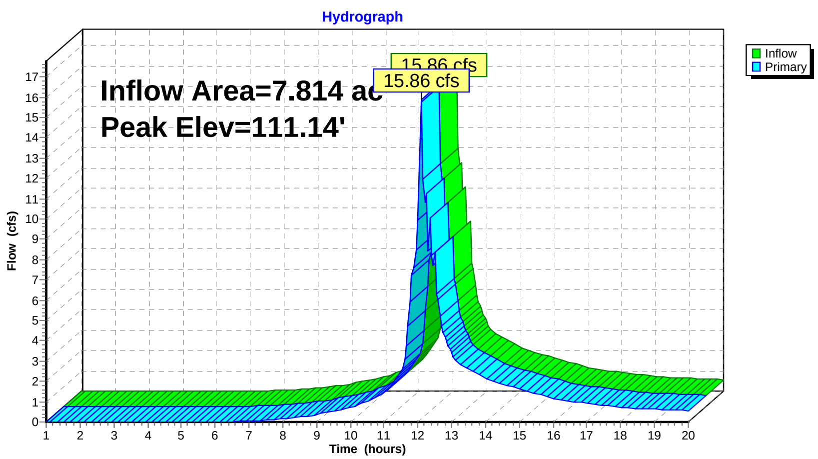
Inflow Area = 7.814 ac, 54.07% Impervious, Inflow Depth > 2.86" for 100-Year event
Inflow = 15.86 cfs @ 12.09 hrs, Volume= 1.865 af
Outflow = 15.86 cfs @ 12.09 hrs, Volume= 1.865 af, Atten= 0%, Lag= 0.0 min
Primary = 15.86 cfs @ 12.09 hrs, Volume= 1.865 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 111.14' @ 12.09 hrs

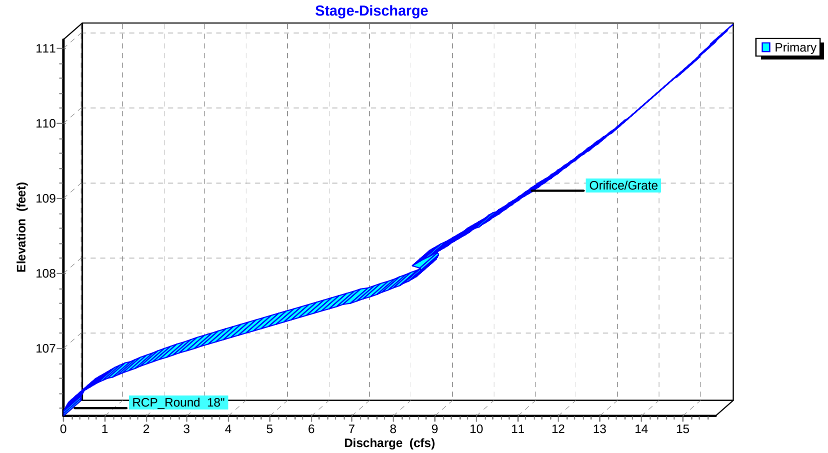
Device	Routing	Invert	Outlet Devices
#1	Primary	106.10'	**18.0" Round RCP_Round 18"** L= 154.4' RCP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 106.10' / 105.35' S= 0.0049 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.77 sf
#2	Primary	109.00'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=15.47 cfs @ 12.09 hrs HW=110.94' TW=0.00' (Dynamic Tailwater)
└─**1=RCP_Round 18"** (Barrel Controls 15.29 cfs @ 8.65 fps)
└─**2=Orifice/Grate** (Orifice Controls 0.19 cfs @ 6.71 fps)

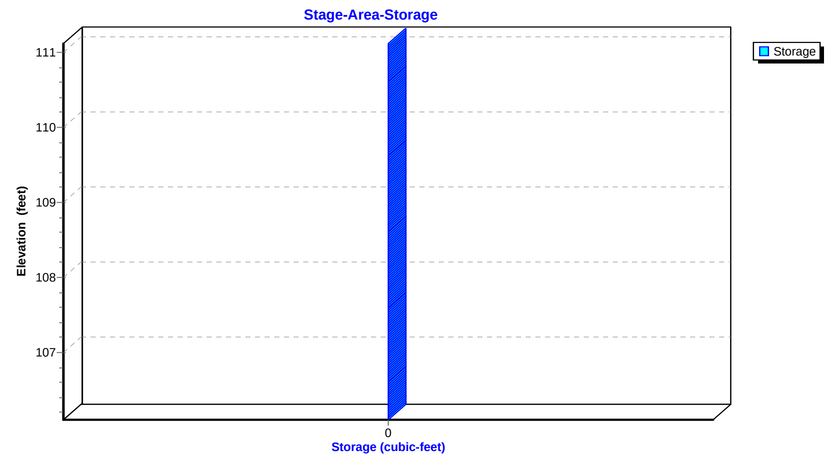
Pond 26P: CB-SE Pkg7



Pond 26P: CB-SE Pkg7



Pond 26P: CB-SE Pkg7



Summary for Pond 28P: CB-N F1

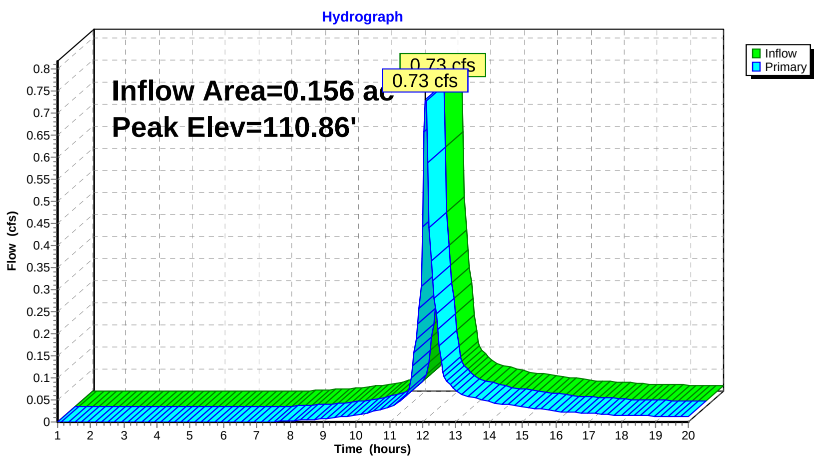
Inflow Area = 0.156 ac, 65.00% Impervious, Inflow Depth > 3.84" for 100-Year event
Inflow = 0.73 cfs @ 12.09 hrs, Volume= 0.050 af
Outflow = 0.73 cfs @ 12.09 hrs, Volume= 0.050 af, Atten= 0%, Lag= 0.0 min
Primary = 0.73 cfs @ 12.09 hrs, Volume= 0.050 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 110.86' @ 12.09 hrs

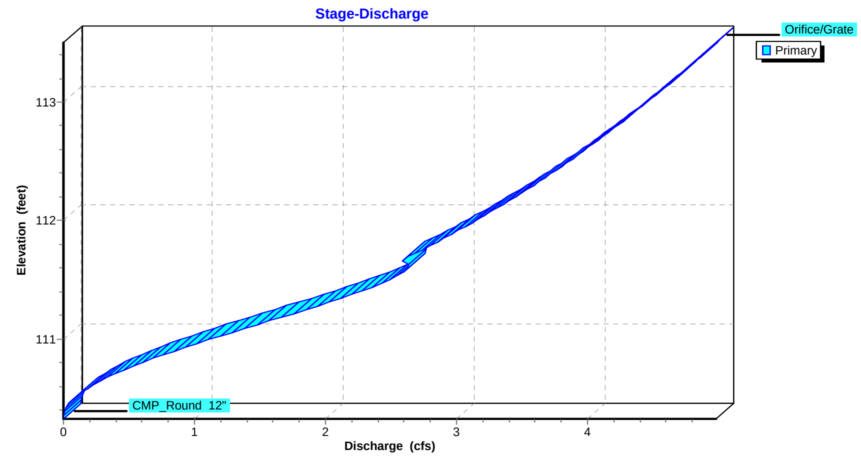
Device	Routing	Invert	Outlet Devices
#1	Primary	110.33'	**12.0" Round CMP_Round 12"** L= 111.7' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.33' / 110.00' S= 0.0030 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	113.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.72 cfs @ 12.09 hrs HW=110.85' TW=0.00' (Dynamic Tailwater)
1=CMP_Round 12" (Barrel Controls 0.72 cfs @ 2.52 fps)
2=Orifice/Grate (Controls 0.00 cfs)

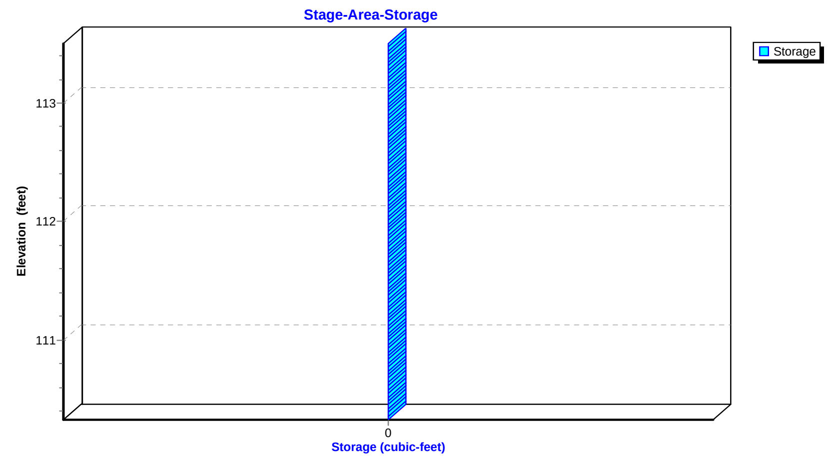
Pond 28P: CB-N F1



Pond 28P: CB-N F1



Pond 28P: CB-N F1



Summary for Pond 30P: CB-N F2

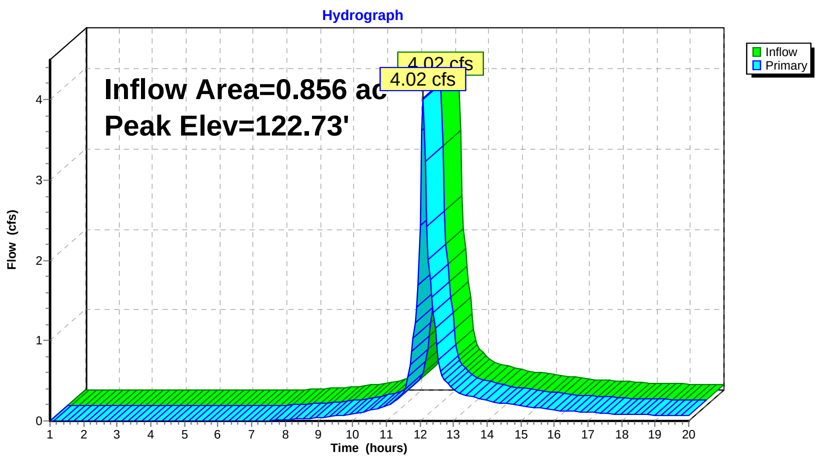
Inflow Area = 0.856 ac, 65.00% Impervious, Inflow Depth > 3.84" for 100-Year event
Inflow = 4.02 cfs @ 12.09 hrs, Volume= 0.274 af
Outflow = 4.02 cfs @ 12.09 hrs, Volume= 0.274 af, Atten= 0%, Lag= 0.0 min
Primary = 4.02 cfs @ 12.09 hrs, Volume= 0.274 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 122.73' @ 12.09 hrs

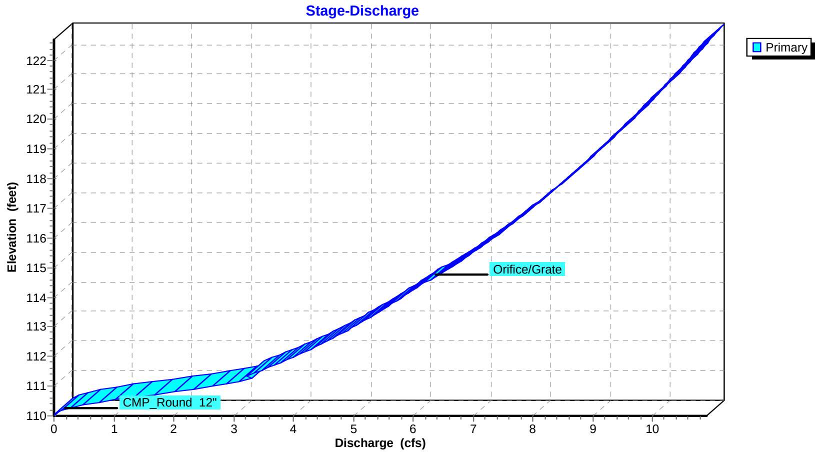
Device	Routing	Invert	Outlet Devices
#1	Primary	110.00'	**12.0" Round CMP_Round 12"** L= 133.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.00' / 109.17' S= 0.0062 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=3.94 cfs @ 12.09 hrs HW=122.21' TW=120.60' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 3.77 cfs @ 4.80 fps)
2=Orifice/Grate (Orifice Controls 0.17 cfs @ 6.11 fps)

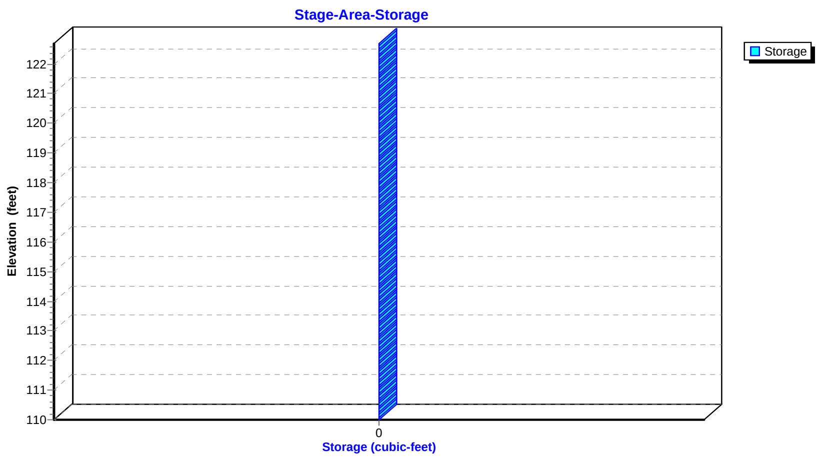
Pond 30P: CB-N F2



Pond 30P: CB-N F2



Pond 30P: CB-N F2



Summary for Pond 32P: CB-N F3

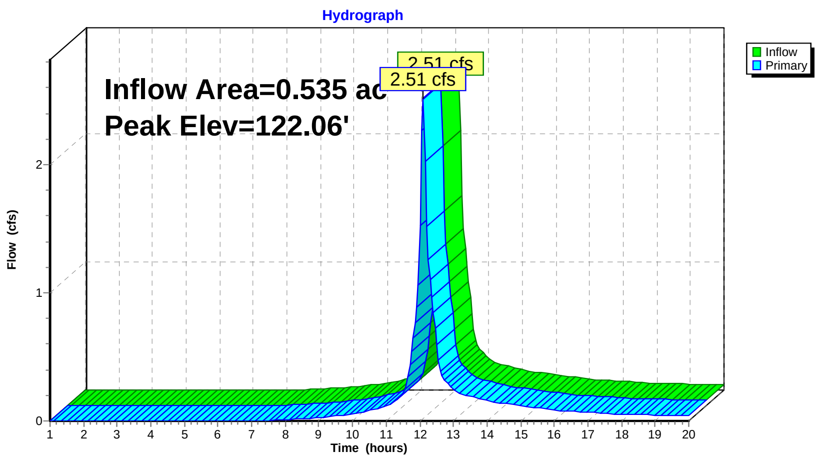
Inflow Area = 0.535 ac, 65.00% Impervious, Inflow Depth > 3.84" for 100-Year event
Inflow = 2.51 cfs @ 12.09 hrs, Volume= 0.171 af
Outflow = 2.51 cfs @ 12.09 hrs, Volume= 0.171 af, Atten= 0%, Lag= 0.0 min
Primary = 2.51 cfs @ 12.09 hrs, Volume= 0.171 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 122.06' @ 12.11 hrs

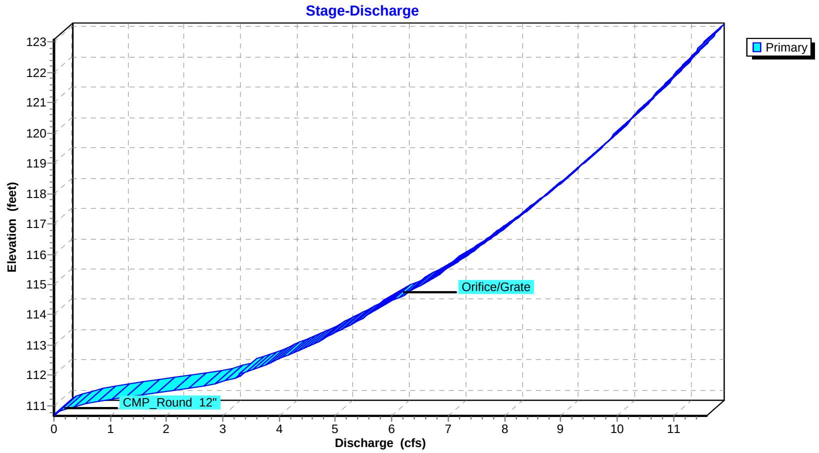
Device	Routing	Invert	Outlet Devices
#1	Primary	110.67'	**12.0" Round CMP_Round 12"** L= 103.5' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.67' / 110.00' S= 0.0065 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=0.00 cfs @ 12.09 hrs HW=121.19' TW=122.21' (Dynamic Tailwater)
└─**1=CMP_Round 12"** (Controls 0.00 cfs)
└─**2=Orifice/Grate** (Controls 0.00 cfs)

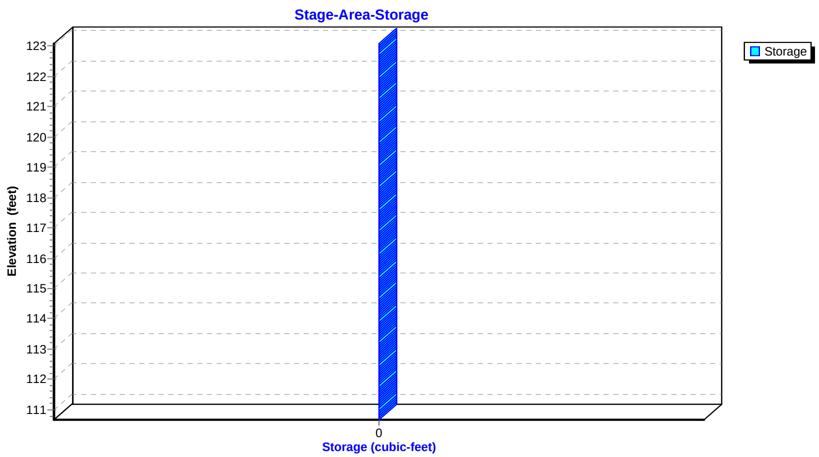
Pond 32P: CB-N F3



Pond 32P: CB-N F3



Pond 32P: CB-N F3



Summary for Pond 34P: CB-N F4

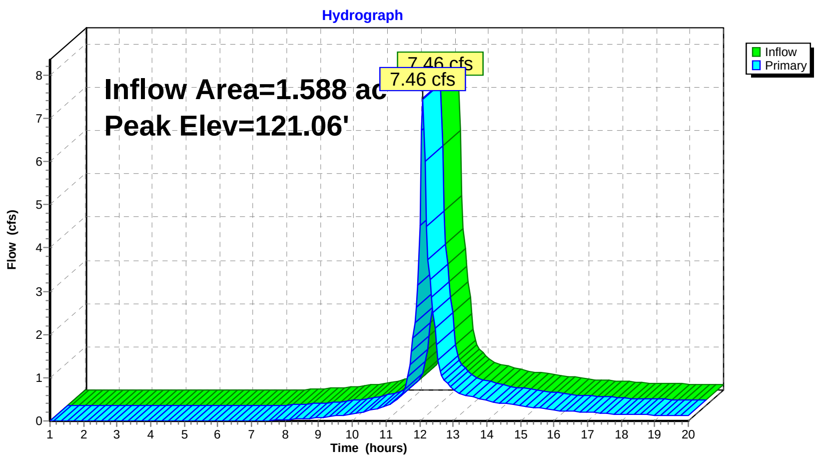
Inflow Area = 1.588 ac, 65.00% Impervious, Inflow Depth > 3.84" for 100-Year event
Inflow = 7.46 cfs @ 12.09 hrs, Volume= 0.508 af
Outflow = 7.46 cfs @ 12.09 hrs, Volume= 0.508 af, Atten= 0%, Lag= 0.0 min
Primary = 7.46 cfs @ 12.09 hrs, Volume= 0.508 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 121.06' @ 12.09 hrs

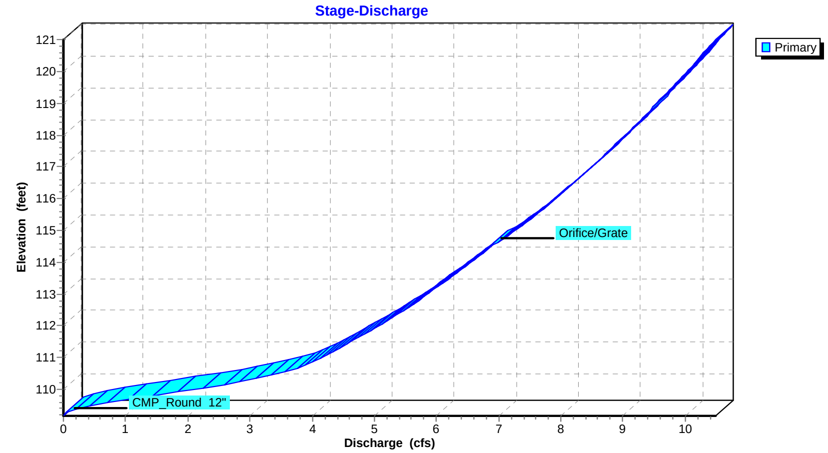
Device	Routing	Invert	Outlet Devices
#1	Primary	109.17'	**12.0" Round CMP_Round 12"** L= 139.2' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 109.17' / 108.00' S= 0.0084 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=7.31 cfs @ 12.09 hrs HW=120.60' TW=114.90' (Dynamic Tailwater)
1=CMP_Round 12" (Outlet Controls 6.99 cfs @ 8.91 fps)
2=Orifice/Grate (Orifice Controls 0.32 cfs @ 11.50 fps)

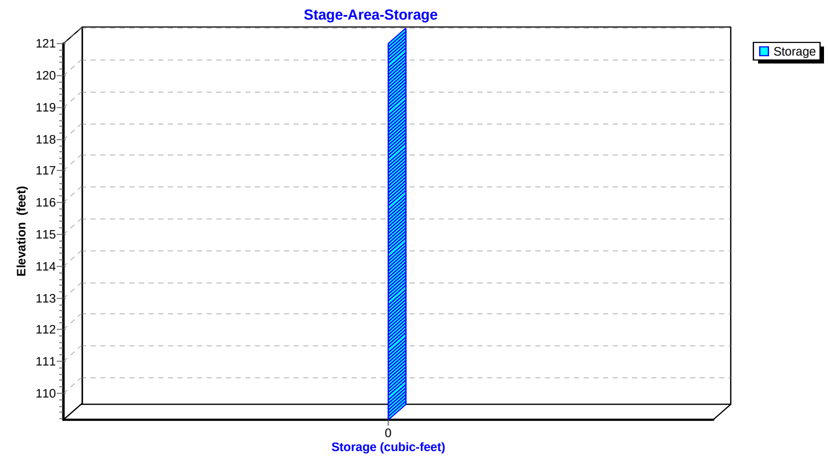
Pond 34P: CB-N F4



Pond 34P: CB-N F4



Pond 34P: CB-N F4



Summary for Pond 36P: CB-N F5

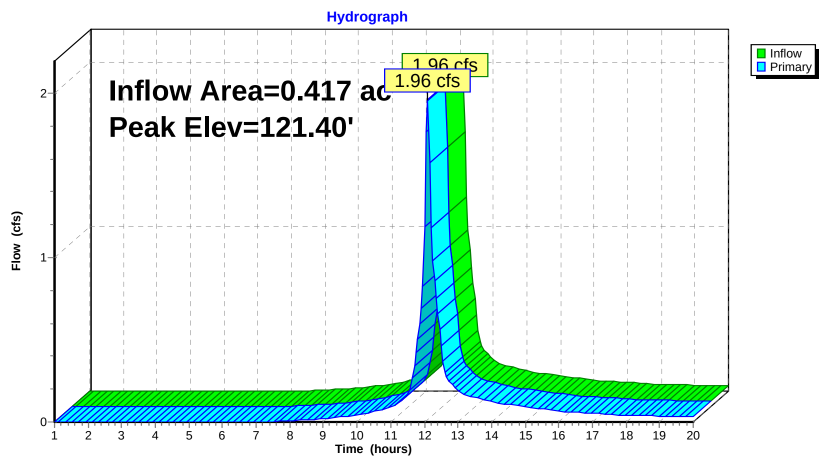
Inflow Area = 0.417 ac, 65.00% Impervious, Inflow Depth > 3.84" for 100-Year event
Inflow = 1.96 cfs @ 12.09 hrs, Volume= 0.133 af
Outflow = 1.96 cfs @ 12.09 hrs, Volume= 0.133 af, Atten= 0%, Lag= 0.0 min
Primary = 1.96 cfs @ 12.09 hrs, Volume= 0.133 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 121.40' @ 12.09 hrs

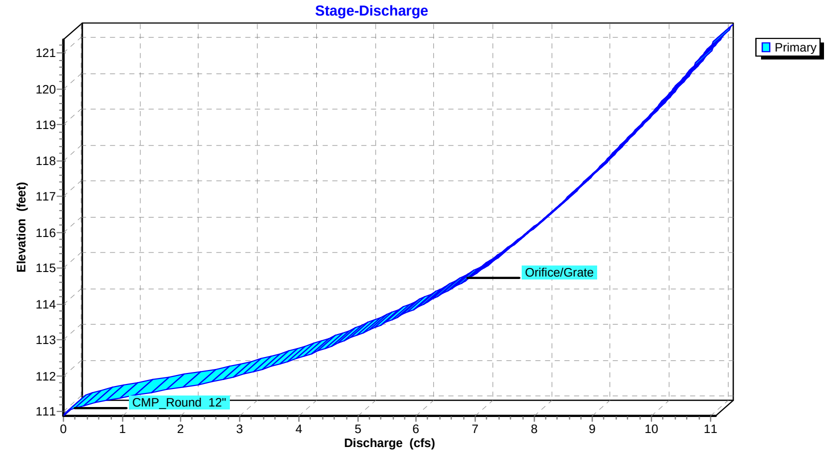
Device	Routing	Invert	Outlet Devices
#1	Primary	110.88'	**12.0" Round CMP_Round 12"** L= 105.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 110.88' / 109.17' S= 0.0163 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 0.79 sf
#2	Primary	114.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=1.92 cfs @ 12.09 hrs HW=120.93' TW=120.60' (Dynamic Tailwater)
└**1=CMP_Round 12"** (Outlet Controls 1.84 cfs @ 2.35 fps)
└**2=Orifice/Grate** (Orifice Controls 0.08 cfs @ 2.77 fps)

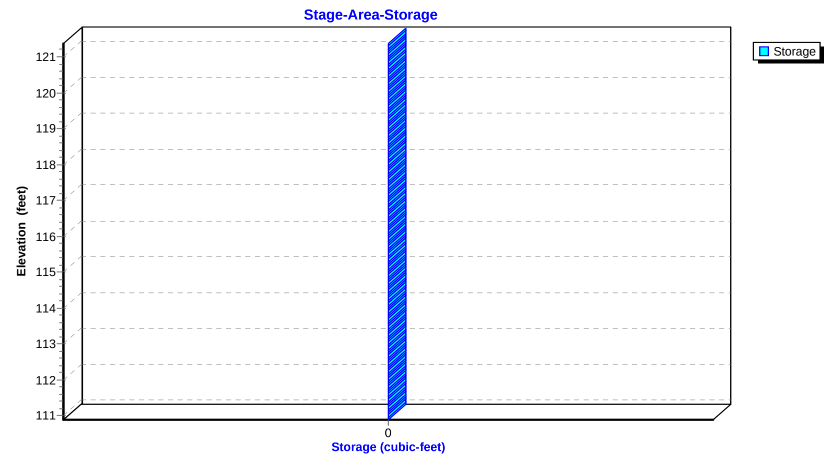
Pond 36P: CB-N F5



Pond 36P: CB-N F5



Pond 36P: CB-N F5



Summary for Pond 38P: CB-N F6

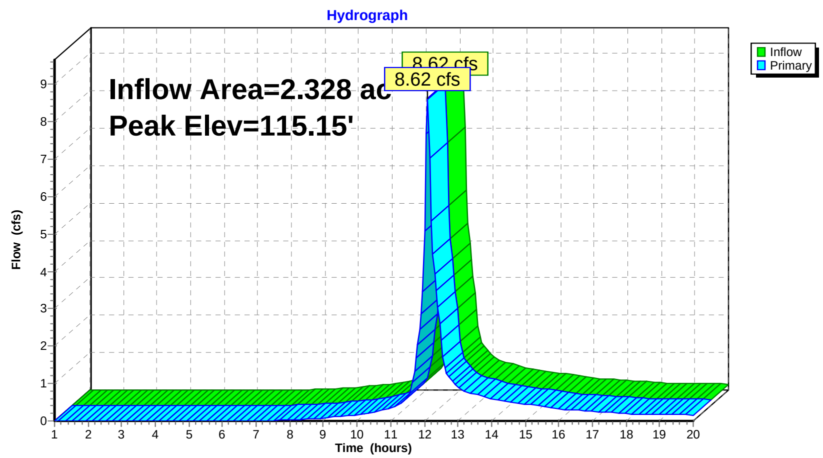
Inflow Area = 2.328 ac, 50.70% Impervious, Inflow Depth > 3.07" for 100-Year event
Inflow = 8.62 cfs @ 12.09 hrs, Volume= 0.596 af
Outflow = 8.62 cfs @ 12.09 hrs, Volume= 0.596 af, Atten= 0%, Lag= 0.0 min
Primary = 8.62 cfs @ 12.09 hrs, Volume= 0.596 af

Routing by Dyn-Stor-Ind method, Time Span= 1.00-20.00 hrs, dt= 0.05 hrs / 3
Peak Elev= 115.15' @ 12.09 hrs

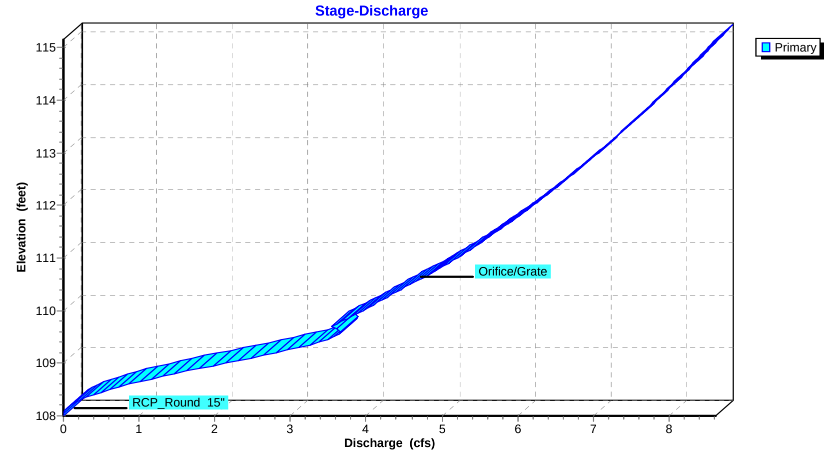
Device	Routing	Invert	Outlet Devices
#1	Primary	108.00'	**15.0" Round RCP_Round 15"** L= 466.8' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 108.00' / 107.25' S= 0.0016 '/' Cc= 0.900 n= 0.011 Concrete pipe, straight & clean, Flow Area= 1.23 sf
#2	Primary	110.50'	**2.0" x 2.0" Horiz. Orifice/Grate** C= 0.600 in 24.0" x 24.0" Grate (1% open area)

Primary OutFlow Max=8.49 cfs @ 12.09 hrs HW=114.95' TW=0.00' (Dynamic Tailwater)
1=RCP_Round 15" (Barrel Controls 8.21 cfs @ 6.69 fps)
2=Orifice/Grate (Orifice Controls 0.28 cfs @ 10.16 fps)

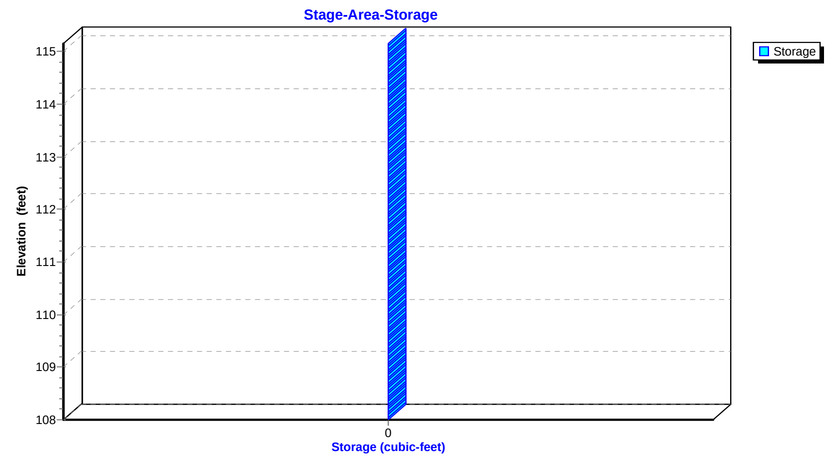
Pond 38P: CB-N F6



Pond 38P: CB-N F6



Pond 38P: CB-N F6



DESIGN GROUP

Rational Method Calculations - Piped System

249 SOUTH STREET UNIT 1 PLAINVILLE MA 02762
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STORM SEWER SYSTEM
PETERSEN POOL
TOWN STREET
BRAINTREE, MA
LDG Proj# 1410.00

FLOW PATH		EGMEN	TIME TO	TIME IN	ACCUMUL	RUNOFF	AREA	SUM OF	ACCUMUL	RAINFALL	SYSTEM	PIPE	PIPE (ft)	SLOPE	Vfull	Qfull	ROUGH.	CAPACITY
FROM	TO	TYPE	INLET	PIPE	TIME	COEFF "C'	(acres)	AxC	AxC	I	Q (cfs)	SIZE (in)	LENGTH	(ft/ft)	(fps)	(cfs)	COEFF. "n"	CHECK
PCB1	PDMH1	I	6.00	0.19	5.00	0.90	0.35											
						0.30	0.00											
	`					0.20	0.50											
								0.41	0.41	6.00	2.46	10	59	0.0120	5.20	2.84	0.0110	WITHIN CAPACITY
PCB2	PDMH1	I	6.00	0.15	6.00	0.90	0.49											
	`					0.30	0.00											
						0.20	0.34											
								0.51	0.51	6.00	3.04	12	36	0.0055	3.98	3.12	0.0110	WITHIN CAPACITY
PDMH1	PDMH2	C	6.00	0.09	6.00	0.90	0.83											
						0.30	0.00											
						0.20	0.84											
								0.92	1.33	6.00	7.97	15	44	0.0170	8.11	9.95	0.0110	WITHIN CAPACITY
PCB3	PDMH2	I	6.00	0.37	6.00	0.90	0.32		`									
						0.30	0.00											
						0.20	0.02											
								0.29	0.29	6.00	1.74	10	75	0.0050	3.36	1.83	0.0110	WITHIN CAPACITY
												.						
PDMH2	PDMH3	C	6.00	0.43	6.37	0.90	1.15											
						0.30	0.00											
						0.20	0.85											
								1.21	2.83	6.00	9.71	18	128	0.0050	4.97	8.78	0.0110	WITHIN CAPACITY
PCB4	PDMH3	I	6.00	0.08	6.00	0.90	0.77											
						0.30	0.00											
						0.20	0.21											
								0.73	0.73	6.00	4.41	15	26	0.0075	5.39	6.61	0.0110	WITHIN CAPACITY
PDMH3	PDMH4	C	6.00	0.19	6.08	0.90	1.92											
	CDS					0.30	0.00											
						0.20	1.07											
								1.94	2.68	6.00	4.41	15	71	0.0100	6.22	7.63	0.0110	WITHIN CAPACITY
Pond 6P	Pond 8P	C	6.00	0.56	6.00	0.90	0.00											
						0.30	0.00											
						0.20	0.00											
								5.85	5.85	6.00	5.85	18	167	0.0050	4.97	8.78	0.0110	WITHIN CAPACITY

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FLOW PATH		EGMEN	TIME TO	TIME IN	ACCUMUL	RUNOFF	AREA	SUM OF	ACCUMUL	RAINFALL	SYSTEM	PIPE	PIPE (ft)	SLOPE	Vfull	Qfull	ROUGH.	CAPACITY
FROM	TO	TYPE	INLET	PIPE	TIME	COEFF "C'	(acres)	AxC	AxC	I	Q (cfs)	SIZE (in)	LENGTH	(ft/ft)	(fps)	(cfs)	COEFF. "n"	CHECK
Prop. LCB4	Prop. DMH 10	I	6.00	0.86	5.00	0.90	0.01											
						0.30	0.00											
						0.20	0.02											
								0.01	0.01	6.00	0.08	8	149	0.0050	2.89	1.01	0.0110	WITHIN CAPACITY
Prop. LCB5	Prop. DMH 10L	I	6.00	0.05	5.00	0.90	0.02											
						0.30	0.00											
						0.20	0.30											
								0.08	0.08	6.00	0.48	8	9	0.0050	2.89	1.01	0.0110	WITHIN CAPACITY
Prop. LCB6	Prop. DMH 10L	I	6.00	0.03	5.00	0.90	0.03											
						0.30	0.00											
						0.20	0.30											
								0.09	0.09	6.00	0.52	8	6	0.0050	2.89	1.01	0.0110	WITHIN CAPACITY
DMH10	DMH10l-LCB7	C	6.00	0.89	6.00	0.90	0.06											
						0.30	0.00											
						0.20	0.62											
								0.18	0.18	6.00	0.18	10	180	0.0050	3.36	1.83	0.0110	WITHIN CAPACITY
Prop. LCB7	Prop. DMH 10L	I	6.00	0.19	5.00	0.90	0.03											
						0.30	0.00											
						0.20	0.30											
								0.09	0.09	6.00	0.52	8	33	0.0050	2.89	1.01	0.0110	WITHIN CAPACITY
Prop. LCB8	Prop. DMH 10L	I	6.00	0.00	5.00	0.90	0.05											
						0.30	0.00											
						0.20	0.75											
								0.20	0.20	6.00	1.17	8	6	0.2800	21.65	7.56	0.0110	WITHIN CAPACITY
DMH10	DMH11	C	6.00	0.40	6.00	0.90	0.09											
						0.30	0.00											
						0.20	0.92											
								0.27	0.27	6.00	1.96	15	106	0.0050	4.40	5.40	0.0110	WITHIN CAPACITY

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STORM SEWER SYSTEM
PETERSEN POOL
TOWN STREET
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LDG Proj# 1410.00

FLOW PATH FROM	TO	EGMEN TYPE	TIME TO INLET	TIME IN PIPE	ACCUMUL TIME	RUNOFF COEFF "C"	AREA (acres)	SUM OF AxC	ACCUMUL AxC	RAINFALL I	SYSTEM Q (cfs)	PIPE SIZE (in)	PIPE (ft) LENGTH	SLOPE (ft/ft)	Vfull (fps)	Qfull (cfs)	ROUGH. COEFF. "n"	CAPACITY CHECK
MODIFIED EXISTING SYSTEM																		
CB12	CB-DMH	I	6.00	0.22	5.00	0.90	0.81											
						0.30	0.00											
						0.20	0.20											
								0.77	0.77	6.00	4.61	12	59	0.0066	4.36	3.42	0.0110	INCREASE CAPACI
CB5	DMH5	I	6.00	0.11	5.00	0.90	0.26											
						0.30	0.00											
						0.20	0.21											
								0.28	0.28	6.00	1.67	12	49	0.0200	7.58	5.95	0.0110	WITHIN CAPACITY

CDS Stormwater Treatment Unit Documentation
StormTech Isolator Row Documentation

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