Stormwater Management, Groundwater Recharge and Water Quality Analysis

For

Surrey Equities, LLC

Proposed Residential Development
Block 2701, Existing Lots 53, 60, 66 & 69 (Approved Lots 69.05 & 69.06)
Monmouth Road & NJSH Route 36
Borough of Eatontown
Monmouth County, New Jersey

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1. SITE DESCRIPTION AND PROJECT OVERVIEW

The subject site is located with frontage on Monmouth Road in the Borough of Eatontown, Monmouth County, New Jersey. The site is identified as Block 2701, Existing Lots 53, 60, 66 and 69 (Approved Lots 69.05 & 69.06) on the Borough of Eatontown Tax Map Sheet #27. The subject site is currently developed as a golf course, consisting of open space and wooded areas. The property is bisected by Turtle Mill Brook and bounded to the north by single-family homes, to the east by commercial uses, to the south by NJSH Route 36 and commercial uses beyond, and to the west by commercial uses.

The proposed project consists of a 152-lot residential subdivision with 145 single-family dwellings. The residential subdivision will have 8.44 acres of motor vehicle surface, 18.76 acres of impervious surface, and 77.23 acres of land disturbance. The proposed project will also include all associated site improvements including parking areas, landscaping, lighting, stormwater management facilities, and utilities.

2. DESIGN OVERVIEW

This report has been prepared to define and analyze the stormwater drainage conditions that would occur as a result of the development of the subject site. Based upon the fact that the proposed development will result in more than one (1) acre of land disturbance, increase in impervious coverage by more than 1/4 acre, and increase motor vehicle surfaces by more than 1/4 acre, this project is classified as a “major development” as defined in NJAC 7:8. Therefore, the proposed development has been designed to meet the stormwater water runoff quantity, quality, and groundwater recharge standards, as set forth by the Borough of Eatontown Land Use Ordinance and NJAC 7:8.

The following documents and data were used in the support of the design of the project.

- A survey entitled “Boundary, Location and Topographic Survey” prepared by Dynamic Survey, LLC dated June 29, 2023 last revised February 11, 2025
- Plans entitled “Preliminary and Final Major Subdivisions and Site Plans” prepared by Dynamic Engineering Consultants, PC
- Geotechnical Report entitled “Supplemental Geotechnical and Stormwater Basin Area Investigation Report” prepared by Dynamic Earth, LLC dated March 8, 2024
- NRCS Web Soil Survey
- NJDEP Stormwater Management Best Management Practices Manual

The hydrology for the site was calculated using the NRCS Runoff Equation and Dimensionless Unit Hydrograph as noted in Part 630, Hydrology National Engineering Handbook. The following particular references were used:

- Curve Numbers were established via Chapter 9 – Hydrological Soil-Cover Complexes
- Time of Concentration were calculated in accordance with Chapter 15

- Rainfall Distributions are based on NOAA Type D rainfall distribution
- The Standard Unit Hydrograph was utilized
- The rainfall depths are based on Monmouth County NOAA Atlas 14 Data and adjusted per Table 5-5 and 5-6 as noted below:

Return Period	NOAA Atlas 14 Rainfall Depth (inches)	Current Adjusted Rainfall Depth (inches)	Projected Adjusted Rainfall Depth (inches)
2 Year Storm	3.38	3.38	4.02
10 Year Storm	5.23	5.28	6.22
25 Year Storm	6.53	--	--
100 Year Storm	8.94	9.12	11.26

Based upon the Monmouth County Soil Survey, the soil types native to the site include:

Soil Type	Soil Type Name	Hydrologic Soil Group
DocB	Downer, 0 to 5 percent slopes	A
DocC	Downer, 5 to 10 percent slopes	A
EveB	Evesboro, 0 to 5 percent slopes	A
EveC	Evesboro, 5 to 10 percent slopes	A
FapA	Fallingston, 0 to 2 percent slopes	C/D*
FrkB	Freehol, 2 to 5 percent slopes	B
FrrC	Freehold-Urban, 0 to 10 percent slopes	B
HumAt	Humaquepts, 0 to 3 percent slopes	A/D*

*Hydrological soil group D was utilized due to the proximity to Turtle Mill Brook or wetlands on site.

Based on the methodology and data noted above a hydrologic evaluation of the NJDEP Water Quality, 2-, 10-, 25-, and 100-year storm event was prepared.

This report will address compliance with the following standards:

- Groundwater Recharge Standards (NJAC 7:8-5.4)
- Stormwater Runoff Quality Standards (NJAC 7:8-5.5)
- Stormwater Runoff Quantity Standards (NJAC 7:8-5.6)
- Calculation of Stormwater Runoff (NJAC 7:8-5.7)
- Green Infrastructure Standards (NJAC 7:8-5.3)

3. EXISTING DRAINAGE CONDITIONS

The area to be analyzed consists of approximately 154.88 acres and is comprised of a golf course, consisting of open space, impervious and wooded areas. Currently, the majority of the stormwater runoff generated by the existing site drains to Turtle Mill Brook. The remaining stormwater runoff generated by the existing site drains to the wetlands located on site. The subject site has been

evaluated with the following drainage sub-watershed areas as depicted in the Existing Drainage Area Map included in the Appendix of this report.

Point of Analysis #1

Drainage Area Wetlands: This area consists of 10.22 acres of wooded areas, open space, and impervious areas in the southern portion of the property. Under existing conditions, stormwater runoff generated by this area flows overland to the existing wetlands located on site.

Point of Analysis #2

Drainage Area South: This area consists of 57.18 acres of wooded areas, open space, and impervious areas. Under existing conditions, stormwater runoff generated by this area flows overland to Turtle Mill Brook.

Drainage Area North: This area consists of 87.48 acres of wooded areas, open space, and impervious areas. Under existing conditions, stormwater runoff generated by this area flows overland to Turtle Mill Brook.

Existing Conditions Input Summary Table

Drainage Area Name	Drainage Area (acres)	Time of Concentration (minutes)	Curve Number (CN)
DA Wetlands	10.22	13.8	46
POA #1	10.22	--	--
DA South	49.16	16.3	44
DA South – Disturbed	49.16	--	--
DA South – Undisturbed	8.02	16.3	89
DA South – Undisturbed	8.02	--	--
DA South – Total	57.18	--	--
DA North	61.48	18.9	67
DA North – Disturbed	61.48	--	--
DA North – Undisturbed W	8.21	18.9	75
DA North – Undisturbed X	5.17	18.5	75
DA North – Undisturbed Y	12.62	15.1	75
DA North – Undisturbed	26.00	--	--
DA North – Total	87.48	--	--
POA #2	144.66	--	--
Total	154.88	--	--

Existing Conditions Flow Summary Table

Drainage Area Name	Current Adjusted Rainfall Conditions			Projected Adjusted Rainfall Conditions		
	Q2 (CFS)	Q10 (CFS)	Q100 (CFS)	Q2 (CFS)	Q10 (CFS)	Q100 (CFS)
DA Wetlands	2.21	4.30	13.36	3.04	5.68	21.23
POA #1	2.21	4.30	13.36	3.04	5.68	21.23
DA South	8.53	15.80	52.36	10.91	21.36	85.48
DA South – Disturbed	8.53	15.80	52.36	10.91	21.36	85.48
DA South – Undisturbed	10.58	18.68	34.89	13.30	22.68	43.83
DA South – Undisturbed	10.58	18.68	34.89	13.30	22.68	43.83
DA South – Total	19.10	34.46	87.17	24.21	44.02	129.21
DA North	23.36	62.75	163.22	35.19	85.60	224.40
DA North – Disturbed	23.36	62.75	163.22	35.19	85.60	224.40
DA North – Undisturbed W	5.12	11.87	27.05	7.27	15.48	35.72
DA North – Undisturbed X	3.26	7.55	17.22	4.62	9.85	22.75
DA North – Undisturbed Y	8.89	20.54	46.69	12.59	26.77	61.63
DA North – Undisturbed	17.13	39.62	90.13	24.32	51.64	119.01
DA North – Total	40.40	102.13	252.57	59.43	136.88	342.33
POA #2	59.14	136.02	339.11	83.17	180.39	470.58
Total	61.41	140.12	352.24	86.04	185.94	491.43

4. PROPOSED DRAINAGE CONDITIONS

The proposed development will incorporate four (4) small-scale infiltration basins with sand bottoms, nine (9) bioretention with infiltration basins, and eight (8) bioretention basins with underdrains into the layout of the facility for stormwater management. The bioretention and infiltration basins are designed to detain, treat, and infiltrate stormwater runoff generated by the development in order to meet the stormwater management requirements. The proposed site conditions have been evaluated using the following drainage sub-watershed areas as depicted on the Proposed Drainage Area Map included in the Appendix of this report.

Point of Analysis #1

Drainage Area Wetlands: This area consists of 10.22 acres of wooded areas, open space, and impervious areas in the southern portion of the property. Under proposed conditions, stormwater runoff generated by this area flows overland to the existing wetlands located on site.

Point of Analysis #2 – South

Study Area Disturbed: The area consists of 49.16 acres which includes open space, impervious, and wooded areas which flows via overland and ultimately tributary to Turtle Mill Brook. This area will be regraded as part of the decommissioning of the golf course. Note that the drainage patterns will remain similar to existing conditions.

Study Area Undisturbed: The area consists of 8.02 acres which includes offsite urban commercial areas which flows via overland and ultimately tributary to Turtle Mill Brook.

Point of Analysis #2 – North

Study Area Basin A: This area consists of 2.47 acres which includes open space and impervious areas. Under proposed conditions, stormwater runoff generated by this area flows via a stormwater conveyance system and discharges into Basin A. Basin A is released through an outlet control structure, into Basin B before ultimately flowing into Turtle Mill Brook.

Study Area Basin B: This area consists of 1.26 acres which includes open space and impervious areas. Under proposed conditions, stormwater runoff generated by this area flows via overland flow into Basin B. Basin B is released through an outlet control structure, into Basin C before ultimately flowing into Turtle Mill Brook.

Study Area Basin C: This area consists of 0.99 acres which includes open space and impervious areas. Under proposed conditions, stormwater runoff generated by this area flows via overland flow into Basin C. Basin C is released through an outlet control structure, into Basin D before ultimately flowing into Turtle Mill Brook.

Study Area Basin D: This area consists of 2.67 acres which includes open space and impervious areas. Under proposed conditions, stormwater runoff generated by this area flows via a stormwater conveyance system and discharges into Basin D. Basin D is released through an outlet control structure and is ultimately tributary to Turtle Mill Brook.

Study Area Basin E: This area consists of 2.24 acres which includes open space and impervious areas. Under proposed conditions, stormwater runoff generated by this area flows via a stormwater conveyance system and discharges into Basin E. Basin E is released through an outlet control structure and is ultimately tributary to Turtle Mill Brook.

Study Area Basin F: This area consists of 1.50 acres which includes open space and impervious areas. Under proposed conditions, stormwater runoff generated by this area flows via a stormwater conveyance system and discharges into Basin F. Basin F is released through an outlet control structure, into Basin G before ultimately flowing into Turtle Mill Brook.

Study Area Basin G: This area consists of 1.26 acres which includes open space and impervious areas. Under proposed conditions, stormwater runoff generated by this area flows via a

stormwater conveyance system and discharges into Basin G. Basin G is released through an outlet control structure, into Basin H before ultimately flowing to Turtle Mill Brook.

Study Area Basin H: This area consists of 1.95 acres which includes open space and impervious areas. Under proposed conditions, stormwater runoff generated by this area flows via a stormwater conveyance system and discharges into Basin H. Basin H is released through an outlet control structure, into Basin P before ultimately flowing to Turtle Mill Brook.

Study Area Basin I: This area consists of 0.53 acres which includes open space and impervious areas. Under proposed conditions, stormwater runoff generated by this area flows via overland flow into Basin I. Basin I is released through an outlet control structure, into Basin P before ultimately flowing to Turtle Mill Brook.

Study Area Basin K: This area consists of 1.64 acres which includes open space and impervious areas. Under proposed conditions, stormwater runoff generated by this area flows via a stormwater conveyance system and discharges into Basin K. Basin K is released through an outlet control structure and is ultimately tributary to Turtle Mill Brook.

Study Area Basin L: This area consists of 0.97 acres which includes open space and impervious areas. Under proposed conditions, stormwater runoff generated by this area flows via a stormwater conveyance system and discharges into Basin L. Basin L is released through an outlet control structure, into Basin N before ultimately flowing to Turtle Mill Brook.

Study Area Basin M: This area consists of 0.86 acres which includes open space and impervious areas. Under proposed conditions, stormwater runoff generated by this area flows via a stormwater conveyance system and discharges into Basin M. Basin M is released through an outlet control structure and is ultimately tributary to Turtle Mill Brook.

Study Area Basin N: This area consists of 1.39 acres which includes open space and impervious areas. Under proposed conditions, stormwater runoff generated by this area flows via a stormwater conveyance system and discharges into Basin N. Basin N is released through an outlet control structure and is ultimately tributary to Turtle Mill Brook.

Study Area Basin O: This area consists of 1.10 acres which includes open space and impervious areas. Under proposed conditions, stormwater runoff generated by this area flows via a stormwater conveyance system and discharges into Basin O. Basin O is released through an outlet control structure and is ultimately tributary to Turtle Mill Brook.

Study Area Basin P: This area consists of 2.76 acres which includes open space and impervious areas. Under proposed conditions, stormwater runoff generated by this area flows via a stormwater conveyance system and discharges into Basin P. Basin P is released through an outlet control structure, into Basin E before ultimately flowing to Turtle Mill Brook.

Study Area Basin Q: This area consists of 1.86 acres which includes open space and impervious areas. Under proposed conditions, stormwater runoff generated by this area flows via a stormwater conveyance system and discharges into Basin Q. Basin Q is released through an outlet control structure and is ultimately tributary to Turtle Mill Brook.

Study Area Basin R: This area consists of 2.04 acres which includes open space and impervious areas. Under proposed conditions, stormwater runoff generated by this area flows via a stormwater conveyance system and discharges into Basin R. Basin R is released through an outlet control structure and is ultimately tributary to Turtle Mill Brook.

Study Area Basin S: This area consists of 1.80 acres which includes open space and impervious areas. Under proposed conditions, stormwater runoff generated by this area flows via a stormwater conveyance system and discharges into Basin S. Basin S is released through an outlet control structure and is ultimately tributary to Turtle Mill Brook.

Study Area Basin T: This area consists of 0.73 acres which includes open space and impervious areas. Under proposed conditions, stormwater runoff generated by this area flows via a stormwater conveyance system and discharges into Basin T. Basin T is released through an outlet control structure and is ultimately tributary to Turtle Mill Brook.

Study Area Basin U: This area consists of 1.07 acres which includes open space and impervious areas. Under proposed conditions, stormwater runoff generated by this area flows via a stormwater conveyance system and discharges into Basin U. Basin U is released through an outlet control structure, into Basin T before ultimately flowing to Turtle Mill Brook.

Study Area Basin V: This area consists of 0.85 acres which includes open space and impervious areas. Under proposed conditions, stormwater runoff generated by this area flows via a stormwater conveyance system and discharges into Basin V. Basin V is released through an outlet control structure and is ultimately tributary to Turtle Mill Brook.

Study Area Undetained: The area consists of 14.68 acres which includes open space, impervious, and wooded areas which flows via overland and ultimately tributary to Turtle Mill Brook.

Study Area W: This area consists of 14.63 acres, which includes open space, impervious, and residential undisturbed areas which flows via overland to a stormwater conveyance system and ultimately tributary to Turtle Mill Brook.

Study Area X: This area consists of 10.16 acres, which includes open space, impervious, and residential undisturbed areas which flows via overland to a stormwater conveyance system and ultimately tributary to Turtle Mill Brook.

Study Area Y: This area consists of 16.07 acres, which includes open space, impervious, and residential undisturbed areas which flows via overland to a stormwater conveyance system and ultimately tributary to Turtle Mill Brook.

Proposed Conditions Input Summary Table – South

Drainage Area Name	Drainage Area (acres)	Time of Concentration (minutes)	Curve Number (CN)
DA Wetlands	10.22	13.8	46
POA #1	10.22	--	--
DA South - Disturbed	49.16	16.3	44
DA South - Disturbed	49.16	--	--
DA South - Undisturbed	8.02	16.3	89
DA South - Undisturbed	8.02	--	--
DA South	57.18	--	--
POA #2	57.18	--	--
Total	67.40	--	--

Proposed Conditions Input Summary Table – North

Drainage Area Name	Drainage Area (acres)	Time of Concentration (minutes)	Curve Number (CN)
DA Basin A	2.47	9.4	74
DA Basin A – Total	2.47	--	--
DA Basin B	1.26	9.4	75
DA Basin B – Total	1.26	--	--
DA Basin C	0.99	9.4	77
DA Basin C – Total	0.99	--	--
DA Basin D	2.67	9.0	80
DA Basin D – Total	2.67	--	--
DA Basin E	2.24	8.1	80
DA Basin E – Total	2.24	--	--
DA Basin F	1.50	8.7	82
DA Basin F – Total	1.50	--	--
DA Basin G	1.26	9.3	75
DA Basin G – Total	1.26	--	--
DA Basin H	1.95	9.5	77
DA Basin H – Total	1.95	--	--
DA Basin I	0.53	9.6	74
DA Basin I – Total	0.53	--	--
DA Basin K	1.64	9.7	75
DA Basin K – Total	1.64	--	--
DA Basin L	0.97	9.2	80
DA Basin L – Total	0.97	--	--
DA Basin M	0.86	9.3	83
DA Basin M – Total	0.86	--	--
DA Basin N	1.39	9.3	79
DA Basin N – Total	1.39	--	--
DA Basin O	1.10	9.4	83

DA Basin O – Total	1.10	--	--
DA Basin P	2.76	10.2	78
DA Basin P – Total	2.76	--	--
DA Basin Q	1.86	12.0	83
DA Basin Q – Total	1.86	--	--
DA Basin R	2.04	9.4	81
DA Basin R – Total	2.04	--	--
DA Basin S	1.80	12.2	79
DA Basin S – Total	1.80	--	--
DA Basin T	0.73	2.8	71
DA Basin T – Total	0.73	--	--
DA Basin U	1.07	4.0	75
DA Basin U – Total	1.07	--	--
DA Basin V	0.85	9.4	66
DA Basin V – Total	0.85	--	--
DA Undetained	14.68	30.2	77
DA Undetained – Total	14.68	--	--
W – Offsite Undisturbed	8.21	18.9	75
Pipe W	6.42	42.5	67
DA W – Total	14.63	--	--
X – Offsite Undisturbed	5.17	18.5	75
Pipe X	4.99	25.8	69
DA X – Total	10.16	--	--
Y – Offsite Undisturbed	12.62	15.1	75
Pipe Y	3.45	16.9	62
DA Y – Total	16.07	--	--
DA North – Total	87.48	--	--

Proposed Conditions Flow Summary Table – South

Drainage Area Name	**Current Adjusted Rainfall Conditions**			**Projected Adjusted Rainfall Conditions**		
	Q2 (CFS)	**Q10 (CFS)**	**Q100 (CFS)**	**Q2 (CFS)**	**Q10 (CFS)**	**Q100 (CFS)**
DA Wetlands	2.41	4.30	13.36	3.04	5.68	21.23
POA #1	2.41	4.30	13.36	3.04	5.68	21.23
DA South – Disturbed	8.35	15.80	52.36	10.91	21.36	85.48
DA South – Disturbed	8.35	15.80	52.36	10.91	21.36	85.48
DA South – Undisturbed	10.58	18.68	34.89	13.30	22.68	43.83
DA South – Undisturbed	10.58	18.68	34.89	13.30	22.68	43.83
DA South	19.10	34.46	87.17	24.21	44.02	129.21
POA #2	19.10	34.46	87.17	24.21	44.02	129.21
Total	21.45	38.69	100.43	27.17	49.65	150.23

Proposed Conditions Flow Summary Table – North

Drainage Area Name	Current Adjusted Rainfall Conditions			Projected Adjusted Rainfall Conditions		
	Q2 (CFS)	Q10 (CFS)	Q100 (CFS)	Q2 (CFS)	Q10 (CFS)	Q100 (CFS)
DA Basin A	3.18	5.79	11.68	4.02	7.18	15.12
DA Basin A – Total (Inflow)	3.18	5.79	11.68	4.02	7.18	15.12
DA Basin A – Total (Outflow)	0.11	0.19	1.08	0.14	0.21	2.90
DA Basin B	1.24	2.49	5.44	1.64	3.17	7.19
DA Basin B – Total (Inflow)	1.24	2.58	5.62	1.66	3.29	7.40
DA Basin B – Total (Outflow)	0.20	1.20	4.13	0.41	1.94	5.54
DA Basin C	1.06	2.06	4.38	1.37	2.60	5.76
DA Basin C – Total (Inflow)	1.06	2.26	7.76	1.38	3.68	10.39
DA Basin C – Total (Outflow)	0.66	2.16	7.10	1.06	3.41	9.49
DA Basin D	3.39	6.24	12.73	4.30	7.77	16.53
DA Basin D – Total (Inflow)	3.55	7.62	17.98	4.98	9.73	23.75
DA Basin D – Total (Outflow)	0.55	4.34	16.16	1.45	6.91	22.39
DA Basin E	2.95	5.44	11.12	3.75	6.78	14.44
DA Basin E – Total (Inflow)	2.95	5.44	17.49	3.75	7.55	30.58
DA Basin E – Total (Outflow)	1.11	4.44	17.44	2.27	6.16	30.38
DA Basin F	2.06	3.72	7.42	2.60	4.59	9.59
DA Basin F – Total (Inflow)	2.06	3.72	7.42	2.60	4.59	9.59
DA Basin F – Total (Outflow)	0.04	0.12	0.22	0.07	0.15	0.35
DA Basin G	1.23	2.47	5.42	1.62	3.16	7.18
DA Basin G – Total (Inflow)	1.23	2.47	5.53	1.62	3.16	7.31
DA Basin G – Total (Outflow)	0.09	0.68	3.67	0.13	1.34	5.22
DA Basin H	2.10	4.06	8.63	2.72	5.13	11.34
DA Basin H – Total (Inflow)	2.10	4.15	11.12	2.73	5.25	15.40
DA Basin H – Total (Outflow)	0.12	0.45	5.86	0.15	1.15	10.24
DA Basin I	0.48	0.99	2.21	0.64	1.27	2.94
DA Basin I – Total (Inflow)	0.48	0.99	2.21	0.64	1.27	2.94
DA Basin I – Total (Outflow)	0.08	0.17	1.90	0.12	0.55	2.74
DA Basin K	1.58	3.18	6.96	2.09	4.06	9.21
DA Basin K – Total (Inflow)	1.58	3.18	6.96	2.09	4.06	9.21
DA Basin K – Total (Outflow)	0.11	0.66	2.98	0.17	1.17	5.07
DA Basin L	1.20	2.22	4.55	1.53	2.77	5.91
DA Basin L – Total (Inflow)	1.20	2.22	4.55	1.53	2.77	5.91
DA Basin L – Total (Outflow)	0.11	0.67	3.12	0.13	1.23	4.76
DA Basin M	1.20	2.13	4.20	1.50	2.62	5.41
DA Basin M – Total (Inflow)	1.20	2.13	4.20	1.50	2.62	5.41
DA Basin M – Total (Outflow)	0.12	0.43	2.52	0.15	0.90	3.60
DA Basin N	1.66	3.12	6.45	2.13	3.90	8.39
DA Basin N – Total (Inflow)	1.69	3.33	10.57	2.24	4.26	15.22
DA Basin N – Total (Outflow)	0.29	1.92	9.79	0.47	3.55	14.75
DA Basin O	1.51	2.73	5.41	1.91	3.37	6.95
DA Basin O – Total (Inflow)	1.51	2.73	5.41	1.91	3.37	6.95
DA Basin O – Total (Outflow)	0.40	2.00	4.60	0.90	2.73	5.98
DA Basin P	3.08	5.81	12.10	3.95	7.29	15.81

DA Basin P – Total (Inflow)	3.17	8.62	13.75	4.91	10.01	23.17
DA Basin P – Total (Outflow)	0.40	2.23	12.39	0.79	3.83	22.15
DA Basin Q	2.33	4.13	8.12	2.91	5.07	10.45
DA Basin Q – Total (Inflow)	2.33	4.13	8.12	2.91	5.07	10.45
DA Basin Q – Total (Outflow)	0.58	2.99	7.08	1.31	4.18	9.25
DA Basin R	2.67	4.88	9.81	3.39	6.05	12.67
DA Basin R – Total (Inflow)	2.67	4.88	9.81	3.39	6.05	12.67
DA Basin R – Total (Outflow)	0.22	1.96	6.50	0.63	3.13	8.64
DA Basin S	1.90	3.54	7.32	2.42	4.43	9.54
DA Basin S – Total (Inflow)	1.90	3.54	7.32	2.42	4.43	9.54
DA Basin S – Total (Outflow)	0.00	0.32	2.24	0.07	0.68	4.54
DA Basin T	0.86	1.91	4.44	1.19	2.49	5.95
DA Basin T – Total (Inflow)	0.86	1.91	4.65	1.19	2.49	6.26
DA Basin T – Total (Outflow)	0.00	0.09	0.38	0.02	0.13	0.59
DA Basin U	1.45	2.92	6.37	1.92	3.72	8.41
DA Basin U – Total (Inflow)	1.45	2.92	6.37	1.92	3.72	8.41
DA Basin U – Total (Outflow)	0.01	0.14	0.38	0.04	0.21	0.47
DA Basin V	0.45	1.20	3.13	0.67	1.64	4.31
DA Basin V – Total (Inflow)	0.45	1.20	3.13	0.67	1.64	4.31
DA Basin V – Total (Outflow)	0.00	0.09	1.80	0.00	0.28	3.23
DA Undetained	8.45	17.38	37.51	11.30	22.15	49.13
DA Undetained – Total	8.45	17.38	37.51	11.30	22.15	49.13
W – Offsite Undisturbed	5.12	11.87	27.05	7.27	15.48	35.72
Pipe W	1.65	4.13	10.64	2.39	5.60	14.64
DA W – Total	6.22	14.56	34.29	8.82	19.18	45.84
X – Offsite Undisturbed	3.26	7.55	17.22	4.62	9.85	22.75
Pipe X	1.98	4.66	11.50	2.79	6.21	15.68
DA X – Total	5.16	11.98	28.17	7.28	15.76	37.69
Y – Offsite Undisturbed	8.89	20.54	46.69	12.59	26.77	61.63
Pipe Y	0.82	2.95	8.74	1.44	4.24	12.34
DA Y – Total	9.68	23.39	55.28	14.01	30.91	73.80
DA North – Total	28.71	76.88	215.29	41.85	108.17	297.48

5. STORMWATER MANAGEMENT SYSTEM DESIGN

A summary of each basin's water surface elevation (WSEL) and outflow rated for the Water Quality, 2-, 10-, 25-and 100-year storm event for both current and projected conditions are provided below. These WSELs and outflows assume normal operating conditions for each basin. Routing calculations for the basins and emergency spillway calculations are included in the Appendix.

Basin A Summary Table

Storm Event (years)	Water Surface Elevation (ft)	Outflow (CFS)
Water Quality	32.55	0.00
Current – 2	33.33	0.11
Current – 10	34.13	0.19
Current – 100	35.26	1.08
Projected – 2	33.59	0.14
Projected – 10	34.54	0.21
Projected – 100	35.57	2.90

Basin B Summary Table

Storm Event (years)	Water Surface Elevation (ft)	Outflow (CFS)
Water Quality	30.69	0.00
Current – 2	31.56	0.20
Current – 10	31.80	1.20
Current – 100	32.25	4.13
Projected – 2	31.63	0.41
Projected – 10	31.93	1.94
Projected – 100	32.43	5.54

Basin C Summary Table

Storm Event (years)	Water Surface Elevation (ft)	Outflow (CFS)
Water Quality	29.36	0.00
Current – 2	29.72	0.66
Current – 10	29.99	2.16
Current – 100	30.65	7.10
Projected – 2	29.80	1.06
Projected – 10	30.18	3.41
Projected – 100	30.92	9.49

Basin D Summary Table

Storm Event (years)	Water Surface Elevation (ft)	Outflow (CFS)
Water Quality	27.08	0.00
Current – 2	28.00	0.55
Current – 10	28.38	4.34
Current – 100	28.91	16.16
Projected – 2	28.12	1.45
Projected – 10	28.56	6.91
Projected – 100	29.03	22.39

Basin E Summary Table

Storm Event (years)	Water Surface Elevation (ft)	Outflow (CFS)
Water Quality	27.43	0.00
Current – 2	28.11	1.11
Current – 10	28.42	4.44
Current – 100	28.87	17.44
Projected – 2	28.20	2.27
Projected – 10	28.61	6.16
Projected – 100	29.08	30.38

Basin F Summary Table

Storm Event (years)	Water Surface Elevation (ft)	Outflow (CFS)
Water Quality	32.39	0.00
Current – 2	33.15	0.04
Current – 10	33.62	0.12
Current – 100	34.83	0.22
Projected – 2	33.27	0.07
Projected – 10	33.91	0.15
Projected – 100	35.41	0.35

Basin G Summary Table

Storm Event (years)	Water Surface Elevation (ft)	Outflow (CFS)
Water Quality	31.66	0.00
Current – 2	32.41	0.09
Current – 10	32.94	0.68
Current – 100	33.44	3.67
Projected – 2	32.74	0.13
Projected – 10	33.08	1.34
Projected – 100	33.64	5.22

Basin H Summary Table

Storm Event (years)	Water Surface Elevation (ft)	Outflow (CFS)
Water Quality	28.83	0.00
Current – 2	29.54	0.12
Current – 10	30.37	0.45
Current – 100	30.88	5.86
Projected – 2	29.88	0.15
Projected – 10	30.48	1.15
Projected – 100	31.16	10.24

Basin I Summary Table

Storm Event (years)	Water Surface Elevation (ft)	Outflow (CFS)
Water Quality	29.12	0.00
Current – 2	29.76	0.08
Current – 10	30.56	0.17
Current – 100	30.92	1.90
Projected – 2	30.01	0.12
Projected – 10	30.71	0.55
Projected – 100	31.01	2.74

Basin K Summary Table

Storm Event (years)	Water Surface Elevation (ft)	Outflow (CFS)
Water Quality	30.92	0.00
Current – 2	31.52	0.11
Current – 10	32.00	0.66
Current – 100	32.75	2.98
Projected – 2	31.75	0.17
Projected – 10	32.19	1.17
Projected – 100	33.08	5.07

Basin L Summary Table

Storm Event (years)	Water Surface Elevation (ft)	Outflow (CFS)
Water Quality	33.04	0.00
Current – 2	33.63	0.11
Current – 10	34.09	0.67
Current – 100	34.51	3.12
Projected – 2	33.87	0.13
Projected – 10	34.20	1.23
Projected – 100	34.65	4.76

Basin M Summary Table

Storm Event (years)	Water Surface Elevation (ft)	Outflow (CFS)
Water Quality	32.23	0.00
Current – 2	33.10	0.12
Current – 10	33.93	0.43
Current – 100	34.65	2.52
Projected – 2	33.44	0.15
Projected – 10	34.13	0.90
Projected – 100	34.97	3.60

Basin N Summary Table

Storm Event (years)	Water Surface Elevation (ft)	Outflow (CFS)
Water Quality	29.40	0.00
Current – 2	30.26	0.29
Current – 10	30.47	1.92
Current – 100	30.98	9.79
Projected – 2	30.29	0.47
Projected – 10	30.61	3.55
Projected – 100	31.09	14.75

Basin O Summary Table

Storm Event (years)	Water Surface Elevation (ft)	Outflow (CFS)
Water Quality	27.38	0.00
Current – 2	28.09	0.40
Current – 10	28.34	2.00
Current – 100	28.61	4.60
Projected – 2	28.19	0.90
Projected – 10	28.42	2.73
Projected – 100	28.73	5.98

Basin P Summary Table

Storm Event (years)	Water Surface Elevation (ft)	Outflow (CFS)
Water Quality	27.05	0.00
Current – 2	28.11	0.40
Current – 10	28.46	2.23
Current – 100	29.20	12.39
Projected – 2	28.21	0.79
Projected – 10	28.67	3.83
Projected – 100	29.48	22.15

Basin Q Summary Table

Storm Event (years)	Water Surface Elevation (ft)	Outflow (CFS)
Water Quality	26.95	0.00
Current – 2	27.83	0.58
Current – 10	28.08	2.99
Current – 100	28.38	7.08
Projected – 2	27.92	1.31
Projected – 10	28.17	4.18
Projected – 100	28.51	9.25

Basin R Summary Table

Storm Event (years)	Water Surface Elevation (ft)	Outflow (CFS)
Water Quality	23.15	0.00
Current – 2	23.96	0.22
Current – 10	24.28	1.96
Current – 100	24.78	6.50
Projected – 2	24.06	0.63
Projected – 10	24.42	3.13
Projected – 100	24.99	8.64

Basin S Summary Table

Storm Event (years)	Water Surface Elevation (ft)	Outflow (CFS)
Water Quality	19.18	0.00
Current – 2	20.05	0.00
Current – 10	20.32	0.32
Current – 100	20.98	2.24
Projected – 2	20.18	0.07
Projected – 10	20.47	0.68
Projected – 100	21.29	4.54

Basin T Summary Table

Storm Event (years)	Water Surface Elevation (ft)	Outflow (CFS)
Water Quality	18.60	0.00
Current – 2	18.99	0.00
Current – 10	19.51	0.09
Current – 100	20.36	0.38
Projected – 2	19.20	0.02
Projected – 10	19.80	0.13
Projected – 100	20.46	0.59

Basin U Summary Table

Storm Event (years)	Water Surface Elevation (ft)	Outflow (CFS)
Water Quality	19.69	0.00
Current – 2	20.17	0.01
Current – 10	20.38	0.14
Current – 100	21.10	0.38
Projected – 2	20.24	0.04
Projected – 10	20.53	0.21
Projected – 100	21.53	0.47

Basin V Summary Table

Storm Event (years)	Water Surface Elevation (ft)	Outflow (CFS)
Water Quality	37.11	0.00
Current – 2	37.61	0.00
Current – 10	37.94	0.09
Current – 100	38.17	1.80
Projected – 2	37.83	0.00
Projected – 10	37.98	0.28
Projected – 100	38.30	3.23

6. GREEN INFRASTRUCTURE COMPLIANCE

The basins noted above have been designed to comply with the stormwater runoff quantity, quality, and groundwater recharge requirements for the proposed development as applicable. Each basin has been designed in accordance with NJAC 7:8 and the New Jersey Stormwater Best Management Practices. The table below summarizes the design considerations for each basin, see the Site Plan details for additional information.

Small-Scale Bioretention Basin with Infiltration (Table 5-1 – Quantity, Quality, & Recharge)

Design Criteria	Required	Provided
Total Drainage Area	--	Basin A: 2.47 acres Basin B: 1.26 acres Basin C: 0.99 acres Basin D: 2.67 acres Basin G: 1.26 acres Basin H: 1.95 acres Basin K: 1.64 acres Basin M: 0.86 acres Basin V: 0.85 acres
Min. Storage Volume below 1st Orifice (Volume of WQ Design Storm)	Basin A: 0.115 ac-ft Basin B: 0.041 ac-ft Basin C: 0.036 ac-ft Basin D: 0.118 ac-ft Basin G: 0.041 ac-ft Basin H: 0.072 ac-ft Basin K: 0.053 ac-ft Basin M: 0.044 ac-ft Basin V: 0.01 ac-ft	Basin A: 0.160 ac-ft Basin B: 0.065 ac-ft Basin C: 0.043 ac-ft Basin D: 0.189 ac-ft Basin G: 0.067 ac-ft Basin H: 0.089 ac-ft Basin K: 0.064 ac-ft Basin M: 0.060 ac-ft Basin V: 0.097 ac-ft
Max. Contributory DA	2.5 acres	Basin A: 2.04 acres Basin B: 1.11 acres Basin C: 0.89 acres Basin D: 2.38 acres Basin G: 1.11 acres Basin H: 1.63 acres Basin K: 1.44 acres Basin M: 0.79 acres Basin V: 0.70 acres
Max. Drain Time	72 hours	Basin A: 12.50 hours Basin B: 31.62 hours Basin C: 10.27 hours Basin D: 20.18 hours Basin G: 31.62 hours Basin H: 9.89 hours Basin K: 11.48 hours Basin M: 5.22 hours Basin V: 1.91 hours
Depth of Soil Bed	18 in Site-Tolerant Grasses	18 in Site-Tolerate Grasses
Separation from SHWT	2 feet	>2 feet
Design Permeability Rate	Min. = 0.5 in/hr Max. = 10 in/hr	Basin A: 0.80 in/hr Basin B: 0.50 in/hr Basin C: 1.55 in/hr Basin D: 1.50 in/hr Basin G: 0.50 in/hr Basin H: 0.50 in/hr Basin K: 0.55 in/hr Basin M: 2.30 in/hr Basin V: 6.30 in/hr

Max. Depth of WQ Storm	1 foot	Basin A: 0.55 ft Basin B: 0.69 ft Basin C: 0.86 ft Basin D: 0.58 ft Basin G: 0.66 ft Basin H: 0.34 ft Basin K: 0.42 ft Basin M: 0.73 ft Basin V: 0.11 ft

Small-Scale Bioretention Basin with Underdrains (Table 5-1 – Quantity, Quality, & Recharge)

Design Criteria	Required	Provided
Total Drainage Area	--	Basin E: 2.24 acres Basin F: 1.50 acres Basin I: 0.53 acres Basin L: 0.97 acres Basin N: 1.40 acres Basin O: 1.10 acres Basin P: 2.76 acres Basin Q: 1.86 acres
Min. Storage Volume below 1st Orifice (Volume of WQ Design Storm)	Basin E: 0.098 ac-ft Basin F: 0.072 ac-ft Basin I: 0.016 ac-ft Basin L: 0.042 ac-ft Basin N: 0.056 ac-ft Basin O: 0.051 ac-ft Basin P: 0.112 ac-ft Basin Q: 0.096 ac-ft	Basin E: 0.106 ac-ft Basin F: 0.198 ac-ft Basin I: 0.024 ac-ft Basin L: 0.047 ac-ft Basin N: 0.103 ac-ft Basin O: 0.060 ac-ft Basin P: 0.213 ac-ft Basin Q: 0.101 ac-ft
Depth of Soil Bed	18 in Site-Tolerant Grasses	18 in Site-Tolerate Grasses
Max. Contributory DA	2.5 acres	Basin E: 2.05 acres Basin F: 1.15 acres Basin I: 0.49 acres Basin L: 0.84 acres Basin N: 1.16 acres Basin O: 0.97 acres Basin P: 2.42 acres Basin Q: 1.71 acres
Max. Depth of WQ Storm	1 foot	Basin E: 0.93 ft Basin F: 0.39 ft Basin I: 0.62 ft Basin L: 0.54 ft Basin N: 0.40 ft Basin O: 0.88 ft Basin P: 0.55 ft Basin Q: 0.95 ft

Small-Scale Infiltration Basin (Table 5-1 – Quantity, Quality, & Recharge)

Design Criteria	Required	Provided
Total Drainage Area	--	Basin R: 2.04 acres Basin S: 1.80 acres Basin T: 0.73 acres Basin U: 1.07 acres
Min. Storage Volume below 1st Orifice (Volume of WQ Design Storm)	Basin R: 0.091 ac-ft Basin S: 0.076 ac-ft Basin T: 0.016 ac-ft Basin U: 0.034 ac-ft	Basin R: 0.147 ac-ft Basin S: 0.101 ac-ft Basin T: 0.109 ac-ft Basin U: 0.115 ac-ft
Max. Contributory DA	2.5 acres	Basin R: 1.76 acres Basin S: 1.48 acres Basin T: 0.41 acres Basin U: 0.73 acres
Max. Drain Time	72 hours	Basin R: 27.75 hours Basin S: 12.76 hours Basin T: 15.39 hours Basin U: 15.33 hours
Separation from SHWT	2 feet	>2 feet
Design Permeability Rate	Min. = 0.5 in/hr Max. = 10 in/hr	Basin R: 0.50 in/hr Basin S: 0.50 in/hr Basin T: 0.50 in/hr Basin U: 0.50 in/hr
Max. Depth of WQ Storm	1 foot	Basin R: 0.65 ft Basin S: 0.38 ft Basin T: 0.10 ft Basin U: 0.19 ft

7. WATER QUANTITY CONTROL COMPLIANCE

The site has been designed to meet the flow reduction requirements as noted in NJAC 7:8-5.6(b)3 for POA #2 DA North which encompasses the residential portion of the development on the north side of the property. The undeveloped southern portion of the property, Point of Analysis #1 and Point of Analysis #2 DA South have been designed to meet hydrographs as noted in NJAC 7:8-5.6(b)1. The points of analysis have been identified on the Drainage Area Maps as previously described. Below is a summary table demonstrating compliance with the quantity control requirements.

Point of Analysis #1

Storm Event	Existing Peak Flow Rate (cfs)	Proposed Peak Flow Rate (cfs)
Current 2-year	2.41	2.41
Current 10-year	4.30	4.30
Current 100-year	13.36	13.36
Projected 2-year	3.04	3.04
Projected 10-year	5.68	5.68
Projected 100-year	21.23	21.23
25-year	6.29	6.29

Point of Analysis # 2 DA North

Storm Event	Existing Undisturbed Peak Flow Rate (cfs)	Existing Disturbed Peak Flow Rate (cfs)	Allowable Percentage of Flow	Allowable Peak Flow Rate (cfs)	Proposed Peak Flow Rate (cfs)
Current 2-year	17.13	23.36	50%	28.81	28.71
Current 10-year	39.62	62.75	75%	86.68	76.88
Current 100-year	90.13	163.22	80%	220.71	215.29
Projected 2-year	24.32	35.19	50%	41.92	41.85
Projected 10-year	51.64	85.60	75%	115.84	108.17
Projected 100-year	119.01	224.40	80%	298.53	297.48
25-year	55.68	93.45	--	149.13	119.00

Point of Analysis #2 DA South

Storm Event	Existing Peak Flow Rate (cfs)	Proposed Peak Flow Rate (cfs)
Current 2-year	19.10	19.10
Current 10-year	34.46	34.46
Current 100-year	87.17	87.17
Projected 2-year	24.21	24.21
Projected 10-year	44.02	44.02
Projected 100-year	129.21	129.21
25-year	47.73	47.73

8. WATER QUALITY COMPLIANCE

In accordance with NJAC 7:8-5.5, stormwater quality standards are applicable when a major development results in an increase of one-quarter acre or more of regulated motor vehicle surface. The proposed development utilizes the following green infrastructure BMPs in order to meet the required 80% TSS removal rate as annual average:

Green Infrastructure BMP	TSS Removal Rate per BMP Manual
Small-Scale Bioretention Basin A	80%
Small-Scale Bioretention Basin B	80%
Small-Scale Bioretention Basin C	80%
Small-Scale Bioretention Basin D	80%
Small-Scale Bioretention Basin E	80%
Small-Scale Bioretention Basin F	80%
Small-Scale Bioretention Basin G	80%
Small-Scale Bioretention Basin H	80%
Small-Scale Bioretention Basin I	80%
Small-Scale Bioretention Basin K	80%
Small-Scale Bioretention Basin L	80%
Small-Scale Bioretention Basin M	80%
Small-Scale Bioretention Basin N	80%
Small-Scale Bioretention Basin O	80%
Small-Scale Bioretention Basin P	80%
Small-Scale Bioretention Basin Q	80%
Small-Scale Infiltration Basin R	80%
Small-Scale Infiltration Basin S	80%
Small-Scale Infiltration Basin T	80%
Small-Scale Infiltration Basin U	80%
Small-Scale Bioretention Basin V	80%

Supporting calculations are included in the Appendix of this report.

9. GROUNDWATER RECHARGE COMPLIANCE

The project has been designed to satisfy the groundwater recharge requirements set forth in NJAC 7:8-5.4 by infiltrating 100% of the annual post-development groundwater recharge volume deficit of 797,772 cubic feet. The New Jersey Groundwater Recharge Spreadsheet (NJGRS) – Based on GSR-32 has been utilized to verify satisfaction of the recharge requirement. The NJ Groundwater Spreadsheet is included within the appendix of this report.

Groundwater Recharge Summary	
Pre-Development Total Annual Recharge Volume	5,731,337 CF
Post-Development Total Annual Recharge Volume	4,910,897 CF
Post-Development Annual Recharge Deficit	820,440 CF
Aboveground Bioretention Basin A	135,224 CF
Aboveground Bioretention Basin B	50,982 CF
Aboveground Bioretention Basin C	42,641 CF
Aboveground Bioretention Basin D	118,584 CF
Aboveground Bioretention Basin G	50,169 CF
Aboveground Bioretention Basin H	72,177 CF
Aboveground Bioretention Basin K	57,184 CF
Aboveground Bioretention Basin M	54,760 CF
Aboveground Infiltration Basin R	128,401 CF
Aboveground Infiltration Basin S	107,917 CF
Aboveground Infiltration Basin T	25,569 CF
Aboveground Infiltration Basin U	53,833 CF
Aboveground Bioretention Basin V	6,189 CF
Total Annual Recharge Volume Provided	**903,630 CF**

10. GROUND WATER MOUNDING

This project has been designed to satisfy the groundwater mounding requirements set forth in NJAC 7:8 and Chapter 13 of the New Jersey Best Management Practices Manual. The Hantush Spreadsheet, as modified by the New Jersey Department of Environmental Protection has been utilized to verify satisfaction of the groundwater mounding requirements. The NJDEP Hantush Spreadsheet is included within the appendix of the report.

Basin	Test Pit	R Adjusted (R Initial) (in/hr)	Sy	Kh (in/hr)	X (ft)	Y (ft)	T Adjusted (T Initial) (hr)	Hi (0) (ft)	Δh (max) (ft)	Separation (ft)
A	SPP 201, 202, 203	0.14 (0.80)	0.15	4.00	22.00	95.00	72 (12.50)	10	2.528	4.20
B	SPP 204, 205	(0.50)	0.15	2.50	5.00	107.40	31.62 (31.62)	10	2.036	3.90
C	SPP 206, 207	(1.55)	0.15	7.75	5.00	71.20	10.27 (10.27)	10	2.037	3.70
D	SPP 14, 208, 209	0.42 (1.50)	0.15	7.50	37.00	22.10	72 (20.18)	10	3.672	3.80
G	SPP 215, 216	0.25 (0.50)	0.15	2.50	110.70	31.62	63.24 (31.62)	10	1.498	3.50
H	SPP 217, 218	(0.50)	0.15	2.50	30.00	78.40	(9.89)	10	1.944	3.70
K	SPP 223, 224	0.09 (0.55)	0.15	2.75	27.00	49.20	72 (11.48)	10	1.954	3.80
M	SPP 227, 228	0.77 (2.30)	0.15	11.50	50.50	12.90	15.65 (5.22)	10	2.231	4.00

R	SPP 237, 238	0.19 (0.50)	0.15	2.50	10.25	135.00	72 (27.75)	10	2.294	2.80
S	SPP 239, 240	0.09 (0.50)	0.15	2.50	21.35	96.90	72 (12.76)	10	1.947	2.50
T	SPP 241, 242	0.11 (0.50)	0.15	2.50	16.75	110.50	72 (15.39)	10	1.994	2.70
U	SPP 243, 244	0.11 (0.50)	0.15	2.50	16.00	122.50	72 (15.33)	10	2.098	2.70
V	SPP 245, 246	0.63 (6.30)	0.15	31.50	25.00	41.90	19.14 (1.91)	10	1.701	4.10

11. STORM SEWER DESIGN

The proposed stormwater management collection system has been designed to have hydraulic capacity for the 25-year storm event. The Rational Method was used to determine inflow rates to each structure and Manning's Equation were used to establish pipe capacity. In accordance with the NJDEP BMP Manual Chapter 5, weighted runoff coefficients were computed for each drainage area based on land cover and hydrologic soil group. A minimum time of concentration of ten minutes was assumed for each area. Rainfall intensity was based upon the Trenton Rainfall intensity curve. Supporting calculations and the Inlet Drainage Area Map can be found in the appendix.

12. STANDARD FOR OFF-SITE STABILITY

This project has been designed to satisfy the Off-Site Stability standards set forth in the Standards for Soil Erosion and Sediment Control in New Jersey.

Design Criteria

This Standard involves two areas of analysis: (1) drainage area discharging to the existing wetlands and (2) the Turtle Mill Brook drainage area. Stability documentation for each area is outlined in detail below. Generally, the analyses involve the manipulation of peak rates of discharge for the 2 and 10 year, 24-hour storm events such that peak flow rate values and velocities are below established thresholds. Discharges shall be located in areas with low gradient topography and covered in perennial erosion resistant vegetation as noted in table 21-1 below.

The proposed peak flows meet the above reductions, thereby achieving off-site stability. Please refer to the table below for further information on peak flows.

Point of Analysis # 2 DA North

Storm Event	Existing Undisturbed Peak Flow Rate (cfs)	Existing Disturbed Peak Flow Rate (cfs)	Allowable Peak Flow Rate (cfs)	Proposed Failure Analysis Peak Flow Rate (cfs)
Current 2-year	17.13	23.36	40.40	39.28
Current 10-year	39.62	62.75	102.13	90.60

Special consideration shall be given to the use of infiltration for peak flow modifications as follows:

Point Of Discharge Stability Analysis
When infiltration practices are proposed, an alternate analysis (failure analysis) must be provided which ignores infiltration (no dead storage volume available, no static or dynamic infiltration loss rates in the routing calculations, etc.) and demonstrates that no erosion will occur at the point of discharge if infiltration fails to function. Flow rates based solely upon basin inlet and outlet hydraulics must be used in comparison to Table 21-1 (below) to document a stable outlet.

A failure analysis has been provided below which ignores infiltration and demonstrates that no erosion will occur at the point of discharge if infiltration fails to function.

Downstream (Off-Site) Stability Analysis
Infiltration may be used to meet peak flow reduction requirements (outlined below) for the purposes of documenting stability of the downstream receiving channel, provided that the complete loss of infiltration function does not result in an increase in peak flow values above the predevelopment levels.

Analysis below the points of discharge to the downstream receiving channel have been provided below.

Point of Discharge - Methods for Achieving Stability

1. *Well-defined waterway below the point of discharge:*

   There is a well-defined waterway (Turtle Mill Brook) below the point of discharge; therefore, this method will be used.

A. *Retain pre-developed runoff characteristics. Do not increase the rate of runoff from the development.*

   As documented in the subsections above, there is a decrease in the rate of runoff from the development to all points of analysis.

B. *Analyze the waterway or channel for stability under the planned rate of discharge using the Standard for Grassed Waterways or Standard for Channel Stabilization, as appropriate. Peak flows from the 2 and 10 year storms shall be analyzed.*

   As noted above, the proposed peak flows meet the above reductions, thereby achieving off-site stability, therefore; this section is not applicable.

C. *Modify the waterway or channel to a stable design condition.*

As noted above, the proposed peak flows meet the above reductions, thereby achieving off-site stability, therefore; this section is not applicable.

Downstream of the Point of Discharge (Off-Site Stability Analysis)

In addition to ensuring erosion does not occur at the point of discharge, areas downstream and beyond the immediate area of site development may be damaged due to erosive forces resulting from extended duration of hydrograph peak flows. An unintended consequence of the practice of detaining and slowly releasing stormwater is the ability for peak flows to be sustained for longer periods of time, offering an opportunity for upstream discharges to coincide with project site discharges. The resulting combined discharge may be equal to or even exceed that of the pre-development condition.

To limit the potential for such an occurrence the designer may choose either of two approaches for downstream stability protection:

1. *Examine hydraulic characteristics of the receiving stream channel considering upstream discharge in combination with site discharge to assess channel stability. The scope and scale of the analysis shall be appropriate to the scale of the project and the post development peak discharge rate and volume. Of particular concern are hydraulic control points, (culverts, bridges, etc.), bends in streams and sudden changes in channel cross sections downstream of the discharge point. The following may be utilized to assess stability:*

   The proposed design utilizes approach 2 as described below.

2. *In lieu of performing a comprehensive watershed analysis, design a detention facility that reduces peak flows to the following levels. Infiltration may be used to meet these criteria:*

   2-year storm – 50% of the predevelopment peak
   10-year storm – 75% of the predevelopment peak

   Reductions in peak flows are to be compared to pre-developed drainage area points of discharge in the event that drainage is re-directed in the post developed condition. Reductions are only required of the developed or modified portions of the project site.

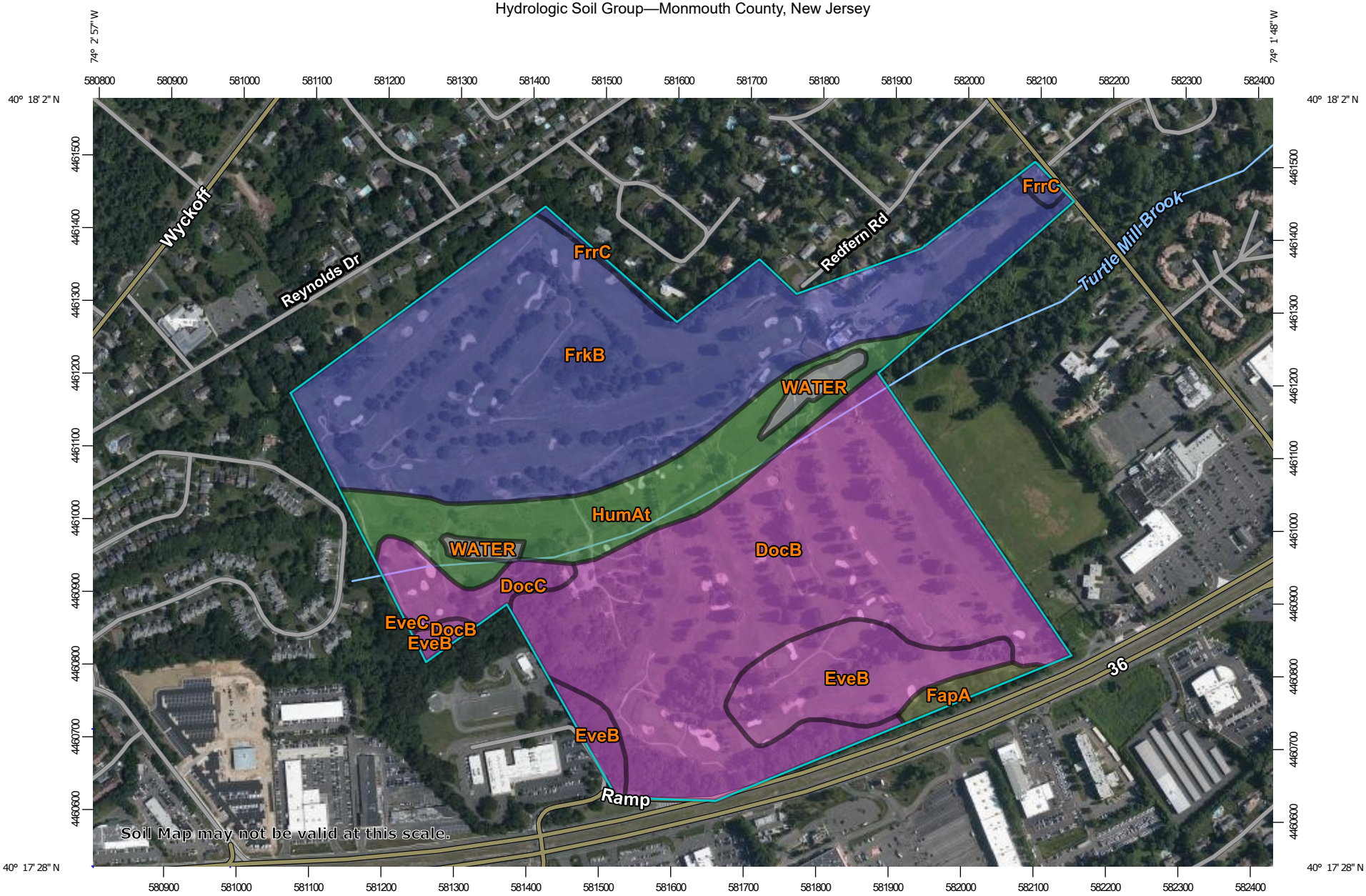
   As documented in the subsections above, the proposed peak flows meet the above reductions, thereby achieving off-site stability.

13. CONCLUSION

The proposed development has been designed with provisions for the safe and efficient control of stormwater runoff in a manner that will not adversely impact the existing drainage patterns, adjacent roadways, or adjacent parcels. In addition, the proposed development satisfies the runoff quantity, quality and groundwater recharge requirements set forth by the Borough of Eatontown Land Use Ordinance and NJAC 7:8 through the use of the proposed aboveground small-scale bioretention basins with infiltration. With this stated, it is evident that the proposed development will not have a negative impact on the existing drainage conditions, water quality or groundwater recharge on-site or within the vicinity of the subject site.

APPENDIX

NRCS WEB SOIL SURVEY


74° 2' 57" W
74° 1' 48" W
40° 18' 2" N
40° 17' 28" N
580800
580900
581000
581100
581200
581300
581400
581500
581600
581700
581800
581900
582000
582100
582200
582300
582400
4461500
4461400
4461300
4461200
4461100
4461000
4460900
4460800
4460700
4460600
Wyckoff
Reynolds Dr
Redfern Rd
Turtle Mill Brook
FrrC
FrkB
WATER
HumAt
DocB
DocC
EveC
EveB
FapA
36
Ramp
Soil Map may not be valid at this scale.
Map Scale: 1:7,450 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 100 200 400 600
Feet
0 350 700 1400 2100
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Lines

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Soil Rating Points

A

A/D

B

B/D

C

C/D

D

Not rated or not available

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Monmouth County, New Jersey
Survey Area Data: Version 14, Jun 1, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 29, 2019—Jul 16, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
DocB	Downer loamy sand, 0 to 5 percent slopes, Northern Coastal Plain	A	49.2	36.7%
DocC	Downer loamy sand, 5 to 10 percent slopes, Northern Coastal Plain	A	4.0	3.0%
EveB	Evesboro sand, 0 to 5 percent slopes	A	10.9	8.1%
EveC	Evesboro sand, 5 to 10 percent slopes	A	0.0	0.0%
FapA	Fallsington loams, 0 to 2 percent slopes, Northern Coastal Plain	C/D	1.3	1.0%
FrkB	Freehold sandy loam, 2 to 5 percent slopes	B	51.4	38.3%
FrrC	Freehold-Urban land complex, 0 to 10 percent slopes	B	1.0	0.7%
HumAt	Humaquepts, 0 to 3 percent slopes, frequently flooded	A/D	14.4	10.7%
WATER	Water		1.9	1.4%
Totals for Area of Interest			**134.3**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

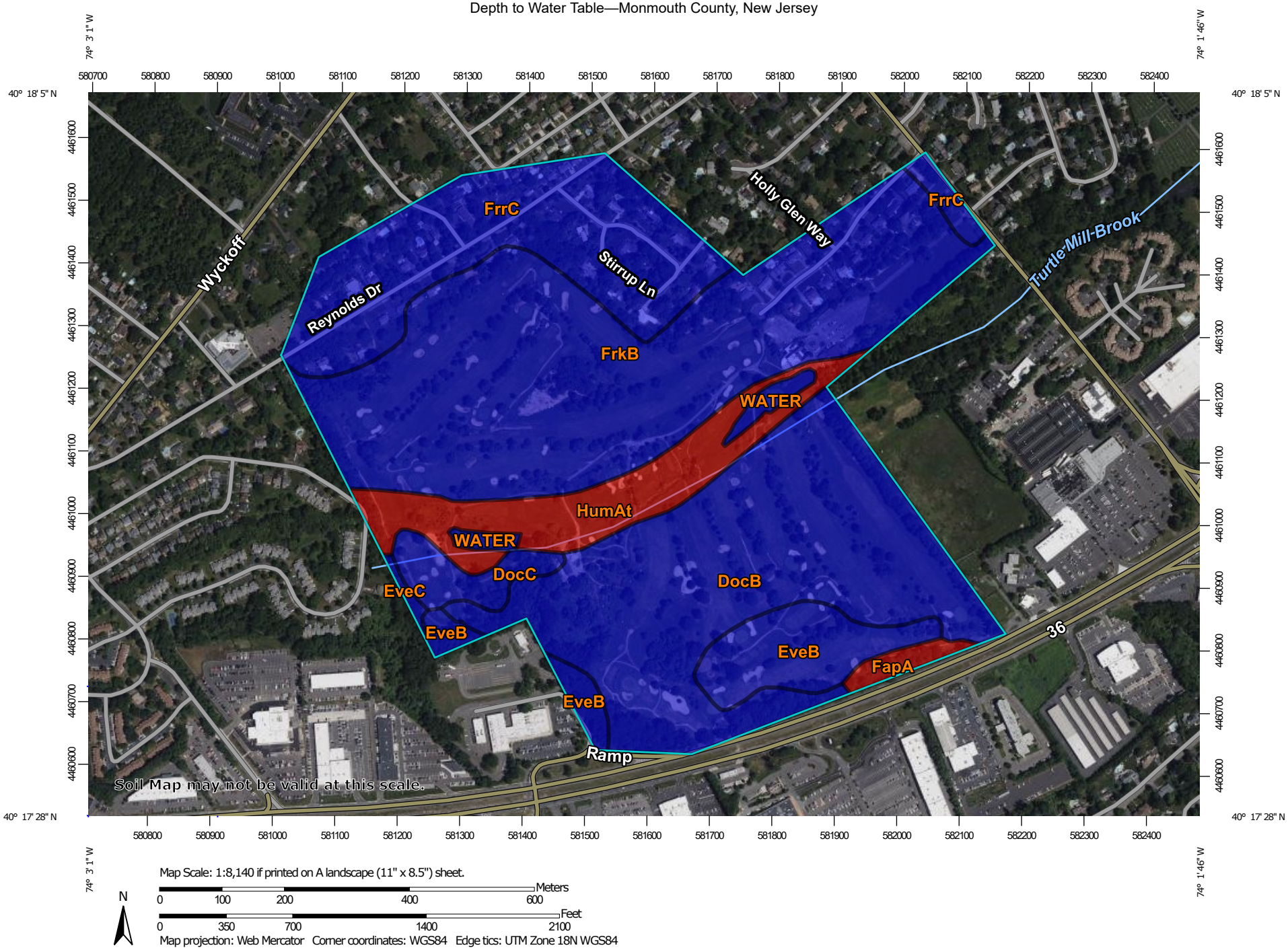
If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher


74° 3' 1" W
74° 1' 46" W
40° 18' 5" N
40° 17' 28" N
580700
580800
580900
581000
581100
581200
581300
581400
581500
581600
581700
581800
581900
582000
582100
582200
582300
582400
4461600
4461500
4461400
4461300
4461200
4461100
4461000
4460900
4460800
4460700
4460600
FrrC
FrkB
WATER
HumAt
DocC
DocB
EveC
EveB
FapA
Wyckoff
Reynolds Dr
Stirrup Ln
Holly Glen Way
Turtle Mill Brook
36
Ramp
Soil Map may not be valid at this scale.
Map Scale: 1:8,140 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 100 200 400 600
Feet
0 350 700 1400 2100
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Soil Rating Lines

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Soil Rating Points

- 0 - 25
- 25 - 50
- 50 - 100
- 100 - 150
- 150 - 200
- > 200
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Monmouth County, New Jersey
Survey Area Data: Version 17, Aug 29, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 4, 2022—Jul 22, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Depth to Water Table

Map unit symbol	Map unit name	Rating (centimeters)	Acres in AOI	Percent of AOI
DocB	Downer loamy sand, 0 to 5 percent slopes, Northern Coastal Plain	>200	51.0	28.0%
DocC	Downer loamy sand, 5 to 10 percent slopes, Northern Coastal Plain	>200	4.3	2.4%
EveB	Evesboro sand, 0 to 5 percent slopes	>200	11.6	6.4%
EveC	Evesboro sand, 5 to 10 percent slopes	>200	0.5	0.3%
FapA	Fallsington loams, 0 to 2 percent slopes, Northern Coastal Plain	13	1.7	0.9%
FrkB	Freehold sandy loam, 2 to 5 percent slopes	>200	64.9	35.6%
FrrC	Freehold-Urban land complex, 0 to 10 percent slopes	>200	31.3	17.2%
HumAt	Humaquepts, 0 to 3 percent slopes, frequently flooded	15	14.9	8.2%
WATER	Water	>200	1.9	1.0%
Totals for Area of Interest			**182.2**	**100.0%**

Description

"Water table" refers to a saturated zone in the soil. It occurs during specified months. Estimates of the upper limit are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table.

This attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

Rating Options

Units of Measure: centimeters

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

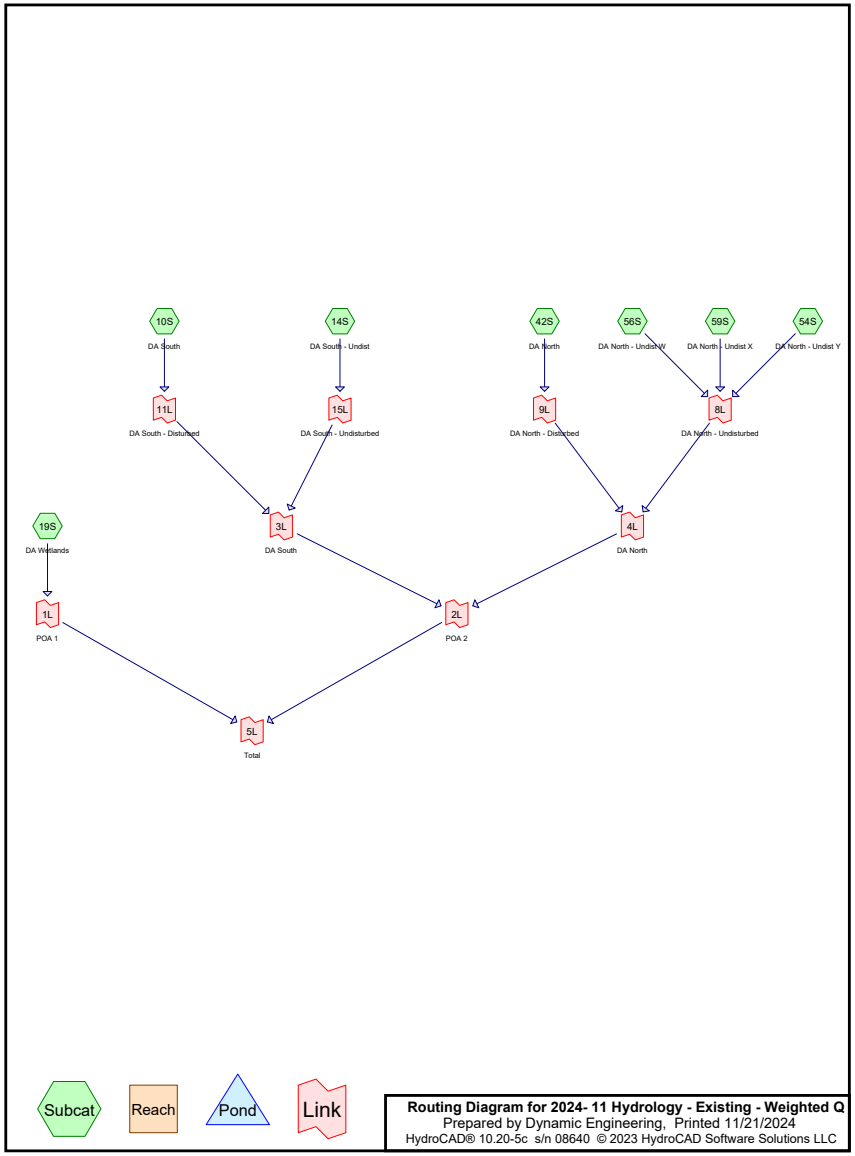
Tie-break Rule: Lower

Interpret Nulls as Zero: No

Beginning Month: January

Ending Month: December

HYDROGRAPH SUMMARY REPORTS – EXISTING & PROPOSED CONDITIONS CURRENT & PROJECTED 2, 10, 25, & 100-YEAR



Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	25 - Year	NOAA 24-hr	D	Default	24.00	1	6.53	2
2	2-Year-Current	NOAA 24-hr	D	Default	24.00	1	3.38	2
3	2-Year-Projected	NOAA 24-hr	D	Default	24.00	1	4.02	2
4	10-Year-Current	NOAA 24-hr	D	Default	24.00	1	5.28	2
5	10-Year-Projected	NOAA 24-hr	D	Default	24.00	1	6.22	2
6	100-Year-Current	NOAA 24-hr	D	Default	24.00	1	9.12	2
7	100-Year-Projected	NOAA 24-hr	D	Default	24.00	1	11.26	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
26.000	75	1/4 acre lots, 38% imp, HSG B (54S, 56S, 59S)
36.820	39	>75% Grass cover, Good, HSG A (10S, 19S)
45.750	61	>75% Grass cover, Good, HSG B (42S)
13.530	80	>75% Grass cover, Good, HSG D (10S, 19S, 42S)
1.840	98	Paved parking, HSG A (10S, 19S)
4.010	98	Paved parking, HSG B (42S)
1.230	98	Paved parking, HSG D (10S, 19S, 42S)
8.020	89	Urban commercial, 85% imp, HSG A (14S)
1.460	98	Water Surface, HSG D (10S, 42S)
13.190	30	Woods, Good, HSG A (10S, 19S)
1.630	55	Woods, Good, HSG B (42S)
1.400	77	Woods, Good, HSG D (10S, 19S, 42S)
154.880	**61**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
59.870	HSG A	10S, 14S, 19S
77.390	HSG B	42S, 54S, 56S, 59S
0.000	HSG C	
17.620	HSG D	10S, 19S, 42S
0.000	Other	
154.880		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	26.000	0.000	0.000	0.000	26.000	1/4 acre lots, 38% imp	54S, 56S, 59S
36.820	45.750	0.000	13.530	0.000	96.100	>75% Grass cover, Good	10S, 19S, 42S
1.840	4.010	0.000	1.230	0.000	7.080	Paved parking	10S, 19S, 42S
8.020	0.000	0.000	0.000	0.000	8.020	Urban commercial, 85% imp	14S
0.000	0.000	0.000	1.460	0.000	1.460	Water Surface	10S, 42S
13.190	1.630	0.000	1.400	0.000	16.220	Woods, Good	10S, 19S, 42S
59.870	**77.390**	**0.000**	**17.620**	**0.000**	**154.880**	**TOTAL AREA**	

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment10S: DA South Runoff Area=49.160 ac 4.84% Impervious Runoff Depth=1.15"
Flow Length=1,105' Tc=16.3 min CN=WQ Runoff=23.78 cfs 4.723 af

Subcatchment14S: DA South - Undist Runoff Area=8.020 ac 85.00% Impervious Runoff Depth=5.25"
Flow Length=1,105' Tc=16.3 min CN=89 Runoff=23.99 cfs 3.509 af

Subcatchment19S: DA Wetlands Runoff Area=10.220 ac 8.22% Impervious Runoff Depth=1.33"
Flow Length=753' Tc=13.8 min CN=WQ Runoff=6.29 cfs 1.134 af

Subcatchment42S: DA North Runoff Area=61.480 ac 8.65% Impervious Runoff Depth=2.96"
Flow Length=1,493' Tc=18.9 min CN=WQ Runoff=93.45 cfs 15.180 af

Subcatchment54S: DA North - Undist Y Runoff Area=12.620 ac 38.00% Impervious Runoff Depth=3.74"
Flow Length=760' Tc=15.1 min CN=75 Runoff=28.86 cfs 3.931 af

Subcatchment56S: DA North - Undist W Runoff Area=8.210 ac 38.00% Impervious Runoff Depth=3.74"
Flow Length=373' Tc=18.9 min CN=75 Runoff=16.69 cfs 2.558 af

Subcatchment59S: DA North - Undist X Runoff Area=5.170 ac 38.00% Impervious Runoff Depth=3.74"
Flow Length=880' Tc=18.5 min CN=75 Runoff=10.62 cfs 1.611 af

Link 1L: POA 1 Inflow=6.29 cfs 1.134 af
Primary=6.29 cfs 1.134 af

Link 2L: POA 2 Inflow=195.95 cfs 31.511 af
Primary=195.95 cfs 31.511 af

Link 3L: DA South Inflow=47.73 cfs 8.232 af
Primary=47.73 cfs 8.232 af

Link 4L: DA North Inflow=148.73 cfs 23.279 af
Primary=148.73 cfs 23.279 af

Link 5L: Total Inflow=202.11 cfs 32.645 af
Primary=202.11 cfs 32.645 af

Link 8L: DA North - Undisturbed Inflow=55.68 cfs 8.099 af
Primary=55.68 cfs 8.099 af

Link 9L: DA North - Disturbed Inflow=93.45 cfs 15.180 af
Primary=93.45 cfs 15.180 af

Link 11L: DA South - Disturbed Inflow=23.78 cfs 4.723 af
Primary=23.78 cfs 4.723 af

Link 15L: DA South - Undisturbed Inflow=23.99 cfs 3.509 af
Primary=23.99 cfs 3.509 af

Total Runoff Area = 154.880 ac Runoff Volume = 32.645 af Average Runoff Depth = 2.53"
83.71% Pervious = 129.643 ac 16.29% Impervious = 25.237 ac

Summary for Subcatchment 10S: DA South

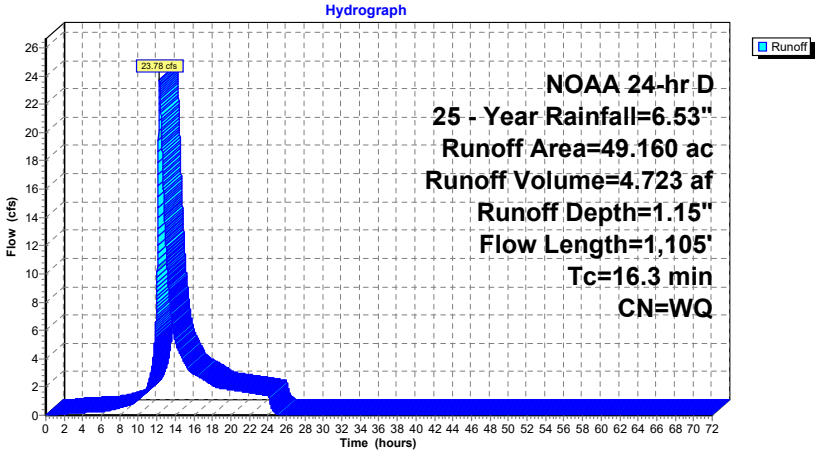
Runoff = 23.78 cfs @ 12.28 hrs, Volume= 4.723 af, Depth= 1.15"
Routed to Link 11L : DA South - Disturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

Area (ac)	CN	Description
11.500	30	Woods, Good, HSG A
0.690	77	Woods, Good, HSG D
30.110	39	>75% Grass cover, Good, HSG A
4.480	80	>75% Grass cover, Good, HSG D
1.310	98	Paved parking, HSG A
0.340	98	Paved parking, HSG D
0.730	98	Water Surface, HSG D
49.160		Weighted Average
46.780		95.16% Pervious Area
2.380		4.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 10S: DA South



Summary for Subcatchment 14S: DA South - Undist

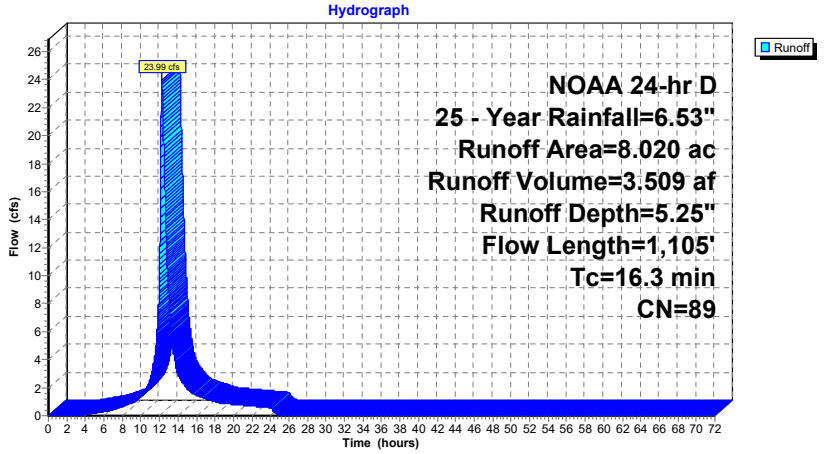
Runoff = 23.99 cfs @ 12.27 hrs, Volume= 3.509 af, Depth= 5.25"
Routed to Link 15L : DA South - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

Area (ac)	CN	Description
8.020	89	Urban commercial, 85% imp, HSG A
1.203		15.00% Pervious Area
6.817		85.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 14S: DA South - Undist



Summary for Subcatchment 19S: DA Wetlands

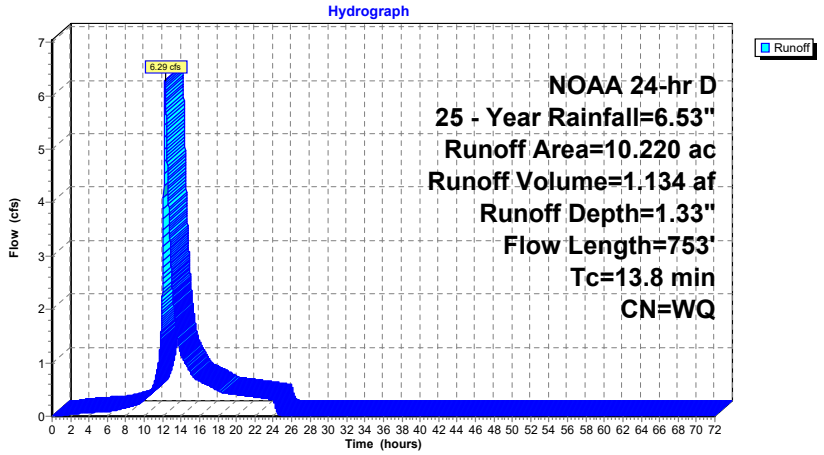
Runoff = 6.29 cfs @ 12.26 hrs, Volume= 1.134 af, Depth= 1.33"
Routed to Link 1L : POA 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

Area (ac)	CN	Description
1.690	30	Woods, Good, HSG A
0.510	77	Woods, Good, HSG D
6.710	39	>75% Grass cover, Good, HSG A
0.470	80	>75% Grass cover, Good, HSG D
0.530	98	Paved parking, HSG A
0.310	98	Paved parking, HSG D
10.220		Weighted Average
9.380		91.78% Pervious Area
0.840		8.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	72	0.0300	0.13		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
2.7	344	0.0180	2.16		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.0	337	0.0290	2.74		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
13.8	753	Total			

Subcatchment 19S: DA Wetlands



Summary for Subcatchment 42S: DA North

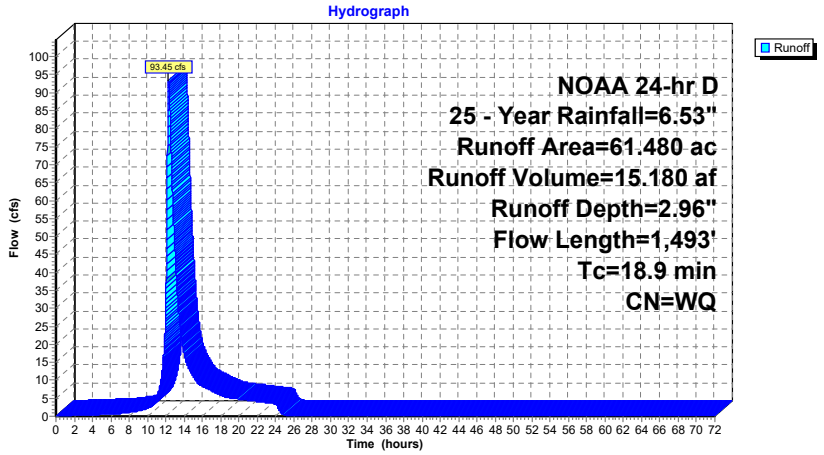
Runoff = 93.45 cfs @ 12.31 hrs, Volume= 15.180 af, Depth= 2.96"
Routed to Link 9L : DA North - Disturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

Area (ac)	CN	Description
1.630	55	Woods, Good, HSG B
0.200	77	Woods, Good, HSG D
45.750	61	>75% Grass cover, Good, HSG B
8.580	80	>75% Grass cover, Good, HSG D
4.010	98	Paved parking, HSG B
0.580	98	Paved parking, HSG D
0.730	98	Water Surface, HSG D
61.480		Weighted Average
56.160		91.35% Pervious Area
5.320		8.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	79	0.0360	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
5.8	950	0.0290	2.74		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.8	272	0.0100	1.61		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
1.2	192	0.0270	2.65		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
18.9	1,493	Total			

Subcatchment 42S: DA North



Summary for Subcatchment 54S: DA North - Undist Y

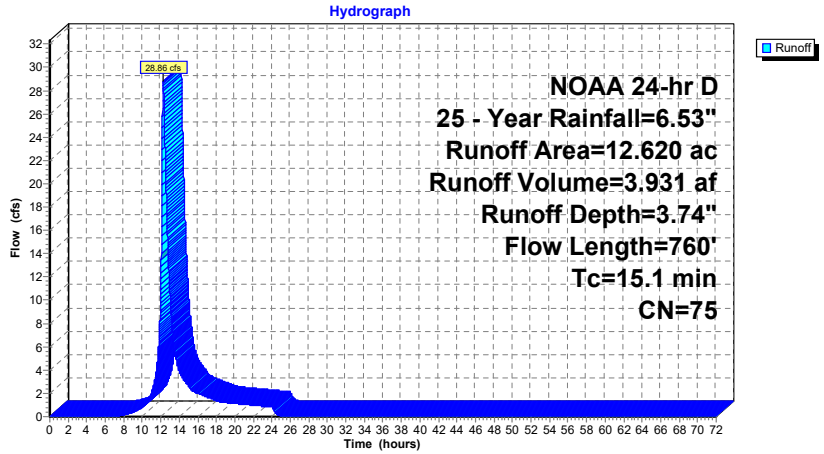
Runoff = 28.86 cfs @ 12.25 hrs, Volume= 3.931 af, Depth= 3.74"
Routed to Link 8L : DA North - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

Area (ac)	CN	Description
12.620	75	1/4 acre lots, 38% imp, HSG B
7.824		62.00% Pervious Area
4.796		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.1	100	0.0350	0.15		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.5	280	0.0370	3.10		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.5	380	0.0240	2.49		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
15.1	760	Total			

Subcatchment 54S: DA North - Undist Y



Summary for Subcatchment 56S: DA North - Undist W

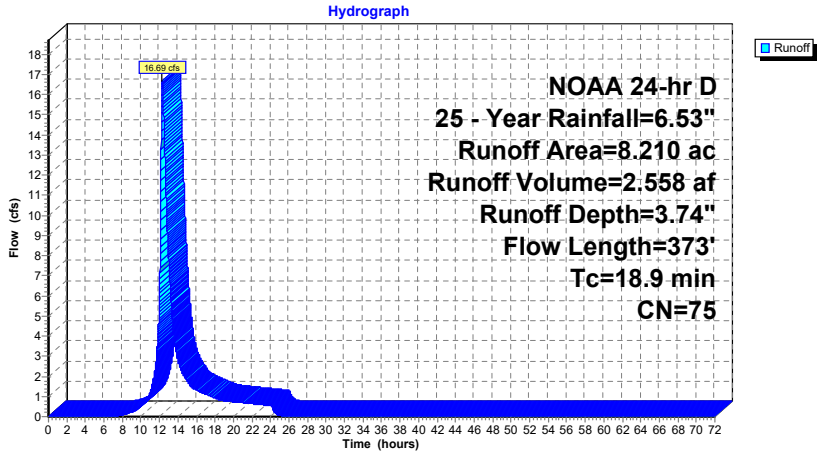
Runoff = 16.69 cfs @ 12.31 hrs, Volume= 2.558 af, Depth= 3.74"
Routed to Link 8L : DA North - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

Area (ac)	CN	Description
8.210	75	1/4 acre lots, 38% imp, HSG B
5.090		62.00% Pervious Area
3.120		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	100	0.0120	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.38"
0.9	179	0.0410	3.26		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.0	94	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.9	373	Total			

Subcatchment 56S: DA North - Undist W



Summary for Subcatchment 59S: DA North - Undist X

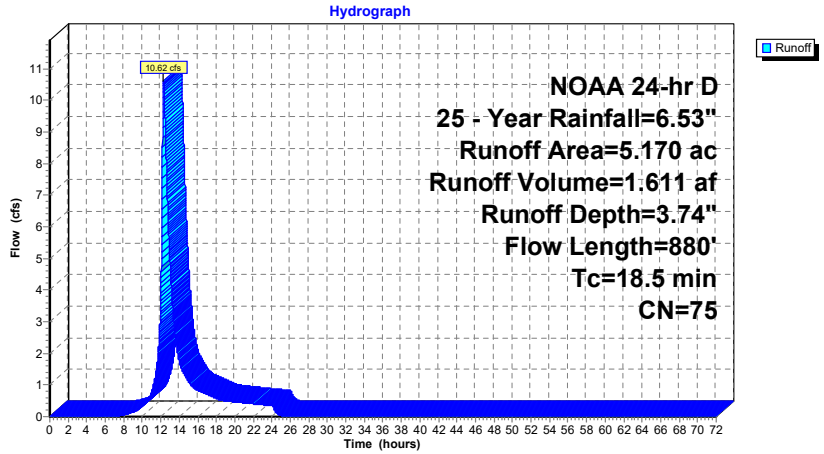
Runoff = 10.62 cfs @ 12.30 hrs, Volume= 1.611 af, Depth= 3.74"
Routed to Link 8L : DA North - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

Area (ac)	CN	Description
5.170	75	1/4 acre lots, 38% imp, HSG B
3.205		62.00% Pervious Area
1.965		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	100	0.0200	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.4	408	0.0320	2.88		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.2	372	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.5	880	Total			

Subcatchment 59S: DA North - Undist X

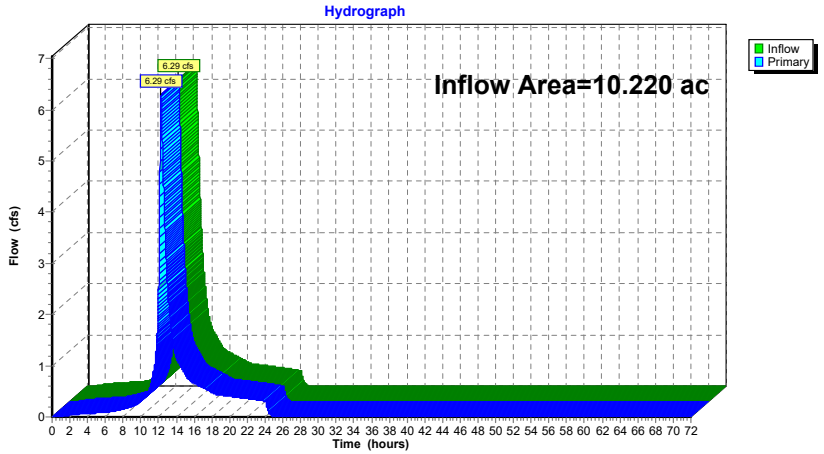


Summary for Link 1L: POA 1

Inflow Area = 10.220 ac, 8.22% Impervious, Inflow Depth = 1.33" for 25 - Year event
Inflow = 6.29 cfs @ 12.26 hrs, Volume= 1.134 af
Primary = 6.29 cfs @ 12.26 hrs, Volume= 1.134 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 1L: POA 1

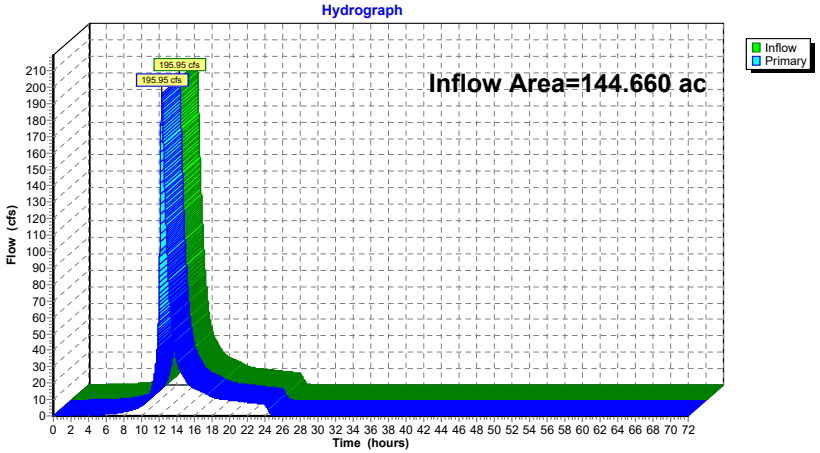


Summary for Link 2L: POA 2

Inflow Area = 144.660 ac, 16.87% Impervious, Inflow Depth = 2.61" for 25 - Year event
Inflow = 195.95 cfs @ 12.30 hrs, Volume= 31.511 af
Primary = 195.95 cfs @ 12.30 hrs, Volume= 31.511 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 2L: POA 2

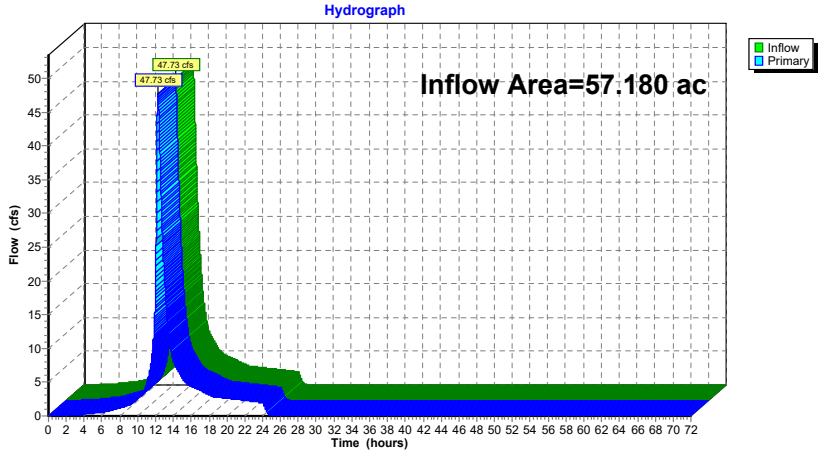


Summary for Link 3L: DA South

Inflow Area = 57.180 ac, 16.08% Impervious, Inflow Depth = 1.73" for 25 - Year event
Inflow = 47.73 cfs @ 12.28 hrs, Volume= 8.232 af
Primary = 47.73 cfs @ 12.28 hrs, Volume= 8.232 af, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : POA 2

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 3L: DA South

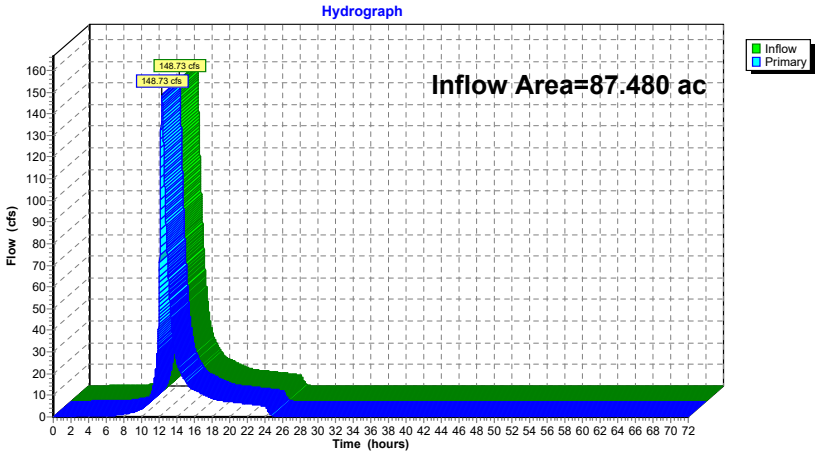


Summary for Link 4L: DA North

Inflow Area = 87.480 ac, 17.38% Impervious, Inflow Depth = 3.19" for 25 - Year event
Inflow = 148.73 cfs @ 12.31 hrs, Volume= 23.279 af
Primary = 148.73 cfs @ 12.31 hrs, Volume= 23.279 af, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : POA 2

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 4L: DA North

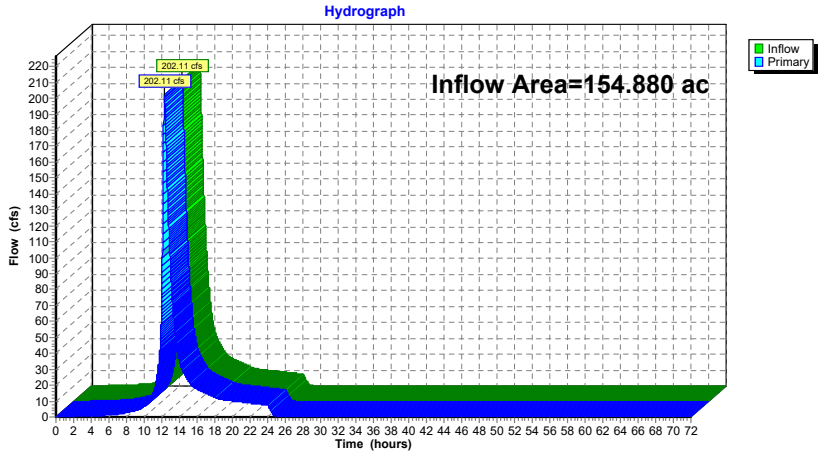


Summary for Link 5L: Total

Inflow Area = 154.880 ac, 16.29% Impervious, Inflow Depth = 2.53" for 25 - Year event
Inflow = 202.11 cfs @ 12.30 hrs, Volume= 32.645 af
Primary = 202.11 cfs @ 12.30 hrs, Volume= 32.645 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 5L: Total

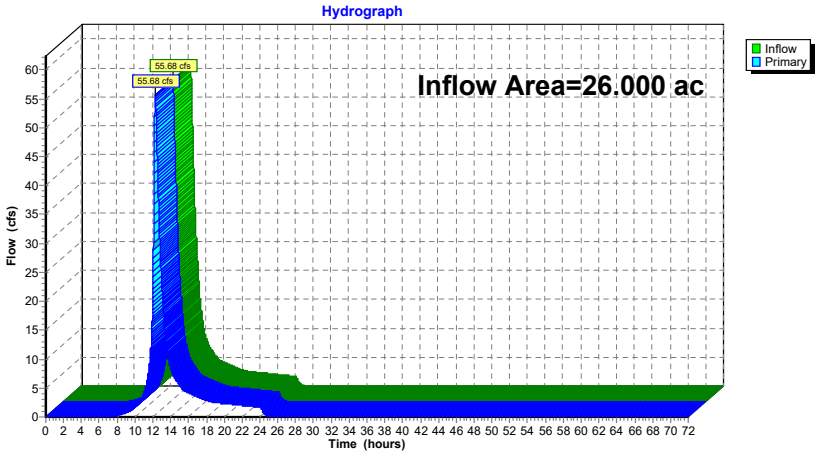


Summary for Link 8L: DA North - Undisturbed

Inflow Area = 26.000 ac, 38.00% Impervious, Inflow Depth = 3.74" for 25 - Year event
Inflow = 55.68 cfs @ 12.28 hrs, Volume= 8.099 af
Primary = 55.68 cfs @ 12.28 hrs, Volume= 8.099 af, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 8L: DA North - Undisturbed

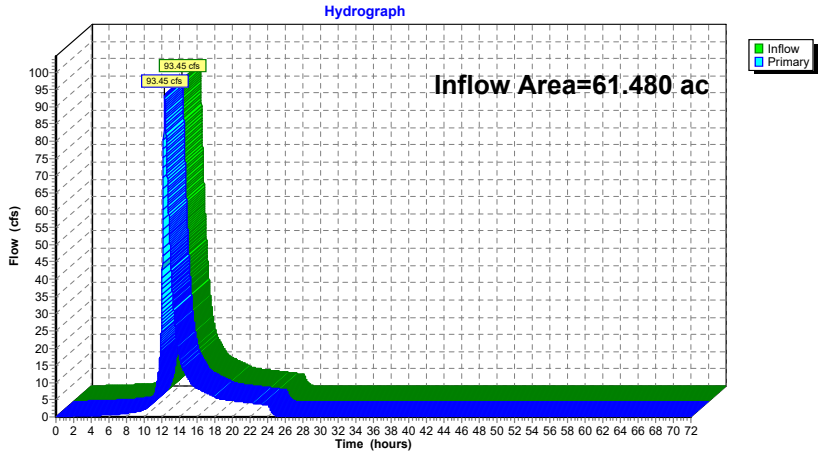


Summary for Link 9L: DA North - Disturbed

Inflow Area = 61.480 ac, 8.65% Impervious, Inflow Depth = 2.96" for 25 - Year event
Inflow = 93.45 cfs @ 12.31 hrs, Volume= 15.180 af
Primary = 93.45 cfs @ 12.31 hrs, Volume= 15.180 af, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 9L: DA North - Disturbed

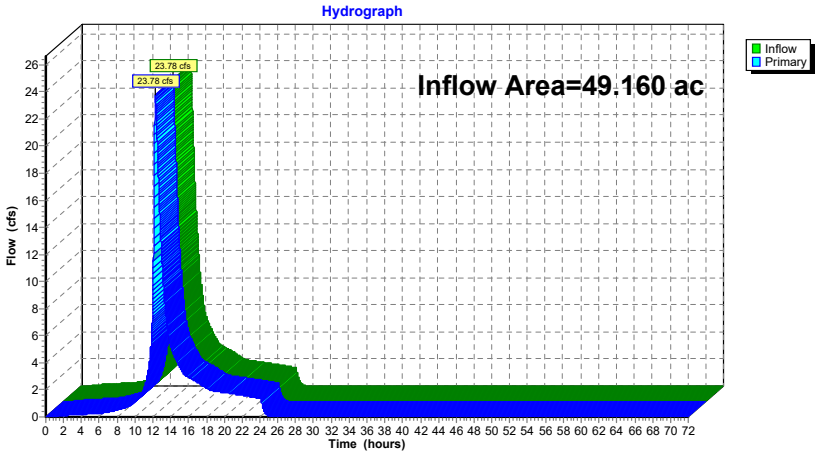


Summary for Link 11L: DA South - Disturbed

Inflow Area = 49.160 ac, 4.84% Impervious, Inflow Depth = 1.15" for 25 - Year event
Inflow = 23.78 cfs @ 12.28 hrs, Volume= 4.723 af
Primary = 23.78 cfs @ 12.28 hrs, Volume= 4.723 af, Atten= 0%, Lag= 0.0 min
Routed to Link 3L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 11L: DA South - Disturbed

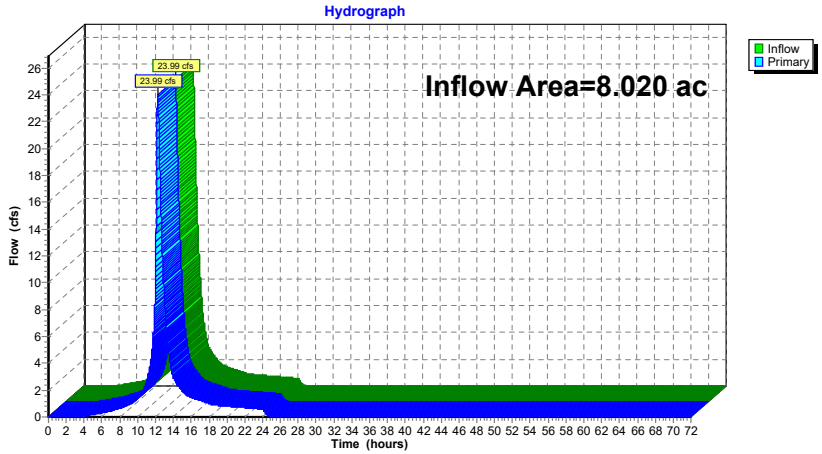


Summary for Link 15L: DA South - Undisturbed

Inflow Area = 8.020 ac, 85.00% Impervious, Inflow Depth = 5.25" for 25 - Year event
Inflow = 23.99 cfs @ 12.27 hrs, Volume= 3.509 af
Primary = 23.99 cfs @ 12.27 hrs, Volume= 3.509 af, Atten= 0%, Lag= 0.0 min
Routed to Link 3L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 15L: DA South - Undisturbed



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment10S: DA South Runoff Area=49.160 ac 4.84% Impervious Runoff Depth=0.31"
Flow Length=1,105' Tc=16.3 min CN=WQ Runoff=8.53 cfs 1.287 af

Subcatchment14S: DA South - Undist Runoff Area=8.020 ac 85.00% Impervious Runoff Depth=2.25"
Flow Length=1,105' Tc=16.3 min CN=89 Runoff=10.58 cfs 1.501 af

Subcatchment19S: DA Wetlands Runoff Area=10.220 ac 8.22% Impervious Runoff Depth=0.40"
Flow Length=753' Tc=13.8 min CN=WQ Runoff=2.41 cfs 0.340 af

Subcatchment42S: DA North Runoff Area=61.480 ac 8.65% Impervious Runoff Depth=0.89"
Flow Length=1,493' Tc=18.9 min CN=WQ Runoff=23.36 cfs 4.543 af

Subcatchment54S: DA North - Undist Y Runoff Area=12.620 ac 38.00% Impervious Runoff Depth=1.22"
Flow Length=760' Tc=15.1 min CN=75 Runoff=8.89 cfs 1.280 af

Subcatchment56S: DA North - Undist W Runoff Area=8.210 ac 38.00% Impervious Runoff Depth=1.22"
Flow Length=373' Tc=18.9 min CN=75 Runoff=5.12 cfs 0.833 af

Subcatchment59S: DA North - Undist X Runoff Area=5.170 ac 38.00% Impervious Runoff Depth=1.22"
Flow Length=880' Tc=18.5 min CN=75 Runoff=3.26 cfs 0.525 af

Link 1L: POA 1 Inflow=2.41 cfs 0.340 af
Primary=2.41 cfs 0.340 af

Link 2L: POA 2 Inflow=59.14 cfs 9.969 af
Primary=59.14 cfs 9.969 af

Link 3L: DA South Inflow=19.10 cfs 2.788 af
Primary=19.10 cfs 2.788 af

Link 4L: DA North Inflow=40.40 cfs 7.181 af
Primary=40.40 cfs 7.181 af

Link 5L: Total Inflow=61.41 cfs 10.309 af
Primary=61.41 cfs 10.309 af

Link 8L: DA North - Undisturbed Inflow=17.13 cfs 2.638 af
Primary=17.13 cfs 2.638 af

Link 9L: DA North - Disturbed Inflow=23.36 cfs 4.543 af
Primary=23.36 cfs 4.543 af

Link 11L: DA South - Disturbed Inflow=8.53 cfs 1.287 af
Primary=8.53 cfs 1.287 af

Link 15L: DA South - Undisturbed Inflow=10.58 cfs 1.501 af
Primary=10.58 cfs 1.501 af

2024- 11 Hydrology - Existing - Weighted Q *NOAA 24-hr D 2-Year-Current Rainfall=3.38"*
Prepared by Dynamic Engineering Printed 11/21/2024
HydroCAD® 10.20-5c s/n 08640 © 2023 HydroCAD Software Solutions LLC Page 28

Total Runoff Area = 154.880 ac Runoff Volume = 10.309 af Average Runoff Depth = 0.80"
83.71% Pervious = 129.643 ac 16.29% Impervious = 25.237 ac

Summary for Subcatchment 10S: DA South

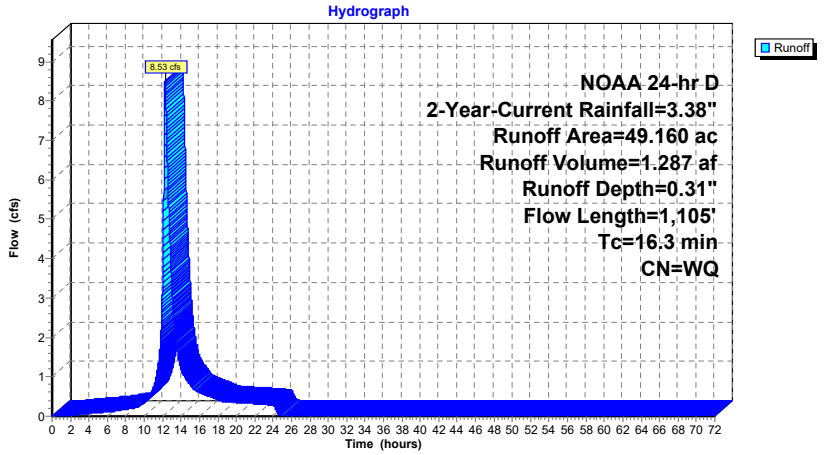
Runoff = 8.53 cfs @ 12.28 hrs, Volume= 1.287 af, Depth= 0.31"
Routed to Link 11L : DA South - Disturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

Area (ac)	CN	Description
11.500	30	Woods, Good, HSG A
0.690	77	Woods, Good, HSG D
30.110	39	>75% Grass cover, Good, HSG A
4.480	80	>75% Grass cover, Good, HSG D
1.310	98	Paved parking, HSG A
0.340	98	Paved parking, HSG D
0.730	98	Water Surface, HSG D
49.160		Weighted Average
46.780		95.16% Pervious Area
2.380		4.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 10S: DA South



Summary for Subcatchment 14S: DA South - Undist

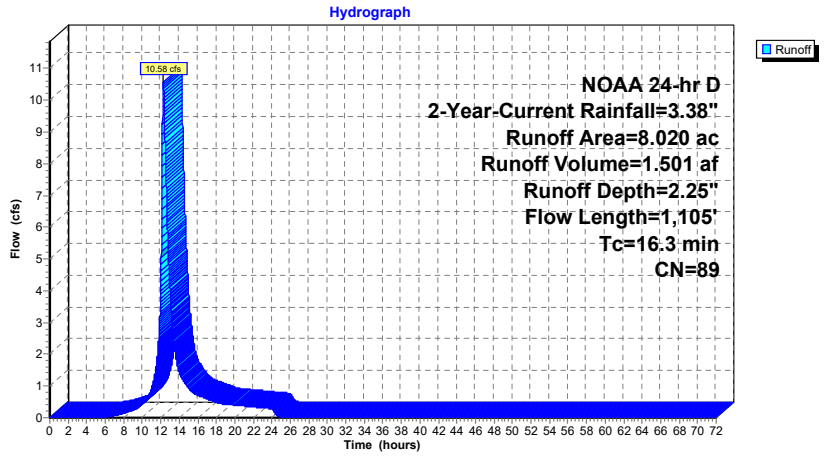
Runoff = 10.58 cfs @ 12.28 hrs, Volume= 1.501 af, Depth= 2.25"
Routed to Link 15L : DA South - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

Area (ac)	CN	Description
8.020	89	Urban commercial, 85% imp, HSG A
1.203		15.00% Pervious Area
6.817		85.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 14S: DA South - Undist



Summary for Subcatchment 19S: DA Wetlands

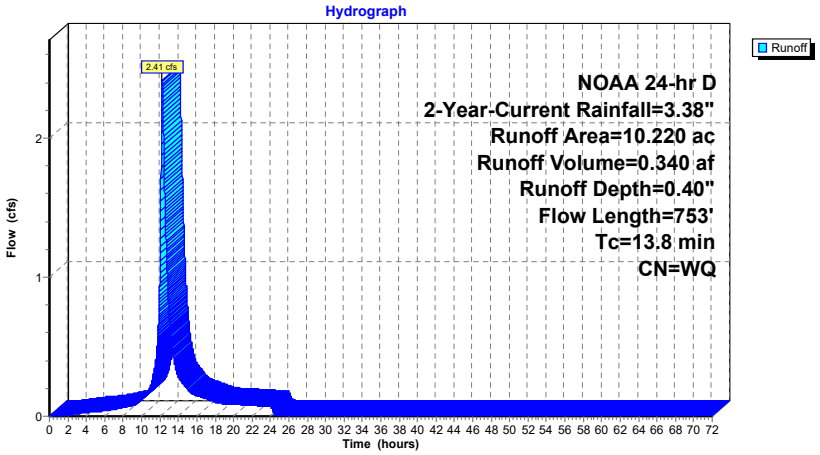
Runoff = 2.41 cfs @ 12.24 hrs, Volume= 0.340 af, Depth= 0.40"
Routed to Link 1L : POA 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

Area (ac)	CN	Description
1.690	30	Woods, Good, HSG A
0.510	77	Woods, Good, HSG D
6.710	39	>75% Grass cover, Good, HSG A
0.470	80	>75% Grass cover, Good, HSG D
0.530	98	Paved parking, HSG A
0.310	98	Paved parking, HSG D
10.220		Weighted Average
9.380		91.78% Pervious Area
0.840		8.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	72	0.0300	0.13		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
2.7	344	0.0180	2.16		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.0	337	0.0290	2.74		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
13.8	753	Total			

Subcatchment 19S: DA Wetlands



Summary for Subcatchment 42S: DA North

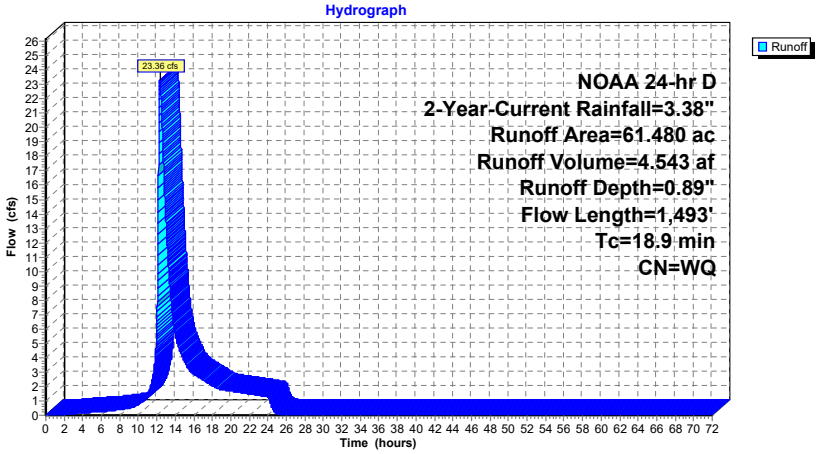
Runoff = 23.36 cfs @ 12.34 hrs, Volume= 4.543 af, Depth= 0.89"
Routed to Link 9L : DA North - Disturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

Area (ac)	CN	Description
1.630	55	Woods, Good, HSG B
0.200	77	Woods, Good, HSG D
45.750	61	>75% Grass cover, Good, HSG B
8.580	80	>75% Grass cover, Good, HSG D
4.010	98	Paved parking, HSG B
0.580	98	Paved parking, HSG D
0.730	98	Water Surface, HSG D
61.480		Weighted Average
56.160		91.35% Pervious Area
5.320		8.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	79	0.0360	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
5.8	950	0.0290	2.74		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.8	272	0.0100	1.61		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
1.2	192	0.0270	2.65		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
18.9	1,493	Total			

Subcatchment 42S: DA North



Summary for Subcatchment 54S: DA North - Undist Y

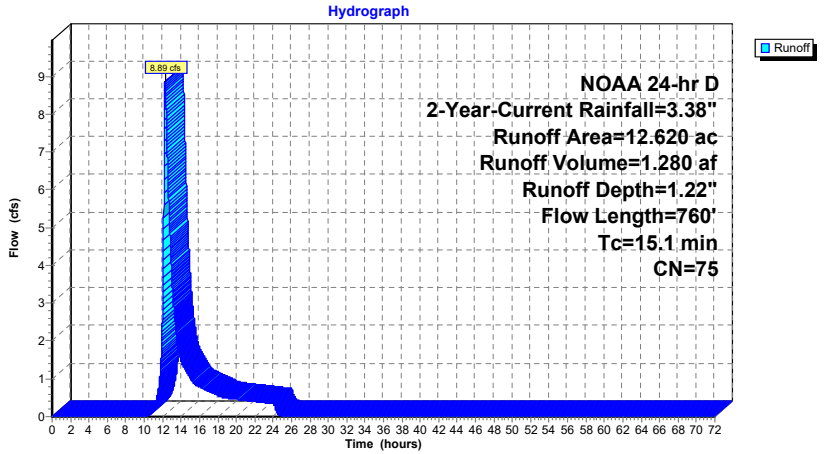
Runoff = 8.89 cfs @ 12.28 hrs, Volume= 1.280 af, Depth= 1.22"
Routed to Link 8L : DA North - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

Area (ac)	CN	Description
12.620	75	1/4 acre lots, 38% imp, HSG B
7.824		62.00% Pervious Area
4.796		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.1	100	0.0350	0.15		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.5	280	0.0370	3.10		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.5	380	0.0240	2.49		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
15.1	760	Total			

Subcatchment 54S: DA North - Undist Y



Summary for Subcatchment 56S: DA North - Undist W

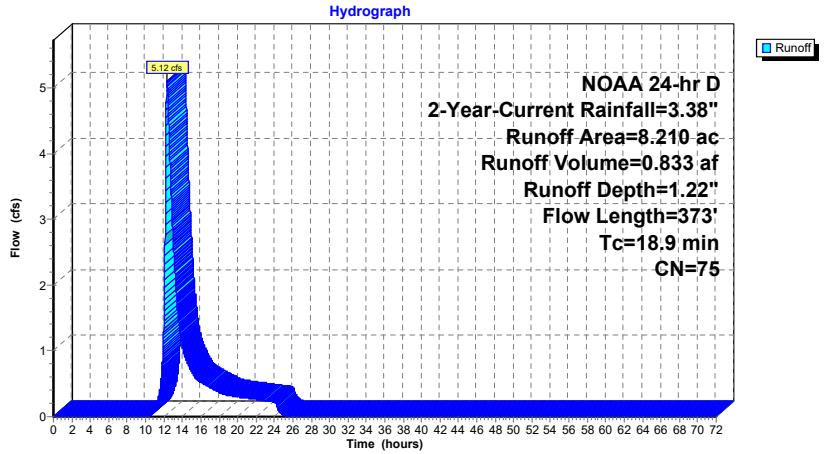
Runoff = 5.12 cfs @ 12.31 hrs, Volume= 0.833 af, Depth= 1.22"
Routed to Link 8L : DA North - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

Area (ac)	CN	Description
8.210	75	1/4 acre lots, 38% imp, HSG B
5.090		62.00% Pervious Area
3.120		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	100	0.0120	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.38"
0.9	179	0.0410	3.26		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.0	94	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.9	373	Total			

Subcatchment 56S: DA North - Undist W



Summary for Subcatchment 59S: DA North - Undist X

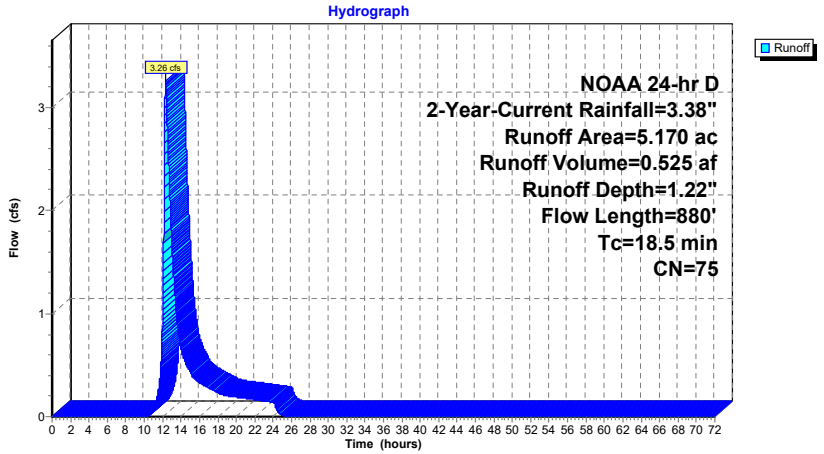
Runoff = 3.26 cfs @ 12.33 hrs, Volume= 0.525 af, Depth= 1.22"
Routed to Link 8L : DA North - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

Area (ac)	CN	Description
5.170	75	1/4 acre lots, 38% imp, HSG B
3.205		62.00% Pervious Area
1.965		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	100	0.0200	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.4	408	0.0320	2.88		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.2	372	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.5	880	Total			

Subcatchment 59S: DA North - Undist X

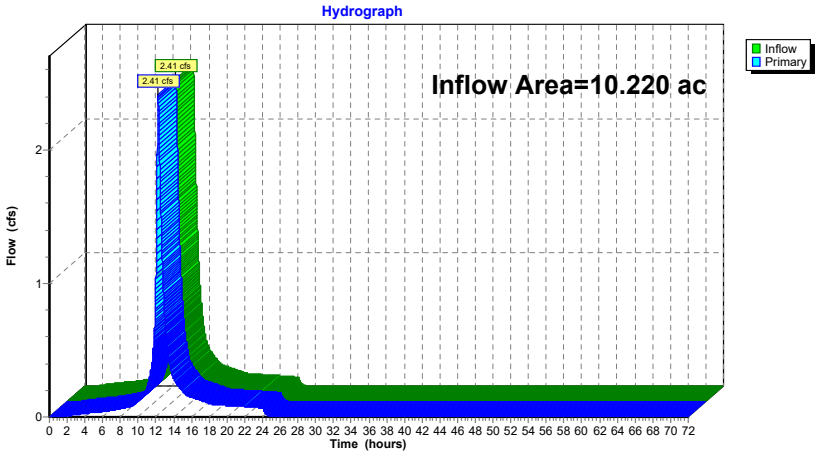


Summary for Link 1L: POA 1

Inflow Area = 10.220 ac, 8.22% Impervious, Inflow Depth = 0.40" for 2-Year-Current event
Inflow = 2.41 cfs @ 12.24 hrs, Volume= 0.340 af
Primary = 2.41 cfs @ 12.24 hrs, Volume= 0.340 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 1L: POA 1

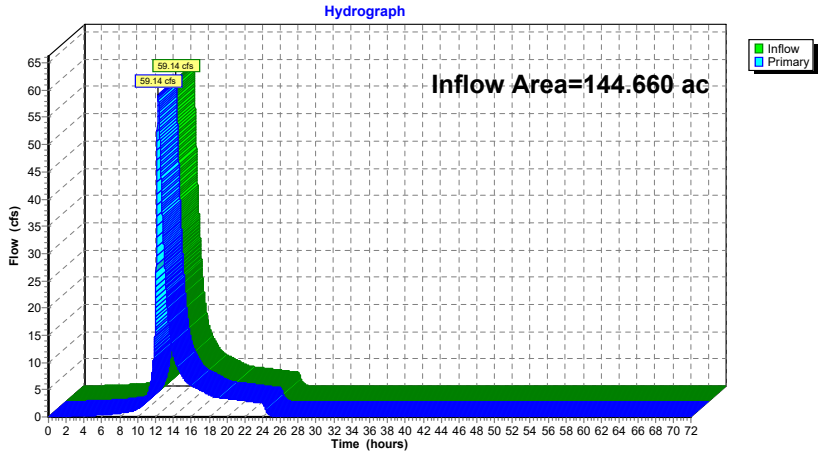


Summary for Link 2L: POA 2

Inflow Area = 144.660 ac, 16.87% Impervious, Inflow Depth = 0.83" for 2-Year-Current event
Inflow = 59.14 cfs @ 12.31 hrs, Volume= 9.969 af
Primary = 59.14 cfs @ 12.31 hrs, Volume= 9.969 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 2L: POA 2

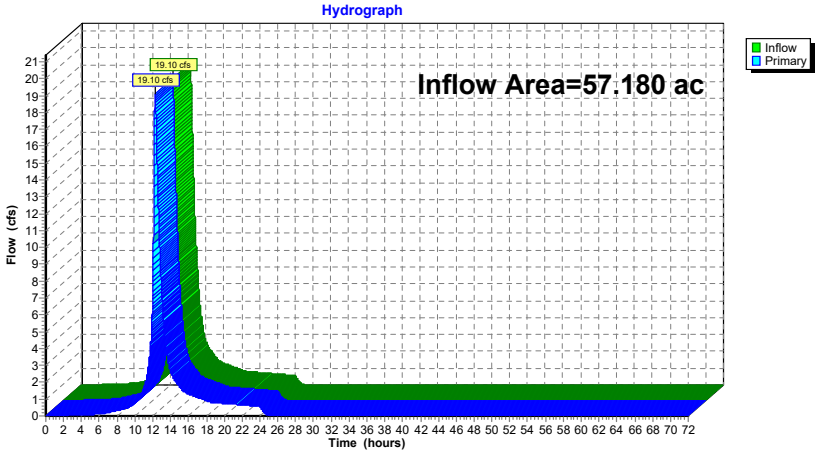


Summary for Link 3L: DA South

Inflow Area = 57.180 ac, 16.08% Impervious, Inflow Depth = 0.59" for 2-Year-Current event
Inflow = 19.10 cfs @ 12.28 hrs, Volume= 2.788 af
Primary = 19.10 cfs @ 12.28 hrs, Volume= 2.788 af, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : POA 2

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 3L: DA South

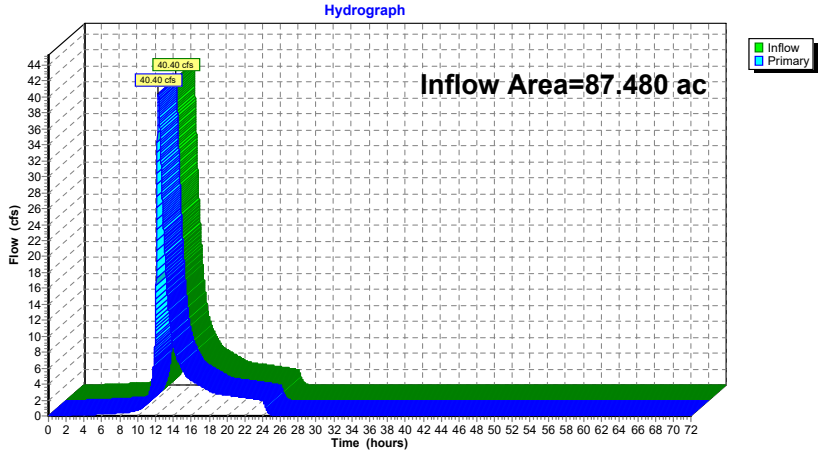


Summary for Link 4L: DA North

Inflow Area = 87.480 ac, 17.38% Impervious, Inflow Depth = 0.99" for 2-Year-Current event
Inflow = 40.40 cfs @ 12.31 hrs, Volume= 7.181 af
Primary = 40.40 cfs @ 12.31 hrs, Volume= 7.181 af, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : POA 2

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 4L: DA North

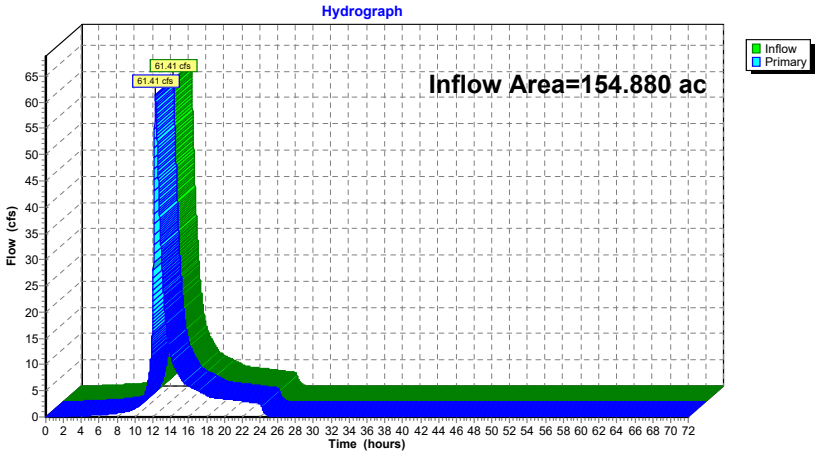


Summary for Link 5L: Total

Inflow Area = 154.880 ac, 16.29% Impervious, Inflow Depth = 0.80" for 2-Year-Current event
Inflow = 61.41 cfs @ 12.30 hrs, Volume= 10.309 af
Primary = 61.41 cfs @ 12.30 hrs, Volume= 10.309 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 5L: Total

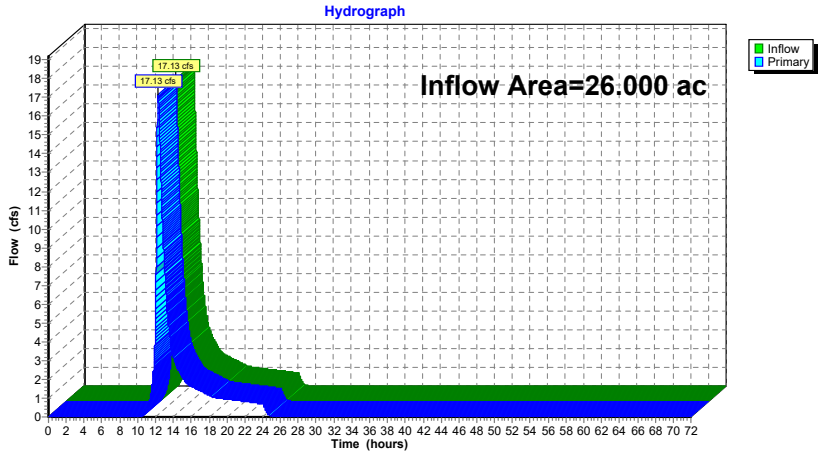


Summary for Link 8L: DA North - Undisturbed

Inflow Area = 26.000 ac, 38.00% Impervious, Inflow Depth = 1.22" for 2-Year-Current event
Inflow = 17.13 cfs @ 12.30 hrs, Volume= 2.638 af
Primary = 17.13 cfs @ 12.30 hrs, Volume= 2.638 af, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 8L: DA North - Undisturbed

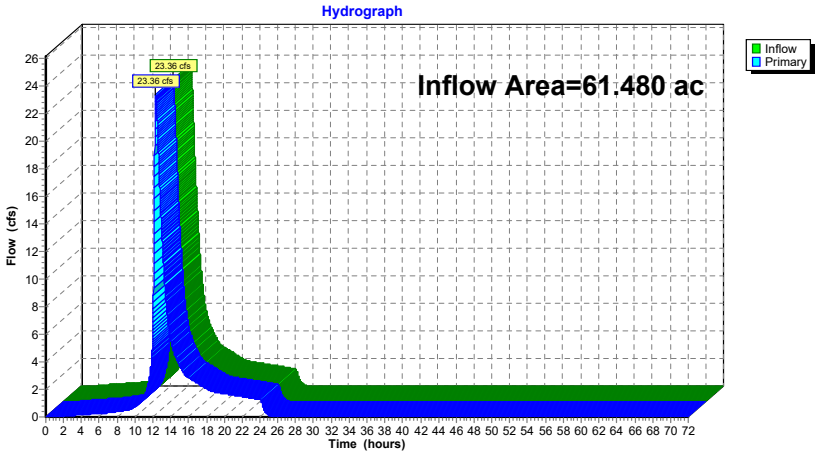


Summary for Link 9L: DA North - Disturbed

Inflow Area = 61.480 ac, 8.65% Impervious, Inflow Depth = 0.89" for 2-Year-Current event
Inflow = 23.36 cfs @ 12.34 hrs, Volume= 4.543 af
Primary = 23.36 cfs @ 12.34 hrs, Volume= 4.543 af, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 9L: DA North - Disturbed

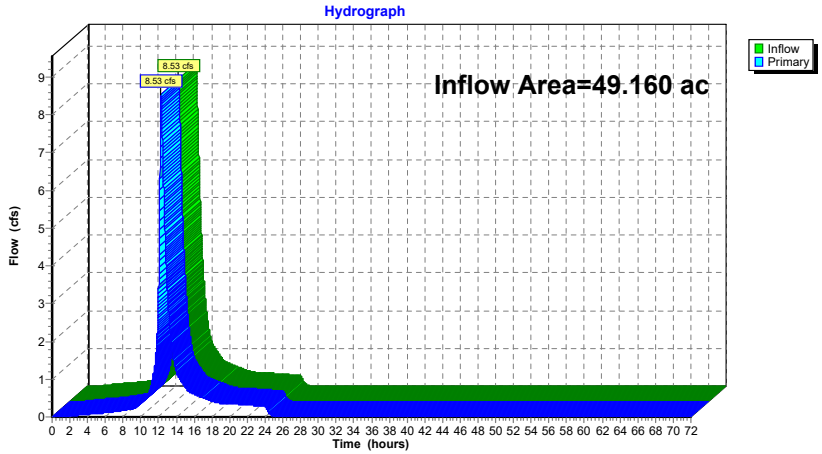


Summary for Link 11L: DA South - Disturbed

Inflow Area = 49.160 ac, 4.84% Impervious, Inflow Depth = 0.31" for 2-Year-Current event
Inflow = 8.53 cfs @ 12.28 hrs, Volume= 1.287 af
Primary = 8.53 cfs @ 12.28 hrs, Volume= 1.287 af, Atten= 0%, Lag= 0.0 min
Routed to Link 3L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 11L: DA South - Disturbed

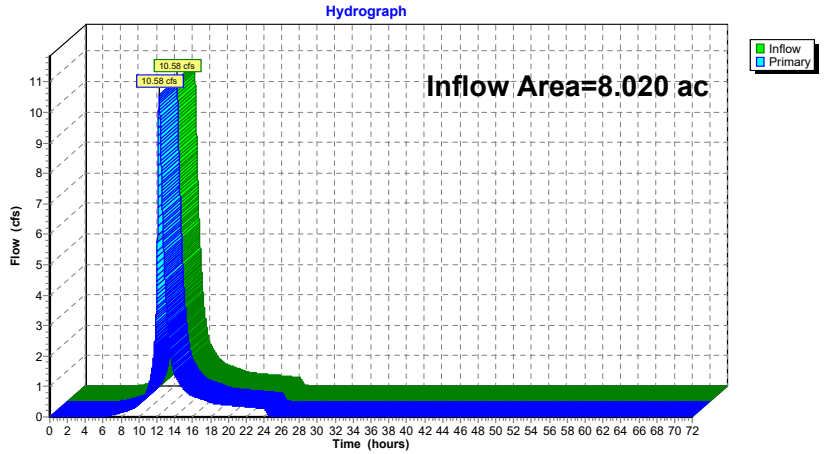


Summary for Link 15L: DA South - Undisturbed

Inflow Area = 8.020 ac, 85.00% Impervious, Inflow Depth = 2.25" for 2-Year-Current event
Inflow = 10.58 cfs @ 12.28 hrs, Volume= 1.501 af
Primary = 10.58 cfs @ 12.28 hrs, Volume= 1.501 af, Atten= 0%, Lag= 0.0 min
Routed to Link 3L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 15L: DA South - Undisturbed



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment10S: DA South Runoff Area=49.160 ac 4.84% Impervious Runoff Depth=0.43"
Flow Length=1,105' Tc=16.3 min CN=WQ Runoff=10.91 cfs 1.745 af

Subcatchment14S: DA South - Undist Runoff Area=8.020 ac 85.00% Impervious Runoff Depth=2.84"
Flow Length=1,105' Tc=16.3 min CN=89 Runoff=13.30 cfs 1.899 af

Subcatchment19S: DA Wetlands Runoff Area=10.220 ac 8.22% Impervious Runoff Depth=0.53"
Flow Length=753' Tc=13.8 min CN=WQ Runoff=3.04 cfs 0.450 af

Subcatchment42S: DA North Runoff Area=61.480 ac 8.65% Impervious Runoff Depth=1.25"
Flow Length=1,493' Tc=18.9 min CN=WQ Runoff=35.19 cfs 6.390 af

Subcatchment54S: DA North - Undist Y Runoff Area=12.620 ac 38.00% Impervious Runoff Depth=1.68"
Flow Length=760' Tc=15.1 min CN=75 Runoff=12.59 cfs 1.769 af

Subcatchment56S: DA North - Undist W Runoff Area=8.210 ac 38.00% Impervious Runoff Depth=1.68"
Flow Length=373' Tc=18.9 min CN=75 Runoff=7.27 cfs 1.151 af

Subcatchment59S: DA North - Undist X Runoff Area=5.170 ac 38.00% Impervious Runoff Depth=1.68"
Flow Length=880' Tc=18.5 min CN=75 Runoff=4.62 cfs 0.725 af

Link 1L: POA 1 Inflow=3.04 cfs 0.450 af
Primary=3.04 cfs 0.450 af

Link 2L: POA 2 Inflow=83.17 cfs 13.677 af
Primary=83.17 cfs 13.677 af

Link 3L: DA South Inflow=24.21 cfs 3.644 af
Primary=24.21 cfs 3.644 af

Link 4L: DA North Inflow=59.43 cfs 10.033 af
Primary=59.43 cfs 10.033 af

Link 5L: Total Inflow=86.04 cfs 14.128 af
Primary=86.04 cfs 14.128 af

Link 8L: DA North - Undisturbed Inflow=24.32 cfs 3.644 af
Primary=24.32 cfs 3.644 af

Link 9L: DA North - Disturbed Inflow=35.19 cfs 6.390 af
Primary=35.19 cfs 6.390 af

Link 11L: DA South - Disturbed Inflow=10.91 cfs 1.745 af
Primary=10.91 cfs 1.745 af

Link 15L: DA South - Undisturbed Inflow=13.30 cfs 1.899 af
Primary=13.30 cfs 1.899 af

Total Runoff Area = 154.880 ac Runoff Volume = 14.128 af Average Runoff Depth = 1.09"
83.71% Pervious = 129.643 ac 16.29% Impervious = 25.237 ac

Summary for Subcatchment 10S: DA South

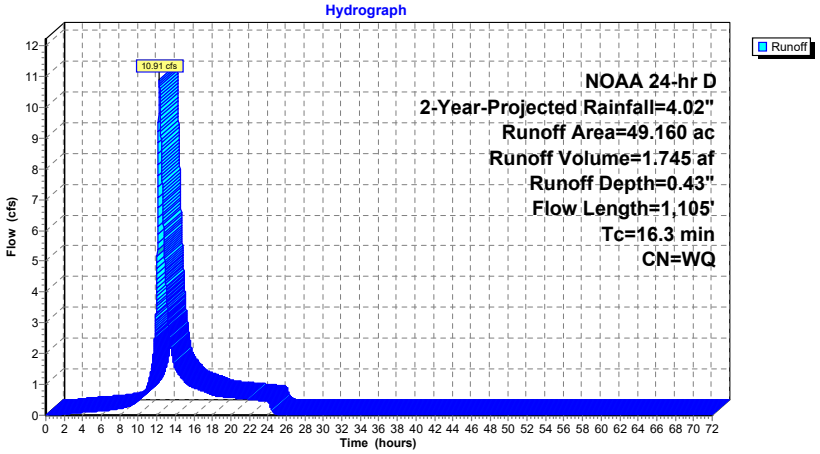
Runoff = 10.91 cfs @ 12.28 hrs, Volume= 1.745 af, Depth= 0.43"
Routed to Link 11L : DA South - Disturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

Area (ac)	CN	Description
11.500	30	Woods, Good, HSG A
0.690	77	Woods, Good, HSG D
30.110	39	>75% Grass cover, Good, HSG A
4.480	80	>75% Grass cover, Good, HSG D
1.310	98	Paved parking, HSG A
0.340	98	Paved parking, HSG D
0.730	98	Water Surface, HSG D
49.160		Weighted Average
46.780		95.16% Pervious Area
2.380		4.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 10S: DA South



Summary for Subcatchment 14S: DA South - Undist

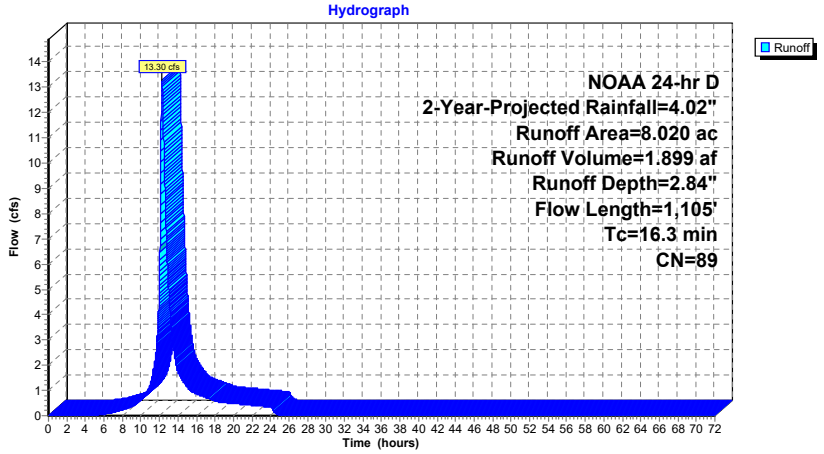
Runoff = 13.30 cfs @ 12.27 hrs, Volume= 1.899 af, Depth= 2.84"
Routed to Link 15L : DA South - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

Area (ac)	CN	Description
8.020	89	Urban commercial, 85% imp, HSG A
1.203		15.00% Pervious Area
6.817		85.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 14S: DA South - Undist



Summary for Subcatchment 19S: DA Wetlands

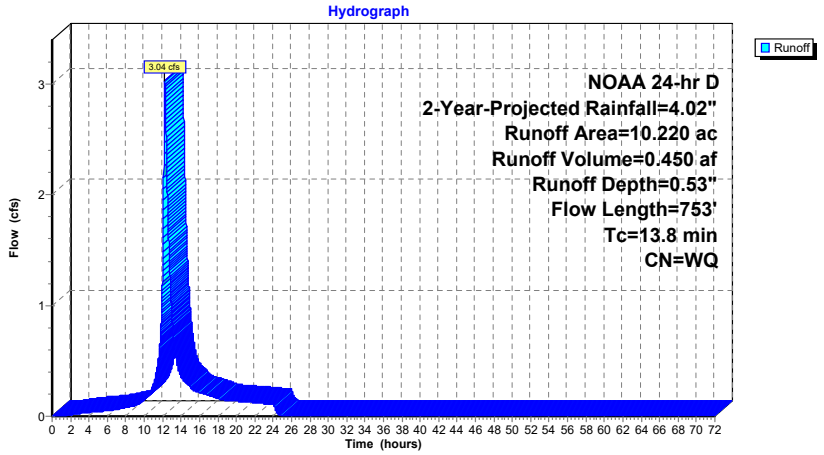
Runoff = 3.04 cfs @ 12.24 hrs, Volume= 0.450 af, Depth= 0.53"
Routed to Link 1L : POA 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

Area (ac)	CN	Description
1.690	30	Woods, Good, HSG A
0.510	77	Woods, Good, HSG D
6.710	39	>75% Grass cover, Good, HSG A
0.470	80	>75% Grass cover, Good, HSG D
0.530	98	Paved parking, HSG A
0.310	98	Paved parking, HSG D
10.220		Weighted Average
9.380		91.78% Pervious Area
0.840		8.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	72	0.0300	0.13		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
2.7	344	0.0180	2.16		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.0	337	0.0290	2.74		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
13.8	753	Total			

Subcatchment 19S: DA Wetlands



Summary for Subcatchment 42S: DA North

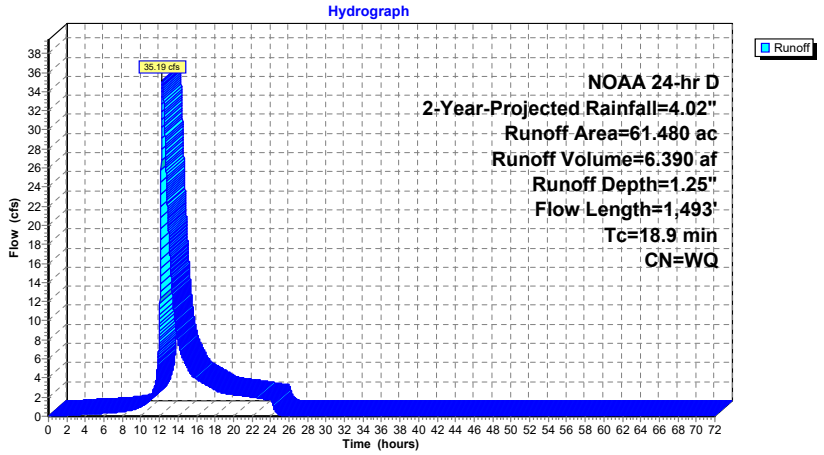
Runoff = 35.19 cfs @ 12.31 hrs, Volume= 6.390 af, Depth= 1.25"
Routed to Link 9L : DA North - Disturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

Area (ac)	CN	Description
1.630	55	Woods, Good, HSG B
0.200	77	Woods, Good, HSG D
45.750	61	>75% Grass cover, Good, HSG B
8.580	80	>75% Grass cover, Good, HSG D
4.010	98	Paved parking, HSG B
0.580	98	Paved parking, HSG D
0.730	98	Water Surface, HSG D
61.480		Weighted Average
56.160		91.35% Pervious Area
5.320		8.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	79	0.0360	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
5.8	950	0.0290	2.74		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.8	272	0.0100	1.61		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
1.2	192	0.0270	2.65		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
18.9	1,493	Total			

Subcatchment 42S: DA North



Summary for Subcatchment 54S: DA North - Undist Y

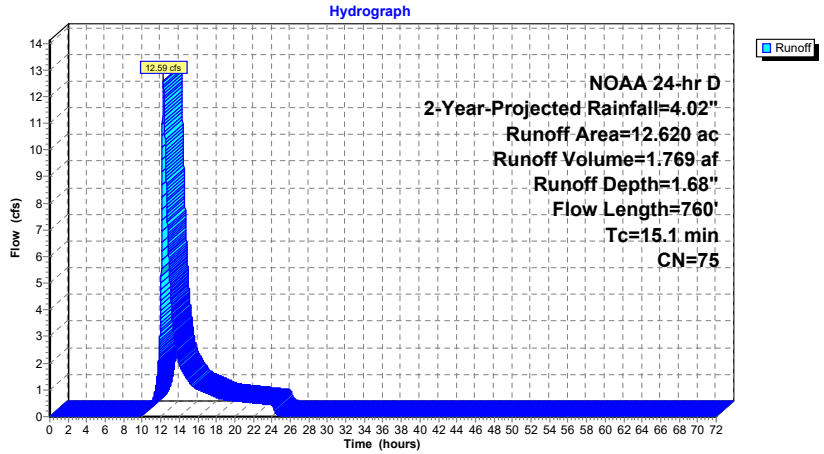
Runoff = 12.59 cfs @ 12.26 hrs, Volume= 1.769 af, Depth= 1.68"
Routed to Link 8L : DA North - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

Area (ac)	CN	Description
12.620	75	1/4 acre lots, 38% imp, HSG B
7.824		62.00% Pervious Area
4.796		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.1	100	0.0350	0.15		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.5	280	0.0370	3.10		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.5	380	0.0240	2.49		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
15.1	760	Total			

Subcatchment 54S: DA North - Undist Y



Summary for Subcatchment 56S: DA North - Undist W

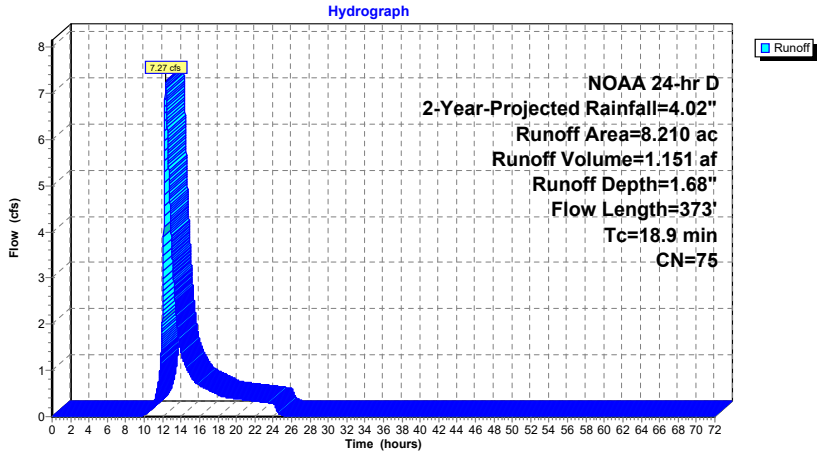
Runoff = 7.27 cfs @ 12.31 hrs, Volume= 1.151 af, Depth= 1.68"
Routed to Link 8L : DA North - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

Area (ac)	CN	Description
8.210	75	1/4 acre lots, 38% imp, HSG B
5.090		62.00% Pervious Area
3.120		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	100	0.0120	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.38"
0.9	179	0.0410	3.26		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.0	94	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.9	373	Total			

Subcatchment 56S: DA North - Undist W



Summary for Subcatchment 59S: DA North - Undist X

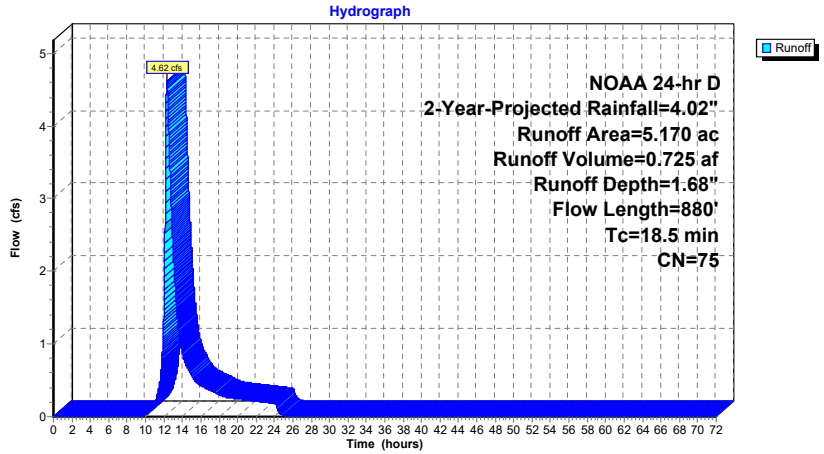
Runoff = 4.62 cfs @ 12.30 hrs, Volume= 0.725 af, Depth= 1.68"
Routed to Link 8L : DA North - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

Area (ac)	CN	Description
5.170	75	1/4 acre lots, 38% imp, HSG B
3.205		62.00% Pervious Area
1.965		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	100	0.0200	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.4	408	0.0320	2.88		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.2	372	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.5	880	Total			

Subcatchment 59S: DA North - Undist X

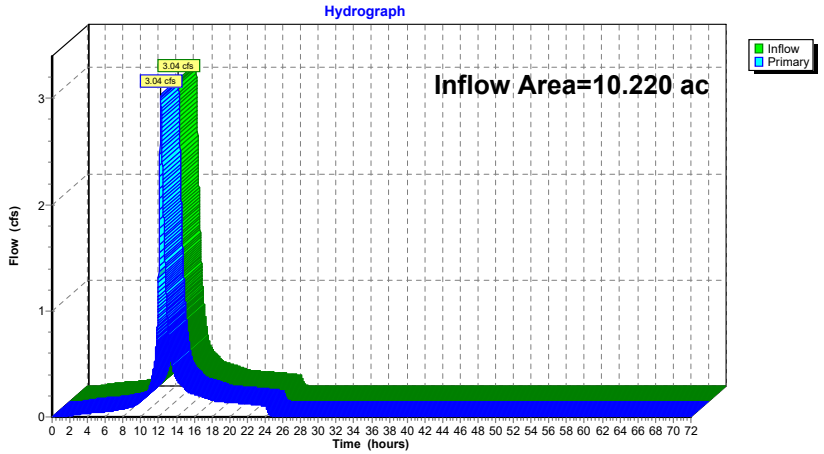


Summary for Link 1L: POA 1

Inflow Area = 10.220 ac, 8.22% Impervious, Inflow Depth = 0.53" for 2-Year-Projected event
Inflow = 3.04 cfs @ 12.24 hrs, Volume= 0.450 af
Primary = 3.04 cfs @ 12.24 hrs, Volume= 0.450 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 1L: POA 1

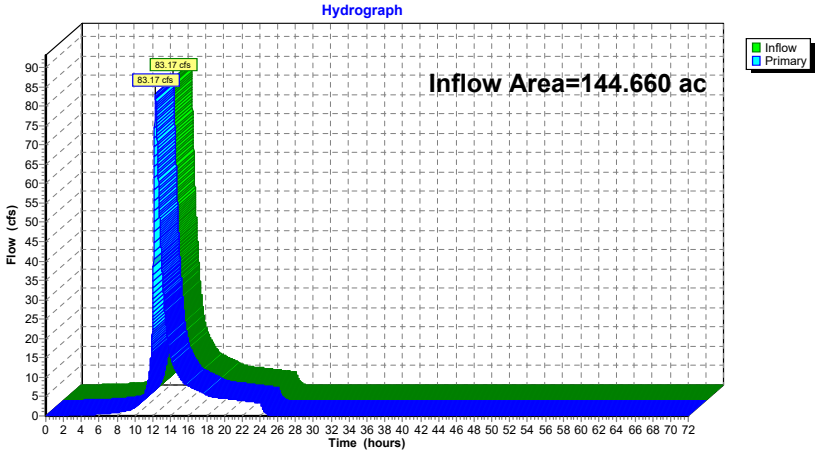


Summary for Link 2L: POA 2

Inflow Area = 144.660 ac, 16.87% Impervious, Inflow Depth = 1.13" for 2-Year-Projected event
Inflow = 83.17 cfs @ 12.30 hrs, Volume= 13.677 af
Primary = 83.17 cfs @ 12.30 hrs, Volume= 13.677 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 2L: POA 2

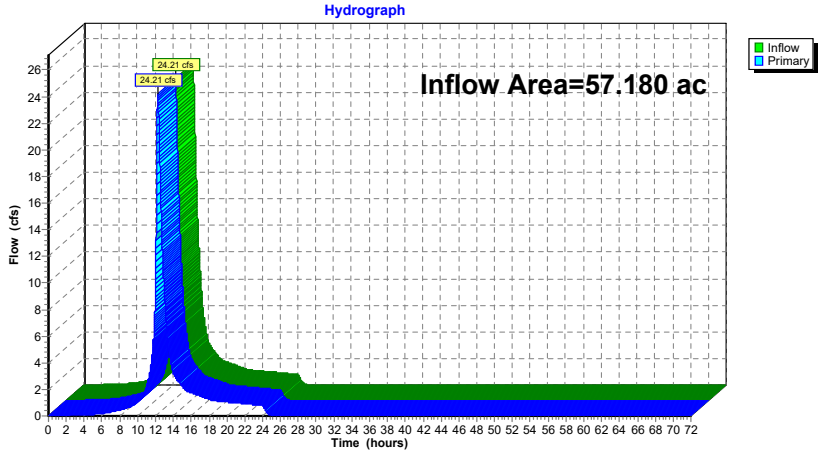


Summary for Link 3L: DA South

Inflow Area = 57.180 ac, 16.08% Impervious, Inflow Depth = 0.76" for 2-Year-Projected event
Inflow = 24.21 cfs @ 12.28 hrs, Volume= 3.644 af
Primary = 24.21 cfs @ 12.28 hrs, Volume= 3.644 af, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : POA 2

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 3L: DA South

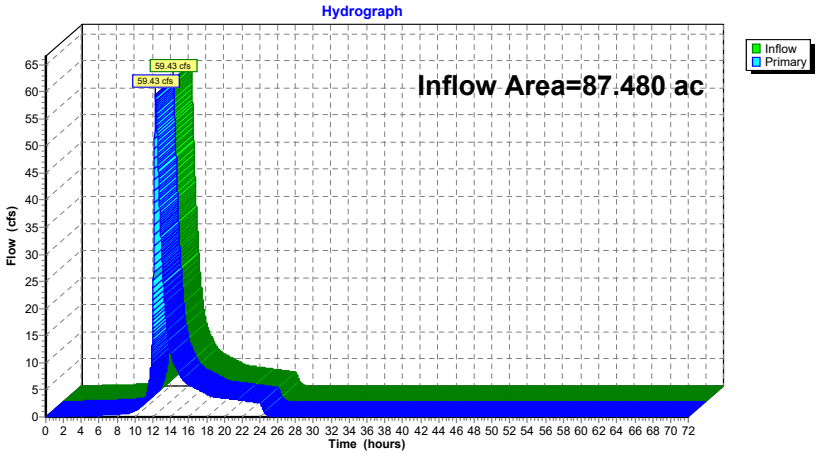


Summary for Link 4L: DA North

Inflow Area = 87.480 ac, 17.38% Impervious, Inflow Depth = 1.38" for 2-Year-Projected event
Inflow = 59.43 cfs @ 12.31 hrs, Volume= 10.033 af
Primary = 59.43 cfs @ 12.31 hrs, Volume= 10.033 af, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : POA 2

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 4L: DA North

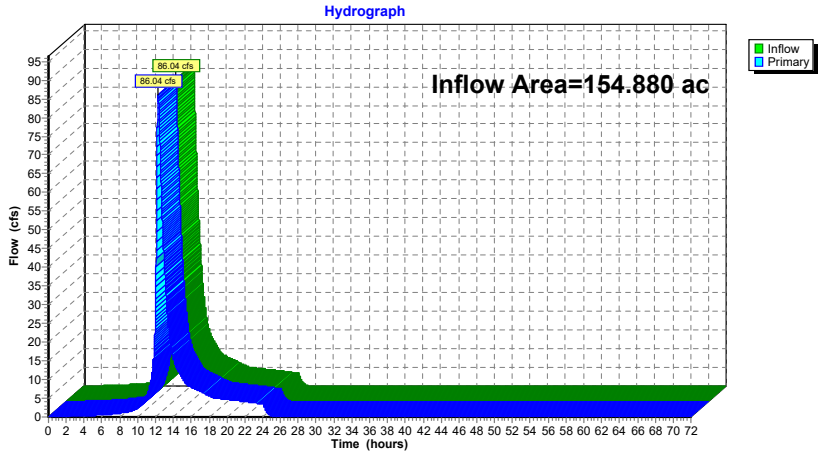


Summary for Link 5L: Total

Inflow Area = 154.880 ac, 16.29% Impervious, Inflow Depth = 1.09" for 2-Year-Projected event
Inflow = 86.04 cfs @ 12.30 hrs, Volume= 14.128 af
Primary = 86.04 cfs @ 12.30 hrs, Volume= 14.128 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 5L: Total

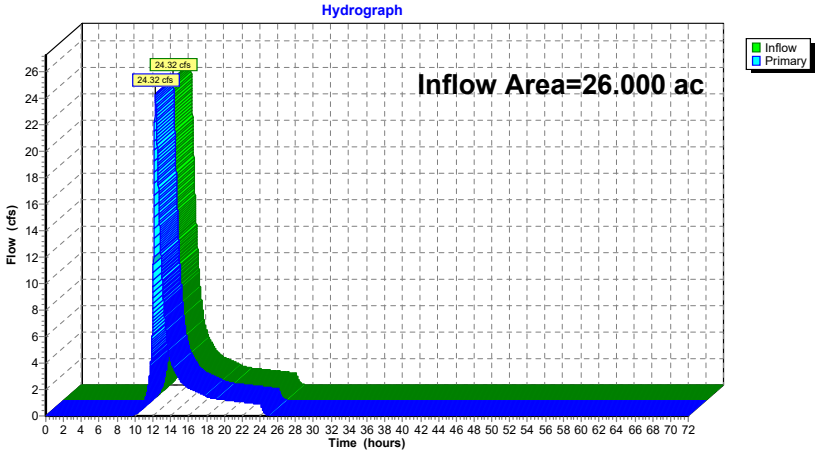


Summary for Link 8L: DA North - Undisturbed

Inflow Area = 26.000 ac, 38.00% Impervious, Inflow Depth = 1.68" for 2-Year-Projected event
Inflow = 24.32 cfs @ 12.29 hrs, Volume= 3.644 af
Primary = 24.32 cfs @ 12.29 hrs, Volume= 3.644 af, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 8L: DA North - Undisturbed

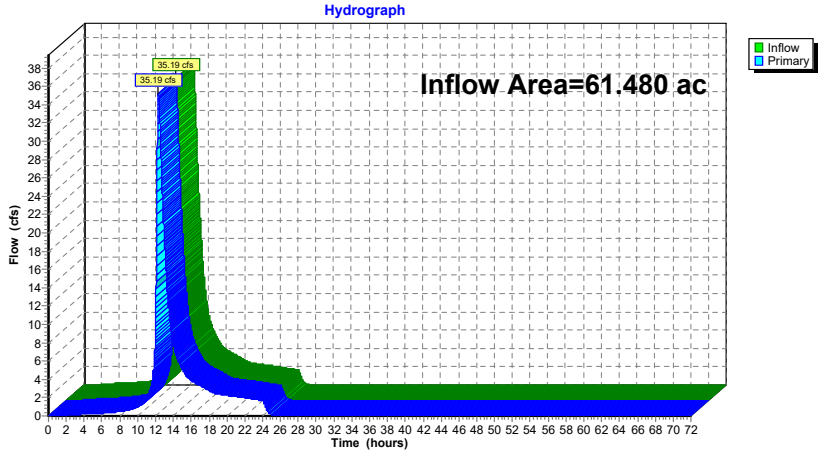


Summary for Link 9L: DA North - Disturbed

Inflow Area = 61.480 ac, 8.65% Impervious, Inflow Depth = 1.25" for 2-Year-Projected event
Inflow = 35.19 cfs @ 12.31 hrs, Volume= 6.390 af
Primary = 35.19 cfs @ 12.31 hrs, Volume= 6.390 af, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 9L: DA North - Disturbed

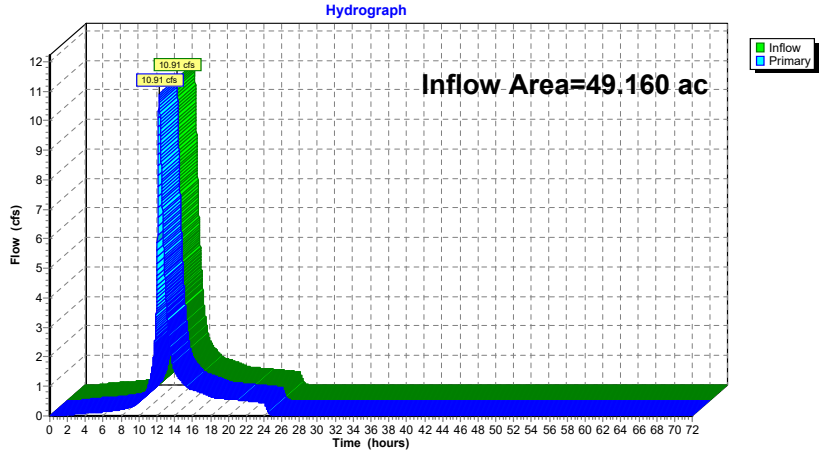


Summary for Link 11L: DA South - Disturbed

Inflow Area = 49.160 ac, 4.84% Impervious, Inflow Depth = 0.43" for 2-Year-Projected event
Inflow = 10.91 cfs @ 12.28 hrs, Volume= 1.745 af
Primary = 10.91 cfs @ 12.28 hrs, Volume= 1.745 af, Atten= 0%, Lag= 0.0 min
Routed to Link 3L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 11L: DA South - Disturbed

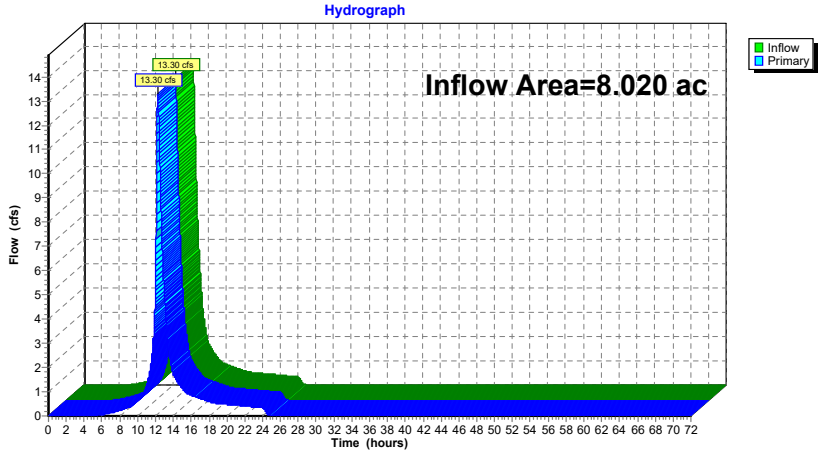


Summary for Link 15L: DA South - Undisturbed

Inflow Area = 8.020 ac, 85.00% Impervious, Inflow Depth = 2.84" for 2-Year-Projected event
Inflow = 13.30 cfs @ 12.27 hrs, Volume= 1.899 af
Primary = 13.30 cfs @ 12.27 hrs, Volume= 1.899 af, Atten= 0%, Lag= 0.0 min
Routed to Link 3L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 15L: DA South - Undisturbed



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment10S: DA South Runoff Area=49.160 ac 4.84% Impervious Runoff Depth=0.73"
Flow Length=1,105' Tc=16.3 min CN=WQ Runoff=15.80 cfs 3.004 af

Subcatchment14S: DA South - Undist Runoff Area=8.020 ac 85.00% Impervious Runoff Depth=4.04"
Flow Length=1,105' Tc=16.3 min CN=89 Runoff=18.68 cfs 2.700 af

Subcatchment19S: DA Wetlands Runoff Area=10.220 ac 8.22% Impervious Runoff Depth=0.87"
Flow Length=753' Tc=13.8 min CN=WQ Runoff=4.30 cfs 0.745 af

Subcatchment42S: DA North Runoff Area=61.480 ac 8.65% Impervious Runoff Depth=2.06"
Flow Length=1,493' Tc=18.9 min CN=WQ Runoff=62.75 cfs 10.552 af

Subcatchment54S: DA North - Undist Y Runoff Area=12.620 ac 38.00% Impervious Runoff Depth=2.68"
Flow Length=760' Tc=15.1 min CN=75 Runoff=20.54 cfs 2.817 af

Subcatchment56S: DA North - Undist W Runoff Area=8.210 ac 38.00% Impervious Runoff Depth=2.68"
Flow Length=373' Tc=18.9 min CN=75 Runoff=11.87 cfs 1.832 af

Subcatchment59S: DA North - Undist X Runoff Area=5.170 ac 38.00% Impervious Runoff Depth=2.68"
Flow Length=880' Tc=18.5 min CN=75 Runoff=7.55 cfs 1.154 af

Link 1L: POA 1 Inflow=4.30 cfs 0.745 af
Primary=4.30 cfs 0.745 af

Link 2L: POA 2 Inflow=136.02 cfs 22.059 af
Primary=136.02 cfs 22.059 af

Link 3L: DA South Inflow=34.46 cfs 5.705 af
Primary=34.46 cfs 5.705 af

Link 4L: DA North Inflow=102.13 cfs 16.355 af
Primary=102.13 cfs 16.355 af

Link 5L: Total Inflow=140.12 cfs 22.805 af
Primary=140.12 cfs 22.805 af

Link 8L: DA North - Undisturbed Inflow=39.62 cfs 5.803 af
Primary=39.62 cfs 5.803 af

Link 9L: DA North - Disturbed Inflow=62.75 cfs 10.552 af
Primary=62.75 cfs 10.552 af

Link 11L: DA South - Disturbed Inflow=15.80 cfs 3.004 af
Primary=15.80 cfs 3.004 af

Link 15L: DA South - Undisturbed Inflow=18.68 cfs 2.700 af
Primary=18.68 cfs 2.700 af

Total Runoff Area = 154.880 ac Runoff Volume = 22.805 af Average Runoff Depth = 1.77"
83.71% Pervious = 129.643 ac 16.29% Impervious = 25.237 ac

Summary for Subcatchment 10S: DA South

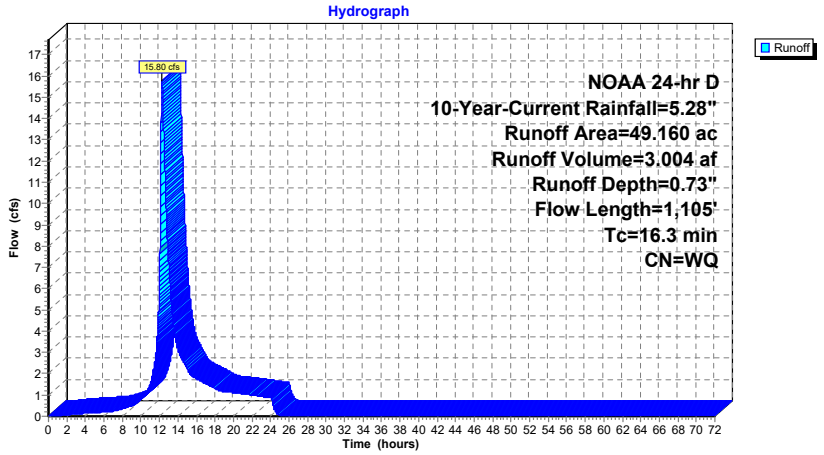
Runoff = 15.80 cfs @ 12.28 hrs, Volume= 3.004 af, Depth= 0.73"
Routed to Link 11L : DA South - Disturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

Area (ac)	CN	Description
11.500	30	Woods, Good, HSG A
0.690	77	Woods, Good, HSG D
30.110	39	>75% Grass cover, Good, HSG A
4.480	80	>75% Grass cover, Good, HSG D
1.310	98	Paved parking, HSG A
0.340	98	Paved parking, HSG D
0.730	98	Water Surface, HSG D
49.160		Weighted Average
46.780		95.16% Pervious Area
2.380		4.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 10S: DA South



Summary for Subcatchment 14S: DA South - Undist

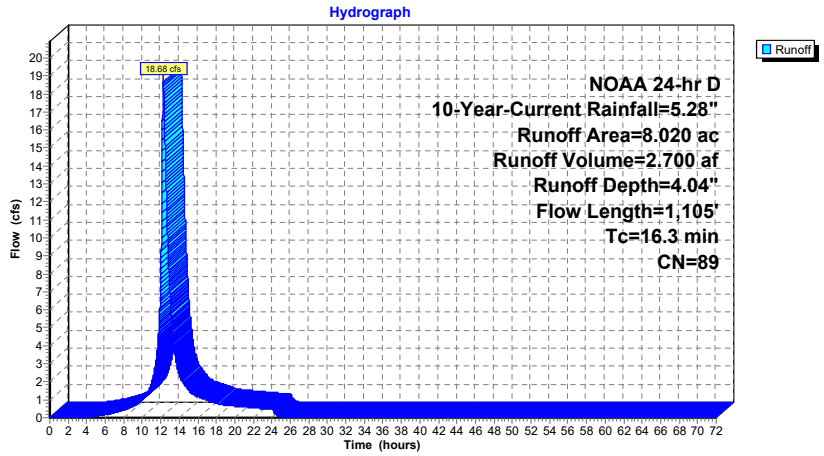
Runoff = 18.68 cfs @ 12.27 hrs, Volume= 2.700 af, Depth= 4.04"
Routed to Link 15L : DA South - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

Area (ac)	CN	Description
8.020	89	Urban commercial, 85% imp, HSG A
1.203		15.00% Pervious Area
6.817		85.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 14S: DA South - Undist



Summary for Subcatchment 19S: DA Wetlands

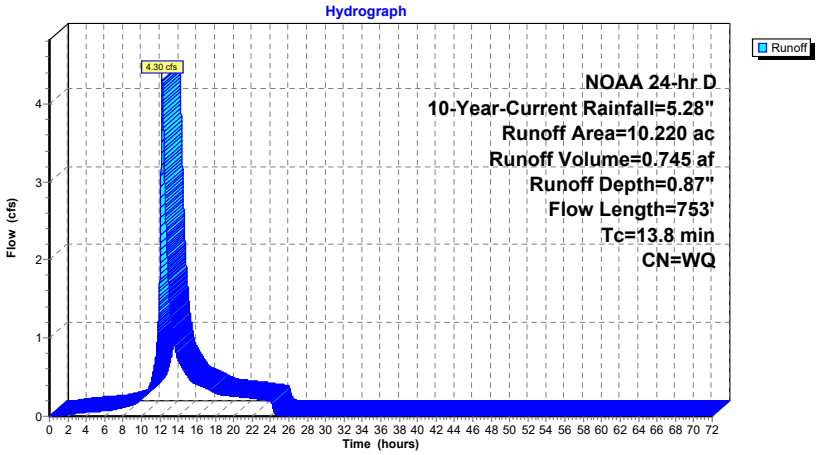
Runoff = 4.30 cfs @ 12.24 hrs, Volume= 0.745 af, Depth= 0.87"
Routed to Link 1L : POA 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

Area (ac)	CN	Description
1.690	30	Woods, Good, HSG A
0.510	77	Woods, Good, HSG D
6.710	39	>75% Grass cover, Good, HSG A
0.470	80	>75% Grass cover, Good, HSG D
0.530	98	Paved parking, HSG A
0.310	98	Paved parking, HSG D
10.220		Weighted Average
9.380		91.78% Pervious Area
0.840		8.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	72	0.0300	0.13		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
2.7	344	0.0180	2.16		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.0	337	0.0290	2.74		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
13.8	753	Total			

Subcatchment 19S: DA Wetlands



Summary for Subcatchment 42S: DA North

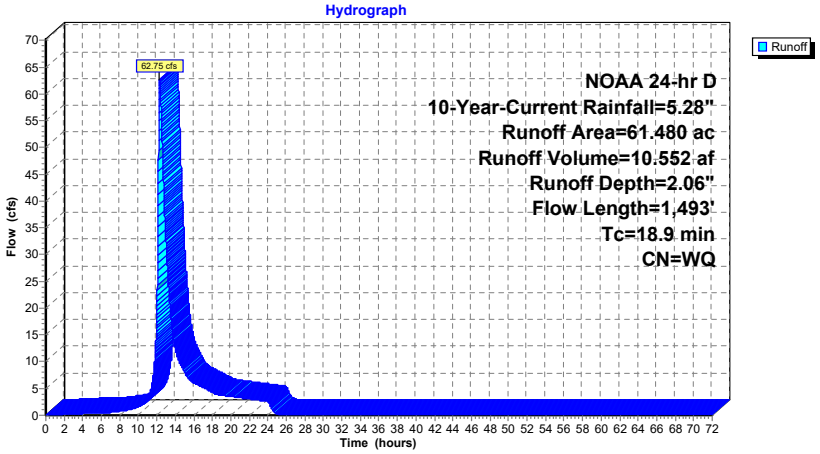
Runoff = 62.75 cfs @ 12.31 hrs, Volume= 10.552 af, Depth= 2.06"
Routed to Link 9L : DA North - Disturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

Area (ac)	CN	Description
1.630	55	Woods, Good, HSG B
0.200	77	Woods, Good, HSG D
45.750	61	>75% Grass cover, Good, HSG B
8.580	80	>75% Grass cover, Good, HSG D
4.010	98	Paved parking, HSG B
0.580	98	Paved parking, HSG D
0.730	98	Water Surface, HSG D
61.480		Weighted Average
56.160		91.35% Pervious Area
5.320		8.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	79	0.0360	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
5.8	950	0.0290	2.74		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.8	272	0.0100	1.61		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
1.2	192	0.0270	2.65		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
18.9	1,493	Total			

Subcatchment 42S: DA North



Summary for Subcatchment 54S: DA North - Undist Y

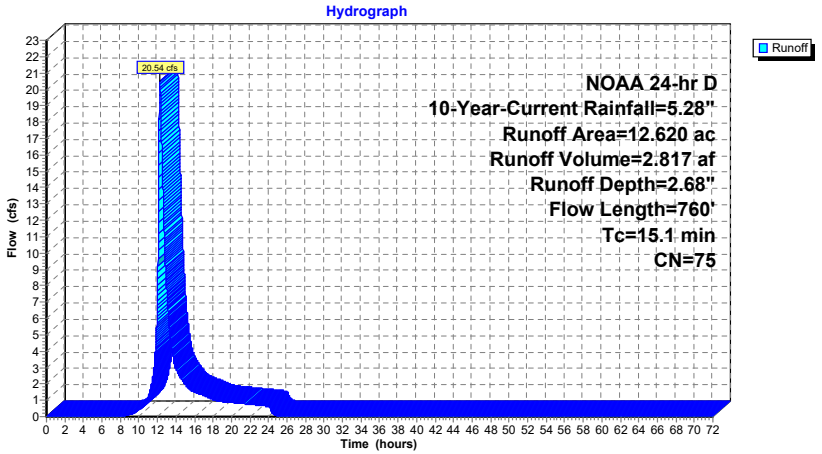
Runoff = 20.54 cfs @ 12.25 hrs, Volume= 2.817 af, Depth= 2.68"
Routed to Link 8L : DA North - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

Area (ac)	CN	Description
12.620	75	1/4 acre lots, 38% imp, HSG B
7.824		62.00% Pervious Area
4.796		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.1	100	0.0350	0.15		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.5	280	0.0370	3.10		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.5	380	0.0240	2.49		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
15.1	760	Total			

Subcatchment 54S: DA North - Undist Y



Summary for Subcatchment 56S: DA North - Undist W

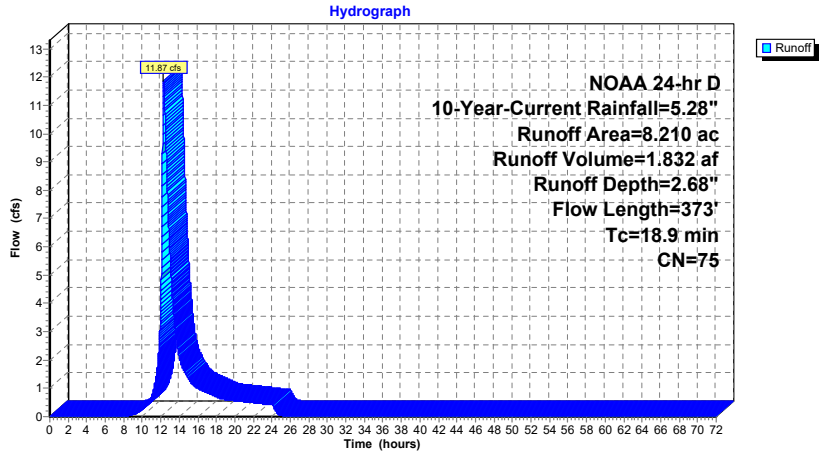
Runoff = 11.87 cfs @ 12.31 hrs, Volume= 1.832 af, Depth= 2.68"
Routed to Link 8L : DA North - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

Area (ac)	CN	Description
8.210	75	1/4 acre lots, 38% imp, HSG B
5.090		62.00% Pervious Area
3.120		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	100	0.0120	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.38"
0.9	179	0.0410	3.26		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.0	94	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.9	373	Total			

Subcatchment 56S: DA North - Undist W



Summary for Subcatchment 59S: DA North - Undist X

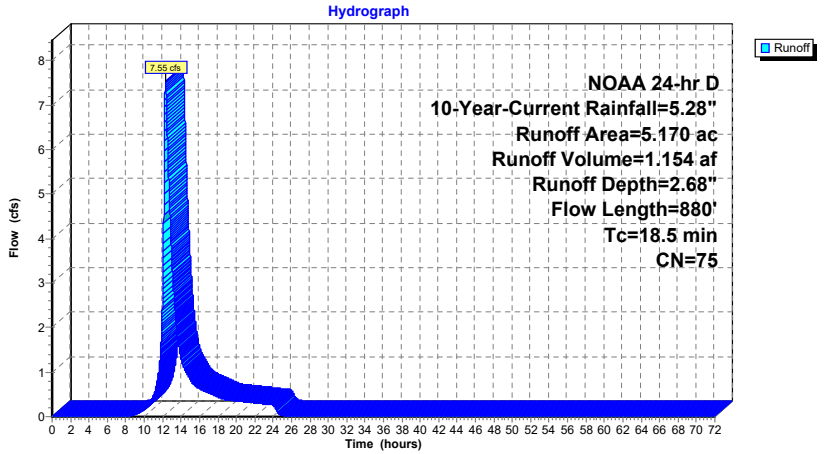
Runoff = 7.55 cfs @ 12.30 hrs, Volume= 1.154 af, Depth= 2.68"
Routed to Link 8L : DA North - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

Area (ac)	CN	Description
5.170	75	1/4 acre lots, 38% imp, HSG B
3.205		62.00% Pervious Area
1.965		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	100	0.0200	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.4	408	0.0320	2.88		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.2	372	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.5	880	Total			

Subcatchment 59S: DA North - Undist X

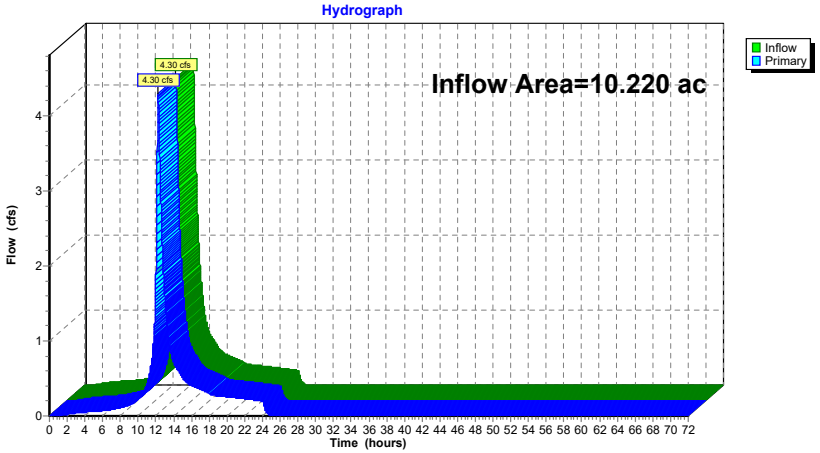


Summary for Link 1L: POA 1

Inflow Area = 10.220 ac, 8.22% Impervious, Inflow Depth = 0.87" for 10-Year-Current event
Inflow = 4.30 cfs @ 12.24 hrs, Volume= 0.745 af
Primary = 4.30 cfs @ 12.24 hrs, Volume= 0.745 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 1L: POA 1

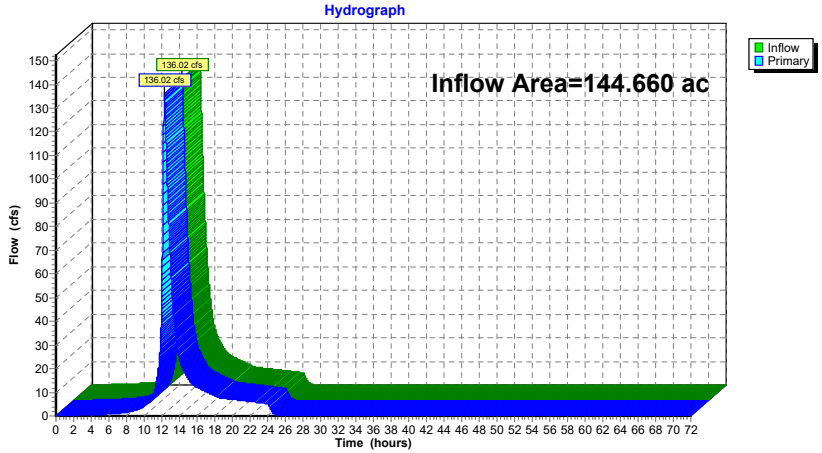


Summary for Link 2L: POA 2

Inflow Area = 144.660 ac, 16.87% Impervious, Inflow Depth = 1.83" for 10-Year-Current event
Inflow = 136.02 cfs @ 12.30 hrs, Volume= 22.059 af
Primary = 136.02 cfs @ 12.30 hrs, Volume= 22.059 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 2L: POA 2

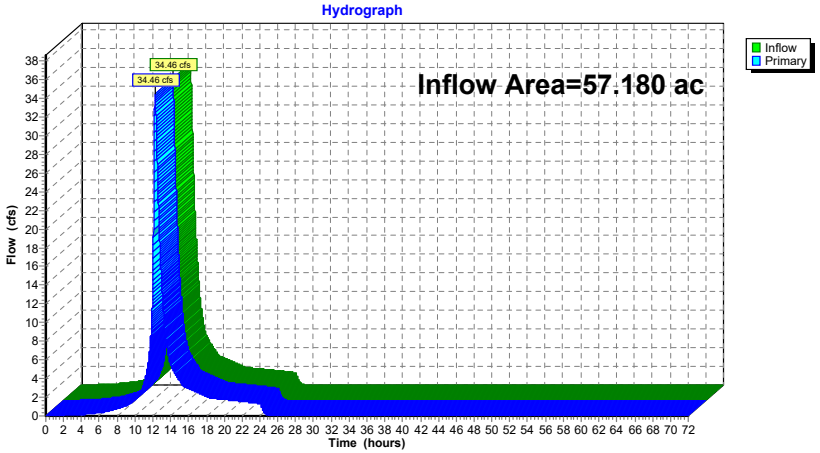


Summary for Link 3L: DA South

Inflow Area = 57.180 ac, 16.08% Impervious, Inflow Depth = 1.20" for 10-Year-Current event
Inflow = 34.46 cfs @ 12.27 hrs, Volume= 5.705 af
Primary = 34.46 cfs @ 12.27 hrs, Volume= 5.705 af, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : POA 2

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 3L: DA South

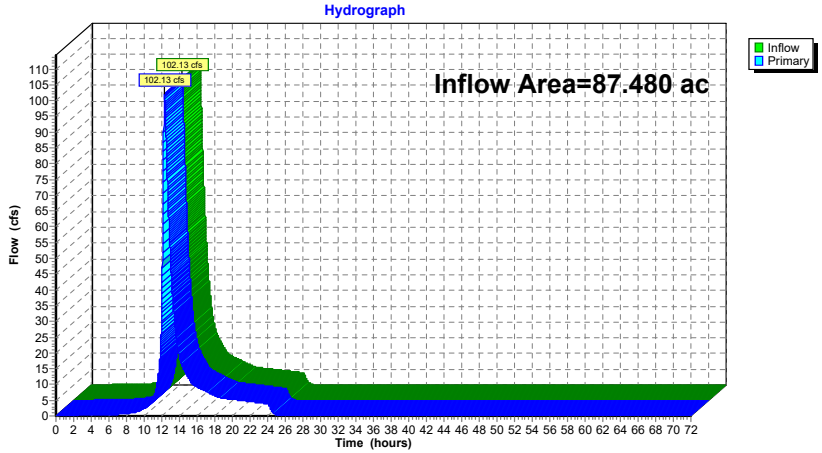


Summary for Link 4L: DA North

Inflow Area = 87.480 ac, 17.38% Impervious, Inflow Depth = 2.24" for 10-Year-Current event
Inflow = 102.13 cfs @ 12.31 hrs, Volume= 16.355 af
Primary = 102.13 cfs @ 12.31 hrs, Volume= 16.355 af, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : POA 2

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 4L: DA North

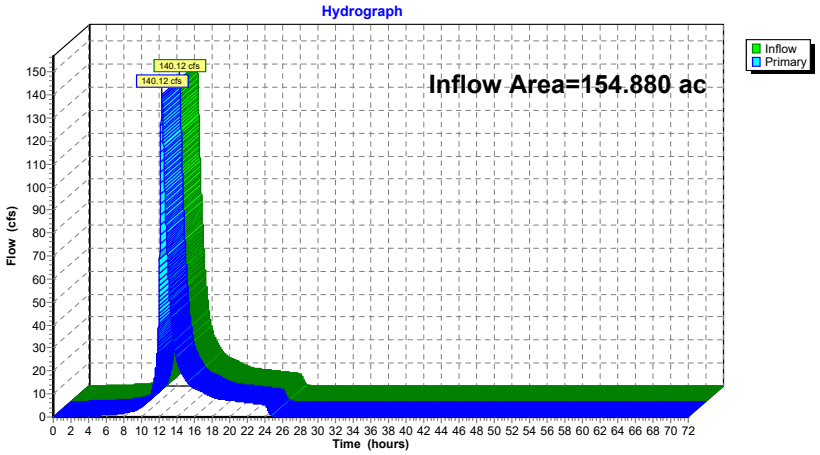


Summary for Link 5L: Total

Inflow Area = 154.880 ac, 16.29% Impervious, Inflow Depth = 1.77" for 10-Year-Current event
Inflow = 140.12 cfs @ 12.30 hrs, Volume= 22.805 af
Primary = 140.12 cfs @ 12.30 hrs, Volume= 22.805 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 5L: Total

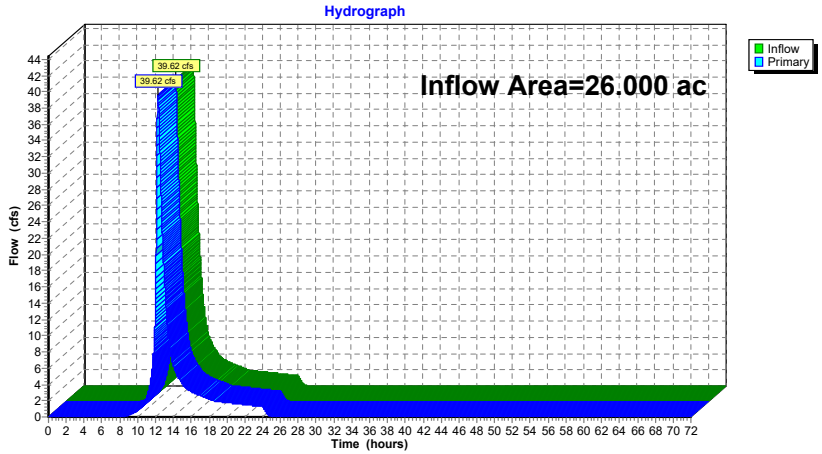


Summary for Link 8L: DA North - Undisturbed

Inflow Area = 26.000 ac, 38.00% Impervious, Inflow Depth = 2.68" for 10-Year-Current event
Inflow = 39.62 cfs @ 12.28 hrs, Volume= 5.803 af
Primary = 39.62 cfs @ 12.28 hrs, Volume= 5.803 af, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 8L: DA North - Undisturbed

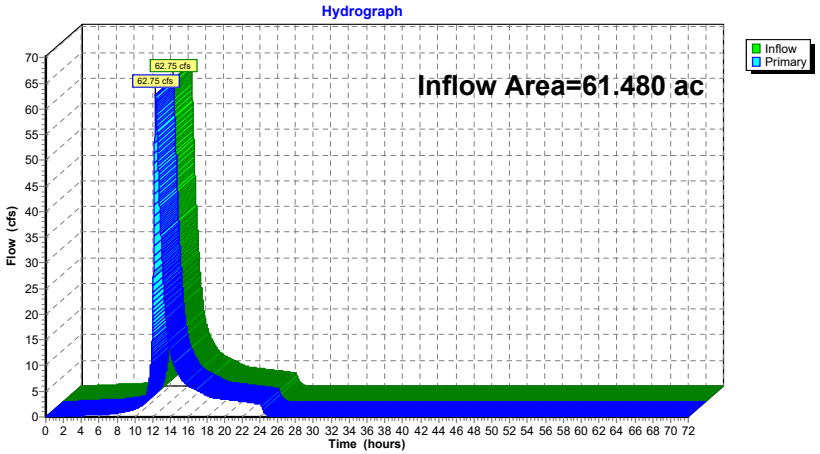


Summary for Link 9L: DA North - Disturbed

Inflow Area = 61.480 ac, 8.65% Impervious, Inflow Depth = 2.06" for 10-Year-Current event
Inflow = 62.75 cfs @ 12.31 hrs, Volume= 10.552 af
Primary = 62.75 cfs @ 12.31 hrs, Volume= 10.552 af, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 9L: DA North - Disturbed

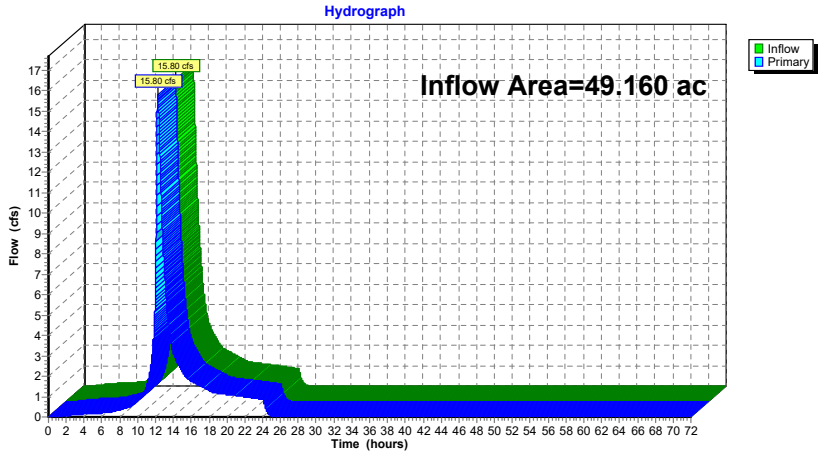


Summary for Link 11L: DA South - Disturbed

Inflow Area = 49.160 ac, 4.84% Impervious, Inflow Depth = 0.73" for 10-Year-Current event
Inflow = 15.80 cfs @ 12.28 hrs, Volume= 3.004 af
Primary = 15.80 cfs @ 12.28 hrs, Volume= 3.004 af, Atten= 0%, Lag= 0.0 min
Routed to Link 3L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 11L: DA South - Disturbed

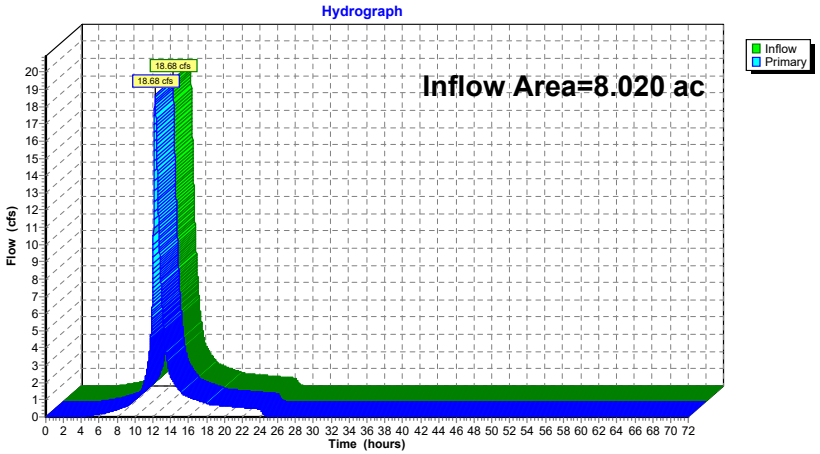


Summary for Link 15L: DA South - Undisturbed

Inflow Area = 8.020 ac, 85.00% Impervious, Inflow Depth = 4.04" for 10-Year-Current event
Inflow = 18.68 cfs @ 12.27 hrs, Volume= 2.700 af
Primary = 18.68 cfs @ 12.27 hrs, Volume= 2.700 af, Atten= 0%, Lag= 0.0 min
Routed to Link 3L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 15L: DA South - Undisturbed



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment10S: DA South Runoff Area=49.160 ac 4.84% Impervious Runoff Depth=1.04"
Flow Length=1,105' Tc=16.3 min CN=WQ Runoff=21.36 cfs 4.257 af

Subcatchment14S: DA South - Undist Runoff Area=8.020 ac 85.00% Impervious Runoff Depth=4.95"
Flow Length=1,105' Tc=16.3 min CN=89 Runoff=22.68 cfs 3.307 af

Subcatchment19S: DA Wetlands Runoff Area=10.220 ac 8.22% Impervious Runoff Depth=1.21"
Flow Length=753' Tc=13.8 min CN=WQ Runoff=5.68 cfs 1.030 af

Subcatchment42S: DA North Runoff Area=61.480 ac 8.65% Impervious Runoff Depth=2.73"
Flow Length=1,493' Tc=18.9 min CN=WQ Runoff=85.60 cfs 13.995 af

Subcatchment54S: DA North - Undist Y Runoff Area=12.620 ac 38.00% Impervious Runoff Depth=3.47"
Flow Length=760' Tc=15.1 min CN=75 Runoff=26.77 cfs 3.650 af

Subcatchment56S: DA North - Undist W Runoff Area=8.210 ac 38.00% Impervious Runoff Depth=3.47"
Flow Length=373' Tc=18.9 min CN=75 Runoff=15.48 cfs 2.374 af

Subcatchment59S: DA North - Undist X Runoff Area=5.170 ac 38.00% Impervious Runoff Depth=3.47"
Flow Length=880' Tc=18.5 min CN=75 Runoff=9.85 cfs 1.495 af

Link 1L: POA 1 Inflow=5.68 cfs 1.030 af
Primary=5.68 cfs 1.030 af

Link 2L: POA 2 Inflow=180.39 cfs 29.078 af
Primary=180.39 cfs 29.078 af

Link 3L: DA South Inflow=44.02 cfs 7.564 af
Primary=44.02 cfs 7.564 af

Link 4L: DA North Inflow=136.88 cfs 21.514 af
Primary=136.88 cfs 21.514 af

Link 5L: Total Inflow=185.94 cfs 30.108 af
Primary=185.94 cfs 30.108 af

Link 8L: DA North - Undisturbed Inflow=51.64 cfs 7.519 af
Primary=51.64 cfs 7.519 af

Link 9L: DA North - Disturbed Inflow=85.60 cfs 13.995 af
Primary=85.60 cfs 13.995 af

Link 11L: DA South - Disturbed Inflow=21.36 cfs 4.257 af
Primary=21.36 cfs 4.257 af

Link 15L: DA South - Undisturbed Inflow=22.68 cfs 3.307 af
Primary=22.68 cfs 3.307 af

Total Runoff Area = 154.880 ac Runoff Volume = 30.108 af Average Runoff Depth = 2.33"
83.71% Pervious = 129.643 ac 16.29% Impervious = 25.237 ac

Summary for Subcatchment 10S: DA South

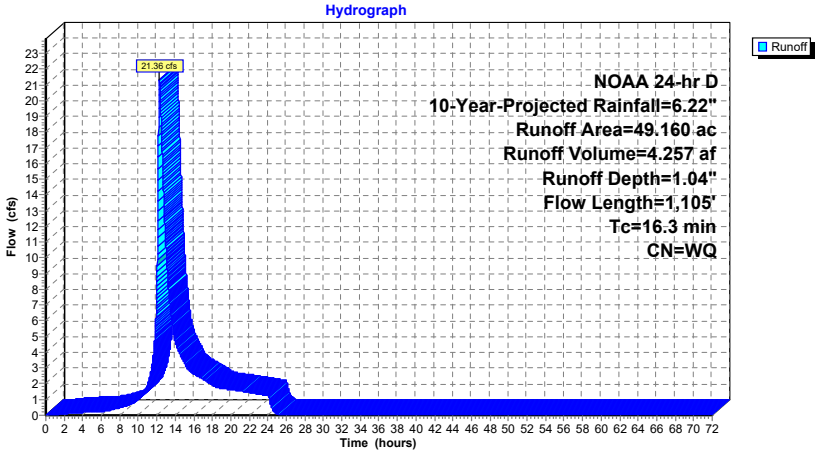
Runoff = 21.36 cfs @ 12.28 hrs, Volume= 4.257 af, Depth= 1.04"
Routed to Link 11L : DA South - Disturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

Area (ac)	CN	Description
11.500	30	Woods, Good, HSG A
0.690	77	Woods, Good, HSG D
30.110	39	>75% Grass cover, Good, HSG A
4.480	80	>75% Grass cover, Good, HSG D
1.310	98	Paved parking, HSG A
0.340	98	Paved parking, HSG D
0.730	98	Water Surface, HSG D
49.160		Weighted Average
46.780		95.16% Pervious Area
2.380		4.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 10S: DA South



Summary for Subcatchment 14S: DA South - Undist

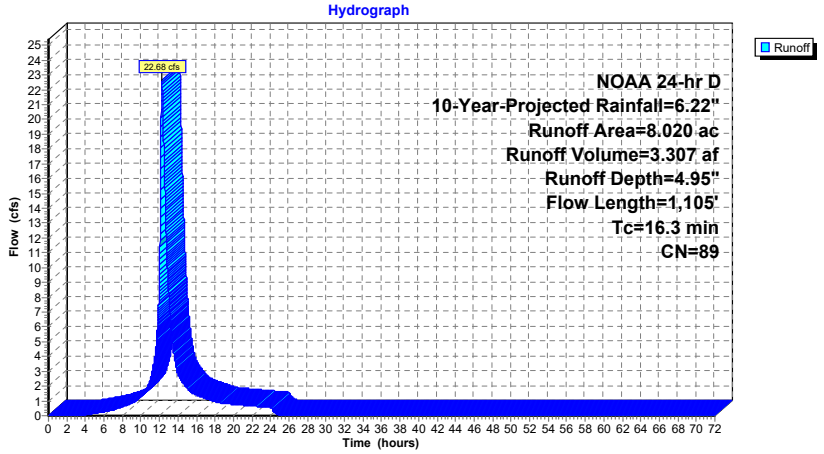
Runoff = 22.68 cfs @ 12.27 hrs, Volume= 3.307 af, Depth= 4.95"
Routed to Link 15L : DA South - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

Area (ac)	CN	Description
8.020	89	Urban commercial, 85% imp, HSG A
1.203		15.00% Pervious Area
6.817		85.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 14S: DA South - Undist



Summary for Subcatchment 19S: DA Wetlands

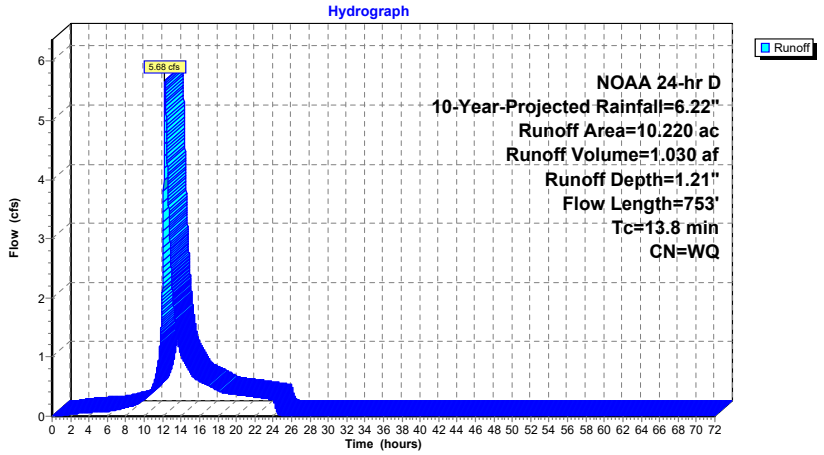
Runoff = 5.68 cfs @ 12.24 hrs, Volume= 1.030 af, Depth= 1.21"
Routed to Link 1L : POA 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

Area (ac)	CN	Description
1.690	30	Woods, Good, HSG A
0.510	77	Woods, Good, HSG D
6.710	39	>75% Grass cover, Good, HSG A
0.470	80	>75% Grass cover, Good, HSG D
0.530	98	Paved parking, HSG A
0.310	98	Paved parking, HSG D
10.220		Weighted Average
9.380		91.78% Pervious Area
0.840		8.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	72	0.0300	0.13		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
2.7	344	0.0180	2.16		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.0	337	0.0290	2.74		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
13.8	753	Total			

Subcatchment 19S: DA Wetlands



Summary for Subcatchment 42S: DA North

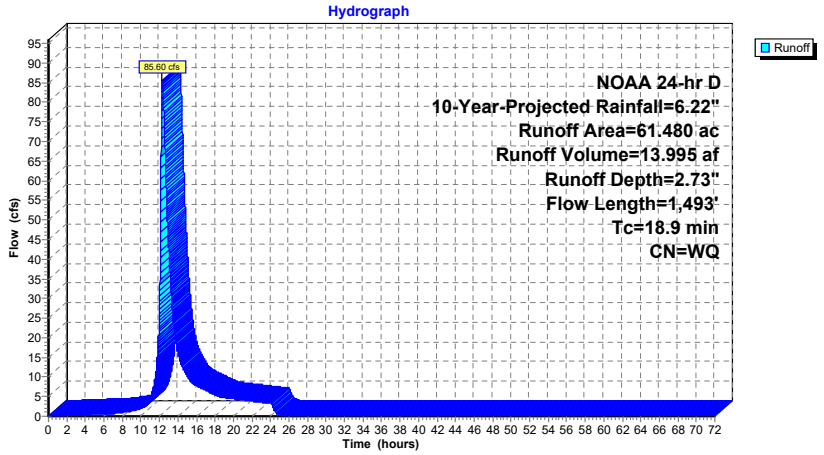
Runoff = 85.60 cfs @ 12.31 hrs, Volume= 13.995 af, Depth= 2.73"
Routed to Link 9L : DA North - Disturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

Area (ac)	CN	Description
1.630	55	Woods, Good, HSG B
0.200	77	Woods, Good, HSG D
45.750	61	>75% Grass cover, Good, HSG B
8.580	80	>75% Grass cover, Good, HSG D
4.010	98	Paved parking, HSG B
0.580	98	Paved parking, HSG D
0.730	98	Water Surface, HSG D
61.480		Weighted Average
56.160		91.35% Pervious Area
5.320		8.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	79	0.0360	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
5.8	950	0.0290	2.74		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.8	272	0.0100	1.61		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
1.2	192	0.0270	2.65		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
18.9	1,493	Total			

Subcatchment 42S: DA North



Summary for Subcatchment 54S: DA North - Undist Y

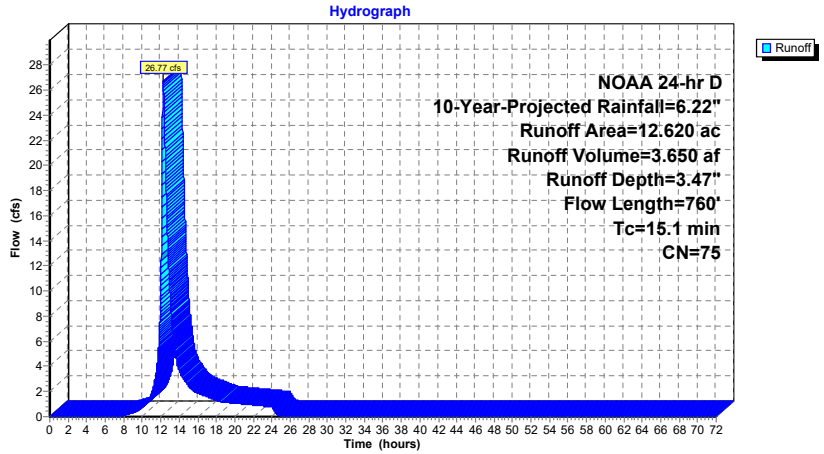
Runoff = 26.77 cfs @ 12.25 hrs, Volume= 3.650 af, Depth= 3.47"
Routed to Link 8L : DA North - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

Area (ac)	CN	Description
12.620	75	1/4 acre lots, 38% imp, HSG B
7.824		62.00% Pervious Area
4.796		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.1	100	0.0350	0.15		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.5	280	0.0370	3.10		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.5	380	0.0240	2.49		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
15.1	760	Total			

Subcatchment 54S: DA North - Undist Y



Summary for Subcatchment 56S: DA North - Undist W

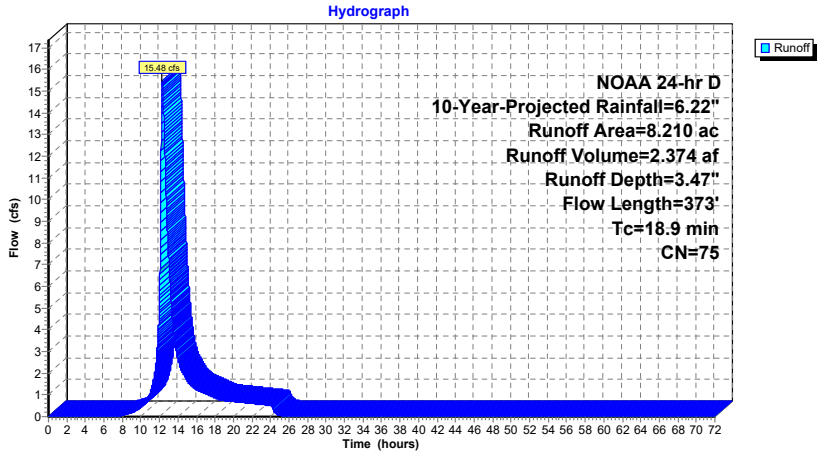
Runoff = 15.48 cfs @ 12.31 hrs, Volume= 2.374 af, Depth= 3.47"
Routed to Link 8L : DA North - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

Area (ac)	CN	Description
8.210	75	1/4 acre lots, 38% imp, HSG B
5.090		62.00% Pervious Area
3.120		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	100	0.0120	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.38"
0.9	179	0.0410	3.26		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.0	94	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.9	373	Total			

Subcatchment 56S: DA North - Undist W



Summary for Subcatchment 59S: DA North - Undist X

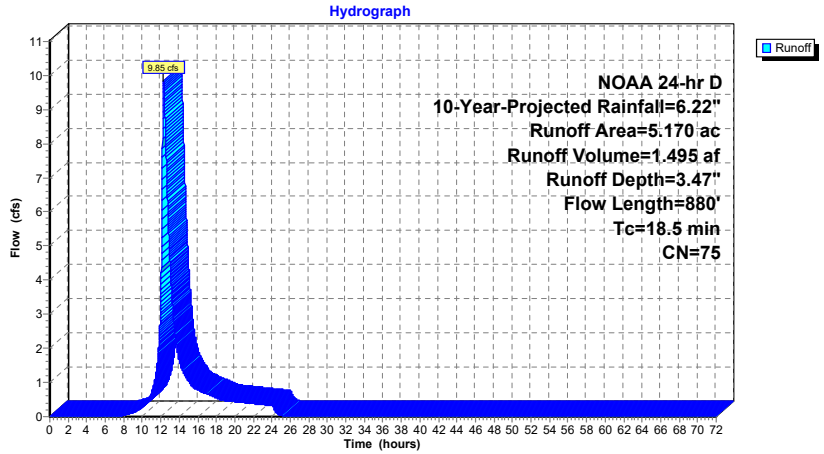
Runoff = 9.85 cfs @ 12.30 hrs, Volume= 1.495 af, Depth= 3.47"
Routed to Link 8L : DA North - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

Area (ac)	CN	Description
5.170	75	1/4 acre lots, 38% imp, HSG B
3.205		62.00% Pervious Area
1.965		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	100	0.0200	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.4	408	0.0320	2.88		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.2	372	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.5	880	Total			

Subcatchment 59S: DA North - Undist X

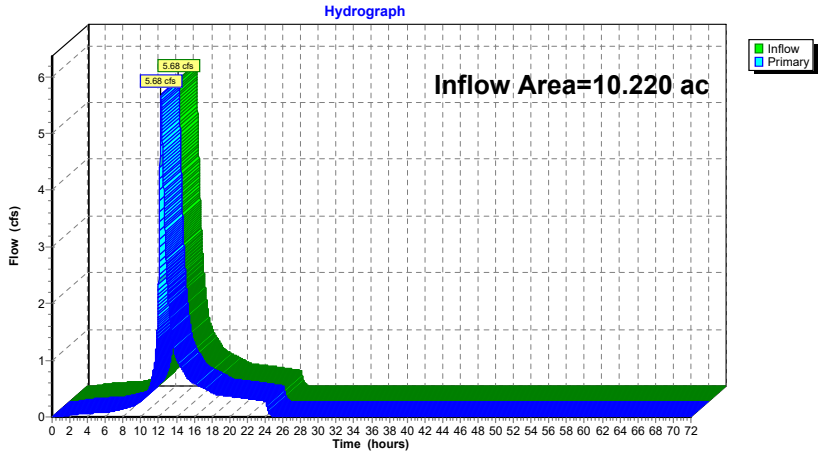


Summary for Link 1L: POA 1

Inflow Area = 10.220 ac, 8.22% Impervious, Inflow Depth = 1.21" for 10-Year-Projected event
Inflow = 5.68 cfs @ 12.24 hrs, Volume= 1.030 af
Primary = 5.68 cfs @ 12.24 hrs, Volume= 1.030 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 1L: POA 1

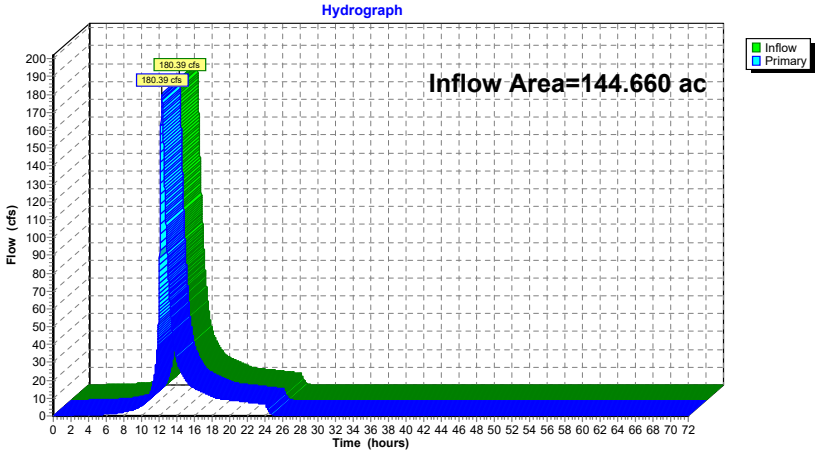


Summary for Link 2L: POA 2

Inflow Area = 144.660 ac, 16.87% Impervious, Inflow Depth = 2.41" for 10-Year-Projected event
Inflow = 180.39 cfs @ 12.30 hrs, Volume= 29.078 af
Primary = 180.39 cfs @ 12.30 hrs, Volume= 29.078 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 2L: POA 2

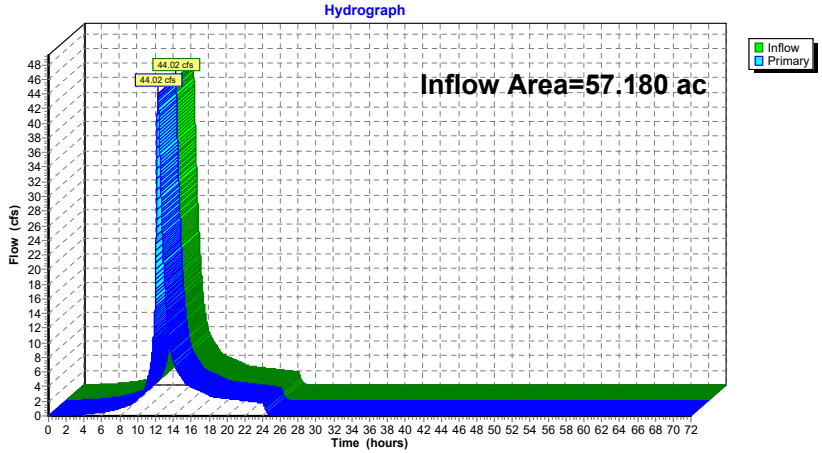


Summary for Link 3L: DA South

Inflow Area = 57.180 ac, 16.08% Impervious, Inflow Depth = 1.59" for 10-Year-Projected event
Inflow = 44.02 cfs @ 12.28 hrs, Volume= 7.564 af
Primary = 44.02 cfs @ 12.28 hrs, Volume= 7.564 af, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : POA 2

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 3L: DA South

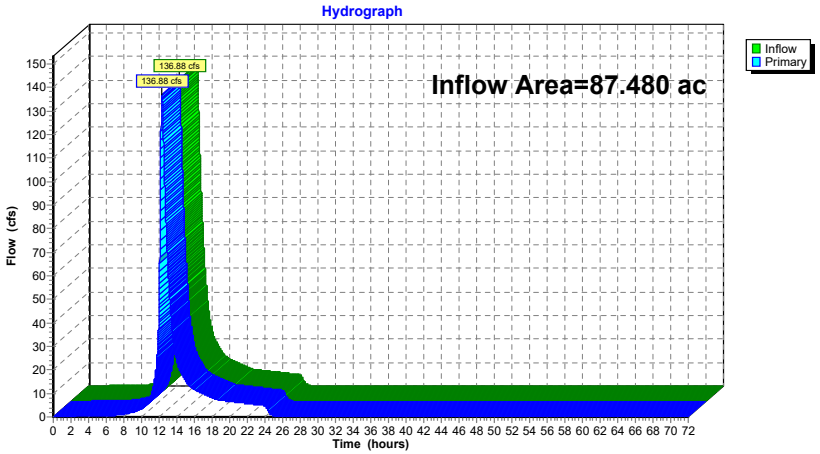


Summary for Link 4L: DA North

Inflow Area = 87.480 ac, 17.38% Impervious, Inflow Depth = 2.95" for 10-Year-Projected event
Inflow = 136.88 cfs @ 12.31 hrs, Volume= 21.514 af
Primary = 136.88 cfs @ 12.31 hrs, Volume= 21.514 af, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : POA 2

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 4L: DA North

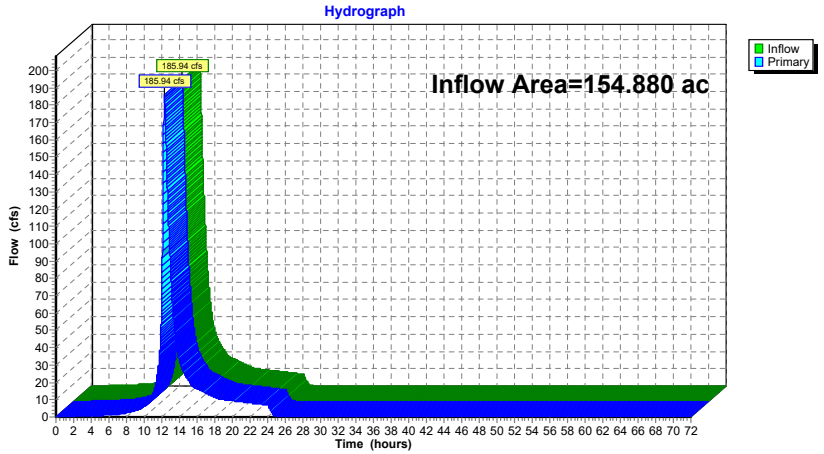


Summary for Link 5L: Total

Inflow Area = 154.880 ac, 16.29% Impervious, Inflow Depth = 2.33" for 10-Year-Projected event
Inflow = 185.94 cfs @ 12.30 hrs, Volume= 30.108 af
Primary = 185.94 cfs @ 12.30 hrs, Volume= 30.108 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 5L: Total

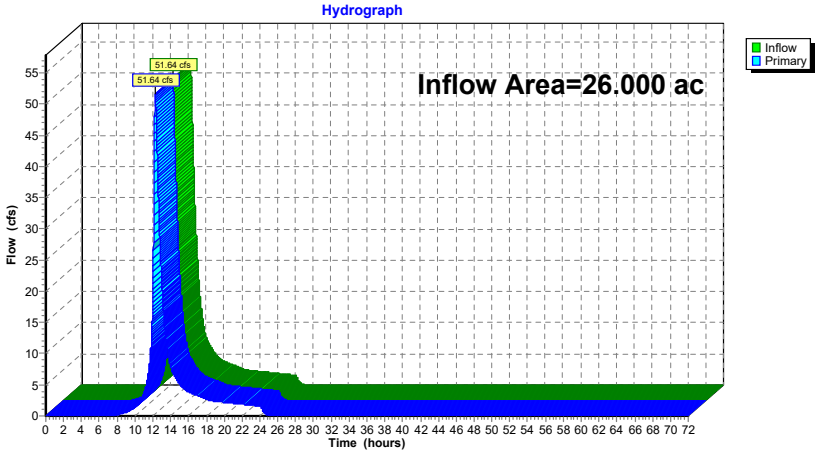


Summary for Link 8L: DA North - Undisturbed

Inflow Area = 26.000 ac, 38.00% Impervious, Inflow Depth = 3.47" for 10-Year-Projected event
Inflow = 51.64 cfs @ 12.28 hrs, Volume= 7.519 af
Primary = 51.64 cfs @ 12.28 hrs, Volume= 7.519 af, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 8L: DA North - Undisturbed

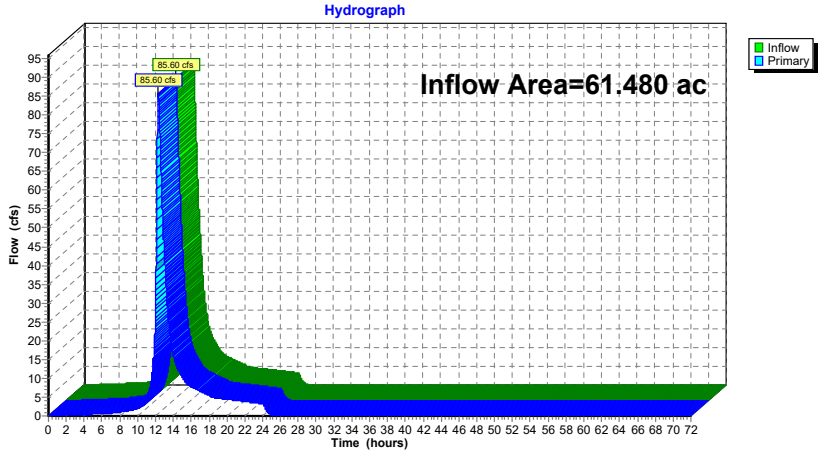


Summary for Link 9L: DA North - Disturbed

Inflow Area = 61.480 ac, 8.65% Impervious, Inflow Depth = 2.73" for 10-Year-Projected event
Inflow = 85.60 cfs @ 12.31 hrs, Volume= 13.995 af
Primary = 85.60 cfs @ 12.31 hrs, Volume= 13.995 af, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 9L: DA North - Disturbed

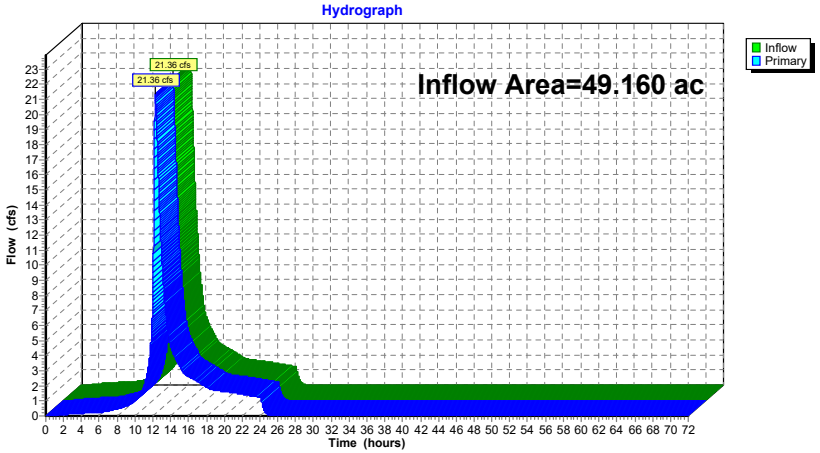


Summary for Link 11L: DA South - Disturbed

Inflow Area = 49.160 ac, 4.84% Impervious, Inflow Depth = 1.04" for 10-Year-Projected event
Inflow = 21.36 cfs @ 12.28 hrs, Volume= 4.257 af
Primary = 21.36 cfs @ 12.28 hrs, Volume= 4.257 af, Atten= 0%, Lag= 0.0 min
Routed to Link 3L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 11L: DA South - Disturbed

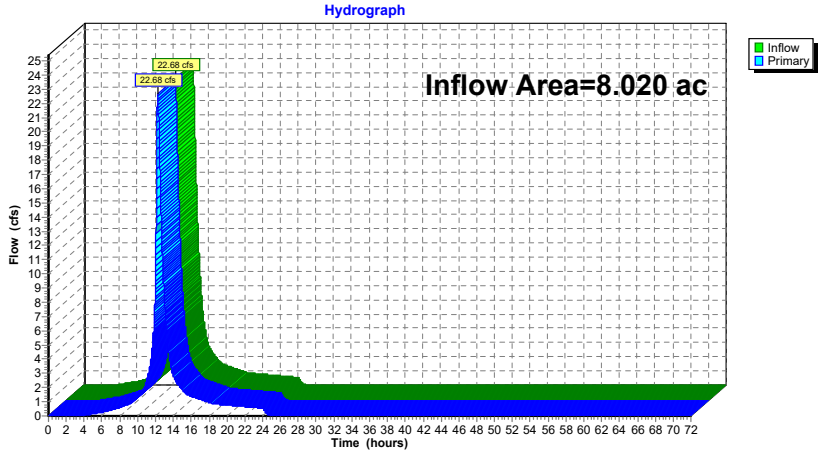


Summary for Link 15L: DA South - Undisturbed

Inflow Area = 8.020 ac, 85.00% Impervious, Inflow Depth = 4.95" for 10-Year-Projected event
Inflow = 22.68 cfs @ 12.27 hrs, Volume= 3.307 af
Primary = 22.68 cfs @ 12.27 hrs, Volume= 3.307 af, Atten= 0%, Lag= 0.0 min
Routed to Link 3L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 15L: DA South - Undisturbed



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment10S: DA South Runoff Area=49.160 ac 4.84% Impervious Runoff Depth=2.31"
Flow Length=1,105' Tc=16.3 min CN=WQ Runoff=52.36 cfs 9.467 af

Subcatchment14S: DA South - Undist Runoff Area=8.020 ac 85.00% Impervious Runoff Depth=7.79"
Flow Length=1,105' Tc=16.3 min CN=89 Runoff=34.89 cfs 5.205 af

Subcatchment19S: DA Wetlands Runoff Area=10.220 ac 8.22% Impervious Runoff Depth=2.56"
Flow Length=753' Tc=13.8 min CN=WQ Runoff=13.36 cfs 2.180 af

Subcatchment42S: DA North Runoff Area=61.480 ac 8.65% Impervious Runoff Depth=5.03"
Flow Length=1,493' Tc=18.9 min CN=WQ Runoff=163.22 cfs 25.773 af

Subcatchment54S: DA North - Undist Y Runoff Area=12.620 ac 38.00% Impervious Runoff Depth=6.06"
Flow Length=760' Tc=15.1 min CN=75 Runoff=46.69 cfs 6.376 af

Subcatchment56S: DA North - Undist W Runoff Area=8.210 ac 38.00% Impervious Runoff Depth=6.06"
Flow Length=373' Tc=18.9 min CN=75 Runoff=27.05 cfs 4.148 af

Subcatchment59S: DA North - Undist X Runoff Area=5.170 ac 38.00% Impervious Runoff Depth=6.06"
Flow Length=880' Tc=18.5 min CN=75 Runoff=17.22 cfs 2.612 af

Link 1L: POA 1 Inflow=13.36 cfs 2.180 af
Primary=13.36 cfs 2.180 af

Link 2L: POA 2 Inflow=339.11 cfs 53.581 af
Primary=339.11 cfs 53.581 af

Link 3L: DA South Inflow=87.17 cfs 14.672 af
Primary=87.17 cfs 14.672 af

Link 4L: DA North Inflow=252.57 cfs 38.909 af
Primary=252.57 cfs 38.909 af

Link 5L: Total Inflow=352.24 cfs 55.761 af
Primary=352.24 cfs 55.761 af

Link 8L: DA North - Undisturbed Inflow=90.13 cfs 13.136 af
Primary=90.13 cfs 13.136 af

Link 9L: DA North - Disturbed Inflow=163.22 cfs 25.773 af
Primary=163.22 cfs 25.773 af

Link 11L: DA South - Disturbed Inflow=52.36 cfs 9.467 af
Primary=52.36 cfs 9.467 af

Link 15L: DA South - Undisturbed Inflow=34.89 cfs 5.205 af
Primary=34.89 cfs 5.205 af

2024- 11 Hydrology - Existing - Weighted Q *NOAA 24-hr D 100-Year-Current Rainfall=9.12"*
Prepared by Dynamic Engineering Printed 11/21/2024
HydroCAD® 10.20-5c s/n 08640 © 2023 HydroCAD Software Solutions LLC

Total Runoff Area = 154.880 ac Runoff Volume = 55.761 af Average Runoff Depth = 4.32"
83.71% Pervious = 129.643 ac 16.29% Impervious = 25.237 ac

Summary for Subcatchment 10S: DA South

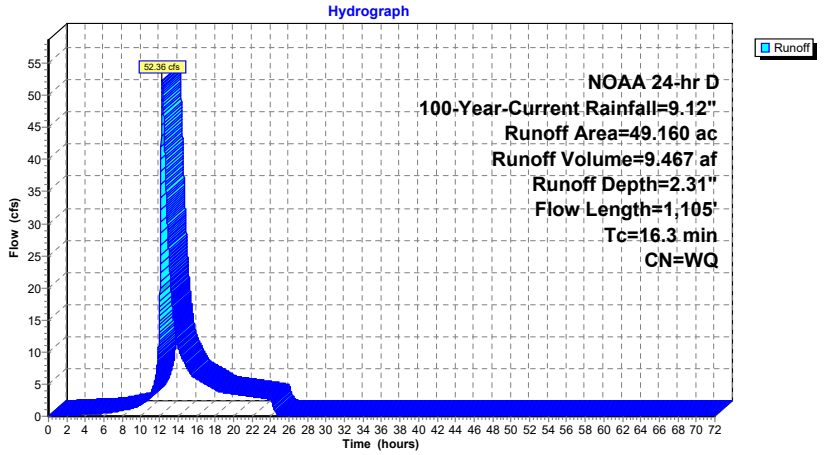
Runoff = 52.36 cfs @ 12.28 hrs, Volume= 9.467 af, Depth= 2.31"
Routed to Link 11L : DA South - Disturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

Area (ac)	CN	Description
11.500	30	Woods, Good, HSG A
0.690	77	Woods, Good, HSG D
30.110	39	>75% Grass cover, Good, HSG A
4.480	80	>75% Grass cover, Good, HSG D
1.310	98	Paved parking, HSG A
0.340	98	Paved parking, HSG D
0.730	98	Water Surface, HSG D
49.160		Weighted Average
46.780		95.16% Pervious Area
2.380		4.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 10S: DA South



Summary for Subcatchment 14S: DA South - Undist

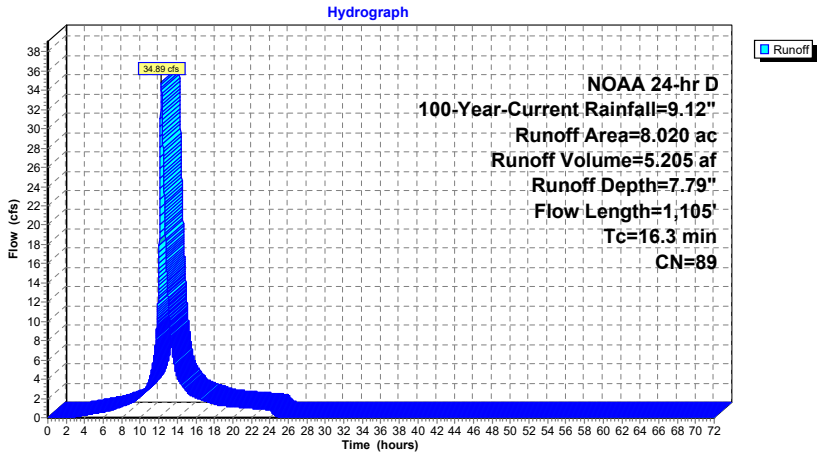
Runoff = 34.89 cfs @ 12.25 hrs, Volume= 5.205 af, Depth= 7.79"
Routed to Link 15L : DA South - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

Area (ac)	CN	Description
8.020	89	Urban commercial, 85% imp, HSG A
1.203		15.00% Pervious Area
6.817		85.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 14S: DA South - Undist



Summary for Subcatchment 19S: DA Wetlands

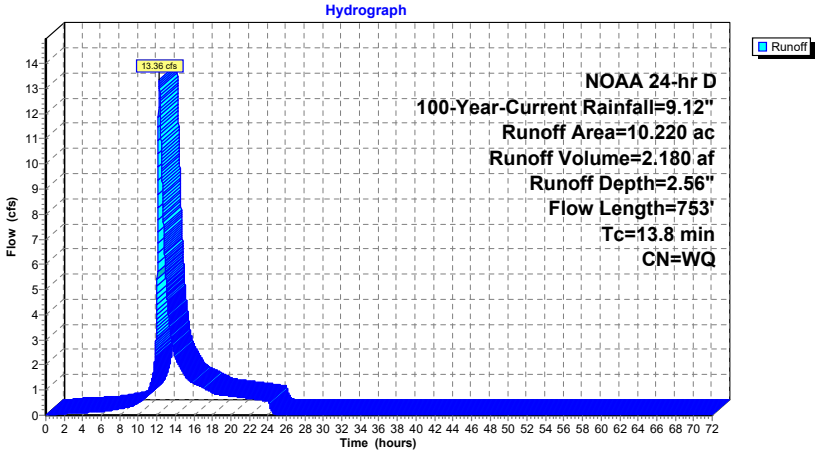
Runoff = 13.36 cfs @ 12.26 hrs, Volume= 2.180 af, Depth= 2.56"
Routed to Link 1L : POA 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

Area (ac)	CN	Description
1.690	30	Woods, Good, HSG A
0.510	77	Woods, Good, HSG D
6.710	39	>75% Grass cover, Good, HSG A
0.470	80	>75% Grass cover, Good, HSG D
0.530	98	Paved parking, HSG A
0.310	98	Paved parking, HSG D
10.220		Weighted Average
9.380		91.78% Pervious Area
0.840		8.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	72	0.0300	0.13		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
2.7	344	0.0180	2.16		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.0	337	0.0290	2.74		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
13.8	753	Total			

Subcatchment 19S: DA Wetlands



Summary for Subcatchment 42S: DA North

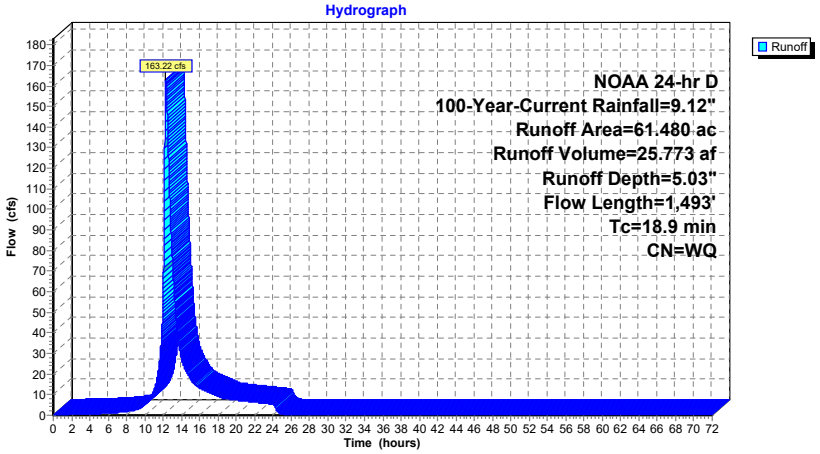
Runoff = 163.22 cfs @ 12.31 hrs, Volume= 25.773 af, Depth= 5.03"
Routed to Link 9L : DA North - Disturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

Area (ac)	CN	Description
1.630	55	Woods, Good, HSG B
0.200	77	Woods, Good, HSG D
45.750	61	>75% Grass cover, Good, HSG B
8.580	80	>75% Grass cover, Good, HSG D
4.010	98	Paved parking, HSG B
0.580	98	Paved parking, HSG D
0.730	98	Water Surface, HSG D
61.480		Weighted Average
56.160		91.35% Pervious Area
5.320		8.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	79	0.0360	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
5.8	950	0.0290	2.74		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.8	272	0.0100	1.61		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
1.2	192	0.0270	2.65		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
18.9	1,493	Total			

Subcatchment 42S: DA North



Summary for Subcatchment 54S: DA North - Undist Y

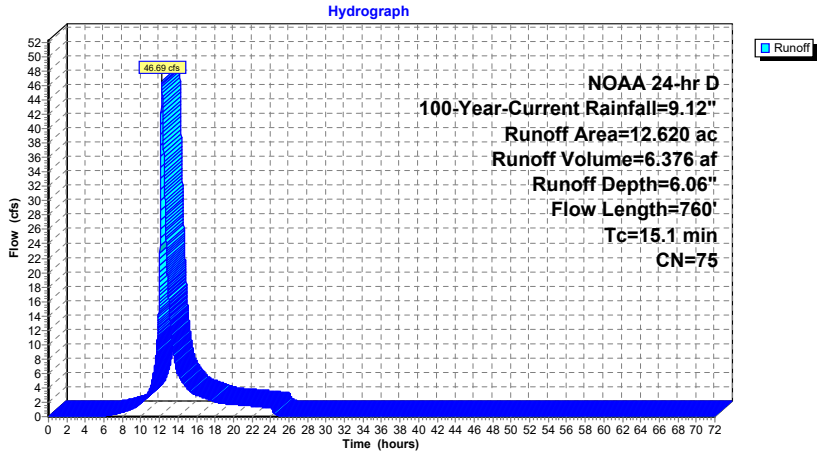
Runoff = 46.69 cfs @ 12.25 hrs, Volume= 6.376 af, Depth= 6.06"
Routed to Link 8L : DA North - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

Area (ac)	CN	Description
12.620	75	1/4 acre lots, 38% imp, HSG B
7.824		62.00% Pervious Area
4.796		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.1	100	0.0350	0.15		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.5	280	0.0370	3.10		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.5	380	0.0240	2.49		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
15.1	760	Total			

Subcatchment 54S: DA North - Undist Y



Summary for Subcatchment 56S: DA North - Undist W

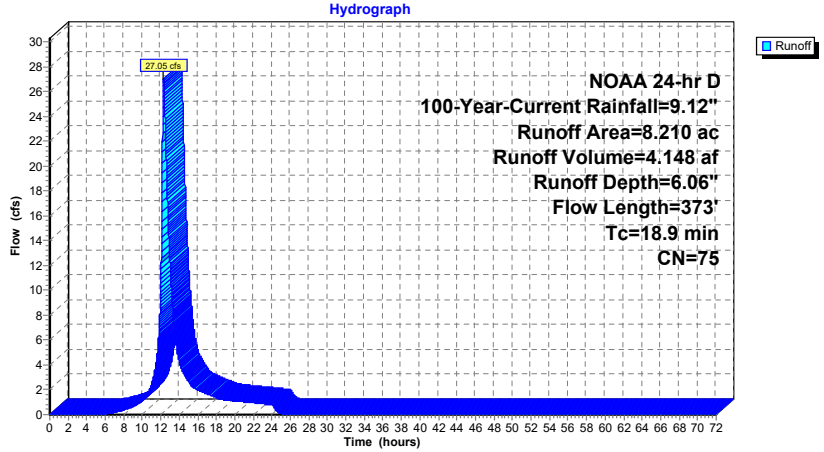
Runoff = 27.05 cfs @ 12.31 hrs, Volume= 4.148 af, Depth= 6.06"
Routed to Link 8L : DA North - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

Area (ac)	CN	Description
8.210	75	1/4 acre lots, 38% imp, HSG B
5.090		62.00% Pervious Area
3.120		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	100	0.0120	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.38"
0.9	179	0.0410	3.26		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.0	94	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.9	373	Total			

Subcatchment 56S: DA North - Undist W



Summary for Subcatchment 59S: DA North - Undist X

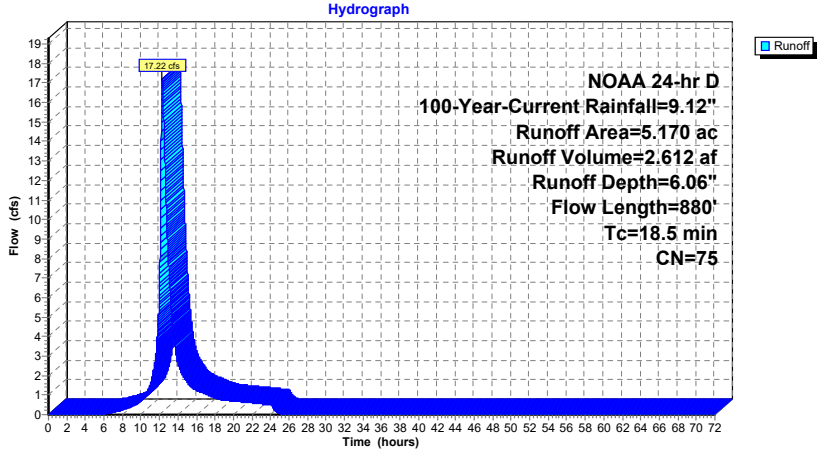
Runoff = 17.22 cfs @ 12.29 hrs, Volume= 2.612 af, Depth= 6.06"
Routed to Link 8L : DA North - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

Area (ac)	CN	Description
5.170	75	1/4 acre lots, 38% imp, HSG B
3.205		62.00% Pervious Area
1.965		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	100	0.0200	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.4	408	0.0320	2.88		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.2	372	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.5	880	Total			

Subcatchment 59S: DA North - Undist X

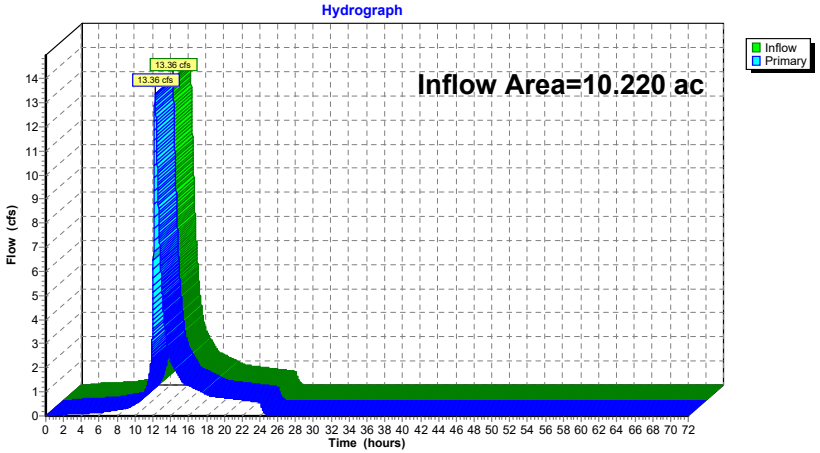


Summary for Link 1L: POA 1

Inflow Area = 10.220 ac, 8.22% Impervious, Inflow Depth = 2.56" for 100-Year-Current event
Inflow = 13.36 cfs @ 12.26 hrs, Volume= 2.180 af
Primary = 13.36 cfs @ 12.26 hrs, Volume= 2.180 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 1L: POA 1

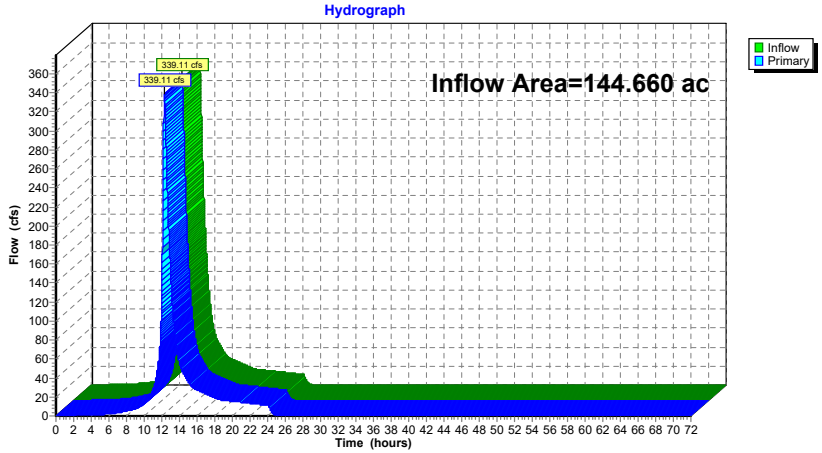


Summary for Link 2L: POA 2

Inflow Area = 144.660 ac, 16.87% Impervious, Inflow Depth = 4.44" for 100-Year-Current event
Inflow = 339.11 cfs @ 12.30 hrs, Volume= 53.581 af
Primary = 339.11 cfs @ 12.30 hrs, Volume= 53.581 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 2L: POA 2

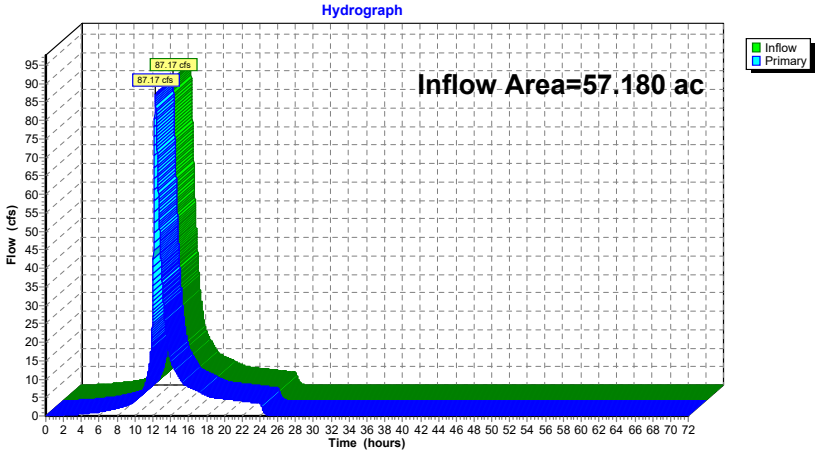


Summary for Link 3L: DA South

Inflow Area = 57.180 ac, 16.08% Impervious, Inflow Depth = 3.08" for 100-Year-Current event
Inflow = 87.17 cfs @ 12.28 hrs, Volume= 14.672 af
Primary = 87.17 cfs @ 12.28 hrs, Volume= 14.672 af, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : POA 2

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 3L: DA South

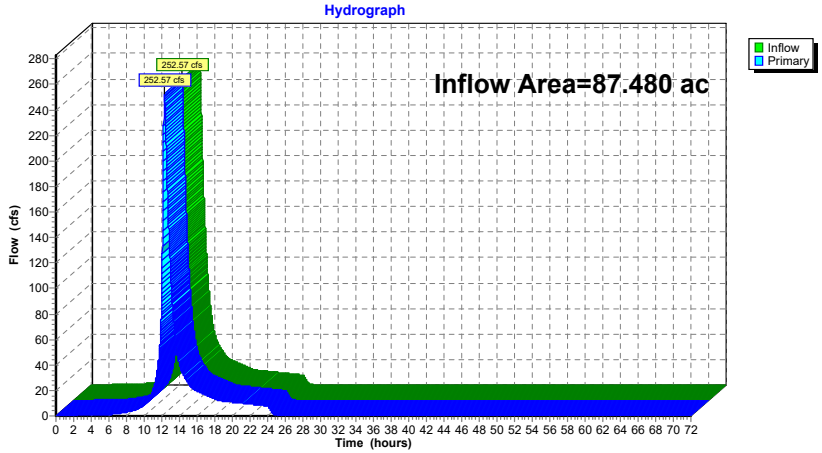


Summary for Link 4L: DA North

Inflow Area = 87.480 ac, 17.38% Impervious, Inflow Depth = 5.34" for 100-Year-Current event
Inflow = 252.57 cfs @ 12.30 hrs, Volume= 38.909 af
Primary = 252.57 cfs @ 12.30 hrs, Volume= 38.909 af, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : POA 2

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 4L: DA North

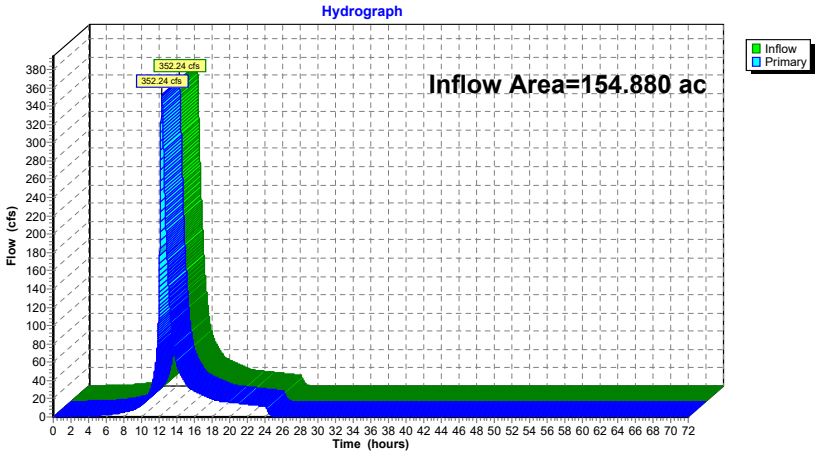


Summary for Link 5L: Total

Inflow Area = 154.880 ac, 16.29% Impervious, Inflow Depth = 4.32" for 100-Year-Current event
Inflow = 352.24 cfs @ 12.30 hrs, Volume= 55.761 af
Primary = 352.24 cfs @ 12.30 hrs, Volume= 55.761 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 5L: Total

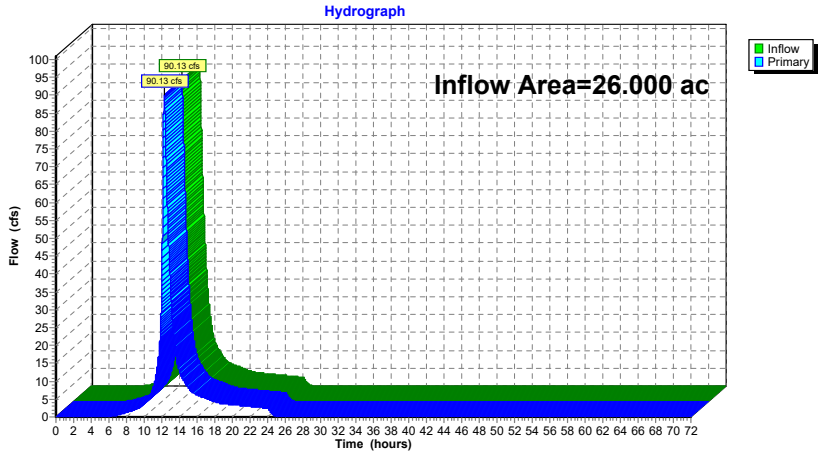


Summary for Link 8L: DA North - Undisturbed

Inflow Area = 26.000 ac, 38.00% Impervious, Inflow Depth = 6.06" for 100-Year-Current event
Inflow = 90.13 cfs @ 12.28 hrs, Volume= 13.136 af
Primary = 90.13 cfs @ 12.28 hrs, Volume= 13.136 af, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 8L: DA North - Undisturbed

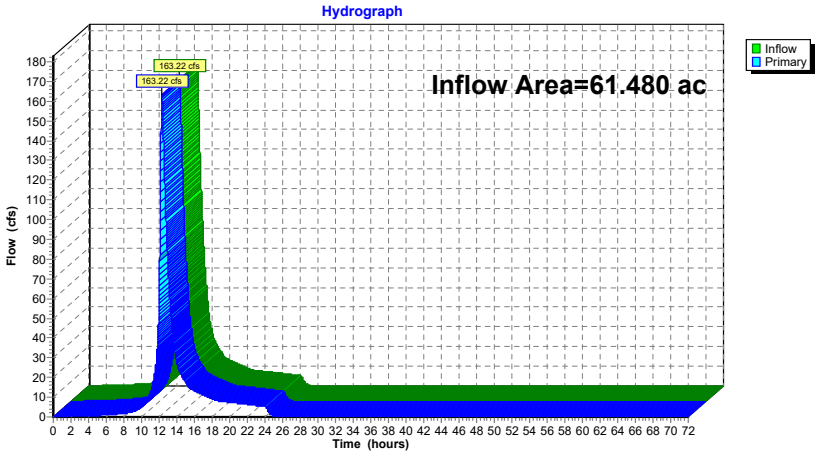


Summary for Link 9L: DA North - Disturbed

Inflow Area = 61.480 ac, 8.65% Impervious, Inflow Depth = 5.03" for 100-Year-Current event
Inflow = 163.22 cfs @ 12.31 hrs, Volume= 25.773 af
Primary = 163.22 cfs @ 12.31 hrs, Volume= 25.773 af, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 9L: DA North - Disturbed

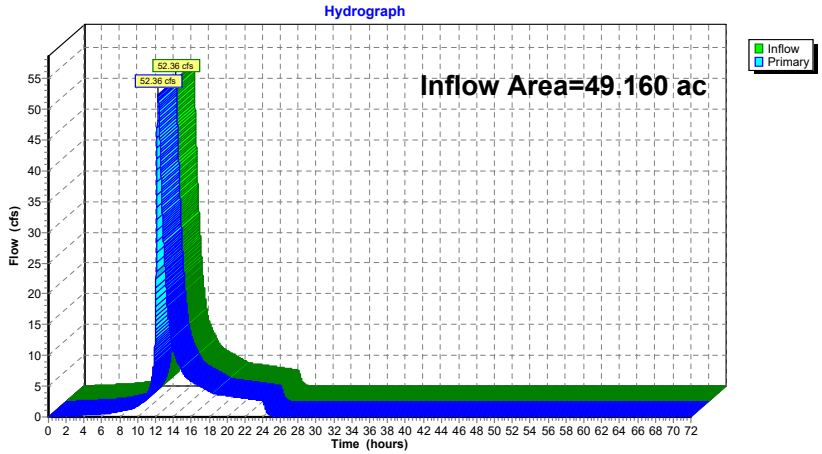


Summary for Link 11L: DA South - Disturbed

Inflow Area = 49.160 ac, 4.84% Impervious, Inflow Depth = 2.31" for 100-Year-Current event
Inflow = 52.36 cfs @ 12.28 hrs, Volume= 9.467 af
Primary = 52.36 cfs @ 12.28 hrs, Volume= 9.467 af, Atten= 0%, Lag= 0.0 min
Routed to Link 3L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 11L: DA South - Disturbed

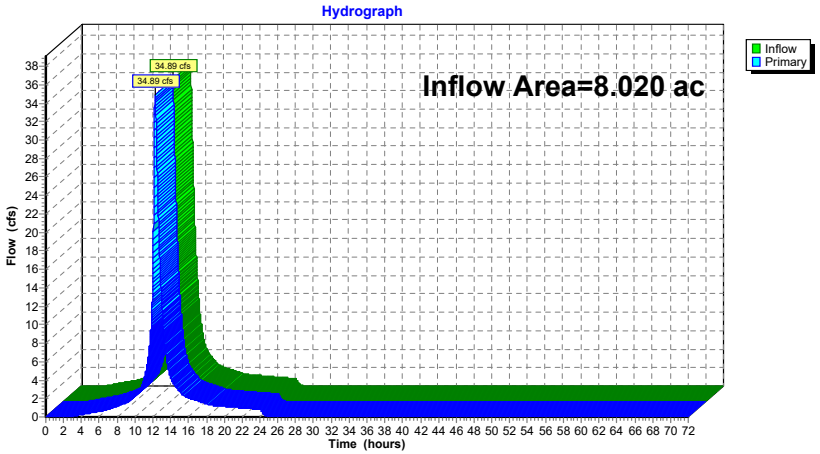


Summary for Link 15L: DA South - Undisturbed

Inflow Area = 8.020 ac, 85.00% Impervious, Inflow Depth = 7.79" for 100-Year-Current event
Inflow = 34.89 cfs @ 12.25 hrs, Volume= 5.205 af
Primary = 34.89 cfs @ 12.25 hrs, Volume= 5.205 af, Atten= 0%, Lag= 0.0 min
Routed to Link 3L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 15L: DA South - Undisturbed



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment10S: DA South Runoff Area=49.160 ac 4.84% Impervious Runoff Depth=3.49"
Flow Length=1,105' Tc=16.3 min CN=WQ Runoff=85.48 cfs 14.296 af

Subcatchment14S: DA South - Undist Runoff Area=8.020 ac 85.00% Impervious Runoff Depth=9.90"
Flow Length=1,105' Tc=16.3 min CN=89 Runoff=43.83 cfs 6.618 af

Subcatchment19S: DA Wetlands Runoff Area=10.220 ac 8.22% Impervious Runoff Depth=3.79"
Flow Length=753' Tc=13.8 min CN=WQ Runoff=21.23 cfs 3.227 af

Subcatchment42S: DA North Runoff Area=61.480 ac 8.65% Impervious Runoff Depth=6.86"
Flow Length=1,493' Tc=18.9 min CN=WQ Runoff=224.40 cfs 35.169 af

Subcatchment54S: DA North - Undist Y Runoff Area=12.620 ac 38.00% Impervious Runoff Depth=8.06"
Flow Length=760' Tc=15.1 min CN=75 Runoff=61.63 cfs 8.474 af

Subcatchment56S: DA North - Undist W Runoff Area=8.210 ac 38.00% Impervious Runoff Depth=8.06"
Flow Length=373' Tc=18.9 min CN=75 Runoff=35.72 cfs 5.513 af

Subcatchment59S: DA North - Undist X Runoff Area=5.170 ac 38.00% Impervious Runoff Depth=8.06"
Flow Length=880' Tc=18.5 min CN=75 Runoff=22.75 cfs 3.472 af

Link 1L: POA 1 Inflow=21.23 cfs 3.227 af
Primary=21.23 cfs 3.227 af

Link 2L: POA 2 Inflow=470.58 cfs 73.541 af
Primary=470.58 cfs 73.541 af

Link 3L: DA South Inflow=129.21 cfs 20.913 af
Primary=129.21 cfs 20.913 af

Link 4L: DA North Inflow=342.33 cfs 52.628 af
Primary=342.33 cfs 52.628 af

Link 5L: Total Inflow=491.43 cfs 76.768 af
Primary=491.43 cfs 76.768 af

Link 8L: DA North - Undisturbed Inflow=119.01 cfs 17.459 af
Primary=119.01 cfs 17.459 af

Link 9L: DA North - Disturbed Inflow=224.40 cfs 35.169 af
Primary=224.40 cfs 35.169 af

Link 11L: DA South - Disturbed Inflow=85.48 cfs 14.296 af
Primary=85.48 cfs 14.296 af

Link 15L: DA South - Undisturbed Inflow=43.83 cfs 6.618 af
Primary=43.83 cfs 6.618 af

Total Runoff Area = 154.880 ac Runoff Volume = 76.768 af Average Runoff Depth = 5.95"
83.71% Pervious = 129.643 ac 16.29% Impervious = 25.237 ac

Summary for Subcatchment 10S: DA South

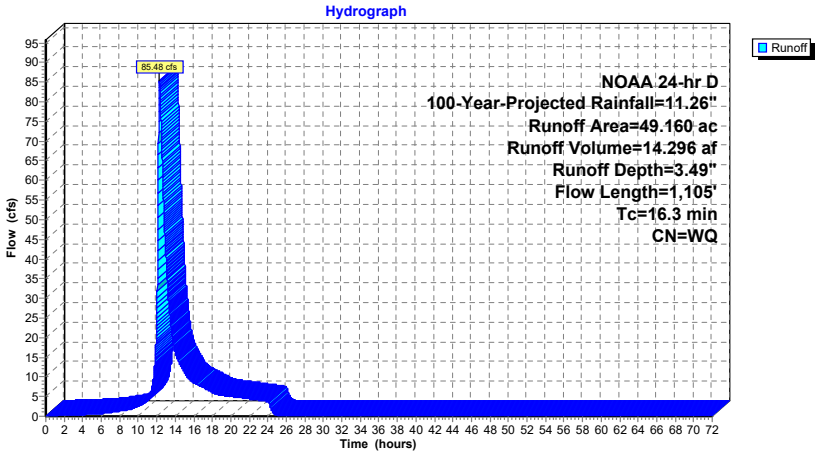
Runoff = 85.48 cfs @ 12.28 hrs, Volume= 14.296 af, Depth= 3.49"
Routed to Link 11L : DA South - Disturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

Area (ac)	CN	Description
11.500	30	Woods, Good, HSG A
0.690	77	Woods, Good, HSG D
30.110	39	>75% Grass cover, Good, HSG A
4.480	80	>75% Grass cover, Good, HSG D
1.310	98	Paved parking, HSG A
0.340	98	Paved parking, HSG D
0.730	98	Water Surface, HSG D
49.160		Weighted Average
46.780		95.16% Pervious Area
2.380		4.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 10S: DA South



Summary for Subcatchment 14S: DA South - Undist

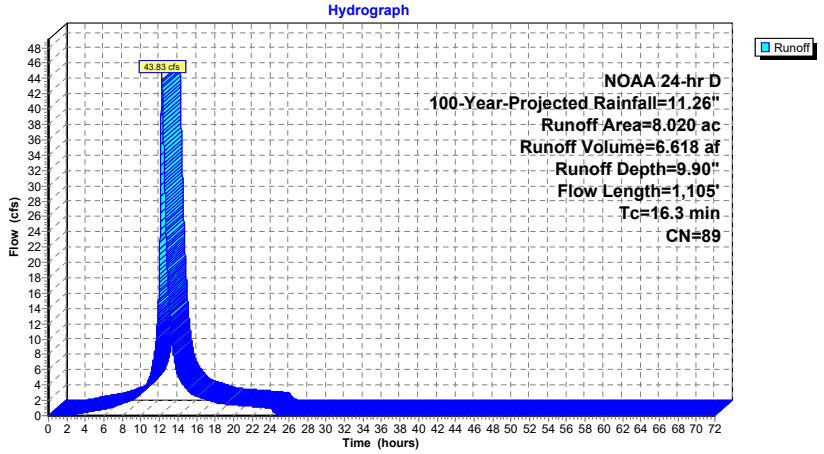
Runoff = 43.83 cfs @ 12.25 hrs, Volume= 6.618 af, Depth= 9.90"
Routed to Link 15L : DA South - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

Area (ac)	CN	Description
8.020	89	Urban commercial, 85% imp, HSG A
1.203		15.00% Pervious Area
6.817		85.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 14S: DA South - Undist



Summary for Subcatchment 19S: DA Wetlands

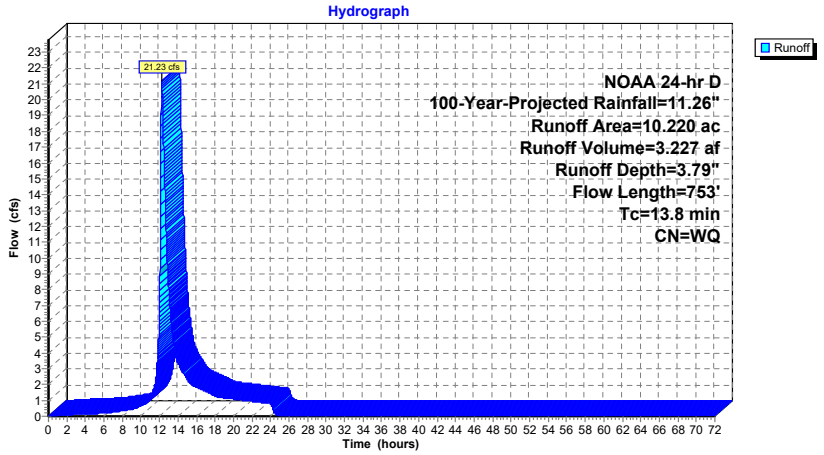
Runoff = 21.23 cfs @ 12.24 hrs, Volume= 3.227 af, Depth= 3.79"
Routed to Link 1L : POA 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

Area (ac)	CN	Description
1.690	30	Woods, Good, HSG A
0.510	77	Woods, Good, HSG D
6.710	39	>75% Grass cover, Good, HSG A
0.470	80	>75% Grass cover, Good, HSG D
0.530	98	Paved parking, HSG A
0.310	98	Paved parking, HSG D
10.220		Weighted Average
9.380		91.78% Pervious Area
0.840		8.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	72	0.0300	0.13		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
2.7	344	0.0180	2.16		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.0	337	0.0290	2.74		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
13.8	753	Total			

Subcatchment 19S: DA Wetlands



Summary for Subcatchment 42S: DA North

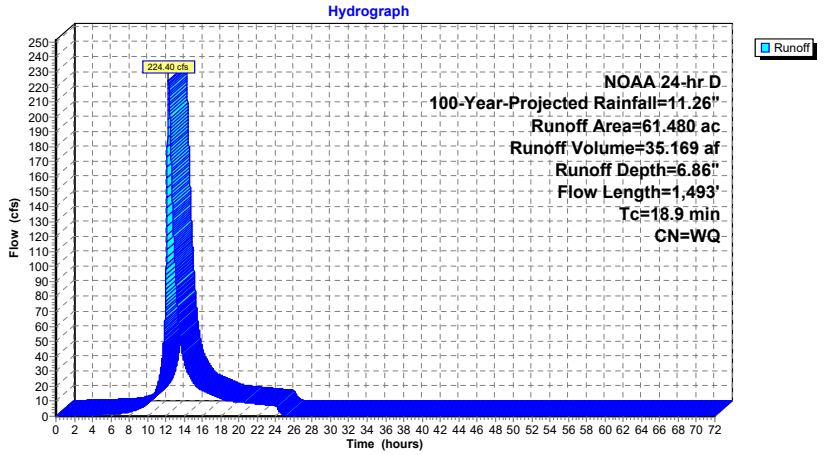
Runoff = 224.40 cfs @ 12.31 hrs, Volume= 35.169 af, Depth= 6.86"
Routed to Link 9L : DA North - Disturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

Area (ac)	CN	Description
1.630	55	Woods, Good, HSG B
0.200	77	Woods, Good, HSG D
45.750	61	>75% Grass cover, Good, HSG B
8.580	80	>75% Grass cover, Good, HSG D
4.010	98	Paved parking, HSG B
0.580	98	Paved parking, HSG D
0.730	98	Water Surface, HSG D
61.480		Weighted Average
56.160		91.35% Pervious Area
5.320		8.65% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	79	0.0360	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
5.8	950	0.0290	2.74		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.8	272	0.0100	1.61		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
1.2	192	0.0270	2.65		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
18.9	1,493	Total			

Subcatchment 42S: DA North



Summary for Subcatchment 54S: DA North - Undist Y

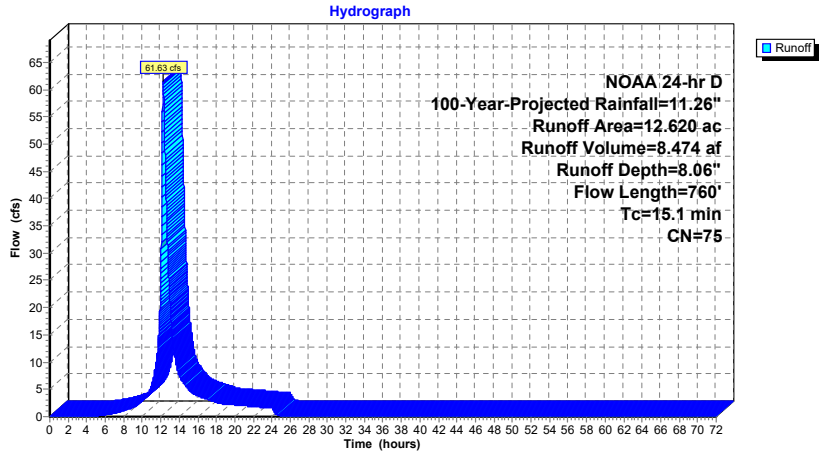
Runoff = 61.63 cfs @ 12.25 hrs, Volume= 8.474 af, Depth= 8.06"
Routed to Link 8L : DA North - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

Area (ac)	CN	Description
12.620	75	1/4 acre lots, 38% imp, HSG B
7.824		62.00% Pervious Area
4.796		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.1	100	0.0350	0.15		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.5	280	0.0370	3.10		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.5	380	0.0240	2.49		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
15.1	760	Total			

Subcatchment 54S: DA North - Undist Y



Summary for Subcatchment 56S: DA North - Undist W

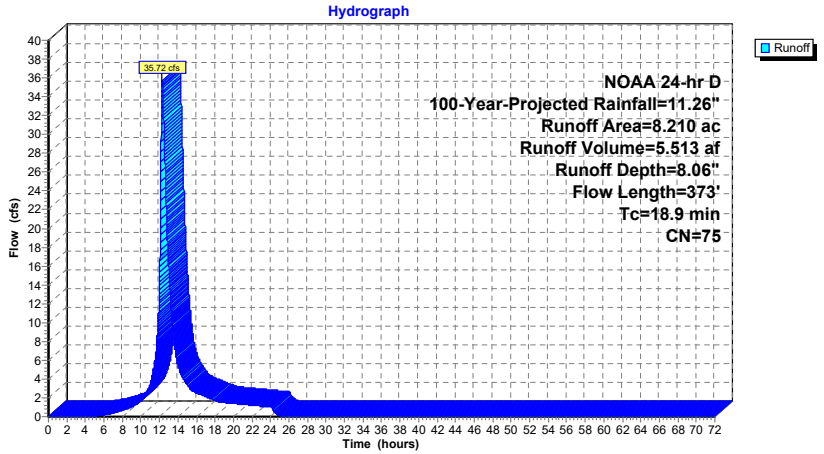
Runoff = 35.72 cfs @ 12.30 hrs, Volume= 5.513 af, Depth= 8.06"
Routed to Link 8L : DA North - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

Area (ac)	CN	Description
8.210	75	1/4 acre lots, 38% imp, HSG B
5.090		62.00% Pervious Area
3.120		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	100	0.0120	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.38"
0.9	179	0.0410	3.26		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.0	94	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.9	373	Total			

Subcatchment 56S: DA North - Undist W



Summary for Subcatchment 59S: DA North - Undist X

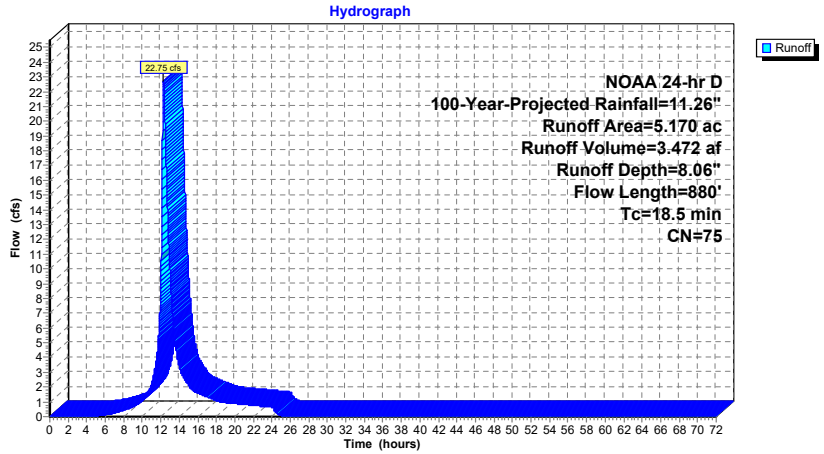
Runoff = 22.75 cfs @ 12.29 hrs, Volume= 3.472 af, Depth= 8.06"
Routed to Link 8L : DA North - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

Area (ac)	CN	Description
5.170	75	1/4 acre lots, 38% imp, HSG B
3.205		62.00% Pervious Area
1.965		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	100	0.0200	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.4	408	0.0320	2.88		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.2	372	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.5	880	Total			

Subcatchment 59S: DA North - Undist X

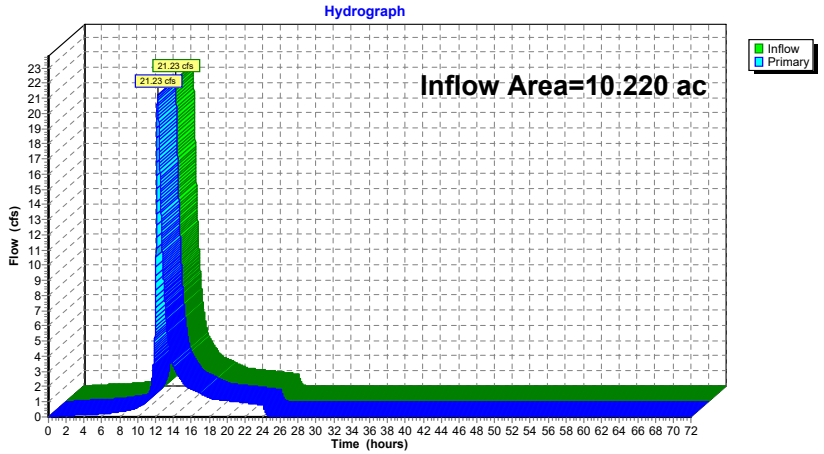


Summary for Link 1L: POA 1

Inflow Area = 10.220 ac, 8.22% Impervious, Inflow Depth = 3.79" for 100-Year-Projected event
Inflow = 21.23 cfs @ 12.24 hrs, Volume= 3.227 af
Primary = 21.23 cfs @ 12.24 hrs, Volume= 3.227 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 1L: POA 1

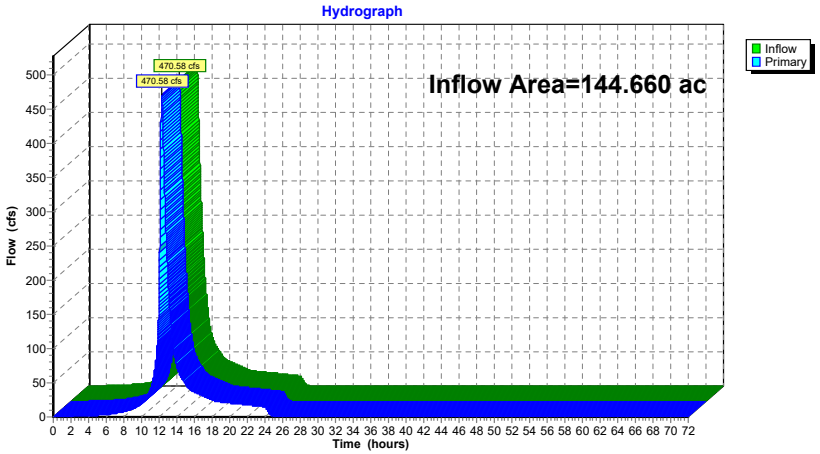


Summary for Link 2L: POA 2

Inflow Area = 144.660 ac, 16.87% Impervious, Inflow Depth = 6.10" for 100-Year-Projected event
Inflow = 470.58 cfs @ 12.29 hrs, Volume= 73.541 af
Primary = 470.58 cfs @ 12.29 hrs, Volume= 73.541 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 2L: POA 2

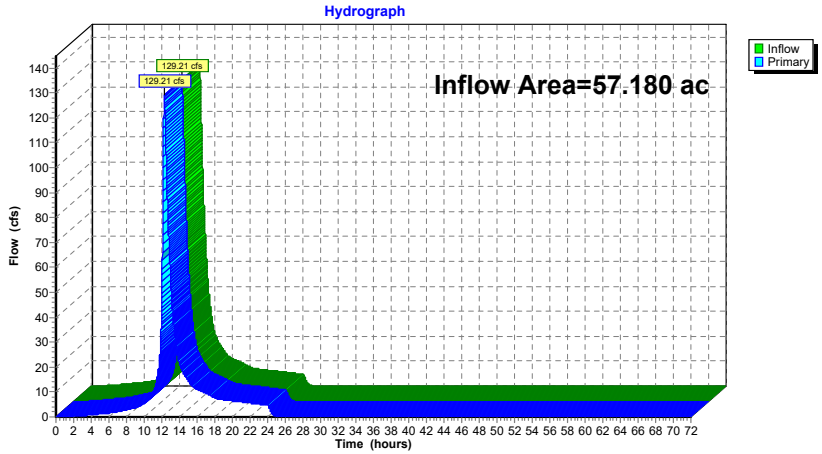


Summary for Link 3L: DA South

Inflow Area = 57.180 ac, 16.08% Impervious, Inflow Depth = 4.39" for 100-Year-Projected event
Inflow = 129.21 cfs @ 12.28 hrs, Volume= 20.913 af
Primary = 129.21 cfs @ 12.28 hrs, Volume= 20.913 af, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : POA 2

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 3L: DA South

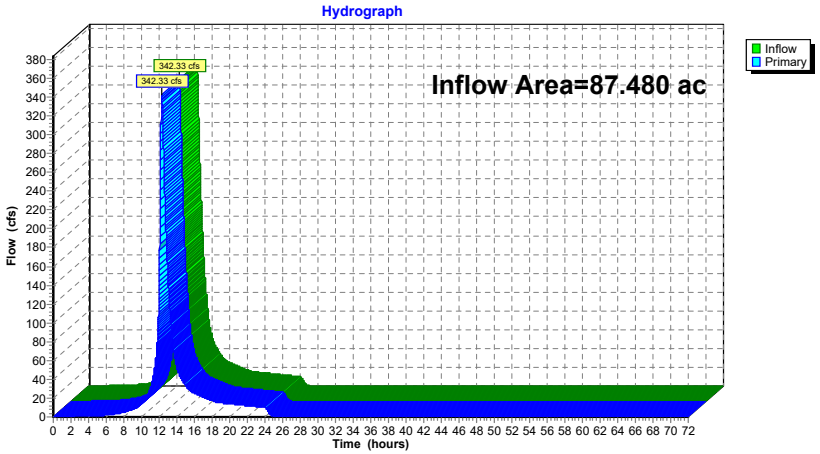


Summary for Link 4L: DA North

Inflow Area = 87.480 ac, 17.38% Impervious, Inflow Depth = 7.22" for 100-Year-Projected event
Inflow = 342.33 cfs @ 12.30 hrs, Volume= 52.628 af
Primary = 342.33 cfs @ 12.30 hrs, Volume= 52.628 af, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : POA 2

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 4L: DA North

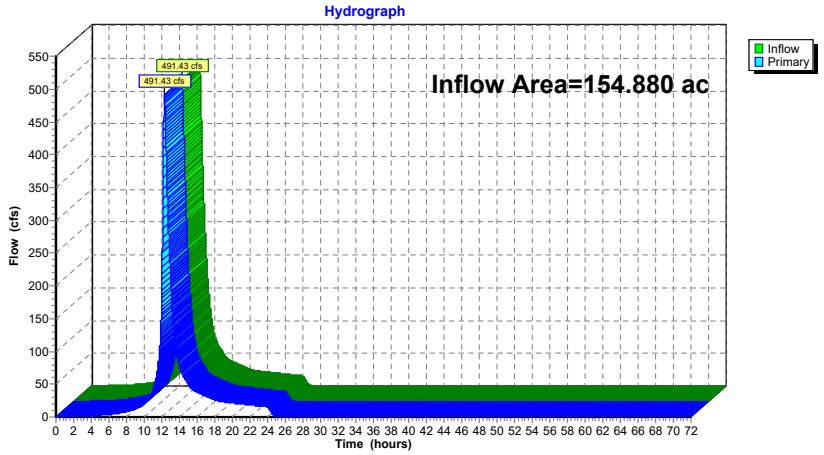


Summary for Link 5L: Total

Inflow Area = 154.880 ac, 16.29% Impervious, Inflow Depth = 5.95" for 100-Year-Projected event
Inflow = 491.43 cfs @ 12.29 hrs, Volume= 76.768 af
Primary = 491.43 cfs @ 12.29 hrs, Volume= 76.768 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 5L: Total

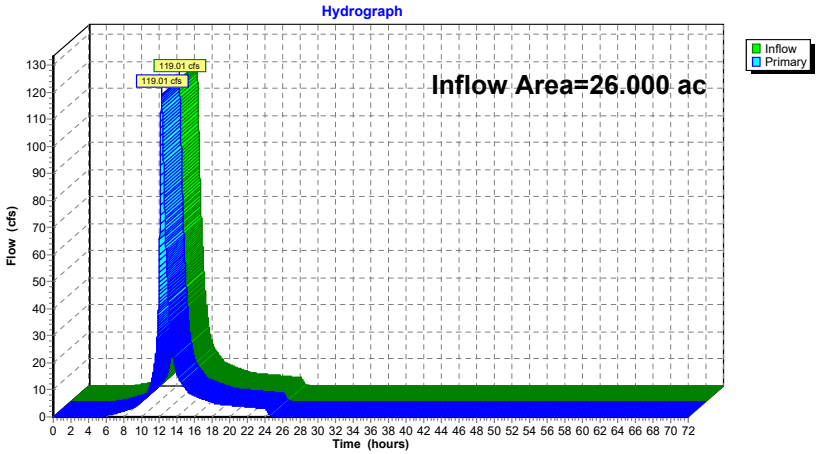


Summary for Link 8L: DA North - Undisturbed

Inflow Area = 26.000 ac, 38.00% Impervious, Inflow Depth = 8.06" for 100-Year-Projected event
Inflow = 119.01 cfs @ 12.27 hrs, Volume= 17.459 af
Primary = 119.01 cfs @ 12.27 hrs, Volume= 17.459 af, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 8L: DA North - Undisturbed

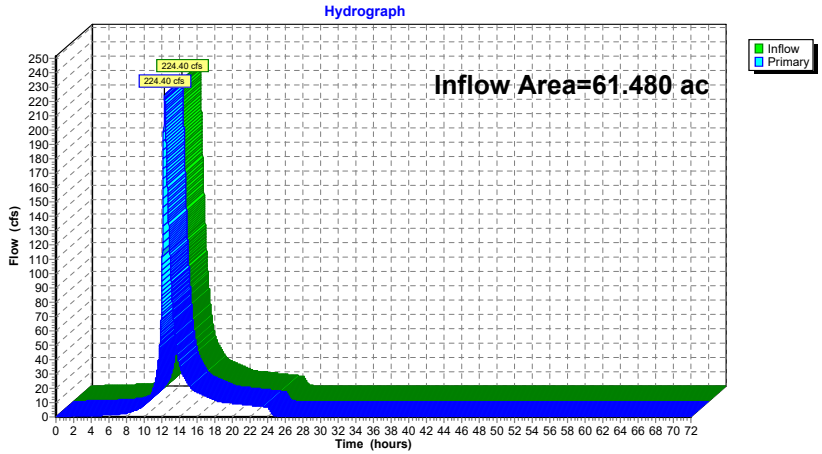


Summary for Link 9L: DA North - Disturbed

Inflow Area = 61.480 ac, 8.65% Impervious, Inflow Depth = 6.86" for 100-Year-Projected event
Inflow = 224.40 cfs @ 12.31 hrs, Volume= 35.169 af
Primary = 224.40 cfs @ 12.31 hrs, Volume= 35.169 af, Atten= 0%, Lag= 0.0 min
Routed to Link 4L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 9L: DA North - Disturbed

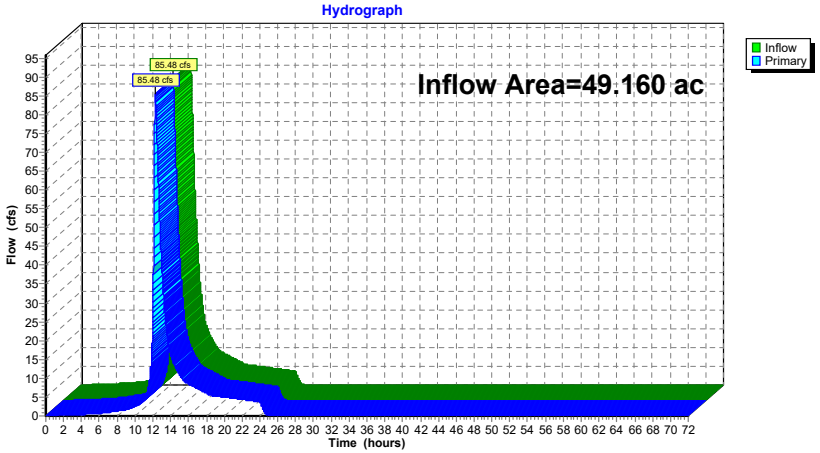


Summary for Link 11L: DA South - Disturbed

Inflow Area = 49.160 ac, 4.84% Impervious, Inflow Depth = 3.49" for 100-Year-Projected event
Inflow = 85.48 cfs @ 12.28 hrs, Volume= 14.296 af
Primary = 85.48 cfs @ 12.28 hrs, Volume= 14.296 af, Atten= 0%, Lag= 0.0 min
Routed to Link 3L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 11L: DA South - Disturbed



Summary for Link 15L: DA South - Undisturbed

Inflow Area = 8.020 ac, 85.00% Impervious, Inflow Depth = 9.90" for 100-Year-Projected event
Inflow = 43.83 cfs @ 12.25 hrs, Volume= 6.618 af
Primary = 43.83 cfs @ 12.25 hrs, Volume= 6.618 af, Atten= 0%, Lag= 0.0 min
Routed to Link 3L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 15L: DA South - Undisturbed

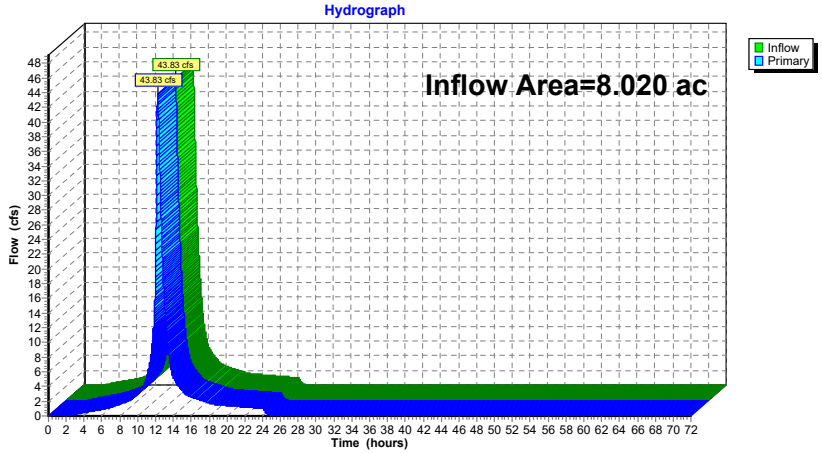


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2024- 11 Hydrology - Existing - Weighted Q *Table of Contents*
Prepared by Dynamic Engineering Printed 11/21/2024
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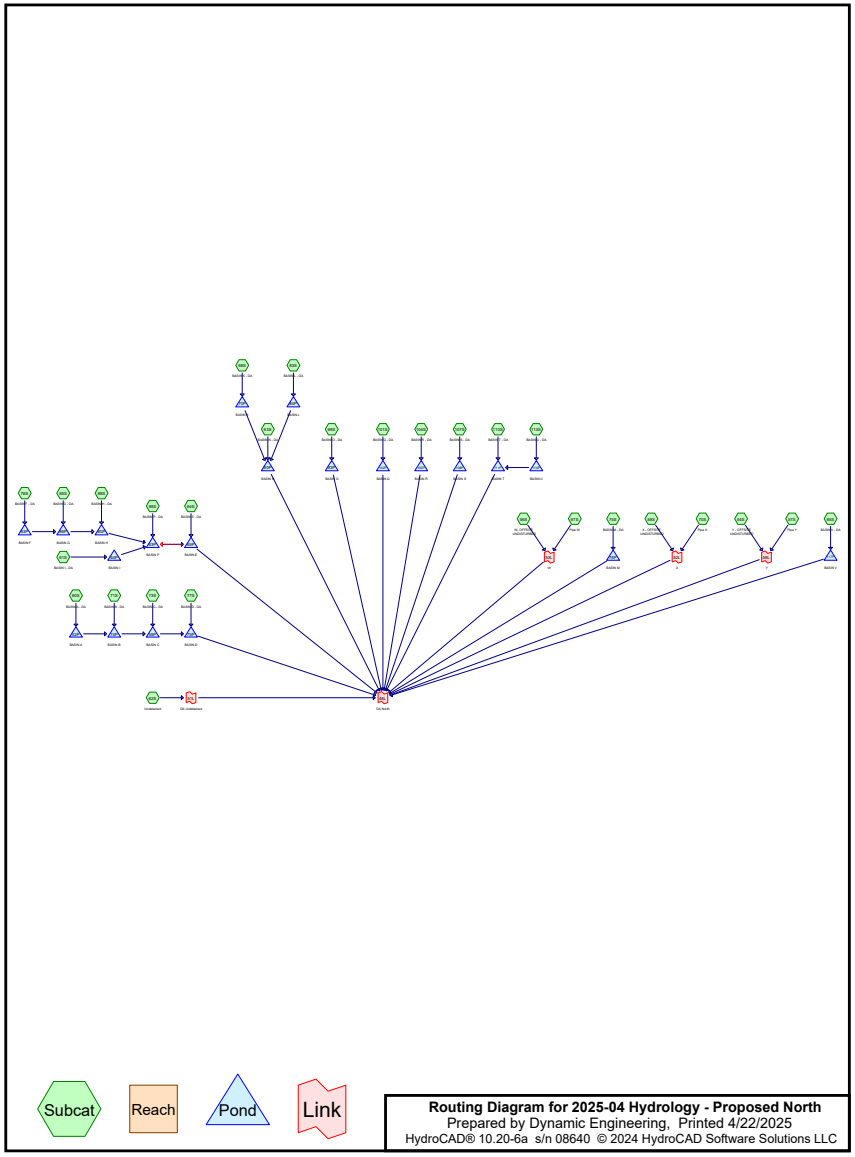
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Routing Diagram for 2025-04 Hydrology - Proposed North
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Project Notes

Rainfall events imported from "NJ-Rain.txt" for 6612 NJ Monmouth-D

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	25 - Year	NOAA 24-hr	D	Default	24.00	1	6.53	2
2	2-Year-Current	NOAA 24-hr	D	Default	24.00	1	3.38	2
3	2-Year-Projected	NOAA 24-hr	D	Default	24.00	1	4.02	2
4	10-Year-Current	NOAA 24-hr	D	Default	24.00	1	5.28	2
5	10-Year-Projected	NOAA 24-hr	D	Default	24.00	1	6.22	2
6	100-Year-Current	NOAA 24-hr	D	Default	24.00	1	9.12	2
7	100-Year-Projected	NOAA 24-hr	D	Default	24.00	1	11.26	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
26.000	75	1/4 acre lots, 38% imp, HSG B (54S, 56S, 59S)
9.320	61	>75% Grass cover, Good, HSG B (62S, 67S, 104S)
8.360	80	>75% Grass cover, Good, HSG D (62S, 104S)
2.900	98	Driveway & Apron (60S, 63S, 64S, 69S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 104S, 107S)
23.010	61	Open Space (57S, 60S, 61S, 63S, 64S, 65S, 68S, 69S, 70S, 71S, 73S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 107S, 110S, 113S)
0.230	80	Open Space, HSG D (63S, 69S)
0.130	98	Paved parking, HSG B (62S)
5.410	98	Road (60S, 63S, 64S, 69S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 104S, 107S, 110S, 113S)
6.440	98	Roof (57S, 60S, 61S, 63S, 64S, 65S, 68S, 69S, 70S, 71S, 73S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 104S, 107S)
1.820	98	Roofs, HSG B (62S, 67S)
0.570	98	Roofs, HSG D (62S)
1.370	98	Sidewalk (60S, 63S, 64S, 68S, 69S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 104S, 107S, 110S, 113S)
0.120	98	Unconnected pavement, HSG B (62S)
0.730	98	Water Surface, HSG D (62S)
0.870	55	Woods, Good, HSG B (62S)
0.200	77	Woods, Good, HSG D (62S)
87.480	**75**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
38.260	HSG B	54S, 56S, 59S, 62S, 67S, 104S
0.000	HSG C	
10.090	HSG D	62S, 63S, 69S, 104S
39.130	Other	57S, 60S, 61S, 63S, 64S, 65S, 68S, 69S, 70S, 71S, 73S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 104S, 107S, 110S, 113S
87.480		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	26.000	0.000	0.000	0.000	26.000	1/4 acre lots, 38% imp	54S, 56S, 59S
0.000	9.320	0.000	8.360	0.000	17.680	>75% Grass cover, Good	62S, 67S, 104S
0.000	0.000	0.000	0.000	2.900	2.900	Driveway & Apron	60S, 63S, 64S, 69S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 104S, 107S
0.000	0.000	0.000	0.230	23.010	23.240	Open Space	57S, 60S, 61S, 63S, 64S, 65S, 68S, 69S, 70S, 71S, 73S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 107S, 110S, 113S

Ground Covers (all nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.130	0.000	0.000	0.000	0.130	Paved parking	62S
0.000	0.000	0.000	0.000	5.410	5.410	Road	60S, 63S, 64S, 69S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 104S, 107S, 110S, 113S
0.000	0.000	0.000	0.000	6.440	6.440	Roof	57S, 60S, 61S, 63S, 64S, 65S, 68S, 69S, 70S, 71S, 73S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 104S, 107S
0.000	1.820	0.000	0.570	0.000	2.390	Roofs	62S, 67S
0.000	0.000	0.000	0.000	1.370	1.370	Sidewalk	60S, 63S, 64S, 68S, 69S, 75S,

Ground Covers (all nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.120	0.000	0.000	0.000	0.120	Unconnected pavement	62S
0.000	0.000	0.000	0.730	0.000	0.730	Water Surface	62S
0.000	0.870	0.000	0.200	0.000	1.070	Woods, Good	62S
0.000	**38.260**	**0.000**	**10.090**	**39.130**	**87.480**	**TOTAL AREA**	

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Sim-Route method - Pond routing by Sim-Route method

Subcatchment54S: Y - OFFSITE Runoff Area=12.620 ac 38.00% Impervious Runoff Depth=3.74"
Flow Length=760' Tc=15.1 min CN=75 Runoff=28.86 cfs 3.931 af

Subcatchment56S: W- OFFSITE Runoff Area=8.210 ac 38.00% Impervious Runoff Depth=3.74"
Flow Length=373' Tc=18.9 min CN=75 Runoff=16.69 cfs 2.558 af

Subcatchment57S: Pipe Y Runoff Area=3.450 ac 3.48% Impervious Runoff Depth=2.50"
Flow Length=1,229' Slope=0.0200 '/' Tc=16.9 min CN=WQ Runoff=4.69 cfs 0.720 af

Subcatchment59S: X - OFFSITE Runoff Area=5.170 ac 38.00% Impervious Runoff Depth=3.74"
Flow Length=880' Tc=18.5 min CN=75 Runoff=10.62 cfs 1.611 af

Subcatchment60S: BASIN A - DA Runoff Area=2.470 ac 53.85% Impervious Runoff Depth=4.48"
Flow Length=102' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=7.65 cfs 0.922 af

Subcatchment61S: BASIN I - DA Runoff Area=0.530 ac 33.96% Impervious Runoff Depth=3.70"
Flow Length=134' Slope=0.0200 '/' Tc=9.6 min CN=WQ Runoff=1.36 cfs 0.163 af

Subcatchment62S: Undetained Runoff Area=14.680 ac 15.60% Impervious Runoff Depth=4.02"
Flow Length=3,276' Tc=30.2 min CN=WQ Runoff=23.75 cfs 4.920 af

Subcatchment63S: BASIN N - DA Runoff Area=1.390 ac 46.04% Impervious Runoff Depth=4.28"
Flow Length=108' Tc=9.3 min CN=WQ Runoff=4.17 cfs 0.496 af

Subcatchment64S: BASIN E - DA Runoff Area=2.240 ac 50.89% Impervious Runoff Depth=4.36"
Flow Length=609' Tc=8.1 min CN=WQ Runoff=7.23 cfs 0.815 af

Subcatchment65S: BASIN V - DA Runoff Area=0.850 ac 14.12% Impervious Runoff Depth=2.92"
Flow Length=100' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=1.79 cfs 0.207 af

Subcatchment67S: Pipe W Runoff Area=6.420 ac 16.82% Impervious Runoff Depth=3.03"
Flow Length=5,045' Tc=42.5 min CN=WQ Runoff=6.10 cfs 1.620 af

Subcatchment68S: BASIN K - DA Runoff Area=1.640 ac 37.80% Impervious Runoff Depth=3.85"
Flow Length=136' Slope=0.0200 '/' Tc=9.7 min CN=WQ Runoff=4.35 cfs 0.526 af

Subcatchment69S: BASIN O - DA Runoff Area=1.100 ac 51.82% Impervious Runoff Depth=4.66"
Flow Length=113' Tc=9.4 min CN=WQ Runoff=3.58 cfs 0.427 af

Subcatchment70S: Pipe X Runoff Area=4.990 ac 21.64% Impervious Runoff Depth=3.22"
Flow Length=2,554' Tc=25.8 min CN=WQ Runoff=6.75 cfs 1.338 af

Subcatchment71S: BASIN B - DA Runoff Area=1.260 ac 38.10% Impervious Runoff Depth=3.86"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=3.41 cfs 0.406 af

Subcatchment73S: BASIN C - DA Runoff Area=0.990 ac 42.42% Impervious Runoff Depth=4.03"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=2.78 cfs 0.333 af

Subcatchment75S: BASIN M - DA Runoff Area=0.860 ac 59.30% Impervious Runoff Depth=4.69"
Flow Length=225' Slope=0.0200 '/' Tc=9.3 min CN=WQ Runoff=2.79 cfs 0.336 af

Subcatchment76S: BASIN F - DA Runoff Area=1.500 ac 56.00% Impervious Runoff Depth=4.57"
Flow Length=447' Tc=8.7 min CN=WQ Runoff=4.89 cfs 0.571 af

Subcatchment77S: BASIN D - DA Runoff Area=2.670 ac 51.31% Impervious Runoff Depth=4.38"
Flow Length=795' Tc=9.0 min CN=WQ Runoff=8.28 cfs 0.975 af

Subcatchment83S: BASIN L - DA Runoff Area=0.970 ac 50.52% Impervious Runoff Depth=4.35"
Flow Length=96' Tc=9.2 min CN=WQ Runoff=2.95 cfs 0.352 af

Subcatchment85S: BASIN G - DA Runoff Area=1.260 ac 37.30% Impervious Runoff Depth=3.83"
Flow Length=102' Tc=9.3 min CN=WQ Runoff=3.39 cfs 0.402 af

Subcatchment88S: BASIN H - DA Runoff Area=1.950 ac 43.08% Impervious Runoff Depth=4.06"
Flow Length=111' Slope=0.0200 '/' Tc=9.5 min CN=WQ Runoff=5.49 cfs 0.659 af

Subcatchment98S: BASIN P - DA Runoff Area=2.760 ac 47.10% Impervious Runoff Depth=4.22"
Flow Length=214' Slope=0.0200 '/' Tc=10.2 min CN=WQ Runoff=7.78 cfs 0.970 af

Subcatchment101S: BASIN Q - DA Runoff Area=1.860 ac 59.68% Impervious Runoff Depth=4.71"
Flow Length=612' Tc=12.0 min CN=WQ Runoff=5.39 cfs 0.730 af

Subcatchment104S: BASIN R - DA Runoff Area=2.040 ac 50.00% Impervious Runoff Depth=4.52"
Flow Length=98' Tc=9.4 min CN=WQ Runoff=6.44 cfs 0.769 af

Subcatchment107S: BASIN S - DA Runoff Area=1.800 ac 48.89% Impervious Runoff Depth=4.29"
Flow Length=466' Tc=12.2 min CN=WQ Runoff=4.73 cfs 0.643 af

Subcatchment110S: BASIN T - DA Runoff Area=0.730 ac 26.03% Impervious Runoff Depth=3.39"
Flow Length=254' Slope=0.0100 '/' Tc=2.8 min CN=WQ Runoff=2.69 cfs 0.206 af

Subcatchment113S: BASIN U - DA Runoff Area=1.070 ac 37.38% Impervious Runoff Depth=3.83"
Flow Length=28' Slope=0.0350 '/' Tc=4.0 min CN=WQ Runoff=4.00 cfs 0.342 af

Pond 52P: BASIN A Peak Elev=34.67' Storage=0.717 af Inflow=7.65 cfs 0.922 af
Outflow=0.22 cfs 0.730 af

Pond 59P: BASIN C Peak Elev=30.24' Storage=0.090 af Inflow=4.16 cfs 1.386 af
Outflow=3.84 cfs 1.340 af

Pond 60P: BASIN H Peak Elev=30.52' Storage=0.503 af Inflow=5.62 cfs 1.353 af
Outflow=1.50 cfs 1.197 af

Pond 63P: BASIN P Peak Elev=28.73' Storage=0.526 af Inflow=10.07 cfs 2.379 af
Outflow=4.54 cfs 2.050 af

Pond 64P: BASIN I Peak Elev=30.74' Storage=0.069 af Inflow=1.36 cfs 0.163 af
Outflow=0.69 cfs 0.140 af

Pond 65P: BASIN E Peak Elev=28.65' Storage=0.270 af Inflow=8.50 cfs 2.864 af
Primary=7.37 cfs 2.623 af Secondary=2.27 cfs 0.072 af Outflow=7.37 cfs 2.696 af

Pond 70P: BASIN K Peak Elev=32.25' Storage=0.253 af Inflow=4.35 cfs 0.526 af
Outflow=1.36 cfs 0.459 af

Pond 74P: BASIN B Peak Elev=31.98' Storage=0.159 af Inflow=3.53 cfs 1.136 af
Outflow=2.20 cfs 1.053 af

Pond 75P: BASIN D Peak Elev=28.61' Storage=0.483 af Inflow=10.56 cfs 2.315 af
Outflow=7.79 cfs 2.029 af

Pond 76P: BASIN M Peak Elev=34.19' Storage=0.168 af Inflow=2.79 cfs 0.336 af
Outflow=1.07 cfs 0.276 af

Pond 83P: BASIN F Peak Elev=34.01' Storage=0.439 af Inflow=4.89 cfs 0.571 af
Outflow=0.16 cfs 0.363 af

Pond 84P: BASIN L Peak Elev=34.24' Storage=0.157 af Inflow=2.95 cfs 0.352 af
Outflow=1.43 cfs 0.303 af

Pond 86P: BASIN G Peak Elev=33.12' Storage=0.181 af Inflow=3.41 cfs 0.765 af
Outflow=1.58 cfs 0.694 af

Pond 90P: BASIN N Peak Elev=30.66' Storage=0.268 af Inflow=4.92 cfs 1.259 af
Outflow=4.14 cfs 1.149 af

Pond 93P: BASIN O Peak Elev=28.44' Storage=0.134 af Inflow=3.58 cfs 0.427 af
Outflow=2.95 cfs 0.367 af

Pond 102P: BASIN Q Peak Elev=28.20' Storage=0.246 af Inflow=5.39 cfs 0.730 af
Outflow=4.52 cfs 0.548 af

Pond 105P: BASIN R Peak Elev=24.47' Storage=0.327 af Inflow=6.44 cfs 0.769 af
Outflow=3.52 cfs 0.619 af

Pond 108P: BASIN S Peak Elev=20.52' Storage=0.389 af Inflow=4.73 cfs 0.643 af
Outflow=0.83 cfs 0.359 af

Pond 111P: BASIN T Peak Elev=19.91' Storage=0.279 af Inflow=2.70 cfs 0.429 af
Outflow=0.14 cfs 0.311 af

Pond 114P: BASIN U Peak Elev=20.58' Storage=0.218 af Inflow=4.00 cfs 0.342 af
Outflow=0.24 cfs 0.223 af

Pond 117P: BASIN V Peak Elev=38.00' Storage=0.108 af Inflow=1.79 cfs 0.207 af
Outflow=0.38 cfs 0.110 af

Link 46L: DA North Inflow=119.00 cfs 25.088 af
Primary=119.00 cfs 25.088 af

2025-04 Hydrology - Proposed North *NOAA 24-hr D 25 - Year Rainfall=6.53"*
Prepared by Dynamic Engineering Printed 4/22/2025

Link 51L: DA Undetained Inflow=23.75 cfs 4.920 af
Primary=23.75 cfs 4.920 af

Link 52L: X Inflow=17.04 cfs 2.948 af
Primary=17.04 cfs 2.948 af

Link 53L: W Inflow=20.74 cfs 4.178 af
Primary=20.74 cfs 4.178 af

Link 58L: Y Inflow=33.44 cfs 4.651 af
Primary=33.44 cfs 4.651 af

Total Runoff Area = 87.480 ac Runoff Volume = 27.948 af Average Runoff Depth = 3.83"
66.43% Pervious = 58.110 ac 33.57% Impervious = 29.370 ac

Summary for Subcatchment 54S: Y - OFFSITE UNDISTURBED

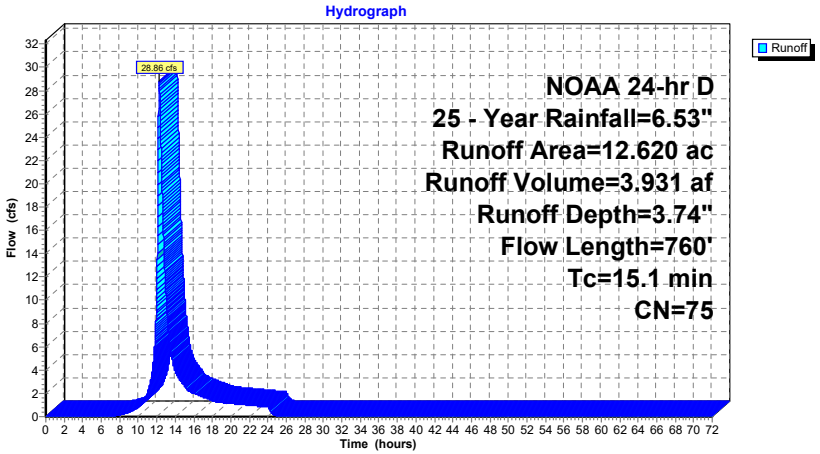
Runoff = 28.86 cfs @ 12.25 hrs, Volume= 3.931 af, Depth= 3.74"
Routed to Link 58L : Y

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

Area (ac)	CN	Description
12.620	75	1/4 acre lots, 38% imp, HSG B
7.824		62.00% Pervious Area
4.796		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.1	100	0.0350	0.15		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.5	280	0.0370	3.10		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.5	380	0.0240	2.49		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
15.1	760	Total			

Subcatchment 54S: Y - OFFSITE UNDISTURBED



Summary for Subcatchment 56S: W- OFFSITE UNDISTURBED

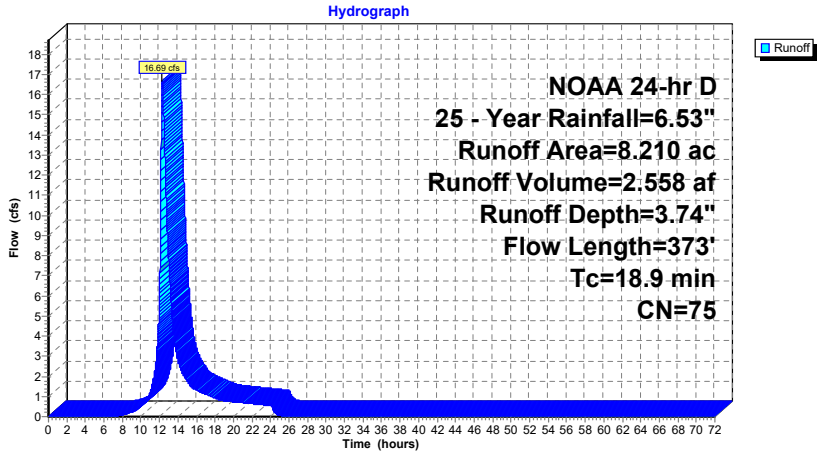
Runoff = 16.69 cfs @ 12.31 hrs, Volume= 2.558 af, Depth= 3.74"
Routed to Link 53L : W

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

Area (ac)	CN	Description
8.210	75	1/4 acre lots, 38% imp, HSG B
5.090		62.00% Pervious Area
3.120		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	100	0.0120	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.38"
0.9	179	0.0410	3.26		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.0	94	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.9	373	Total			

Subcatchment 56S: W- OFFSITE UNDISTURBED



Summary for Subcatchment 57S: Pipe Y

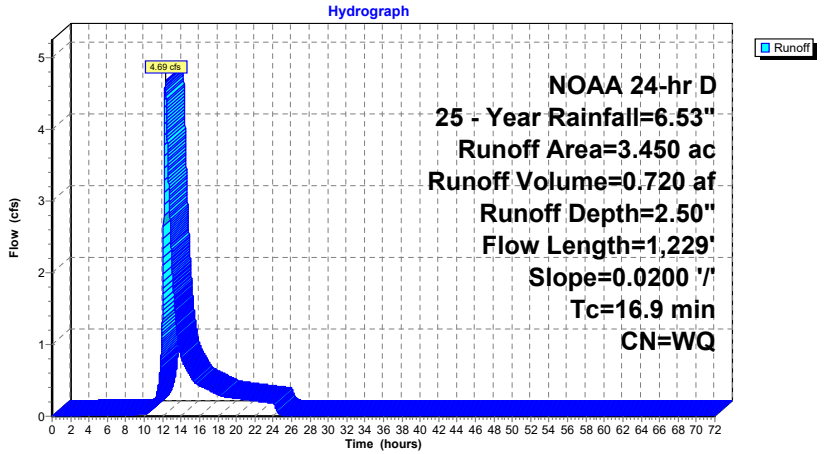
Runoff = 4.69 cfs @ 12.28 hrs, Volume= 0.720 af, Depth= 2.50"
Routed to Link 58L : Y

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

	Area (ac)	CN	Description
*	3.330	61	Open Space
*	0.000	98	Road/Sidewalk
*	0.120	98	Roof
*	0.000	98	Driveway
	3.450		Weighted Average
	3.330		96.52% Pervious Area
	0.120		3.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass**
					Grass: Dense n= 0.240 P2= 3.38"
					Using McCuen-Spiess flow length
1.2	170	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved**
					Unpaved Kv= 16.1 fps
6.2	936		2.50		**Direct Entry,**
0.4	64		2.50		**Direct Entry,**
16.9	1,229	Total			

Subcatchment 57S: Pipe Y



Summary for Subcatchment 59S: X - OFFSITE UNDISTURBED

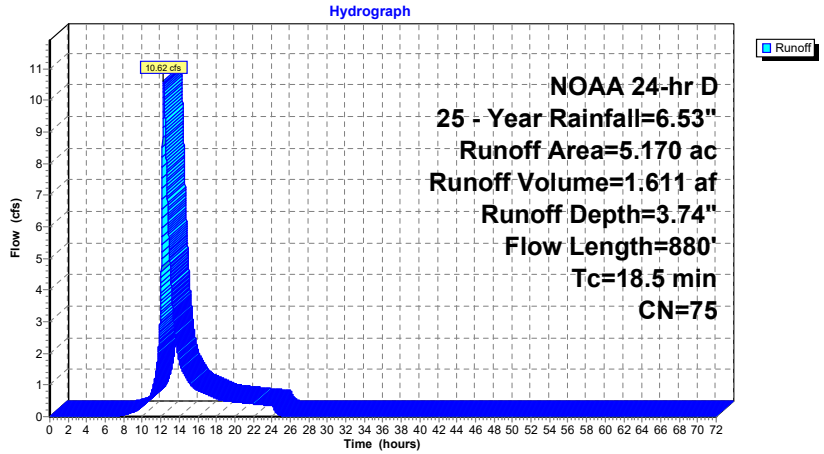
Runoff = 10.62 cfs @ 12.30 hrs, Volume= 1.611 af, Depth= 3.74"
Routed to Link 52L : X

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

Area (ac)	CN	Description
5.170	75	1/4 acre lots, 38% imp, HSG B
3.205		62.00% Pervious Area
1.965		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	100	0.0200	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.4	408	0.0320	2.88		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.2	372	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.5	880	Total			

Subcatchment 59S: X - OFFSITE UNDISTURBED



Summary for Subcatchment 60S: BASIN A - DA

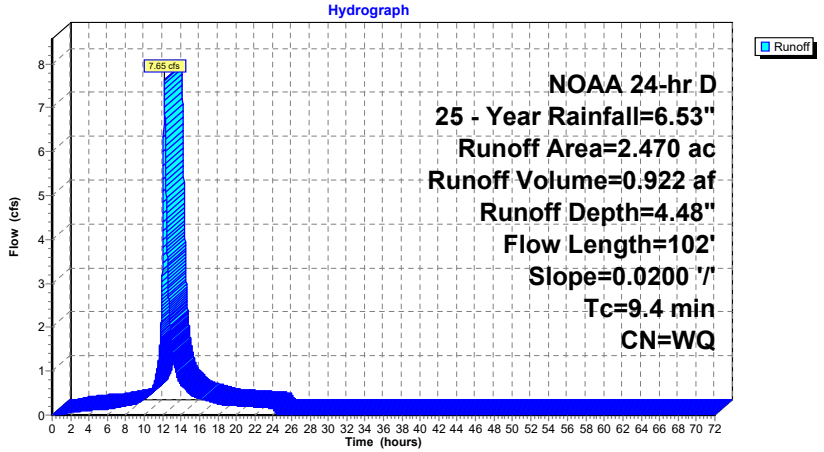
Runoff = 7.65 cfs @ 12.18 hrs, Volume= 0.922 af, Depth= 4.48"
Routed to Pond 52P : BASIN A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

	Area (ac)	CN	Description
*	1.140	61	Open Space
*	0.600	98	Road
*	0.130	98	Sidewalk
*	0.300	98	Roof
*	0.300	98	Driveway & Apron
	2.470		Weighted Average
	1.140		46.15% Pervious Area
	1.330		53.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	43	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	102	Total			

Subcatchment 60S: BASIN A - DA



Summary for Subcatchment 61S: BASIN I - DA

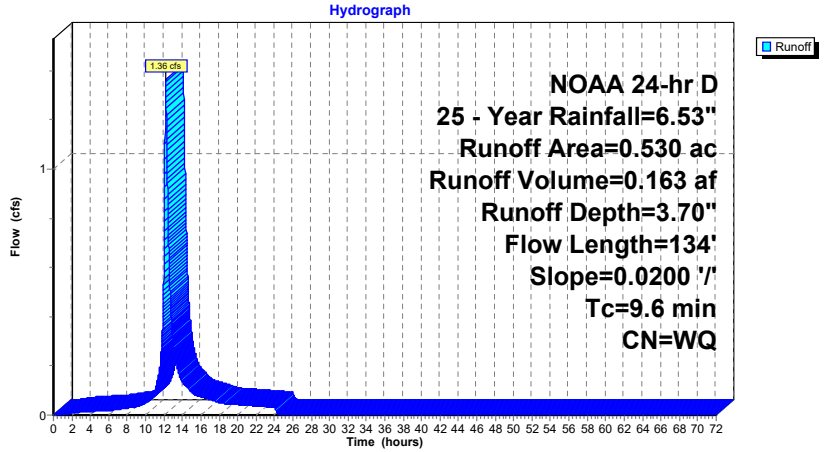
Runoff = 1.36 cfs @ 12.18 hrs, Volume= 0.163 af, Depth= 3.70"
Routed to Pond 64P : BASIN I

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.180	98	Roof
*	0.000	98	Driveway & Apron
	0.530		Weighted Average
	0.350		66.04% Pervious Area
	0.180		33.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.5	75	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.6	134	Total			

Subcatchment 61S: BASIN I - DA



Summary for Subcatchment 62S: Undetained

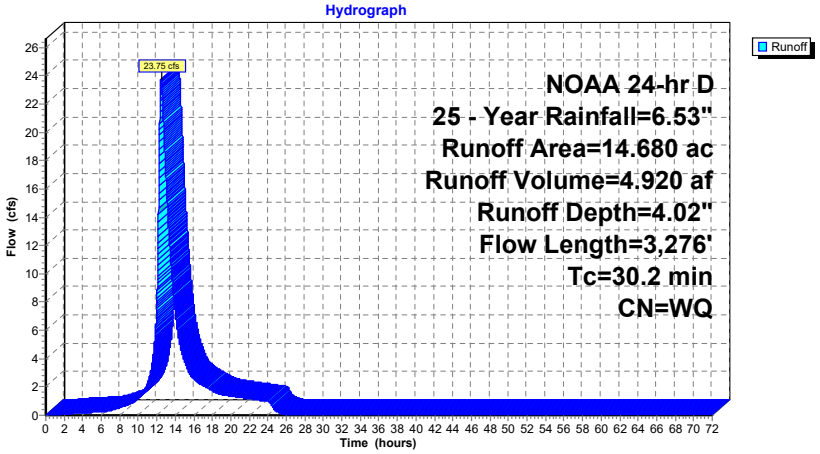
Runoff = 23.75 cfs @ 12.48 hrs, Volume= 4.920 af, Depth= 4.02"
Routed to Link 51L : DA Undetained

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

	Area (ac)	CN	Description
	3.170	61	>75% Grass cover, Good, HSG B
	0.870	55	Woods, Good, HSG B
	8.150	80	>75% Grass cover, Good, HSG D
	0.200	77	Woods, Good, HSG D
*	0.730	98	Water Surface, HSG D
*	0.740	98	Roofs, HSG B
*	0.570	98	Roofs, HSG D
	0.130	98	Paved parking, HSG B
	0.120	98	Unconnected pavement, HSG B
	14.680		Weighted Average
	12.390		84.40% Pervious Area
	2.290		15.60% Impervious Area
	0.120		5.24% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	88	0.0450	0.16		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.3	216	0.0300	2.79		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
19.8	2,972		2.50		**Direct Entry,**
30.2	3,276	Total			

Subcatchment 62S: Undetained



Summary for Subcatchment 63S: BASIN N - DA

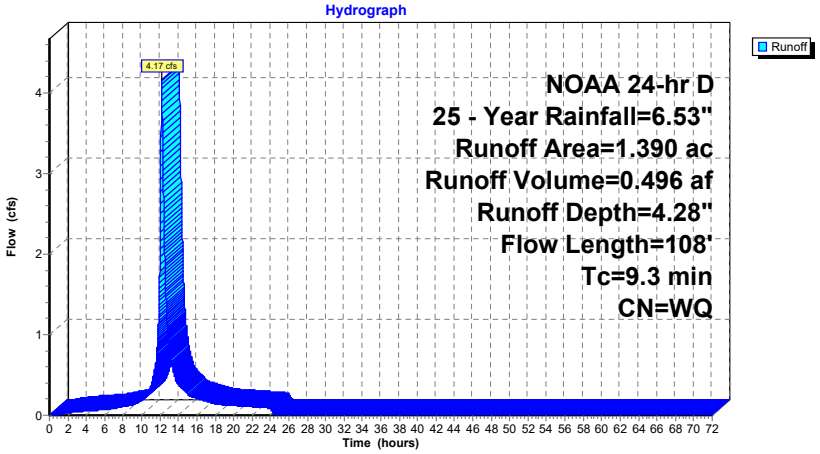
Runoff = 4.17 cfs @ 12.18 hrs, Volume= 0.496 af, Depth= 4.28"
Routed to Pond 90P : BASIN N

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.080	80	Open Space, HSG D
*	0.160	98	Road
*	0.040	98	Sidewalk
*	0.300	98	Roof
*	0.140	98	Driveway & Apron
	1.390		Weighted Average
	0.750		53.96% Pervious Area
	0.640		46.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.2	49	0.0600	3.94		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.3	108	Total			

Subcatchment 63S: BASIN N - DA



Summary for Subcatchment 64S: BASIN E - DA

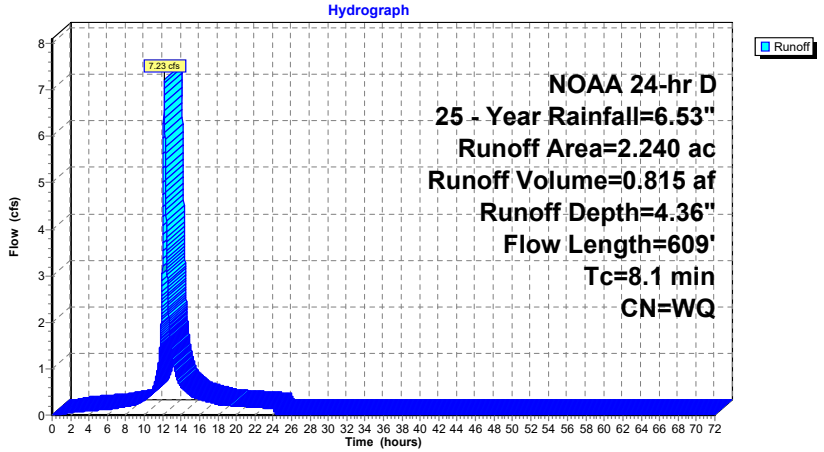
Runoff = 7.23 cfs @ 12.17 hrs, Volume= 0.815 af, Depth= 4.36"
Routed to Pond 65P : BASIN E

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

	Area (ac)	CN	Description
*	1.100	61	Open Space
*	0.450	98	Road
*	0.110	98	Sidewalk
*	0.240	98	Roof
*	0.340	98	Driveway & Apron
	2.240		Weighted Average
	1.100		49.11% Pervious Area
	1.140		50.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0500	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.5	300	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.9	279		2.50		**Direct Entry, Pipe**
8.1	609	Total			

Subcatchment 64S: BASIN E - DA



Summary for Subcatchment 65S: BASIN V - DA

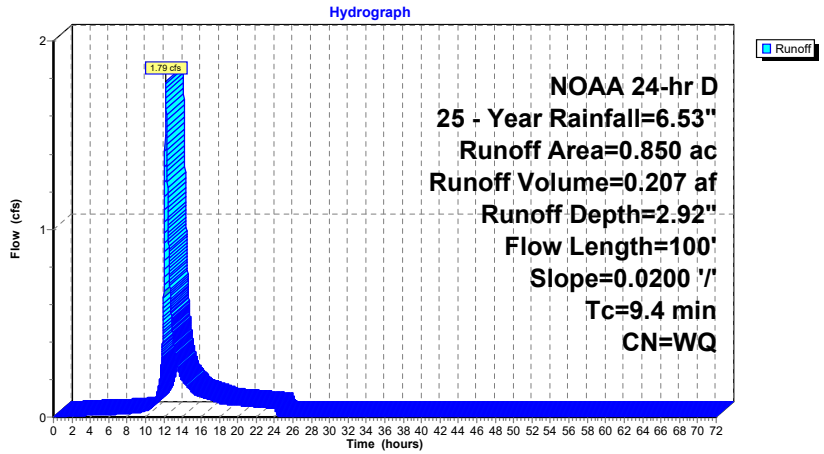
Runoff = 1.79 cfs @ 12.18 hrs, Volume= 0.207 af, Depth= 2.92"
Routed to Pond 117P : BASIN V

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

	Area (ac)	CN	Description
*	0.730	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.120	98	Roof
*	0.000	98	Driveway & Apron
	0.850		Weighted Average
	0.730		85.88% Pervious Area
	0.120		14.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	41	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	100	Total			

Subcatchment 65S: BASIN V - DA



Summary for Subcatchment 67S: Pipe W

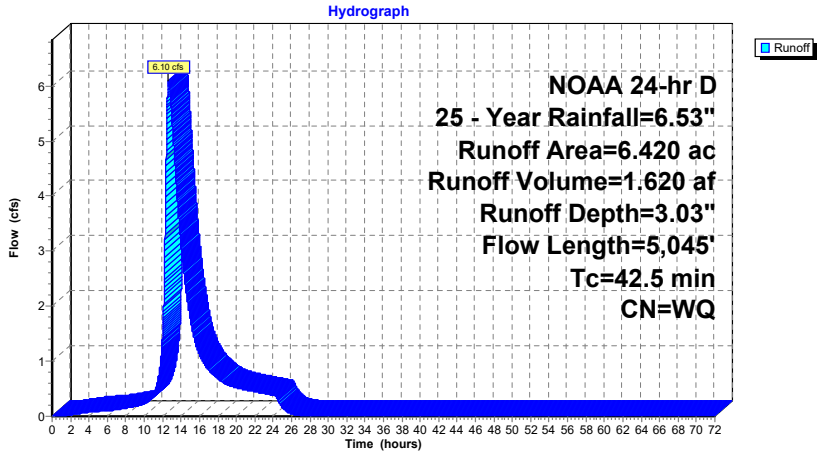
Runoff = 6.10 cfs @ 12.66 hrs, Volume= 1.620 af, Depth= 3.03"
Routed to Link 53L : W

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

Area (ac)	CN	Description
5.340	61	>75% Grass cover, Good, HSG B
1.080	98	Roofs, HSG B
6.420		Weighted Average
5.340		83.18% Pervious Area
1.080		16.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	66	0.0250	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.1	144	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
12.2	1,824		2.50		**Direct Entry,**
20.1	3,011		2.50		**Direct Entry,**
42.5	5,045	Total			

Subcatchment 67S: Pipe W



Summary for Subcatchment 68S: BASIN K - DA

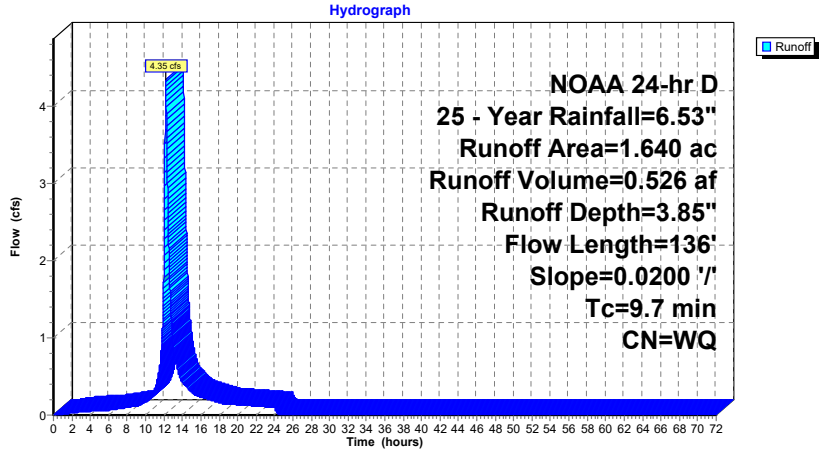
Runoff = 4.35 cfs @ 12.18 hrs, Volume= 0.526 af, Depth= 3.85"
Routed to Pond 70P : BASIN K

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

	Area (ac)	CN	Description
*	1.020	61	Open Space
*	0.000	98	Road
*	0.020	98	Sidewalk
*	0.600	98	Roof
*	0.000	98	Driveway & Apron
	1.640		Weighted Average
	1.020		62.20% Pervious Area
	0.620		37.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.6	77	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.7	136	Total			

Subcatchment 68S: BASIN K - DA



Summary for Subcatchment 69S: BASIN O - DA

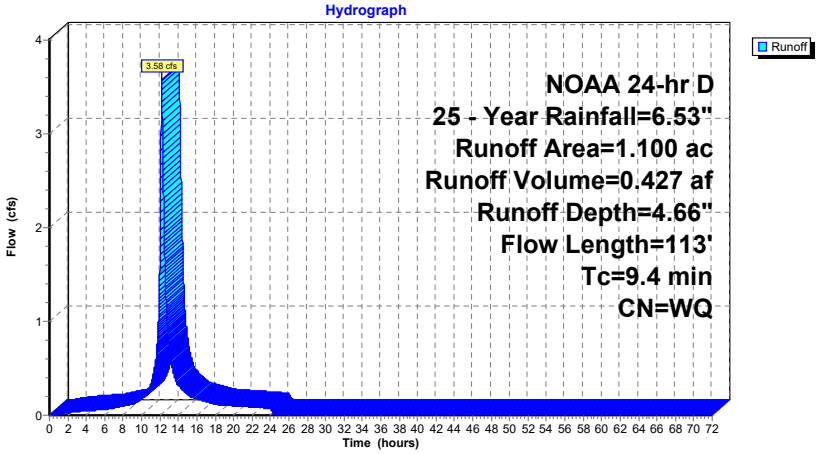
Runoff = 3.58 cfs @ 12.18 hrs, Volume= 0.427 af, Depth= 4.66"
Routed to Pond 93P : BASIN O

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

	Area (ac)	CN	Description
*	0.380	61	Open Space
*	0.150	80	Open Space, HSG D
*	0.150	98	Road
*	0.040	98	Sidewalk
*	0.240	98	Roof
*	0.140	98	Driveway & Apron
	1.100		Weighted Average
	0.530		48.18% Pervious Area
	0.570		51.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	54	0.0300	2.79		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	113	Total			

Subcatchment 69S: BASIN O - DA



Summary for Subcatchment 70S: Pipe X

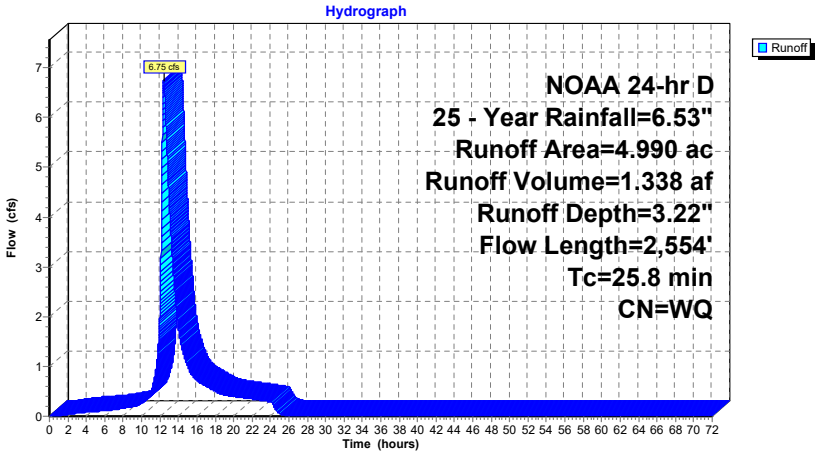
Runoff = 6.75 cfs @ 12.39 hrs, Volume= 1.338 af, Depth= 3.22"
Routed to Link 52L : X

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

	Area (ac)	CN	Description
*	3.910	61	Open Space
*	0.000	98	Road/Sidewalk
*	1.080	98	Roof
*	0.000	98	Driveway
	4.990		Weighted Average
	3.910		78.36% Pervious Area
	1.080		21.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.2	168	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
7.4	1,103		2.50		**Direct Entry,**
0.8	123	0.0250	2.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.3	1,101		2.50		**Direct Entry,**
25.8	2,554	Total			

Subcatchment 70S: Pipe X



Summary for Subcatchment 71S: BASIN B - DA

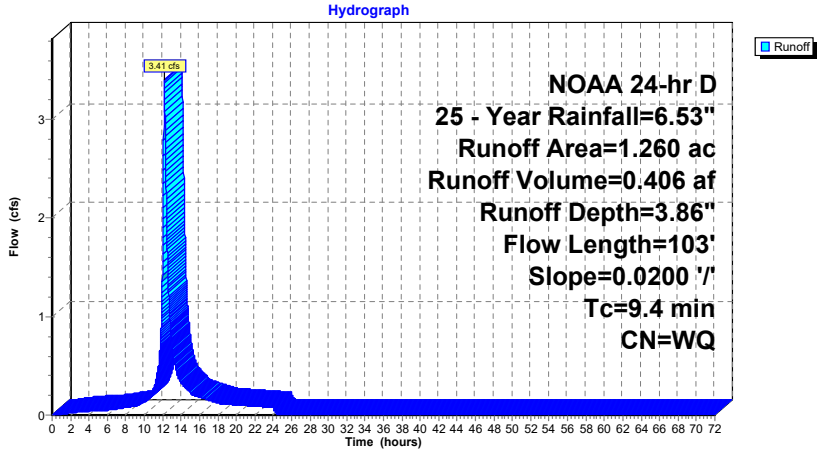
Runoff = 3.41 cfs @ 12.18 hrs, Volume= 0.406 af, Depth= 3.86"
Routed to Pond 74P : BASIN B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

	Area (ac)	CN	Description
*	0.780	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.480	98	Roof
*	0.000	98	Driveway
	1.260		Weighted Average
	0.780		61.90% Pervious Area
	0.480		38.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 71S: BASIN B - DA



Summary for Subcatchment 73S: BASIN C - DA

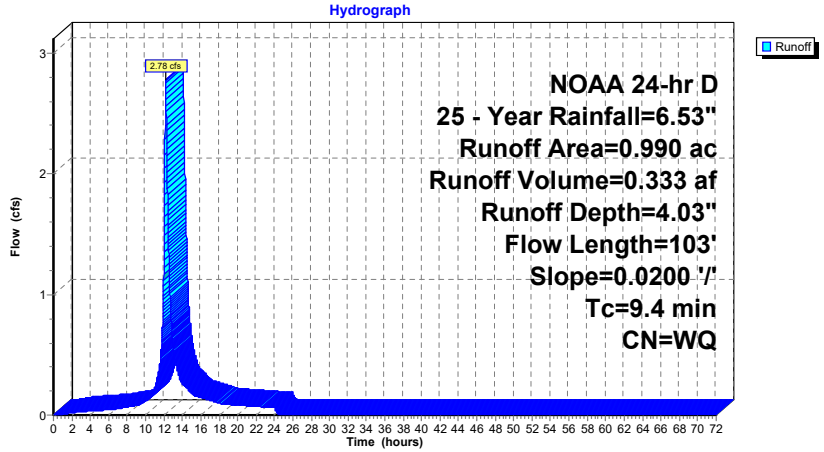
Runoff = 2.78 cfs @ 12.18 hrs, Volume= 0.333 af, Depth= 4.03"
Routed to Pond 59P : BASIN C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

	Area (ac)	CN	Description
*	0.570	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.420	98	Roof
*	0.000	98	Driveway
	0.990		Weighted Average
	0.570		57.58% Pervious Area
	0.420		42.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 73S: BASIN C - DA



Summary for Subcatchment 75S: BASIN M - DA

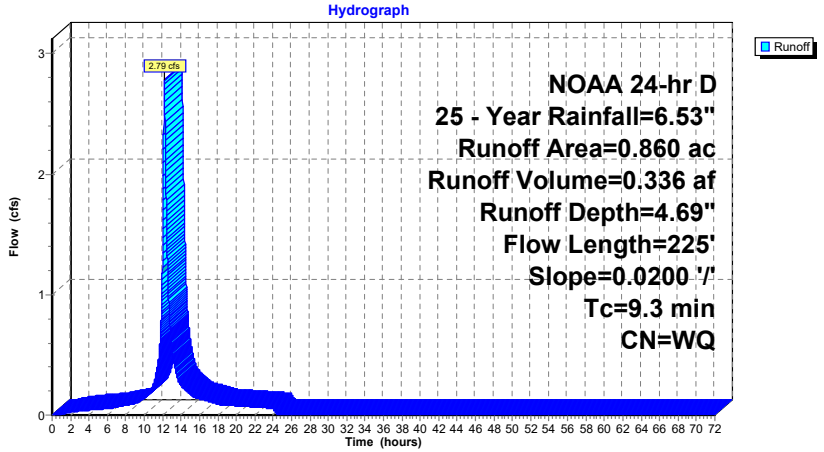
Runoff = 2.79 cfs @ 12.18 hrs, Volume= 0.336 af, Depth= 4.69"
Routed to Pond 76P : BASIN M

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.280	98	Road
*	0.050	98	Sidewalk
*	0.060	98	Roof
*	0.120	98	Driveway & Apron
	0.860		Weighted Average
	0.350		40.70% Pervious Area
	0.510		59.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	52	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
0.5	87	0.0200	2.87		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
0.6	86		2.50		**Direct Entry, Pipe**
9.3	225	Total			

Subcatchment 75S: BASIN M - DA



Summary for Subcatchment 76S: BASIN F - DA

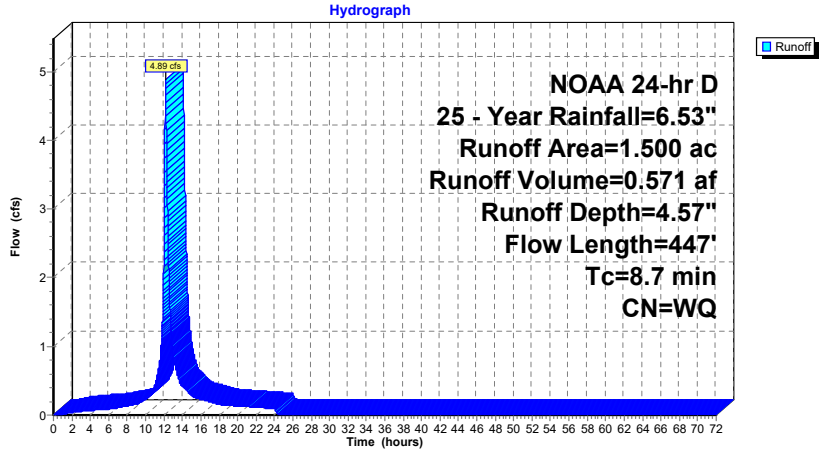
Runoff = 4.89 cfs @ 12.17 hrs, Volume= 0.571 af, Depth= 4.57"
Routed to Pond 83P : BASIN F

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

	Area (ac)	CN	Description
*	0.660	61	Open Space
*	0.440	98	Road
*	0.100	98	Sidewalk
*	0.120	98	Roof
*	0.180	98	Driveway & Apron
	1.500		Weighted Average
	0.660		44.00% Pervious Area
	0.840		56.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	33	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.3	158	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.7	256		2.50		**Direct Entry, Pipe**
8.7	447	Total			

Subcatchment 76S: BASIN F - DA



Summary for Subcatchment 77S: BASIN D - DA

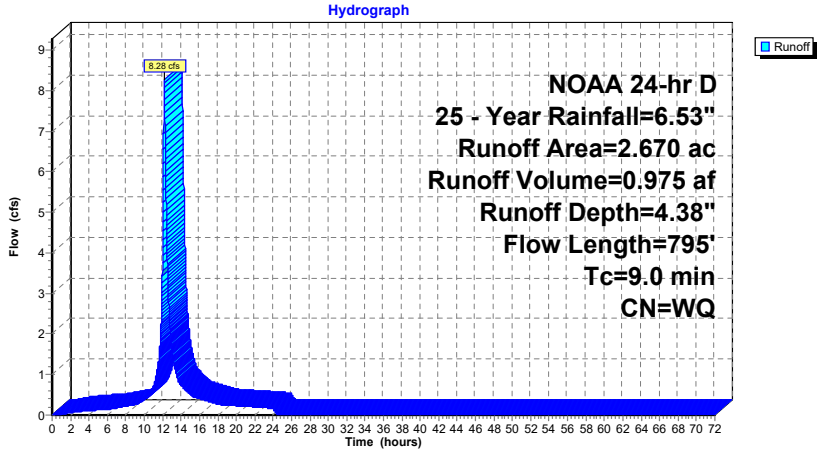
Runoff = 8.28 cfs @ 12.18 hrs, Volume= 0.975 af, Depth= 4.38"
Routed to Pond 75P : BASIN D

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

	Area (ac)	CN	Description
*	1.300	61	Open Space
*	0.430	98	Road
*	0.120	98	Sidewalk
*	0.420	98	Roof
*	0.400	98	Driveway & Apron
	2.670		Weighted Average
	1.300		48.69% Pervious Area
	1.370		51.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0500	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.2	300	0.0120	2.22		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
3.1	465		2.50		**Direct Entry, Pipe**
9.0	795	Total			

Subcatchment 77S: BASIN D - DA



Summary for Subcatchment 83S: BASIN L - DA

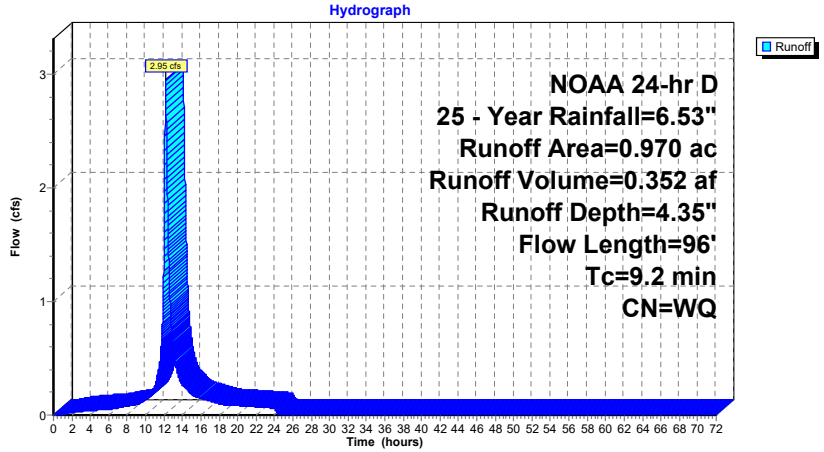
Runoff = 2.95 cfs @ 12.18 hrs, Volume= 0.352 af, Depth= 4.35"
Routed to Pond 84P : BASIN L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

	Area (ac)	CN	Description
*	0.480	61	Open Space
*	0.220	98	Road
*	0.050	98	Sidewalk
*	0.120	98	Roof
*	0.100	98	Driveway & Apron
	0.970		Weighted Average
	0.480		49.48% Pervious Area
	0.490		50.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	37	0.0800	4.55		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.2	96	Total			

Subcatchment 83S: BASIN L - DA



Summary for Subcatchment 85S: BASIN G - DA

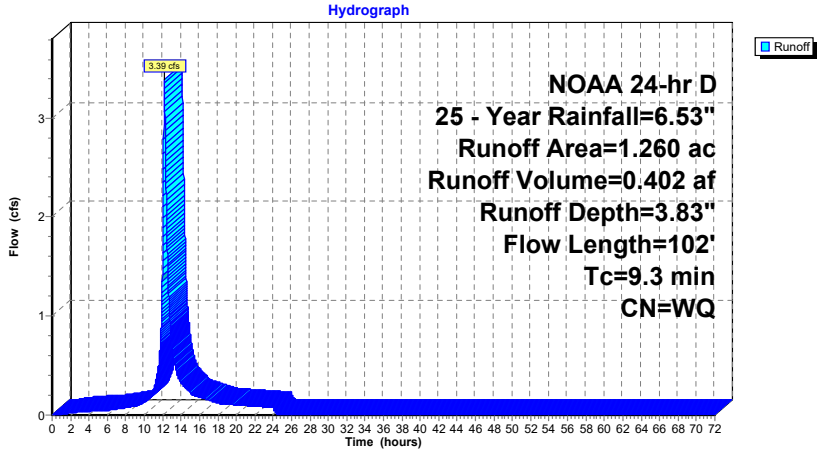
Runoff = 3.39 cfs @ 12.18 hrs, Volume= 0.402 af, Depth= 3.83"
Routed to Pond 86P : BASIN G

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

	Area (ac)	CN	Description
*	0.790	61	Open Space
*	0.060	98	Road
*	0.010	98	Sidewalk
*	0.360	98	Roof
*	0.040	98	Driveway & Apron
	1.260		Weighted Average
	0.790		62.70% Pervious Area
	0.470		37.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.2	43	0.0350	3.01		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.3	102	Total			

Subcatchment 85S: BASIN G - DA



Summary for Subcatchment 88S: BASIN H - DA

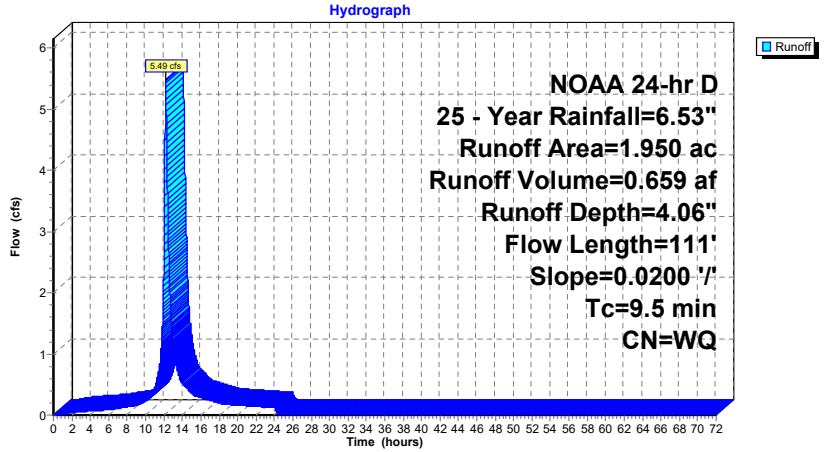
Runoff = 5.49 cfs @ 12.18 hrs, Volume= 0.659 af, Depth= 4.06"
Routed to Pond 60P : BASIN H

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

	Area (ac)	CN	Description
*	1.110	61	Open Space
*	0.230	98	Road
*	0.050	98	Sidewalk
*	0.420	98	Roof
*	0.140	98	Driveway & Apron
	1.950		Weighted Average
	1.110		56.92% Pervious Area
	0.840		43.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.4	52	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.5	111	Total			

Subcatchment 88S: BASIN H - DA



Summary for Subcatchment 98S: BASIN P - DA

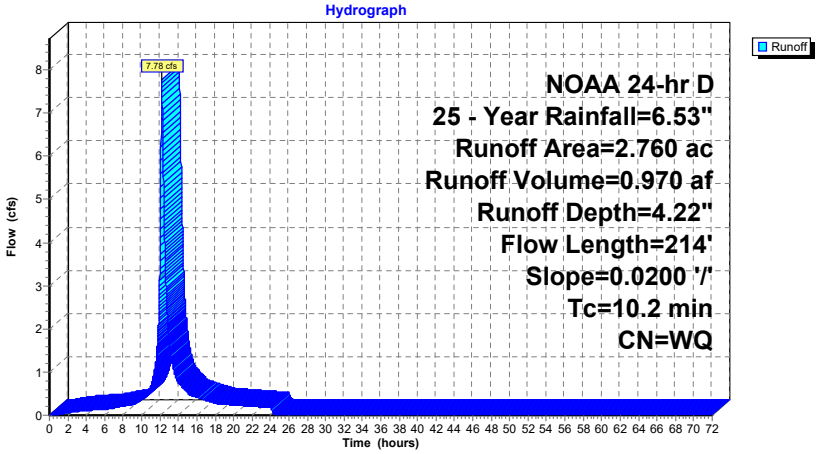
Runoff = 7.78 cfs @ 12.19 hrs, Volume= 0.970 af, Depth= 4.22"
Routed to Pond 63P : BASIN P

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

	Area (ac)	CN	Description
*	1.460	61	Open Space
*	0.410	98	Road
*	0.110	98	Sidewalk
*	0.420	98	Roof
*	0.360	98	Driveway & Apron
	2.760		Weighted Average
	1.460		52.90% Pervious Area
	1.300		47.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.7	99	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
0.4	56		2.50		**Direct Entry,**
10.2	214	Total			

Subcatchment 98S: BASIN P - DA



Summary for Subcatchment 101S: BASIN Q - DA

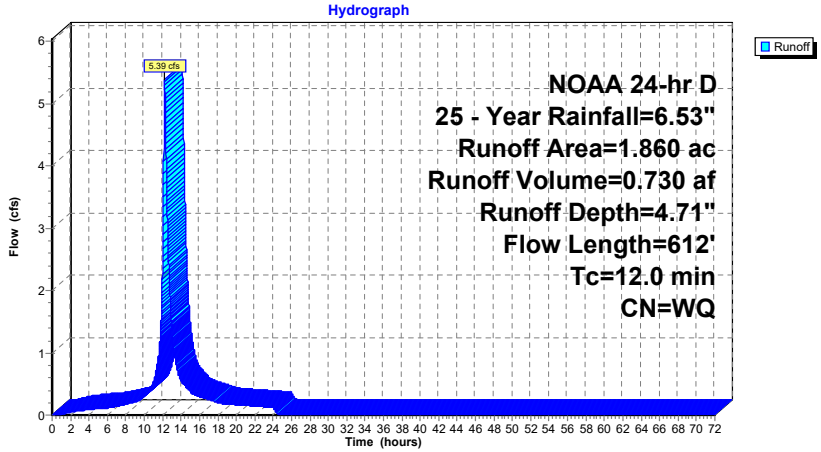
Runoff = 5.39 cfs @ 12.21 hrs, Volume= 0.730 af, Depth= 4.71"
Routed to Pond 102P : BASIN Q

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

	Area (ac)	CN	Description
*	0.750	61	Open Space
*	0.570	98	Road
*	0.140	98	Sidewalk
*	0.060	98	Roof
*	0.340	98	Driveway & Apron
	1.860		Weighted Average
	0.750		40.32% Pervious Area
	1.110		59.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	49	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.3	283	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.9	280		2.50		**Direct Entry, Pipe**
12.0	612	Total			

Subcatchment 101S: BASIN Q - DA



Summary for Subcatchment 104S: BASIN R - DA

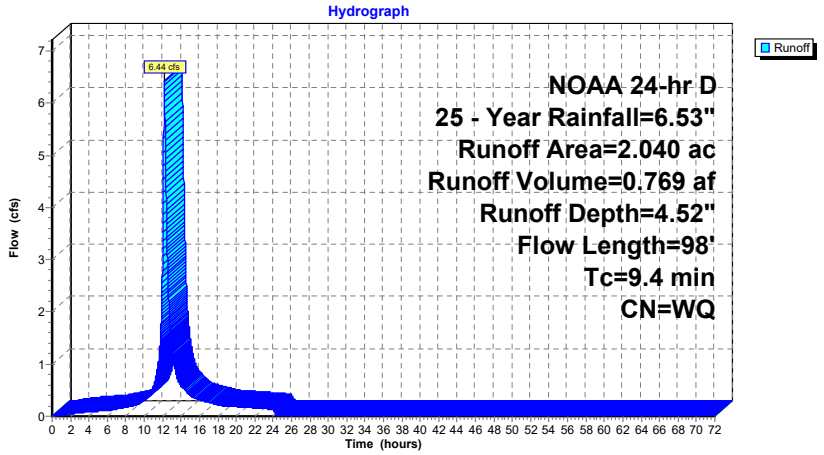
Runoff = 6.44 cfs @ 12.18 hrs, Volume= 0.769 af, Depth= 4.52"
Routed to Pond 105P : BASIN R

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

	Area (ac)	CN	Description
	0.810	61	>75% Grass cover, Good, HSG B
*	0.350	98	Road
*	0.090	98	Sidewalk
*	0.300	98	Roof
*	0.280	98	Driveway & Apron
	0.210	80	>75% Grass cover, Good, HSG D
	2.040		Weighted Average
	1.020		50.00% Pervious Area
	1.020		50.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	39	0.0250	2.55		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	98	Total			

Subcatchment 104S: BASIN R - DA



Summary for Subcatchment 107S: BASIN S - DA

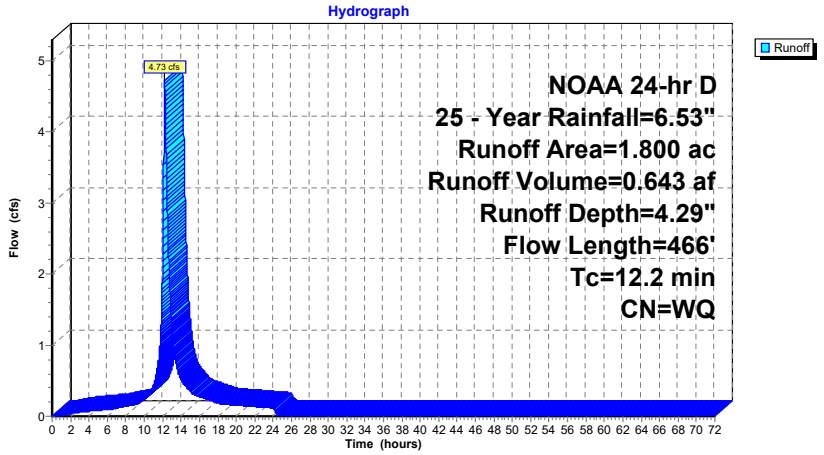
Runoff = 4.73 cfs @ 12.22 hrs, Volume= 0.643 af, Depth= 4.29"
Routed to Pond 108P : BASIN S

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

	Area (ac)	CN	Description
*	0.920	61	Open Space
*	0.590	98	Road
*	0.190	98	Sidewalk
*	0.080	98	Roof
*	0.020	98	Driveway & Apron
	1.800		Weighted Average
	0.920		51.11% Pervious Area
	0.880		48.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	6	0.0100	1.61		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
1.4	167	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.6	234		2.50		**Direct Entry, Pipe**
12.2	466	Total			

Subcatchment 107S: BASIN S - DA



Summary for Subcatchment 110S: BASIN T - DA

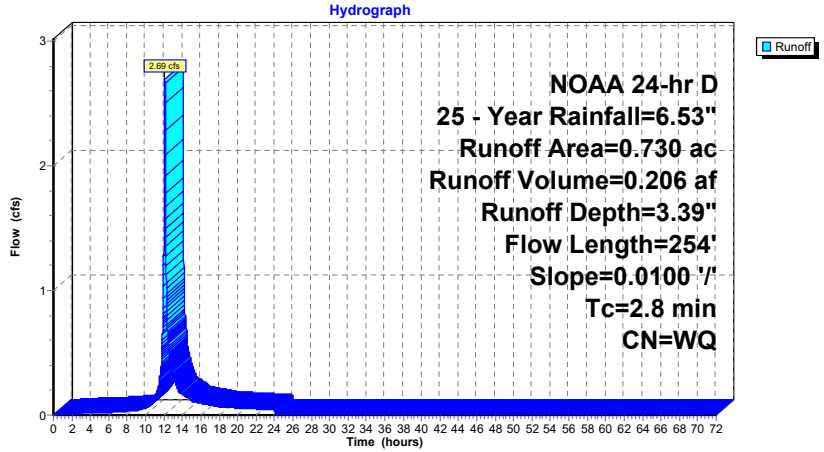
Runoff = 2.69 cfs @ 12.11 hrs, Volume= 0.206 af, Depth= 3.39"
Routed to Pond 111P : BASIN T

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

	Area (ac)	CN	Description
*	0.540	61	Open Space
*	0.140	98	Road
*	0.050	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	0.730		Weighted Average
	0.540		73.97% Pervious Area
	0.190		26.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.07		**Sheet Flow, Sheet Flow - Smooth Surfaces** Smooth surfaces n= 0.011 P2= 3.38"
0.8	93	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
0.4	61		2.50		**Direct Entry, Pipe**
2.8	254	Total			

Subcatchment 110S: BASIN T - DA



Summary for Subcatchment 113S: BASIN U - DA

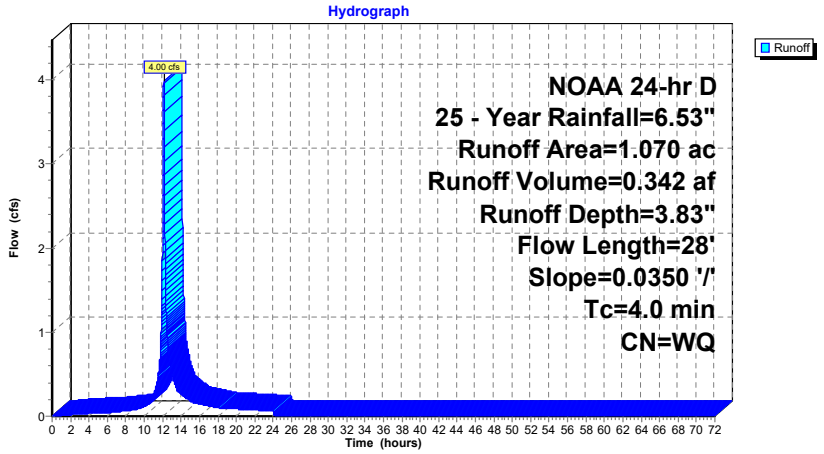
Runoff = 4.00 cfs @ 12.12 hrs, Volume= 0.342 af, Depth= 3.83"
Routed to Pond 114P : BASIN U

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.330	98	Road
*	0.070	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	1.070		Weighted Average
	0.670		62.62% Pervious Area
	0.400		37.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	28	0.0350	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"

Subcatchment 113S: BASIN U - DA



Summary for Pond 52P: BASIN A

Inflow Area = 2.470 ac, 53.85% Impervious, Inflow Depth = 4.48" for 25 - Year event
Inflow = 7.65 cfs @ 12.18 hrs, Volume= 0.922 af
Outflow = 0.22 cfs @ 19.67 hrs, Volume= 0.730 af, Atten= 97%, Lag= 449.1 min
Primary = 0.22 cfs @ 19.67 hrs, Volume= 0.730 af
Routed to Pond 74P : BASIN B

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 34.67' @ 19.67 hrs Surf.Area= 0.347 ac Storage= 0.717 af

Plug-Flow detention time= 1,411.3 min calculated for 0.730 af (79% of inflow)
Center-of-Mass det. time= 1,321.3 min (2,104.9 - 783.7)

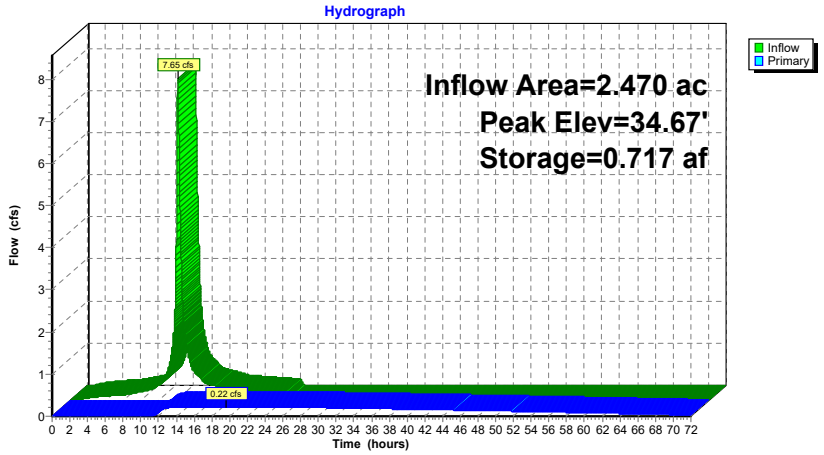
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.233 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.192	0.000	0.000
33.00	0.249	0.220	0.220
34.00	0.307	0.278	0.499
35.00	0.367	0.337	0.836
36.00	0.428	0.397	1.233

Device	Routing	Invert	Outlet Devices
#1	Primary	35.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.75'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.22 cfs @ 19.67 hrs HW=34.67' TW=31.60' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.22 cfs @ 6.48 fps)

Pond 52P: BASIN A



Summary for Pond 59P: BASIN C

Inflow Area = 4.720 ac, 47.25% Impervious, Inflow Depth > 3.52" for 25 - Year event
Inflow = 4.16 cfs @ 12.29 hrs, Volume= 1.386 af
Outflow = 3.84 cfs @ 12.44 hrs, Volume= 1.340 af, Atten= 8%, Lag= 8.8 min
Primary = 3.84 cfs @ 12.44 hrs, Volume= 1.340 af
Routed to Pond 75P : BASIN D

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 30.24' @ 12.44 hrs Surf.Area= 0.071 ac Storage= 0.090 af

Plug-Flow detention time= 133.6 min calculated for 1.340 af (97% of inflow)
Center-of-Mass det. time= 48.5 min (1,625.2 - 1,576.7)

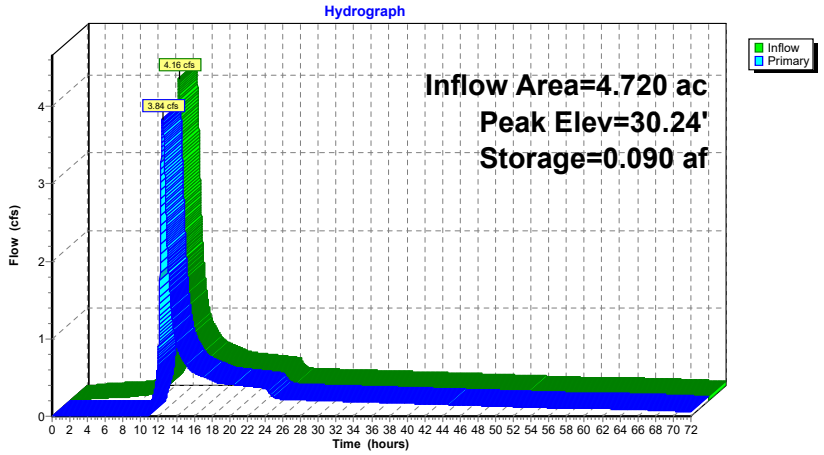
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.198 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.033	0.000	0.000
29.50	0.054	0.043	0.043
30.50	0.077	0.065	0.109
31.50	0.101	0.089	0.198

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	29.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=3.84 cfs @ 12.44 hrs HW=30.24' TW=28.61' (Dynamic Tailwater)
↑—**1=Grate** (Controls 0.00 cfs)
└—**2=Sharp-Crested Rectangular Weir** (Weir Controls 3.84 cfs @ 2.81 fps)

Pond 59P: BASIN C



Summary for Pond 60P: BASIN H

Inflow Area = 4.710 ac, 45.65% Impervious, Inflow Depth > 3.45" for 25 - Year event
Inflow = 5.62 cfs @ 12.18 hrs, Volume= 1.353 af
Outflow = 1.50 cfs @ 13.48 hrs, Volume= 1.197 af, Atten= 73%, Lag= 77.6 min
Primary = 1.50 cfs @ 13.48 hrs, Volume= 1.197 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 30.52' @ 13.48 hrs Surf.Area= 0.284 ac Storage= 0.503 af

Plug-Flow detention time= 869.9 min calculated for 1.197 af (88% of inflow)
Center-of-Mass det. time= 665.8 min (1,837.6 - 1,171.8)

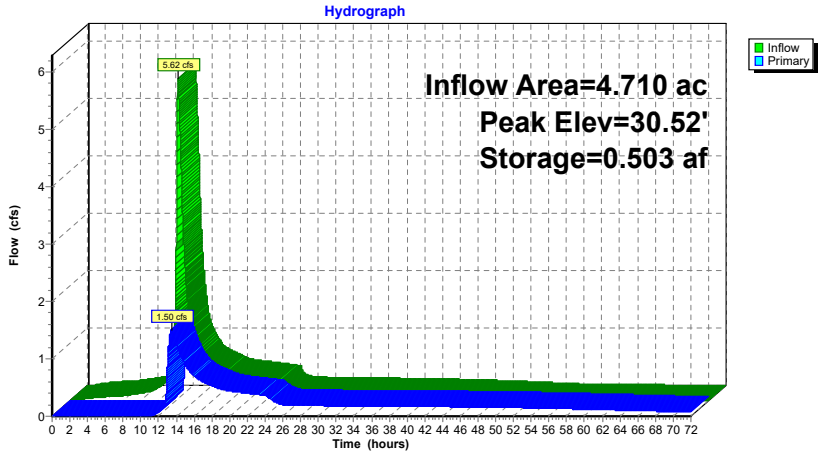
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.799 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.216	0.000	0.000
29.00	0.232	0.112	0.112
30.00	0.266	0.249	0.361
31.00	0.301	0.283	0.644
31.50	0.319	0.155	0.799

Device	Routing	Invert	Outlet Devices
#1	Primary	31.20'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.30'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	28.90'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.50 cfs @ 13.48 hrs HW=30.52' TW=28.55' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 1.30 cfs @ 1.52 fps)
- **3=Orifice** (Orifice Controls 0.20 cfs @ 5.92 fps)

Pond 60P: BASIN H



Summary for Pond 63P: BASIN P

Inflow = 10.07 cfs @ 12.17 hrs, Volume= 2.379 af
Outflow = 4.54 cfs @ 12.61 hrs, Volume= 2.050 af, Atten= 55%, Lag= 26.3 min
Primary = 4.54 cfs @ 12.61 hrs, Volume= 2.050 af
Routed to Pond 65P : BASIN E

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.73' @ 12.58 hrs Surf.Area= 0.276 ac Storage= 0.526 af

Plug-Flow detention time= 471.7 min calculated for 2.049 af (86% of inflow)
Center-of-Mass det. time= 160.5 min (1,486.7 - 1,326.2)

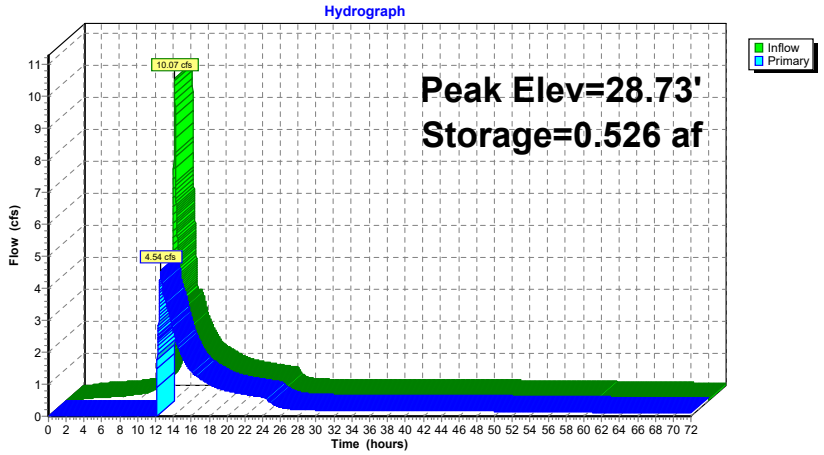
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.910 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.193	0.000	0.000
27.50	0.233	0.213	0.213
28.50	0.268	0.250	0.463
29.50	0.303	0.286	0.749
30.00	0.340	0.161	0.910

Device	Routing	Invert	Outlet Devices
#1	Primary	29.30'	**42.0" x 102.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**3.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.57 cfs @ 12.61 hrs HW=28.73' TW=28.65' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 4.50 cfs @ 1.42 fps)
- **3=Orifice** (Orifice Controls 0.07 cfs @ 1.38 fps)

Pond 63P: BASIN P



Summary for Pond 64P: BASIN I

Inflow Area = 0.530 ac, 33.96% Impervious, Inflow Depth = 3.70" for 25 - Year event
Inflow = 1.36 cfs @ 12.18 hrs, Volume= 0.163 af
Outflow = 0.69 cfs @ 12.53 hrs, Volume= 0.140 af, Atten= 50%, Lag= 20.7 min
Primary = 0.69 cfs @ 12.53 hrs, Volume= 0.140 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 30.74' @ 12.53 hrs Surf.Area= 0.039 ac Storage= 0.069 af

Plug-Flow detention time= 239.0 min calculated for 0.140 af (86% of inflow)
Center-of-Mass det. time= 168.3 min (974.2 - 805.9)

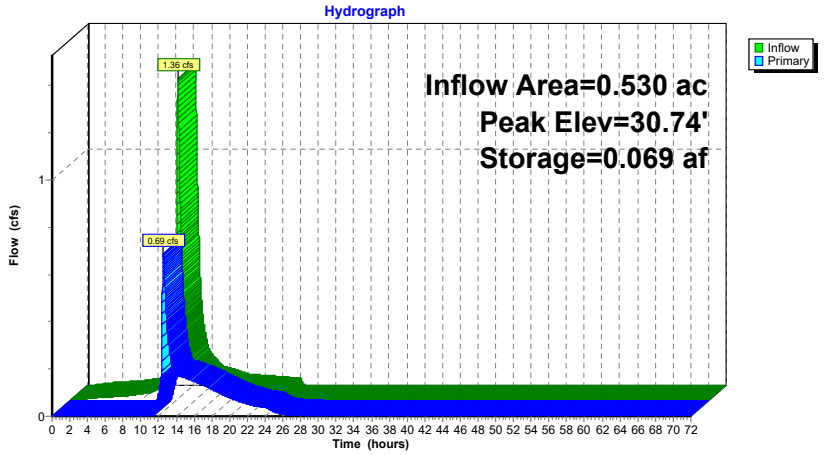
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.101 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.023	0.000	0.000
29.50	0.030	0.026	0.026
30.50	0.037	0.033	0.060
31.50	0.045	0.041	0.101

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.60'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	29.40'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.69 cfs @ 12.53 hrs HW=30.74' TW=28.73' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.50 cfs @ 1.22 fps)
- **3=Orifice** (Orifice Controls 0.18 cfs @ 5.35 fps)

Pond 64P: BASIN I



Summary for Pond 65P: BASIN E

[86] Warning: Oscillations may require smaller dt (severity=1)

Inflow = 8.50 cfs @ 12.22 hrs, Volume= 2.864 af
Outflow = 7.37 cfs @ 12.54 hrs, Volume= 2.696 af, Atten= 13%, Lag= 19.0 min
Primary = 7.37 cfs @ 12.54 hrs, Volume= 2.623 af
Routed to Link 46L : DA North
Secondary = 2.27 cfs @ 12.14 hrs, Volume= 0.072 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.65' @ 12.54 hrs Surf.Area= 0.162 ac Storage= 0.270 af

Plug-Flow detention time= 219.3 min calculated for 2.695 af (94% of inflow)
Center-of-Mass det. time= 66.0 min (1,352.8 - 1,286.9)

Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.421 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

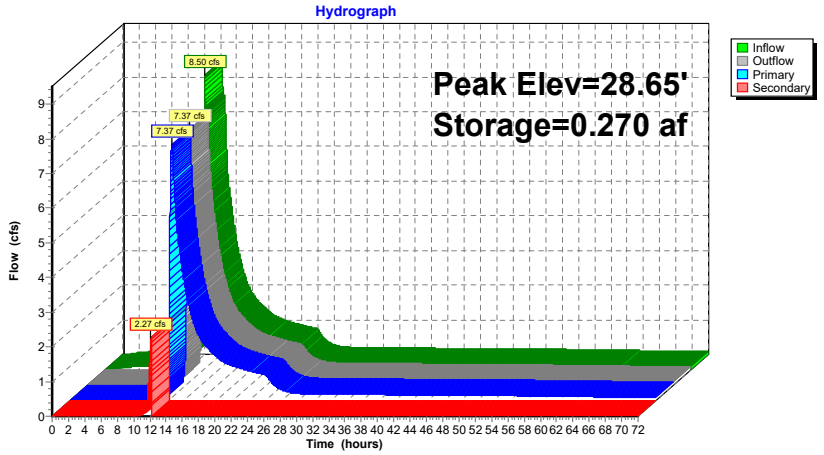
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.091	0.000	0.000
27.50	0.122	0.106	0.106
28.50	0.157	0.139	0.246
29.50	0.193	0.175	0.421

Device	Routing	Invert	Outlet Devices
#1	Primary	28.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#4	Secondary	27.50'	**3.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#5	Secondary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#6	Secondary	29.30'	**42.0" x 102.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=7.37 cfs @ 12.54 hrs HW=28.65' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Weir Controls 0.56 cfs @ 0.74 fps)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 6.64 cfs @ 2.64 fps)
- **3=Orifice** (Orifice Controls 0.17 cfs @ 4.93 fps)

Secondary OutFlow Max=2.05 cfs @ 12.14 hrs HW=28.28' TW=28.19' (Dynamic Tailwater)
- **4=Orifice** (Orifice Controls 0.07 cfs @ 1.45 fps)
- **5=Sharp-Crested Rectangular Weir** (Weir Controls 1.98 cfs @ 1.33 fps)
- **6=Grate** (Controls 0.00 cfs)

Pond 65P: BASIN E



Summary for Pond 70P: BASIN K

Inflow Area = 1.640 ac, 37.80% Impervious, Inflow Depth = 3.85" for 25 - Year event
Inflow = 4.35 cfs @ 12.18 hrs, Volume= 0.526 af
Outflow = 1.36 cfs @ 12.76 hrs, Volume= 0.459 af, Atten= 69%, Lag= 34.6 min
Primary = 1.36 cfs @ 12.76 hrs, Volume= 0.459 af
Routed to Pond 90P : BASIN N

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 32.25' @ 12.76 hrs Surf.Area= 0.168 ac Storage= 0.253 af

Plug-Flow detention time= 402.4 min calculated for 0.459 af (87% of inflow)
Center-of-Mass det. time= 337.9 min (1,139.0 - 801.1)

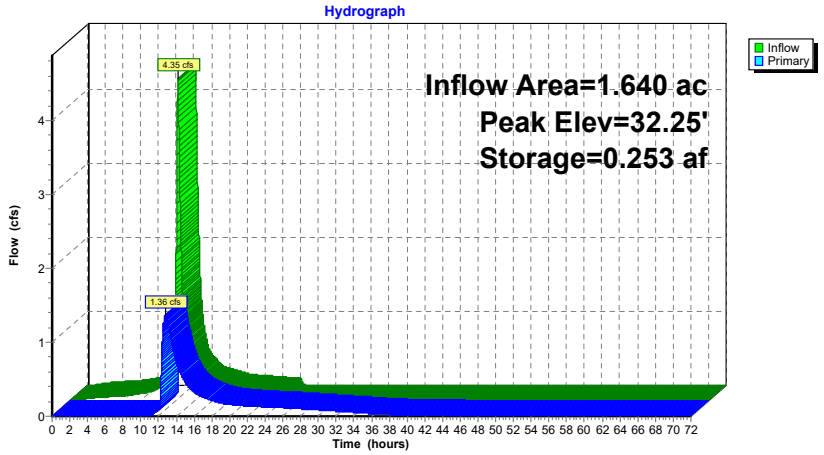
Volume	Invert	Avail.Storage	Storage Description
#1	30.50'	0.484 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.50	0.122	0.000	0.000
31.50	0.148	0.135	0.135
32.50	0.174	0.161	0.296
33.50	0.202	0.188	0.484

Device	Routing	Invert	Outlet Devices
#1	Primary	33.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.70'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.36 cfs @ 12.76 hrs HW=32.25' TW=30.65' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 1.18 cfs @ 2.42 fps)
- **3=Orifice** (Orifice Controls 0.18 cfs @ 5.15 fps)

Pond 70P: BASIN K



Summary for Pond 74P: BASIN B

Inflow Area = 3.730 ac, 48.53% Impervious, Inflow Depth > 3.65" for 25 - Year event
Inflow = 3.53 cfs @ 12.18 hrs, Volume= 1.136 af
Outflow = 2.20 cfs @ 12.44 hrs, Volume= 1.053 af, Atten= 38%, Lag= 15.3 min
Primary = 2.20 cfs @ 12.44 hrs, Volume= 1.053 af
Routed to Pond 59P : BASIN C

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 31.98' @ 12.44 hrs Surf.Area= 0.112 ac Storage= 0.159 af

Plug-Flow detention time= 351.7 min calculated for 1.053 af (93% of inflow)
Center-of-Mass det. time= 184.9 min (1,823.8 - 1,638.9)

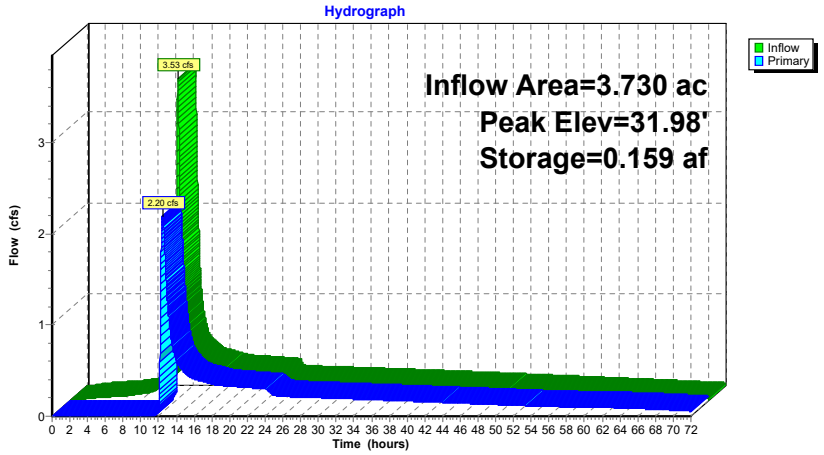
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	0.292 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.00	0.049	0.000	0.000
31.00	0.081	0.065	0.065
32.00	0.113	0.097	0.162
33.00	0.147	0.130	0.292

Device	Routing	Invert	Outlet Devices
#1	Primary	32.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.20 cfs @ 12.44 hrs HW=31.98' TW=30.24' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 2.04 cfs @ 2.25 fps)
- **3=Orifice** (Orifice Controls 0.15 cfs @ 4.49 fps)

Pond 74P: BASIN B



Summary for Pond 75P: BASIN D

Inflow Area = 7.390 ac, 48.71% Impervious, Inflow Depth > 3.76" for 25 - Year event
Inflow = 10.56 cfs @ 12.20 hrs, Volume= 2.315 af
Outflow = 7.79 cfs @ 12.50 hrs, Volume= 2.029 af, Atten= 26%, Lag= 18.2 min
Primary = 7.79 cfs @ 12.50 hrs, Volume= 2.029 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.61' @ 12.50 hrs Surf.Area= 0.261 ac Storage= 0.483 af

Plug-Flow detention time= 429.8 min calculated for 2.028 af (88% of inflow)
Center-of-Mass det. time= 152.8 min (1,424.3 - 1,271.5)

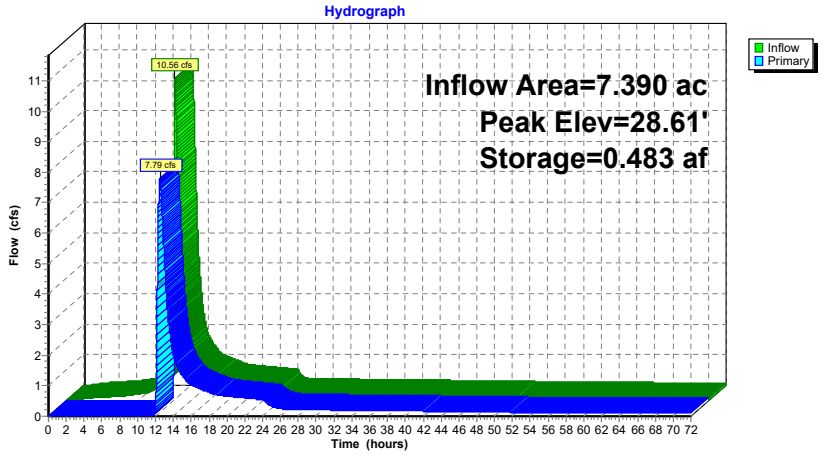
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.725 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.197	0.000	0.000
27.50	0.226	0.211	0.211
28.50	0.257	0.241	0.453
29.50	0.288	0.272	0.725

Device	Routing	Invert	Outlet Devices
#1	Primary	28.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.40'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=7.79 cfs @ 12.50 hrs HW=28.61' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 7.61 cfs @ 2.76 fps)
- **3=Orifice** (Orifice Controls 0.17 cfs @ 5.07 fps)

Pond 75P: BASIN D



Summary for Pond 76P: BASIN M

Inflow Area = 0.860 ac, 59.30% Impervious, Inflow Depth = 4.69" for 25 - Year event
Inflow = 2.79 cfs @ 12.18 hrs, Volume= 0.336 af
Outflow = 1.07 cfs @ 12.62 hrs, Volume= 0.276 af, Atten= 62%, Lag= 26.6 min
Primary = 1.07 cfs @ 12.62 hrs, Volume= 0.276 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 34.19' @ 12.62 hrs Surf.Area= 0.070 ac Storage= 0.168 af

Plug-Flow detention time= 351.6 min calculated for 0.276 af (82% of inflow)
Center-of-Mass det. time= 270.0 min (1,048.8 - 778.8)

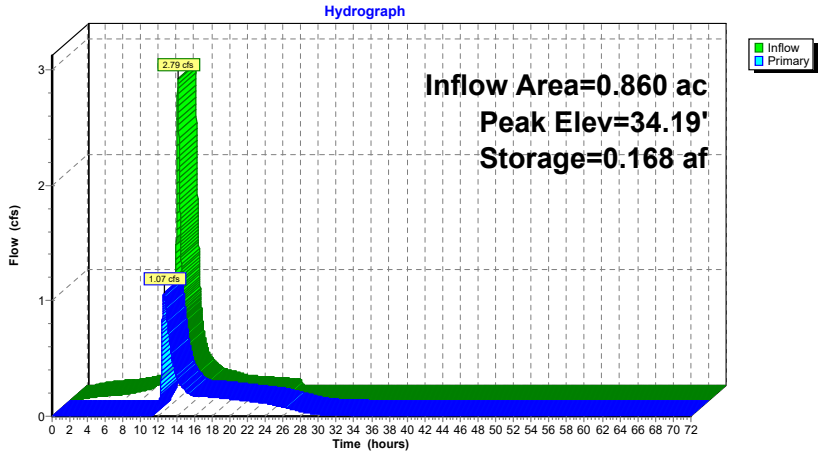
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	0.260 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.50	0.060	0.000	0.000
32.00	0.060	0.030	0.030
33.00	0.060	0.060	0.090
34.00	0.070	0.065	0.155
35.00	0.070	0.070	0.225
35.50	0.070	0.035	0.260

Device	Routing	Invert	Outlet Devices
#1	Primary	35.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	33.75'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.07 cfs @ 12.62 hrs HW=34.19' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.86 cfs @ 2.16 fps)
- **3=Orifice** (Orifice Controls 0.21 cfs @ 6.06 fps)

Pond 76P: BASIN M



Summary for Pond 83P: BASIN F

Inflow Area = 1.500 ac, 56.00% Impervious, Inflow Depth = 4.57" for 25 - Year event
Inflow = 4.89 cfs @ 12.17 hrs, Volume= 0.571 af
Outflow = 0.16 cfs @ 18.06 hrs, Volume= 0.363 af, Atten= 97%, Lag= 353.1 min
Primary = 0.16 cfs @ 18.06 hrs, Volume= 0.363 af
Routed to Pond 86p : BASIN G

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 34.01' @ 18.06 hrs Surf.Area= 0.260 ac Storage= 0.439 af

Plug-Flow detention time= 1,084.1 min calculated for 0.363 af (64% of inflow)
Center-of-Mass det. time= 962.8 min (1,743.5 - 780.7)

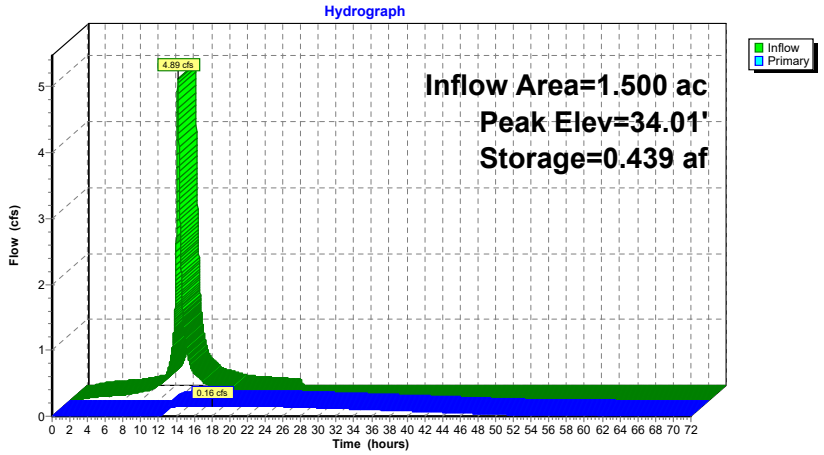
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.043 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.178	0.000	0.000
33.00	0.218	0.198	0.198
34.00	0.260	0.239	0.437
35.00	0.303	0.281	0.718
36.00	0.347	0.325	1.043

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.25'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.16 cfs @ 18.06 hrs HW=34.01' TW=32.83' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.16 cfs @ 4.58 fps)

Pond 83P: BASIN F



Summary for Pond 84P: BASIN L

Inflow Area = 0.970 ac, 50.52% Impervious, Inflow Depth = 4.35" for 25 - Year event
Inflow = 2.95 cfs @ 12.18 hrs, Volume= 0.352 af
Outflow = 1.43 cfs @ 12.51 hrs, Volume= 0.303 af, Atten= 52%, Lag= 20.2 min
Primary = 1.43 cfs @ 12.51 hrs, Volume= 0.303 af
Routed to Pond 90P : BASIN N

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 34.24' @ 12.51 hrs Surf.Area= 0.107 ac Storage= 0.157 af

Plug-Flow detention time= 347.5 min calculated for 0.303 af (86% of inflow)
Center-of-Mass det. time= 278.8 min (1,065.3 - 786.5)

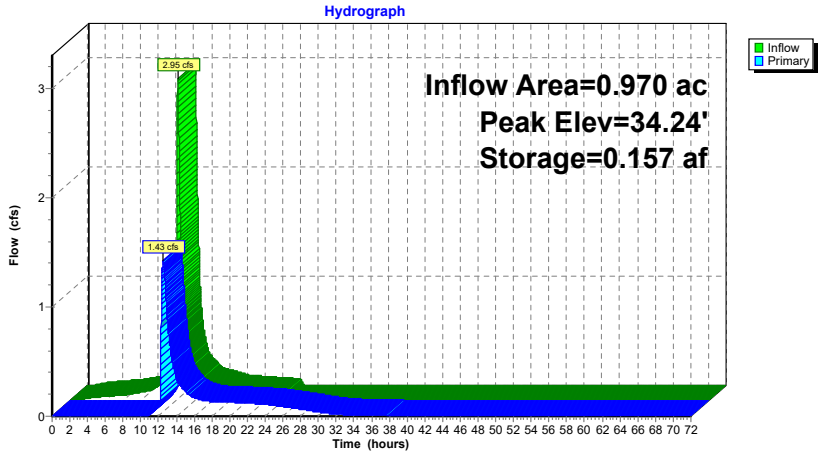
Volume	Invert	Avail.Storage	Storage Description
#1	32.50'	0.308 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.50	0.074	0.000	0.000
33.00	0.083	0.039	0.039
34.00	0.102	0.092	0.132
35.00	0.123	0.113	0.244
35.50	0.134	0.064	0.308

Device	Routing	Invert	Outlet Devices
#1	Primary	34.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	33.90'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.10'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.43 cfs @ 12.51 hrs HW=34.24' TW=30.64' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 1.26 cfs @ 1.91 fps)
- **3=Orifice** (Orifice Controls 0.17 cfs @ 4.90 fps)

Pond 84P: BASIN L



Summary for Pond 86P: BASIN G

Inflow Area = 2.760 ac, 47.46% Impervious, Inflow Depth > 3.33" for 25 - Year event
Inflow = 3.41 cfs @ 12.18 hrs, Volume= 0.765 af
Outflow = 1.58 cfs @ 12.58 hrs, Volume= 0.694 af, Atten= 54%, Lag= 24.1 min
Primary = 1.58 cfs @ 12.58 hrs, Volume= 0.694 af
Routed to Pond 60P : BASIN H

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.12' @ 12.58 hrs Surf.Area= 0.121 ac Storage= 0.181 af

Plug-Flow detention time= 447.6 min calculated for 0.693 af (91% of inflow)
Center-of-Mass det. time= 282.5 min (1,530.5 - 1,248.0)

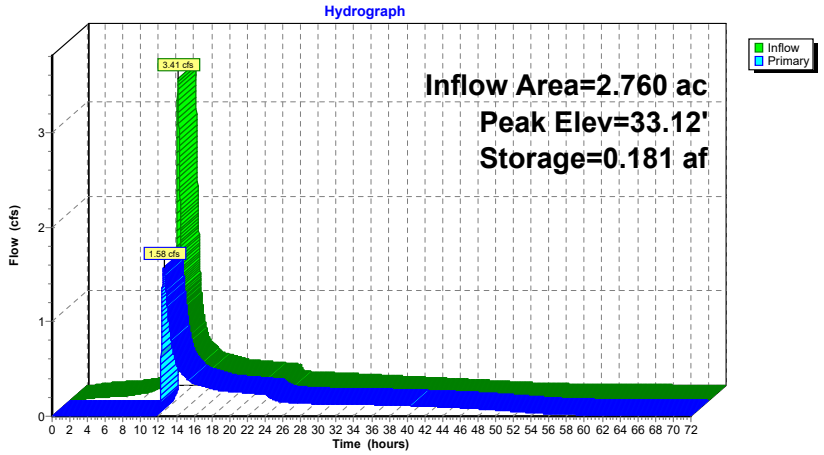
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	0.301 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.00	0.051	0.000	0.000
32.00	0.083	0.067	0.067
33.00	0.117	0.100	0.167
34.00	0.152	0.134	0.301

Device	Routing	Invert	Outlet Devices
#1	Primary	33.70'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	32.75'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.58 cfs @ 12.58 hrs HW=33.12' TW=30.11' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 1.41 cfs @ 1.99 fps)
- **3=Orifice** (Orifice Controls 0.17 cfs @ 4.85 fps)

Pond 86P: BASIN G



Summary for Pond 90P: BASIN N

Inflow Area = 4.000 ac, 43.75% Impervious, Inflow Depth > 3.78" for 25 - Year event
Inflow = 4.92 cfs @ 12.36 hrs, Volume= 1.259 af
Outflow = 4.14 cfs @ 12.66 hrs, Volume= 1.149 af, Atten= 16%, Lag= 18.3 min
Primary = 4.14 cfs @ 12.66 hrs, Volume= 1.149 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 30.66' @ 12.66 hrs Surf.Area= 0.188 ac Storage= 0.268 af

Plug-Flow detention time= 276.9 min calculated for 1.149 af (91% of inflow)
Center-of-Mass det. time= 183.9 min (1,167.8 - 983.9)

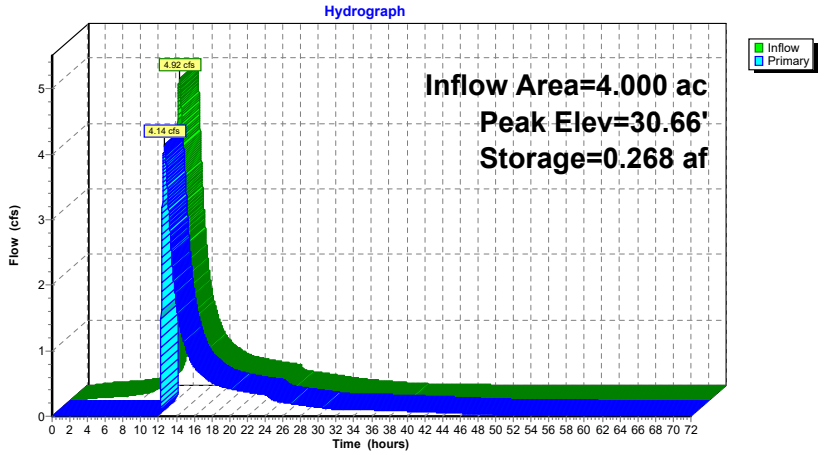
Volume	Invert	Avail.Storage	Storage Description
#1	29.00'	0.443 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
29.00	0.136	0.000	0.000
30.00	0.167	0.151	0.151
31.00	0.199	0.183	0.334
31.50	0.238	0.109	0.443

Device	Routing	Invert	Outlet Devices
#1	Primary	30.90'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.20'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	29.70'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.14 cfs @ 12.66 hrs HW=30.66' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 3.99 cfs @ 2.22 fps)
- **3=Orifice** (Orifice Controls 0.15 cfs @ 4.46 fps)

Pond 90P: BASIN N



Summary for Pond 93P: BASIN O

Inflow Area = 1.100 ac, 51.82% Impervious, Inflow Depth = 4.66" for 25 - Year event
Inflow = 3.58 cfs @ 12.18 hrs, Volume= 0.427 af
Outflow = 2.95 cfs @ 12.29 hrs, Volume= 0.367 af, Atten= 18%, Lag= 6.8 min
Primary = 2.95 cfs @ 12.29 hrs, Volume= 0.367 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.44' @ 12.29 hrs Surf.Area= 0.088 ac Storage= 0.134 af

Plug-Flow detention time= 230.8 min calculated for 0.367 af (86% of inflow)
Center-of-Mass det. time= 161.6 min (946.0 - 784.5)

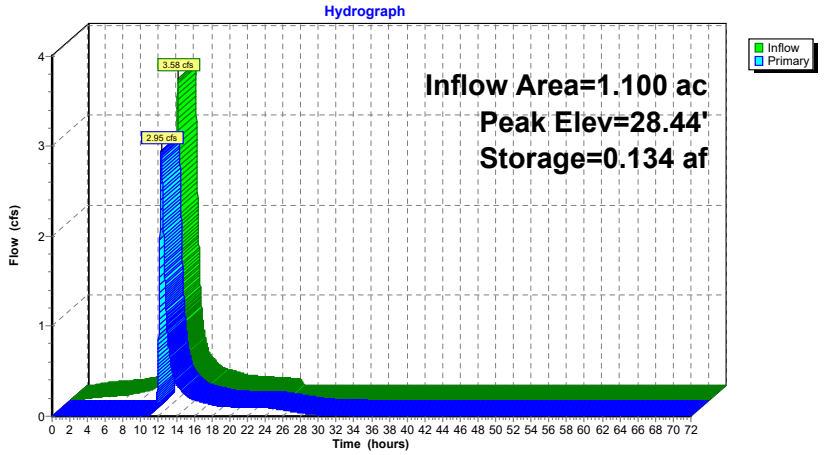
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.244 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.050	0.000	0.000
27.00	0.059	0.027	0.027
28.00	0.079	0.069	0.097
29.00	0.100	0.090	0.186
29.50	0.129	0.057	0.244

Device	Routing	Invert	Outlet Devices
#1	Primary	28.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.00'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.95 cfs @ 12.29 hrs HW=28.44' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 2.80 cfs @ 2.17 fps)
- **3=Orifice** (Orifice Controls 0.15 cfs @ 4.41 fps)

Pond 93P: BASIN O



Summary for Pond 102P: BASIN Q

Inflow Area = 1.860 ac, 59.68% Impervious, Inflow Depth = 4.71" for 25 - Year event
Inflow = 5.39 cfs @ 12.21 hrs, Volume= 0.730 af
Outflow = 4.52 cfs @ 12.34 hrs, Volume= 0.548 af, Atten= 16%, Lag= 8.0 min
Primary = 4.52 cfs @ 12.34 hrs, Volume= 0.548 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.20' @ 12.34 hrs Surf.Area= 0.131 ac Storage= 0.246 af

Plug-Flow detention time= 198.0 min calculated for 0.548 af (75% of inflow)
Center-of-Mass det. time= 98.9 min (881.5 - 782.6)

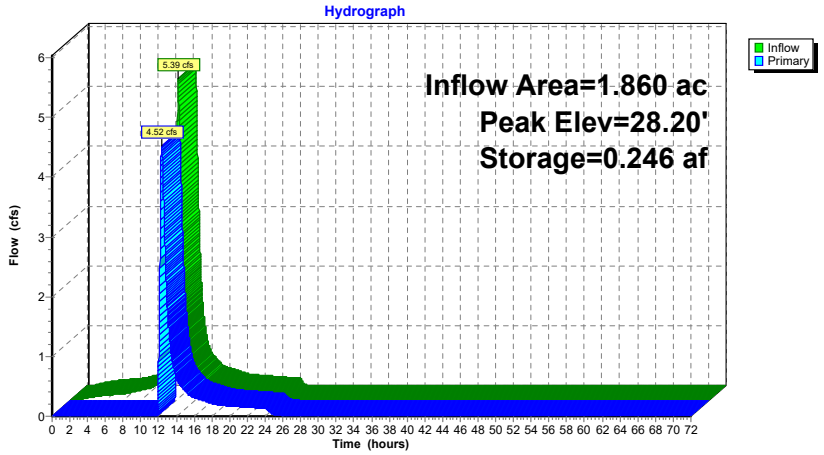
Volume	Invert	Avail.Storage	Storage Description
#1	26.00'	0.356 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.00	0.092	0.000	0.000
27.00	0.110	0.101	0.101
28.00	0.128	0.119	0.220
29.00	0.146	0.137	0.356

Device	Routing	Invert	Outlet Devices
#1	Primary	28.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.70'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.00'	**2.5" Vert. Orifice X 0.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.52 cfs @ 12.34 hrs HW=28.20' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 4.52 cfs @ 2.31 fps)
- **3=Orifice** (Controls 0.00 cfs)

Pond 102P: BASIN Q



Summary for Pond 105P: BASIN R

Inflow Area = 2.040 ac, 50.00% Impervious, Inflow Depth = 4.52" for 25 - Year event
Inflow = 6.44 cfs @ 12.18 hrs, Volume= 0.769 af
Outflow = 3.52 cfs @ 12.46 hrs, Volume= 0.619 af, Atten= 45%, Lag= 17.1 min
Primary = 3.52 cfs @ 12.46 hrs, Volume= 0.619 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 24.47' @ 12.46 hrs Surf.Area= 0.206 ac Storage= 0.327 af

Plug-Flow detention time= 316.1 min calculated for 0.619 af (80% of inflow)
Center-of-Mass det. time= 229.9 min (1,016.3 - 786.4)

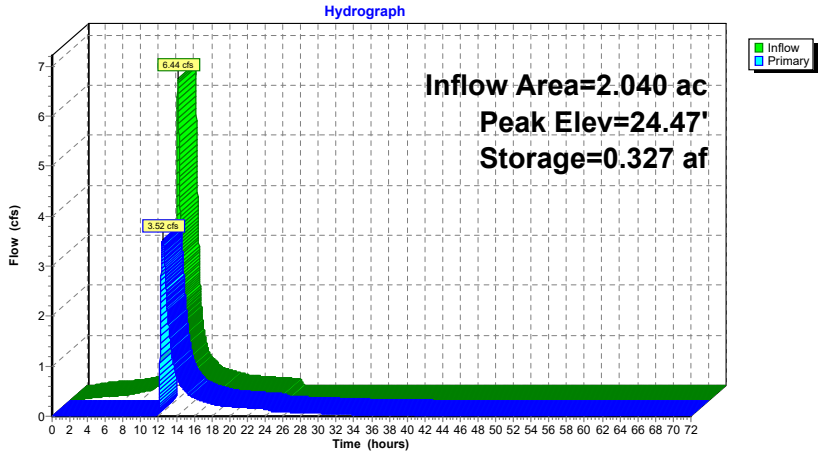
Volume	Invert	Avail.Storage	Storage Description
#1	22.50'	0.568 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
22.50	0.127	0.000	0.000
23.00	0.146	0.068	0.068
24.00	0.187	0.167	0.235
25.00	0.228	0.207	0.442
25.50	0.277	0.126	0.568

Device	Routing	Invert	Outlet Devices
#1	Primary	25.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	23.90'	**2.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	23.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.52 cfs @ 12.46 hrs HW=24.47' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 3.37 cfs @ 2.47 fps)
- **3=Orifice** (Orifice Controls 0.15 cfs @ 4.48 fps)

Pond 105P: BASIN R



Summary for Pond 108P: BASIN S

Inflow Area = 1.800 ac, 48.89% Impervious, Inflow Depth = 4.29" for 25 - Year event
Inflow = 4.73 cfs @ 12.22 hrs, Volume= 0.643 af
Outflow = 0.83 cfs @ 13.37 hrs, Volume= 0.359 af, Atten= 83%, Lag= 69.5 min
Primary = 0.83 cfs @ 13.37 hrs, Volume= 0.359 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 20.52' @ 13.37 hrs Surf.Area= 0.256 ac Storage= 0.389 af

Plug-Flow detention time= 390.0 min calculated for 0.359 af (56% of inflow)
Center-of-Mass det. time= 254.2 min (1,046.9 - 792.7)

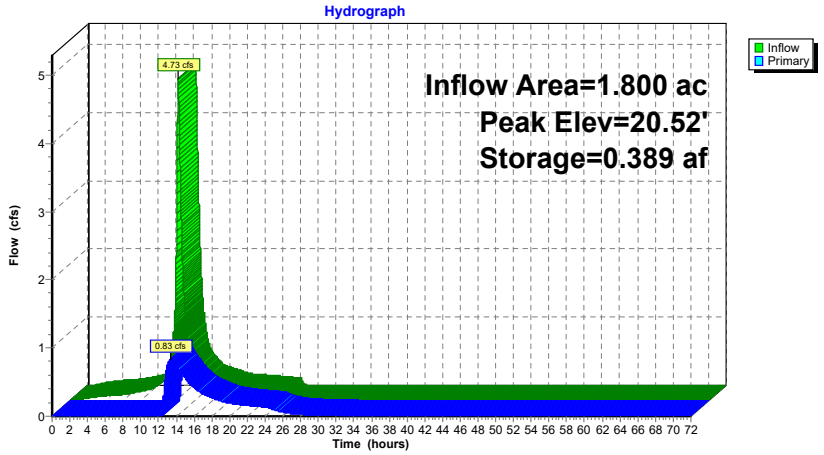
Volume	Invert	Avail.Storage	Storage Description
#1	18.80'	0.750 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
18.80	0.190	0.000	0.000
19.00	0.200	0.039	0.039
20.00	0.240	0.220	0.259
21.00	0.270	0.255	0.514
21.80	0.320	0.236	0.750

Device	Routing	Invert	Outlet Devices
#1	Primary	21.20'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.10'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	19.30'	**2.5" Vert. Orifice X 0.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.83 cfs @ 13.37 hrs HW=20.52' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.83 cfs @ 2.13 fps)
- **3=Orifice** (Controls 0.00 cfs)

Pond 108P: BASIN S



Summary for Pond 111P: BASIN T

Inflow Area = 1.800 ac, 32.78% Impervious, Inflow Depth > 2.86" for 25 - Year event
Inflow = 2.70 cfs @ 12.11 hrs, Volume= 0.429 af
Outflow = 0.14 cfs @ 24.04 hrs, Volume= 0.311 af, Atten= 95%, Lag= 715.5 min
Primary = 0.14 cfs @ 24.04 hrs, Volume= 0.311 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 19.91' @ 24.04 hrs Surf.Area= 0.226 ac Storage= 0.279 af

Plug-Flow detention time= 994.3 min calculated for 0.311 af (72% of inflow)
Center-of-Mass det. time= 803.6 min (1,824.5 - 1,020.9)

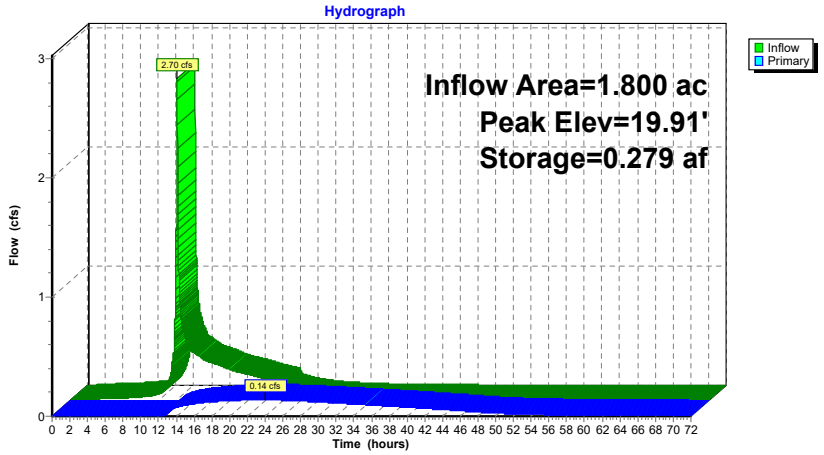
Volume	Invert	Avail.Storage	Storage Description
#1	18.50'	0.697 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
18.50	0.170	0.000	0.000
19.00	0.190	0.090	0.090
20.00	0.230	0.210	0.300
21.00	0.270	0.250	0.550
21.50	0.320	0.148	0.697

Device	Routing	Invert	Outlet Devices
#1	Primary	20.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.20'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	19.10'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.14 cfs @ 24.04 hrs HW=19.91' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.14 cfs @ 4.04 fps)

Pond 111P: BASIN T



Summary for Pond 114P: BASIN U

Inflow Area = 1.070 ac, 37.38% Impervious, Inflow Depth = 3.83" for 25 - Year event
Inflow = 4.00 cfs @ 12.12 hrs, Volume= 0.342 af
Outflow = 0.24 cfs @ 14.34 hrs, Volume= 0.223 af, Atten= 94%, Lag= 133.2 min
Primary = 0.24 cfs @ 14.34 hrs, Volume= 0.223 af
Routed to Pond 111P : BASIN T

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 20.58' @ 14.34 hrs Surf.Area= 0.223 ac Storage= 0.218 af

Plug-Flow detention time= 545.9 min calculated for 0.223 af (65% of inflow)
Center-of-Mass det. time= 426.0 min (1,218.9 - 792.9)

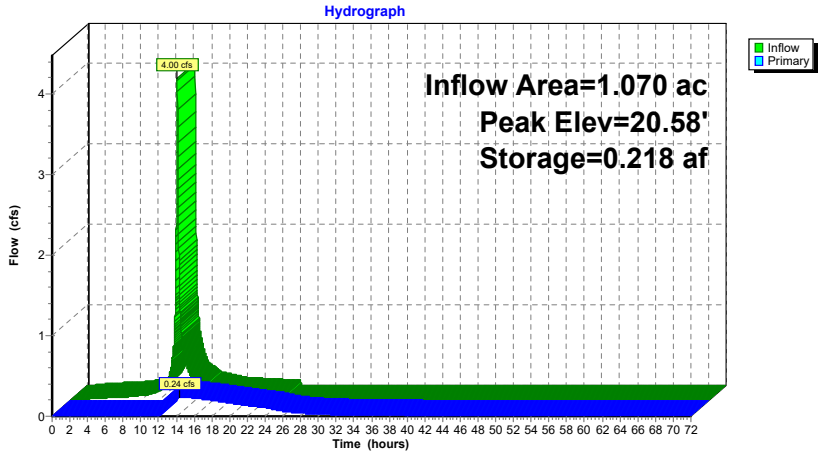
Volume	Invert	Avail.Storage	Storage Description
#1	19.50'	0.738 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
19.50	0.180	0.000	0.000
20.00	0.200	0.095	0.095
21.00	0.240	0.220	0.315
22.00	0.290	0.265	0.580
22.50	0.340	0.157	0.738

Device	Routing	Invert	Outlet Devices
#1	Primary	21.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.10'	**4.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.24 cfs @ 14.34 hrs HW=20.58' TW=19.45' (Dynamic Tailwater)
└─**1=Grate** (Controls 0.00 cfs)
└─**2=Orifice** (Orifice Controls 0.24 cfs @ 2.71 fps)

Pond 114P: BASIN U



Summary for Pond 117P: BASIN V

Inflow Area = 0.850 ac, 14.12% Impervious, Inflow Depth = 2.92" for 25 - Year event
Inflow = 1.79 cfs @ 12.18 hrs, Volume= 0.207 af
Outflow = 0.38 cfs @ 13.09 hrs, Volume= 0.110 af, Atten= 79%, Lag= 54.2 min
Primary = 0.38 cfs @ 13.09 hrs, Volume= 0.110 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 38.00' @ 13.09 hrs Surf.Area= 0.121 ac Storage= 0.108 af

Plug-Flow detention time= 301.8 min calculated for 0.110 af (53% of inflow)
Center-of-Mass det. time= 162.2 min (1,001.4 - 839.1)

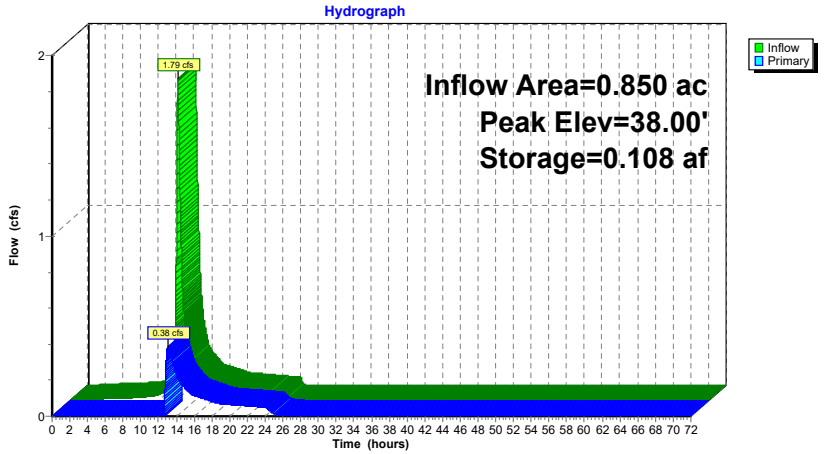
Volume	Invert	Avail.Storage	Storage Description
#1	37.00'	0.243 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
37.00	0.096	0.000	0.000
38.00	0.121	0.109	0.109
39.00	0.147	0.134	0.243

Device	Routing	Invert	Outlet Devices
#1	Primary	38.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	37.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.38 cfs @ 13.09 hrs HW=38.00' TW=0.00' (Dynamic Tailwater)
↑**1=Grate** (Controls 0.00 cfs)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.38 cfs @ 1.01 fps)

Pond 117P: BASIN V

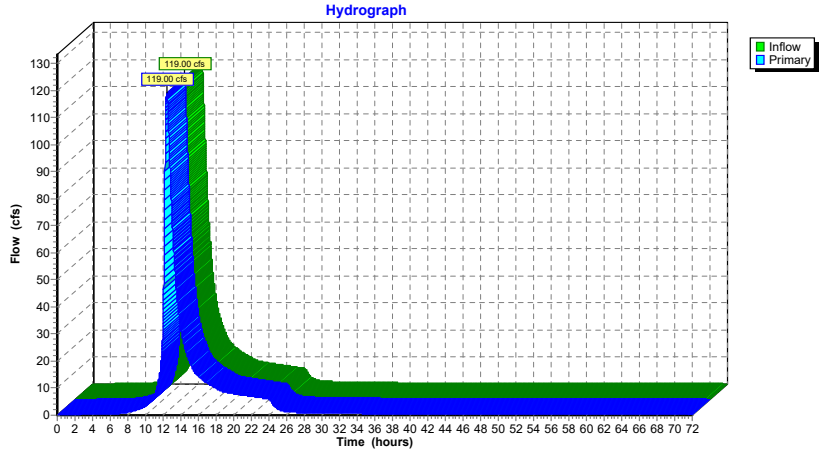


Summary for Link 46L: DA North

Inflow = 119.00 cfs @ 12.40 hrs, Volume= 25.088 af
Primary = 119.00 cfs @ 12.41 hrs, Volume= 25.088 af, Atten= 0%, Lag= 0.6 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 46L: DA North

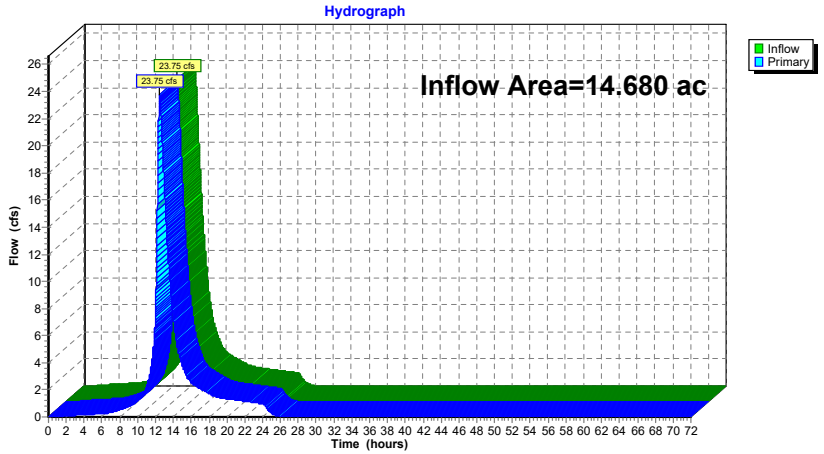


Summary for Link 51L: DA Undetained

Inflow Area = 14.680 ac, 15.60% Impervious, Inflow Depth = 4.02" for 25 - Year event
Inflow = 23.75 cfs @ 12.48 hrs, Volume= 4.920 af
Primary = 23.75 cfs @ 12.49 hrs, Volume= 4.920 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 51L: DA Undetained

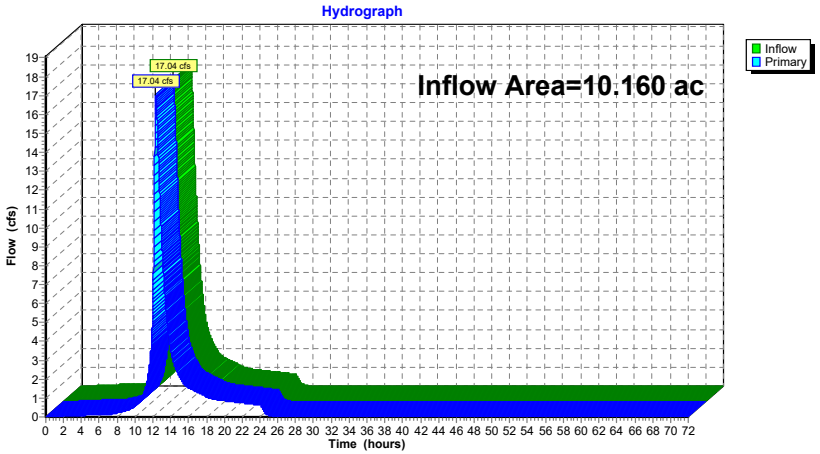


Summary for Link 52L: X

Inflow Area = 10.160 ac, 29.97% Impervious, Inflow Depth = 3.48" for 25 - Year event
Inflow = 17.04 cfs @ 12.33 hrs, Volume= 2.948 af
Primary = 17.04 cfs @ 12.34 hrs, Volume= 2.948 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 52L: X

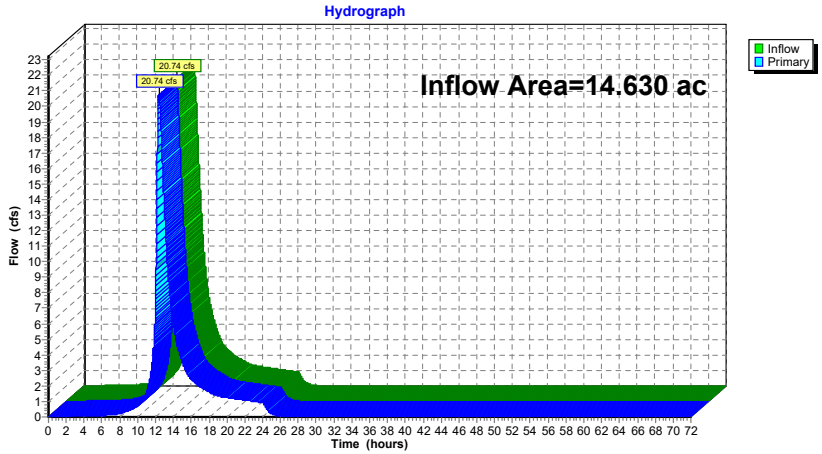


Summary for Link 53L: W

Inflow Area = 14.630 ac, 28.71% Impervious, Inflow Depth = 3.43" for 25 - Year event
Inflow = 20.74 cfs @ 12.35 hrs, Volume= 4.178 af
Primary = 20.74 cfs @ 12.36 hrs, Volume= 4.178 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 53L: W

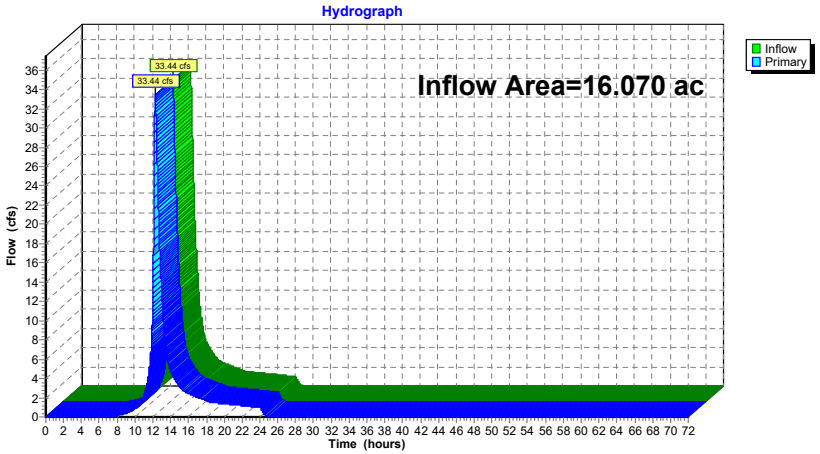


Summary for Link 58L: Y

Inflow Area = 16.070 ac, 30.59% Impervious, Inflow Depth = 3.47" for 25 - Year event
Inflow = 33.44 cfs @ 12.25 hrs, Volume= 4.651 af
Primary = 33.44 cfs @ 12.26 hrs, Volume= 4.651 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 58L: Y



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Sim-Route method - Pond routing by Sim-Route method

Subcatchment54S: Y - OFFSITE Runoff Area=12.620 ac 38.00% Impervious Runoff Depth=1.22"
Flow Length=760' Tc=15.1 min CN=75 Runoff=8.89 cfs 1.280 af

Subcatchment56S: W- OFFSITE Runoff Area=8.210 ac 38.00% Impervious Runoff Depth=1.22"
Flow Length=373' Tc=18.9 min CN=75 Runoff=5.12 cfs 0.833 af

Subcatchment57S: Pipe Y Runoff Area=3.450 ac 3.48% Impervious Runoff Depth=0.61"
Flow Length=1,229' Slope=0.0200 '/' Tc=16.9 min CN=WQ Runoff=0.82 cfs 0.176 af

Subcatchment59S: X - OFFSITE Runoff Area=5.170 ac 38.00% Impervious Runoff Depth=1.22"
Flow Length=880' Tc=18.5 min CN=75 Runoff=3.26 cfs 0.525 af

Subcatchment60S: BASIN A - DA Runoff Area=2.470 ac 53.85% Impervious Runoff Depth=1.93"
Flow Length=102' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=3.18 cfs 0.398 af

Subcatchment61S: BASIN I - DA Runoff Area=0.530 ac 33.96% Impervious Runoff Depth=1.41"
Flow Length=134' Slope=0.0200 '/' Tc=9.6 min CN=WQ Runoff=0.48 cfs 0.062 af

Subcatchment62S: Undetained Runoff Area=14.680 ac 15.60% Impervious Runoff Depth=1.50"
Flow Length=3,276' Tc=30.2 min CN=WQ Runoff=8.45 cfs 1.829 af

Subcatchment63S: BASIN N - DA Runoff Area=1.390 ac 46.04% Impervious Runoff Depth=1.79"
Flow Length=108' Tc=9.3 min CN=WQ Runoff=1.66 cfs 0.207 af

Subcatchment64S: BASIN E - DA Runoff Area=2.240 ac 50.89% Impervious Runoff Depth=1.86"
Flow Length=609' Tc=8.1 min CN=WQ Runoff=2.95 cfs 0.347 af

Subcatchment65S: BASIN V - DA Runoff Area=0.850 ac 14.12% Impervious Runoff Depth=0.89"
Flow Length=100' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=0.45 cfs 0.063 af

Subcatchment67S: Pipe W Runoff Area=6.420 ac 16.82% Impervious Runoff Depth=0.96"
Flow Length=5,045' Tc=42.5 min CN=WQ Runoff=1.65 cfs 0.515 af

Subcatchment68S: BASIN K - DA Runoff Area=1.640 ac 37.80% Impervious Runoff Depth=1.51"
Flow Length=136' Slope=0.0200 '/' Tc=9.7 min CN=WQ Runoff=1.58 cfs 0.207 af

Subcatchment69S: BASIN O - DA Runoff Area=1.100 ac 51.82% Impervious Runoff Depth=2.02"
Flow Length=113' Tc=9.4 min CN=WQ Runoff=1.51 cfs 0.185 af

Subcatchment70S: Pipe X Runoff Area=4.990 ac 21.64% Impervious Runoff Depth=1.09"
Flow Length=2,554' Tc=25.8 min CN=WQ Runoff=1.98 cfs 0.453 af

Subcatchment71S: BASIN B - DA Runoff Area=1.260 ac 38.10% Impervious Runoff Depth=1.52"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=1.24 cfs 0.160 af

Subcatchment73S: BASIN C - DA Runoff Area=0.990 ac 42.42% Impervious Runoff Depth=1.63"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=1.06 cfs 0.135 af

Subcatchment75S: BASIN M - DA Runoff Area=0.860 ac 59.30% Impervious Runoff Depth=2.08"
Flow Length=225' Slope=0.0200 '/' Tc=9.3 min CN=WQ Runoff=1.20 cfs 0.149 af

Subcatchment76S: BASIN F - DA Runoff Area=1.500 ac 56.00% Impervious Runoff Depth=1.99"
Flow Length=447' Tc=8.7 min CN=WQ Runoff=2.06 cfs 0.249 af

Subcatchment77S: BASIN D - DA Runoff Area=2.670 ac 51.31% Impervious Runoff Depth=1.87"
Flow Length=795' Tc=9.0 min CN=WQ Runoff=3.39 cfs 0.416 af

Subcatchment83S: BASIN L - DA Runoff Area=0.970 ac 50.52% Impervious Runoff Depth=1.85"
Flow Length=96' Tc=9.2 min CN=WQ Runoff=1.20 cfs 0.149 af

Subcatchment85S: BASIN G - DA Runoff Area=1.260 ac 37.30% Impervious Runoff Depth=1.50"
Flow Length=102' Tc=9.3 min CN=WQ Runoff=1.23 cfs 0.157 af

Subcatchment88S: BASIN H - DA Runoff Area=1.950 ac 43.08% Impervious Runoff Depth=1.65"
Flow Length=111' Slope=0.0200 '/' Tc=9.5 min CN=WQ Runoff=2.10 cfs 0.268 af

Subcatchment98S: BASIN P - DA Runoff Area=2.760 ac 47.10% Impervious Runoff Depth=1.76"
Flow Length=214' Slope=0.0200 '/' Tc=10.2 min CN=WQ Runoff=3.08 cfs 0.404 af

Subcatchment101S: BASIN Q - DA Runoff Area=1.860 ac 59.68% Impervious Runoff Depth=2.09"
Flow Length=612' Tc=12.0 min CN=WQ Runoff=2.33 cfs 0.324 af

Subcatchment104S: BASIN R - DA Runoff Area=2.040 ac 50.00% Impervious Runoff Depth=1.94"
Flow Length=98' Tc=9.4 min CN=WQ Runoff=2.67 cfs 0.330 af

Subcatchment107S: BASIN S - DA Runoff Area=1.800 ac 48.89% Impervious Runoff Depth=1.80"
Flow Length=466' Tc=12.2 min CN=WQ Runoff=1.90 cfs 0.271 af

Subcatchment110S: BASIN T - DA Runoff Area=0.730 ac 26.03% Impervious Runoff Depth=1.20"
Flow Length=254' Slope=0.0100 '/' Tc=2.8 min CN=WQ Runoff=0.86 cfs 0.073 af

Subcatchment113S: BASIN U - DA Runoff Area=1.070 ac 37.38% Impervious Runoff Depth=1.50"
Flow Length=28' Slope=0.0350 '/' Tc=4.0 min CN=WQ Runoff=1.45 cfs 0.134 af

Pond 52P: BASIN A Peak Elev=33.33' Storage=0.305 af Inflow=3.18 cfs 0.398 af
Outflow=0.11 cfs 0.229 af

Pond 59P: BASIN C Peak Elev=29.72' Storage=0.056 af Inflow=1.06 cfs 0.455 af
Outflow=0.66 cfs 0.411 af

Pond 60P: BASIN H Peak Elev=29.54' Storage=0.241 af Inflow=2.10 cfs 0.402 af
Outflow=0.12 cfs 0.300 af

Pond 63P: BASIN P Peak Elev=28.11' Storage=0.363 af Inflow=3.17 cfs 0.796 af
Outflow=0.40 cfs 0.543 af

Pond 64P: BASIN I Peak Elev=29.76' Storage=0.034 af Inflow=0.48 cfs 0.062 af
Outflow=0.08 cfs 0.039 af

Pond 65P: BASIN E Peak Elev=28.11' Storage=0.187 af Inflow=2.95 cfs 0.890 af
Primary=0.58 cfs 0.711 af Secondary=0.87 cfs 0.054 af Outflow=1.11 cfs 0.765 af

Pond 70P: BASIN K Peak Elev=31.52' Storage=0.138 af Inflow=1.58 cfs 0.207 af
Outflow=0.11 cfs 0.140 af

Pond 74P: BASIN B Peak Elev=31.56' Storage=0.115 af Inflow=1.24 cfs 0.389 af
Outflow=0.20 cfs 0.320 af

Pond 75P: BASIN D Peak Elev=28.00' Storage=0.329 af Inflow=3.55 cfs 0.827 af
Outflow=0.55 cfs 0.619 af

Pond 76P: BASIN M Peak Elev=33.10' Storage=0.096 af Inflow=1.20 cfs 0.149 af
Outflow=0.12 cfs 0.088 af

Pond 83P: BASIN F Peak Elev=33.15' Storage=0.232 af Inflow=2.06 cfs 0.249 af
Outflow=0.04 cfs 0.045 af

Pond 84P: BASIN L Peak Elev=33.63' Storage=0.095 af Inflow=1.20 cfs 0.149 af
Outflow=0.11 cfs 0.101 af

Pond 86P: BASIN G Peak Elev=32.41' Storage=0.104 af Inflow=1.23 cfs 0.203 af
Outflow=0.09 cfs 0.133 af

Pond 90P: BASIN N Peak Elev=30.26' Storage=0.195 af Inflow=1.69 cfs 0.448 af
Outflow=0.29 cfs 0.340 af

Pond 93P: BASIN O Peak Elev=28.09' Storage=0.104 af Inflow=1.51 cfs 0.185 af
Outflow=0.40 cfs 0.125 af

Pond 102P: BASIN Q Peak Elev=27.83' Storage=0.198 af Inflow=2.33 cfs 0.324 af
Outflow=0.58 cfs 0.141 af

Pond 105P: BASIN R Peak Elev=23.96' Storage=0.228 af Inflow=2.67 cfs 0.330 af
Outflow=0.22 cfs 0.179 af

Pond 108P: BASIN S Peak Elev=20.05' Storage=0.271 af Inflow=1.90 cfs 0.271 af
Outflow=0.00 cfs 0.000 af

Pond 111P: BASIN T Peak Elev=18.99' Storage=0.089 af Inflow=0.86 cfs 0.089 af
Outflow=0.00 cfs 0.000 af

Pond 114P: BASIN U Peak Elev=20.17' Storage=0.130 af Inflow=1.45 cfs 0.134 af
Outflow=0.01 cfs 0.015 af

Pond 117P: BASIN V Peak Elev=37.61' Storage=0.063 af Inflow=0.45 cfs 0.063 af
Outflow=0.00 cfs 0.000 af

Link 46L: DA North Inflow=28.71 cfs 7.815 af
Primary=28.71 cfs 7.815 af

Link 51L: DA Undetained Inflow=8.45 cfs 1.829 af
Primary=8.45 cfs 1.829 af

Link 52L: X Inflow=5.16 cfs 0.977 af
Primary=5.16 cfs 0.977 af

Link 53L: W Inflow=6.22 cfs 1.348 af
Primary=6.22 cfs 1.348 af

Link 58L: Y Inflow=9.68 cfs 1.456 af
Primary=9.68 cfs 1.456 af

Total Runoff Area = 87.480 ac Runoff Volume = 10.298 af Average Runoff Depth = 1.41"
66.43% Pervious = 58.110 ac 33.57% Impervious = 29.370 ac

Summary for Subcatchment 54S: Y - OFFSITE UNDISTURBED

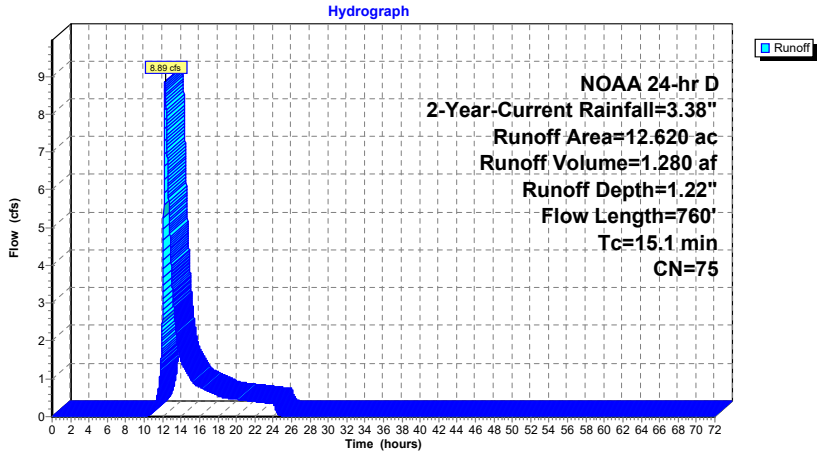
Runoff = 8.89 cfs @ 12.28 hrs, Volume= 1.280 af, Depth= 1.22"
Routed to Link 58L : Y

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

Area (ac)	CN	Description
12.620	75	1/4 acre lots, 38% imp, HSG B
7.824		62.00% Pervious Area
4.796		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.1	100	0.0350	0.15		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.5	280	0.0370	3.10		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.5	380	0.0240	2.49		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
15.1	760	Total			

Subcatchment 54S: Y - OFFSITE UNDISTURBED



Summary for Subcatchment 56S: W- OFFSITE UNDISTURBED

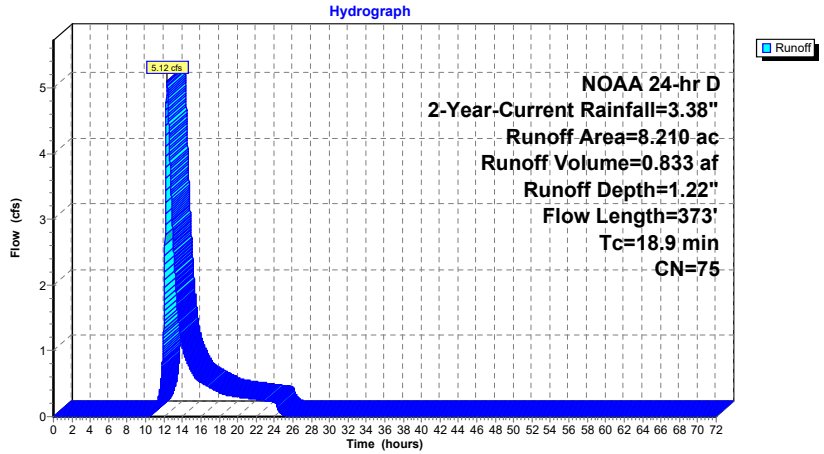
Runoff = 5.12 cfs @ 12.31 hrs, Volume= 0.833 af, Depth= 1.22"
Routed to Link 53L : W

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

Area (ac)	CN	Description
8.210	75	1/4 acre lots, 38% imp, HSG B
5.090		62.00% Pervious Area
3.120		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	100	0.0120	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.38"
0.9	179	0.0410	3.26		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.0	94	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.9	373	Total			

Subcatchment 56S: W- OFFSITE UNDISTURBED



Summary for Subcatchment 57S: Pipe Y

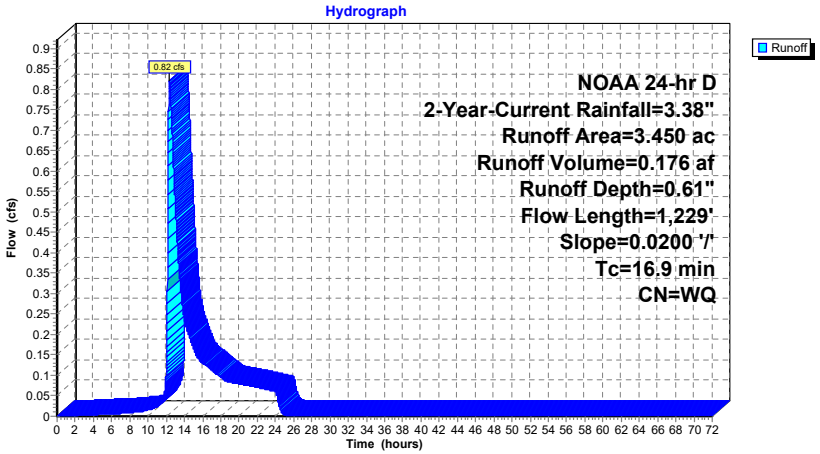
Runoff = 0.82 cfs @ 12.36 hrs, Volume= 0.176 af, Depth= 0.61"
Routed to Link 58L : Y

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	3.330	61	Open Space
*	0.000	98	Road/Sidewalk
*	0.120	98	Roof
*	0.000	98	Driveway
	3.450		Weighted Average
	3.330		96.52% Pervious Area
	0.120		3.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.2	170	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
6.2	936		2.50		**Direct Entry,**
0.4	64		2.50		**Direct Entry,**
16.9	1,229	Total			

Subcatchment 57S: Pipe Y



Summary for Subcatchment 59S: X - OFFSITE UNDISTURBED

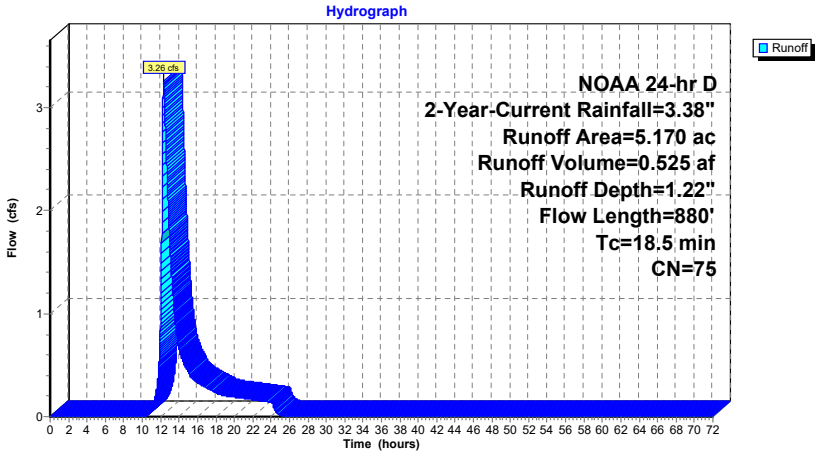
Runoff = 3.26 cfs @ 12.33 hrs, Volume= 0.525 af, Depth= 1.22"
Routed to Link 52L : X

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

Area (ac)	CN	Description
5.170	75	1/4 acre lots, 38% imp, HSG B
3.205		62.00% Pervious Area
1.965		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	100	0.0200	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.4	408	0.0320	2.88		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.2	372	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.5	880	Total			

Subcatchment 59S: X - OFFSITE UNDISTURBED



Summary for Subcatchment 60S: BASIN A - DA

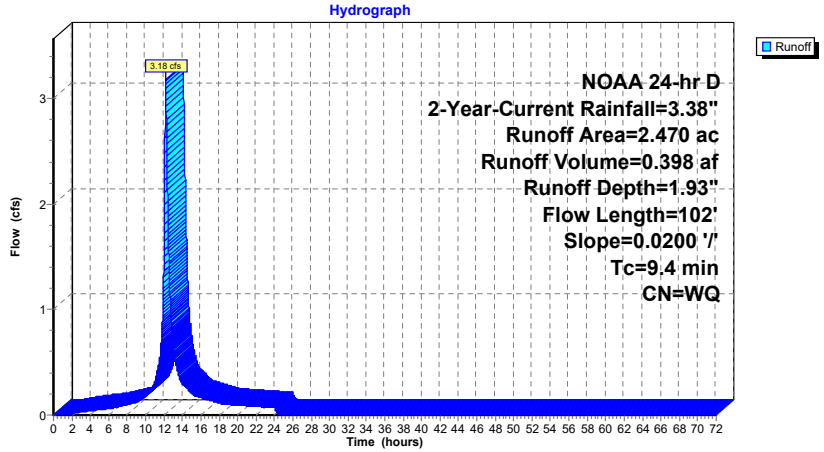
Runoff = 3.18 cfs @ 12.18 hrs, Volume= 0.398 af, Depth= 1.93"
Routed to Pond 52P : BASIN A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	1.140	61	Open Space
*	0.600	98	Road
*	0.130	98	Sidewalk
*	0.300	98	Roof
*	0.300	98	Driveway & Apron
	2.470		Weighted Average
	1.140		46.15% Pervious Area
	1.330		53.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	43	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	102	Total			

Subcatchment 60S: BASIN A - DA



Summary for Subcatchment 61S: BASIN I - DA

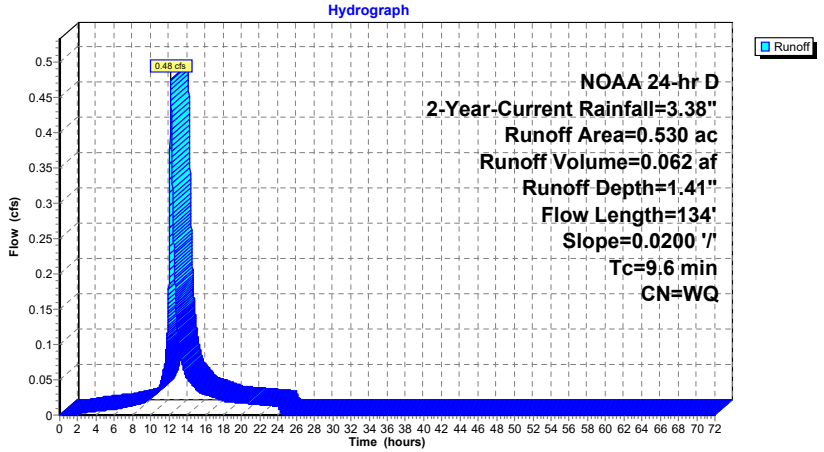
Runoff = 0.48 cfs @ 12.18 hrs, Volume= 0.062 af, Depth= 1.41"
Routed to Pond 64P : BASIN I

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.180	98	Roof
*	0.000	98	Driveway & Apron
	0.530		Weighted Average
	0.350		66.04% Pervious Area
	0.180		33.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.5	75	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.6	134	Total			

Subcatchment 61S: BASIN I - DA



Summary for Subcatchment 62S: Undetained

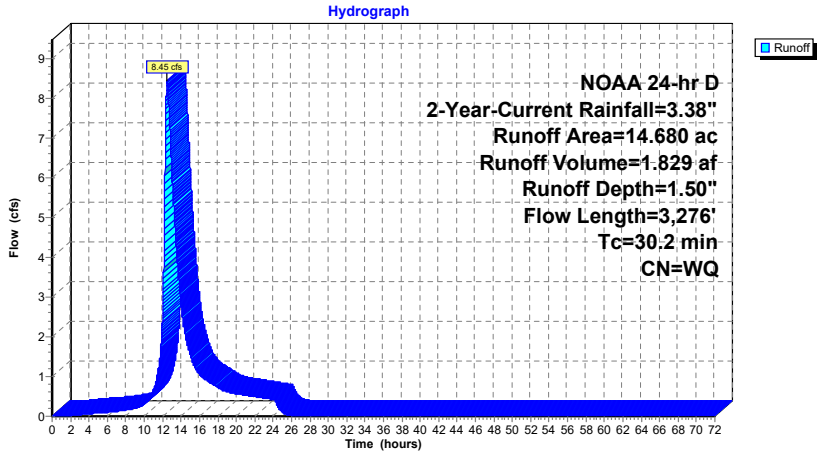
Runoff = 8.45 cfs @ 12.48 hrs, Volume= 1.829 af, Depth= 1.50"
Routed to Link 51L : DA Undetained

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
	3.170	61	>75% Grass cover, Good, HSG B
	0.870	55	Woods, Good, HSG B
	8.150	80	>75% Grass cover, Good, HSG D
	0.200	77	Woods, Good, HSG D
*	0.730	98	Water Surface, HSG D
*	0.740	98	Roofs, HSG B
*	0.570	98	Roofs, HSG D
	0.130	98	Paved parking, HSG B
	0.120	98	Unconnected pavement, HSG B
	14.680		Weighted Average
	12.390		84.40% Pervious Area
	2.290		15.60% Impervious Area
	0.120		5.24% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	88	0.0450	0.16		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.3	216	0.0300	2.79		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
19.8	2,972		2.50		**Direct Entry,**
30.2	3,276	Total			

Subcatchment 62S: Undetained



Summary for Subcatchment 63S: BASIN N - DA

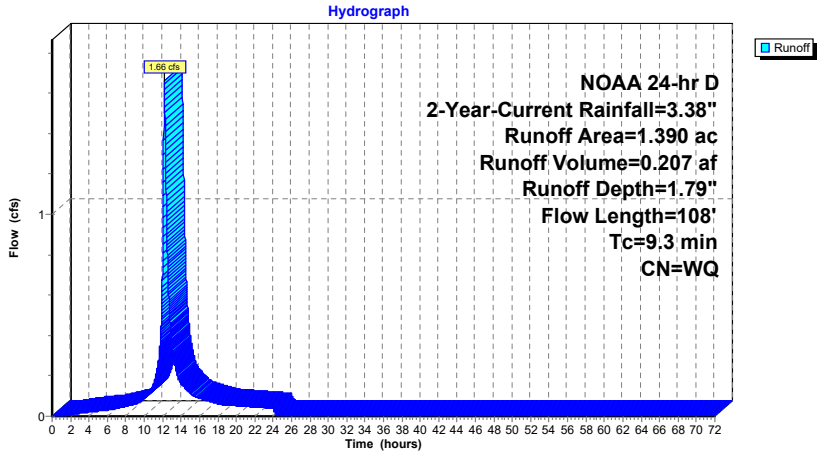
Runoff = 1.66 cfs @ 12.18 hrs, Volume= 0.207 af, Depth= 1.79"
Routed to Pond 90P : BASIN N

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.080	80	Open Space, HSG D
*	0.160	98	Road
*	0.040	98	Sidewalk
*	0.300	98	Roof
*	0.140	98	Driveway & Apron
	1.390		Weighted Average
	0.750		53.96% Pervious Area
	0.640		46.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass**
					Grass: Dense n= 0.240 P2= 3.38"
					Using McCuen-Spiess flow length
0.2	49	0.0600	3.94		**Shallow Concentrated Flow, SCF - Unpaved**
					Unpaved Kv= 16.1 fps
9.3	108	Total			

Subcatchment 63S: BASIN N - DA



Summary for Subcatchment 64S: BASIN E - DA

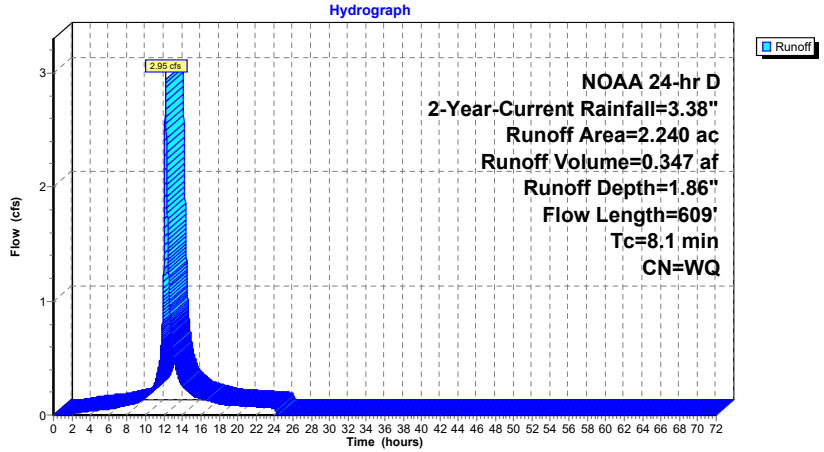
Runoff = 2.95 cfs @ 12.17 hrs, Volume= 0.347 af, Depth= 1.86"
Routed to Pond 65P : BASIN E

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	1.100	61	Open Space
*	0.450	98	Road
*	0.110	98	Sidewalk
*	0.240	98	Roof
*	0.340	98	Driveway & Apron
	2.240		Weighted Average
	1.100		49.11% Pervious Area
	1.140		50.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0500	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.5	300	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.9	279		2.50		**Direct Entry, Pipe**
8.1	609	Total			

Subcatchment 64S: BASIN E - DA



Summary for Subcatchment 65S: BASIN V - DA

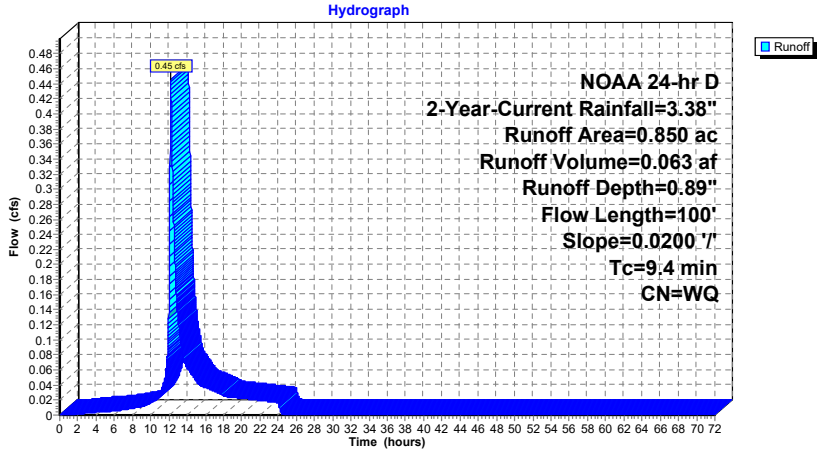
Runoff = 0.45 cfs @ 12.20 hrs, Volume= 0.063 af, Depth= 0.89"
Routed to Pond 117P : BASIN V

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.730	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.120	98	Roof
*	0.000	98	Driveway & Apron
	0.850		Weighted Average
	0.730		85.88% Pervious Area
	0.120		14.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	41	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	100	Total			

Subcatchment 65S: BASIN V - DA



Summary for Subcatchment 67S: Pipe W

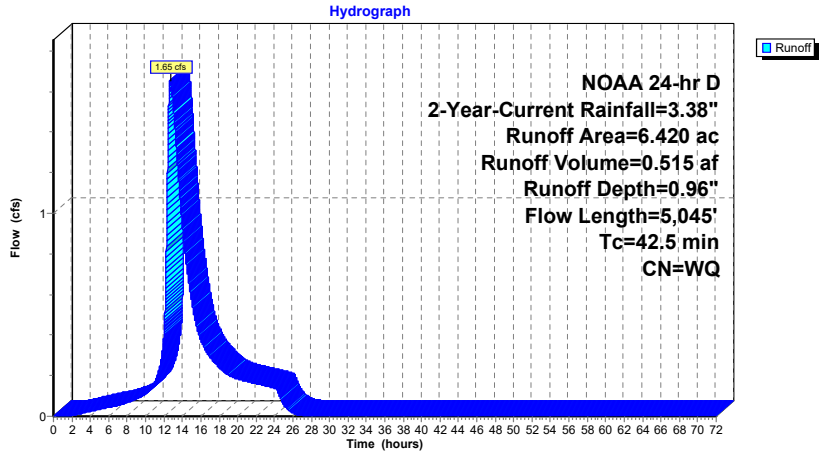
Runoff = 1.65 cfs @ 12.66 hrs, Volume= 0.515 af, Depth= 0.96"
Routed to Link 53L : W

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

Area (ac)	CN	Description
5.340	61	>75% Grass cover, Good, HSG B
1.080	98	Roofs, HSG B
6.420		Weighted Average
5.340		83.18% Pervious Area
1.080		16.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	66	0.0250	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.1	144	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
12.2	1,824		2.50		**Direct Entry,**
20.1	3,011		2.50		**Direct Entry,**
42.5	5,045	Total			

Subcatchment 67S: Pipe W



Summary for Subcatchment 68S: BASIN K - DA

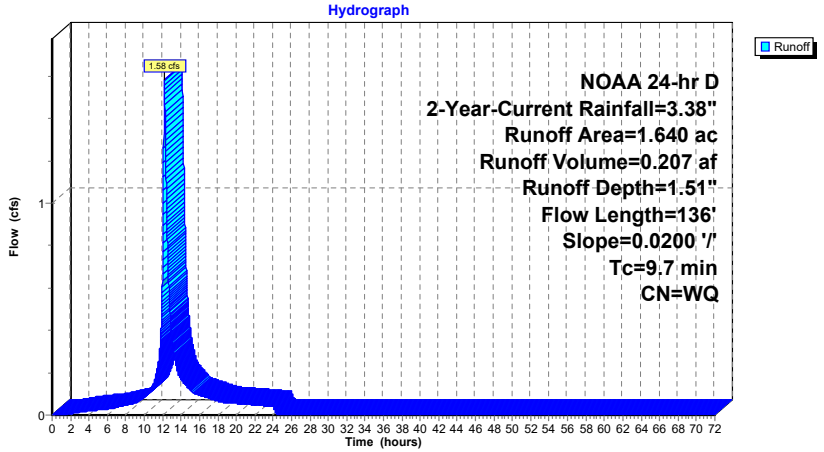
Runoff = 1.58 cfs @ 12.18 hrs, Volume= 0.207 af, Depth= 1.51"
Routed to Pond 70P : BASIN K

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	1.020	61	Open Space
*	0.000	98	Road
*	0.020	98	Sidewalk
*	0.600	98	Roof
*	0.000	98	Driveway & Apron
	1.640		Weighted Average
	1.020		62.20% Pervious Area
	0.620		37.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.6	77	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.7	136	Total			

Subcatchment 68S: BASIN K - DA



Summary for Subcatchment 69S: BASIN O - DA

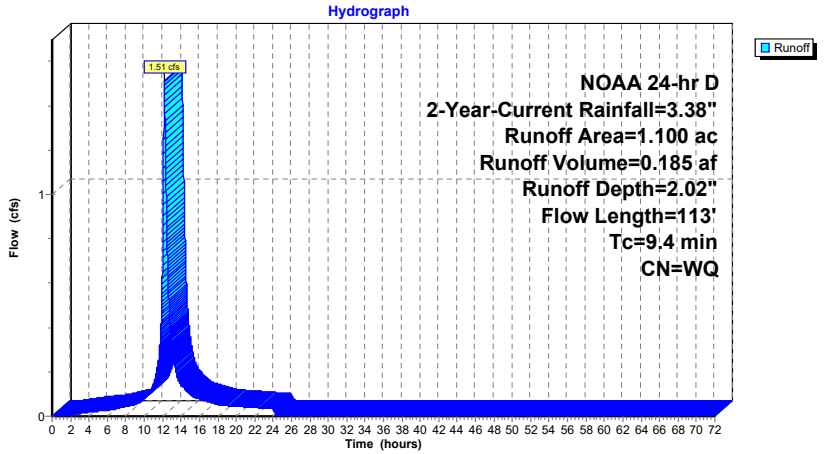
Runoff = 1.51 cfs @ 12.18 hrs, Volume= 0.185 af, Depth= 2.02"
Routed to Pond 93P : BASIN O

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.380	61	Open Space
*	0.150	80	Open Space, HSG D
*	0.150	98	Road
*	0.040	98	Sidewalk
*	0.240	98	Roof
*	0.140	98	Driveway & Apron
	1.100		Weighted Average
	0.530		48.18% Pervious Area
	0.570		51.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	54	0.0300	2.79		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	113	Total			

Subcatchment 69S: BASIN O - DA



Summary for Subcatchment 70S: Pipe X

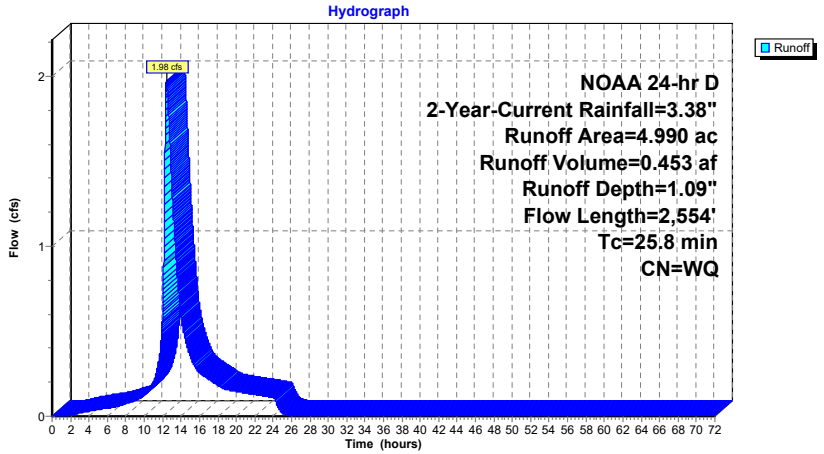
Runoff = 1.98 cfs @ 12.44 hrs, Volume= 0.453 af, Depth= 1.09"
Routed to Link 52L : X

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	3.910	61	Open Space
*	0.000	98	Road/Sidewalk
*	1.080	98	Roof
*	0.000	98	Driveway
	4.990		Weighted Average
	3.910		78.36% Pervious Area
	1.080		21.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.2	168	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
7.4	1,103		2.50		**Direct Entry,**
0.8	123	0.0250	2.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.3	1,101		2.50		**Direct Entry,**
25.8	2,554	Total			

Subcatchment 70S: Pipe X



Summary for Subcatchment 71S: BASIN B - DA

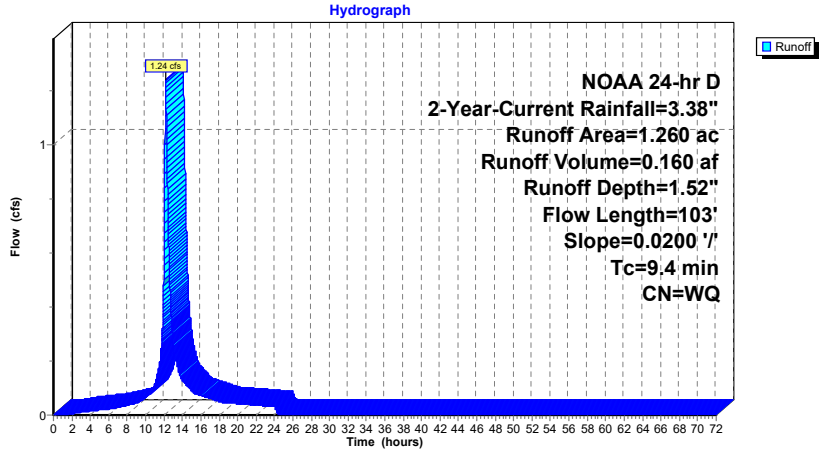
Runoff = 1.24 cfs @ 12.18 hrs, Volume= 0.160 af, Depth= 1.52"
Routed to Pond 74P : BASIN B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.780	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.480	98	Roof
*	0.000	98	Driveway
	1.260		Weighted Average
	0.780		61.90% Pervious Area
	0.480		38.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 71S: BASIN B - DA



Summary for Subcatchment 73S: BASIN C - DA

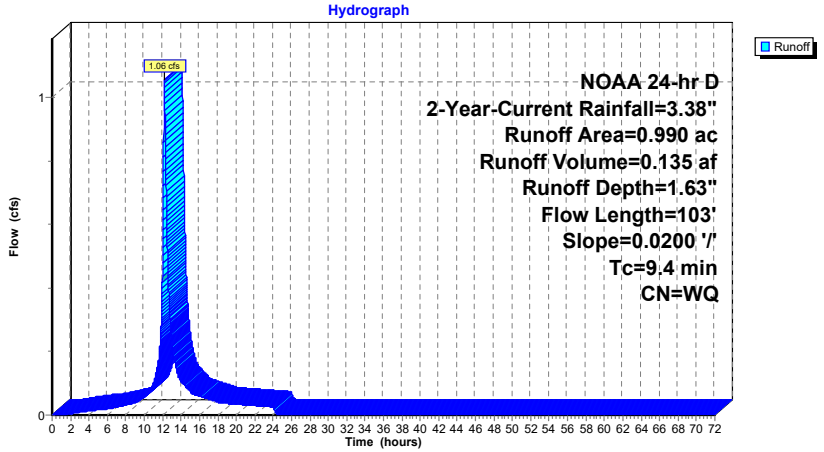
Runoff = 1.06 cfs @ 12.18 hrs, Volume= 0.135 af, Depth= 1.63"
Routed to Pond 59P : BASIN C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.570	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.420	98	Roof
*	0.000	98	Driveway
	0.990		Weighted Average
	0.570		57.58% Pervious Area
	0.420		42.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 73S: BASIN C - DA



Summary for Subcatchment 75S: BASIN M - DA

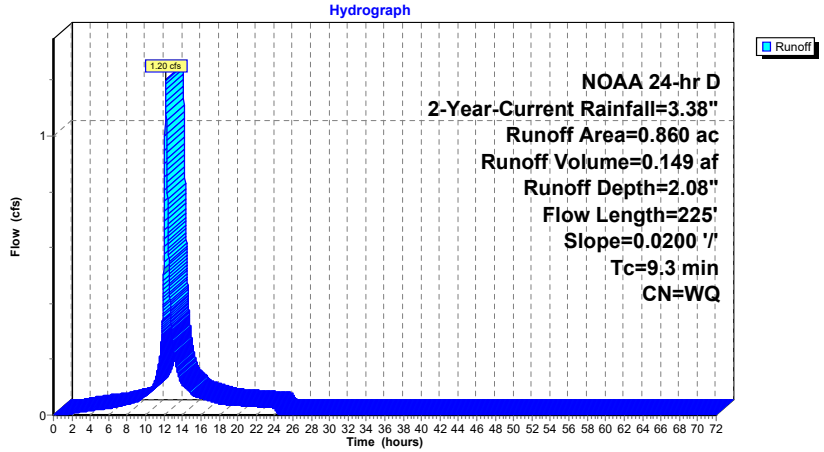
Runoff = 1.20 cfs @ 12.18 hrs, Volume= 0.149 af, Depth= 2.08"
Routed to Pond 76P : BASIN M

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.280	98	Road
*	0.050	98	Sidewalk
*	0.060	98	Roof
*	0.120	98	Driveway & Apron
	0.860		Weighted Average
	0.350		40.70% Pervious Area
	0.510		59.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	52	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
0.5	87	0.0200	2.87		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
0.6	86		2.50		**Direct Entry, Pipe**
9.3	225	Total			

Subcatchment 75S: BASIN M - DA



Summary for Subcatchment 76S: BASIN F - DA

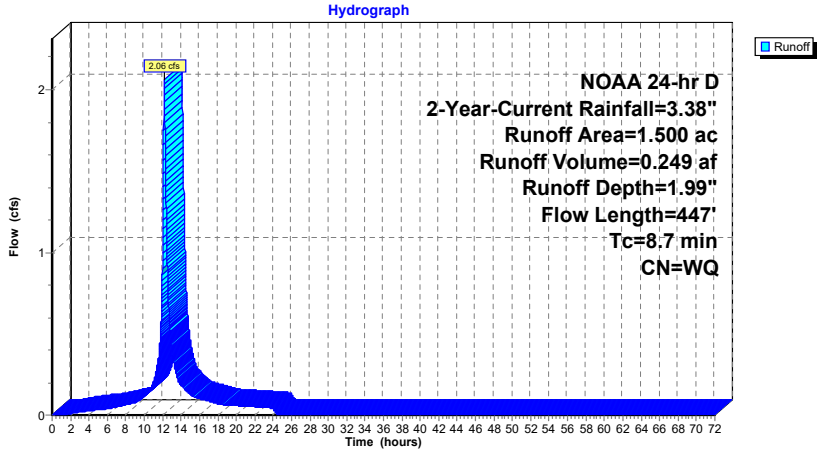
Runoff = 2.06 cfs @ 12.17 hrs, Volume= 0.249 af, Depth= 1.99"
Routed to Pond 83P : BASIN F

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.660	61	Open Space
*	0.440	98	Road
*	0.100	98	Sidewalk
*	0.120	98	Roof
*	0.180	98	Driveway & Apron
	1.500		Weighted Average
	0.660		44.00% Pervious Area
	0.840		56.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	33	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.3	158	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.7	256		2.50		**Direct Entry, Pipe**
8.7	447	Total			

Subcatchment 76S: BASIN F - DA



Summary for Subcatchment 77S: BASIN D - DA

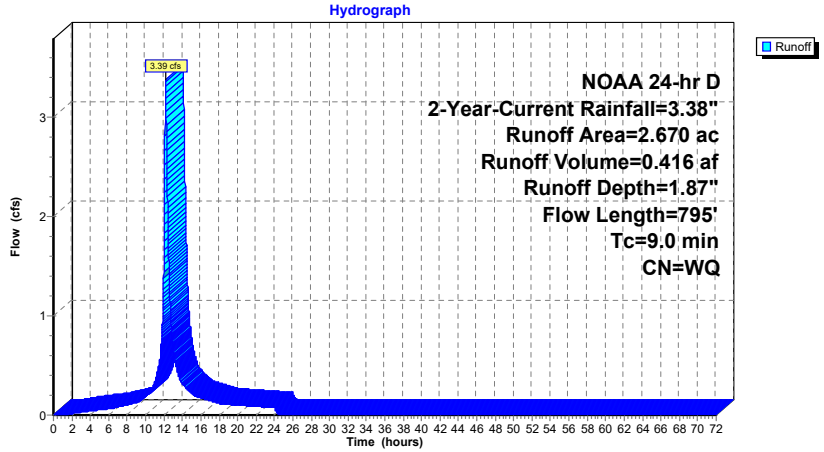
Runoff = 3.39 cfs @ 12.18 hrs, Volume= 0.416 af, Depth= 1.87"
Routed to Pond 75P : BASIN D

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	1.300	61	Open Space
*	0.430	98	Road
*	0.120	98	Sidewalk
*	0.420	98	Roof
*	0.400	98	Driveway & Apron
	2.670		Weighted Average
	1.300		48.69% Pervious Area
	1.370		51.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0500	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.2	300	0.0120	2.22		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
3.1	465		2.50		**Direct Entry, Pipe**
9.0	795	Total			

Subcatchment 77S: BASIN D - DA



Summary for Subcatchment 83S: BASIN L - DA

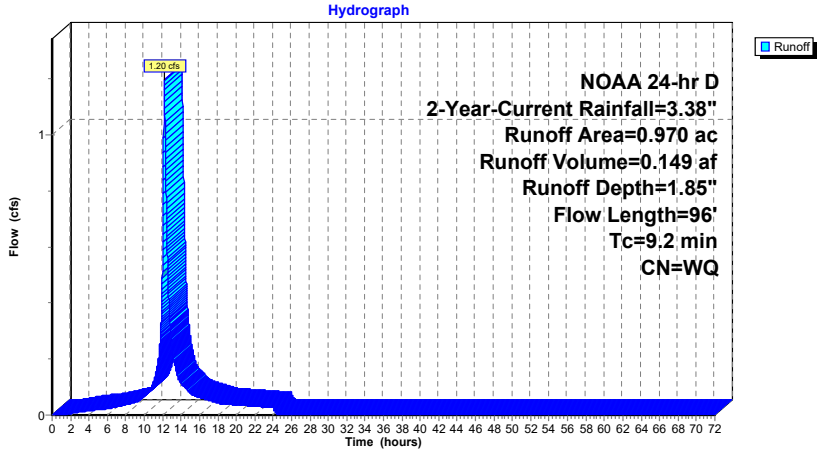
Runoff = 1.20 cfs @ 12.18 hrs, Volume= 0.149 af, Depth= 1.85"
Routed to Pond 84P : BASIN L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.480	61	Open Space
*	0.220	98	Road
*	0.050	98	Sidewalk
*	0.120	98	Roof
*	0.100	98	Driveway & Apron
	0.970		Weighted Average
	0.480		49.48% Pervious Area
	0.490		50.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	37	0.0800	4.55		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.2	96	Total			

Subcatchment 83S: BASIN L - DA



Summary for Subcatchment 85S: BASIN G - DA

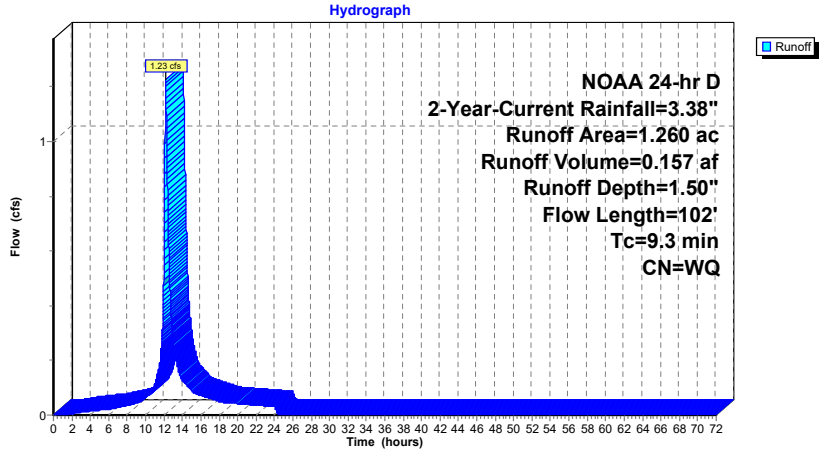
Runoff = 1.23 cfs @ 12.18 hrs, Volume= 0.157 af, Depth= 1.50"
Routed to Pond 86P : BASIN G

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.790	61	Open Space
*	0.060	98	Road
*	0.010	98	Sidewalk
*	0.360	98	Roof
*	0.040	98	Driveway & Apron
	1.260		Weighted Average
	0.790		62.70% Pervious Area
	0.470		37.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.2	43	0.0350	3.01		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.3	102	Total			

Subcatchment 85S: BASIN G - DA



Summary for Subcatchment 88S: BASIN H - DA

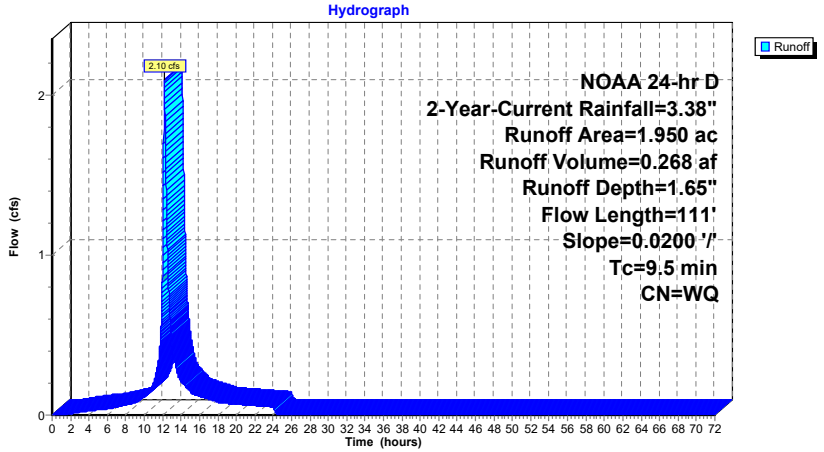
Runoff = 2.10 cfs @ 12.18 hrs, Volume= 0.268 af, Depth= 1.65"
Routed to Pond 60P : BASIN H

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	1.110	61	Open Space
*	0.230	98	Road
*	0.050	98	Sidewalk
*	0.420	98	Roof
*	0.140	98	Driveway & Apron
	1.950		Weighted Average
	1.110		56.92% Pervious Area
	0.840		43.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.4	52	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.5	111	Total			

Subcatchment 88S: BASIN H - DA



Summary for Subcatchment 98S: BASIN P - DA

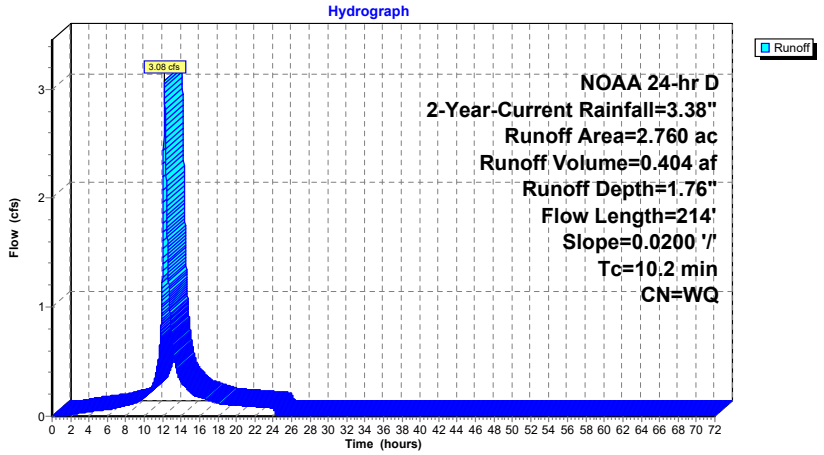
Runoff = 3.08 cfs @ 12.19 hrs, Volume= 0.404 af, Depth= 1.76"
Routed to Pond 63P : BASIN P

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	1.460	61	Open Space
*	0.410	98	Road
*	0.110	98	Sidewalk
*	0.420	98	Roof
*	0.360	98	Driveway & Apron
	2.760		Weighted Average
	1.460		52.90% Pervious Area
	1.300		47.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.7	99	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
0.4	56		2.50		**Direct Entry,**
10.2	214	Total			

Subcatchment 98S: BASIN P - DA



Summary for Subcatchment 101S: BASIN Q - DA

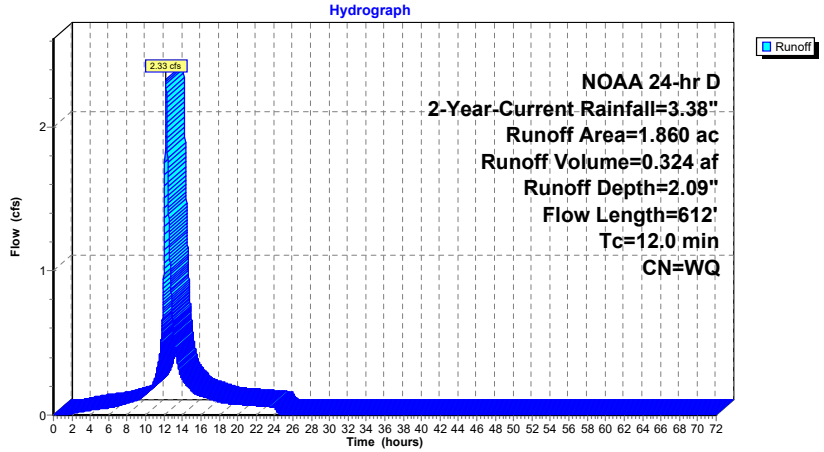
Runoff = 2.33 cfs @ 12.21 hrs, Volume= 0.324 af, Depth= 2.09"
Routed to Pond 102P : BASIN Q

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.750	61	Open Space
*	0.570	98	Road
*	0.140	98	Sidewalk
*	0.060	98	Roof
*	0.340	98	Driveway & Apron
	1.860		Weighted Average
	0.750		40.32% Pervious Area
	1.110		59.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	49	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.3	283	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.9	280		2.50		**Direct Entry, Pipe**
12.0	612	Total			

Subcatchment 101S: BASIN Q - DA



Summary for Subcatchment 104S: BASIN R - DA

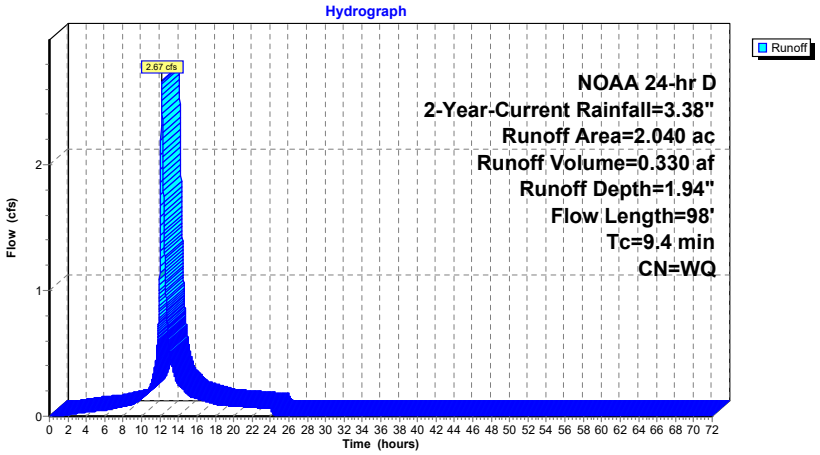
Runoff = 2.67 cfs @ 12.18 hrs, Volume= 0.330 af, Depth= 1.94"
Routed to Pond 105P : BASIN R

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
	0.810	61	>75% Grass cover, Good, HSG B
*	0.350	98	Road
*	0.090	98	Sidewalk
*	0.300	98	Roof
*	0.280	98	Driveway & Apron
	0.210	80	>75% Grass cover, Good, HSG D
	2.040		Weighted Average
	1.020		50.00% Pervious Area
	1.020		50.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	39	0.0250	2.55		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	98	Total			

Subcatchment 104S: BASIN R - DA



Summary for Subcatchment 107S: BASIN S - DA

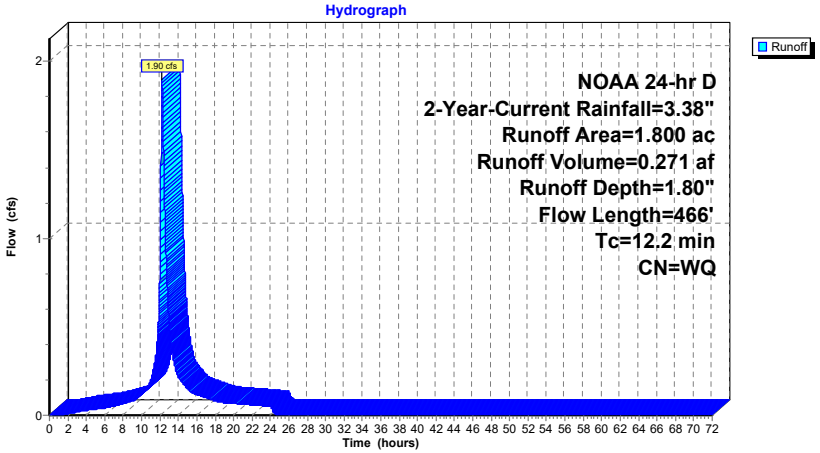
Runoff = 1.90 cfs @ 12.22 hrs, Volume= 0.271 af, Depth= 1.80"
Routed to Pond 108P : BASIN S

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.920	61	Open Space
*	0.590	98	Road
*	0.190	98	Sidewalk
*	0.080	98	Roof
*	0.020	98	Driveway & Apron
	1.800		Weighted Average
	0.920		51.11% Pervious Area
	0.880		48.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	6	0.0100	1.61		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
1.4	167	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.6	234		2.50		**Direct Entry, Pipe**
12.2	466	Total			

Subcatchment 107S: BASIN S - DA



Summary for Subcatchment 110S: BASIN T - DA

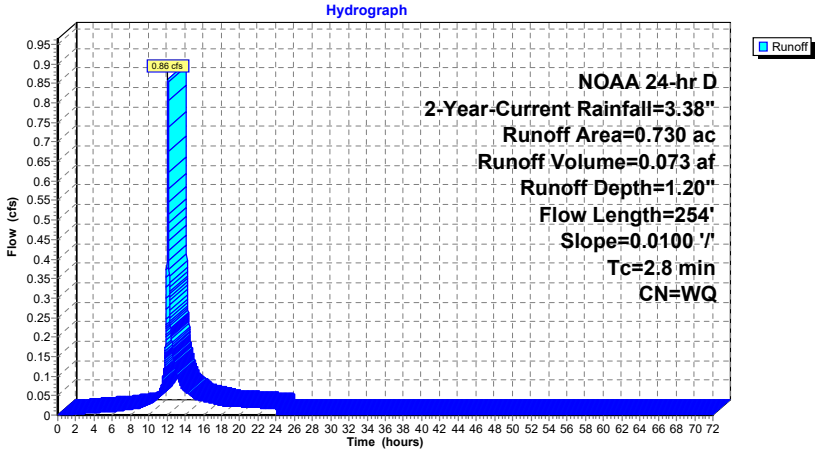
Runoff = 0.86 cfs @ 12.11 hrs, Volume= 0.073 af, Depth= 1.20"
Routed to Pond 111P : BASIN T

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.540	61	Open Space
*	0.140	98	Road
*	0.050	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	0.730		Weighted Average
	0.540		73.97% Pervious Area
	0.190		26.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.07		**Sheet Flow, Sheet Flow - Smooth Surfaces** Smooth surfaces n= 0.011 P2= 3.38"
0.8	93	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
0.4	61		2.50		**Direct Entry, Pipe**
2.8	254	Total			

Subcatchment 110S: BASIN T - DA



Summary for Subcatchment 113S: BASIN U - DA

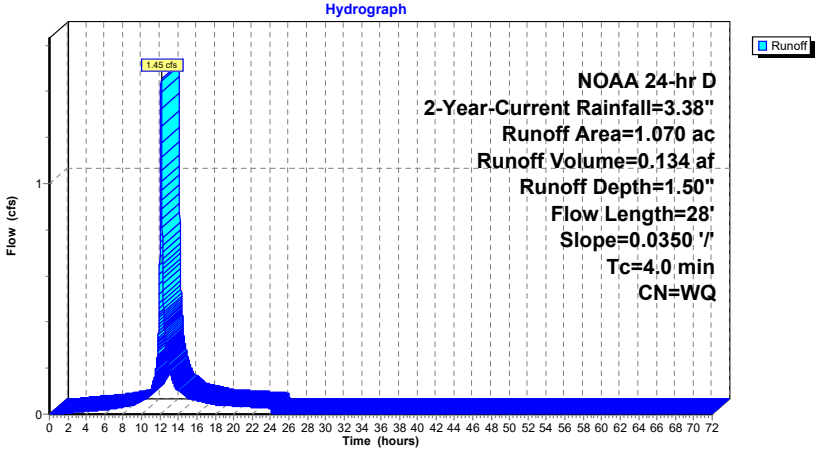
Runoff = 1.45 cfs @ 12.12 hrs, Volume= 0.134 af, Depth= 1.50"
Routed to Pond 114P : BASIN U

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.330	98	Road
*	0.070	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	1.070		Weighted Average
	0.670		62.62% Pervious Area
	0.400		37.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	28	0.0350	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"

Subcatchment 113S: BASIN U - DA



Summary for Pond 52P: BASIN A

Inflow Area = 2.470 ac, 53.85% Impervious, Inflow Depth = 1.93" for 2-Year-Current event
Inflow = 3.18 cfs @ 12.18 hrs, Volume= 0.398 af
Outflow = 0.11 cfs @ 18.04 hrs, Volume= 0.229 af, Atten= 96%, Lag= 351.4 min
Primary = 0.11 cfs @ 18.04 hrs, Volume= 0.229 af
Routed to Pond 74P : BASIN B

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.33' @ 18.04 hrs Surf.Area= 0.268 ac Storage= 0.305 af

Plug-Flow detention time= 995.9 min calculated for 0.229 af (58% of inflow)
Center-of-Mass det. time= 863.8 min (1,650.6 - 786.9)

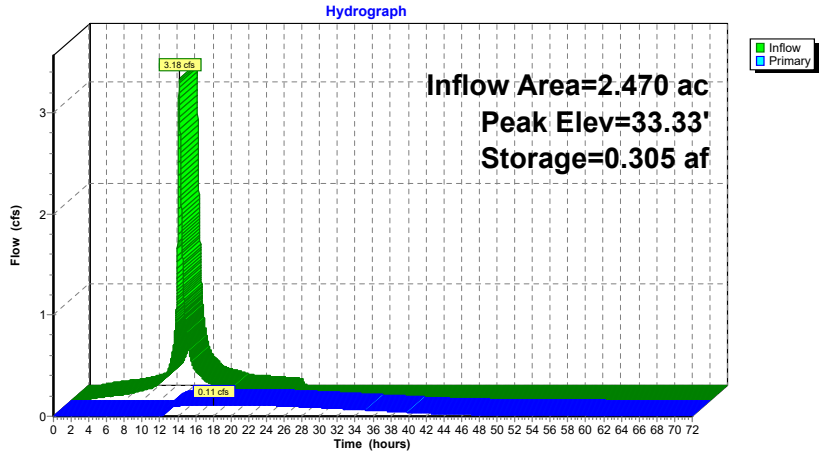
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.233 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.192	0.000	0.000
33.00	0.249	0.220	0.220
34.00	0.307	0.278	0.499
35.00	0.367	0.337	0.836
36.00	0.428	0.397	1.233

Device	Routing	Invert	Outlet Devices
#1	Primary	35.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.75'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.11 cfs @ 18.04 hrs HW=33.33' TW=31.54' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.11 cfs @ 3.31 fps)

Pond 52P: BASIN A



Summary for Pond 59P: BASIN C

Inflow Area = 4.720 ac, 47.25% Impervious, Inflow Depth > 1.16" for 2-Year-Current event
Inflow = 1.06 cfs @ 12.18 hrs, Volume= 0.455 af
Outflow = 0.66 cfs @ 12.44 hrs, Volume= 0.411 af, Atten= 37%, Lag= 15.6 min
Primary = 0.66 cfs @ 12.44 hrs, Volume= 0.411 af
Routed to Pond 75P : BASIN D

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 29.72' @ 12.44 hrs Surf.Area= 0.059 ac Storage= 0.056 af

Plug-Flow detention time= 271.0 min calculated for 0.411 af (90% of inflow)
Center-of-Mass det. time= 105.7 min (1,512.7 - 1,407.0)

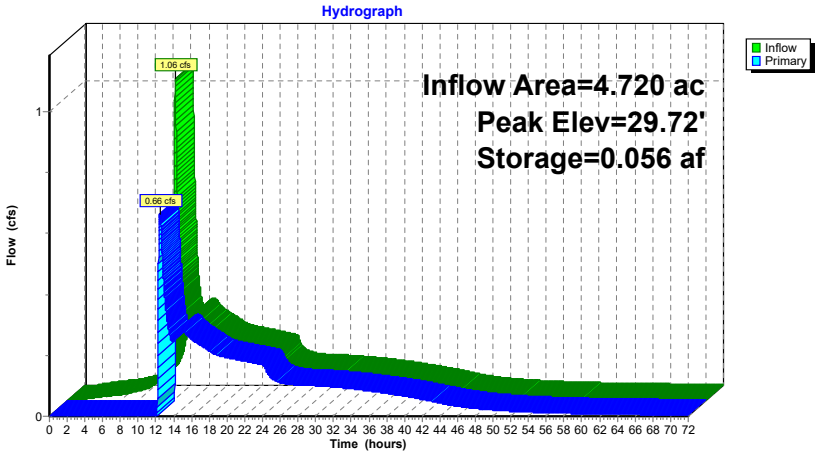
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.198 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.033	0.000	0.000
29.50	0.054	0.043	0.043
30.50	0.077	0.065	0.109
31.50	0.101	0.089	0.198

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	29.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.66 cfs @ 12.44 hrs HW=29.72' TW=27.57' (Dynamic Tailwater)
└**1=Grate** (Controls 0.00 cfs)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.66 cfs @ 1.54 fps)

Pond 59P: BASIN C



Summary for Pond 60P: BASIN H

Inflow Area = 4.710 ac, 45.65% Impervious, Inflow Depth > 1.02" for 2-Year-Current event
Inflow = 2.10 cfs @ 12.18 hrs, Volume= 0.402 af
Outflow = 0.12 cfs @ 24.09 hrs, Volume= 0.300 af, Atten= 94%, Lag= 714.5 min
Primary = 0.12 cfs @ 24.09 hrs, Volume= 0.300 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 29.54' @ 24.09 hrs Surf.Area= 0.250 ac Storage= 0.241 af

Plug-Flow detention time= 1,057.2 min calculated for 0.300 af (75% of inflow)
Center-of-Mass det. time= 825.7 min (1,849.0 - 1,023.2)

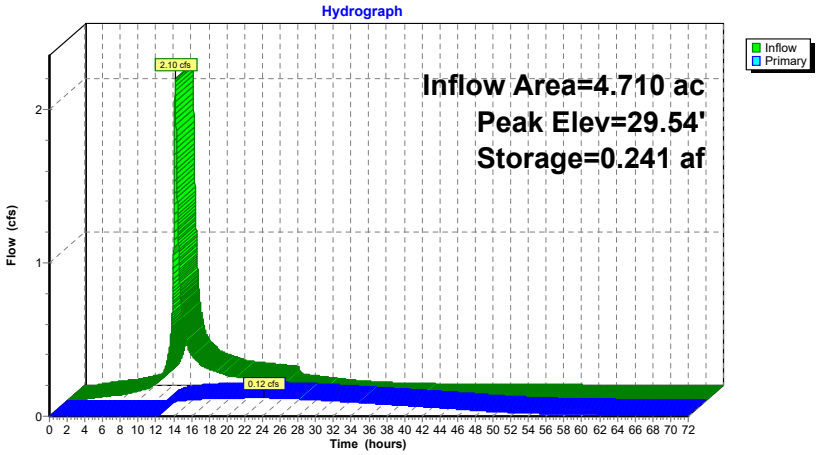
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.799 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.216	0.000	0.000
29.00	0.232	0.112	0.112
30.00	0.266	0.249	0.361
31.00	0.301	0.283	0.644
31.50	0.319	0.155	0.799

Device	Routing	Invert	Outlet Devices
#1	Primary	31.20'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.30'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	28.90'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.12 cfs @ 24.09 hrs HW=29.54' TW=28.06' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.12 cfs @ 3.51 fps)

Pond 60P: BASIN H



Summary for Pond 63P: BASIN P

Inflow = 3.17 cfs @ 12.19 hrs, Volume= 0.796 af
Outflow = 0.40 cfs @ 15.03 hrs, Volume= 0.543 af, Atten= 88%, Lag= 170.2 min
Primary = 0.40 cfs @ 15.03 hrs, Volume= 0.543 af
Routed to Pond 65P : BASIN E

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.11' @ 14.93 hrs Surf.Area= 0.255 ac Storage= 0.363 af

Plug-Flow detention time= 1,046.1 min calculated for 0.543 af (68% of inflow)
Center-of-Mass det. time= 653.2 min (1,853.8 - 1,200.6)

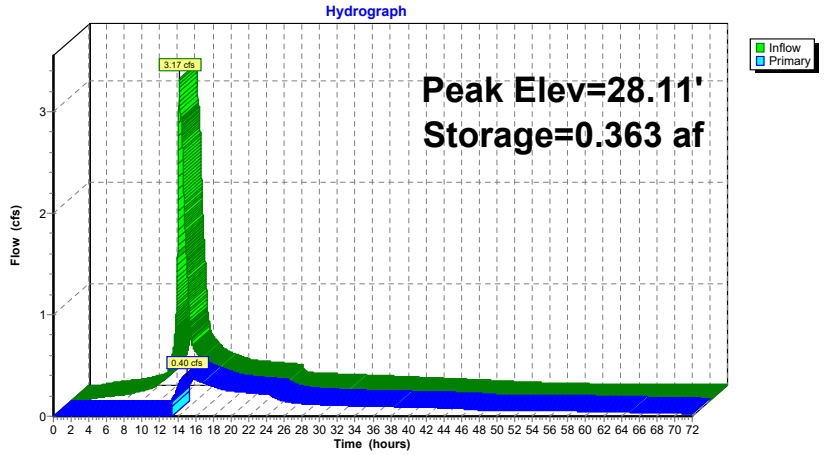
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.910 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.193	0.000	0.000
27.50	0.233	0.213	0.213
28.50	0.268	0.250	0.463
29.50	0.303	0.286	0.749
30.00	0.340	0.161	0.910

Device	Routing	Invert	Outlet Devices
#1	Primary	29.30'	**42.0" x 102.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**3.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.40 cfs @ 15.03 hrs HW=28.11' TW=28.11' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.38 cfs @ 0.45 fps)
- **3=Orifice** (Orifice Controls 0.02 cfs @ 0.37 fps)

Pond 63P: BASIN P



Summary for Pond 64P: BASIN I

Inflow Area = 0.530 ac, 33.96% Impervious, Inflow Depth = 1.41" for 2-Year-Current event
Inflow = 0.48 cfs @ 12.18 hrs, Volume= 0.062 af
Outflow = 0.08 cfs @ 13.31 hrs, Volume= 0.039 af, Atten= 83%, Lag= 67.6 min
Primary = 0.08 cfs @ 13.31 hrs, Volume= 0.039 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 29.76' @ 13.31 hrs Surf.Area= 0.032 ac Storage= 0.034 af

Plug-Flow detention time= 351.2 min calculated for 0.039 af (62% of inflow)
Center-of-Mass det. time= 220.2 min (1,027.3 - 807.2)

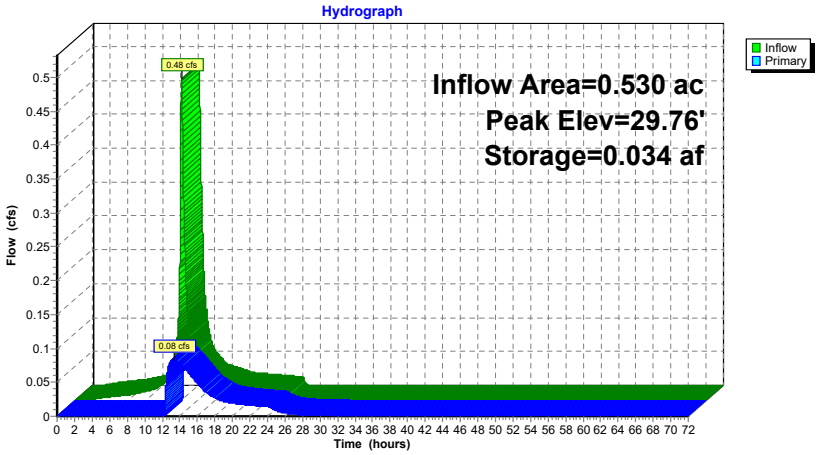
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.101 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.023	0.000	0.000
29.50	0.030	0.026	0.026
30.50	0.037	0.033	0.060
31.50	0.045	0.041	0.101

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.60'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	29.40'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.08 cfs @ 13.31 hrs HW=29.76' TW=28.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.08 cfs @ 2.43 fps)

Pond 64P: BASIN I



Summary for Pond 65P: BASIN E

Inflow = 2.95 cfs @ 12.17 hrs, Volume= 0.890 af
Outflow = 1.11 cfs @ 12.58 hrs, Volume= 0.765 af, Atten= 62%, Lag= 24.7 min
Primary = 0.58 cfs @ 14.91 hrs, Volume= 0.711 af
Routed to Link 46L : DA North
Secondary = 0.87 cfs @ 12.58 hrs, Volume= 0.054 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.11' @ 14.91 hrs Surf.Area= 0.143 ac Storage= 0.187 af

Plug-Flow detention time= 598.6 min calculated for 0.764 af (86% of inflow)
Center-of-Mass det. time= 298.0 min (1,736.1 - 1,438.2)

Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.421 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

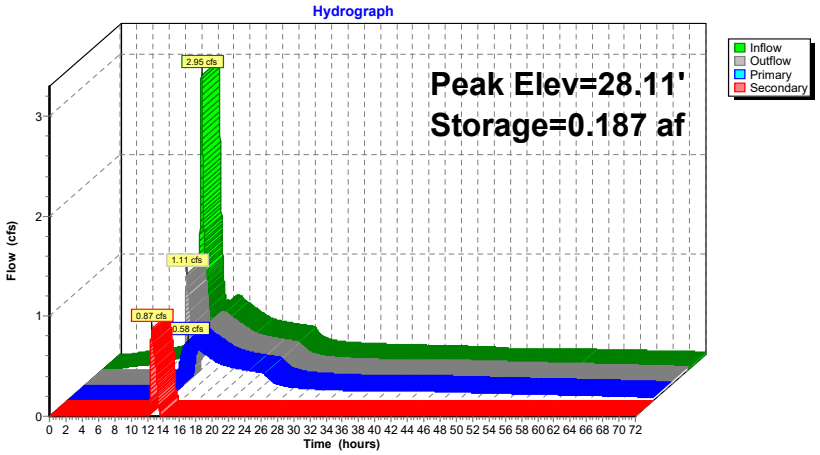
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.091	0.000	0.000
27.50	0.122	0.106	0.106
28.50	0.157	0.139	0.246
29.50	0.193	0.175	0.421

Device	Routing	Invert	Outlet Devices
#1	Primary	28.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#4	Secondary	27.50'	**3.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#5	Secondary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#6	Secondary	29.30'	**42.0" x 102.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.58 cfs @ 14.91 hrs HW=28.11' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.47 cfs @ 1.08 fps)
- **3=Orifice** (Orifice Controls 0.12 cfs @ 3.42 fps)

Secondary OutFlow Max=0.87 cfs @ 12.58 hrs HW=28.05' TW=27.61' (Dynamic Tailwater)
- **4=Orifice** (Orifice Controls 0.15 cfs @ 3.12 fps)
- **5=Sharp-Crested Rectangular Weir** (Weir Controls 0.72 cfs @ 1.25 fps)
- **6=Grate** (Controls 0.00 cfs)

Pond 65P: BASIN E



Summary for Pond 70P: BASIN K

Inflow Area = 1.640 ac, 37.80% Impervious, Inflow Depth = 1.51" for 2-Year-Current event
Inflow = 1.58 cfs @ 12.18 hrs, Volume= 0.207 af
Outflow = 0.11 cfs @ 15.30 hrs, Volume= 0.140 af, Atten= 93%, Lag= 186.7 min
Primary = 0.11 cfs @ 15.30 hrs, Volume= 0.140 af
Routed to Pond 90P : BASIN N

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 31.52' @ 15.30 hrs Surf.Area= 0.148 ac Storage= 0.138 af

Plug-Flow detention time= 663.3 min calculated for 0.140 af (68% of inflow)
Center-of-Mass det. time= 544.5 min (1,346.9 - 802.4)

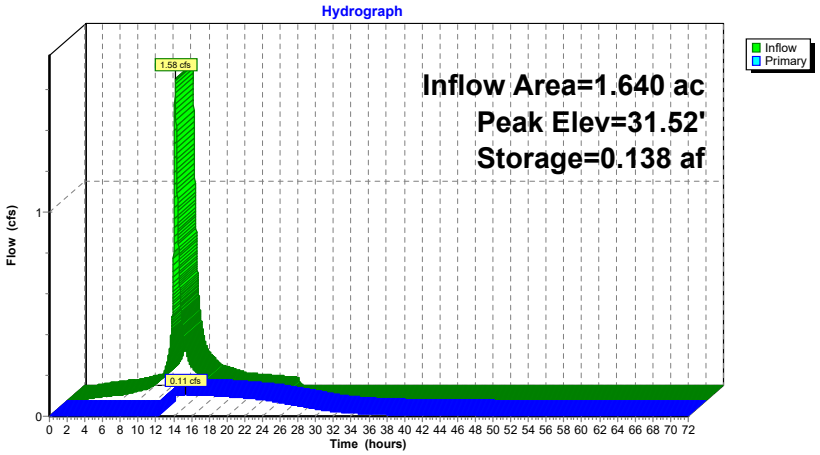
Volume	Invert	Avail.Storage	Storage Description
#1	30.50'	0.484 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.50	0.122	0.000	0.000
31.50	0.148	0.135	0.135
32.50	0.174	0.161	0.296
33.50	0.202	0.188	0.484

Device	Routing	Invert	Outlet Devices
#1	Primary	33.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.70'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.11 cfs @ 15.30 hrs HW=31.52' TW=30.24' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.11 cfs @ 3.10 fps)

Pond 70P: BASIN K



Summary for Pond 74P: BASIN B

Inflow Area = 3.730 ac, 48.53% Impervious, Inflow Depth > 1.25" for 2-Year-Current event
Inflow = 1.24 cfs @ 12.18 hrs, Volume= 0.389 af
Outflow = 0.20 cfs @ 14.88 hrs, Volume= 0.320 af, Atten= 84%, Lag= 162.0 min
Primary = 0.20 cfs @ 14.88 hrs, Volume= 0.320 af
Routed to Pond 59P : BASIN C

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 31.56' @ 14.88 hrs Surf.Area= 0.099 ac Storage= 0.115 af

Plug-Flow detention time= 612.2 min calculated for 0.320 af (82% of inflow)
Center-of-Mass det. time= 361.7 min (1,663.8 - 1,302.1)

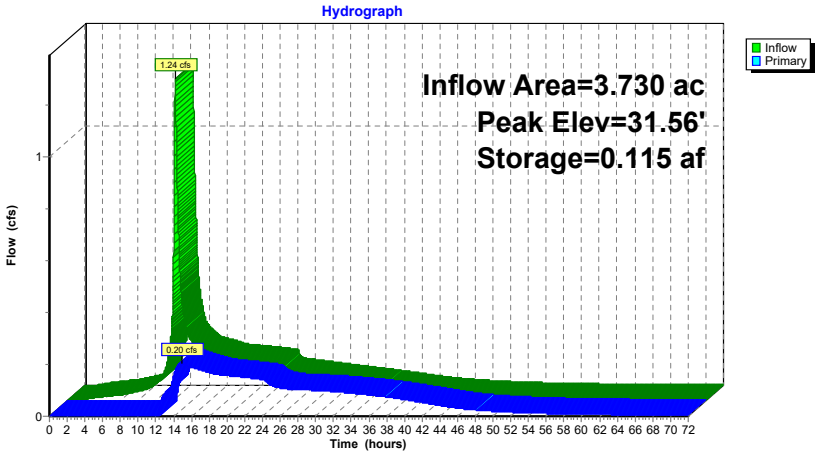
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	0.292 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.00	0.049	0.000	0.000
31.00	0.081	0.065	0.065
32.00	0.113	0.097	0.162
33.00	0.147	0.130	0.292

Device	Routing	Invert	Outlet Devices
#1	Primary	32.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.20 cfs @ 14.88 hrs HW=31.56' TW=29.62' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.09 cfs @ 0.79 fps)
- **3=Orifice** (Orifice Controls 0.11 cfs @ 3.25 fps)

Pond 74P: BASIN B



Summary for Pond 75P: BASIN D

Inflow Area = 7.390 ac, 48.71% Impervious, Inflow Depth > 1.34" for 2-Year-Current event
Inflow = 3.55 cfs @ 12.19 hrs, Volume= 0.827 af
Outflow = 0.55 cfs @ 14.33 hrs, Volume= 0.619 af, Atten= 84%, Lag= 127.9 min
Primary = 0.55 cfs @ 14.33 hrs, Volume= 0.619 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.00' @ 14.33 hrs Surf.Area= 0.242 ac Storage= 0.329 af

Plug-Flow detention time= 843.7 min calculated for 0.619 af (75% of inflow)
Center-of-Mass det. time= 543.2 min (1,691.7 - 1,148.5)

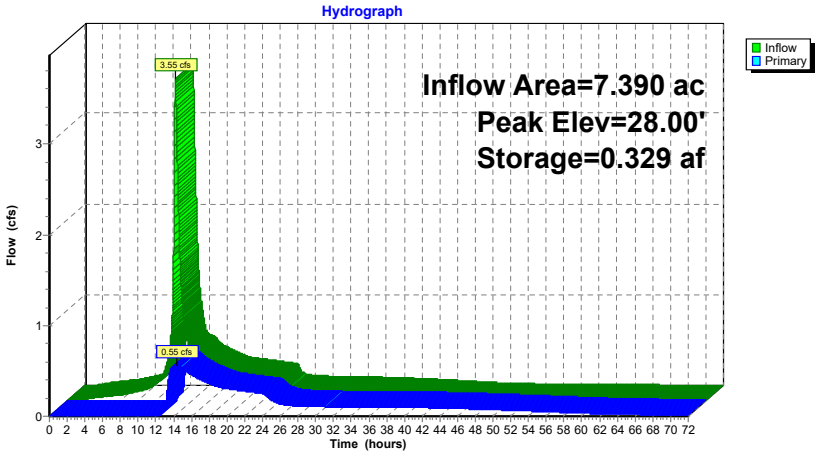
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.725 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.197	0.000	0.000
27.50	0.226	0.211	0.211
28.50	0.257	0.241	0.453
29.50	0.288	0.272	0.725

Device	Routing	Invert	Outlet Devices
#1	Primary	28.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.40'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.55 cfs @ 14.33 hrs HW=28.00' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.44 cfs @ 1.06 fps)
- **3=Orifice** (Orifice Controls 0.12 cfs @ 3.40 fps)

Pond 75P: BASIN D



Summary for Pond 76P: BASIN M

Inflow Area = 0.860 ac, 59.30% Impervious, Inflow Depth = 2.08" for 2-Year-Current event
Inflow = 1.20 cfs @ 12.18 hrs, Volume= 0.149 af
Outflow = 0.12 cfs @ 13.87 hrs, Volume= 0.088 af, Atten= 90%, Lag= 101.7 min
Primary = 0.12 cfs @ 13.87 hrs, Volume= 0.088 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.10' @ 13.87 hrs Surf.Area= 0.061 ac Storage= 0.096 af

Plug-Flow detention time= 453.1 min calculated for 0.088 af (59% of inflow)
Center-of-Mass det. time= 325.6 min (1,108.6 - 783.0)

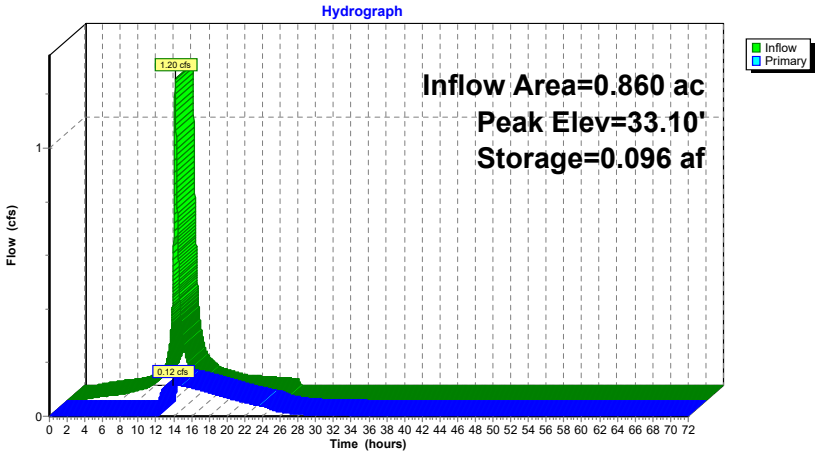
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	0.260 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.50	0.060	0.000	0.000
32.00	0.060	0.030	0.030
33.00	0.060	0.060	0.090
34.00	0.070	0.065	0.155
35.00	0.070	0.070	0.225
35.50	0.070	0.035	0.260

Device	Routing	Invert	Outlet Devices
#1	Primary	35.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	33.75'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.12 cfs @ 13.87 hrs HW=33.10' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.12 cfs @ 3.40 fps)

Pond 76P: BASIN M



Summary for Pond 83P: BASIN F

Inflow Area = 1.500 ac, 56.00% Impervious, Inflow Depth = 1.99" for 2-Year-Current event
Inflow = 2.06 cfs @ 12.17 hrs, Volume= 0.249 af
Outflow = 0.04 cfs @ 24.09 hrs, Volume= 0.045 af, Atten= 98%, Lag= 715.3 min
Primary = 0.04 cfs @ 24.09 hrs, Volume= 0.045 af
Routed to Pond 86p : BASIN G

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.15' @ 24.09 hrs Surf.Area= 0.224 ac Storage= 0.232 af

Plug-Flow detention time= 1,321.0 min calculated for 0.045 af (18% of inflow)
Center-of-Mass det. time= 1,034.0 min (1,818.3 - 784.2)

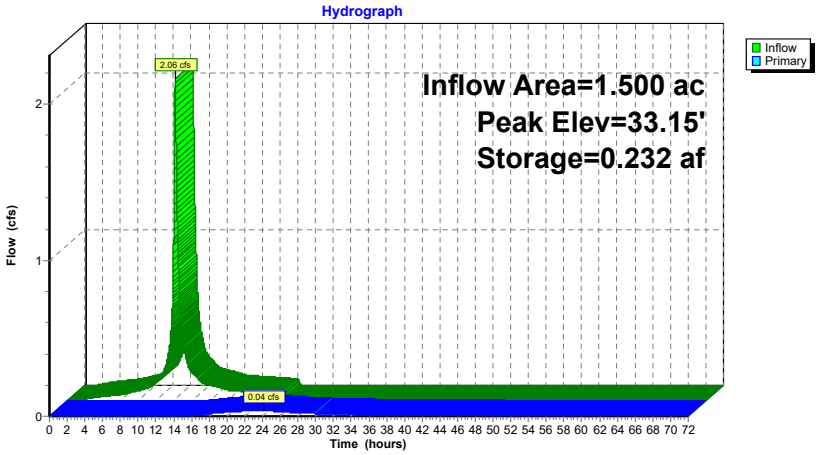
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.043 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.178	0.000	0.000
33.00	0.218	0.198	0.198
34.00	0.260	0.239	0.437
35.00	0.303	0.281	0.718
36.00	0.347	0.325	1.043

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.25'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.04 cfs @ 24.09 hrs HW=33.15' TW=32.31' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.04 cfs @ 1.34 fps)

Pond 83P: BASIN F



Summary for Pond 84P: BASIN L

Inflow Area = 0.970 ac, 50.52% Impervious, Inflow Depth = 1.85" for 2-Year-Current event
Inflow = 1.20 cfs @ 12.18 hrs, Volume= 0.149 af
Outflow = 0.11 cfs @ 14.17 hrs, Volume= 0.101 af, Atten= 91%, Lag= 119.3 min
Primary = 0.11 cfs @ 14.17 hrs, Volume= 0.101 af
Routed to Pond 90P : BASIN N

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.63' @ 14.17 hrs Surf.Area= 0.095 ac Storage= 0.095 af

Plug-Flow detention time= 507.4 min calculated for 0.101 af (68% of inflow)
Center-of-Mass det. time= 392.0 min (1,181.1 - 789.1)

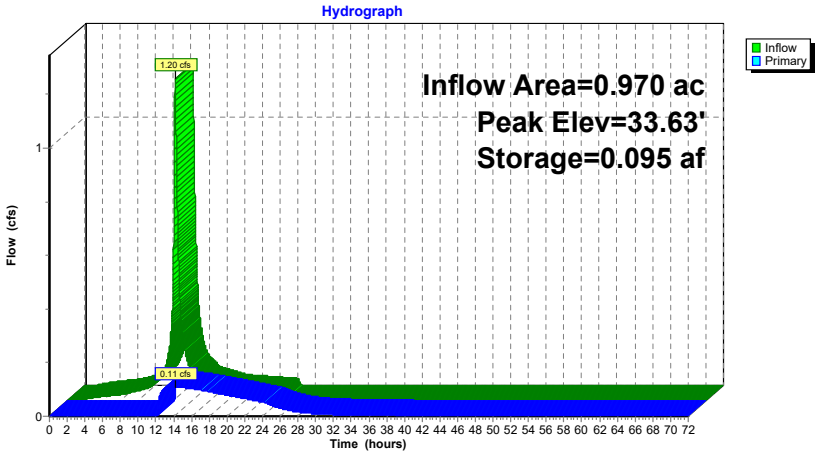
Volume	Invert	Avail.Storage	Storage Description
#1	32.50'	0.308 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.50	0.074	0.000	0.000
33.00	0.083	0.039	0.039
34.00	0.102	0.092	0.132
35.00	0.123	0.113	0.244
35.50	0.134	0.064	0.308

Device	Routing	Invert	Outlet Devices
#1	Primary	34.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	33.90'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.10'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.11 cfs @ 14.17 hrs HW=33.63' TW=30.13' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.11 cfs @ 3.15 fps)

Pond 84P: BASIN L



Summary for Pond 86P: BASIN G

Inflow Area = 2.760 ac, 47.46% Impervious, Inflow Depth > 0.88" for 2-Year-Current event
Inflow = 1.23 cfs @ 12.18 hrs, Volume= 0.203 af
Outflow = 0.09 cfs @ 14.98 hrs, Volume= 0.133 af, Atten= 93%, Lag= 168.0 min
Primary = 0.09 cfs @ 14.98 hrs, Volume= 0.133 af
Routed to Pond 60P : BASIN H

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 32.41' @ 14.98 hrs Surf.Area= 0.097 ac Storage= 0.104 af

Plug-Flow detention time= 752.8 min calculated for 0.133 af (66% of inflow)
Center-of-Mass det. time= 449.8 min (1,479.8 - 1,029.9)

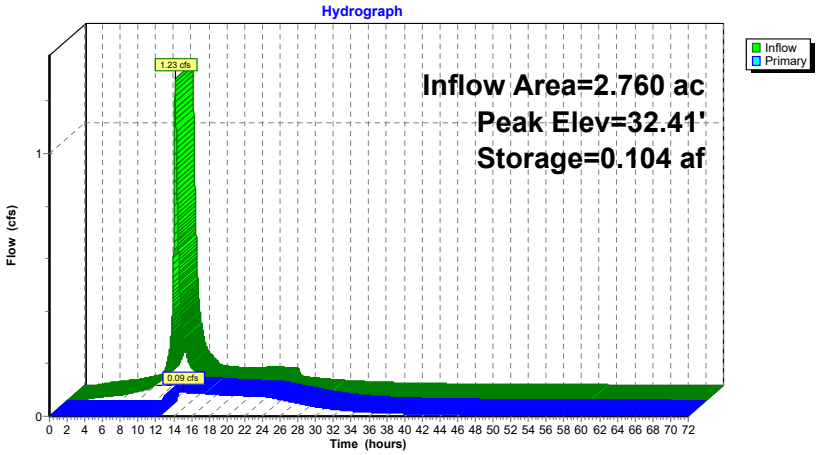
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	0.301 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.00	0.051	0.000	0.000
32.00	0.083	0.067	0.067
33.00	0.117	0.100	0.167
34.00	0.152	0.134	0.301

Device	Routing	Invert	Outlet Devices
#1	Primary	33.70'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	32.75'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.09 cfs @ 14.98 hrs HW=32.41' TW=29.39' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.09 cfs @ 2.66 fps)

Pond 86P: BASIN G



Summary for Pond 90P: BASIN N

Inflow Area = 4.000 ac, 43.75% Impervious, Inflow Depth > 1.34" for 2-Year-Current event
Inflow = 1.69 cfs @ 12.19 hrs, Volume= 0.448 af
Outflow = 0.29 cfs @ 16.38 hrs, Volume= 0.340 af, Atten= 83%, Lag= 251.6 min
Primary = 0.29 cfs @ 16.38 hrs, Volume= 0.340 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 30.26' @ 16.38 hrs Surf.Area= 0.175 ac Storage= 0.195 af

Plug-Flow detention time= 668.2 min calculated for 0.340 af (76% of inflow)
Center-of-Mass det. time= 477.9 min (1,532.0 - 1,054.1)

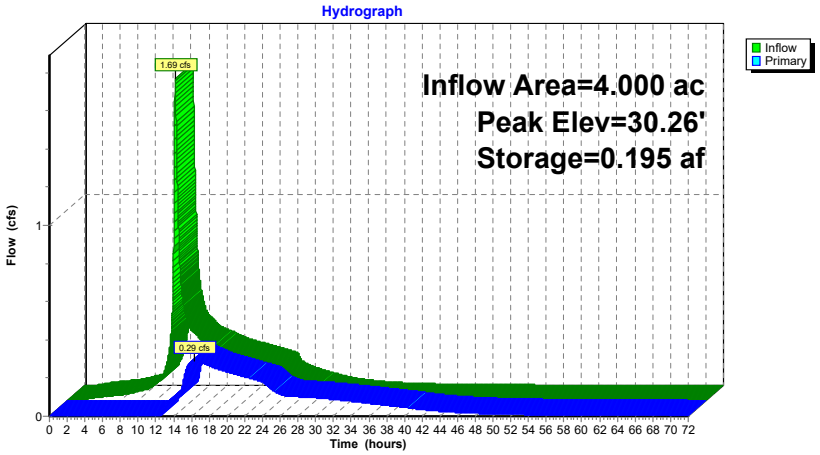
Volume	Invert	Avail.Storage	Storage Description
#1	29.00'	0.443 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
29.00	0.136	0.000	0.000
30.00	0.167	0.151	0.151
31.00	0.199	0.183	0.334
31.50	0.238	0.109	0.443

Device	Routing	Invert	Outlet Devices
#1	Primary	30.90'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.20'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	29.70'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.29 cfs @ 16.38 hrs HW=30.26' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.18 cfs @ 0.78 fps)
- **3=Orifice** (Orifice Controls 0.11 cfs @ 3.24 fps)

Pond 90P: BASIN N



Summary for Pond 93P: BASIN O

Inflow Area = 1.100 ac, 51.82% Impervious, Inflow Depth = 2.02" for 2-Year-Current event
Inflow = 1.51 cfs @ 12.18 hrs, Volume= 0.185 af
Outflow = 0.40 cfs @ 12.83 hrs, Volume= 0.125 af, Atten= 74%, Lag= 39.0 min
Primary = 0.40 cfs @ 12.83 hrs, Volume= 0.125 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.09' @ 12.83 hrs Surf.Area= 0.081 ac Storage= 0.104 af

Plug-Flow detention time= 408.5 min calculated for 0.125 af (68% of inflow)
Center-of-Mass det. time= 294.5 min (1,085.2 - 790.7)

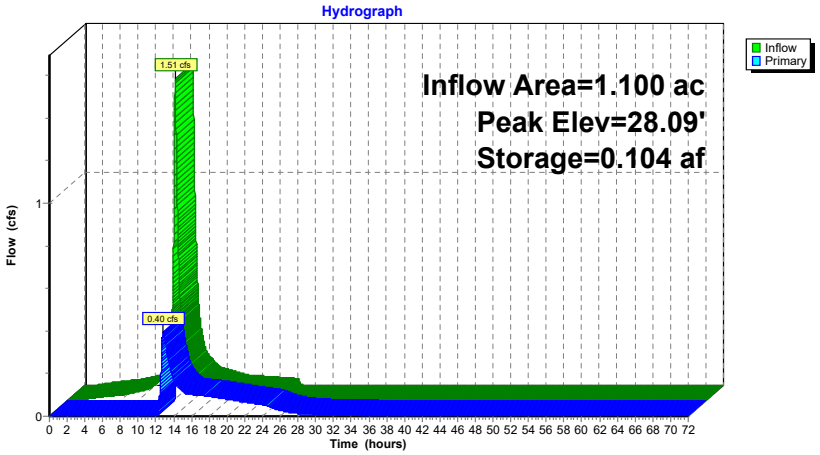
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.244 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.050	0.000	0.000
27.00	0.059	0.027	0.027
28.00	0.079	0.069	0.097
29.00	0.100	0.090	0.186
29.50	0.129	0.057	0.244

Device	Routing	Invert	Outlet Devices
#1	Primary	28.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.00'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.40 cfs @ 12.83 hrs HW=28.09' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.28 cfs @ 1.00 fps)
- **3=Orifice** (Orifice Controls 0.11 cfs @ 3.37 fps)

Pond 93P: BASIN O



Summary for Pond 102P: BASIN Q

Inflow Area = 1.860 ac, 59.68% Impervious, Inflow Depth = 2.09" for 2-Year-Current event
Inflow = 2.33 cfs @ 12.21 hrs, Volume= 0.324 af
Outflow = 0.58 cfs @ 13.05 hrs, Volume= 0.141 af, Atten= 75%, Lag= 50.0 min
Primary = 0.58 cfs @ 13.05 hrs, Volume= 0.141 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 27.83' @ 13.05 hrs Surf.Area= 0.124 ac Storage= 0.198 af

Plug-Flow detention time= 362.7 min calculated for 0.141 af (44% of inflow)
Center-of-Mass det. time= 202.3 min (989.2 - 786.9)

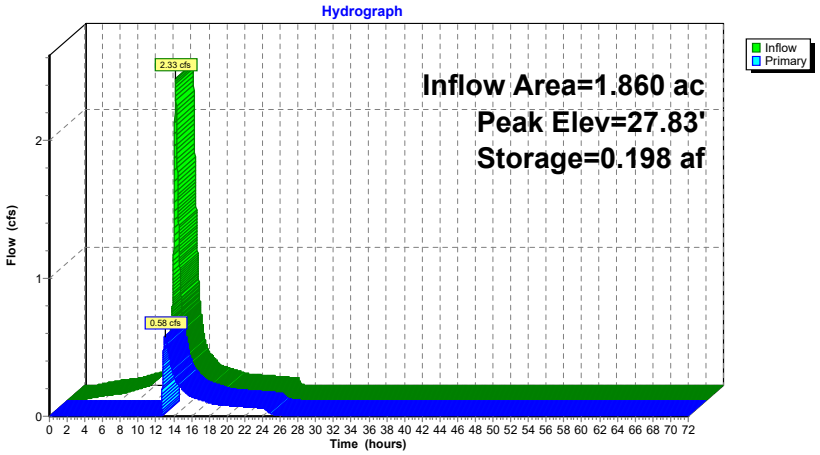
Volume	Invert	Avail.Storage	Storage Description
#1	26.00'	0.356 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.00	0.092	0.000	0.000
27.00	0.110	0.101	0.101
28.00	0.128	0.119	0.220
29.00	0.146	0.137	0.356

Device	Routing	Invert	Outlet Devices
#1	Primary	28.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.70'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.00'	**2.5" Vert. Orifice X 0.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.58 cfs @ 13.05 hrs HW=27.83' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.58 cfs @ 1.16 fps)
- **3=Orifice** (Controls 0.00 cfs)

Pond 102P: BASIN Q



Summary for Pond 105P: BASIN R

Inflow Area = 2.040 ac, 50.00% Impervious, Inflow Depth = 1.94" for 2-Year-Current event
Inflow = 2.67 cfs @ 12.18 hrs, Volume= 0.330 af
Outflow = 0.22 cfs @ 14.42 hrs, Volume= 0.179 af, Atten= 92%, Lag= 134.2 min
Primary = 0.22 cfs @ 14.42 hrs, Volume= 0.179 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 23.96' @ 14.42 hrs Surf.Area= 0.185 ac Storage= 0.228 af

Plug-Flow detention time= 701.7 min calculated for 0.179 af (54% of inflow)
Center-of-Mass det. time= 564.8 min (1,356.4 - 791.6)

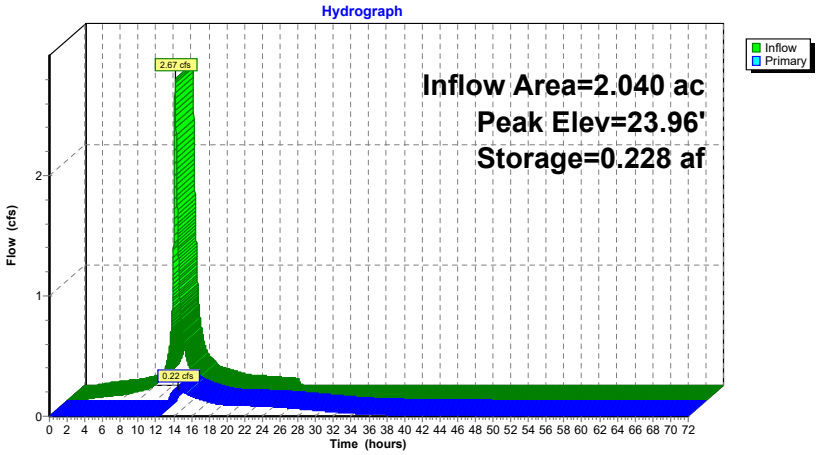
Volume	Invert	Avail.Storage	Storage Description
#1	22.50'	0.568 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
22.50	0.127	0.000	0.000
23.00	0.146	0.068	0.068
24.00	0.187	0.167	0.235
25.00	0.228	0.207	0.442
25.50	0.277	0.126	0.568

Device	Routing	Invert	Outlet Devices
#1	Primary	25.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	23.90'	**2.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	23.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.22 cfs @ 14.42 hrs HW=23.96' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.12 cfs @ 0.81 fps)
- **3=Orifice** (Orifice Controls 0.10 cfs @ 2.88 fps)

Pond 105P: BASIN R



Summary for Pond 108P: BASIN S

Inflow Area = 1.800 ac, 48.89% Impervious, Inflow Depth = 1.80" for 2-Year-Current event
Inflow = 1.90 cfs @ 12.22 hrs, Volume= 0.271 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 20.05' @ 25.36 hrs Surf.Area= 0.241 ac Storage= 0.271 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

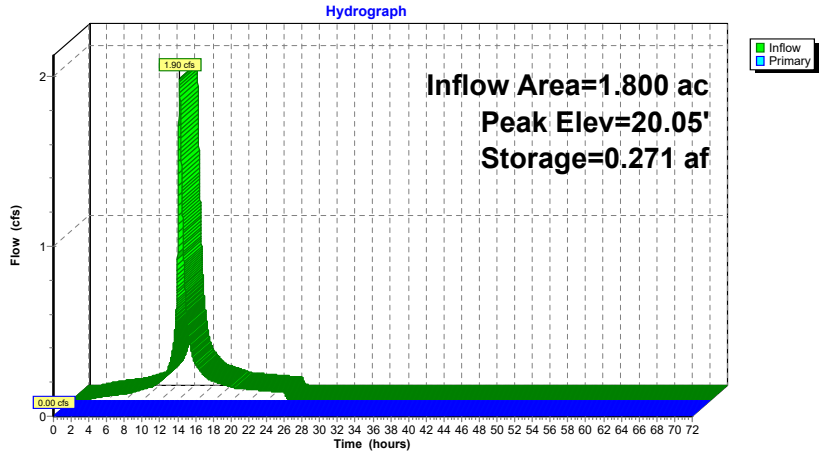
Volume	Invert	Avail.Storage	Storage Description
#1	18.80'	0.750 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
18.80	0.190	0.000	0.000
19.00	0.200	0.039	0.039
20.00	0.240	0.220	0.259
21.00	0.270	0.255	0.514
21.80	0.320	0.236	0.750

Device	Routing	Invert	Outlet Devices
#1	Primary	21.20'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.10'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	19.30'	**2.5" Vert. Orifice X 0.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=18.80' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Controls 0.00 cfs)

Pond 108P: BASIN S



Summary for Pond 111P: BASIN T

Inflow Area = 1.800 ac, 32.78% Impervious, Inflow Depth > 0.59" for 2-Year-Current event
Inflow = 0.86 cfs @ 12.11 hrs, Volume= 0.089 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 18.99' @ 72.00 hrs Surf.Area= 0.190 ac Storage= 0.089 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

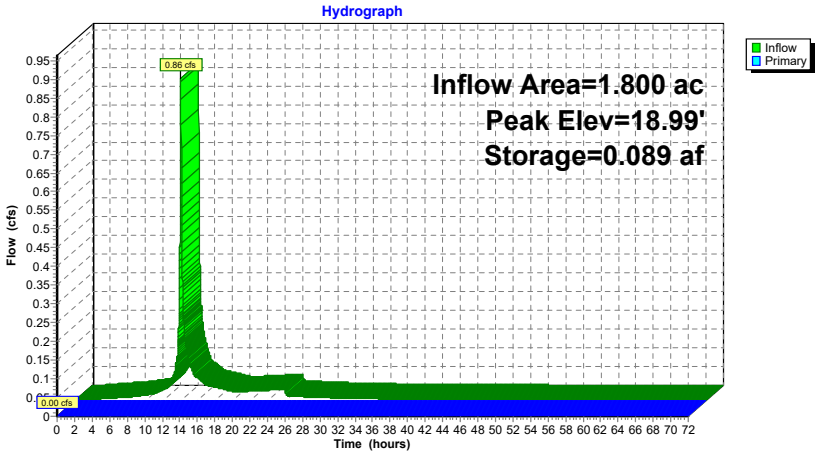
Volume	Invert	Avail.Storage	Storage Description
#1	18.50'	0.697 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
18.50	0.170	0.000	0.000
19.00	0.190	0.090	0.090
20.00	0.230	0.210	0.300
21.00	0.270	0.250	0.550
21.50	0.320	0.148	0.697

Device	Routing	Invert	Outlet Devices
#1	Primary	20.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.20'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	19.10'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=18.50' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Controls 0.00 cfs)

Pond 111P: BASIN T



Summary for Pond 114P: BASIN U

Inflow Area = 1.070 ac, 37.38% Impervious, Inflow Depth = 1.50" for 2-Year-Current event
Inflow = 1.45 cfs @ 12.12 hrs, Volume= 0.134 af
Outflow = 0.01 cfs @ 24.08 hrs, Volume= 0.015 af, Atten= 99%, Lag= 717.7 min
Primary = 0.01 cfs @ 24.08 hrs, Volume= 0.015 af
Routed to Pond 111P : BASIN T

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 20.17' @ 24.08 hrs Surf.Area= 0.207 ac Storage= 0.130 af

Plug-Flow detention time= 1,584.9 min calculated for 0.015 af (12% of inflow)
Center-of-Mass det. time= 1,222.8 min (2,017.0 - 794.1)

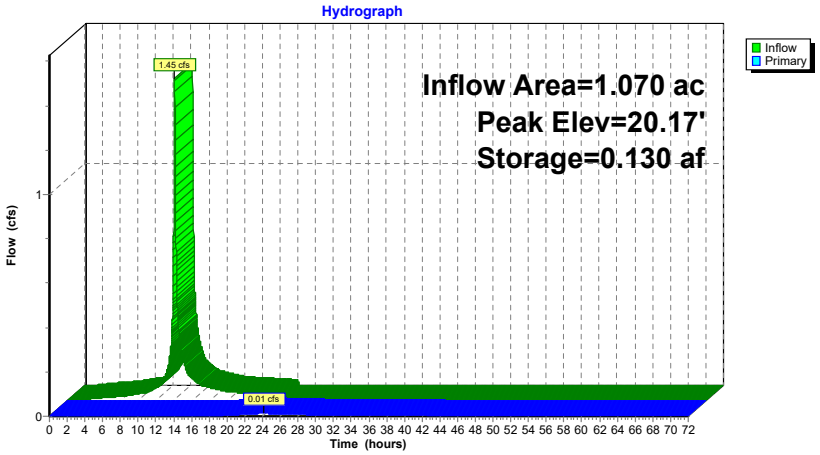
Volume	Invert	Avail.Storage	Storage Description
#1	19.50'	0.738 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
19.50	0.180	0.000	0.000
20.00	0.200	0.095	0.095
21.00	0.240	0.220	0.315
22.00	0.290	0.265	0.580
22.50	0.340	0.157	0.738

Device	Routing	Invert	Outlet Devices
#1	Primary	21.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.10'	**4.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.01 cfs @ 24.08 hrs HW=20.17' TW=18.93' (Dynamic Tailwater)
└**1=Grate** (Controls 0.00 cfs)
└**2=Orifice** (Orifice Controls 0.01 cfs @ 0.93 fps)

Pond 114P: BASIN U



Summary for Pond 117P: BASIN V

Inflow Area = 0.850 ac, 14.12% Impervious, Inflow Depth = 0.89" for 2-Year-Current event
Inflow = 0.45 cfs @ 12.20 hrs, Volume= 0.063 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 37.61' @ 25.03 hrs Surf.Area= 0.111 ac Storage= 0.063 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

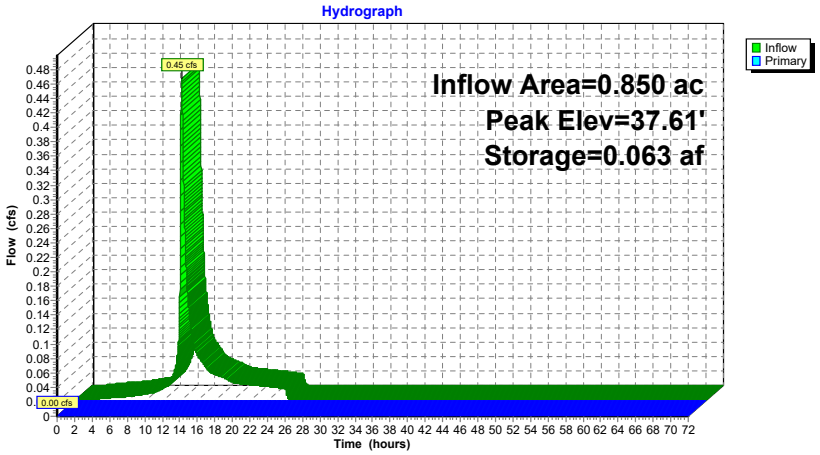
Volume	Invert	Avail.Storage	Storage Description
#1	37.00'	0.243 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
37.00	0.096	0.000	0.000
38.00	0.121	0.109	0.109
39.00	0.147	0.134	0.243

Device	Routing	Invert	Outlet Devices
#1	Primary	38.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	37.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=37.00' TW=0.00' (Dynamic Tailwater)
↑
└─**1=Grate** (Controls 0.00 cfs)
└─**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 117P: BASIN V

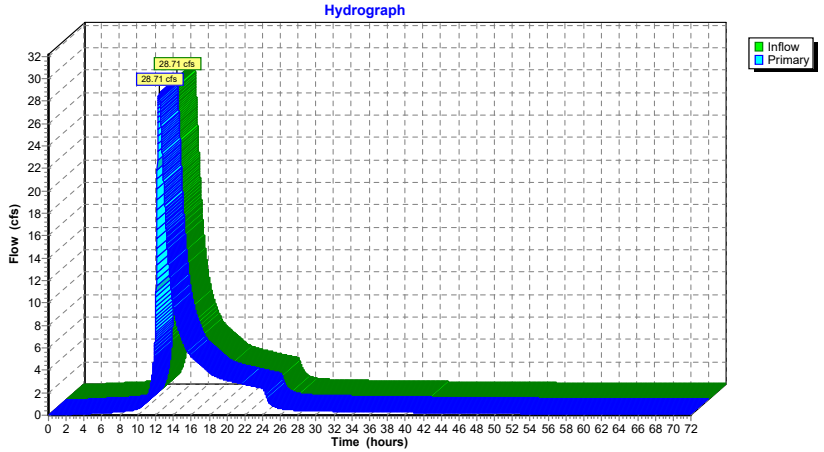


Summary for Link 46L: DA North

Inflow = 28.71 cfs @ 12.39 hrs, Volume= 7.815 af
Primary = 28.71 cfs @ 12.40 hrs, Volume= 7.815 af, Atten= 0%, Lag= 0.6 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 46L: DA North

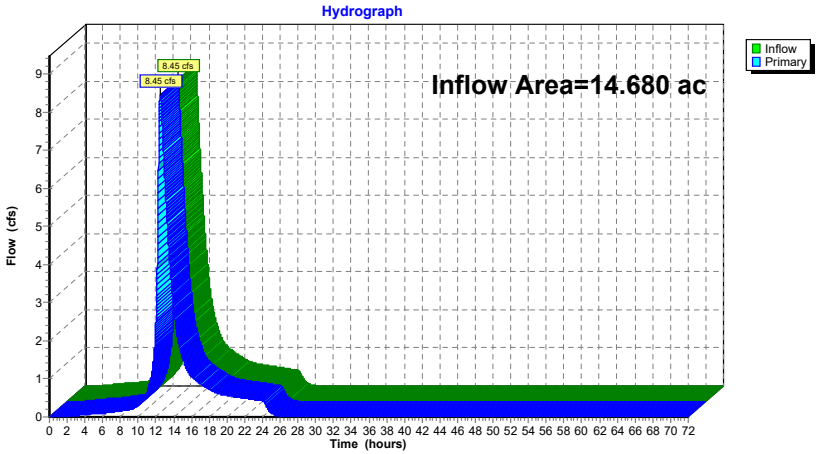


Summary for Link 51L: DA Undetained

Inflow Area = 14.680 ac, 15.60% Impervious, Inflow Depth = 1.50" for 2-Year-Current event
Inflow = 8.45 cfs @ 12.48 hrs, Volume= 1.829 af
Primary = 8.45 cfs @ 12.49 hrs, Volume= 1.829 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 51L: DA Undetained

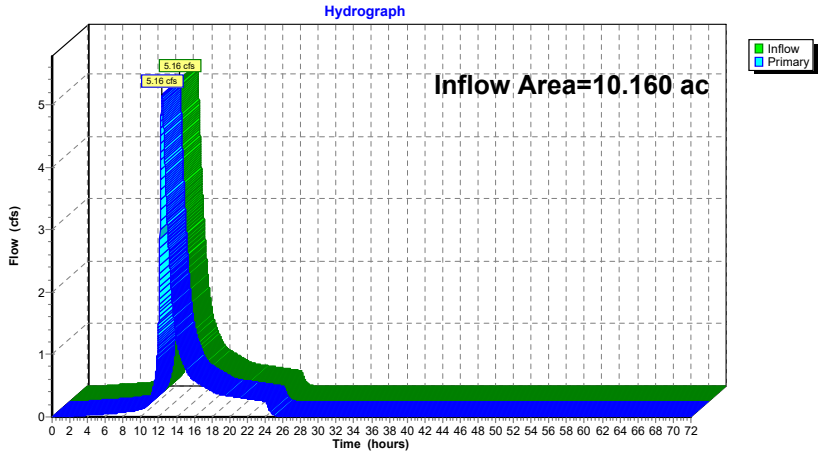


Summary for Link 52L: X

Inflow Area = 10.160 ac, 29.97% Impervious, Inflow Depth = 1.15" for 2-Year-Current event
Inflow = 5.16 cfs @ 12.37 hrs, Volume= 0.977 af
Primary = 5.16 cfs @ 12.38 hrs, Volume= 0.977 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 52L: X

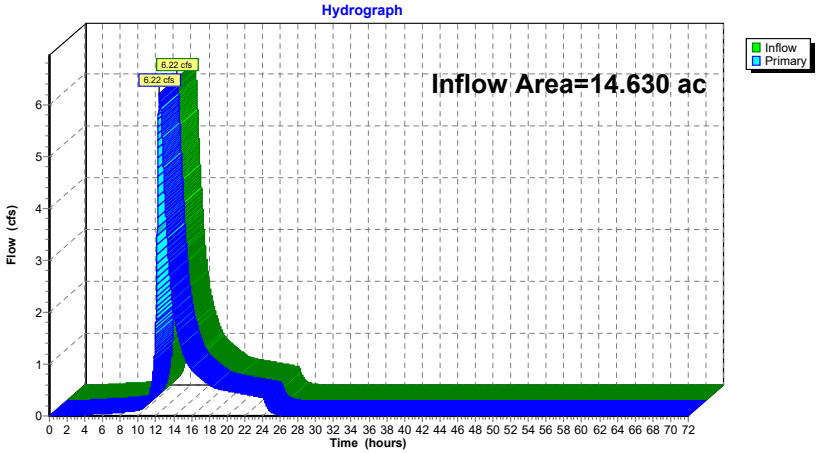


Summary for Link 53L: W

Inflow Area = 14.630 ac, 28.71% Impervious, Inflow Depth = 1.11" for 2-Year-Current event
Inflow = 6.22 cfs @ 12.39 hrs, Volume= 1.348 af
Primary = 6.22 cfs @ 12.40 hrs, Volume= 1.348 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 53L: W

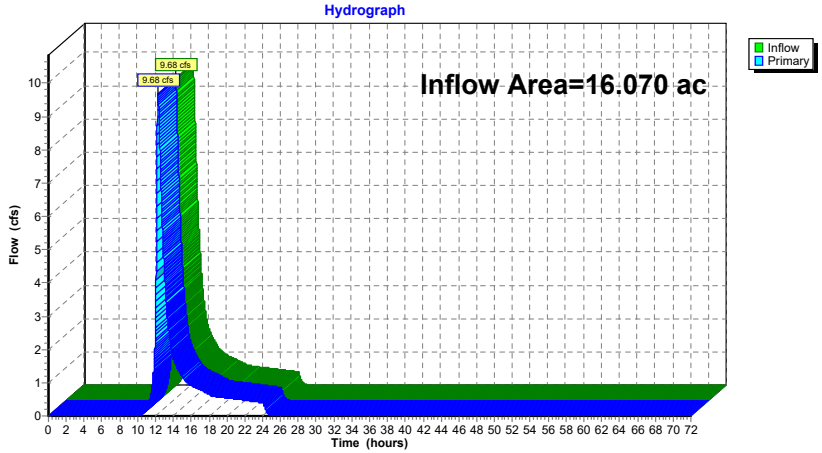


Summary for Link 58L: Y

Inflow Area = 16.070 ac, 30.59% Impervious, Inflow Depth = 1.09" for 2-Year-Current event
Inflow = 9.68 cfs @ 12.28 hrs, Volume= 1.456 af
Primary = 9.68 cfs @ 12.29 hrs, Volume= 1.456 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 58L: Y



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Sim-Route method - Pond routing by Sim-Route method

Subcatchment54S: Y - OFFSITE Runoff Area=12.620 ac 38.00% Impervious Runoff Depth=1.68"
Flow Length=760' Tc=15.1 min CN=75 Runoff=12.59 cfs 1.769 af

Subcatchment56S: W- OFFSITE Runoff Area=8.210 ac 38.00% Impervious Runoff Depth=1.68"
Flow Length=373' Tc=18.9 min CN=75 Runoff=7.27 cfs 1.151 af

Subcatchment57S: Pipe Y Runoff Area=3.450 ac 3.48% Impervious Runoff Depth=0.93"
Flow Length=1,229' Slope=0.0200 '/' Tc=16.9 min CN=WQ Runoff=1.44 cfs 0.266 af

Subcatchment59S: X - OFFSITE Runoff Area=5.170 ac 38.00% Impervious Runoff Depth=1.68"
Flow Length=880' Tc=18.5 min CN=75 Runoff=4.62 cfs 0.725 af

Subcatchment60S: BASIN A - DA Runoff Area=2.470 ac 53.85% Impervious Runoff Depth=2.42"
Flow Length=102' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=4.02 cfs 0.498 af

Subcatchment61S: BASIN I - DA Runoff Area=0.530 ac 33.96% Impervious Runoff Depth=1.83"
Flow Length=134' Slope=0.0200 '/' Tc=9.6 min CN=WQ Runoff=0.64 cfs 0.081 af

Subcatchment62S: Undetained Runoff Area=14.680 ac 15.60% Impervious Runoff Depth=1.97"
Flow Length=3,276' Tc=30.2 min CN=WQ Runoff=11.30 cfs 2.407 af

Subcatchment63S: BASIN N - DA Runoff Area=1.390 ac 46.04% Impervious Runoff Depth=2.26"
Flow Length=108' Tc=9.3 min CN=WQ Runoff=2.13 cfs 0.262 af

Subcatchment64S: BASIN E - DA Runoff Area=2.240 ac 50.89% Impervious Runoff Depth=2.33"
Flow Length=609' Tc=8.1 min CN=WQ Runoff=3.75 cfs 0.435 af

Subcatchment65S: BASIN V - DA Runoff Area=0.850 ac 14.12% Impervious Runoff Depth=1.24"
Flow Length=100' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=0.67 cfs 0.088 af

Subcatchment67S: Pipe W Runoff Area=6.420 ac 16.82% Impervious Runoff Depth=1.32"
Flow Length=5,045' Tc=42.5 min CN=WQ Runoff=2.39 cfs 0.707 af

Subcatchment68S: BASIN K - DA Runoff Area=1.640 ac 37.80% Impervious Runoff Depth=1.94"
Flow Length=136' Slope=0.0200 '/' Tc=9.7 min CN=WQ Runoff=2.09 cfs 0.265 af

Subcatchment69S: BASIN O - DA Runoff Area=1.100 ac 51.82% Impervious Runoff Depth=2.53"
Flow Length=113' Tc=9.4 min CN=WQ Runoff=1.91 cfs 0.232 af

Subcatchment70S: Pipe X Runoff Area=4.990 ac 21.64% Impervious Runoff Depth=1.46"
Flow Length=2,554' Tc=25.8 min CN=WQ Runoff=2.79 cfs 0.609 af

Subcatchment71S: BASIN B - DA Runoff Area=1.260 ac 38.10% Impervious Runoff Depth=1.95"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=1.64 cfs 0.205 af

Subcatchment73S: BASIN C - DA Runoff Area=0.990 ac 42.42% Impervious Runoff Depth=2.08"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=1.37 cfs 0.172 af

Subcatchment75S: BASIN M - DA Runoff Area=0.860 ac 59.30% Impervious Runoff Depth=2.58"
Flow Length=225' Slope=0.0200 '/' Tc=9.3 min CN=WQ Runoff=1.50 cfs 0.185 af

Subcatchment76S: BASIN F - DA Runoff Area=1.500 ac 56.00% Impervious Runoff Depth=2.48"
Flow Length=447' Tc=8.7 min CN=WQ Runoff=2.60 cfs 0.310 af

Subcatchment77S: BASIN D - DA Runoff Area=2.670 ac 51.31% Impervious Runoff Depth=2.34"
Flow Length=795' Tc=9.0 min CN=WQ Runoff=4.30 cfs 0.521 af

Subcatchment83S: BASIN L - DA Runoff Area=0.970 ac 50.52% Impervious Runoff Depth=2.32"
Flow Length=96' Tc=9.2 min CN=WQ Runoff=1.53 cfs 0.187 af

Subcatchment85S: BASIN G - DA Runoff Area=1.260 ac 37.30% Impervious Runoff Depth=1.93"
Flow Length=102' Tc=9.3 min CN=WQ Runoff=1.62 cfs 0.202 af

Subcatchment88S: BASIN H - DA Runoff Area=1.950 ac 43.08% Impervious Runoff Depth=2.10"
Flow Length=111' Slope=0.0200 '/' Tc=9.5 min CN=WQ Runoff=2.72 cfs 0.341 af

Subcatchment98S: BASIN P - DA Runoff Area=2.760 ac 47.10% Impervious Runoff Depth=2.22"
Flow Length=214' Slope=0.0200 '/' Tc=10.2 min CN=WQ Runoff=3.95 cfs 0.510 af

Subcatchment101S: BASIN Q - DA Runoff Area=1.860 ac 59.68% Impervious Runoff Depth=2.59"
Flow Length=612' Tc=12.0 min CN=WQ Runoff=2.91 cfs 0.402 af

Subcatchment104S: BASIN R - DA Runoff Area=2.040 ac 50.00% Impervious Runoff Depth=2.43"
Flow Length=98' Tc=9.4 min CN=WQ Runoff=3.39 cfs 0.413 af

Subcatchment107S: BASIN S - DA Runoff Area=1.800 ac 48.89% Impervious Runoff Depth=2.27"
Flow Length=466' Tc=12.2 min CN=WQ Runoff=2.42 cfs 0.341 af

Subcatchment110S: BASIN T - DA Runoff Area=0.730 ac 26.03% Impervious Runoff Depth=1.59"
Flow Length=254' Slope=0.0100 '/' Tc=2.8 min CN=WQ Runoff=1.19 cfs 0.097 af

Subcatchment113S: BASIN U - DA Runoff Area=1.070 ac 37.38% Impervious Runoff Depth=1.93"
Flow Length=28' Slope=0.0350 '/' Tc=4.0 min CN=WQ Runoff=1.92 cfs 0.172 af

Pond 52P: BASIN A Peak Elev=33.59' Storage=0.378 af Inflow=4.02 cfs 0.498 af
Outflow=0.14 cfs 0.327 af

Pond 59P: BASIN C Peak Elev=29.80' Storage=0.061 af Inflow=1.38 cfs 0.634 af
Outflow=1.06 cfs 0.590 af

Pond 60P: BASIN H Peak Elev=29.88' Storage=0.329 af Inflow=2.73 cfs 0.580 af
Outflow=0.15 cfs 0.472 af

Pond 63P: BASIN P Peak Elev=28.21' Storage=0.387 af Inflow=4.91 cfs 1.094 af
Outflow=0.79 cfs 0.813 af

Pond 64P: BASIN I Peak Elev=30.01' Storage=0.043 af Inflow=0.64 cfs 0.081 af
Outflow=0.12 cfs 0.057 af

Pond 65P: BASIN E Peak Elev=28.20' Storage=0.200 af Inflow=3.75 cfs 1.248 af
Primary=1.25 cfs 1.056 af Secondary=1.56 cfs 0.055 af Outflow=2.27 cfs 1.111 af

Pond 70P: BASIN K Peak Elev=31.75' Storage=0.172 af Inflow=2.09 cfs 0.265 af
Outflow=0.17 cfs 0.199 af

Pond 74P: BASIN B Peak Elev=31.63' Storage=0.122 af Inflow=1.66 cfs 0.532 af
Outflow=0.41 cfs 0.462 af

Pond 75P: BASIN D Peak Elev=28.12' Storage=0.357 af Inflow=4.98 cfs 1.111 af
Outflow=1.45 cfs 0.897 af

Pond 76P: BASIN M Peak Elev=33.44' Storage=0.117 af Inflow=1.50 cfs 0.185 af
Outflow=0.15 cfs 0.124 af

Pond 83P: BASIN F Peak Elev=33.27' Storage=0.258 af Inflow=2.60 cfs 0.310 af
Outflow=0.07 cfs 0.106 af

Pond 84P: BASIN L Peak Elev=33.87' Storage=0.119 af Inflow=1.53 cfs 0.187 af
Outflow=0.13 cfs 0.139 af

Pond 86P: BASIN G Peak Elev=32.74' Storage=0.138 af Inflow=1.62 cfs 0.309 af
Outflow=0.13 cfs 0.239 af

Pond 90P: BASIN N Peak Elev=30.29' Storage=0.201 af Inflow=2.24 cfs 0.599 af
Outflow=0.47 cfs 0.490 af

Pond 93P: BASIN O Peak Elev=28.19' Storage=0.112 af Inflow=1.91 cfs 0.232 af
Outflow=0.90 cfs 0.171 af

Pond 102P: BASIN Q Peak Elev=27.92' Storage=0.209 af Inflow=2.91 cfs 0.402 af
Outflow=1.31 cfs 0.219 af

Pond 105P: BASIN R Peak Elev=24.06' Storage=0.246 af Inflow=3.39 cfs 0.413 af
Outflow=0.63 cfs 0.263 af

Pond 108P: BASIN S Peak Elev=20.18' Storage=0.303 af Inflow=2.42 cfs 0.341 af
Outflow=0.07 cfs 0.057 af

Pond 111P: BASIN T Peak Elev=19.20' Storage=0.129 af Inflow=1.19 cfs 0.150 af
Outflow=0.02 cfs 0.034 af

Pond 114P: BASIN U Peak Elev=20.24' Storage=0.144 af Inflow=1.92 cfs 0.172 af
Outflow=0.04 cfs 0.053 af

Pond 117P: BASIN V Peak Elev=37.83' Storage=0.088 af Inflow=0.67 cfs 0.088 af
Outflow=0.00 cfs 0.000 af

Link 46L: DA North Inflow=41.85 cfs 10.946 af
Primary=41.85 cfs 10.946 af

Link 51L: DA Undetained Inflow=11.30 cfs 2.407 af
Primary=11.30 cfs 2.407 af

Link 52L: X Inflow=7.28 cfs 1.333 af
Primary=7.28 cfs 1.333 af

Link 53L: W Inflow=8.82 cfs 1.857 af
Primary=8.82 cfs 1.857 af

Link 58L: Y Inflow=14.01 cfs 2.035 af
Primary=14.01 cfs 2.035 af

Total Runoff Area = 87.480 ac Runoff Volume = 13.550 af Average Runoff Depth = 1.86"
66.43% Pervious = 58.110 ac 33.57% Impervious = 29.370 ac

Summary for Subcatchment 54S: Y - OFFSITE UNDISTURBED

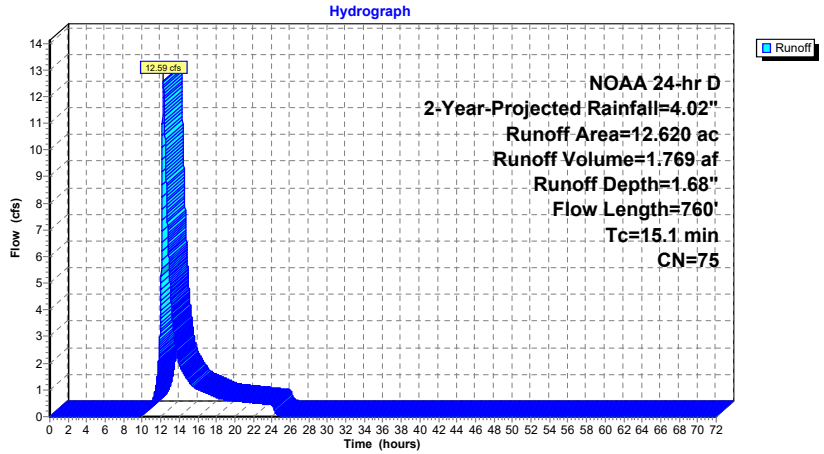
Runoff = 12.59 cfs @ 12.26 hrs, Volume= 1.769 af, Depth= 1.68"
Routed to Link 58L : Y

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

Area (ac)	CN	Description
12.620	75	1/4 acre lots, 38% imp, HSG B
7.824		62.00% Pervious Area
4.796		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.1	100	0.0350	0.15		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.5	280	0.0370	3.10		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.5	380	0.0240	2.49		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
15.1	760	Total			

Subcatchment 54S: Y - OFFSITE UNDISTURBED



Summary for Subcatchment 56S: W- OFFSITE UNDISTURBED

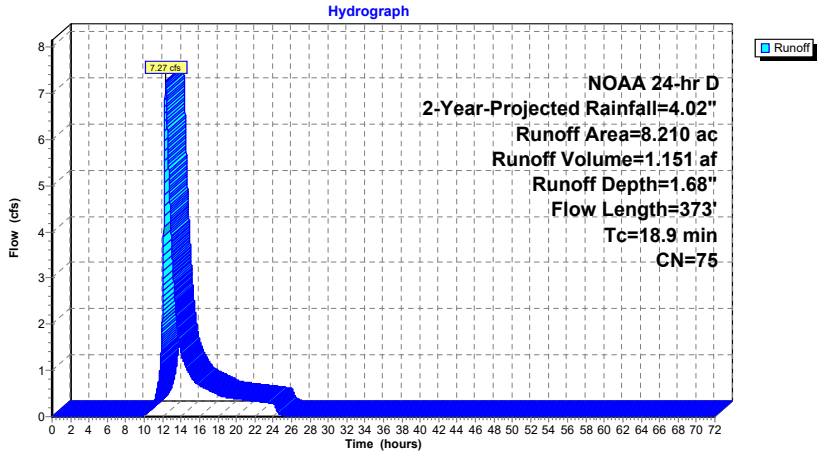
Runoff = 7.27 cfs @ 12.31 hrs, Volume= 1.151 af, Depth= 1.68"
Routed to Link 53L : W

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

Area (ac)	CN	Description
8.210	75	1/4 acre lots, 38% imp, HSG B
5.090		62.00% Pervious Area
3.120		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	100	0.0120	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.38"
0.9	179	0.0410	3.26		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.0	94	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.9	373	Total			

Subcatchment 56S: W- OFFSITE UNDISTURBED



Summary for Subcatchment 57S: Pipe Y

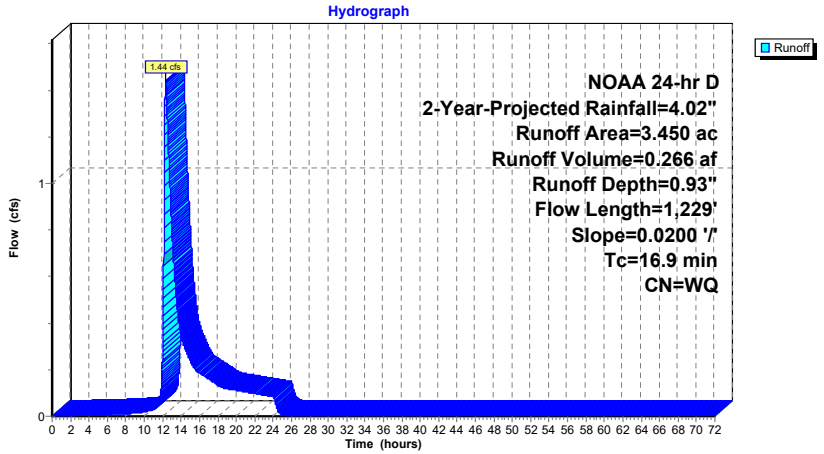
Runoff = 1.44 cfs @ 12.32 hrs, Volume= 0.266 af, Depth= 0.93"
Routed to Link 58L : Y

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

	Area (ac)	CN	Description
*	3.330	61	Open Space
*	0.000	98	Road/Sidewalk
*	0.120	98	Roof
*	0.000	98	Driveway
	3.450		Weighted Average
	3.330		96.52% Pervious Area
	0.120		3.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass**
					Grass: Dense n= 0.240 P2= 3.38"
					Using McCuen-Spiess flow length
1.2	170	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved**
					Unpaved Kv= 16.1 fps
6.2	936		2.50		**Direct Entry,**
0.4	64		2.50		**Direct Entry,**
16.9	1,229	Total			

Subcatchment 57S: Pipe Y



Summary for Subcatchment 59S: X - OFFSITE UNDISTURBED

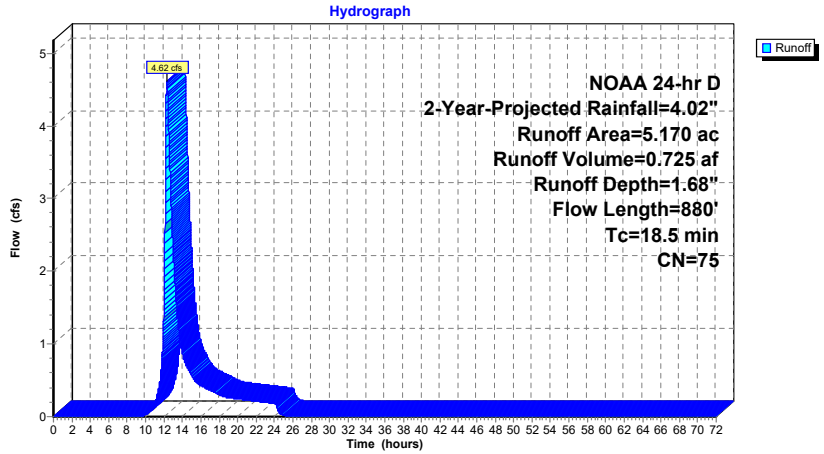
Runoff = 4.62 cfs @ 12.30 hrs, Volume= 0.725 af, Depth= 1.68"
Routed to Link 52L : X

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

Area (ac)	CN	Description
5.170	75	1/4 acre lots, 38% imp, HSG B
3.205		62.00% Pervious Area
1.965		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	100	0.0200	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.4	408	0.0320	2.88		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.2	372	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.5	880	Total			

Subcatchment 59S: X - OFFSITE UNDISTURBED



Summary for Subcatchment 60S: BASIN A - DA

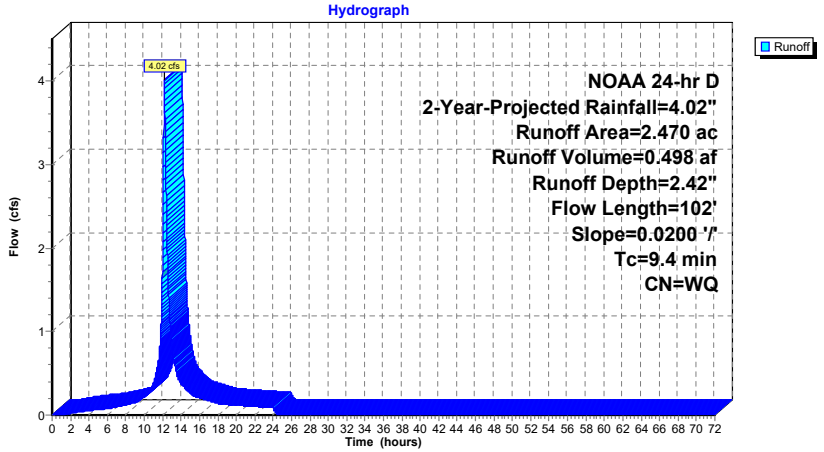
Runoff = 4.02 cfs @ 12.18 hrs, Volume= 0.498 af, Depth= 2.42"
Routed to Pond 52P : BASIN A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

	Area (ac)	CN	Description
*	1.140	61	Open Space
*	0.600	98	Road
*	0.130	98	Sidewalk
*	0.300	98	Roof
*	0.300	98	Driveway & Apron
	2.470		Weighted Average
	1.140		46.15% Pervious Area
	1.330		53.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	43	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	102	Total			

Subcatchment 60S: BASIN A - DA



Summary for Subcatchment 61S: BASIN I - DA

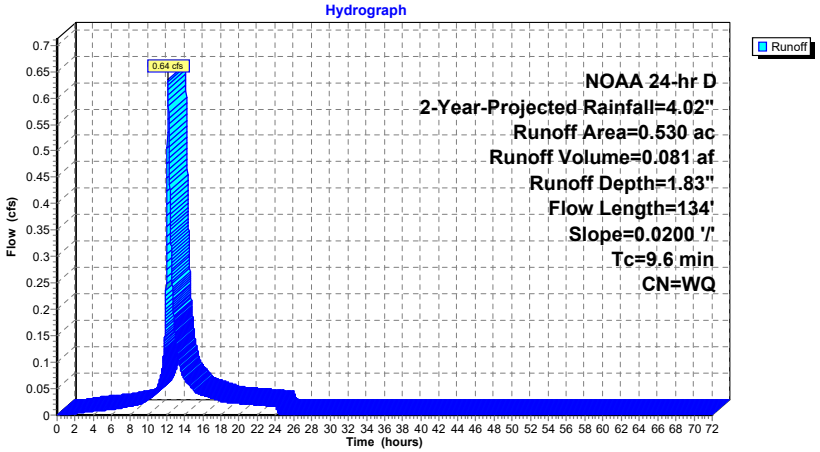
Runoff = 0.64 cfs @ 12.18 hrs, Volume= 0.081 af, Depth= 1.83"
Routed to Pond 64P : BASIN I

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.180	98	Roof
*	0.000	98	Driveway & Apron
	0.530		Weighted Average
	0.350		66.04% Pervious Area
	0.180		33.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.5	75	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.6	134	Total			

Subcatchment 61S: BASIN I - DA



Summary for Subcatchment 62S: Undetained

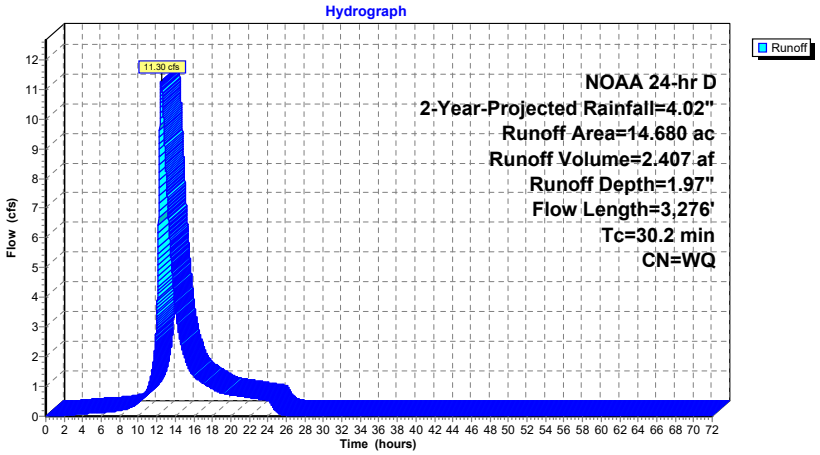
Runoff = 11.30 cfs @ 12.48 hrs, Volume= 2.407 af, Depth= 1.97"
Routed to Link 51L : DA Undetained

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

	Area (ac)	CN	Description
	3.170	61	>75% Grass cover, Good, HSG B
	0.870	55	Woods, Good, HSG B
	8.150	80	>75% Grass cover, Good, HSG D
	0.200	77	Woods, Good, HSG D
*	0.730	98	Water Surface, HSG D
*	0.740	98	Roofs, HSG B
*	0.570	98	Roofs, HSG D
	0.130	98	Paved parking, HSG B
	0.120	98	Unconnected pavement, HSG B
	14.680		Weighted Average
	12.390		84.40% Pervious Area
	2.290		15.60% Impervious Area
	0.120		5.24% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	88	0.0450	0.16		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.3	216	0.0300	2.79		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
19.8	2,972		2.50		**Direct Entry,**
30.2	3,276	Total			

Subcatchment 62S: Undetained



Summary for Subcatchment 63S: BASIN N - DA

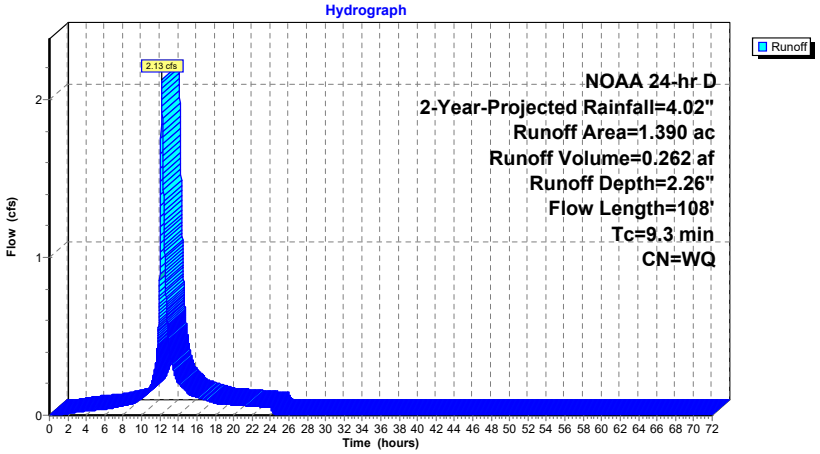
Runoff = 2.13 cfs @ 12.18 hrs, Volume= 0.262 af, Depth= 2.26"
Routed to Pond 90P : BASIN N

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.080	80	Open Space, HSG D
*	0.160	98	Road
*	0.040	98	Sidewalk
*	0.300	98	Roof
*	0.140	98	Driveway & Apron
	1.390		Weighted Average
	0.750		53.96% Pervious Area
	0.640		46.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.2	49	0.0600	3.94		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.3	108	Total			

Subcatchment 63S: BASIN N - DA



Summary for Subcatchment 64S: BASIN E - DA

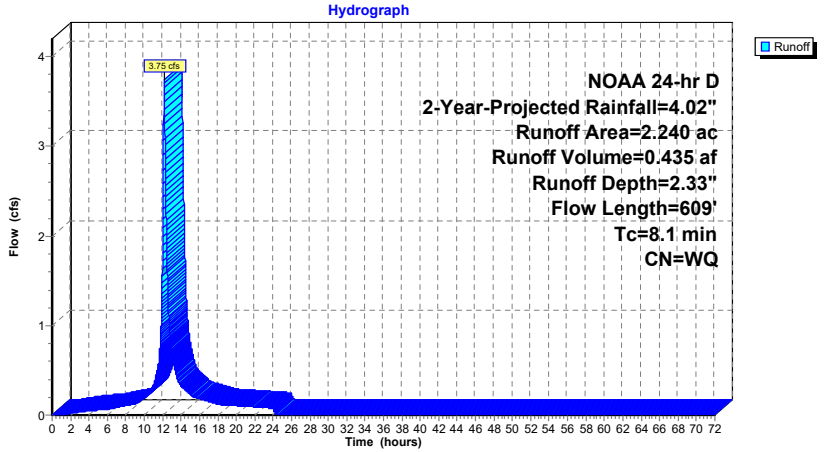
Runoff = 3.75 cfs @ 12.17 hrs, Volume= 0.435 af, Depth= 2.33"
Routed to Pond 65P : BASIN E

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

	Area (ac)	CN	Description
*	1.100	61	Open Space
*	0.450	98	Road
*	0.110	98	Sidewalk
*	0.240	98	Roof
*	0.340	98	Driveway & Apron
	2.240		Weighted Average
	1.100		49.11% Pervious Area
	1.140		50.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0500	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.5	300	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.9	279		2.50		**Direct Entry, Pipe**
8.1	609	Total			

Subcatchment 64S: BASIN E - DA



Summary for Subcatchment 65S: BASIN V - DA

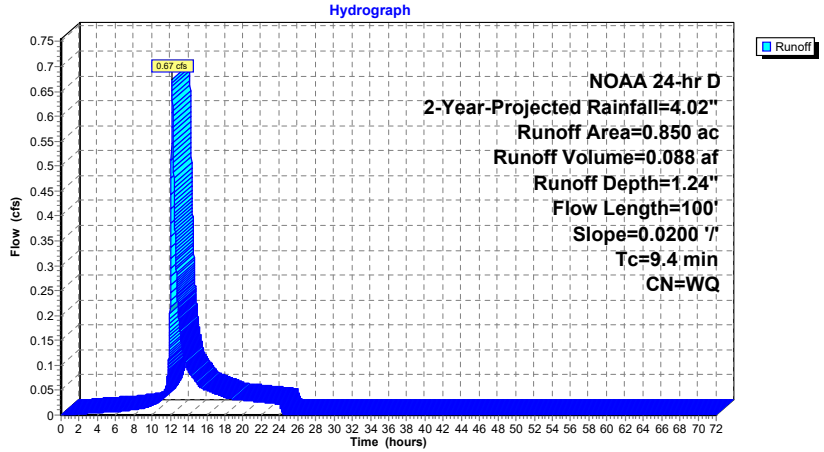
Runoff = 0.67 cfs @ 12.19 hrs, Volume= 0.088 af, Depth= 1.24"
Routed to Pond 117P : BASIN V

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

	Area (ac)	CN	Description
*	0.730	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.120	98	Roof
*	0.000	98	Driveway & Apron
	0.850		Weighted Average
	0.730		85.88% Pervious Area
	0.120		14.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	41	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	100	Total			

Subcatchment 65S: BASIN V - DA



Summary for Subcatchment 67S: Pipe W

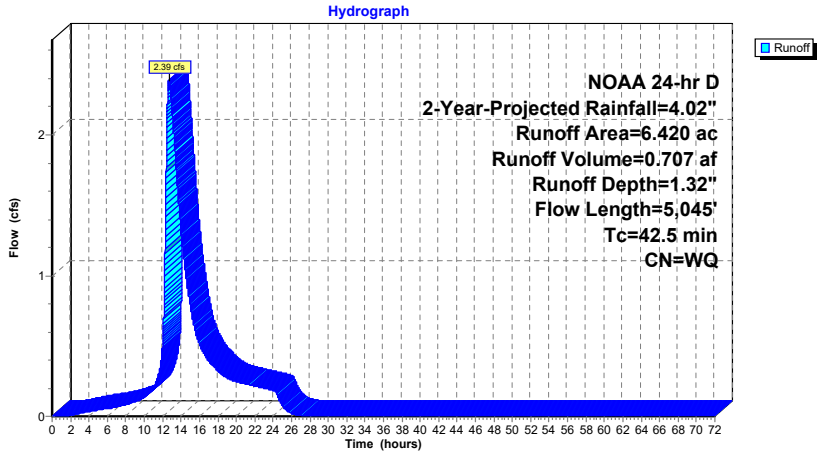
Runoff = 2.39 cfs @ 12.66 hrs, Volume= 0.707 af, Depth= 1.32"
Routed to Link 53L : W

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

Area (ac)	CN	Description
5.340	61	>75% Grass cover, Good, HSG B
1.080	98	Roofs, HSG B
6.420		Weighted Average
5.340		83.18% Pervious Area
1.080		16.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	66	0.0250	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.1	144	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
12.2	1,824		2.50		**Direct Entry,**
20.1	3,011		2.50		**Direct Entry,**
42.5	5,045	Total			

Subcatchment 67S: Pipe W



Summary for Subcatchment 68S: BASIN K - DA

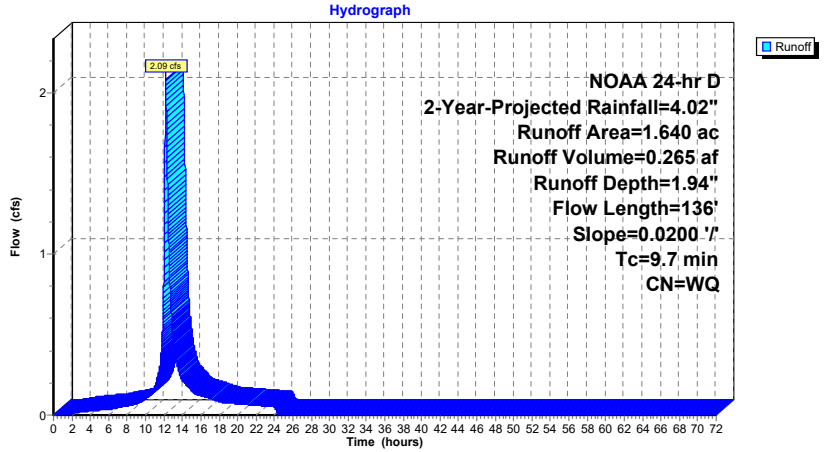
Runoff = 2.09 cfs @ 12.18 hrs, Volume= 0.265 af, Depth= 1.94"
Routed to Pond 70P : BASIN K

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

	Area (ac)	CN	Description
*	1.020	61	Open Space
*	0.000	98	Road
*	0.020	98	Sidewalk
*	0.600	98	Roof
*	0.000	98	Driveway & Apron
	1.640		Weighted Average
	1.020		62.20% Pervious Area
	0.620		37.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.6	77	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.7	136	Total			

Subcatchment 68S: BASIN K - DA



Summary for Subcatchment 69S: BASIN O - DA

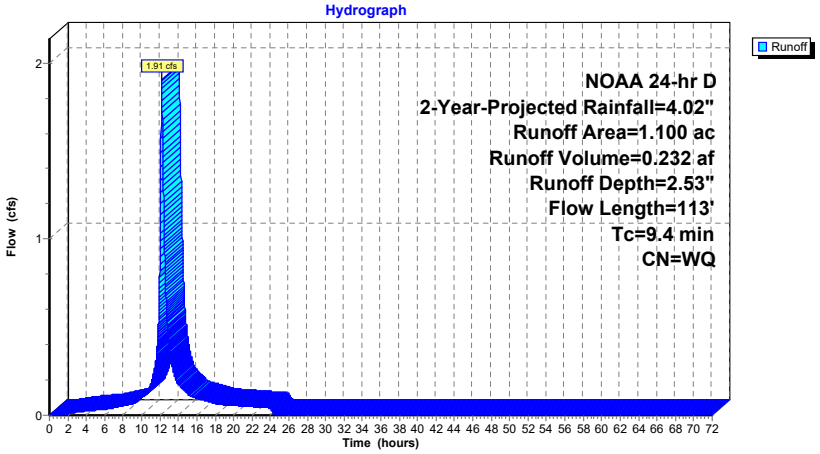
Runoff = 1.91 cfs @ 12.18 hrs, Volume= 0.232 af, Depth= 2.53"
Routed to Pond 93P : BASIN O

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

	Area (ac)	CN	Description
*	0.380	61	Open Space
*	0.150	80	Open Space, HSG D
*	0.150	98	Road
*	0.040	98	Sidewalk
*	0.240	98	Roof
*	0.140	98	Driveway & Apron
	1.100		Weighted Average
	0.530		48.18% Pervious Area
	0.570		51.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	54	0.0300	2.79		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	113	Total			

Subcatchment 69S: BASIN O - DA



Summary for Subcatchment 70S: Pipe X

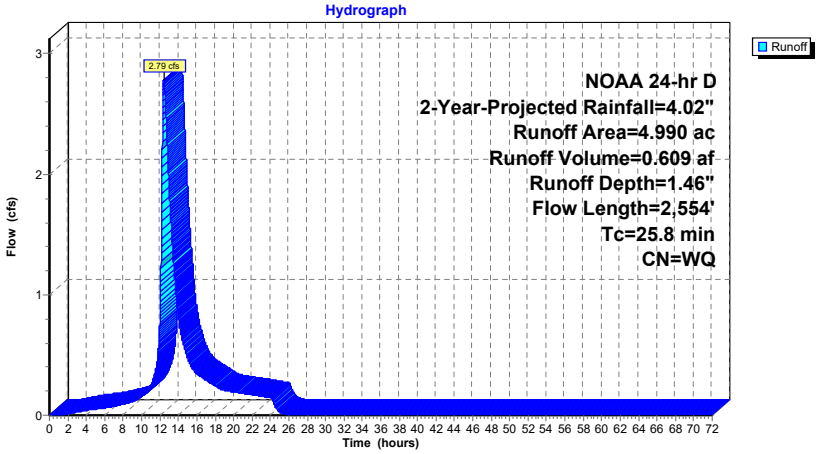
Runoff = 2.79 cfs @ 12.43 hrs, Volume= 0.609 af, Depth= 1.46"
Routed to Link 52L : X

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

	Area (ac)	CN	Description
*	3.910	61	Open Space
*	0.000	98	Road/Sidewalk
*	1.080	98	Roof
*	0.000	98	Driveway
	4.990		Weighted Average
	3.910		78.36% Pervious Area
	1.080		21.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.2	168	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
7.4	1,103		2.50		**Direct Entry,**
0.8	123	0.0250	2.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.3	1,101		2.50		**Direct Entry,**
25.8	2,554	Total			

Subcatchment 70S: Pipe X



Summary for Subcatchment 71S: BASIN B - DA

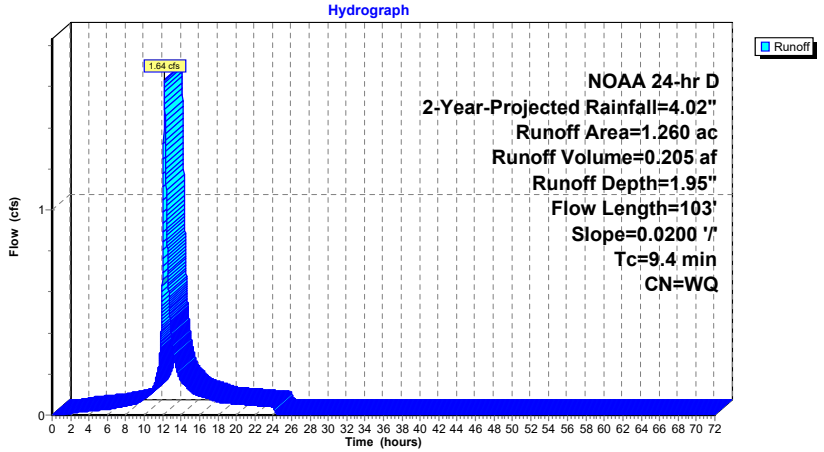
Runoff = 1.64 cfs @ 12.18 hrs, Volume= 0.205 af, Depth= 1.95"
Routed to Pond 74P : BASIN B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

	Area (ac)	CN	Description
*	0.780	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.480	98	Roof
*	0.000	98	Driveway
	1.260		Weighted Average
	0.780		61.90% Pervious Area
	0.480		38.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 71S: BASIN B - DA



Summary for Subcatchment 73S: BASIN C - DA

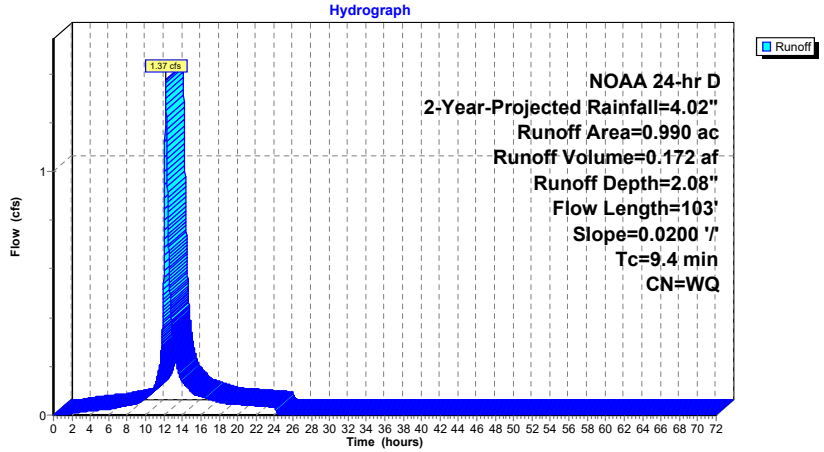
Runoff = 1.37 cfs @ 12.18 hrs, Volume= 0.172 af, Depth= 2.08"
Routed to Pond 59P : BASIN C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

	Area (ac)	CN	Description
*	0.570	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.420	98	Roof
*	0.000	98	Driveway
	0.990		Weighted Average
	0.570		57.58% Pervious Area
	0.420		42.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 73S: BASIN C - DA



Summary for Subcatchment 75S: BASIN M - DA

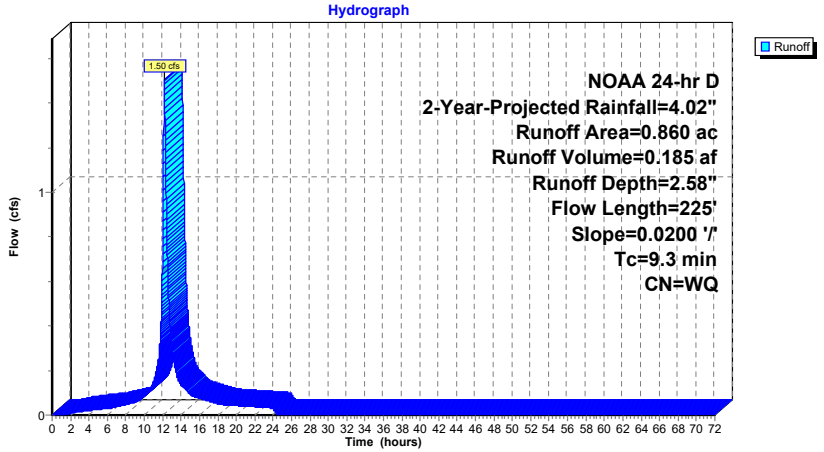
Runoff = 1.50 cfs @ 12.18 hrs, Volume= 0.185 af, Depth= 2.58"
Routed to Pond 76P : BASIN M

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.280	98	Road
*	0.050	98	Sidewalk
*	0.060	98	Roof
*	0.120	98	Driveway & Apron
	0.860		Weighted Average
	0.350		40.70% Pervious Area
	0.510		59.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	52	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
0.5	87	0.0200	2.87		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
0.6	86		2.50		**Direct Entry, Pipe**
9.3	225	Total			

Subcatchment 75S: BASIN M - DA



Summary for Subcatchment 76S: BASIN F - DA

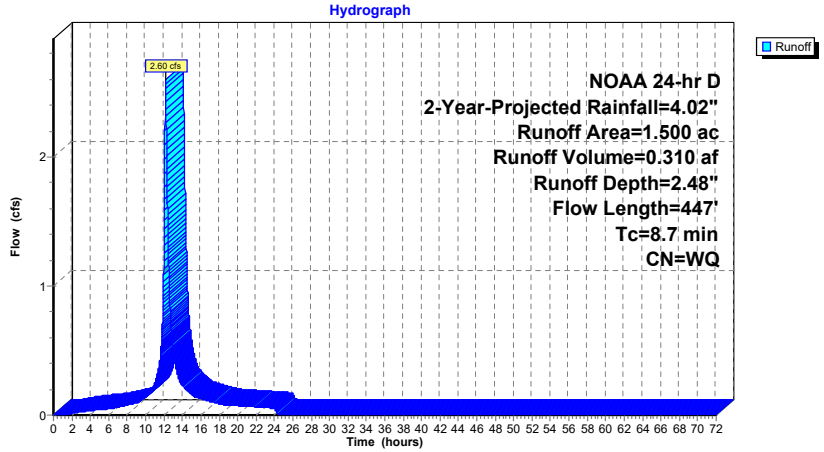
Runoff = 2.60 cfs @ 12.17 hrs, Volume= 0.310 af, Depth= 2.48"
Routed to Pond 83P : BASIN F

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

	Area (ac)	CN	Description
*	0.660	61	Open Space
*	0.440	98	Road
*	0.100	98	Sidewalk
*	0.120	98	Roof
*	0.180	98	Driveway & Apron
	1.500		Weighted Average
	0.660		44.00% Pervious Area
	0.840		56.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	33	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.3	158	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.7	256		2.50		**Direct Entry, Pipe**
8.7	447	Total			

Subcatchment 76S: BASIN F - DA



Summary for Subcatchment 77S: BASIN D - DA

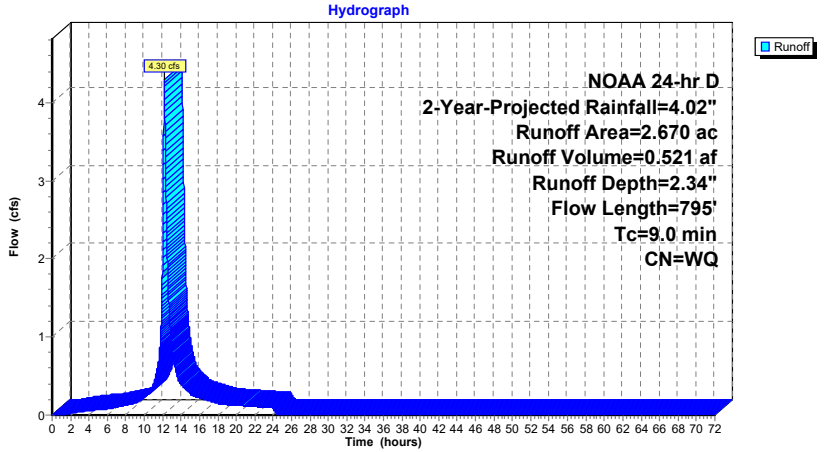
Runoff = 4.30 cfs @ 12.18 hrs, Volume= 0.521 af, Depth= 2.34"
Routed to Pond 75P : BASIN D

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

	Area (ac)	CN	Description
*	1.300	61	Open Space
*	0.430	98	Road
*	0.120	98	Sidewalk
*	0.420	98	Roof
*	0.400	98	Driveway & Apron
	2.670		Weighted Average
	1.300		48.69% Pervious Area
	1.370		51.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0500	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.2	300	0.0120	2.22		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
3.1	465		2.50		**Direct Entry, Pipe**
9.0	795	Total			

Subcatchment 77S: BASIN D - DA



Summary for Subcatchment 83S: BASIN L - DA

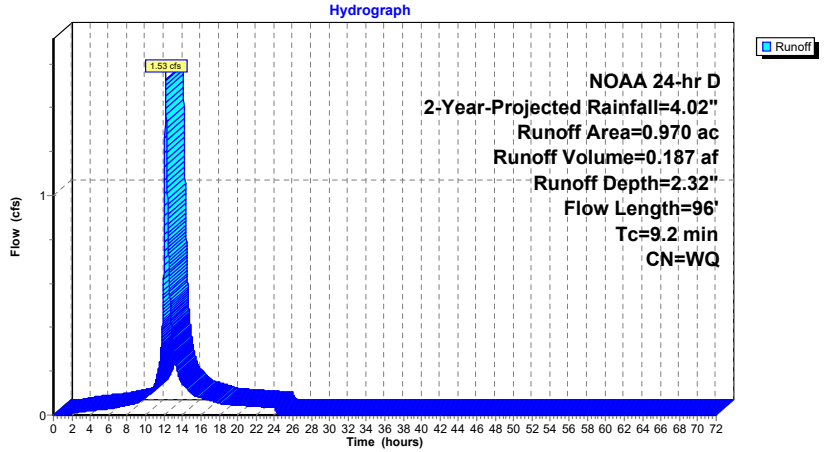
Runoff = 1.53 cfs @ 12.18 hrs, Volume= 0.187 af, Depth= 2.32"
Routed to Pond 84P : BASIN L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

	Area (ac)	CN	Description
*	0.480	61	Open Space
*	0.220	98	Road
*	0.050	98	Sidewalk
*	0.120	98	Roof
*	0.100	98	Driveway & Apron
	0.970		Weighted Average
	0.480		49.48% Pervious Area
	0.490		50.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	37	0.0800	4.55		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.2	96	Total			

Subcatchment 83S: BASIN L - DA



Summary for Subcatchment 85S: BASIN G - DA

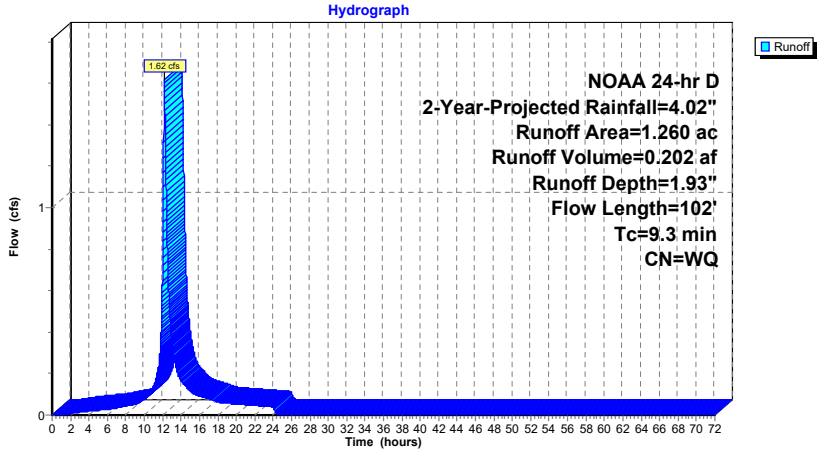
Runoff = 1.62 cfs @ 12.18 hrs, Volume= 0.202 af, Depth= 1.93"
Routed to Pond 86P : BASIN G

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

	Area (ac)	CN	Description
*	0.790	61	Open Space
*	0.060	98	Road
*	0.010	98	Sidewalk
*	0.360	98	Roof
*	0.040	98	Driveway & Apron
	1.260		Weighted Average
	0.790		62.70% Pervious Area
	0.470		37.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.2	43	0.0350	3.01		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.3	102	Total			

Subcatchment 85S: BASIN G - DA



Summary for Subcatchment 88S: BASIN H - DA

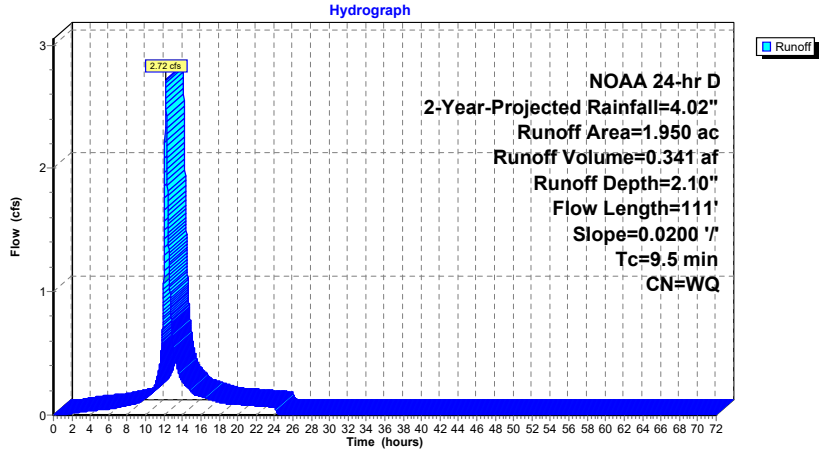
Runoff = 2.72 cfs @ 12.18 hrs, Volume= 0.341 af, Depth= 2.10"
Routed to Pond 60P : BASIN H

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

	Area (ac)	CN	Description
*	1.110	61	Open Space
*	0.230	98	Road
*	0.050	98	Sidewalk
*	0.420	98	Roof
*	0.140	98	Driveway & Apron
	1.950		Weighted Average
	1.110		56.92% Pervious Area
	0.840		43.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.4	52	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.5	111	Total			

Subcatchment 88S: BASIN H - DA



Summary for Subcatchment 98S: BASIN P - DA

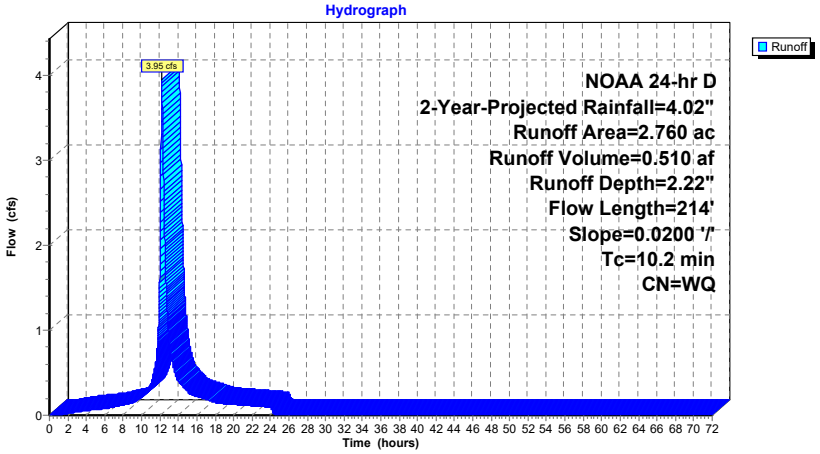
Runoff = 3.95 cfs @ 12.19 hrs, Volume= 0.510 af, Depth= 2.22"
Routed to Pond 63P : BASIN P

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

	Area (ac)	CN	Description
*	1.460	61	Open Space
*	0.410	98	Road
*	0.110	98	Sidewalk
*	0.420	98	Roof
*	0.360	98	Driveway & Apron
	2.760		Weighted Average
	1.460		52.90% Pervious Area
	1.300		47.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.7	99	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
0.4	56		2.50		**Direct Entry,**
10.2	214	Total			

Subcatchment 98S: BASIN P - DA



Summary for Subcatchment 101S: BASIN Q - DA

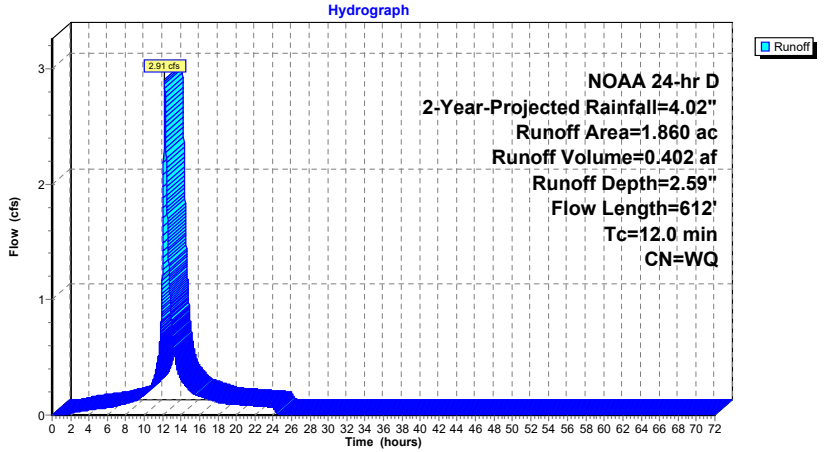
Runoff = 2.91 cfs @ 12.21 hrs, Volume= 0.402 af, Depth= 2.59"
Routed to Pond 102P : BASIN Q

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

	Area (ac)	CN	Description
*	0.750	61	Open Space
*	0.570	98	Road
*	0.140	98	Sidewalk
*	0.060	98	Roof
*	0.340	98	Driveway & Apron
	1.860		Weighted Average
	0.750		40.32% Pervious Area
	1.110		59.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	49	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.3	283	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.9	280		2.50		**Direct Entry, Pipe**
12.0	612	Total			

Subcatchment 101S: BASIN Q - DA



Summary for Subcatchment 104S: BASIN R - DA

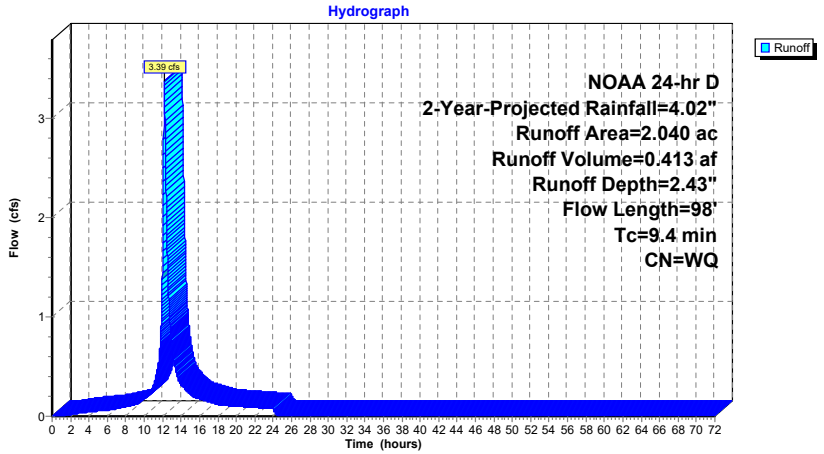
Runoff = 3.39 cfs @ 12.18 hrs, Volume= 0.413 af, Depth= 2.43"
Routed to Pond 105P : BASIN R

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

	Area (ac)	CN	Description
	0.810	61	>75% Grass cover, Good, HSG B
*	0.350	98	Road
*	0.090	98	Sidewalk
*	0.300	98	Roof
*	0.280	98	Driveway & Apron
	0.210	80	>75% Grass cover, Good, HSG D
	2.040		Weighted Average
	1.020		50.00% Pervious Area
	1.020		50.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	39	0.0250	2.55		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	98	Total			

Subcatchment 104S: BASIN R - DA



Summary for Subcatchment 107S: BASIN S - DA

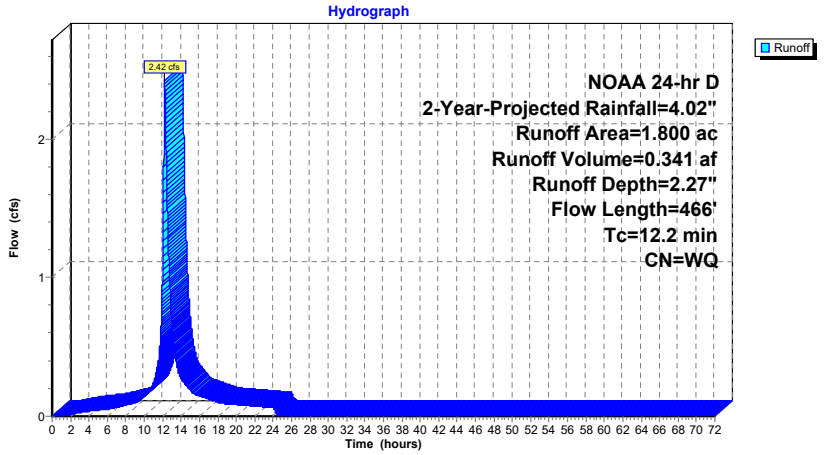
Runoff = 2.42 cfs @ 12.22 hrs, Volume= 0.341 af, Depth= 2.27"
Routed to Pond 108P : BASIN S

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

	Area (ac)	CN	Description
*	0.920	61	Open Space
*	0.590	98	Road
*	0.190	98	Sidewalk
*	0.080	98	Roof
*	0.020	98	Driveway & Apron
	1.800		Weighted Average
	0.920		51.11% Pervious Area
	0.880		48.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	6	0.0100	1.61		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
1.4	167	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.6	234		2.50		**Direct Entry, Pipe**
12.2	466	Total			

Subcatchment 107S: BASIN S - DA



Summary for Subcatchment 110S: BASIN T - DA

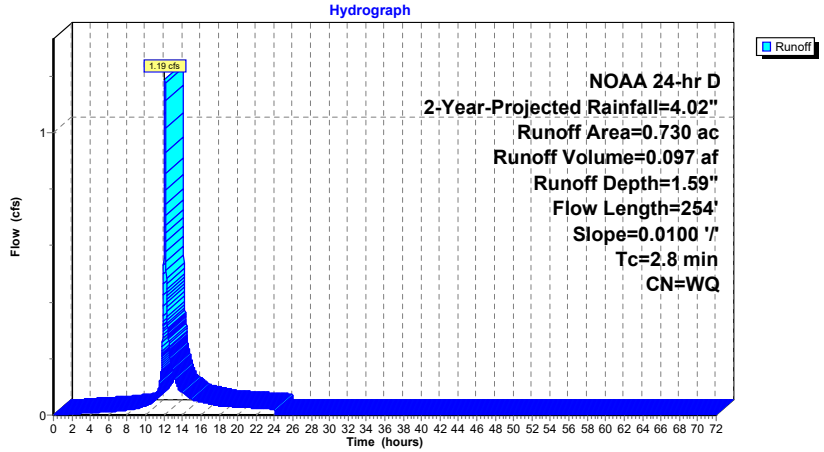
Runoff = 1.19 cfs @ 12.11 hrs, Volume= 0.097 af, Depth= 1.59"
Routed to Pond 111P : BASIN T

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

	Area (ac)	CN	Description
*	0.540	61	Open Space
*	0.140	98	Road
*	0.050	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	0.730		Weighted Average
	0.540		73.97% Pervious Area
	0.190		26.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.07		**Sheet Flow, Sheet Flow - Smooth Surfaces** Smooth surfaces n= 0.011 P2= 3.38"
0.8	93	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
0.4	61		2.50		**Direct Entry, Pipe**
2.8	254	Total			

Subcatchment 110S: BASIN T - DA



Summary for Subcatchment 113S: BASIN U - DA

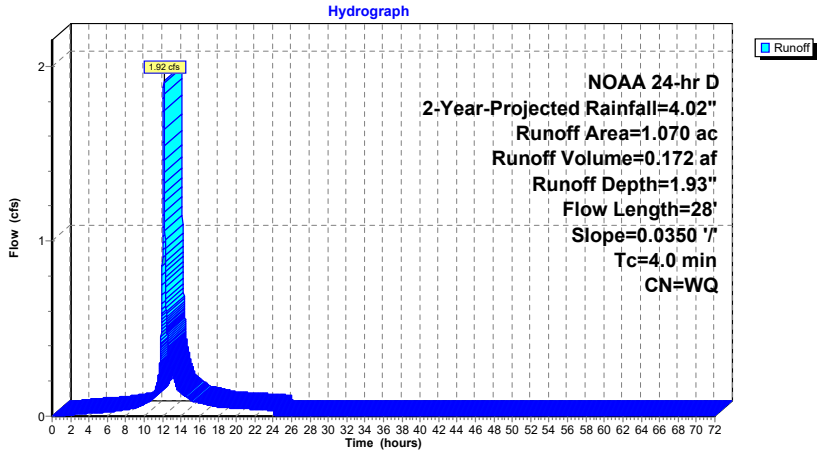
Runoff = 1.92 cfs @ 12.12 hrs, Volume= 0.172 af, Depth= 1.93"
Routed to Pond 114P : BASIN U

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.330	98	Road
*	0.070	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	1.070		Weighted Average
	0.670		62.62% Pervious Area
	0.400		37.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	28	0.0350	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"

Subcatchment 113S: BASIN U - DA



Summary for Pond 52P: BASIN A

Inflow Area = 2.470 ac, 53.85% Impervious, Inflow Depth = 2.42" for 2-Year-Projected event
Inflow = 4.02 cfs @ 12.18 hrs, Volume= 0.498 af
Outflow = 0.14 cfs @ 18.03 hrs, Volume= 0.327 af, Atten= 96%, Lag= 351.1 min
Primary = 0.14 cfs @ 18.03 hrs, Volume= 0.327 af
Routed to Pond 74P : BASIN B

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.59' @ 18.03 hrs Surf.Area= 0.284 ac Storage= 0.378 af

Plug-Flow detention time= 1,076.1 min calculated for 0.327 af (66% of inflow)
Center-of-Mass det. time= 957.5 min (1,743.7 - 786.2)

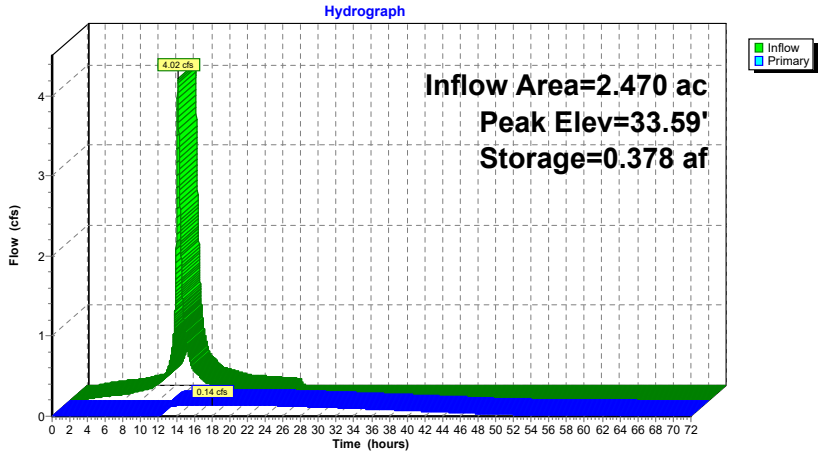
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.233 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.192	0.000	0.000
33.00	0.249	0.220	0.220
34.00	0.307	0.278	0.499
35.00	0.367	0.337	0.836
36.00	0.428	0.397	1.233

Device	Routing	Invert	Outlet Devices
#1	Primary	35.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.75'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.14 cfs @ 18.03 hrs HW=33.59' TW=31.56' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.14 cfs @ 4.14 fps)

Pond 52P: BASIN A



Summary for Pond 59P: BASIN C

Inflow Area = 4.720 ac, 47.25% Impervious, Inflow Depth > 1.61" for 2-Year-Projected event
Inflow = 1.38 cfs @ 12.18 hrs, Volume= 0.634 af
Outflow = 1.06 cfs @ 12.36 hrs, Volume= 0.590 af, Atten= 24%, Lag= 10.8 min
Primary = 1.06 cfs @ 12.36 hrs, Volume= 0.590 af
Routed to Pond 75P : BASIN D

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 29.80' @ 12.36 hrs Surf.Area= 0.061 ac Storage= 0.061 af

Plug-Flow detention time= 219.0 min calculated for 0.590 af (93% of inflow)
Center-of-Mass det. time= 83.2 min (1,529.2 - 1,446.0)

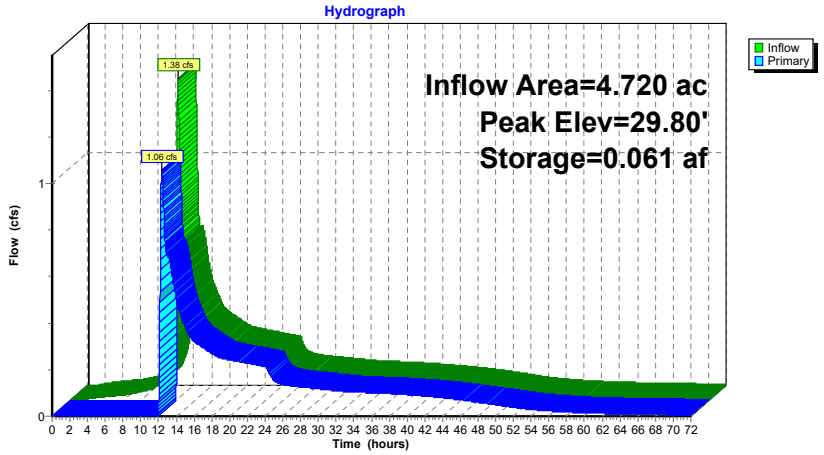
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.198 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.033	0.000	0.000
29.50	0.054	0.043	0.043
30.50	0.077	0.065	0.109
31.50	0.101	0.089	0.198

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	29.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.06 cfs @ 12.36 hrs HW=29.80' TW=27.76' (Dynamic Tailwater)
↑ **1=Grate** (Controls 0.00 cfs)
└ **2=Sharp-Crested Rectangular Weir** (Weir Controls 1.06 cfs @ 1.80 fps)

Pond 59P: BASIN C



Summary for Pond 60P: BASIN H

Inflow Area = 4.710 ac, 45.65% Impervious, Inflow Depth > 1.48" for 2-Year-Projected event
Inflow = 2.73 cfs @ 12.18 hrs, Volume= 0.580 af
Outflow = 0.15 cfs @ 24.22 hrs, Volume= 0.472 af, Atten= 94%, Lag= 722.2 min
Primary = 0.15 cfs @ 24.22 hrs, Volume= 0.472 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 29.88' @ 24.22 hrs Surf.Area= 0.262 ac Storage= 0.329 af

Plug-Flow detention time= 1,155.0 min calculated for 0.472 af (81% of inflow)
Center-of-Mass det. time= 943.0 min (2,042.3 - 1,099.2)

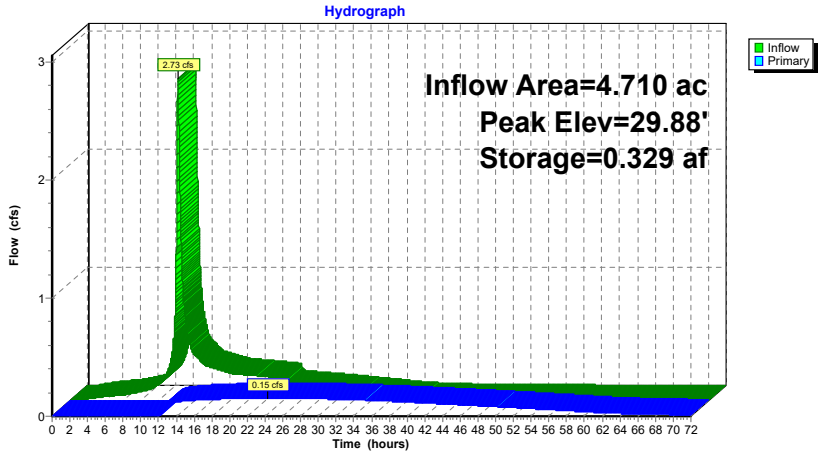
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.799 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.216	0.000	0.000
29.00	0.232	0.112	0.112
30.00	0.266	0.249	0.361
31.00	0.301	0.283	0.644
31.50	0.319	0.155	0.799

Device	Routing	Invert	Outlet Devices
#1	Primary	31.20'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.30'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	28.90'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.15 cfs @ 24.22 hrs HW=29.88' TW=28.07' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.15 cfs @ 4.50 fps)

Pond 60P: BASIN H



Summary for Pond 63P: BASIN P

Inflow = 4.91 cfs @ 12.28 hrs, Volume= 1.094 af
Outflow = 0.79 cfs @ 13.57 hrs, Volume= 0.813 af, Atten= 84%, Lag= 77.6 min
Primary = 0.79 cfs @ 13.57 hrs, Volume= 0.813 af
Routed to Pond 65P : BASIN E

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.21' @ 13.49 hrs Surf.Area= 0.258 ac Storage= 0.387 af

Plug-Flow detention time= 893.8 min calculated for 0.813 af (74% of inflow)
Center-of-Mass det. time= 465.1 min (1,806.4 - 1,341.3)

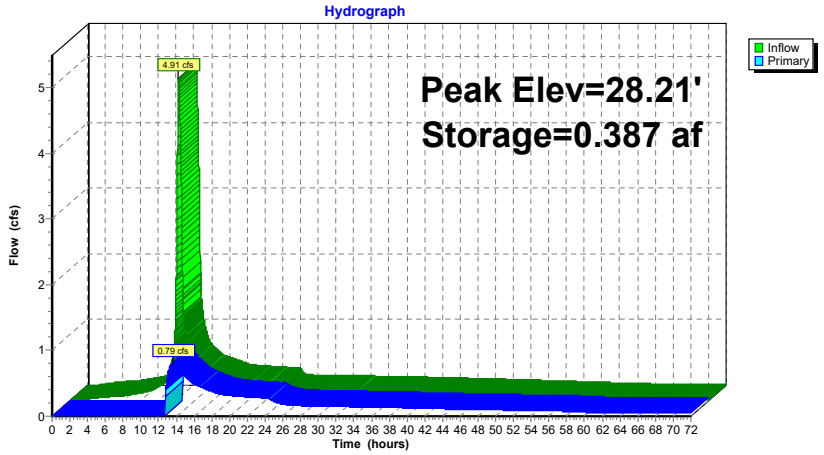
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.910 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.193	0.000	0.000
27.50	0.233	0.213	0.213
28.50	0.268	0.250	0.463
29.50	0.303	0.286	0.749
30.00	0.340	0.161	0.910

Device	Routing	Invert	Outlet Devices
#1	Primary	29.30'	**42.0" x 102.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**3.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.80 cfs @ 13.57 hrs HW=28.21' TW=28.19' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.77 cfs @ 0.63 fps)
- **3=Orifice** (Orifice Controls 0.03 cfs @ 0.56 fps)

Pond 63P: BASIN P



Summary for Pond 64P: BASIN I

Inflow Area = 0.530 ac, 33.96% Impervious, Inflow Depth = 1.83" for 2-Year-Projected event
Inflow = 0.64 cfs @ 12.18 hrs, Volume= 0.081 af
Outflow = 0.12 cfs @ 13.23 hrs, Volume= 0.057 af, Atten= 82%, Lag= 62.6 min
Primary = 0.12 cfs @ 13.23 hrs, Volume= 0.057 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 30.01' @ 13.23 hrs Surf.Area= 0.034 ac Storage= 0.043 af

Plug-Flow detention time= 312.2 min calculated for 0.057 af (71% of inflow)
Center-of-Mass det. time= 198.4 min (1,006.3 - 807.9)

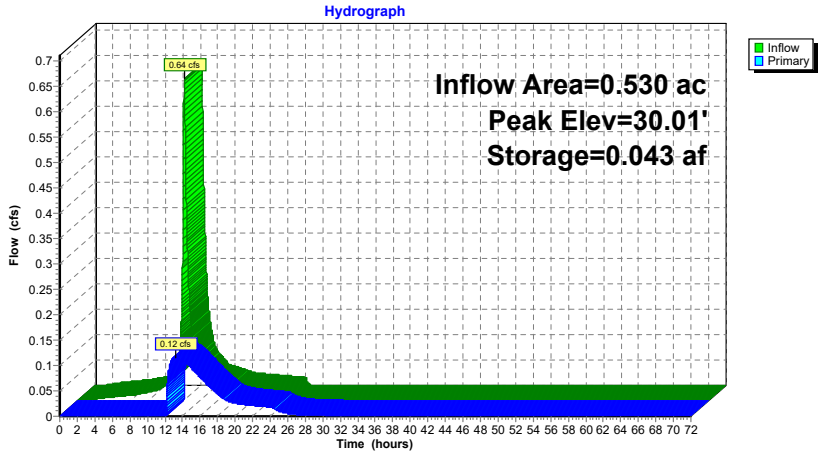
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.101 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.023	0.000	0.000
29.50	0.030	0.026	0.026
30.50	0.037	0.033	0.060
31.50	0.045	0.041	0.101

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.60'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	29.40'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.12 cfs @ 13.23 hrs HW=30.01' TW=28.20' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.12 cfs @ 3.42 fps)

Pond 64P: BASIN I



Summary for Pond 65P: BASIN E

Inflow = 3.75 cfs @ 12.17 hrs, Volume= 1.248 af
Outflow = 2.27 cfs @ 12.38 hrs, Volume= 1.111 af, Atten= 40%, Lag= 12.7 min
Primary = 1.25 cfs @ 13.46 hrs, Volume= 1.056 af
Routed to Link 46L : DA North
Secondary = 1.56 cfs @ 12.37 hrs, Volume= 0.055 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.20' @ 13.46 hrs Surf.Area= 0.146 ac Storage= 0.200 af

Plug-Flow detention time= 464.8 min calculated for 1.111 af (89% of inflow)
Center-of-Mass det. time= 211.6 min (1,662.6 - 1,451.0)

Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.421 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

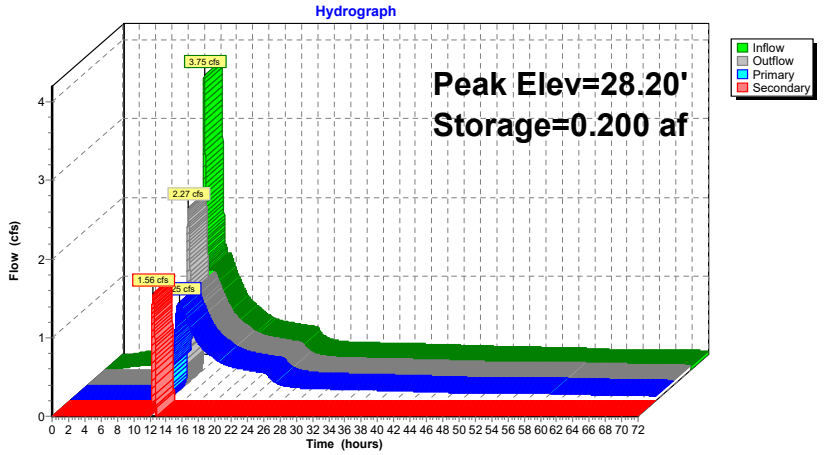
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.091	0.000	0.000
27.50	0.122	0.106	0.106
28.50	0.157	0.139	0.246
29.50	0.193	0.175	0.421

Device	Routing	Invert	Outlet Devices
#1	Primary	28.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#4	Secondary	27.50'	**3.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#5	Secondary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#6	Secondary	29.30'	**42.0" x 102.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.25 cfs @ 13.46 hrs HW=28.20' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 1.12 cfs @ 1.45 fps)
- **3=Orifice** (Orifice Controls 0.13 cfs @ 3.70 fps)

Secondary OutFlow Max=1.55 cfs @ 12.37 hrs HW=28.13' TW=27.70' (Dynamic Tailwater)
- **4=Orifice** (Orifice Controls 0.16 cfs @ 3.16 fps)
- **5=Sharp-Crested Rectangular Weir** (Weir Controls 1.40 cfs @ 1.56 fps)
- **6=Grate** (Controls 0.00 cfs)

Pond 65P: BASIN E



Summary for Pond 70P: BASIN K

Inflow Area = 1.640 ac, 37.80% Impervious, Inflow Depth = 1.94" for 2-Year-Projected event
Inflow = 2.09 cfs @ 12.18 hrs, Volume= 0.265 af
Outflow = 0.17 cfs @ 14.77 hrs, Volume= 0.199 af, Atten= 92%, Lag= 155.0 min
Primary = 0.17 cfs @ 14.77 hrs, Volume= 0.199 af
Routed to Pond 90P : BASIN N

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 31.75' @ 14.77 hrs Surf.Area= 0.154 ac Storage= 0.172 af

Plug-Flow detention time= 666.3 min calculated for 0.199 af (75% of inflow)
Center-of-Mass det. time= 562.5 min (1,365.4 - 802.9)

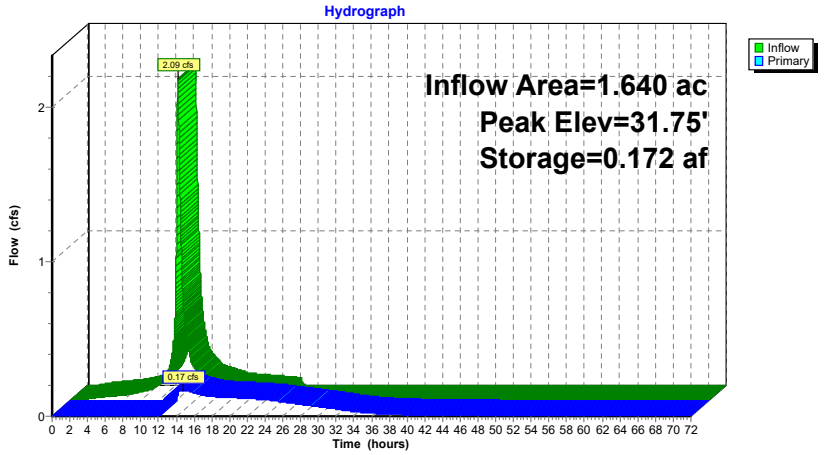
Volume	Invert	Avail.Storage	Storage Description
#1	30.50'	0.484 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.50	0.122	0.000	0.000
31.50	0.148	0.135	0.135
32.50	0.174	0.161	0.296
33.50	0.202	0.188	0.484

Device	Routing	Invert	Outlet Devices
#1	Primary	33.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.70'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.17 cfs @ 14.77 hrs HW=31.75' TW=30.29' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.04 cfs @ 0.73 fps)
- **3=Orifice** (Orifice Controls 0.13 cfs @ 3.87 fps)

Pond 70P: BASIN K



Summary for Pond 74P: BASIN B

Inflow Area = 3.730 ac, 48.53% Impervious, Inflow Depth > 1.71" for 2-Year-Projected event
Inflow = 1.66 cfs @ 12.18 hrs, Volume= 0.532 af
Outflow = 0.41 cfs @ 13.22 hrs, Volume= 0.462 af, Atten= 75%, Lag= 62.2 min
Primary = 0.41 cfs @ 13.22 hrs, Volume= 0.462 af
Routed to Pond 59P : BASIN C

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 31.63' @ 13.22 hrs Surf.Area= 0.101 ac Storage= 0.122 af

Plug-Flow detention time= 522.6 min calculated for 0.462 af (87% of inflow)
Center-of-Mass det. time= 305.9 min (1,686.8 - 1,380.9)

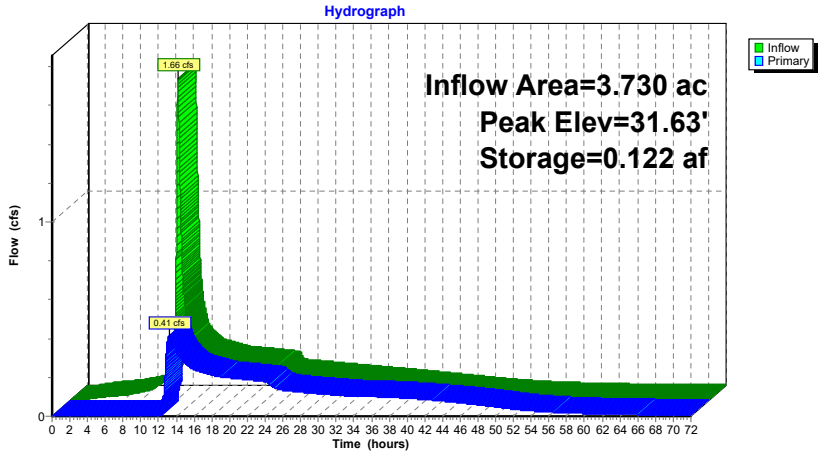
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	0.292 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.00	0.049	0.000	0.000
31.00	0.081	0.065	0.065
32.00	0.113	0.097	0.162
33.00	0.147	0.130	0.292

Device	Routing	Invert	Outlet Devices
#1	Primary	32.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.41 cfs @ 13.22 hrs HW=31.63' TW=29.72' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.29 cfs @ 1.17 fps)
- **3=Orifice** (Orifice Controls 0.12 cfs @ 3.48 fps)

Pond 74P: BASIN B



Summary for Pond 75P: BASIN D

Inflow Area = 7.390 ac, 48.71% Impervious, Inflow Depth > 1.80" for 2-Year-Projected event
Inflow = 4.98 cfs @ 12.19 hrs, Volume= 1.111 af
Outflow = 1.45 cfs @ 13.12 hrs, Volume= 0.897 af, Atten= 71%, Lag= 55.8 min
Primary = 1.45 cfs @ 13.12 hrs, Volume= 0.897 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.12' @ 13.12 hrs Surf.Area= 0.245 ac Storage= 0.357 af

Plug-Flow detention time= 707.5 min calculated for 0.897 af (81% of inflow)
Center-of-Mass det. time= 419.8 min (1,601.2 - 1,181.3)

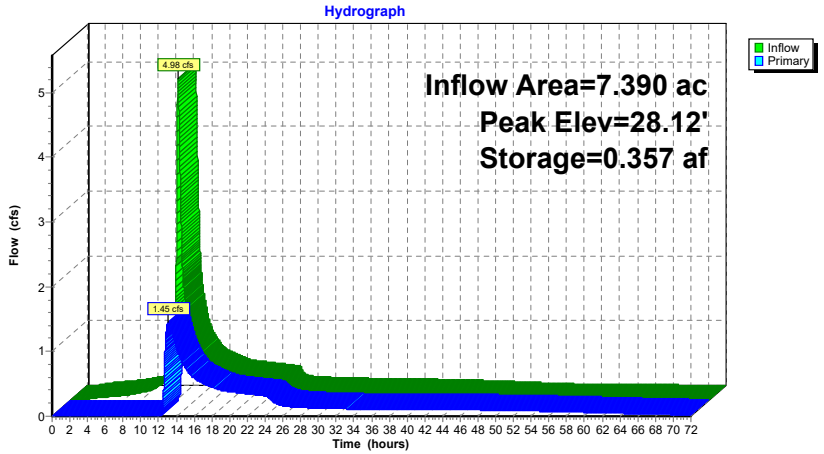
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.725 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.197	0.000	0.000
27.50	0.226	0.211	0.211
28.50	0.257	0.241	0.453
29.50	0.288	0.272	0.725

Device	Routing	Invert	Outlet Devices
#1	Primary	28.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.40'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.45 cfs @ 13.12 hrs HW=28.12' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 1.32 cfs @ 1.53 fps)
- **3=Orifice** (Orifice Controls 0.13 cfs @ 3.77 fps)

Pond 75P: BASIN D



Summary for Pond 76P: BASIN M

Inflow Area = 0.860 ac, 59.30% Impervious, Inflow Depth = 2.58" for 2-Year-Projected event
Inflow = 1.50 cfs @ 12.18 hrs, Volume= 0.185 af
Outflow = 0.15 cfs @ 13.80 hrs, Volume= 0.124 af, Atten= 90%, Lag= 97.1 min
Primary = 0.15 cfs @ 13.80 hrs, Volume= 0.124 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.44' @ 13.80 hrs Surf.Area= 0.064 ac Storage= 0.117 af

Plug-Flow detention time= 448.0 min calculated for 0.124 af (67% of inflow)
Center-of-Mass det. time= 333.3 min (1,115.2 - 781.9)

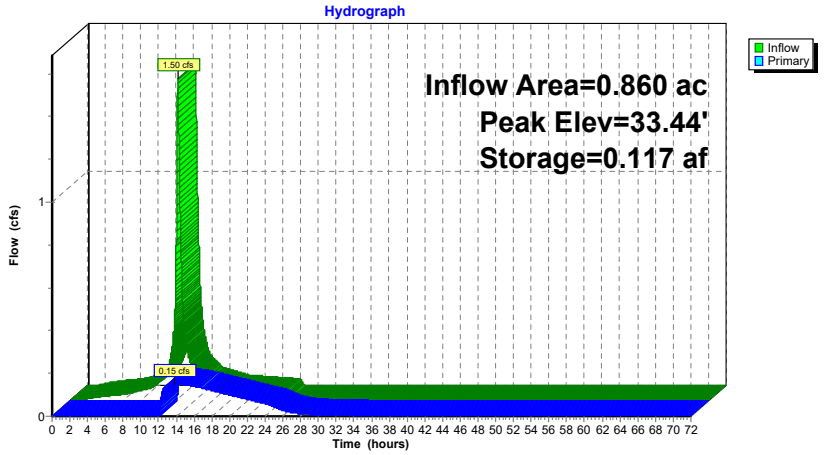
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	0.260 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.50	0.060	0.000	0.000
32.00	0.060	0.030	0.030
33.00	0.060	0.060	0.090
34.00	0.070	0.065	0.155
35.00	0.070	0.070	0.225
35.50	0.070	0.035	0.260

Device	Routing	Invert	Outlet Devices
#1	Primary	35.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	33.75'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.15 cfs @ 13.80 hrs HW=33.44' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.15 cfs @ 4.40 fps)

Pond 76P: BASIN M



Summary for Pond 83P: BASIN F

Inflow Area = 1.500 ac, 56.00% Impervious, Inflow Depth = 2.48" for 2-Year-Projected event
Inflow = 2.60 cfs @ 12.17 hrs, Volume= 0.310 af
Outflow = 0.07 cfs @ 21.27 hrs, Volume= 0.106 af, Atten= 97%, Lag= 546.1 min
Primary = 0.07 cfs @ 21.27 hrs, Volume= 0.106 af
Routed to Pond 86p : BASIN G

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.27' @ 21.27 hrs Surf.Area= 0.229 ac Storage= 0.258 af

Plug-Flow detention time= 1,010.0 min calculated for 0.106 af (34% of inflow)
Center-of-Mass det. time= 818.2 min (1,601.7 - 783.4)

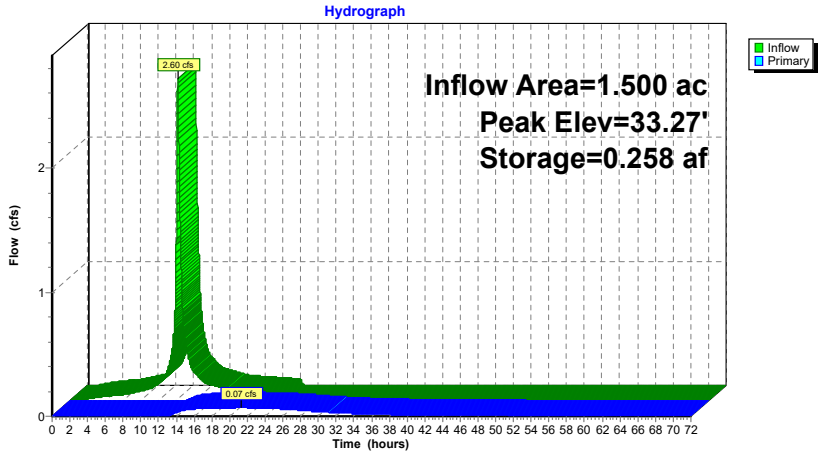
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.043 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.178	0.000	0.000
33.00	0.218	0.198	0.198
34.00	0.260	0.239	0.437
35.00	0.303	0.281	0.718
36.00	0.347	0.325	1.043

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.25'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.07 cfs @ 21.27 hrs HW=33.27' TW=32.72' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.07 cfs @ 1.96 fps)

Pond 83P: BASIN F



Summary for Pond 84P: BASIN L

Inflow Area = 0.970 ac, 50.52% Impervious, Inflow Depth = 2.32" for 2-Year-Projected event
Inflow = 1.53 cfs @ 12.18 hrs, Volume= 0.187 af
Outflow = 0.13 cfs @ 14.20 hrs, Volume= 0.139 af, Atten= 91%, Lag= 121.1 min
Primary = 0.13 cfs @ 14.20 hrs, Volume= 0.139 af
Routed to Pond 90P : BASIN N

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.87' @ 14.20 hrs Surf.Area= 0.100 ac Storage= 0.119 af

Plug-Flow detention time= 514.6 min calculated for 0.139 af (74% of inflow)
Center-of-Mass det. time= 412.2 min (1,200.9 - 788.7)

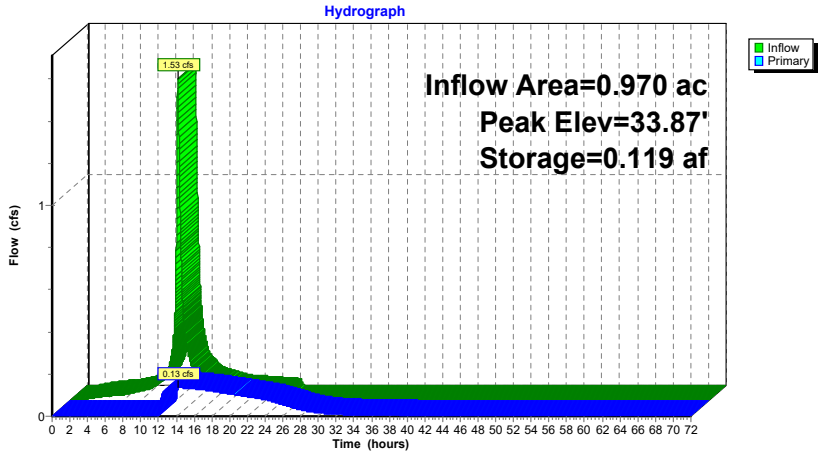
Volume	Invert	Avail.Storage	Storage Description
#1	32.50'	0.308 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.50	0.074	0.000	0.000
33.00	0.083	0.039	0.039
34.00	0.102	0.092	0.132
35.00	0.123	0.113	0.244
35.50	0.134	0.064	0.308

Device	Routing	Invert	Outlet Devices
#1	Primary	34.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	33.90'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.10'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.13 cfs @ 14.20 hrs HW=33.87' TW=30.29' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.13 cfs @ 3.94 fps)

Pond 84P: BASIN L



Summary for Pond 86P: BASIN G

Inflow Area = 2.760 ac, 47.46% Impervious, Inflow Depth > 1.34" for 2-Year-Projected event
Inflow = 1.62 cfs @ 12.18 hrs, Volume= 0.309 af
Outflow = 0.13 cfs @ 17.80 hrs, Volume= 0.239 af, Atten= 92%, Lag= 336.9 min
Primary = 0.13 cfs @ 17.80 hrs, Volume= 0.239 af
Routed to Pond 60P : BASIN H

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 32.74' @ 17.80 hrs Surf.Area= 0.108 ac Storage= 0.138 af

Plug-Flow detention time= 692.5 min calculated for 0.239 af (77% of inflow)
Center-of-Mass det. time= 454.2 min (1,531.9 - 1,077.6)

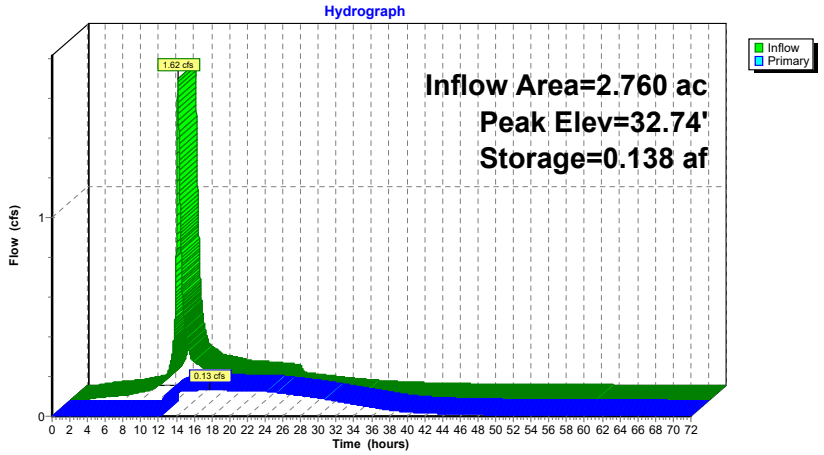
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	0.301 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.00	0.051	0.000	0.000
32.00	0.083	0.067	0.067
33.00	0.117	0.100	0.167
34.00	0.152	0.134	0.301

Device	Routing	Invert	Outlet Devices
#1	Primary	33.70'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	32.75'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.13 cfs @ 17.80 hrs HW=32.74' TW=29.75' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.13 cfs @ 3.85 fps)

Pond 86P: BASIN G



Summary for Pond 90P: BASIN N

Inflow Area = 4.000 ac, 43.75% Impervious, Inflow Depth > 1.80" for 2-Year-Projected event
Inflow = 2.24 cfs @ 12.19 hrs, Volume= 0.599 af
Outflow = 0.47 cfs @ 14.49 hrs, Volume= 0.490 af, Atten= 79%, Lag= 138.1 min
Primary = 0.47 cfs @ 14.49 hrs, Volume= 0.490 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 30.29' @ 14.49 hrs Surf.Area= 0.176 ac Storage= 0.201 af

Plug-Flow detention time= 543.7 min calculated for 0.490 af (82% of inflow)
Center-of-Mass det. time= 380.6 min (1,458.2 - 1,077.6)

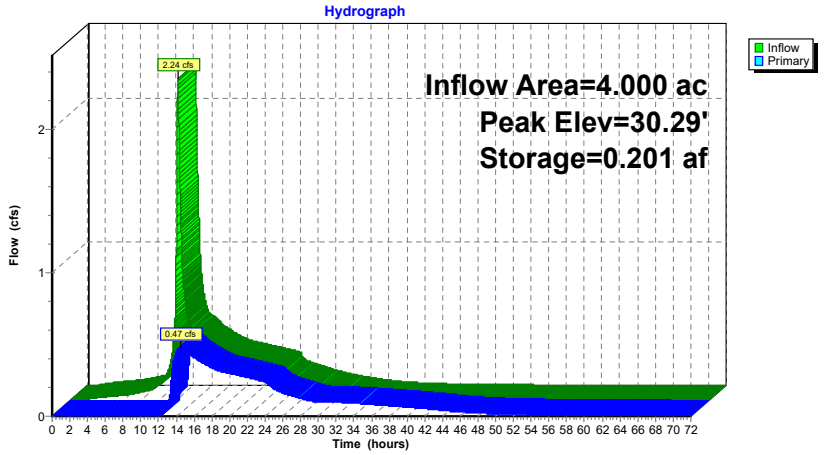
Volume	Invert	Avail.Storage	Storage Description
#1	29.00'	0.443 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
29.00	0.136	0.000	0.000
30.00	0.167	0.151	0.151
31.00	0.199	0.183	0.334
31.50	0.238	0.109	0.443

Device	Routing	Invert	Outlet Devices
#1	Primary	30.90'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.20'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	29.70'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.47 cfs @ 14.49 hrs HW=30.29' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.36 cfs @ 0.99 fps)
- **3=Orifice** (Orifice Controls 0.11 cfs @ 3.36 fps)

Pond 90P: BASIN N



Summary for Pond 93P: BASIN O

Inflow Area = 1.100 ac, 51.82% Impervious, Inflow Depth = 2.53" for 2-Year-Projected event
Inflow = 1.91 cfs @ 12.18 hrs, Volume= 0.232 af
Outflow = 0.90 cfs @ 12.54 hrs, Volume= 0.171 af, Atten= 53%, Lag= 21.5 min
Primary = 0.90 cfs @ 12.54 hrs, Volume= 0.171 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.19' @ 12.54 hrs Surf.Area= 0.083 ac Storage= 0.112 af

Plug-Flow detention time= 346.8 min calculated for 0.171 af (74% of inflow)
Center-of-Mass det. time= 245.6 min (1,034.8 - 789.2)

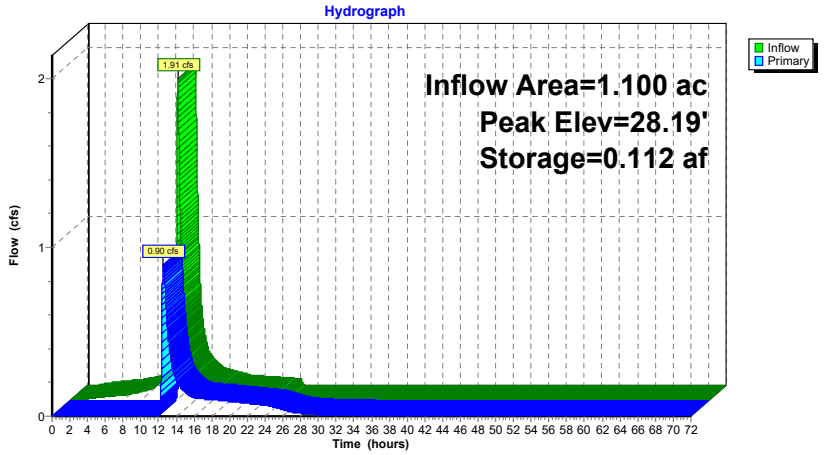
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.244 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.050	0.000	0.000
27.00	0.059	0.027	0.027
28.00	0.079	0.069	0.097
29.00	0.100	0.090	0.186
29.50	0.129	0.057	0.244

Device	Routing	Invert	Outlet Devices
#1	Primary	28.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.00'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.90 cfs @ 12.54 hrs HW=28.19' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.77 cfs @ 1.41 fps)
- **3=Orifice** (Orifice Controls 0.13 cfs @ 3.67 fps)

Pond 93P: BASIN O



Summary for Pond 102P: BASIN Q

Inflow Area = 1.860 ac, 59.68% Impervious, Inflow Depth = 2.59" for 2-Year-Projected event
Inflow = 2.91 cfs @ 12.21 hrs, Volume= 0.402 af
Outflow = 1.31 cfs @ 12.68 hrs, Volume= 0.219 af, Atten= 55%, Lag= 27.9 min
Primary = 1.31 cfs @ 12.68 hrs, Volume= 0.219 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 27.92' @ 12.68 hrs Surf.Area= 0.126 ac Storage= 0.209 af

Plug-Flow detention time= 293.8 min calculated for 0.219 af (55% of inflow)
Center-of-Mass det. time= 156.2 min (942.0 - 785.8)

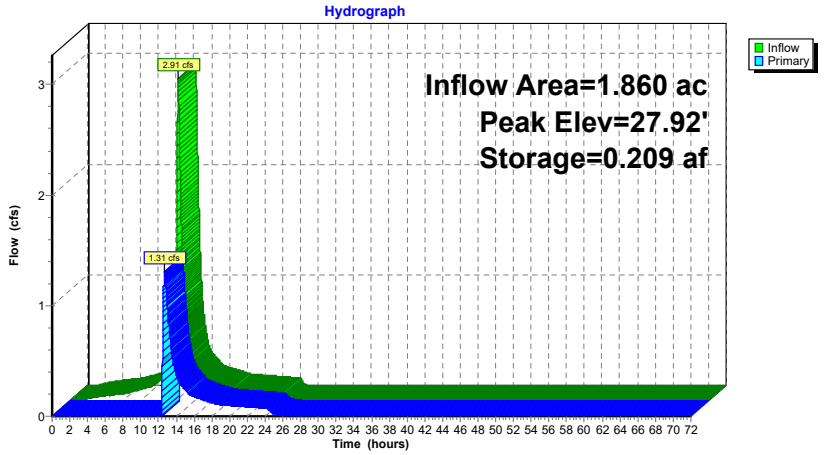
Volume	Invert	Avail.Storage	Storage Description
#1	26.00'	0.356 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.00	0.092	0.000	0.000
27.00	0.110	0.101	0.101
28.00	0.128	0.119	0.220
29.00	0.146	0.137	0.356

Device	Routing	Invert	Outlet Devices
#1	Primary	28.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.70'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.00'	**2.5" Vert. Orifice X 0.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.31 cfs @ 12.68 hrs HW=27.92' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 1.31 cfs @ 1.52 fps)
- **3=Orifice** (Controls 0.00 cfs)

Pond 102P: BASIN Q



Summary for Pond 105P: BASIN R

Inflow Area = 2.040 ac, 50.00% Impervious, Inflow Depth = 2.43" for 2-Year-Projected event
Inflow = 3.39 cfs @ 12.18 hrs, Volume= 0.413 af
Outflow = 0.63 cfs @ 13.10 hrs, Volume= 0.263 af, Atten= 81%, Lag= 54.9 min
Primary = 0.63 cfs @ 13.10 hrs, Volume= 0.263 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 24.06' @ 13.10 hrs Surf.Area= 0.189 ac Storage= 0.246 af

Plug-Flow detention time= 549.9 min calculated for 0.263 af (64% of inflow)
Center-of-Mass det. time= 428.7 min (1,219.2 - 790.5)

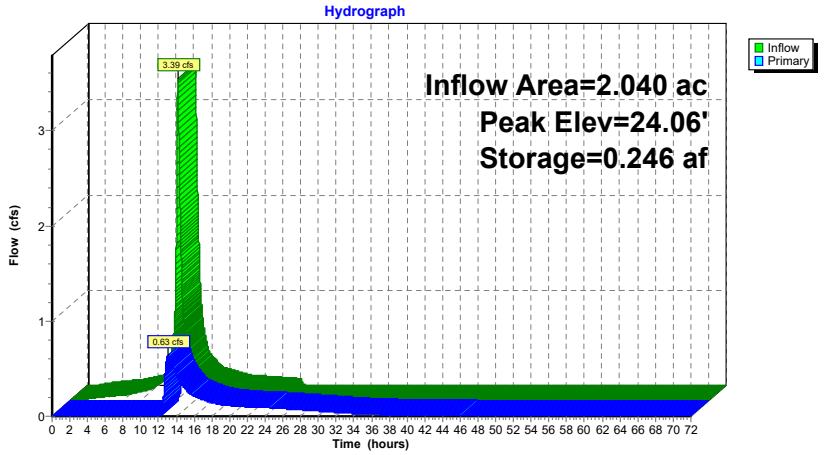
Volume	Invert	Avail.Storage	Storage Description
#1	22.50'	0.568 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
22.50	0.127	0.000	0.000
23.00	0.146	0.068	0.068
24.00	0.187	0.167	0.235
25.00	0.228	0.207	0.442
25.50	0.277	0.126	0.568

Device	Routing	Invert	Outlet Devices
#1	Primary	25.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	23.90'	**2.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	23.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.63 cfs @ 13.10 hrs HW=24.06' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.52 cfs @ 1.31 fps)
- **3=Orifice** (Orifice Controls 0.11 cfs @ 3.26 fps)

Pond 105P: BASIN R



Summary for Pond 108P: BASIN S

Inflow Area = 1.800 ac, 48.89% Impervious, Inflow Depth = 2.27" for 2-Year-Projected event
Inflow = 2.42 cfs @ 12.22 hrs, Volume= 0.341 af
Outflow = 0.07 cfs @ 21.67 hrs, Volume= 0.057 af, Atten= 97%, Lag= 566.9 min
Primary = 0.07 cfs @ 21.67 hrs, Volume= 0.057 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 20.18' @ 21.67 hrs Surf.Area= 0.245 ac Storage= 0.303 af

Plug-Flow detention time= 933.3 min calculated for 0.057 af (17% of inflow)
Center-of-Mass det. time= 629.2 min (1,424.0 - 794.8)

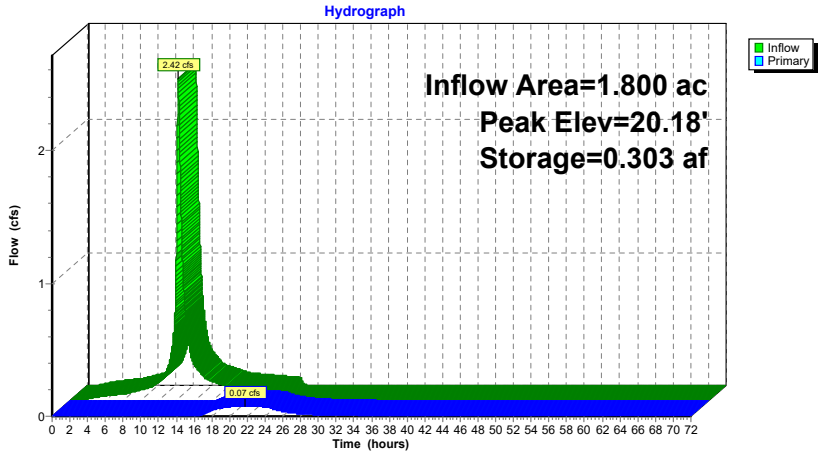
Volume	Invert	Avail.Storage	Storage Description
#1	18.80'	0.750 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
18.80	0.190	0.000	0.000
19.00	0.200	0.039	0.039
20.00	0.240	0.220	0.259
21.00	0.270	0.255	0.514
21.80	0.320	0.236	0.750

Device	Routing	Invert	Outlet Devices
#1	Primary	21.20'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.10'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	19.30'	**2.5" Vert. Orifice X 0.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.07 cfs @ 21.67 hrs HW=20.18' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.07 cfs @ 0.93 fps)
- **3=Orifice** (Controls 0.00 cfs)

Pond 108P: BASIN S



Summary for Pond 111P: BASIN T

Inflow Area = 1.800 ac, 32.78% Impervious, Inflow Depth > 1.00" for 2-Year-Projected event
Inflow = 1.19 cfs @ 12.11 hrs, Volume= 0.150 af
Outflow = 0.02 cfs @ 28.44 hrs, Volume= 0.034 af, Atten= 98%, Lag= 979.6 min
Primary = 0.02 cfs @ 28.44 hrs, Volume= 0.034 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 19.20' @ 28.44 hrs Surf.Area= 0.198 ac Storage= 0.129 af

Plug-Flow detention time= 1,728.3 min calculated for 0.034 af (23% of inflow)
Center-of-Mass det. time= 1,273.7 min (2,353.5 - 1,079.8)

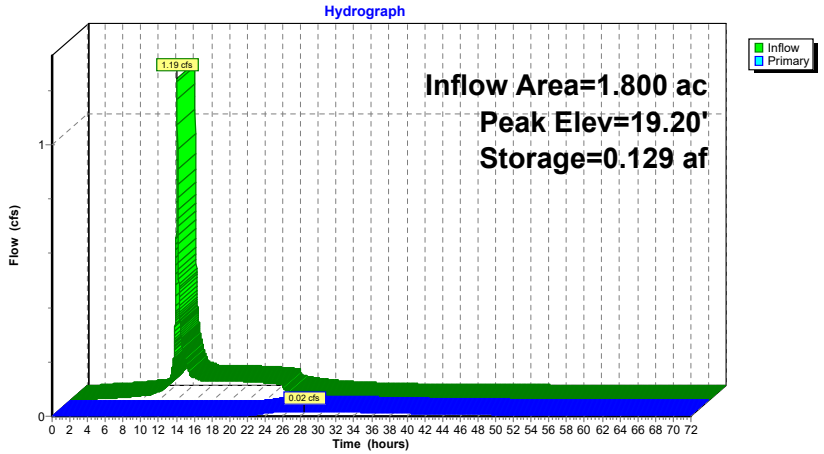
Volume	Invert	Avail.Storage	Storage Description
#1	18.50'	0.697 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
18.50	0.170	0.000	0.000
19.00	0.190	0.090	0.090
20.00	0.230	0.210	0.300
21.00	0.270	0.250	0.550
21.50	0.320	0.148	0.697

Device	Routing	Invert	Outlet Devices
#1	Primary	20.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.20'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	19.10'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.02 cfs @ 28.44 hrs HW=19.20' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.02 cfs @ 1.08 fps)

Pond 111P: BASIN T



Summary for Pond 114P: BASIN U

Inflow Area = 1.070 ac, 37.38% Impervious, Inflow Depth = 1.93" for 2-Year-Projected event
Inflow = 1.92 cfs @ 12.12 hrs, Volume= 0.172 af
Outflow = 0.04 cfs @ 20.85 hrs, Volume= 0.053 af, Atten= 98%, Lag= 523.4 min
Primary = 0.04 cfs @ 20.85 hrs, Volume= 0.053 af
Routed to Pond 111P : BASIN T

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 20.24' @ 20.85 hrs Surf.Area= 0.209 ac Storage= 0.144 af

Plug-Flow detention time= 978.2 min calculated for 0.053 af (31% of inflow)
Center-of-Mass det. time= 775.8 min (1,570.5 - 794.7)

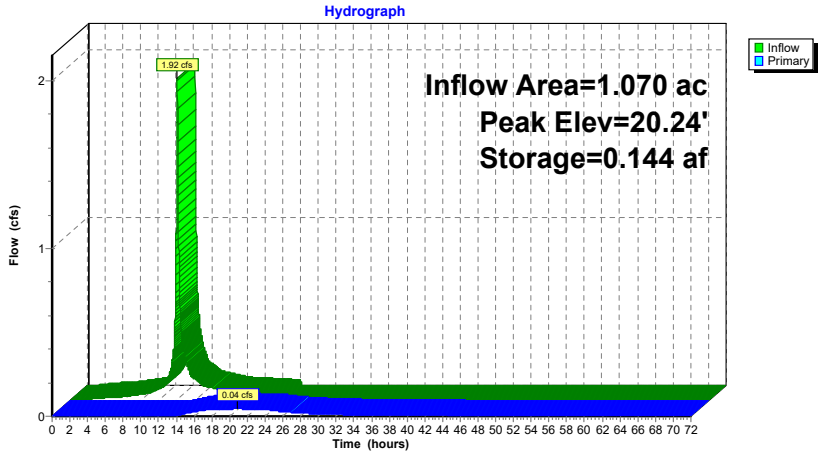
Volume	Invert	Avail.Storage	Storage Description
#1	19.50'	0.738 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
19.50	0.180	0.000	0.000
20.00	0.200	0.095	0.095
21.00	0.240	0.220	0.315
22.00	0.290	0.265	0.580
22.50	0.340	0.157	0.738

Device	Routing	Invert	Outlet Devices
#1	Primary	21.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.10'	**4.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.04 cfs @ 20.85 hrs HW=20.24' TW=19.10' (Dynamic Tailwater)
└─**1=Grate** (Controls 0.00 cfs)
└─**2=Orifice** (Orifice Controls 0.04 cfs @ 1.26 fps)

Pond 114P: BASIN U



Summary for Pond 117P: BASIN V

Inflow Area = 0.850 ac, 14.12% Impervious, Inflow Depth = 1.24" for 2-Year-Projected event
Inflow = 0.67 cfs @ 12.19 hrs, Volume= 0.088 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 37.83' @ 25.03 hrs Surf.Area= 0.117 ac Storage= 0.088 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

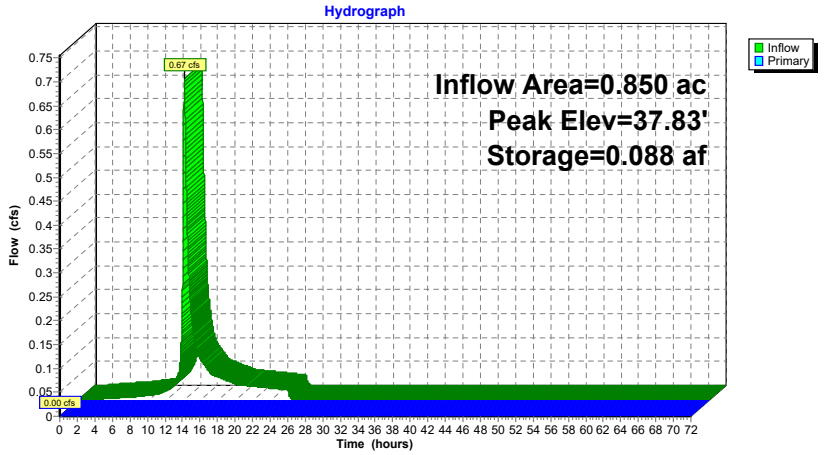
Volume	Invert	Avail.Storage	Storage Description
#1	37.00'	0.243 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
37.00	0.096	0.000	0.000
38.00	0.121	0.109	0.109
39.00	0.147	0.134	0.243

Device	Routing	Invert	Outlet Devices
#1	Primary	38.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	37.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=37.00' TW=0.00' (Dynamic Tailwater)
└─**1=Grate** (Controls 0.00 cfs)
└─**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 117P: BASIN V

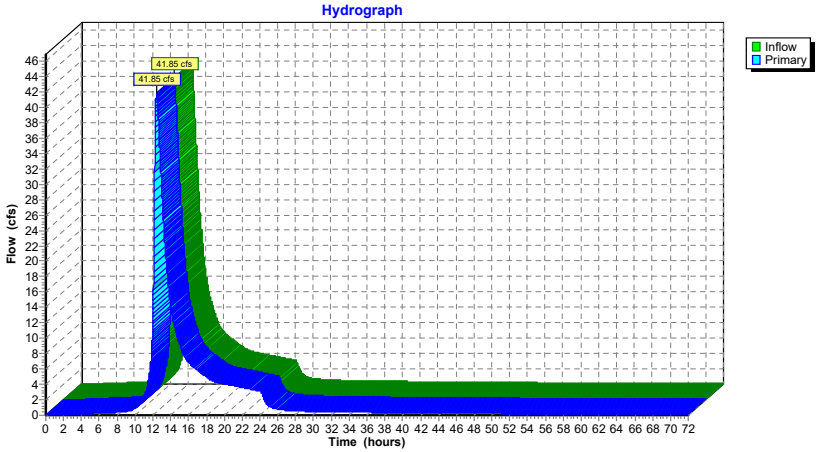


Summary for Link 46L: DA North

Inflow = 41.85 cfs @ 12.42 hrs, Volume= 10.946 af
Primary = 41.85 cfs @ 12.43 hrs, Volume= 10.946 af, Atten= 0%, Lag= 0.6 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 46L: DA North

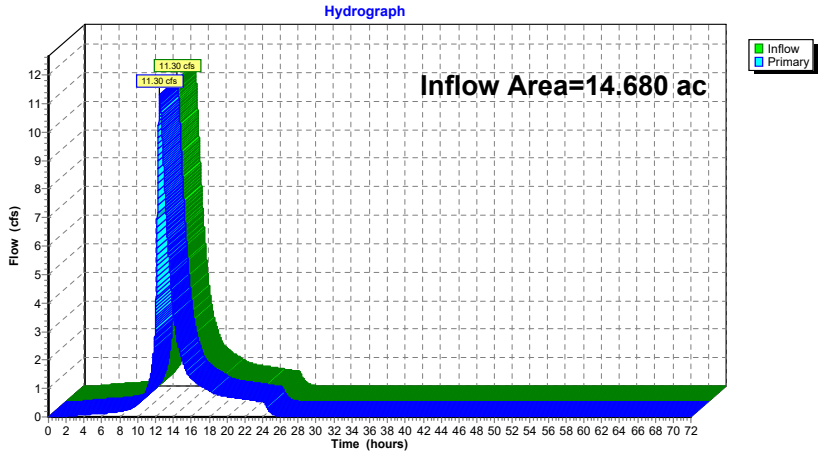


Summary for Link 51L: DA Undetained

Inflow Area = 14.680 ac, 15.60% Impervious, Inflow Depth = 1.97" for 2-Year-Projected event
Inflow = 11.30 cfs @ 12.48 hrs, Volume= 2.407 af
Primary = 11.30 cfs @ 12.49 hrs, Volume= 2.407 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 51L: DA Undetained

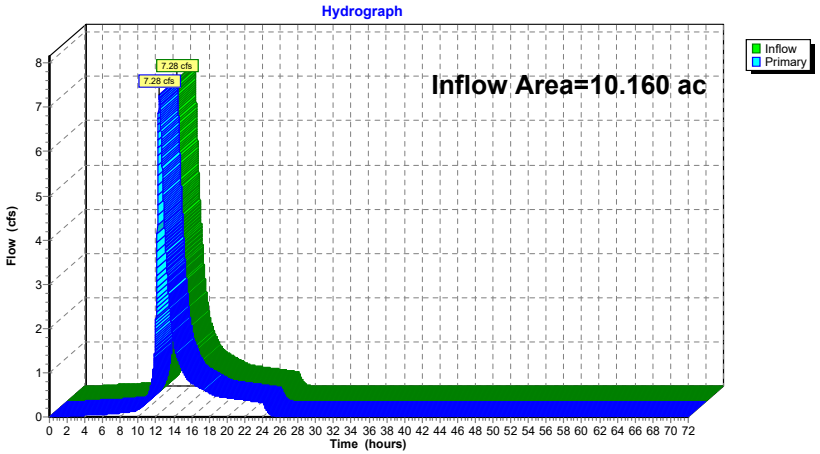


Summary for Link 52L: X

Inflow Area = 10.160 ac, 29.97% Impervious, Inflow Depth = 1.57" for 2-Year-Projected event
Inflow = 7.28 cfs @ 12.37 hrs, Volume= 1.333 af
Primary = 7.28 cfs @ 12.38 hrs, Volume= 1.333 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 52L: X

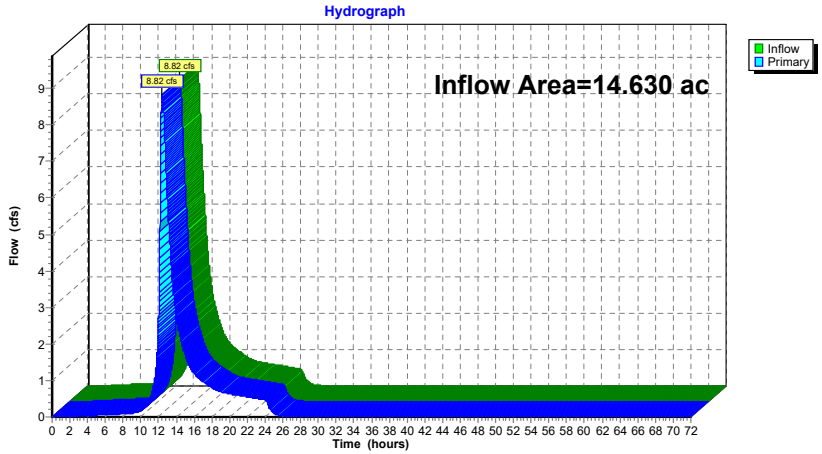


Summary for Link 53L: W

Inflow Area = 14.630 ac, 28.71% Impervious, Inflow Depth = 1.52" for 2-Year-Projected event
Inflow = 8.82 cfs @ 12.38 hrs, Volume= 1.857 af
Primary = 8.82 cfs @ 12.39 hrs, Volume= 1.857 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 53L: W

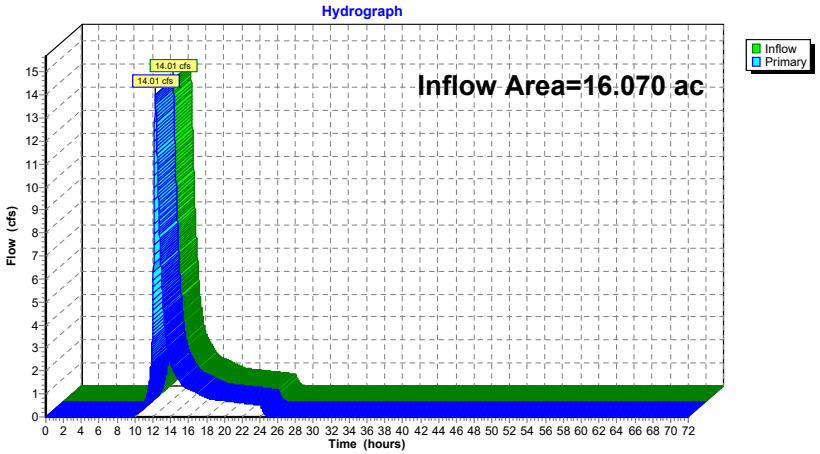


Summary for Link 58L: Y

Inflow Area = 16.070 ac, 30.59% Impervious, Inflow Depth = 1.52" for 2-Year-Projected event
Inflow = 14.01 cfs @ 12.28 hrs, Volume= 2.035 af
Primary = 14.01 cfs @ 12.29 hrs, Volume= 2.035 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 58L: Y



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Sim-Route method - Pond routing by Sim-Route method

Subcatchment54S: Y - OFFSITE Runoff Area=12.620 ac 38.00% Impervious Runoff Depth=2.68"
Flow Length=760' Tc=15.1 min CN=75 Runoff=20.54 cfs 2.817 af

Subcatchment56S: W- OFFSITE Runoff Area=8.210 ac 38.00% Impervious Runoff Depth=2.68"
Flow Length=373' Tc=18.9 min CN=75 Runoff=11.87 cfs 1.832 af

Subcatchment57S: Pipe Y Runoff Area=3.450 ac 3.48% Impervious Runoff Depth=1.66"
Flow Length=1,229' Slope=0.0200 '/' Tc=16.9 min CN=WQ Runoff=2.95 cfs 0.478 af

Subcatchment59S: X - OFFSITE Runoff Area=5.170 ac 38.00% Impervious Runoff Depth=2.68"
Flow Length=880' Tc=18.5 min CN=75 Runoff=7.55 cfs 1.154 af

Subcatchment60S: BASIN A - DA Runoff Area=2.470 ac 53.85% Impervious Runoff Depth=3.43"
Flow Length=102' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=5.79 cfs 0.705 af

Subcatchment61S: BASIN I - DA Runoff Area=0.530 ac 33.96% Impervious Runoff Depth=2.73"
Flow Length=134' Slope=0.0200 '/' Tc=9.6 min CN=WQ Runoff=0.99 cfs 0.121 af

Subcatchment62S: Undetained Runoff Area=14.680 ac 15.60% Impervious Runoff Depth=2.97"
Flow Length=3,276' Tc=30.2 min CN=WQ Runoff=17.38 cfs 3.630 af

Subcatchment63S: BASIN N - DA Runoff Area=1.390 ac 46.04% Impervious Runoff Depth=3.24"
Flow Length=108' Tc=9.3 min CN=WQ Runoff=3.12 cfs 0.376 af

Subcatchment64S: BASIN E - DA Runoff Area=2.240 ac 50.89% Impervious Runoff Depth=3.32"
Flow Length=609' Tc=8.1 min CN=WQ Runoff=5.44 cfs 0.620 af

Subcatchment65S: BASIN V - DA Runoff Area=0.850 ac 14.12% Impervious Runoff Depth=2.03"
Flow Length=100' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=1.20 cfs 0.144 af

Subcatchment67S: Pipe W Runoff Area=6.420 ac 16.82% Impervious Runoff Depth=2.13"
Flow Length=5,045' Tc=42.5 min CN=WQ Runoff=4.13 cfs 1.139 af

Subcatchment68S: BASIN K - DA Runoff Area=1.640 ac 37.80% Impervious Runoff Depth=2.86"
Flow Length=136' Slope=0.0200 '/' Tc=9.7 min CN=WQ Runoff=3.18 cfs 0.391 af

Subcatchment69S: BASIN O - DA Runoff Area=1.100 ac 51.82% Impervious Runoff Depth=3.57"
Flow Length=113' Tc=9.4 min CN=WQ Runoff=2.73 cfs 0.328 af

Subcatchment70S: Pipe X Runoff Area=4.990 ac 21.64% Impervious Runoff Depth=2.30"
Flow Length=2,554' Tc=25.8 min CN=WQ Runoff=4.66 cfs 0.956 af

Subcatchment71S: BASIN B - DA Runoff Area=1.260 ac 38.10% Impervious Runoff Depth=2.87"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=2.49 cfs 0.302 af

Subcatchment73S: BASIN C - DA Runoff Area=0.990 ac 42.42% Impervious Runoff Depth=3.03"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=2.06 cfs 0.250 af

Subcatchment75S: BASIN M - DA Runoff Area=0.860 ac 59.30% Impervious Runoff Depth=3.62"
Flow Length=225' Slope=0.0200 '/' Tc=9.3 min CN=WQ Runoff=2.13 cfs 0.259 af

Subcatchment76S: BASIN F - DA Runoff Area=1.500 ac 56.00% Impervious Runoff Depth=3.50"
Flow Length=447' Tc=8.7 min CN=WQ Runoff=3.72 cfs 0.438 af

Subcatchment77S: BASIN D - DA Runoff Area=2.670 ac 51.31% Impervious Runoff Depth=3.34"
Flow Length=795' Tc=9.0 min CN=WQ Runoff=6.24 cfs 0.743 af

Subcatchment83S: BASIN L - DA Runoff Area=0.970 ac 50.52% Impervious Runoff Depth=3.31"
Flow Length=96' Tc=9.2 min CN=WQ Runoff=2.22 cfs 0.268 af

Subcatchment85S: BASIN G - DA Runoff Area=1.260 ac 37.30% Impervious Runoff Depth=2.85"
Flow Length=102' Tc=9.3 min CN=WQ Runoff=2.47 cfs 0.299 af

Subcatchment88S: BASIN H - DA Runoff Area=1.950 ac 43.08% Impervious Runoff Depth=3.05"
Flow Length=111' Slope=0.0200 '/' Tc=9.5 min CN=WQ Runoff=4.06 cfs 0.495 af

Subcatchment98S: BASIN P - DA Runoff Area=2.760 ac 47.10% Impervious Runoff Depth=3.19"
Flow Length=214' Slope=0.0200 '/' Tc=10.2 min CN=WQ Runoff=5.81 cfs 0.734 af

Subcatchment101S: BASIN Q - DA Runoff Area=1.860 ac 59.68% Impervious Runoff Depth=3.63"
Flow Length=612' Tc=12.0 min CN=WQ Runoff=4.13 cfs 0.563 af

Subcatchment104S: BASIN R - DA Runoff Area=2.040 ac 50.00% Impervious Runoff Depth=3.46"
Flow Length=98' Tc=9.4 min CN=WQ Runoff=4.88 cfs 0.588 af

Subcatchment107S: BASIN S - DA Runoff Area=1.800 ac 48.89% Impervious Runoff Depth=3.25"
Flow Length=466' Tc=12.2 min CN=WQ Runoff=3.54 cfs 0.488 af

Subcatchment110S: BASIN T - DA Runoff Area=0.730 ac 26.03% Impervious Runoff Depth=2.45"
Flow Length=254' Slope=0.0100 '/' Tc=2.8 min CN=WQ Runoff=1.91 cfs 0.149 af

Subcatchment113S: BASIN U - DA Runoff Area=1.070 ac 37.38% Impervious Runoff Depth=2.85"
Flow Length=28' Slope=0.0350 '/' Tc=4.0 min CN=WQ Runoff=2.92 cfs 0.254 af

Pond 52P: BASIN A Peak Elev=34.13' Storage=0.540 af Inflow=5.79 cfs 0.705 af
Outflow=0.19 cfs 0.528 af

Pond 59P: BASIN C Peak Elev=29.99' Storage=0.073 af Inflow=2.26 cfs 1.007 af
Outflow=2.16 cfs 0.963 af

Pond 60P: BASIN H Peak Elev=30.37' Storage=0.463 af Inflow=4.15 cfs 0.956 af
Outflow=0.45 cfs 0.828 af

Pond 63P: BASIN P Peak Elev=28.46' Storage=0.452 af Inflow=8.62 cfs 1.721 af
Outflow=2.23 cfs 1.405 af

Pond 64P: BASIN I Peak Elev=30.56' Storage=0.062 af Inflow=0.99 cfs 0.121 af
Outflow=0.17 cfs 0.097 af

Pond 65P: BASIN E Peak Elev=28.42' Storage=0.234 af Inflow=5.44 cfs 2.026 af
Primary=3.65 cfs 1.804 af Secondary=2.73 cfs 0.062 af Outflow=4.44 cfs 1.866 af

Pond 70P: BASIN K Peak Elev=32.00' Storage=0.212 af Inflow=3.18 cfs 0.391 af
Outflow=0.66 cfs 0.325 af

Pond 74P: BASIN B Peak Elev=31.80' Storage=0.140 af Inflow=2.58 cfs 0.830 af
Outflow=1.20 cfs 0.758 af

Pond 75P: BASIN D Peak Elev=28.38' Storage=0.421 af Inflow=7.62 cfs 1.706 af
Outflow=4.34 cfs 1.462 af

Pond 76P: BASIN M Peak Elev=33.93' Storage=0.150 af Inflow=2.13 cfs 0.259 af
Outflow=0.43 cfs 0.199 af

Pond 83P: BASIN F Peak Elev=33.62' Storage=0.340 af Inflow=3.72 cfs 0.438 af
Outflow=0.12 cfs 0.232 af

Pond 84P: BASIN L Peak Elev=34.09' Storage=0.140 af Inflow=2.22 cfs 0.268 af
Outflow=0.67 cfs 0.219 af

Pond 86P: BASIN G Peak Elev=32.94' Storage=0.160 af Inflow=2.47 cfs 0.531 af
Outflow=0.68 cfs 0.460 af

Pond 90P: BASIN N Peak Elev=30.47' Storage=0.233 af Inflow=3.33 cfs 0.920 af
Outflow=1.92 cfs 0.810 af

Pond 93P: BASIN O Peak Elev=28.34' Storage=0.124 af Inflow=2.73 cfs 0.328 af
Outflow=2.00 cfs 0.267 af

Pond 102P: BASIN Q Peak Elev=28.08' Storage=0.230 af Inflow=4.13 cfs 0.563 af
Outflow=2.99 cfs 0.381 af

Pond 105P: BASIN R Peak Elev=24.28' Storage=0.288 af Inflow=4.88 cfs 0.588 af
Outflow=1.96 cfs 0.437 af

Pond 108P: BASIN S Peak Elev=20.32' Storage=0.337 af Inflow=3.54 cfs 0.488 af
Outflow=0.32 cfs 0.204 af

Pond 111P: BASIN T Peak Elev=19.51' Storage=0.192 af Inflow=1.91 cfs 0.284 af
Outflow=0.09 cfs 0.167 af

Pond 114P: BASIN U Peak Elev=20.38' Storage=0.174 af Inflow=2.92 cfs 0.254 af
Outflow=0.14 cfs 0.135 af

Pond 117P: BASIN V Peak Elev=37.94' Storage=0.101 af Inflow=1.20 cfs 0.144 af
Outflow=0.09 cfs 0.048 af

Link 46L: DA North Inflow=76.88 cfs 17.785 af
Primary=76.88 cfs 17.785 af

Link 51L: DA Undetained Inflow=17.38 cfs 3.630 af
Primary=17.38 cfs 3.630 af

Link 52L: X Inflow=11.98 cfs 2.110 af
Primary=11.98 cfs 2.110 af

Link 53L: W Inflow=14.56 cfs 2.972 af
Primary=14.56 cfs 2.972 af

Link 58L: Y Inflow=23.39 cfs 3.294 af
Primary=23.39 cfs 3.294 af

Total Runoff Area = 87.480 ac Runoff Volume = 20.518 af Average Runoff Depth = 2.81"
66.43% Pervious = 58.110 ac 33.57% Impervious = 29.370 ac

Summary for Subcatchment 54S: Y - OFFSITE UNDISTURBED

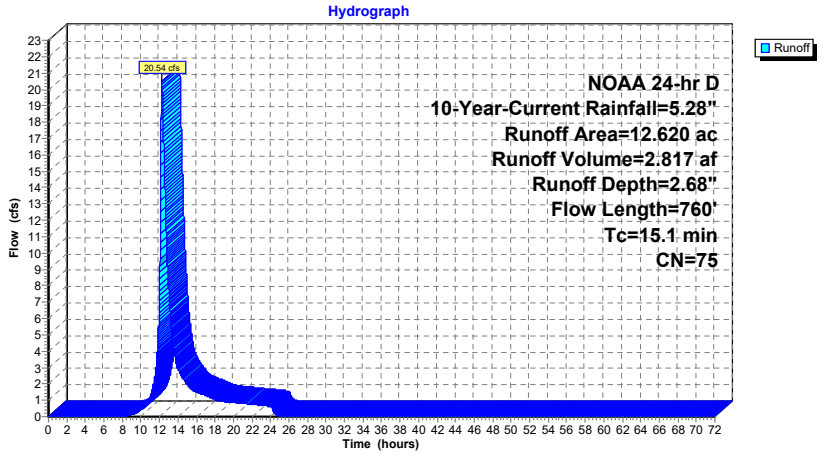
Runoff = 20.54 cfs @ 12.25 hrs, Volume= 2.817 af, Depth= 2.68"
Routed to Link 58L : Y

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

Area (ac)	CN	Description
12.620	75	1/4 acre lots, 38% imp, HSG B
7.824		62.00% Pervious Area
4.796		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.1	100	0.0350	0.15		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.5	280	0.0370	3.10		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.5	380	0.0240	2.49		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
15.1	760	Total			

Subcatchment 54S: Y - OFFSITE UNDISTURBED



Summary for Subcatchment 56S: W- OFFSITE UNDISTURBED

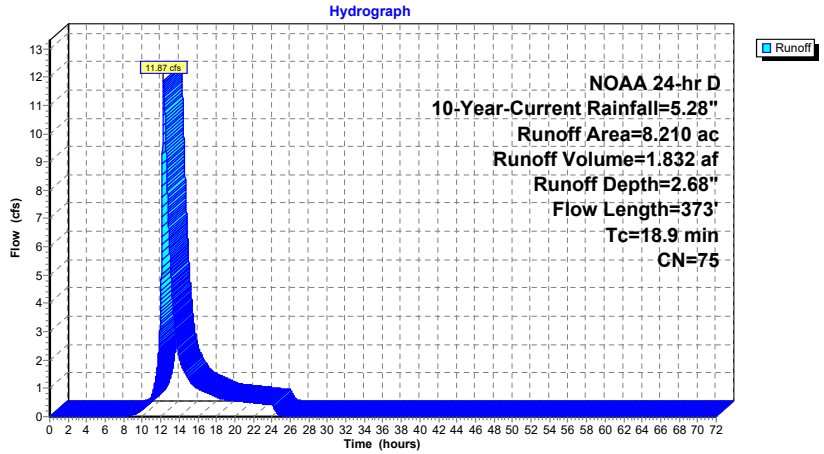
Runoff = 11.87 cfs @ 12.31 hrs, Volume= 1.832 af, Depth= 2.68"
Routed to Link 53L : W

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

Area (ac)	CN	Description
8.210	75	1/4 acre lots, 38% imp, HSG B
5.090		62.00% Pervious Area
3.120		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	100	0.0120	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.38"
0.9	179	0.0410	3.26		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.0	94	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.9	373	Total			

Subcatchment 56S: W- OFFSITE UNDISTURBED



Summary for Subcatchment 57S: Pipe Y

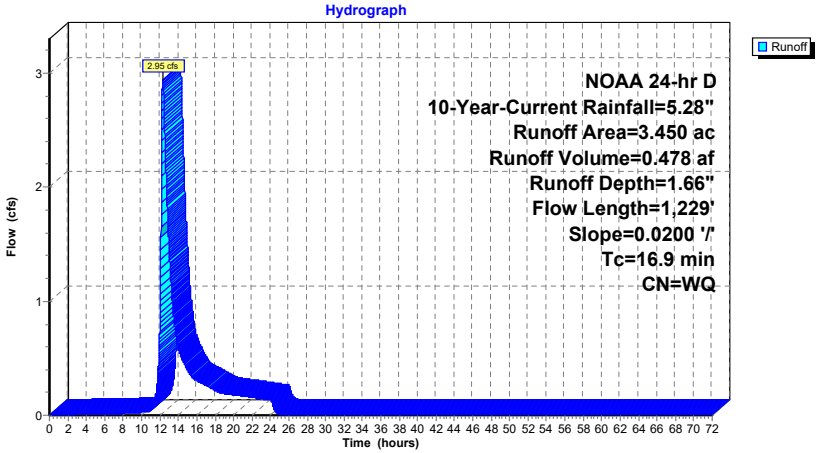
Runoff = 2.95 cfs @ 12.29 hrs, Volume= 0.478 af, Depth= 1.66"
Routed to Link 58L : Y

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	3.330	61	Open Space
*	0.000	98	Road/Sidewalk
*	0.120	98	Roof
*	0.000	98	Driveway
	3.450		Weighted Average
	3.330		96.52% Pervious Area
	0.120		3.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.2	170	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
6.2	936		2.50		**Direct Entry,**
0.4	64		2.50		**Direct Entry,**
16.9	1,229	Total			

Subcatchment 57S: Pipe Y



Summary for Subcatchment 59S: X - OFFSITE UNDISTURBED

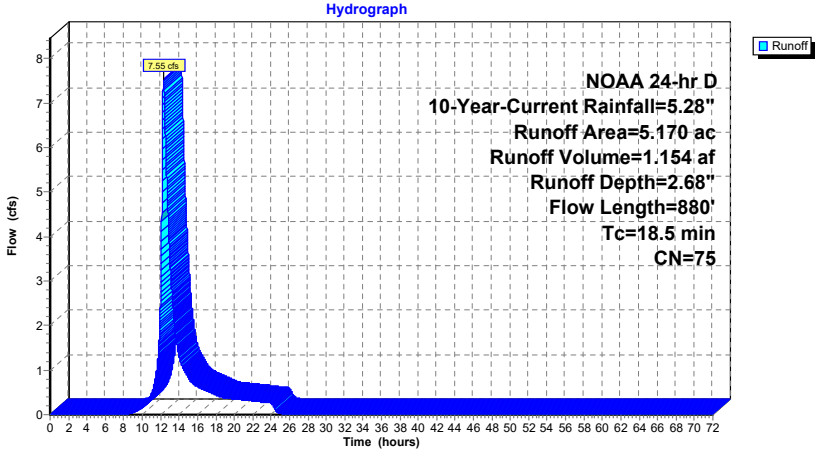
Runoff = 7.55 cfs @ 12.30 hrs, Volume= 1.154 af, Depth= 2.68"
Routed to Link 52L : X

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

Area (ac)	CN	Description
5.170	75	1/4 acre lots, 38% imp, HSG B
3.205		62.00% Pervious Area
1.965		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	100	0.0200	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.4	408	0.0320	2.88		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.2	372	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.5	880	Total			

Subcatchment 59S: X - OFFSITE UNDISTURBED



Summary for Subcatchment 60S: BASIN A - DA

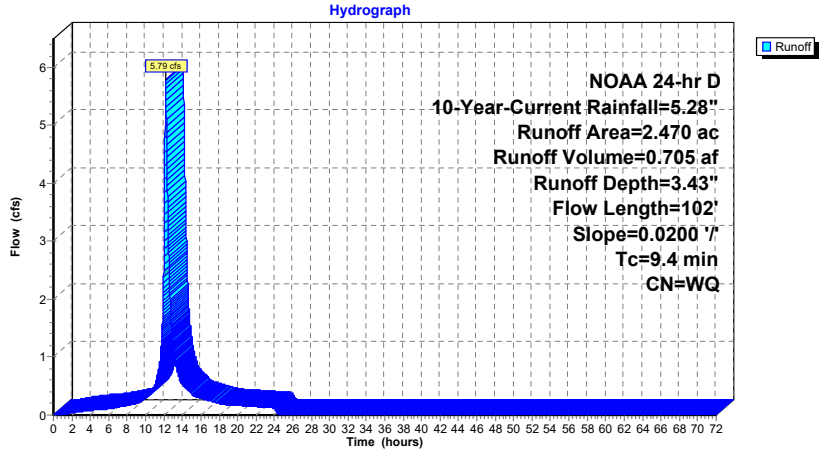
Runoff = 5.79 cfs @ 12.18 hrs, Volume= 0.705 af, Depth= 3.43"
Routed to Pond 52P : BASIN A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	1.140	61	Open Space
*	0.600	98	Road
*	0.130	98	Sidewalk
*	0.300	98	Roof
*	0.300	98	Driveway & Apron
	2.470		Weighted Average
	1.140		46.15% Pervious Area
	1.330		53.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	43	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	102	Total			

Subcatchment 60S: BASIN A - DA



Summary for Subcatchment 61S: BASIN I - DA

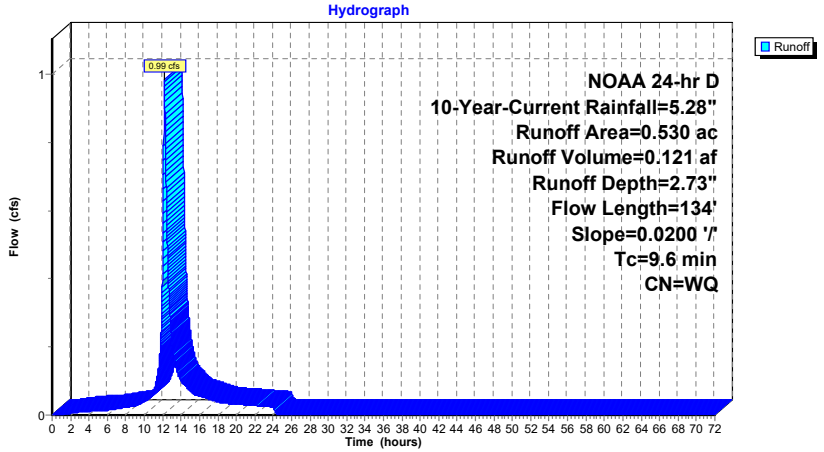
Runoff = 0.99 cfs @ 12.18 hrs, Volume= 0.121 af, Depth= 2.73"
Routed to Pond 64P : BASIN I

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.180	98	Roof
*	0.000	98	Driveway & Apron
	0.530		Weighted Average
	0.350		66.04% Pervious Area
	0.180		33.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.5	75	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.6	134	Total			

Subcatchment 61S: BASIN I - DA



Summary for Subcatchment 62S: Undetained

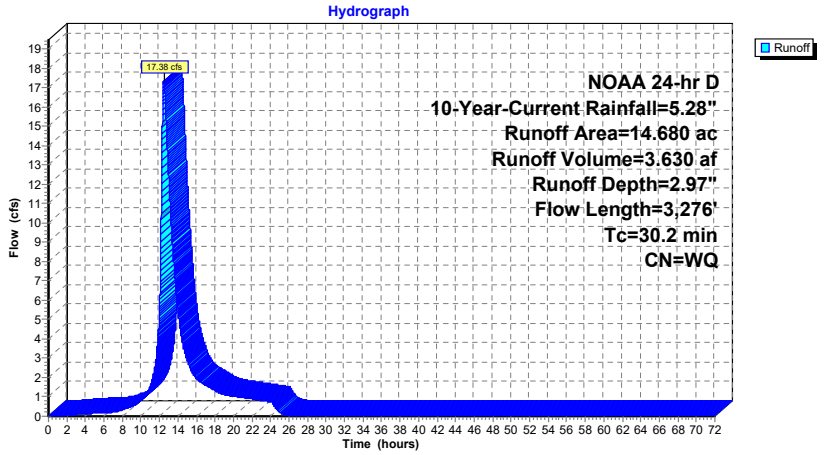
Runoff = 17.38 cfs @ 12.48 hrs, Volume= 3.630 af, Depth= 2.97"
Routed to Link 51L : DA Undetained

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
	3.170	61	>75% Grass cover, Good, HSG B
	0.870	55	Woods, Good, HSG B
	8.150	80	>75% Grass cover, Good, HSG D
	0.200	77	Woods, Good, HSG D
*	0.730	98	Water Surface, HSG D
*	0.740	98	Roofs, HSG B
*	0.570	98	Roofs, HSG D
	0.130	98	Paved parking, HSG B
	0.120	98	Unconnected pavement, HSG B
	14.680		Weighted Average
	12.390		84.40% Pervious Area
	2.290		15.60% Impervious Area
	0.120		5.24% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	88	0.0450	0.16		**Sheet Flow, Sheet Flow - Grass**
					Grass: Dense n= 0.240 P2= 3.38"
					Using McCuen-Spiess flow length
1.3	216	0.0300	2.79		**Shallow Concentrated Flow, SCF - Unpaved**
					Unpaved Kv= 16.1 fps
19.8	2,972		2.50		**Direct Entry,**
30.2	3,276	Total			

Subcatchment 62S: Undetained



Summary for Subcatchment 63S: BASIN N - DA

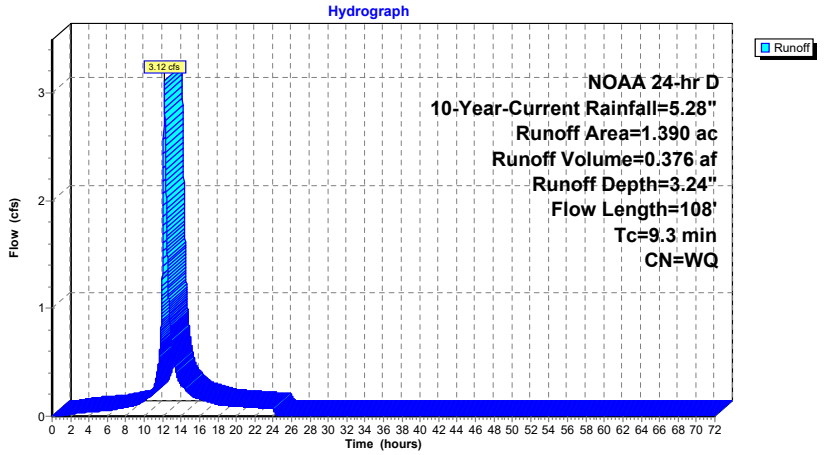
Runoff = 3.12 cfs @ 12.18 hrs, Volume= 0.376 af, Depth= 3.24"
Routed to Pond 90P : BASIN N

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.080	80	Open Space, HSG D
*	0.160	98	Road
*	0.040	98	Sidewalk
*	0.300	98	Roof
*	0.140	98	Driveway & Apron
	1.390		Weighted Average
	0.750		53.96% Pervious Area
	0.640		46.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass**
					Grass: Dense n= 0.240 P2= 3.38"
					Using McCuen-Spiess flow length
0.2	49	0.0600	3.94		**Shallow Concentrated Flow, SCF - Unpaved**
					Unpaved Kv= 16.1 fps
9.3	108	Total			

Subcatchment 63S: BASIN N - DA



Summary for Subcatchment 64S: BASIN E - DA

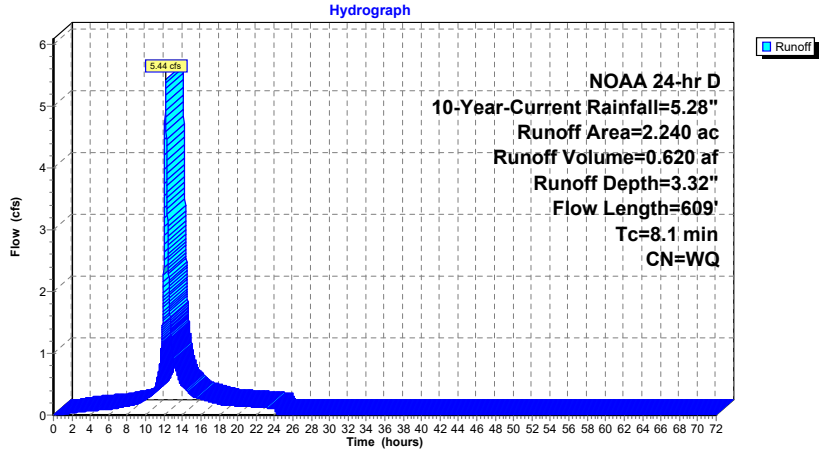
Runoff = 5.44 cfs @ 12.17 hrs, Volume= 0.620 af, Depth= 3.32"
Routed to Pond 65P : BASIN E

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	1.100	61	Open Space
*	0.450	98	Road
*	0.110	98	Sidewalk
*	0.240	98	Roof
*	0.340	98	Driveway & Apron
	2.240		Weighted Average
	1.100		49.11% Pervious Area
	1.140		50.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0500	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.5	300	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.9	279		2.50		**Direct Entry, Pipe**
8.1	609	Total			

Subcatchment 64S: BASIN E - DA



Summary for Subcatchment 65S: BASIN V - DA

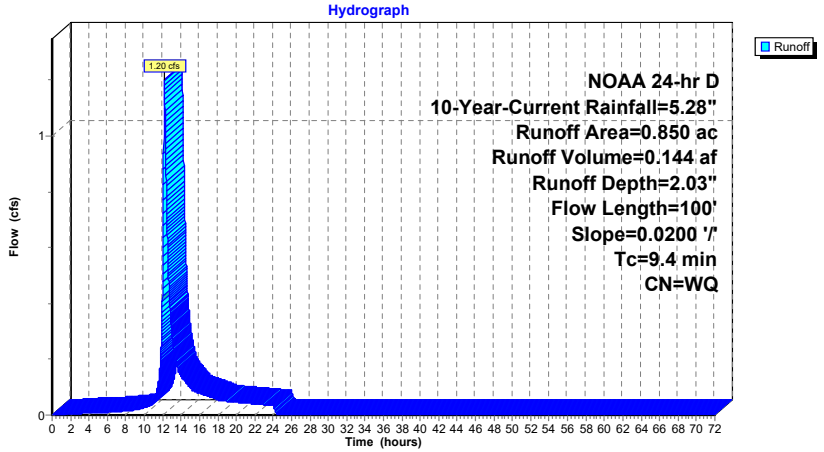
Runoff = 1.20 cfs @ 12.18 hrs, Volume= 0.144 af, Depth= 2.03"
Routed to Pond 117P : BASIN V

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.730	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.120	98	Roof
*	0.000	98	Driveway & Apron
	0.850		Weighted Average
	0.730		85.88% Pervious Area
	0.120		14.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	41	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	100	Total			

Subcatchment 65S: BASIN V - DA



Summary for Subcatchment 67S: Pipe W

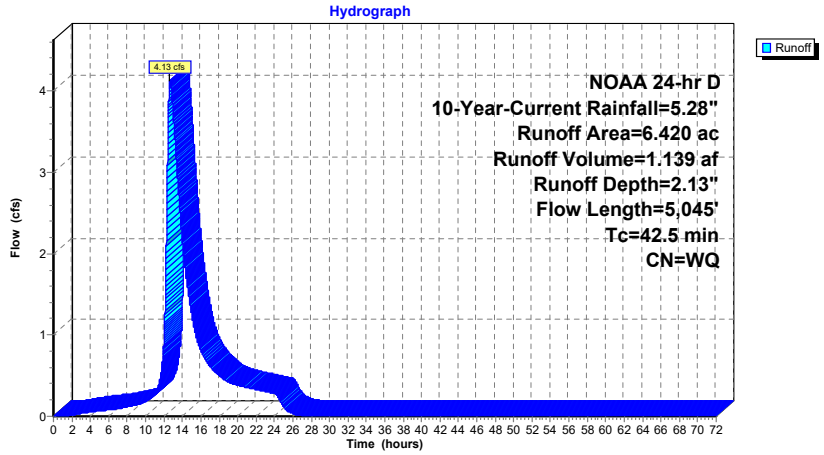
Runoff = 4.13 cfs @ 12.66 hrs, Volume= 1.139 af, Depth= 2.13"
Routed to Link 53L : W

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

Area (ac)	CN	Description
5.340	61	>75% Grass cover, Good, HSG B
1.080	98	Roofs, HSG B
6.420		Weighted Average
5.340		83.18% Pervious Area
1.080		16.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	66	0.0250	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.1	144	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
12.2	1,824		2.50		**Direct Entry,**
20.1	3,011		2.50		**Direct Entry,**
42.5	5,045	Total			

Subcatchment 67S: Pipe W



Summary for Subcatchment 68S: BASIN K - DA

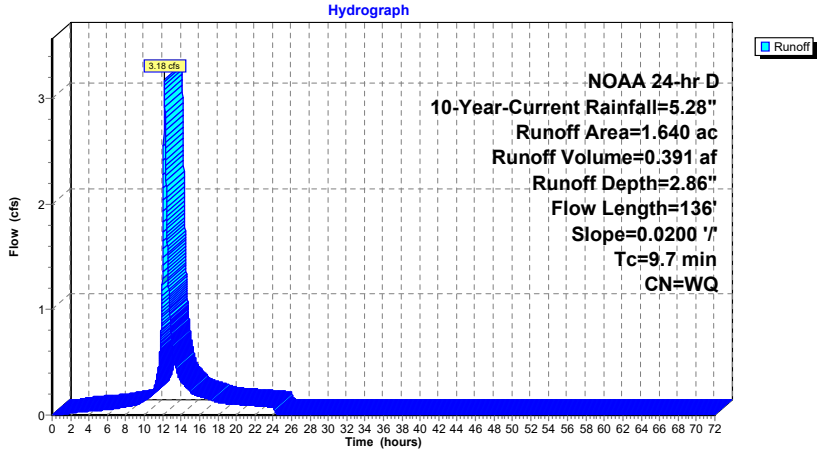
Runoff = 3.18 cfs @ 12.18 hrs, Volume= 0.391 af, Depth= 2.86"
Routed to Pond 70P : BASIN K

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	1.020	61	Open Space
*	0.000	98	Road
*	0.020	98	Sidewalk
*	0.600	98	Roof
*	0.000	98	Driveway & Apron
	1.640		Weighted Average
	1.020		62.20% Pervious Area
	0.620		37.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.6	77	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.7	136	Total			

Subcatchment 68S: BASIN K - DA



Summary for Subcatchment 69S: BASIN O - DA

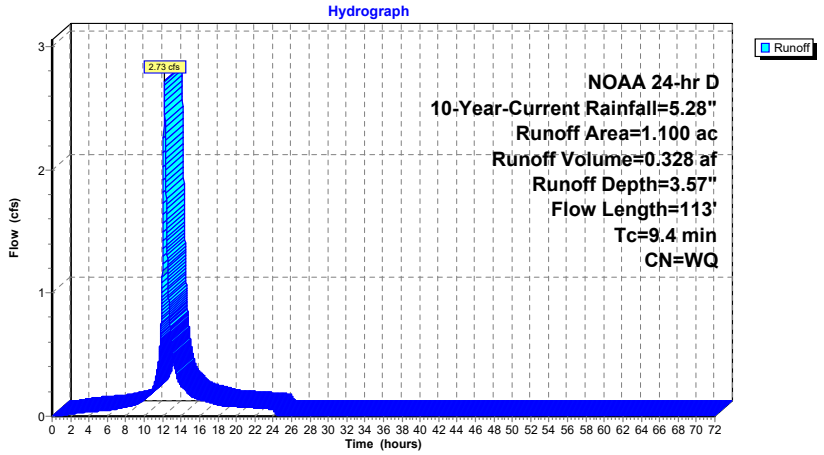
Runoff = 2.73 cfs @ 12.18 hrs, Volume= 0.328 af, Depth= 3.57"
Routed to Pond 93P : BASIN O

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.380	61	Open Space
*	0.150	80	Open Space, HSG D
*	0.150	98	Road
*	0.040	98	Sidewalk
*	0.240	98	Roof
*	0.140	98	Driveway & Apron
	1.100		Weighted Average
	0.530		48.18% Pervious Area
	0.570		51.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass**
					Grass: Dense n= 0.240 P2= 3.38"
					Using McCuen-Spiess flow length
0.3	54	0.0300	2.79		**Shallow Concentrated Flow, SCF - Unpaved**
					Unpaved Kv= 16.1 fps
9.4	113	Total			

Subcatchment 69S: BASIN O - DA



Summary for Subcatchment 70S: Pipe X

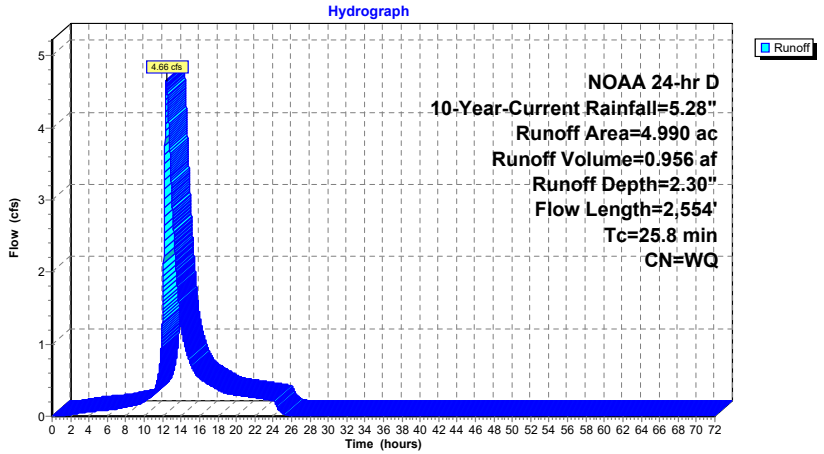
Runoff = 4.66 cfs @ 12.39 hrs, Volume= 0.956 af, Depth= 2.30"
Routed to Link 52L : X

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	3.910	61	Open Space
*	0.000	98	Road/Sidewalk
*	1.080	98	Roof
*	0.000	98	Driveway
	4.990		Weighted Average
	3.910		78.36% Pervious Area
	1.080		21.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.2	168	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
7.4	1,103		2.50		**Direct Entry,**
0.8	123	0.0250	2.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.3	1,101		2.50		**Direct Entry,**
25.8	2,554	Total			

Subcatchment 70S: Pipe X



Summary for Subcatchment 71S: BASIN B - DA

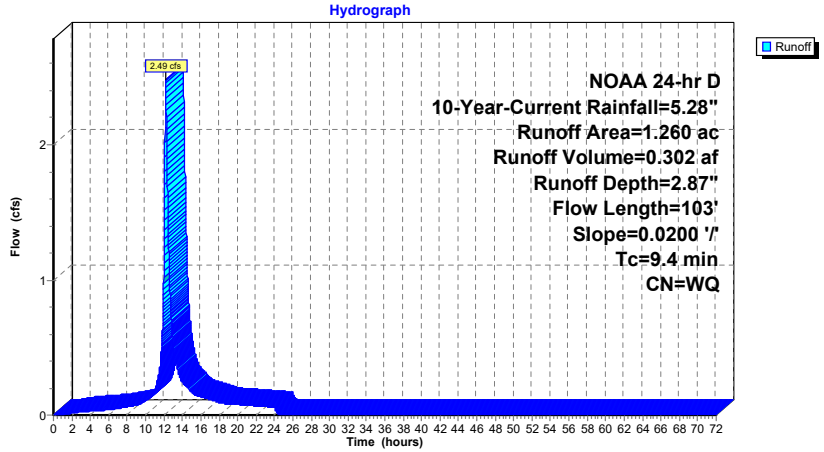
Runoff = 2.49 cfs @ 12.18 hrs, Volume= 0.302 af, Depth= 2.87"
Routed to Pond 74P : BASIN B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.780	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.480	98	Roof
*	0.000	98	Driveway
	1.260		Weighted Average
	0.780		61.90% Pervious Area
	0.480		38.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 71S: BASIN B - DA



Summary for Subcatchment 73S: BASIN C - DA

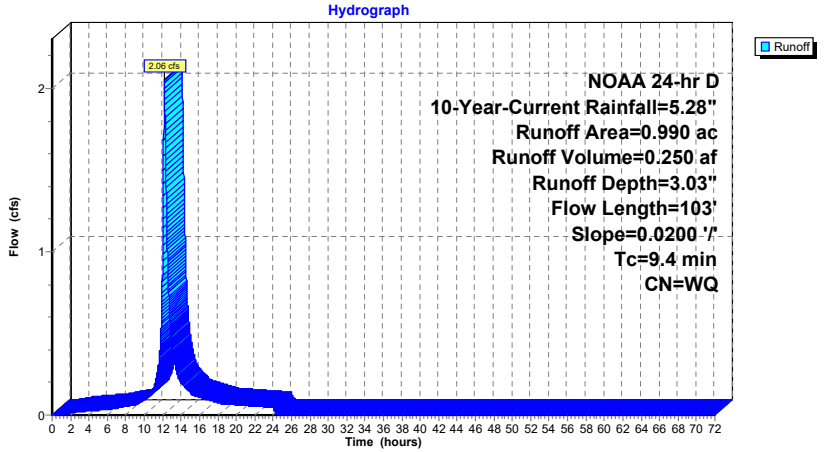
Runoff = 2.06 cfs @ 12.18 hrs, Volume= 0.250 af, Depth= 3.03"
Routed to Pond 59P : BASIN C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.570	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.420	98	Roof
*	0.000	98	Driveway
	0.990		Weighted Average
	0.570		57.58% Pervious Area
	0.420		42.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 73S: BASIN C - DA



Summary for Subcatchment 75S: BASIN M - DA

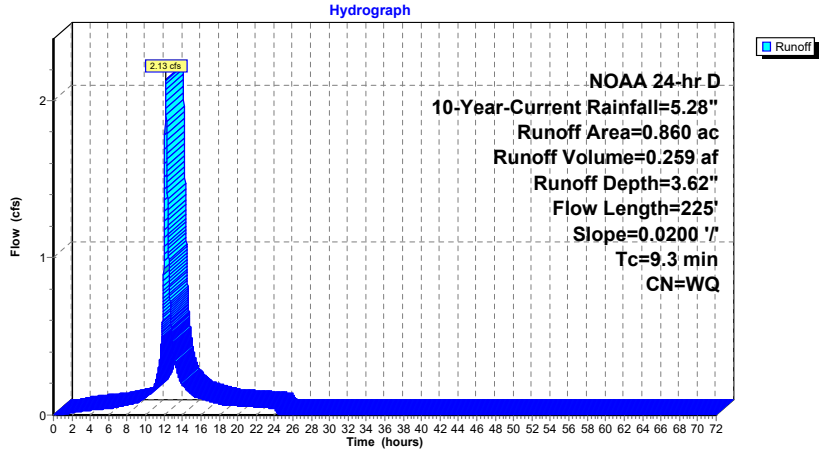
Runoff = 2.13 cfs @ 12.18 hrs, Volume= 0.259 af, Depth= 3.62"
Routed to Pond 76P : BASIN M

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.280	98	Road
*	0.050	98	Sidewalk
*	0.060	98	Roof
*	0.120	98	Driveway & Apron
	0.860		Weighted Average
	0.350		40.70% Pervious Area
	0.510		59.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	52	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
0.5	87	0.0200	2.87		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
0.6	86		2.50		**Direct Entry, Pipe**
9.3	225	Total			

Subcatchment 75S: BASIN M - DA



Summary for Subcatchment 76S: BASIN F - DA

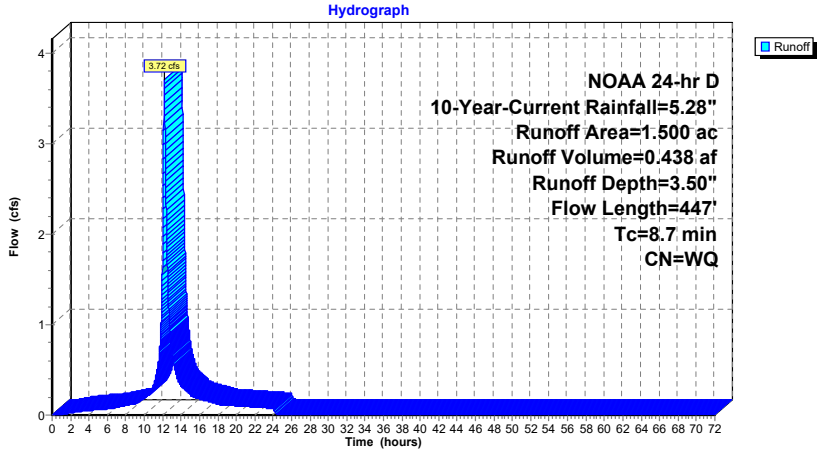
Runoff = 3.72 cfs @ 12.17 hrs, Volume= 0.438 af, Depth= 3.50"
Routed to Pond 83P : BASIN F

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.660	61	Open Space
*	0.440	98	Road
*	0.100	98	Sidewalk
*	0.120	98	Roof
*	0.180	98	Driveway & Apron
	1.500		Weighted Average
	0.660		44.00% Pervious Area
	0.840		56.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	33	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.3	158	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.7	256		2.50		**Direct Entry, Pipe**
8.7	447	Total			

Subcatchment 76S: BASIN F - DA



Summary for Subcatchment 77S: BASIN D - DA

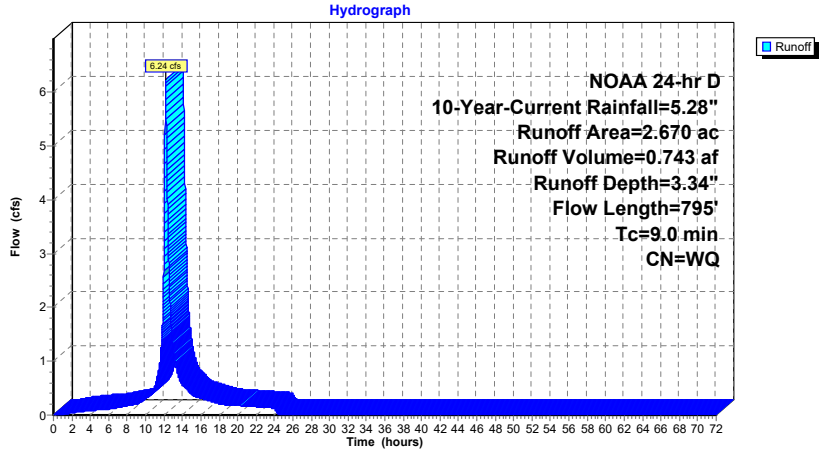
Runoff = 6.24 cfs @ 12.18 hrs, Volume= 0.743 af, Depth= 3.34"
Routed to Pond 75P : BASIN D

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	1.300	61	Open Space
*	0.430	98	Road
*	0.120	98	Sidewalk
*	0.420	98	Roof
*	0.400	98	Driveway & Apron
	2.670		Weighted Average
	1.300		48.69% Pervious Area
	1.370		51.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0500	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.2	300	0.0120	2.22		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
3.1	465		2.50		**Direct Entry, Pipe**
9.0	795	Total			

Subcatchment 77S: BASIN D - DA



Summary for Subcatchment 83S: BASIN L - DA

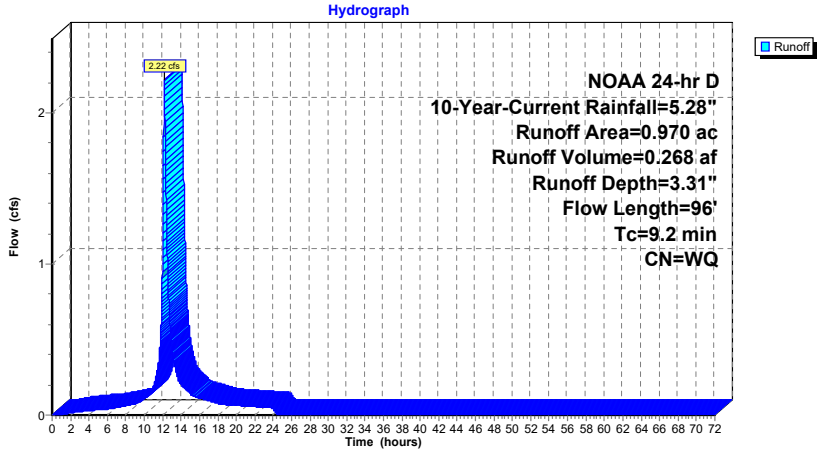
Runoff = 2.22 cfs @ 12.18 hrs, Volume= 0.268 af, Depth= 3.31"
Routed to Pond 84P : BASIN L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.480	61	Open Space
*	0.220	98	Road
*	0.050	98	Sidewalk
*	0.120	98	Roof
*	0.100	98	Driveway & Apron
	0.970		Weighted Average
	0.480		49.48% Pervious Area
	0.490		50.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	37	0.0800	4.55		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.2	96	Total			

Subcatchment 83S: BASIN L - DA



Summary for Subcatchment 85S: BASIN G - DA

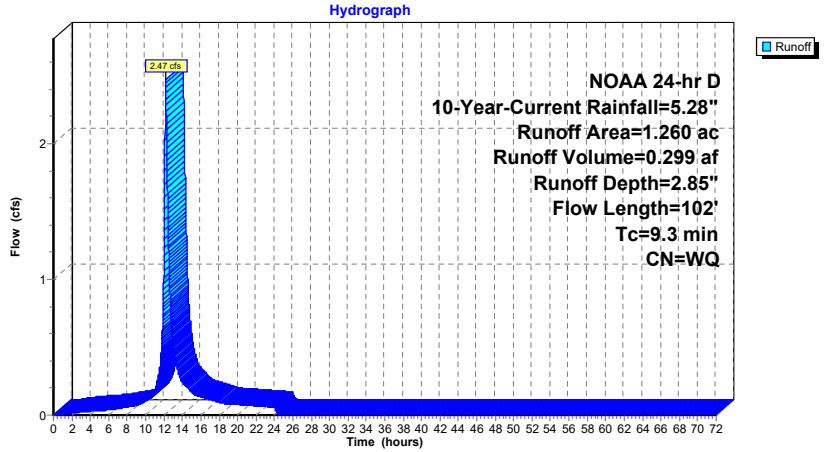
Runoff = 2.47 cfs @ 12.18 hrs, Volume= 0.299 af, Depth= 2.85"
Routed to Pond 86P : BASIN G

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.790	61	Open Space
*	0.060	98	Road
*	0.010	98	Sidewalk
*	0.360	98	Roof
*	0.040	98	Driveway & Apron
	1.260		Weighted Average
	0.790		62.70% Pervious Area
	0.470		37.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.2	43	0.0350	3.01		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.3	102	Total			

Subcatchment 85S: BASIN G - DA



Summary for Subcatchment 88S: BASIN H - DA

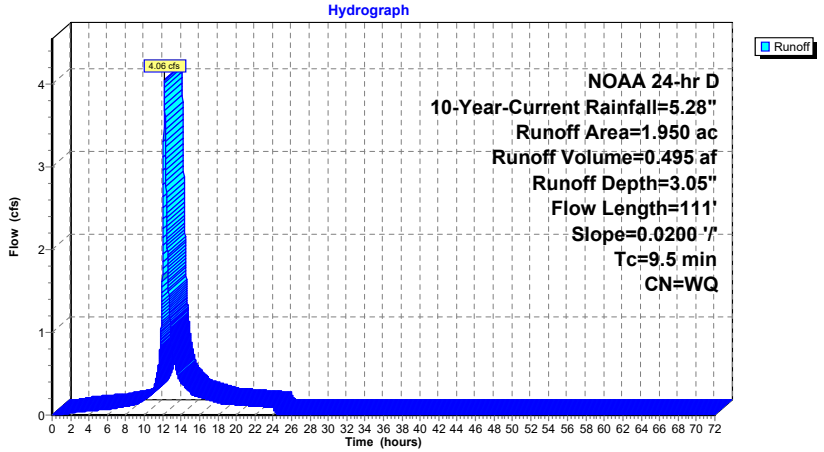
Runoff = 4.06 cfs @ 12.18 hrs, Volume= 0.495 af, Depth= 3.05"
Routed to Pond 60P : BASIN H

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	1.110	61	Open Space
*	0.230	98	Road
*	0.050	98	Sidewalk
*	0.420	98	Roof
*	0.140	98	Driveway & Apron
	1.950		Weighted Average
	1.110		56.92% Pervious Area
	0.840		43.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.4	52	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.5	111	Total			

Subcatchment 88S: BASIN H - DA



Summary for Subcatchment 98S: BASIN P - DA

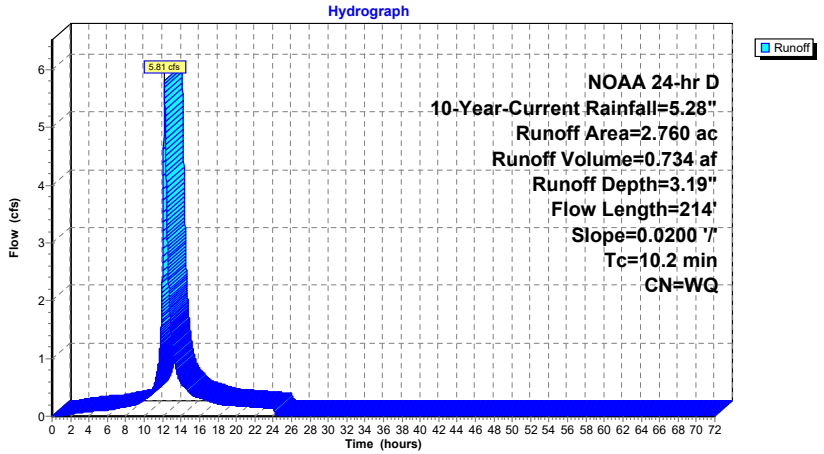
Runoff = 5.81 cfs @ 12.19 hrs, Volume= 0.734 af, Depth= 3.19"
Routed to Pond 63P : BASIN P

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	1.460	61	Open Space
*	0.410	98	Road
*	0.110	98	Sidewalk
*	0.420	98	Roof
*	0.360	98	Driveway & Apron
	2.760		Weighted Average
	1.460		52.90% Pervious Area
	1.300		47.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.7	99	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
0.4	56		2.50		**Direct Entry,**
10.2	214	Total			

Subcatchment 98S: BASIN P - DA



Summary for Subcatchment 101S: BASIN Q - DA

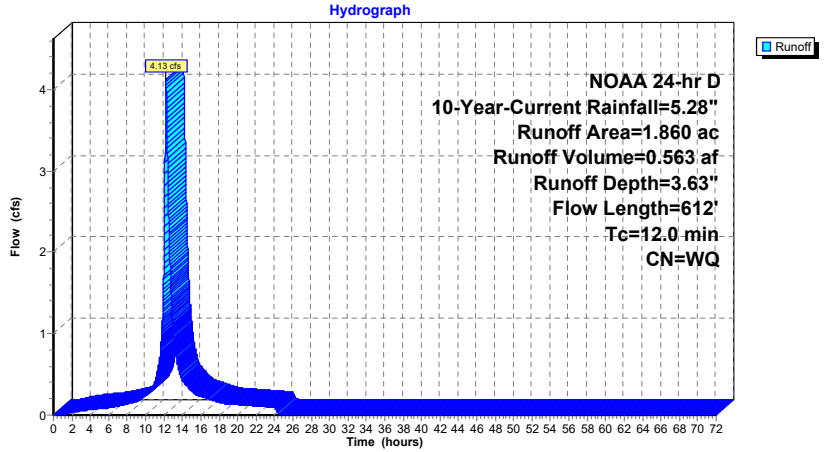
Runoff = 4.13 cfs @ 12.21 hrs, Volume= 0.563 af, Depth= 3.63"
Routed to Pond 102P : BASIN Q

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.750	61	Open Space
*	0.570	98	Road
*	0.140	98	Sidewalk
*	0.060	98	Roof
*	0.340	98	Driveway & Apron
	1.860		Weighted Average
	0.750		40.32% Pervious Area
	1.110		59.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	49	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.3	283	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.9	280		2.50		**Direct Entry, Pipe**
12.0	612	Total			

Subcatchment 101S: BASIN Q - DA



Summary for Subcatchment 104S: BASIN R - DA

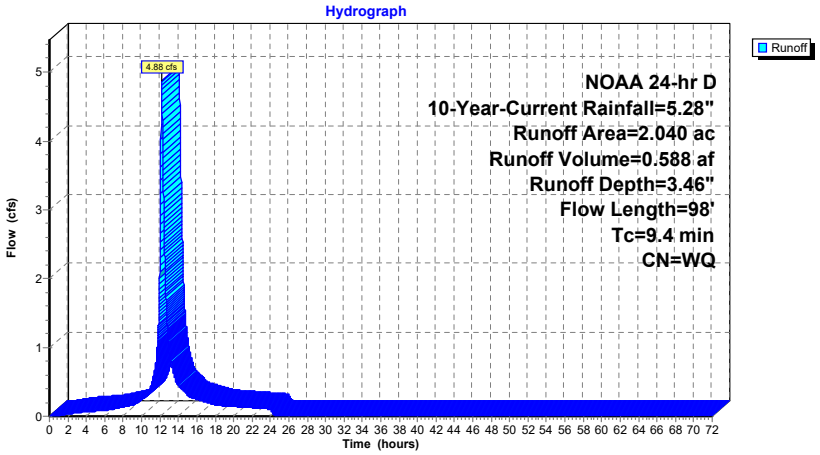
Runoff = 4.88 cfs @ 12.18 hrs, Volume= 0.588 af, Depth= 3.46"
Routed to Pond 105P : BASIN R

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
	0.810	61	>75% Grass cover, Good, HSG B
*	0.350	98	Road
*	0.090	98	Sidewalk
*	0.300	98	Roof
*	0.280	98	Driveway & Apron
	0.210	80	>75% Grass cover, Good, HSG D
	2.040		Weighted Average
	1.020		50.00% Pervious Area
	1.020		50.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	39	0.0250	2.55		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	98	Total			

Subcatchment 104S: BASIN R - DA



Summary for Subcatchment 107S: BASIN S - DA

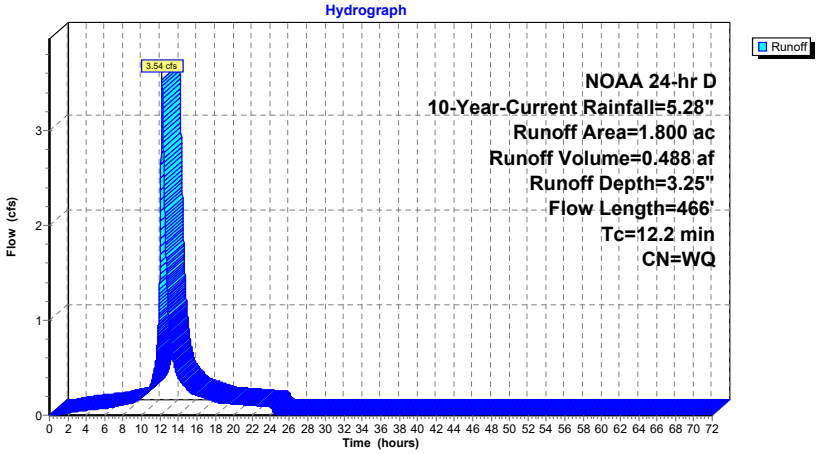
Runoff = 3.54 cfs @ 12.22 hrs, Volume= 0.488 af, Depth= 3.25"
Routed to Pond 108P : BASIN S

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.920	61	Open Space
*	0.590	98	Road
*	0.190	98	Sidewalk
*	0.080	98	Roof
*	0.020	98	Driveway & Apron
	1.800		Weighted Average
	0.920		51.11% Pervious Area
	0.880		48.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	6	0.0100	1.61		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
1.4	167	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.6	234		2.50		**Direct Entry, Pipe**
12.2	466	Total			

Subcatchment 107S: BASIN S - DA



Summary for Subcatchment 110S: BASIN T - DA

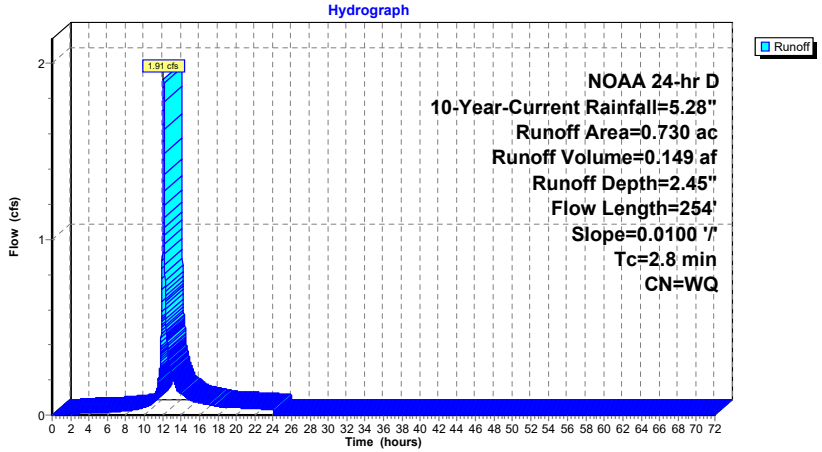
Runoff = 1.91 cfs @ 12.11 hrs, Volume= 0.149 af, Depth= 2.45"
Routed to Pond 111P : BASIN T

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.540	61	Open Space
*	0.140	98	Road
*	0.050	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	0.730		Weighted Average
	0.540		73.97% Pervious Area
	0.190		26.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.07		**Sheet Flow, Sheet Flow - Smooth Surfaces** Smooth surfaces n= 0.011 P2= 3.38"
0.8	93	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
0.4	61		2.50		**Direct Entry, Pipe**
2.8	254	Total			

Subcatchment 110S: BASIN T - DA



Summary for Subcatchment 113S: BASIN U - DA

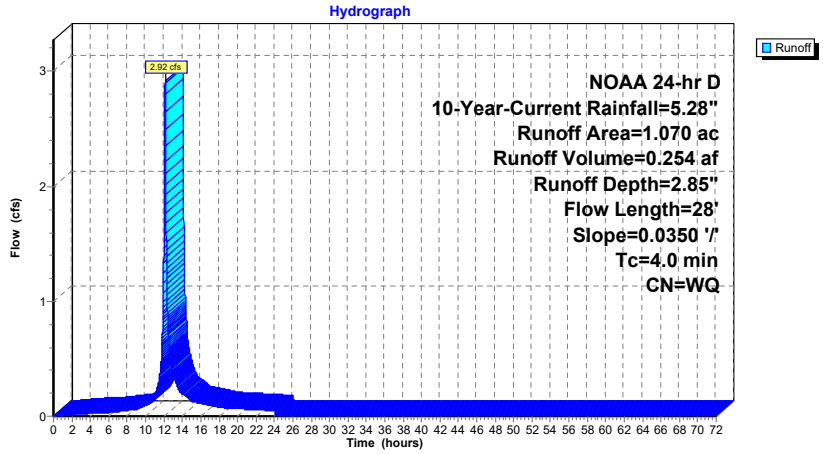
Runoff = 2.92 cfs @ 12.12 hrs, Volume= 0.254 af, Depth= 2.85"
Routed to Pond 114P : BASIN U

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.330	98	Road
*	0.070	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	1.070		Weighted Average
	0.670		62.62% Pervious Area
	0.400		37.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	28	0.0350	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"

Subcatchment 113S: BASIN U - DA



Summary for Pond 52P: BASIN A

Inflow Area = 2.470 ac, 53.85% Impervious, Inflow Depth = 3.43" for 10-Year-Current event
Inflow = 5.79 cfs @ 12.18 hrs, Volume= 0.705 af
Outflow = 0.19 cfs @ 18.43 hrs, Volume= 0.528 af, Atten= 97%, Lag= 375.0 min
Primary = 0.19 cfs @ 18.43 hrs, Volume= 0.528 af
Routed to Pond 74P : BASIN B

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 34.13' @ 18.43 hrs Surf.Area= 0.315 ac Storage= 0.540 af

Plug-Flow detention time= 1,253.2 min calculated for 0.528 af (75% of inflow)
Center-of-Mass det. time= 1,153.0 min (1,938.0 - 785.0)

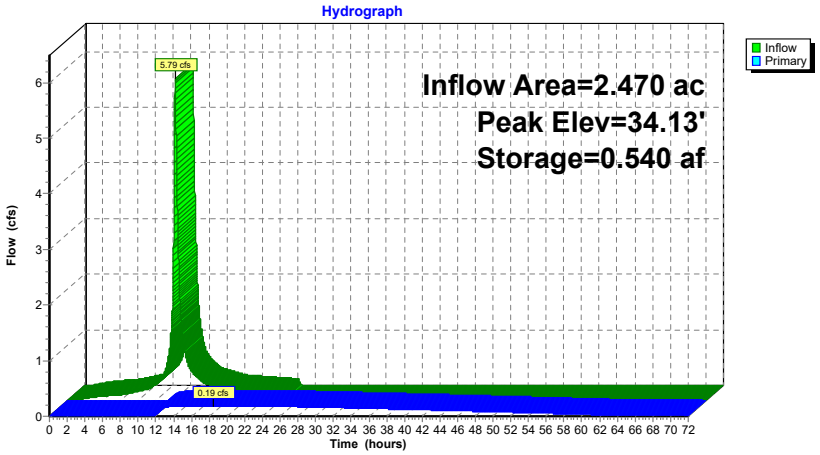
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.233 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.192	0.000	0.000
33.00	0.249	0.220	0.220
34.00	0.307	0.278	0.499
35.00	0.367	0.337	0.836
36.00	0.428	0.397	1.233

Device	Routing	Invert	Outlet Devices
#1	Primary	35.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.75'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.19 cfs @ 18.43 hrs HW=34.13' TW=31.59' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.19 cfs @ 5.45 fps)

Pond 52P: BASIN A



Summary for Pond 59P: BASIN C

Inflow Area = 4.720 ac, 47.25% Impervious, Inflow Depth > 2.56" for 10-Year-Current event
Inflow = 2.26 cfs @ 12.40 hrs, Volume= 1.007 af
Outflow = 2.16 cfs @ 12.54 hrs, Volume= 0.963 af, Atten= 4%, Lag= 8.6 min
Primary = 2.16 cfs @ 12.54 hrs, Volume= 0.963 af
Routed to Pond 75P : BASIN D

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 29.99' @ 12.54 hrs Surf.Area= 0.065 ac Storage= 0.073 af

Plug-Flow detention time= 164.8 min calculated for 0.963 af (96% of inflow)
Center-of-Mass det. time= 61.5 min (1,586.5 - 1,524.9)

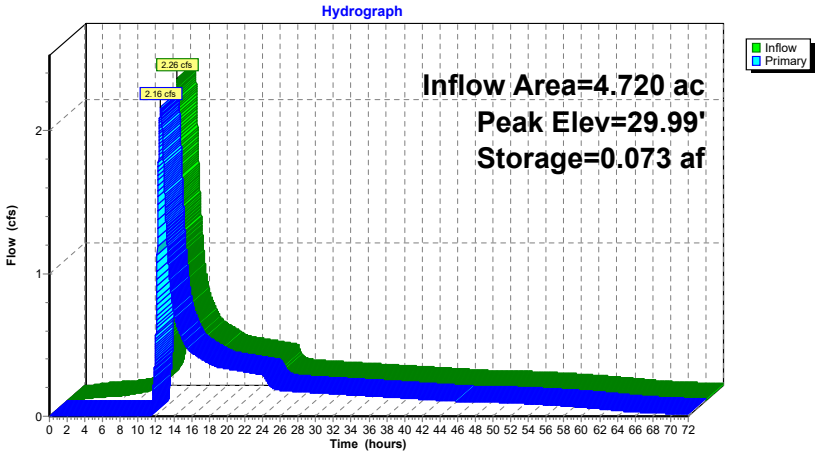
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.198 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.033	0.000	0.000
29.50	0.054	0.043	0.043
30.50	0.077	0.065	0.109
31.50	0.101	0.089	0.198

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	29.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=2.16 cfs @ 12.54 hrs HW=29.99' TW=28.36' (Dynamic Tailwater)
└**1=Grate** (Controls 0.00 cfs)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 2.16 cfs @ 2.30 fps)

Pond 59P: BASIN C



Summary for Pond 60P: BASIN H

Inflow Area = 4.710 ac, 45.65% Impervious, Inflow Depth > 2.44" for 10-Year-Current event
Inflow = 4.15 cfs @ 12.18 hrs, Volume= 0.956 af
Outflow = 0.45 cfs @ 16.49 hrs, Volume= 0.828 af, Atten= 89%, Lag= 258.7 min
Primary = 0.45 cfs @ 16.49 hrs, Volume= 0.828 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 30.37' @ 16.49 hrs Surf.Area= 0.279 ac Storage= 0.463 af

Plug-Flow detention time= 1,109.6 min calculated for 0.828 af (87% of inflow)
Center-of-Mass det. time= 913.7 min (2,046.7 - 1,133.0)

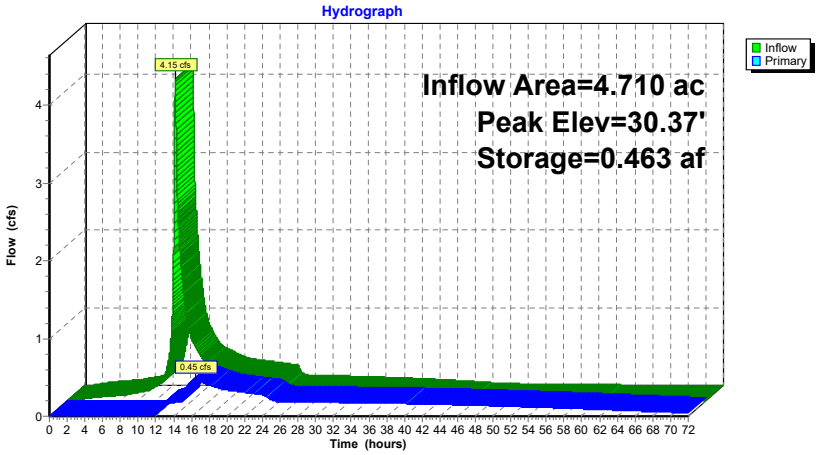
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.799 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.216	0.000	0.000
29.00	0.232	0.112	0.112
30.00	0.266	0.249	0.361
31.00	0.301	0.283	0.644
31.50	0.319	0.155	0.799

Device	Routing	Invert	Outlet Devices
#1	Primary	31.20'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.30'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	28.90'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.45 cfs @ 16.49 hrs HW=30.37' TW=28.20' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.26 cfs @ 0.89 fps)
- **3=Orifice** (Orifice Controls 0.19 cfs @ 5.63 fps)

Pond 60P: BASIN H



Summary for Pond 63P: BASIN P

Inflow = 8.62 cfs @ 12.21 hrs, Volume= 1.721 af
Outflow = 2.23 cfs @ 12.78 hrs, Volume= 1.405 af, Atten= 74%, Lag= 34.6 min
Primary = 2.23 cfs @ 12.78 hrs, Volume= 1.405 af
Routed to Pond 65P : BASIN E

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.46' @ 12.75 hrs Surf.Area= 0.267 ac Storage= 0.452 af

Plug-Flow detention time= 633.2 min calculated for 1.405 af (82% of inflow)
Center-of-Mass det. time= 255.4 min (1,661.4 - 1,405.9)

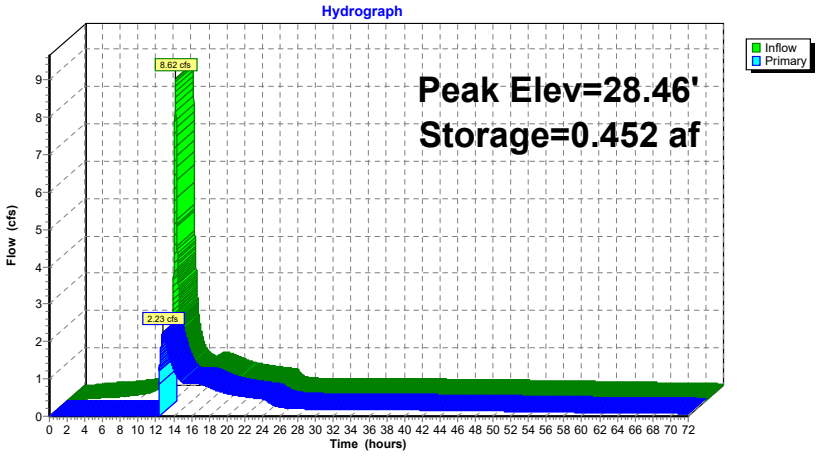
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.910 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.193	0.000	0.000
27.50	0.233	0.213	0.213
28.50	0.268	0.250	0.463
29.50	0.303	0.286	0.749
30.00	0.340	0.161	0.910

Device	Routing	Invert	Outlet Devices
#1	Primary	29.30'	**42.0" x 102.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**3.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.24 cfs @ 12.78 hrs HW=28.46' TW=28.42' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 2.19 cfs @ 1.01 fps)
- **3=Orifice** (Orifice Controls 0.05 cfs @ 0.94 fps)

Pond 63P: BASIN P



Summary for Pond 64P: BASIN I

Inflow Area = 0.530 ac, 33.96% Impervious, Inflow Depth = 2.73" for 10-Year-Current event
Inflow = 0.99 cfs @ 12.18 hrs, Volume= 0.121 af
Outflow = 0.17 cfs @ 13.26 hrs, Volume= 0.097 af, Atten= 83%, Lag= 64.7 min
Primary = 0.17 cfs @ 13.26 hrs, Volume= 0.097 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 30.56' @ 13.26 hrs Surf.Area= 0.038 ac Storage= 0.062 af

Plug-Flow detention time= 285.0 min calculated for 0.097 af (80% of inflow)
Center-of-Mass det. time= 196.9 min (1,004.3 - 807.4)

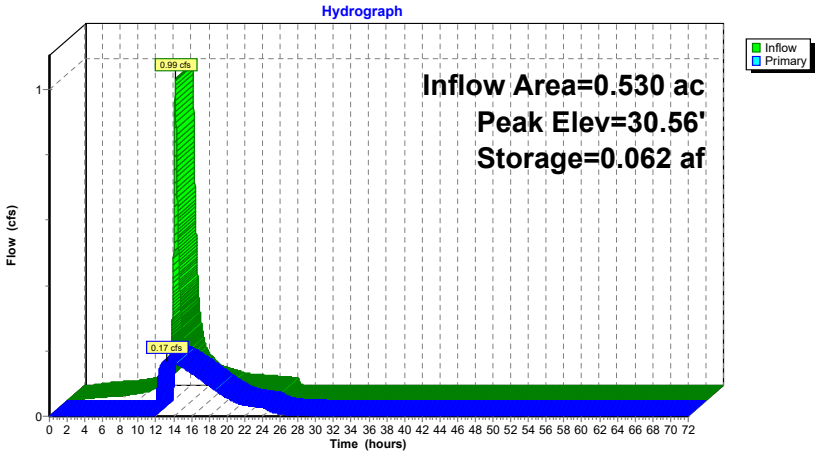
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.101 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.023	0.000	0.000
29.50	0.030	0.026	0.026
30.50	0.037	0.033	0.060
31.50	0.045	0.041	0.101

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.60'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	29.40'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.17 cfs @ 13.26 hrs HW=30.56' TW=28.39' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.17 cfs @ 4.96 fps)

Pond 64P: BASIN I



Summary for Pond 65P: BASIN E

Inflow = 5.44 cfs @ 12.17 hrs, Volume= 2.026 af
Outflow = 4.44 cfs @ 12.23 hrs, Volume= 1.866 af, Atten= 18%, Lag= 4.1 min
Primary = 3.65 cfs @ 12.73 hrs, Volume= 1.804 af
Routed to Link 46L : DA North
Secondary = 2.73 cfs @ 12.23 hrs, Volume= 0.062 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.42' @ 12.73 hrs Surf.Area= 0.154 ac Storage= 0.234 af

Plug-Flow detention time= 302.9 min calculated for 1.865 af (92% of inflow)
Center-of-Mass det. time= 107.9 min (1,501.0 - 1,393.2)

Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.421 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

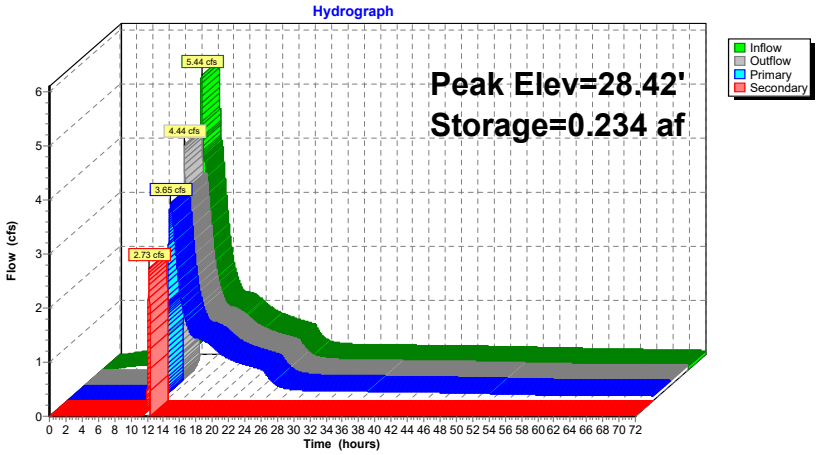
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.091	0.000	0.000
27.50	0.122	0.106	0.106
28.50	0.157	0.139	0.246
29.50	0.193	0.175	0.421

Device	Routing	Invert	Outlet Devices
#1	Primary	28.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#4	Secondary	27.50'	**3.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#5	Secondary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#6	Secondary	29.30'	**42.0" x 102.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.65 cfs @ 12.73 hrs HW=28.42' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 3.50 cfs @ 2.12 fps)
- **3=Orifice** (Orifice Controls 0.15 cfs @ 4.35 fps)

Secondary OutFlow Max=2.68 cfs @ 12.23 hrs HW=28.25' TW=27.95' (Dynamic Tailwater)
- **4=Orifice** (Orifice Controls 0.13 cfs @ 2.63 fps)
- **5=Sharp-Crested Rectangular Weir** (Weir Controls 2.56 cfs @ 1.88 fps)
- **6=Grate** (Controls 0.00 cfs)

Pond 65P: BASIN E



Summary for Pond 70P: BASIN K

Inflow Area = 1.640 ac, 37.80% Impervious, Inflow Depth = 2.86" for 10-Year-Current event
Inflow = 3.18 cfs @ 12.18 hrs, Volume= 0.391 af
Outflow = 0.66 cfs @ 13.07 hrs, Volume= 0.325 af, Atten= 79%, Lag= 53.3 min
Primary = 0.66 cfs @ 13.07 hrs, Volume= 0.325 af
Routed to Pond 90P : BASIN N

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 32.00' @ 13.07 hrs Surf.Area= 0.161 ac Storage= 0.212 af

Plug-Flow detention time= 502.9 min calculated for 0.324 af (83% of inflow)
Center-of-Mass det. time= 422.7 min (1,225.2 - 802.4)

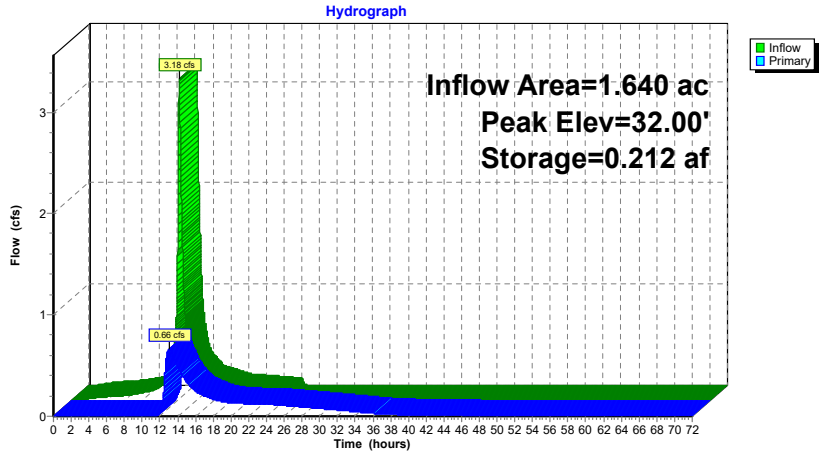
Volume	Invert	Avail.Storage	Storage Description
#1	30.50'	0.484 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.50	0.122	0.000	0.000
31.50	0.148	0.135	0.135
32.50	0.174	0.161	0.296
33.50	0.202	0.188	0.484

Device	Routing	Invert	Outlet Devices
#1	Primary	33.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.70'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.66 cfs @ 13.07 hrs HW=32.00' TW=30.47' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.51 cfs @ 1.79 fps)
- **3=Orifice** (Orifice Controls 0.16 cfs @ 4.56 fps)

Pond 70P: BASIN K



Summary for Pond 74P: BASIN B

Inflow Area = 3.730 ac, 48.53% Impervious, Inflow Depth > 2.67" for 10-Year-Current event
Inflow = 2.58 cfs @ 12.18 hrs, Volume= 0.830 af
Outflow = 1.20 cfs @ 12.60 hrs, Volume= 0.758 af, Atten= 53%, Lag= 25.2 min
Primary = 1.20 cfs @ 12.60 hrs, Volume= 0.758 af
Routed to Pond 59P : BASIN C

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 31.80' @ 12.60 hrs Surf.Area= 0.107 ac Storage= 0.140 af

Plug-Flow detention time= 418.4 min calculated for 0.758 af (91% of inflow)
Center-of-Mass det. time= 240.3 min (1,765.0 - 1,524.7)

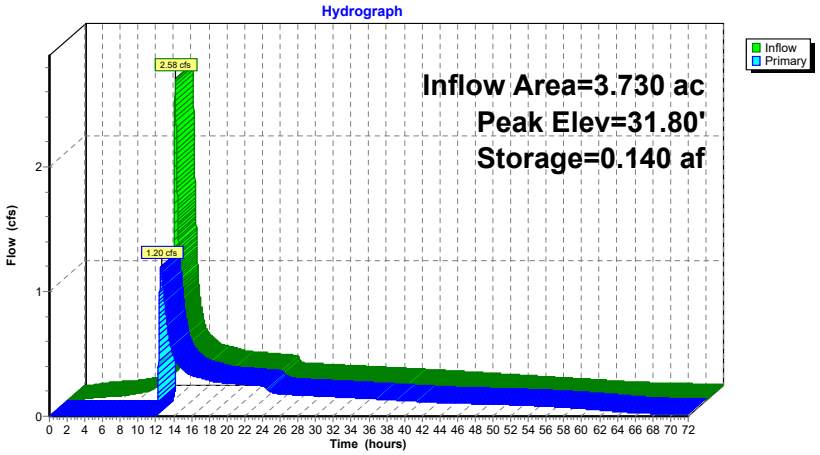
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	0.292 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.00	0.049	0.000	0.000
31.00	0.081	0.065	0.065
32.00	0.113	0.097	0.162
33.00	0.147	0.130	0.292

Device	Routing	Invert	Outlet Devices
#1	Primary	32.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.20 cfs @ 12.60 hrs HW=31.80' TW=29.99' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 1.06 cfs @ 1.80 fps)
- **3=Orifice** (Orifice Controls 0.14 cfs @ 4.03 fps)

Pond 74P: BASIN B



Summary for Pond 75P: BASIN D

Inflow Area = 7.390 ac, 48.71% Impervious, Inflow Depth > 2.77" for 10-Year-Current event
Inflow = 7.62 cfs @ 12.18 hrs, Volume= 1.706 af
Outflow = 4.34 cfs @ 12.64 hrs, Volume= 1.462 af, Atten= 43%, Lag= 27.4 min
Primary = 4.34 cfs @ 12.64 hrs, Volume= 1.462 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.38' @ 12.64 hrs Surf.Area= 0.253 ac Storage= 0.421 af

Plug-Flow detention time= 540.7 min calculated for 1.462 af (86% of inflow)
Center-of-Mass det. time= 261.2 min (1,499.4 - 1,238.2)

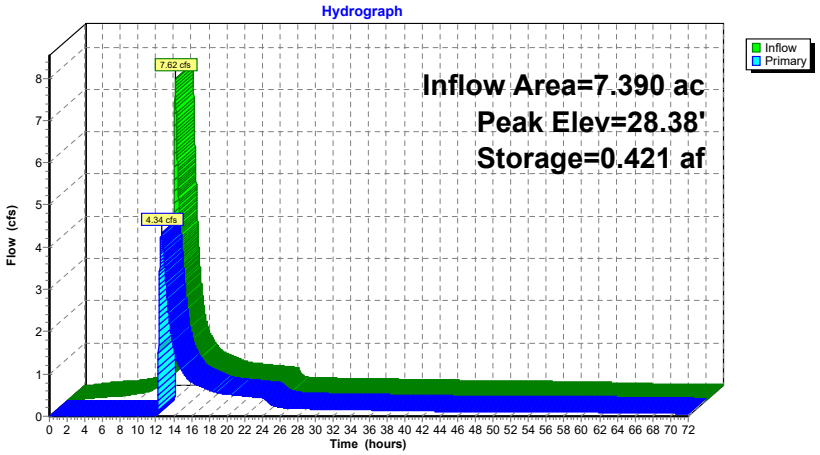
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.725 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.197	0.000	0.000
27.50	0.226	0.211	0.211
28.50	0.257	0.241	0.453
29.50	0.288	0.272	0.725

Device	Routing	Invert	Outlet Devices
#1	Primary	28.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.40'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.34 cfs @ 12.64 hrs HW=28.38' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 4.18 cfs @ 2.25 fps)
- **3=Orifice** (Orifice Controls 0.15 cfs @ 4.49 fps)

Pond 75P: BASIN D



Summary for Pond 76P: BASIN M

Inflow Area = 0.860 ac, 59.30% Impervious, Inflow Depth = 3.62" for 10-Year-Current event
Inflow = 2.13 cfs @ 12.18 hrs, Volume= 0.259 af
Outflow = 0.43 cfs @ 13.00 hrs, Volume= 0.199 af, Atten= 80%, Lag= 49.2 min
Primary = 0.43 cfs @ 13.00 hrs, Volume= 0.199 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.93' @ 13.00 hrs Surf.Area= 0.069 ac Storage= 0.150 af

Plug-Flow detention time= 415.4 min calculated for 0.199 af (77% of inflow)
Center-of-Mass det. time= 319.5 min (1,099.8 - 780.3)

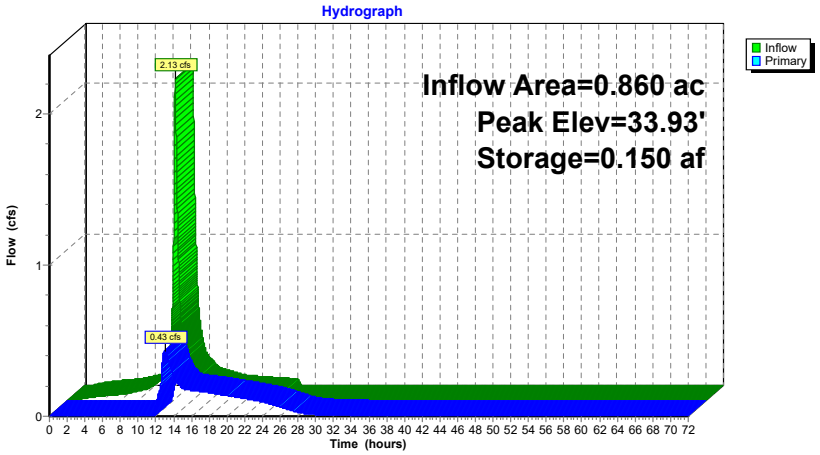
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	0.260 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.50	0.060	0.000	0.000
32.00	0.060	0.030	0.030
33.00	0.060	0.060	0.090
34.00	0.070	0.065	0.155
35.00	0.070	0.070	0.225
35.50	0.070	0.035	0.260

Device	Routing	Invert	Outlet Devices
#1	Primary	35.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	33.75'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.43 cfs @ 13.00 hrs HW=33.93' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.24 cfs @ 1.39 fps)
- **3=Orifice** (Orifice Controls 0.19 cfs @ 5.55 fps)

Pond 76P: BASIN M



Summary for Pond 83P: BASIN F

Inflow Area = 1.500 ac, 56.00% Impervious, Inflow Depth = 3.50" for 10-Year-Current event
Inflow = 3.72 cfs @ 12.17 hrs, Volume= 0.438 af
Outflow = 0.12 cfs @ 18.18 hrs, Volume= 0.232 af, Atten= 97%, Lag= 360.6 min
Primary = 0.12 cfs @ 18.18 hrs, Volume= 0.232 af
Routed to Pond 86p : BASIN G

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.62' @ 18.18 hrs Surf.Area= 0.244 ac Storage= 0.340 af

Plug-Flow detention time= 986.6 min calculated for 0.232 af (53% of inflow)
Center-of-Mass det. time= 845.6 min (1,627.6 - 782.0)

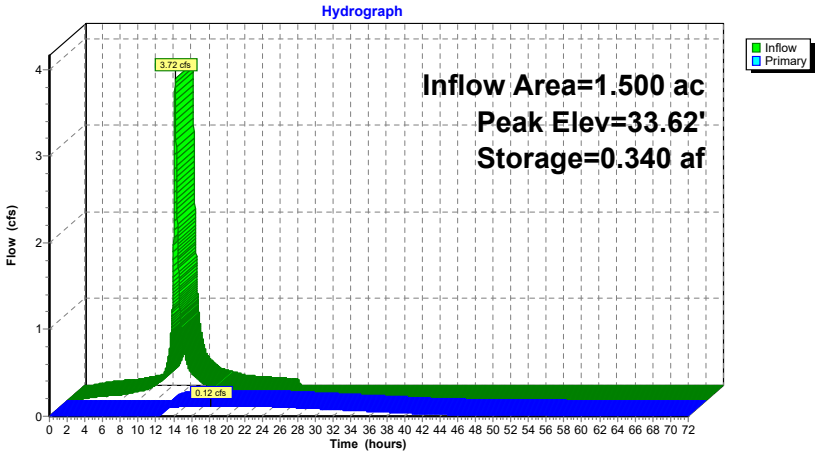
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.043 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.178	0.000	0.000
33.00	0.218	0.198	0.198
34.00	0.260	0.239	0.437
35.00	0.303	0.281	0.718
36.00	0.347	0.325	1.043

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.25'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.12 cfs @ 18.18 hrs HW=33.62' TW=32.80' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.12 cfs @ 3.44 fps)

Pond 83P: BASIN F



Summary for Pond 84P: BASIN L

Inflow Area = 0.970 ac, 50.52% Impervious, Inflow Depth = 3.31" for 10-Year-Current event
Inflow = 2.22 cfs @ 12.18 hrs, Volume= 0.268 af
Outflow = 0.67 cfs @ 12.74 hrs, Volume= 0.219 af, Atten= 70%, Lag= 33.5 min
Primary = 0.67 cfs @ 12.74 hrs, Volume= 0.219 af
Routed to Pond 90P : BASIN N

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 34.09' @ 12.74 hrs Surf.Area= 0.104 ac Storage= 0.140 af

Plug-Flow detention time= 417.8 min calculated for 0.219 af (82% of inflow)
Center-of-Mass det. time= 334.7 min (1,122.4 - 787.7)

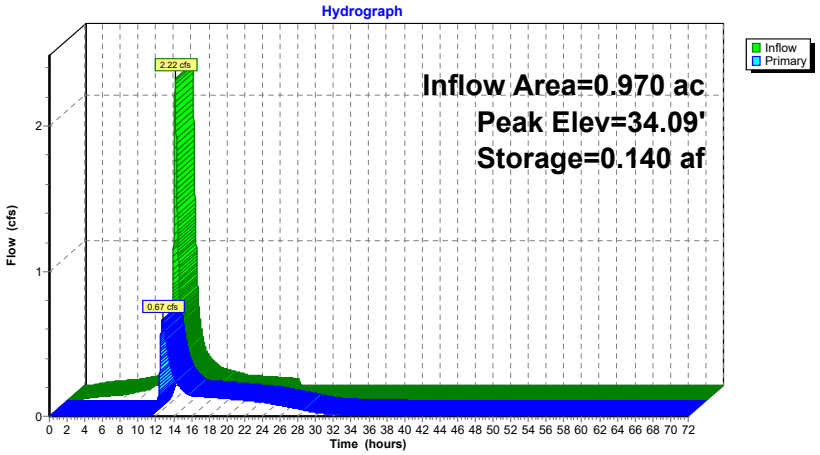
Volume	Invert	Avail.Storage	Storage Description
#1	32.50'	0.308 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.50	0.074	0.000	0.000
33.00	0.083	0.039	0.039
34.00	0.102	0.092	0.132
35.00	0.123	0.113	0.244
35.50	0.134	0.064	0.308

Device	Routing	Invert	Outlet Devices
#1	Primary	34.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	33.90'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.10'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.67 cfs @ 12.74 hrs HW=34.09' TW=30.44' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.51 cfs @ 1.41 fps)
- **3=Orifice** (Orifice Controls 0.15 cfs @ 4.52 fps)

Pond 84P: BASIN L



Summary for Pond 86P: BASIN G

Inflow Area = 2.760 ac, 47.46% Impervious, Inflow Depth > 2.31" for 10-Year-Current event
Inflow = 2.47 cfs @ 12.18 hrs, Volume= 0.531 af
Outflow = 0.68 cfs @ 12.92 hrs, Volume= 0.460 af, Atten= 73%, Lag= 44.1 min
Primary = 0.68 cfs @ 12.92 hrs, Volume= 0.460 af
Routed to Pond 60P : BASIN H

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 32.94' @ 12.92 hrs Surf.Area= 0.115 ac Storage= 0.160 af

Plug-Flow detention time= 523.9 min calculated for 0.460 af (87% of inflow)
Center-of-Mass det. time= 332.8 min (1,495.9 - 1,163.1)

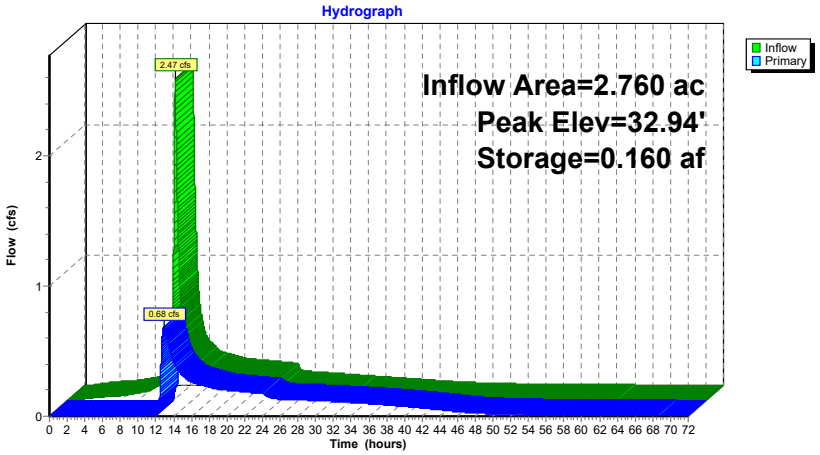
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	0.301 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.00	0.051	0.000	0.000
32.00	0.083	0.067	0.067
33.00	0.117	0.100	0.167
34.00	0.152	0.134	0.301

Device	Routing	Invert	Outlet Devices
#1	Primary	33.70'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	32.75'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.68 cfs @ 12.92 hrs HW=32.94' TW=29.84' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.53 cfs @ 1.42 fps)
- **3=Orifice** (Orifice Controls 0.15 cfs @ 4.40 fps)

Pond 86P: BASIN G



Summary for Pond 90P: BASIN N

Inflow Area = 4.000 ac, 43.75% Impervious, Inflow Depth > 2.76" for 10-Year-Current event
Inflow = 3.33 cfs @ 12.18 hrs, Volume= 0.920 af
Outflow = 1.92 cfs @ 12.98 hrs, Volume= 0.810 af, Atten= 42%, Lag= 47.9 min
Primary = 1.92 cfs @ 12.98 hrs, Volume= 0.810 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 30.47' @ 12.98 hrs Surf.Area= 0.182 ac Storage= 0.233 af

Plug-Flow detention time= 366.5 min calculated for 0.810 af (88% of inflow)
Center-of-Mass det. time= 247.7 min (1,271.4 - 1,023.7)

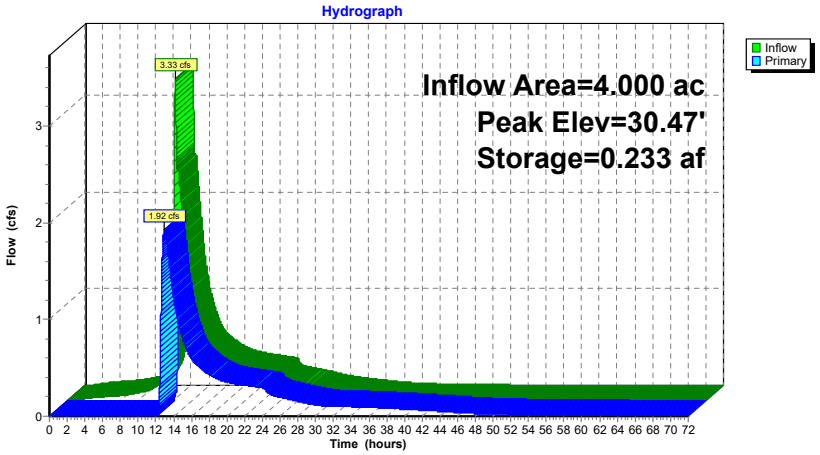
Volume	Invert	Avail.Storage	Storage Description
#1	29.00'	0.443 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
29.00	0.136	0.000	0.000
30.00	0.167	0.151	0.151
31.00	0.199	0.183	0.334
31.50	0.238	0.109	0.443

Device	Routing	Invert	Outlet Devices
#1	Primary	30.90'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.20'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	29.70'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.92 cfs @ 12.98 hrs HW=30.47' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 1.79 cfs @ 1.69 fps)
- **3=Orifice** (Orifice Controls 0.13 cfs @ 3.92 fps)

Pond 90P: BASIN N



Summary for Pond 93P: BASIN O

Inflow Area = 1.100 ac, 51.82% Impervious, Inflow Depth = 3.57" for 10-Year-Current event
Inflow = 2.73 cfs @ 12.18 hrs, Volume= 0.328 af
Outflow = 2.00 cfs @ 12.34 hrs, Volume= 0.267 af, Atten= 27%, Lag= 9.8 min
Primary = 2.00 cfs @ 12.34 hrs, Volume= 0.267 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.34' @ 12.34 hrs Surf.Area= 0.086 ac Storage= 0.124 af

Plug-Flow detention time= 274.3 min calculated for 0.267 af (82% of inflow)
Center-of-Mass det. time= 191.8 min (978.6 - 786.7)

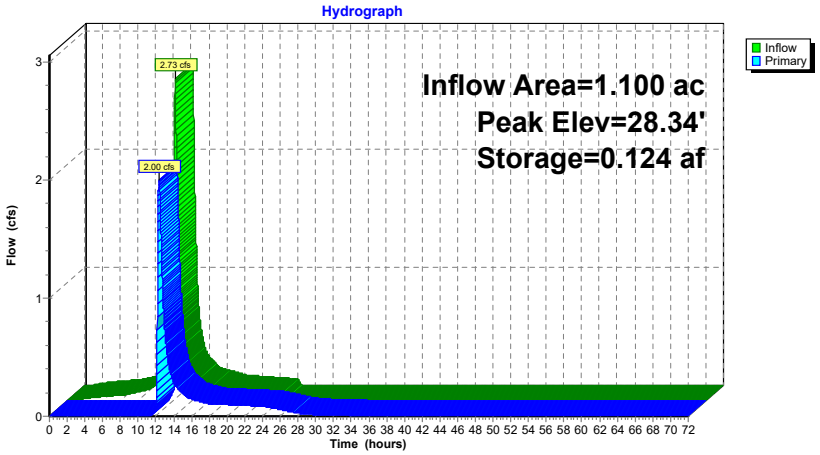
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.244 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.050	0.000	0.000
27.00	0.059	0.027	0.027
28.00	0.079	0.069	0.097
29.00	0.100	0.090	0.186
29.50	0.129	0.057	0.244

Device	Routing	Invert	Outlet Devices
#1	Primary	28.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.00'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.00 cfs @ 12.34 hrs HW=28.34' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 1.86 cfs @ 1.89 fps)
- **3=Orifice** (Orifice Controls 0.14 cfs @ 4.12 fps)

Pond 93P: BASIN O



Summary for Pond 102P: BASIN Q

Inflow Area = 1.860 ac, 59.68% Impervious, Inflow Depth = 3.63" for 10-Year-Current event
Inflow = 4.13 cfs @ 12.21 hrs, Volume= 0.563 af
Outflow = 2.99 cfs @ 12.42 hrs, Volume= 0.381 af, Atten= 28%, Lag= 12.6 min
Primary = 2.99 cfs @ 12.42 hrs, Volume= 0.381 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.08' @ 12.42 hrs Surf.Area= 0.129 ac Storage= 0.230 af

Plug-Flow detention time= 230.8 min calculated for 0.381 af (68% of inflow)
Center-of-Mass det. time= 116.9 min (901.0 - 784.1)

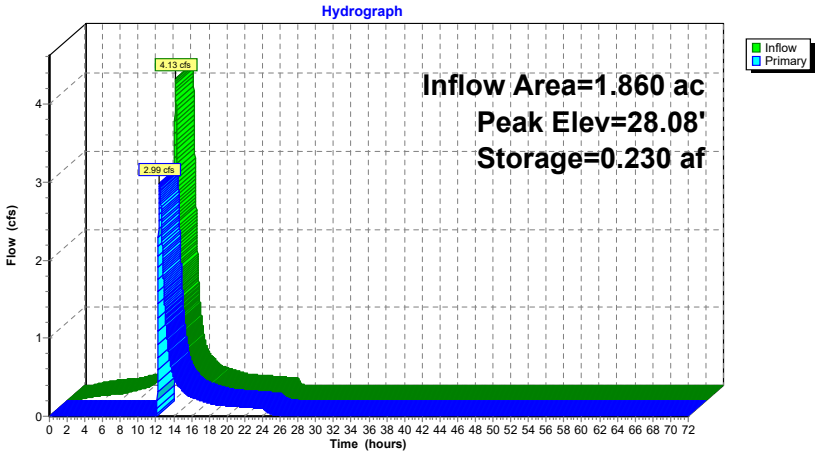
Volume	Invert	Avail.Storage	Storage Description
#1	26.00'	0.356 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.00	0.092	0.000	0.000
27.00	0.110	0.101	0.101
28.00	0.128	0.119	0.220
29.00	0.146	0.137	0.356

Device	Routing	Invert	Outlet Devices
#1	Primary	28.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.70'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.00'	**2.5" Vert. Orifice X 0.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.99 cfs @ 12.42 hrs HW=28.08' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 2.99 cfs @ 2.01 fps)
- **3=Orifice** (Controls 0.00 cfs)

Pond 102P: BASIN Q



Summary for Pond 105P: BASIN R

Inflow Area = 2.040 ac, 50.00% Impervious, Inflow Depth = 3.46" for 10-Year-Current event
Inflow = 4.88 cfs @ 12.18 hrs, Volume= 0.588 af
Outflow = 1.96 cfs @ 12.61 hrs, Volume= 0.437 af, Atten= 60%, Lag= 25.8 min
Primary = 1.96 cfs @ 12.61 hrs, Volume= 0.437 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 24.28' @ 12.61 hrs Surf.Area= 0.198 ac Storage= 0.288 af

Plug-Flow detention time= 394.7 min calculated for 0.437 af (74% of inflow)
Center-of-Mass det. time= 294.1 min (1,082.4 - 788.4)

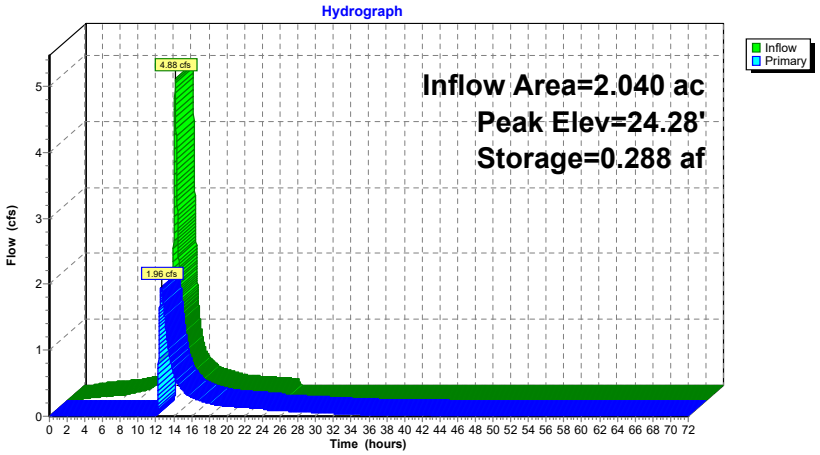
Volume	Invert	Avail.Storage	Storage Description
#1	22.50'	0.568 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
22.50	0.127	0.000	0.000
23.00	0.146	0.068	0.068
24.00	0.187	0.167	0.235
25.00	0.228	0.207	0.442
25.50	0.277	0.126	0.568

Device	Routing	Invert	Outlet Devices
#1	Primary	25.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	23.90'	**2.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	23.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.96 cfs @ 12.61 hrs HW=24.28' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 1.83 cfs @ 2.01 fps)
- **3=Orifice** (Orifice Controls 0.13 cfs @ 3.95 fps)

Pond 105P: BASIN R



Summary for Pond 108P: BASIN S

Inflow Area = 1.800 ac, 48.89% Impervious, Inflow Depth = 3.25" for 10-Year-Current event
Inflow = 3.54 cfs @ 12.22 hrs, Volume= 0.488 af
Outflow = 0.32 cfs @ 14.55 hrs, Volume= 0.204 af, Atten= 91%, Lag= 139.8 min
Primary = 0.32 cfs @ 14.55 hrs, Volume= 0.204 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 20.32' @ 14.55 hrs Surf.Area= 0.250 ac Storage= 0.337 af

Plug-Flow detention time= 507.9 min calculated for 0.204 af (42% of inflow)
Center-of-Mass det. time= 340.9 min (1,134.8 - 793.9)

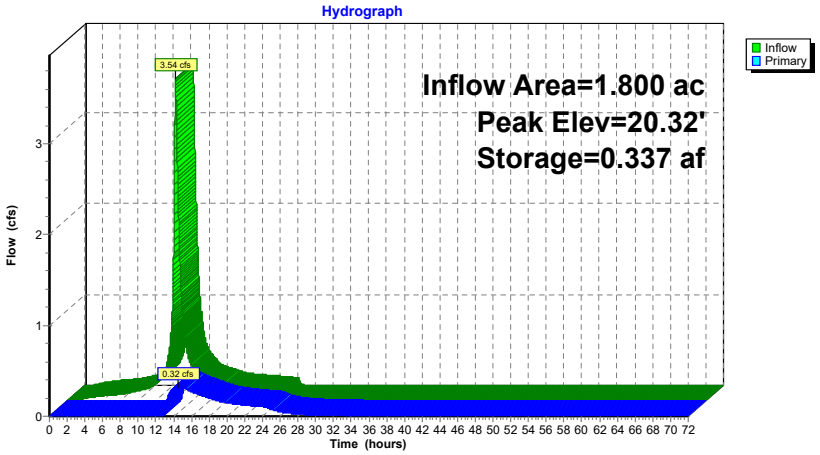
Volume	Invert	Avail.Storage	Storage Description
#1	18.80'	0.750 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
18.80	0.190	0.000	0.000
19.00	0.200	0.039	0.039
20.00	0.240	0.220	0.259
21.00	0.270	0.255	0.514
21.80	0.320	0.236	0.750

Device	Routing	Invert	Outlet Devices
#1	Primary	21.20'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.10'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	19.30'	**2.5" Vert. Orifice X 0.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.32 cfs @ 14.55 hrs HW=20.32' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.32 cfs @ 1.53 fps)
- **3=Orifice** (Controls 0.00 cfs)

Pond 108P: BASIN S



Summary for Pond 111P: BASIN T

Inflow Area = 1.800 ac, 32.78% Impervious, Inflow Depth > 1.89" for 10-Year-Current event
Inflow = 1.91 cfs @ 12.11 hrs, Volume= 0.284 af
Outflow = 0.09 cfs @ 24.04 hrs, Volume= 0.167 af, Atten= 95%, Lag= 715.9 min
Primary = 0.09 cfs @ 24.04 hrs, Volume= 0.167 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 19.51' @ 24.04 hrs Surf.Area= 0.210 ac Storage= 0.192 af

Plug-Flow detention time= 1,022.5 min calculated for 0.167 af (59% of inflow)
Center-of-Mass det. time= 754.1 min (1,792.5 - 1,038.3)

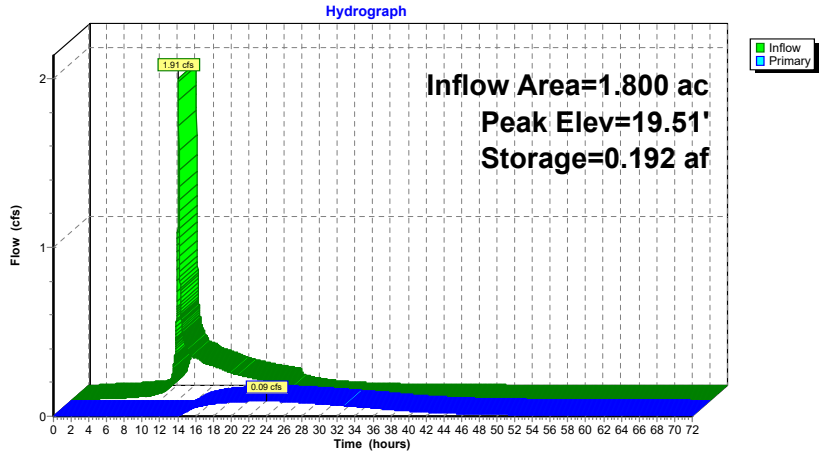
Volume	Invert	Avail.Storage	Storage Description
#1	18.50'	0.697 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
18.50	0.170	0.000	0.000
19.00	0.190	0.090	0.090
20.00	0.230	0.210	0.300
21.00	0.270	0.250	0.550
21.50	0.320	0.148	0.697

Device	Routing	Invert	Outlet Devices
#1	Primary	20.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.20'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	19.10'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.09 cfs @ 24.04 hrs HW=19.51' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.09 cfs @ 2.67 fps)

Pond 111P: BASIN T



Summary for Pond 114P: BASIN U

Inflow Area = 1.070 ac, 37.38% Impervious, Inflow Depth = 2.85" for 10-Year-Current event
Inflow = 2.92 cfs @ 12.12 hrs, Volume= 0.254 af
Outflow = 0.14 cfs @ 14.95 hrs, Volume= 0.135 af, Atten= 95%, Lag= 169.5 min
Primary = 0.14 cfs @ 14.95 hrs, Volume= 0.135 af
Routed to Pond 111P : BASIN T

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 20.38' @ 14.95 hrs Surf.Area= 0.215 ac Storage= 0.174 af

Plug-Flow detention time= 639.5 min calculated for 0.135 af (53% of inflow)
Center-of-Mass det. time= 497.1 min (1,291.3 - 794.2)

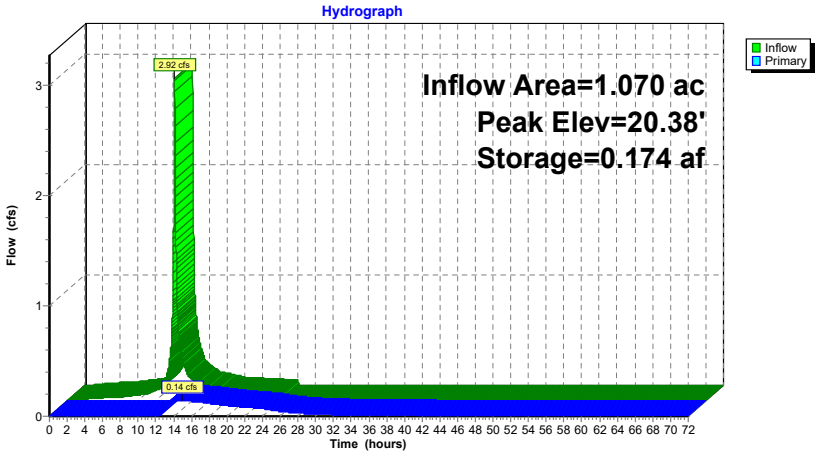
Volume	Invert	Avail.Storage	Storage Description
#1	19.50'	0.738 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
19.50	0.180	0.000	0.000
20.00	0.200	0.095	0.095
21.00	0.240	0.220	0.315
22.00	0.290	0.265	0.580
22.50	0.340	0.157	0.738

Device	Routing	Invert	Outlet Devices
#1	Primary	21.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.10'	**4.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.14 cfs @ 14.95 hrs HW=20.38' TW=19.23' (Dynamic Tailwater)
└**1=Grate** (Controls 0.00 cfs)
└**2=Orifice** (Orifice Controls 0.14 cfs @ 1.80 fps)

Pond 114P: BASIN U



Summary for Pond 117P: BASIN V

Inflow Area = 0.850 ac, 14.12% Impervious, Inflow Depth = 2.03" for 10-Year-Current event
Inflow = 1.20 cfs @ 12.18 hrs, Volume= 0.144 af
Outflow = 0.09 cfs @ 15.26 hrs, Volume= 0.048 af, Atten= 93%, Lag= 184.8 min
Primary = 0.09 cfs @ 15.26 hrs, Volume= 0.048 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 37.94' @ 15.26 hrs Surf.Area= 0.119 ac Storage= 0.101 af

Plug-Flow detention time= 469.2 min calculated for 0.048 af (33% of inflow)
Center-of-Mass det. time= 291.0 min (1,135.2 - 844.2)

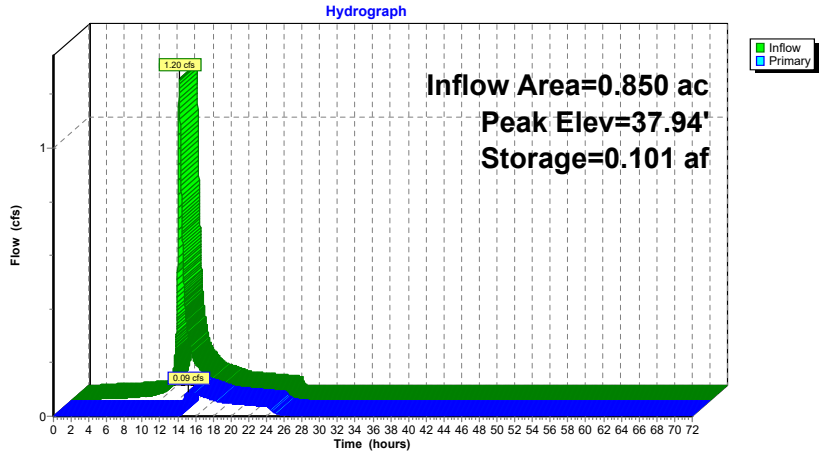
Volume	Invert	Avail.Storage	Storage Description
#1	37.00'	0.243 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
37.00	0.096	0.000	0.000
38.00	0.121	0.109	0.109
39.00	0.147	0.134	0.243

Device	Routing	Invert	Outlet Devices
#1	Primary	38.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	37.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.09 cfs @ 15.26 hrs HW=37.94' TW=0.00' (Dynamic Tailwater)
└**1=Grate** (Controls 0.00 cfs)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.09 cfs @ 0.62 fps)

Pond 117P: BASIN V

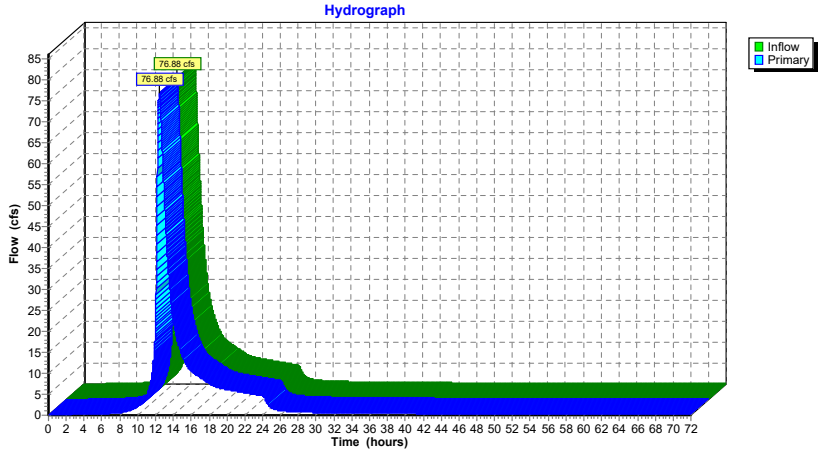


Summary for Link 46L: DA North

Inflow = 76.88 cfs @ 12.42 hrs, Volume= 17.785 af
Primary = 76.88 cfs @ 12.43 hrs, Volume= 17.785 af, Atten= 0%, Lag= 0.6 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 46L: DA North

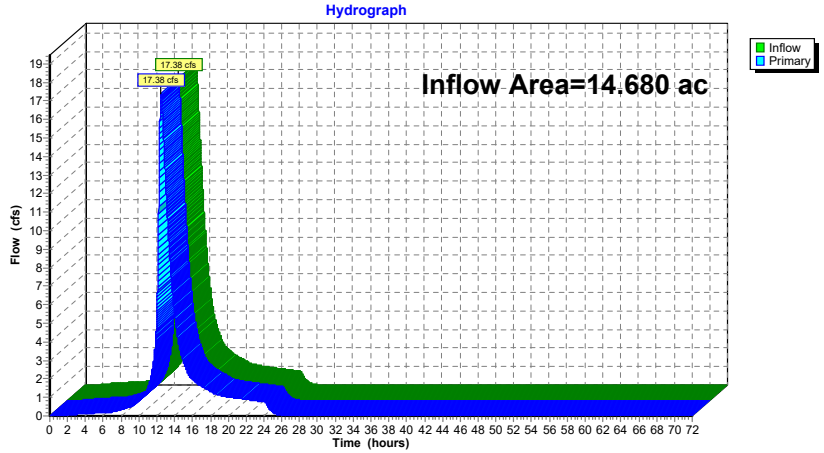


Summary for Link 51L: DA Undetained

Inflow Area = 14.680 ac, 15.60% Impervious, Inflow Depth = 2.97" for 10-Year-Current event
Inflow = 17.38 cfs @ 12.48 hrs, Volume= 3.630 af
Primary = 17.38 cfs @ 12.49 hrs, Volume= 3.630 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 51L: DA Undetained

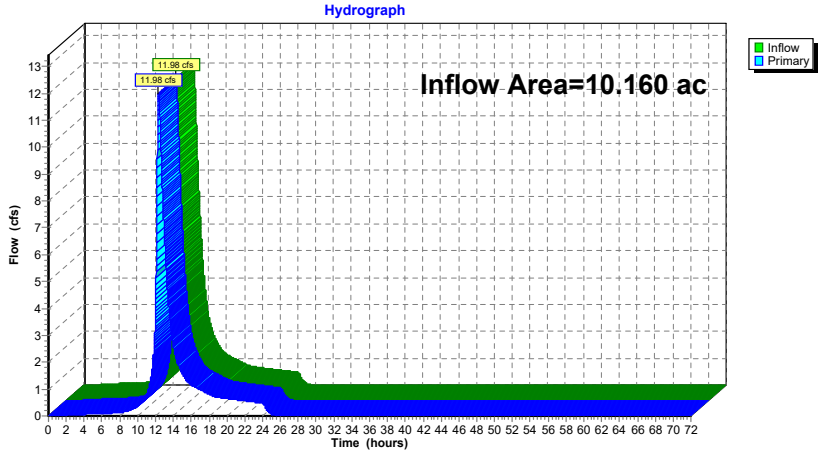


Summary for Link 52L: X

Inflow Area = 10.160 ac, 29.97% Impervious, Inflow Depth = 2.49" for 10-Year-Current event
Inflow = 11.98 cfs @ 12.34 hrs, Volume= 2.110 af
Primary = 11.98 cfs @ 12.35 hrs, Volume= 2.110 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 52L: X

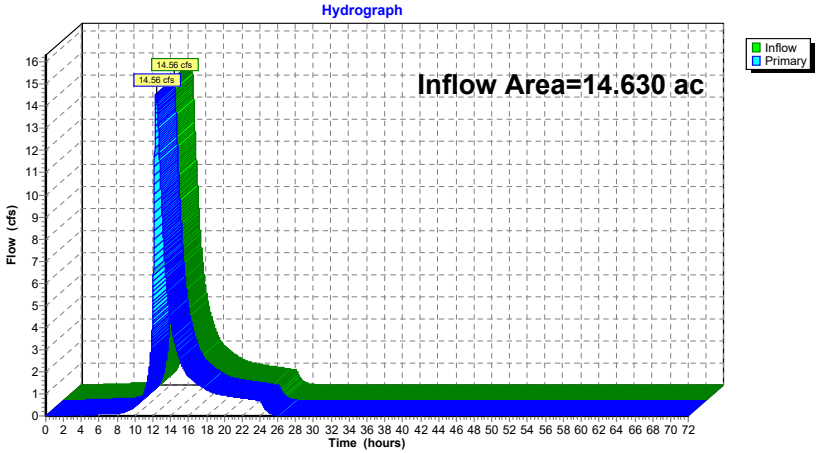


Summary for Link 53L: W

Inflow Area = 14.630 ac, 28.71% Impervious, Inflow Depth = 2.44" for 10-Year-Current event
Inflow = 14.56 cfs @ 12.36 hrs, Volume= 2.972 af
Primary = 14.56 cfs @ 12.37 hrs, Volume= 2.972 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 53L: W

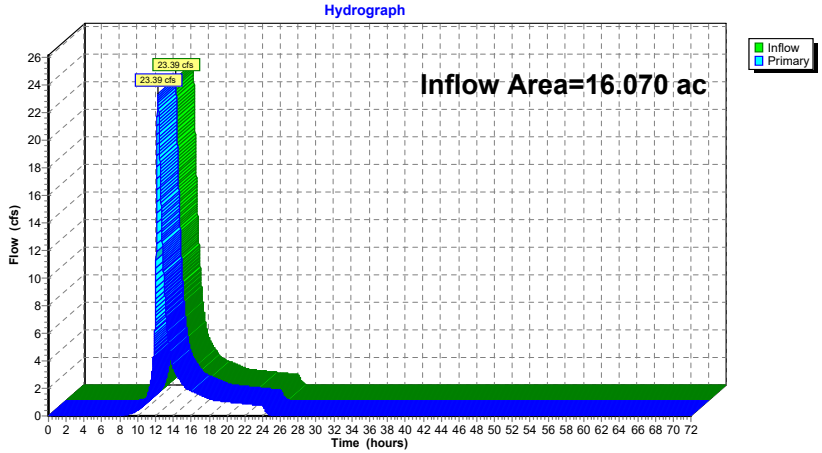


Summary for Link 58L: Y

Inflow Area = 16.070 ac, 30.59% Impervious, Inflow Depth = 2.46" for 10-Year-Current event
Inflow = 23.39 cfs @ 12.26 hrs, Volume= 3.294 af
Primary = 23.39 cfs @ 12.27 hrs, Volume= 3.294 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 58L: Y



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Sim-Route method - Pond routing by Sim-Route method

Subcatchment54S: Y - OFFSITE Runoff Area=12.620 ac 38.00% Impervious Runoff Depth=3.47"
Flow Length=760' Tc=15.1 min CN=75 Runoff=26.77 cfs 3.650 af

Subcatchment56S: W- OFFSITE Runoff Area=8.210 ac 38.00% Impervious Runoff Depth=3.47"
Flow Length=373' Tc=18.9 min CN=75 Runoff=15.48 cfs 2.374 af

Subcatchment57S: Pipe Y Runoff Area=3.450 ac 3.48% Impervious Runoff Depth=2.29"
Flow Length=1,229' Slope=0.0200 '/' Tc=16.9 min CN=WQ Runoff=4.24 cfs 0.658 af

Subcatchment59S: X - OFFSITE Runoff Area=5.170 ac 38.00% Impervious Runoff Depth=3.47"
Flow Length=880' Tc=18.5 min CN=75 Runoff=9.85 cfs 1.495 af

Subcatchment60S: BASIN A - DA Runoff Area=2.470 ac 53.85% Impervious Runoff Depth=4.22"
Flow Length=102' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=7.18 cfs 0.868 af

Subcatchment61S: BASIN I - DA Runoff Area=0.530 ac 33.96% Impervious Runoff Depth=3.45"
Flow Length=134' Slope=0.0200 '/' Tc=9.6 min CN=WQ Runoff=1.27 cfs 0.153 af

Subcatchment62S: Undetained Runoff Area=14.680 ac 15.60% Impervious Runoff Depth=3.76"
Flow Length=3,276' Tc=30.2 min CN=WQ Runoff=22.15 cfs 4.594 af

Subcatchment63S: BASIN N - DA Runoff Area=1.390 ac 46.04% Impervious Runoff Depth=4.02"
Flow Length=108' Tc=9.3 min CN=WQ Runoff=3.90 cfs 0.466 af

Subcatchment64S: BASIN E - DA Runoff Area=2.240 ac 50.89% Impervious Runoff Depth=4.10"
Flow Length=609' Tc=8.1 min CN=WQ Runoff=6.78 cfs 0.766 af

Subcatchment65S: BASIN V - DA Runoff Area=0.850 ac 14.12% Impervious Runoff Depth=2.69"
Flow Length=100' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=1.64 cfs 0.191 af

Subcatchment67S: Pipe W Runoff Area=6.420 ac 16.82% Impervious Runoff Depth=2.80"
Flow Length=5,045' Tc=42.5 min CN=WQ Runoff=5.60 cfs 1.497 af

Subcatchment68S: BASIN K - DA Runoff Area=1.640 ac 37.80% Impervious Runoff Depth=3.60"
Flow Length=136' Slope=0.0200 '/' Tc=9.7 min CN=WQ Runoff=4.06 cfs 0.492 af

Subcatchment69S: BASIN O - DA Runoff Area=1.100 ac 51.82% Impervious Runoff Depth=4.39"
Flow Length=113' Tc=9.4 min CN=WQ Runoff=3.37 cfs 0.402 af

Subcatchment70S: Pipe X Runoff Area=4.990 ac 21.64% Impervious Runoff Depth=2.98"
Flow Length=2,554' Tc=25.8 min CN=WQ Runoff=6.21 cfs 1.240 af

Subcatchment71S: BASIN B - DA Runoff Area=1.260 ac 38.10% Impervious Runoff Depth=3.61"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=3.17 cfs 0.379 af

Subcatchment73S: BASIN C - DA Runoff Area=0.990 ac 42.42% Impervious Runoff Depth=3.78"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=2.60 cfs 0.312 af

Subcatchment75S: BASIN M - DA Runoff Area=0.860 ac 59.30% Impervious Runoff Depth=4.42"
Flow Length=225' Slope=0.0200 '/' Tc=9.3 min CN=WQ Runoff=2.62 cfs 0.317 af

Subcatchment76S: BASIN F - DA Runoff Area=1.500 ac 56.00% Impervious Runoff Depth=4.30"
Flow Length=447' Tc=8.7 min CN=WQ Runoff=4.59 cfs 0.537 af

Subcatchment77S: BASIN D - DA Runoff Area=2.670 ac 51.31% Impervious Runoff Depth=4.12"
Flow Length=795' Tc=9.0 min CN=WQ Runoff=7.77 cfs 0.916 af

Subcatchment83S: BASIN L - DA Runoff Area=0.970 ac 50.52% Impervious Runoff Depth=4.09"
Flow Length=96' Tc=9.2 min CN=WQ Runoff=2.77 cfs 0.330 af

Subcatchment85S: BASIN G - DA Runoff Area=1.260 ac 37.30% Impervious Runoff Depth=3.58"
Flow Length=102' Tc=9.3 min CN=WQ Runoff=3.16 cfs 0.376 af

Subcatchment88S: BASIN H - DA Runoff Area=1.950 ac 43.08% Impervious Runoff Depth=3.80"
Flow Length=111' Slope=0.0200 '/' Tc=9.5 min CN=WQ Runoff=5.13 cfs 0.618 af

Subcatchment98S: BASIN P - DA Runoff Area=2.760 ac 47.10% Impervious Runoff Depth=3.96"
Flow Length=214' Slope=0.0200 '/' Tc=10.2 min CN=WQ Runoff=7.29 cfs 0.910 af

Subcatchment101S: BASIN Q - DA Runoff Area=1.860 ac 59.68% Impervious Runoff Depth=4.44"
Flow Length=612' Tc=12.0 min CN=WQ Runoff=5.07 cfs 0.688 af

Subcatchment104S: BASIN R - DA Runoff Area=2.040 ac 50.00% Impervious Runoff Depth=4.26"
Flow Length=98' Tc=9.4 min CN=WQ Runoff=6.05 cfs 0.723 af

Subcatchment107S: BASIN S - DA Runoff Area=1.800 ac 48.89% Impervious Runoff Depth=4.03"
Flow Length=466' Tc=12.2 min CN=WQ Runoff=4.43 cfs 0.604 af

Subcatchment110S: BASIN T - DA Runoff Area=0.730 ac 26.03% Impervious Runoff Depth=3.15"
Flow Length=254' Slope=0.0100 '/' Tc=2.8 min CN=WQ Runoff=2.49 cfs 0.192 af

Subcatchment113S: BASIN U - DA Runoff Area=1.070 ac 37.38% Impervious Runoff Depth=3.58"
Flow Length=28' Slope=0.0350 '/' Tc=4.0 min CN=WQ Runoff=3.72 cfs 0.320 af

Pond 52P: BASIN A Peak Elev=34.54' Storage=0.672 af Inflow=7.18 cfs 0.868 af
Outflow=0.21 cfs 0.681 af

Pond 59P: BASIN C Peak Elev=30.18' Storage=0.085 af Inflow=3.68 cfs 1.293 af
Outflow=3.41 cfs 1.248 af

Pond 60P: BASIN H Peak Elev=30.48' Storage=0.491 af Inflow=5.25 cfs 1.253 af
Outflow=1.15 cfs 1.105 af

Pond 63P: BASIN P Peak Elev=28.67' Storage=0.509 af Inflow=10.01 cfs 2.214 af
Outflow=3.83 cfs 1.888 af

Pond 64P: BASIN I Peak Elev=30.71' Storage=0.068 af Inflow=1.27 cfs 0.153 af
Outflow=0.55 cfs 0.129 af

Pond 65P: BASIN E Peak Elev=28.61' Storage=0.263 af Inflow=7.55 cfs 2.653 af
Primary=6.16 cfs 2.417 af Secondary=2.57 cfs 0.070 af Outflow=6.16 cfs 2.486 af

Pond 70P: BASIN K Peak Elev=32.19' Storage=0.242 af Inflow=4.06 cfs 0.492 af
Outflow=1.17 cfs 0.425 af

Pond 74P: BASIN B Peak Elev=31.93' Storage=0.155 af Inflow=3.29 cfs 1.060 af
Outflow=1.94 cfs 0.982 af

Pond 75P: BASIN D Peak Elev=28.56' Storage=0.468 af Inflow=9.73 cfs 2.164 af
Outflow=6.91 cfs 1.887 af

Pond 76P: BASIN M Peak Elev=34.13' Storage=0.164 af Inflow=2.62 cfs 0.317 af
Outflow=0.90 cfs 0.257 af

Pond 83P: BASIN F Peak Elev=33.91' Storage=0.413 af Inflow=4.59 cfs 0.537 af
Outflow=0.15 cfs 0.330 af

Pond 84P: BASIN L Peak Elev=34.20' Storage=0.153 af Inflow=2.77 cfs 0.330 af
Outflow=1.23 cfs 0.282 af

Pond 86P: BASIN G Peak Elev=33.08' Storage=0.176 af Inflow=3.16 cfs 0.706 af
Outflow=1.34 cfs 0.635 af

Pond 90P: BASIN N Peak Elev=30.61' Storage=0.259 af Inflow=4.26 cfs 1.173 af
Outflow=3.55 cfs 1.064 af

Pond 93P: BASIN O Peak Elev=28.42' Storage=0.132 af Inflow=3.37 cfs 0.402 af
Outflow=2.73 cfs 0.342 af

Pond 102P: BASIN Q Peak Elev=28.17' Storage=0.242 af Inflow=5.07 cfs 0.688 af
Outflow=4.18 cfs 0.506 af

Pond 105P: BASIN R Peak Elev=24.42' Storage=0.318 af Inflow=6.05 cfs 0.723 af
Outflow=3.13 cfs 0.573 af

Pond 108P: BASIN S Peak Elev=20.47' Storage=0.375 af Inflow=4.43 cfs 0.604 af
Outflow=0.68 cfs 0.320 af

Pond 111P: BASIN T Peak Elev=19.80' Storage=0.256 af Inflow=2.49 cfs 0.392 af
Outflow=0.13 cfs 0.274 af

Pond 114P: BASIN U Peak Elev=20.53' Storage=0.206 af Inflow=3.72 cfs 0.320 af
Outflow=0.21 cfs 0.201 af

Pond 117P: BASIN V Peak Elev=37.98' Storage=0.106 af Inflow=1.64 cfs 0.191 af
Outflow=0.28 cfs 0.094 af

Link 46L: DA North Inflow=108.17 cfs 23.242 af
Primary=108.17 cfs 23.242 af

Link 51L: DA Undetained Inflow=22.15 cfs 4.594 af
Primary=22.15 cfs 4.594 af

Link 52L: X Inflow=15.76 cfs 2.735 af
Primary=15.76 cfs 2.735 af

Link 53L: W Inflow=19.18 cfs 3.871 af
Primary=19.18 cfs 3.871 af

Link 58L: Y Inflow=30.91 cfs 4.307 af
Primary=30.91 cfs 4.307 af

Total Runoff Area = 87.480 ac Runoff Volume = 26.068 af Average Runoff Depth = 3.58"
66.43% Pervious = 58.110 ac 33.57% Impervious = 29.370 ac

Summary for Subcatchment 54S: Y - OFFSITE UNDISTURBED

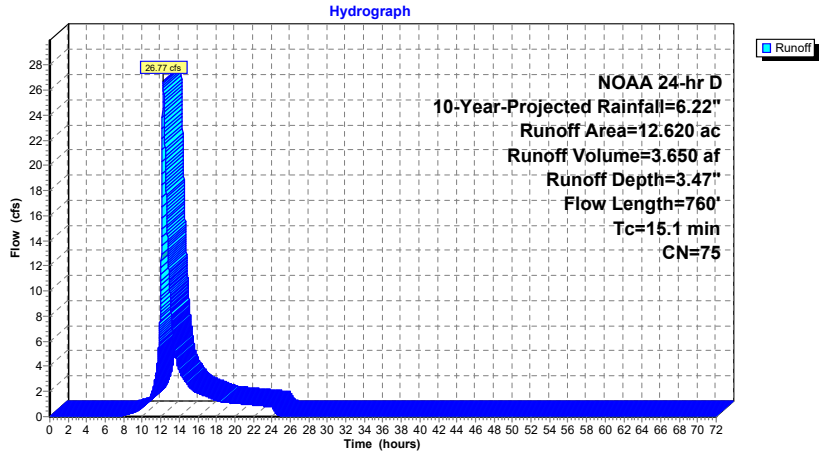
Runoff = 26.77 cfs @ 12.25 hrs, Volume= 3.650 af, Depth= 3.47"
Routed to Link 58L : Y

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

Area (ac)	CN	Description
12.620	75	1/4 acre lots, 38% imp, HSG B
7.824		62.00% Pervious Area
4.796		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.1	100	0.0350	0.15		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.5	280	0.0370	3.10		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.5	380	0.0240	2.49		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
15.1	760	Total			

Subcatchment 54S: Y - OFFSITE UNDISTURBED



Summary for Subcatchment 56S: W- OFFSITE UNDISTURBED

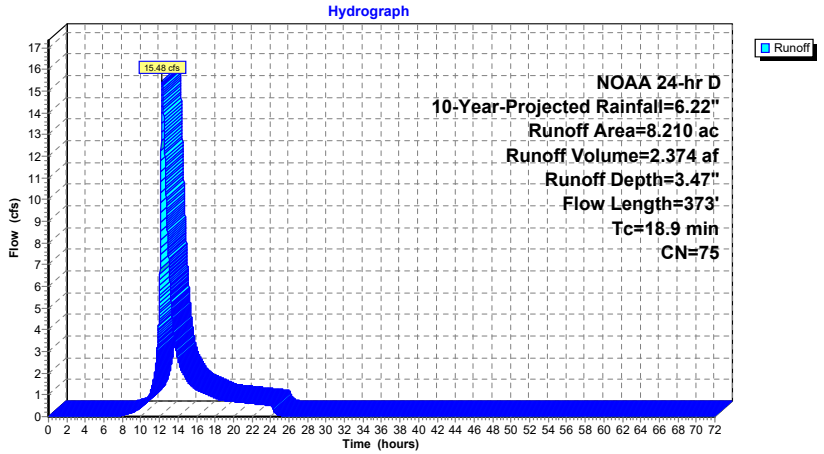
Runoff = 15.48 cfs @ 12.31 hrs, Volume= 2.374 af, Depth= 3.47"
Routed to Link 53L : W

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

Area (ac)	CN	Description
8.210	75	1/4 acre lots, 38% imp, HSG B
5.090		62.00% Pervious Area
3.120		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	100	0.0120	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.38"
0.9	179	0.0410	3.26		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.0	94	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.9	373	Total			

Subcatchment 56S: W- OFFSITE UNDISTURBED



Summary for Subcatchment 57S: Pipe Y

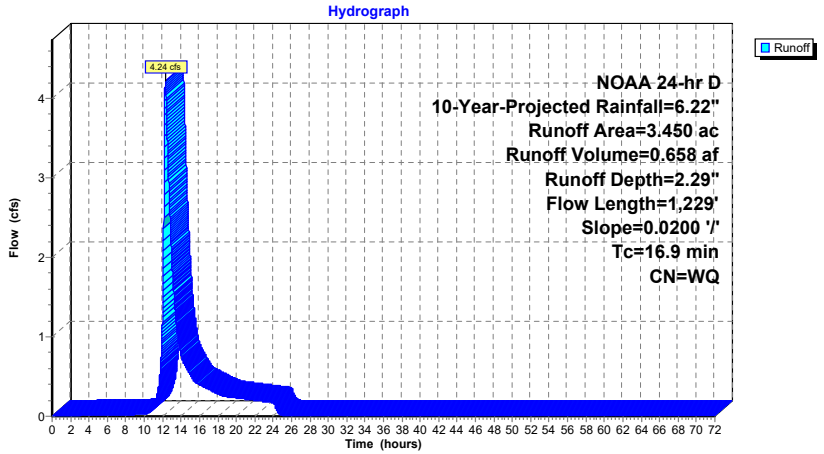
Runoff = 4.24 cfs @ 12.29 hrs, Volume= 0.658 af, Depth= 2.29"
Routed to Link 58L : Y

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

	Area (ac)	CN	Description
*	3.330	61	Open Space
*	0.000	98	Road/Sidewalk
*	0.120	98	Roof
*	0.000	98	Driveway
	3.450		Weighted Average
	3.330		96.52% Pervious Area
	0.120		3.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass**
					Grass: Dense n= 0.240 P2= 3.38"
					Using McCuen-Spiess flow length
1.2	170	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved**
					Unpaved Kv= 16.1 fps
6.2	936		2.50		**Direct Entry,**
0.4	64		2.50		**Direct Entry,**
16.9	1,229	Total			

Subcatchment 57S: Pipe Y



Summary for Subcatchment 59S: X - OFFSITE UNDISTURBED

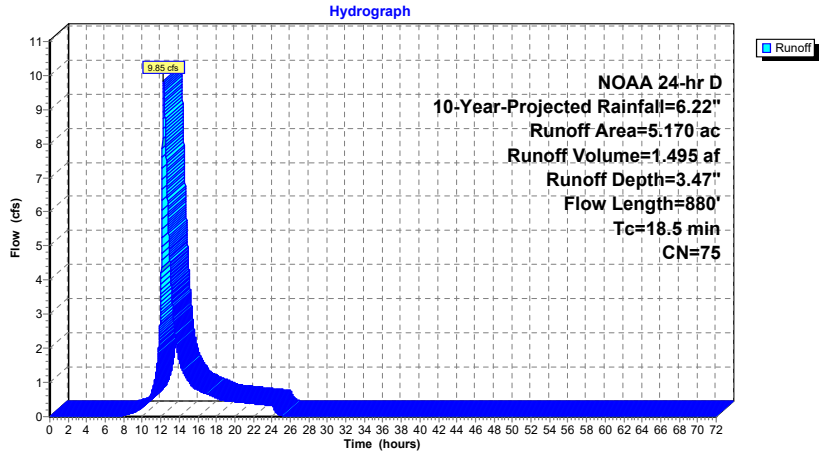
Runoff = 9.85 cfs @ 12.30 hrs, Volume= 1.495 af, Depth= 3.47"
Routed to Link 52L : X

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

Area (ac)	CN	Description
5.170	75	1/4 acre lots, 38% imp, HSG B
3.205		62.00% Pervious Area
1.965		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	100	0.0200	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.4	408	0.0320	2.88		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.2	372	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.5	880	Total			

Subcatchment 59S: X - OFFSITE UNDISTURBED



Summary for Subcatchment 60S: BASIN A - DA

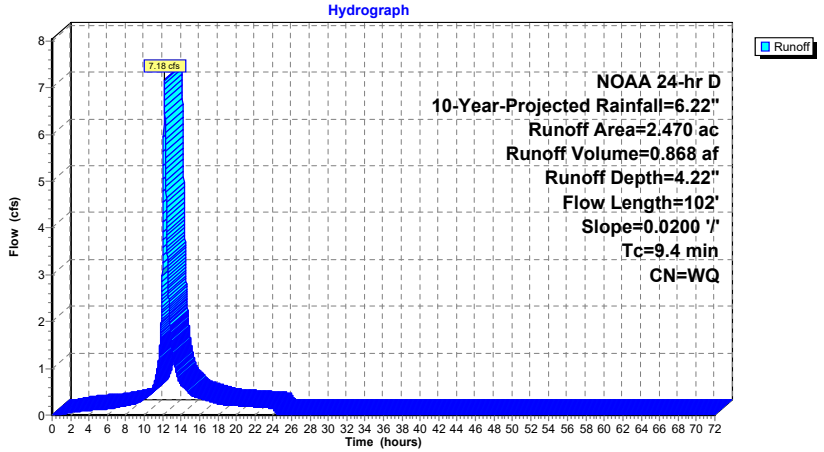
Runoff = 7.18 cfs @ 12.18 hrs, Volume= 0.868 af, Depth= 4.22"
Routed to Pond 52P : BASIN A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

	Area (ac)	CN	Description
*	1.140	61	Open Space
*	0.600	98	Road
*	0.130	98	Sidewalk
*	0.300	98	Roof
*	0.300	98	Driveway & Apron
	2.470		Weighted Average
	1.140		46.15% Pervious Area
	1.330		53.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	43	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	102	Total			

Subcatchment 60S: BASIN A - DA



Summary for Subcatchment 61S: BASIN I - DA

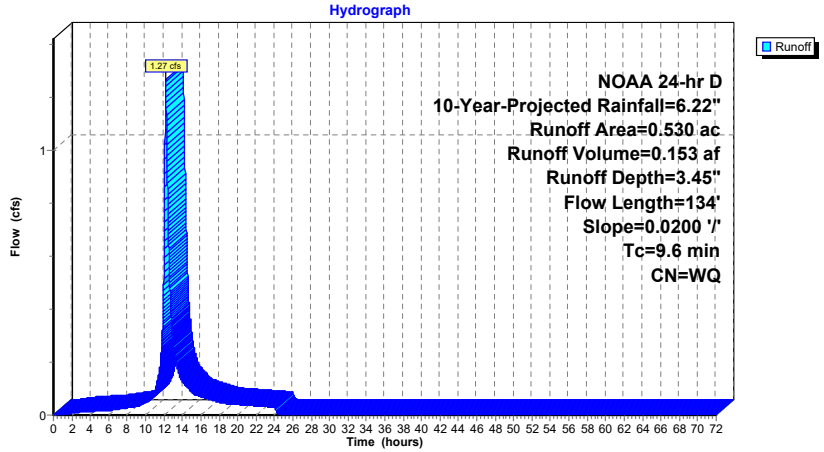
Runoff = 1.27 cfs @ 12.18 hrs, Volume= 0.153 af, Depth= 3.45"
Routed to Pond 64P : BASIN I

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.180	98	Roof
*	0.000	98	Driveway & Apron
	0.530		Weighted Average
	0.350		66.04% Pervious Area
	0.180		33.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.5	75	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.6	134	Total			

Subcatchment 61S: BASIN I - DA



Summary for Subcatchment 62S: Undetained

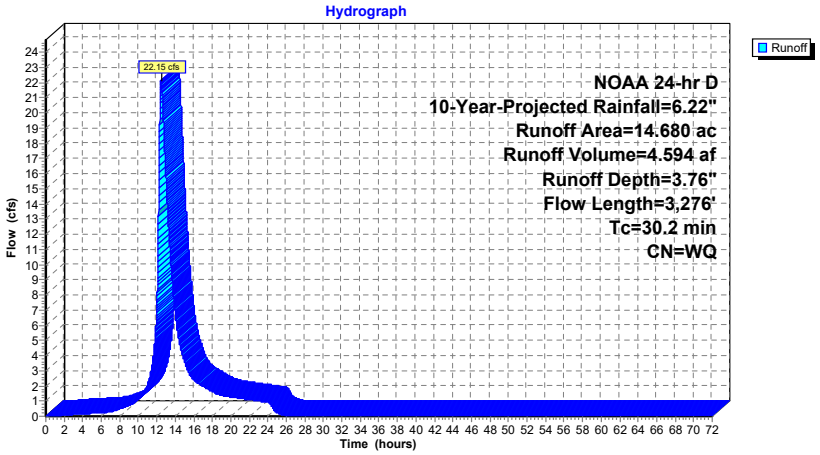
Runoff = 22.15 cfs @ 12.48 hrs, Volume= 4.594 af, Depth= 3.76"
Routed to Link 51L : DA Undetained

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

	Area (ac)	CN	Description
	3.170	61	>75% Grass cover, Good, HSG B
	0.870	55	Woods, Good, HSG B
	8.150	80	>75% Grass cover, Good, HSG D
	0.200	77	Woods, Good, HSG D
*	0.730	98	Water Surface, HSG D
*	0.740	98	Roofs, HSG B
*	0.570	98	Roofs, HSG D
	0.130	98	Paved parking, HSG B
	0.120	98	Unconnected pavement, HSG B
	14.680		Weighted Average
	12.390		84.40% Pervious Area
	2.290		15.60% Impervious Area
	0.120		5.24% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	88	0.0450	0.16		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.3	216	0.0300	2.79		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
19.8	2,972		2.50		**Direct Entry,**
30.2	3,276	Total			

Subcatchment 62S: Undetained



Summary for Subcatchment 63S: BASIN N - DA

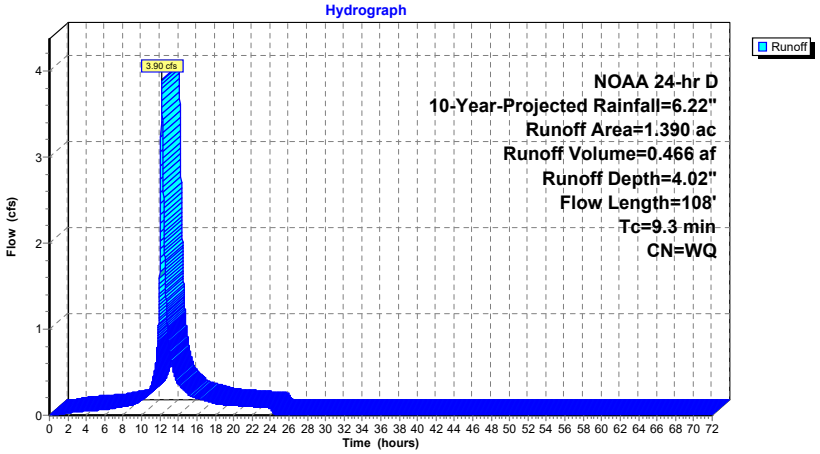
Runoff = 3.90 cfs @ 12.18 hrs, Volume= 0.466 af, Depth= 4.02"
Routed to Pond 90P : BASIN N

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.080	80	Open Space, HSG D
*	0.160	98	Road
*	0.040	98	Sidewalk
*	0.300	98	Roof
*	0.140	98	Driveway & Apron
	1.390		Weighted Average
	0.750		53.96% Pervious Area
	0.640		46.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.2	49	0.0600	3.94		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.3	108	Total			

Subcatchment 63S: BASIN N - DA



Summary for Subcatchment 64S: BASIN E - DA

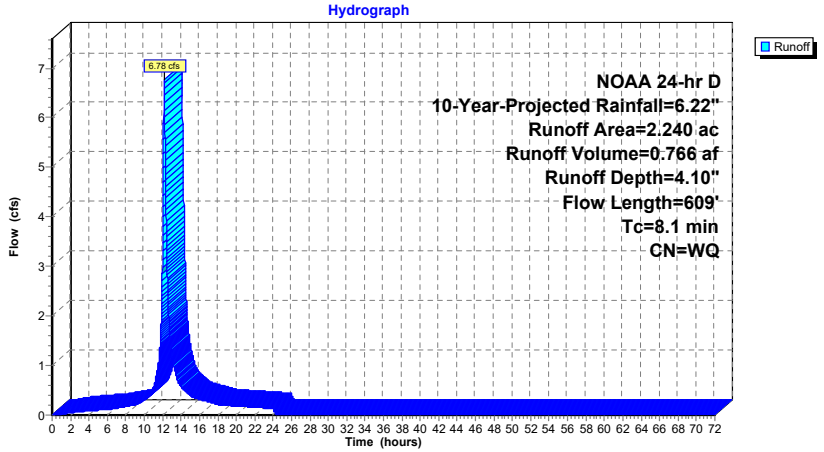
Runoff = 6.78 cfs @ 12.17 hrs, Volume= 0.766 af, Depth= 4.10"
Routed to Pond 65P : BASIN E

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

	Area (ac)	CN	Description
*	1.100	61	Open Space
*	0.450	98	Road
*	0.110	98	Sidewalk
*	0.240	98	Roof
*	0.340	98	Driveway & Apron
	2.240		Weighted Average
	1.100		49.11% Pervious Area
	1.140		50.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0500	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.5	300	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.9	279		2.50		**Direct Entry, Pipe**
8.1	609	Total			

Subcatchment 64S: BASIN E - DA



Summary for Subcatchment 65S: BASIN V - DA

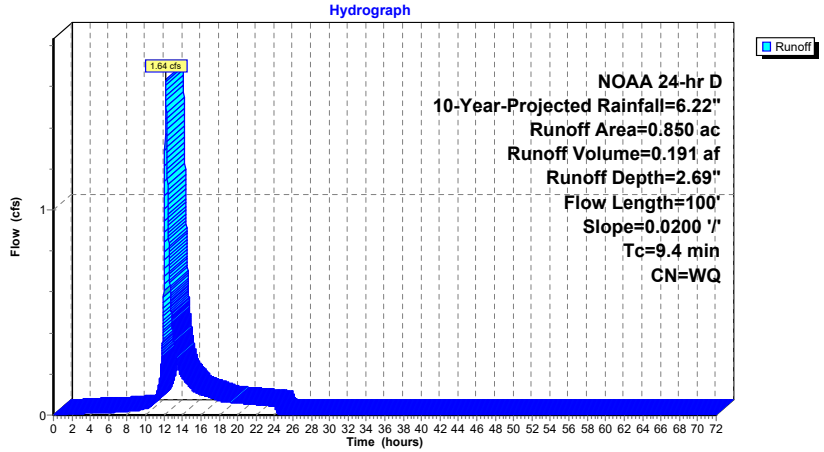
Runoff = 1.64 cfs @ 12.18 hrs, Volume= 0.191 af, Depth= 2.69"
Routed to Pond 117P : BASIN V

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

	Area (ac)	CN	Description
*	0.730	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.120	98	Roof
*	0.000	98	Driveway & Apron
	0.850		Weighted Average
	0.730		85.88% Pervious Area
	0.120		14.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	41	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	100	Total			

Subcatchment 65S: BASIN V - DA



Summary for Subcatchment 67S: Pipe W

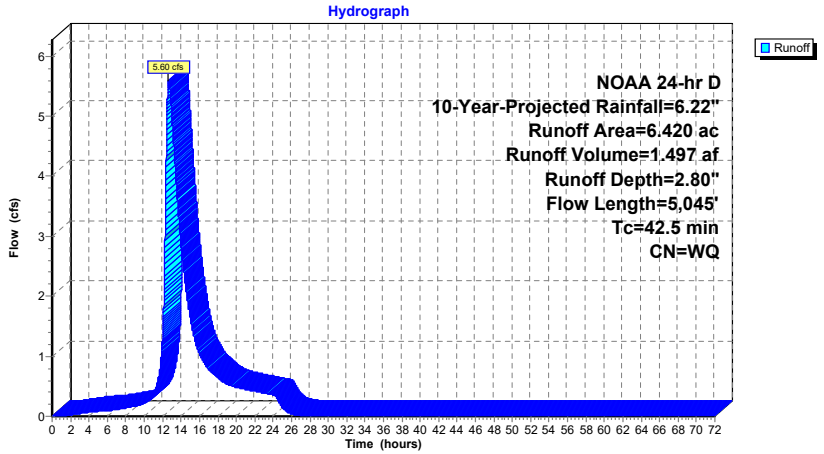
Runoff = 5.60 cfs @ 12.66 hrs, Volume= 1.497 af, Depth= 2.80"
Routed to Link 53L : W

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

Area (ac)	CN	Description
5.340	61	>75% Grass cover, Good, HSG B
1.080	98	Roofs, HSG B
6.420		Weighted Average
5.340		83.18% Pervious Area
1.080		16.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	66	0.0250	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.1	144	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
12.2	1,824		2.50		**Direct Entry,**
20.1	3,011		2.50		**Direct Entry,**
42.5	5,045	Total			

Subcatchment 67S: Pipe W



Summary for Subcatchment 68S: BASIN K - DA

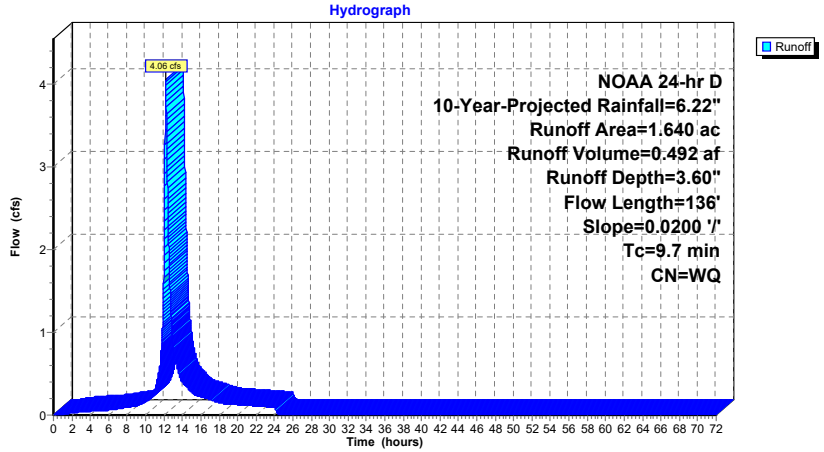
Runoff = 4.06 cfs @ 12.18 hrs, Volume= 0.492 af, Depth= 3.60"
Routed to Pond 70P : BASIN K

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

	Area (ac)	CN	Description
*	1.020	61	Open Space
*	0.000	98	Road
*	0.020	98	Sidewalk
*	0.600	98	Roof
*	0.000	98	Driveway & Apron
	1.640		Weighted Average
	1.020		62.20% Pervious Area
	0.620		37.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.6	77	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.7	136	Total			

Subcatchment 68S: BASIN K - DA



Summary for Subcatchment 69S: BASIN O - DA

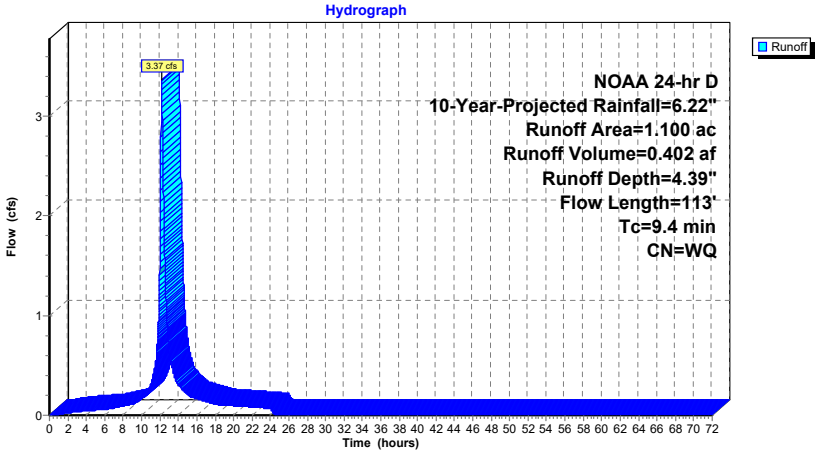
Runoff = 3.37 cfs @ 12.18 hrs, Volume= 0.402 af, Depth= 4.39"
Routed to Pond 93P : BASIN O

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

	Area (ac)	CN	Description
*	0.380	61	Open Space
*	0.150	80	Open Space, HSG D
*	0.150	98	Road
*	0.040	98	Sidewalk
*	0.240	98	Roof
*	0.140	98	Driveway & Apron
	1.100		Weighted Average
	0.530		48.18% Pervious Area
	0.570		51.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	54	0.0300	2.79		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	113	Total			

Subcatchment 69S: BASIN O - DA



Summary for Subcatchment 70S: Pipe X

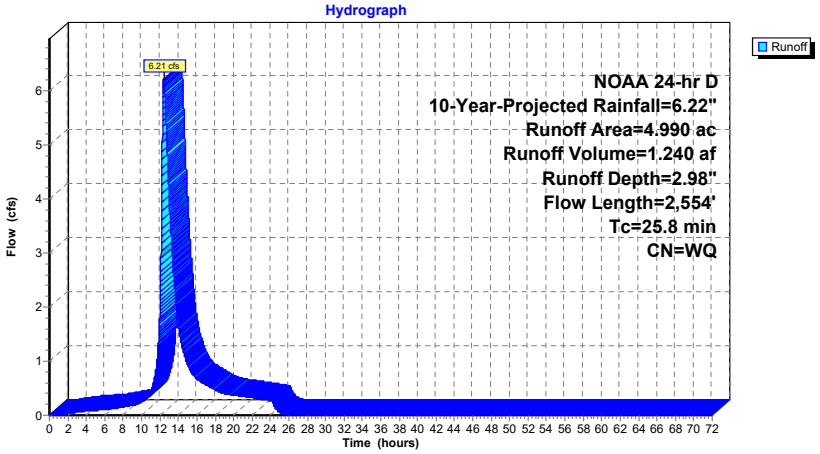
Runoff = 6.21 cfs @ 12.39 hrs, Volume= 1.240 af, Depth= 2.98"
Routed to Link 52L : X

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

	Area (ac)	CN	Description
*	3.910	61	Open Space
*	0.000	98	Road/Sidewalk
*	1.080	98	Roof
*	0.000	98	Driveway
	4.990		Weighted Average
	3.910		78.36% Pervious Area
	1.080		21.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.2	168	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
7.4	1,103		2.50		**Direct Entry,**
0.8	123	0.0250	2.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.3	1,101		2.50		**Direct Entry,**
25.8	2,554	Total			

Subcatchment 70S: Pipe X



Summary for Subcatchment 71S: BASIN B - DA

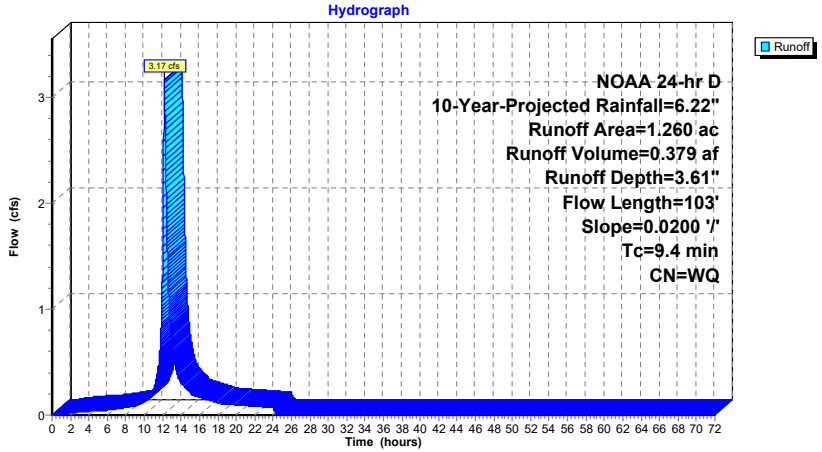
Runoff = 3.17 cfs @ 12.18 hrs, Volume= 0.379 af, Depth= 3.61"
Routed to Pond 74P : BASIN B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

	Area (ac)	CN	Description
*	0.780	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.480	98	Roof
*	0.000	98	Driveway
	1.260		Weighted Average
	0.780		61.90% Pervious Area
	0.480		38.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 71S: BASIN B - DA



Summary for Subcatchment 73S: BASIN C - DA

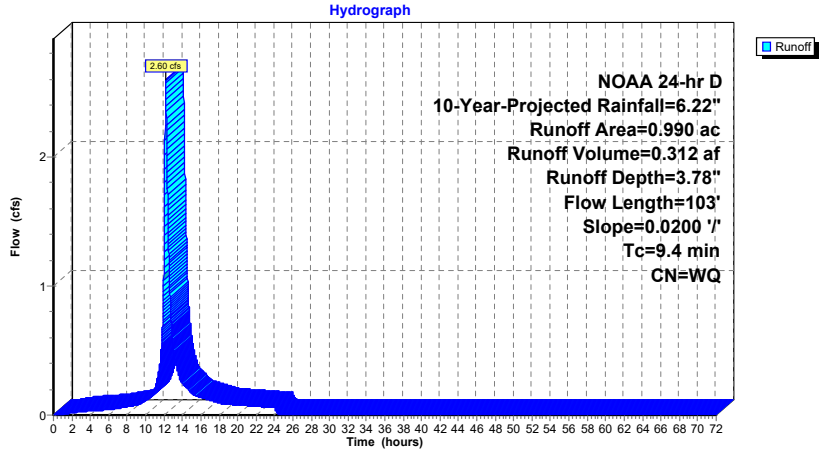
Runoff = 2.60 cfs @ 12.18 hrs, Volume= 0.312 af, Depth= 3.78"
Routed to Pond 59P : BASIN C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

	Area (ac)	CN	Description
*	0.570	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.420	98	Roof
*	0.000	98	Driveway
	0.990		Weighted Average
	0.570		57.58% Pervious Area
	0.420		42.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 73S: BASIN C - DA



Summary for Subcatchment 75S: BASIN M - DA

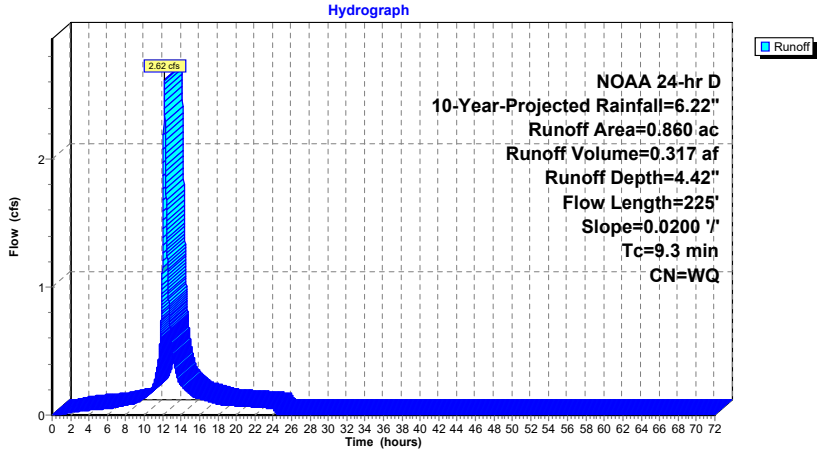
Runoff = 2.62 cfs @ 12.18 hrs, Volume= 0.317 af, Depth= 4.42"
Routed to Pond 76P : BASIN M

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.280	98	Road
*	0.050	98	Sidewalk
*	0.060	98	Roof
*	0.120	98	Driveway & Apron
	0.860		Weighted Average
	0.350		40.70% Pervious Area
	0.510		59.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	52	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
0.5	87	0.0200	2.87		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
0.6	86		2.50		**Direct Entry, Pipe**
9.3	225	Total			

Subcatchment 75S: BASIN M - DA



Summary for Subcatchment 76S: BASIN F - DA

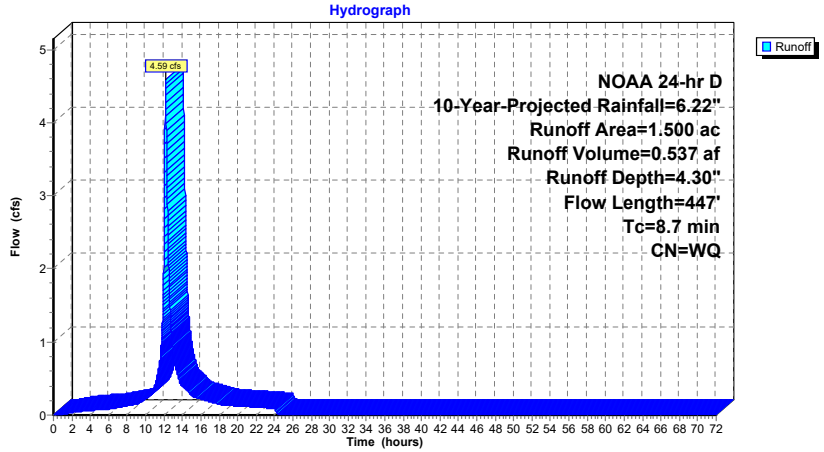
Runoff = 4.59 cfs @ 12.17 hrs, Volume= 0.537 af, Depth= 4.30"
Routed to Pond 83P : BASIN F

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

	Area (ac)	CN	Description
*	0.660	61	Open Space
*	0.440	98	Road
*	0.100	98	Sidewalk
*	0.120	98	Roof
*	0.180	98	Driveway & Apron
	1.500		Weighted Average
	0.660		44.00% Pervious Area
	0.840		56.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	33	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.3	158	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.7	256		2.50		**Direct Entry, Pipe**
8.7	447	Total			

Subcatchment 76S: BASIN F - DA



Summary for Subcatchment 77S: BASIN D - DA

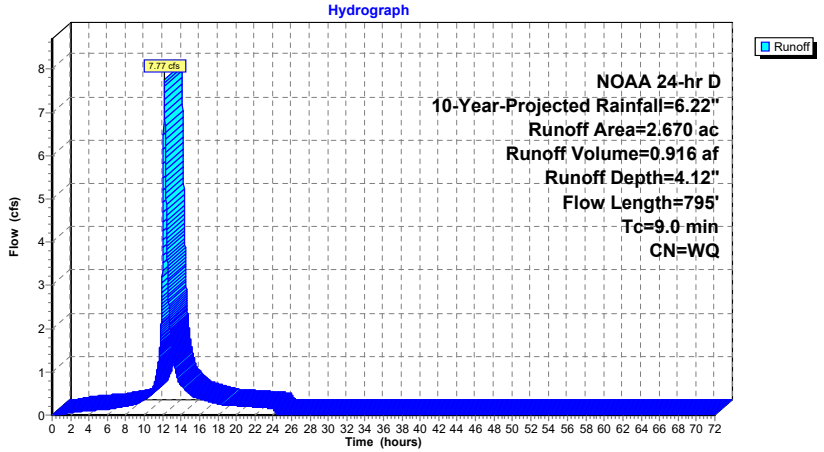
Runoff = 7.77 cfs @ 12.18 hrs, Volume= 0.916 af, Depth= 4.12"
Routed to Pond 75P : BASIN D

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

	Area (ac)	CN	Description
*	1.300	61	Open Space
*	0.430	98	Road
*	0.120	98	Sidewalk
*	0.420	98	Roof
*	0.400	98	Driveway & Apron
	2.670		Weighted Average
	1.300		48.69% Pervious Area
	1.370		51.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0500	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.2	300	0.0120	2.22		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
3.1	465		2.50		**Direct Entry, Pipe**
9.0	795	Total			

Subcatchment 77S: BASIN D - DA



Summary for Subcatchment 83S: BASIN L - DA

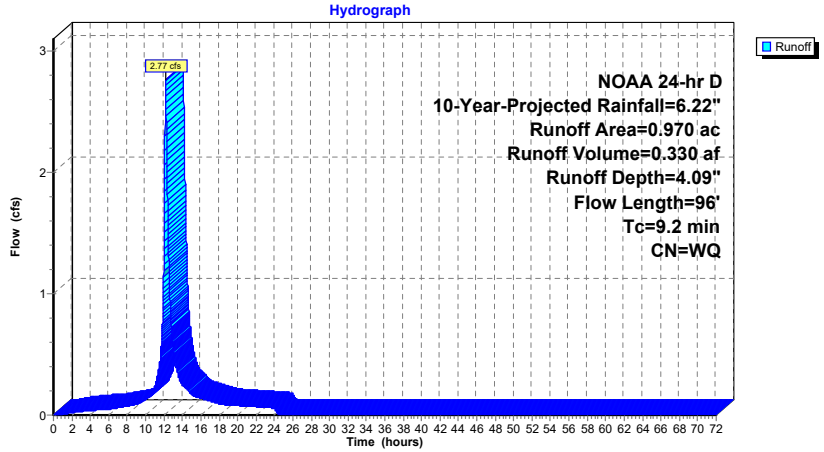
Runoff = 2.77 cfs @ 12.18 hrs, Volume= 0.330 af, Depth= 4.09"
Routed to Pond 84P : BASIN L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

	Area (ac)	CN	Description
*	0.480	61	Open Space
*	0.220	98	Road
*	0.050	98	Sidewalk
*	0.120	98	Roof
*	0.100	98	Driveway & Apron
	0.970		Weighted Average
	0.480		49.48% Pervious Area
	0.490		50.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	37	0.0800	4.55		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.2	96	Total			

Subcatchment 83S: BASIN L - DA



Summary for Subcatchment 85S: BASIN G - DA

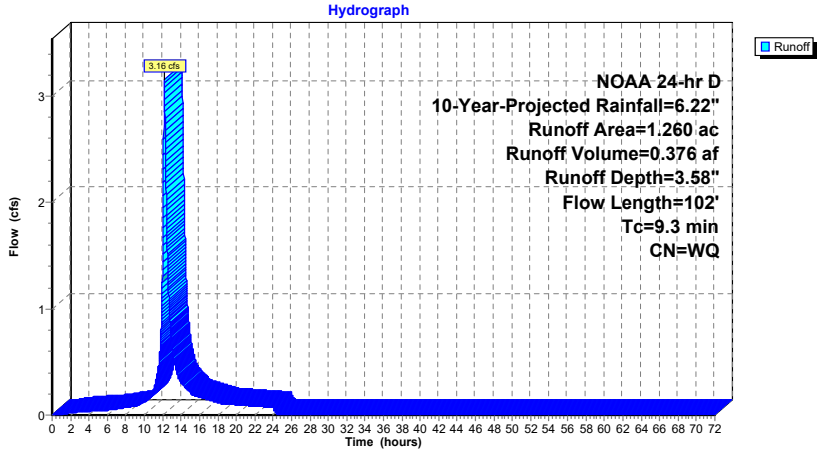
Runoff = 3.16 cfs @ 12.18 hrs, Volume= 0.376 af, Depth= 3.58"
Routed to Pond 86P : BASIN G

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

	Area (ac)	CN	Description
*	0.790	61	Open Space
*	0.060	98	Road
*	0.010	98	Sidewalk
*	0.360	98	Roof
*	0.040	98	Driveway & Apron
	1.260		Weighted Average
	0.790		62.70% Pervious Area
	0.470		37.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.2	43	0.0350	3.01		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.3	102	Total			

Subcatchment 85S: BASIN G - DA



Summary for Subcatchment 88S: BASIN H - DA

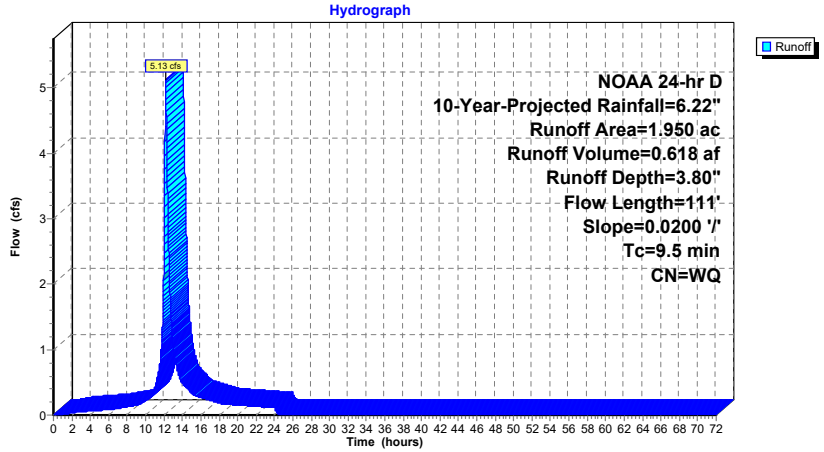
Runoff = 5.13 cfs @ 12.18 hrs, Volume= 0.618 af, Depth= 3.80"
Routed to Pond 60P : BASIN H

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

	Area (ac)	CN	Description
*	1.110	61	Open Space
*	0.230	98	Road
*	0.050	98	Sidewalk
*	0.420	98	Roof
*	0.140	98	Driveway & Apron
	1.950		Weighted Average
	1.110		56.92% Pervious Area
	0.840		43.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.4	52	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.5	111	Total			

Subcatchment 88S: BASIN H - DA



Summary for Subcatchment 98S: BASIN P - DA

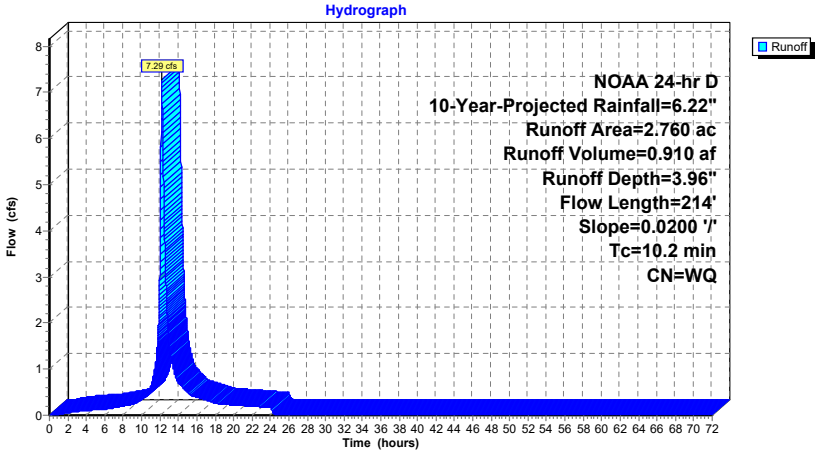
Runoff = 7.29 cfs @ 12.19 hrs, Volume= 0.910 af, Depth= 3.96"
Routed to Pond 63P : BASIN P

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

	Area (ac)	CN	Description
*	1.460	61	Open Space
*	0.410	98	Road
*	0.110	98	Sidewalk
*	0.420	98	Roof
*	0.360	98	Driveway & Apron
	2.760		Weighted Average
	1.460		52.90% Pervious Area
	1.300		47.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.7	99	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
0.4	56		2.50		**Direct Entry,**
10.2	214	Total			

Subcatchment 98S: BASIN P - DA



Summary for Subcatchment 101S: BASIN Q - DA

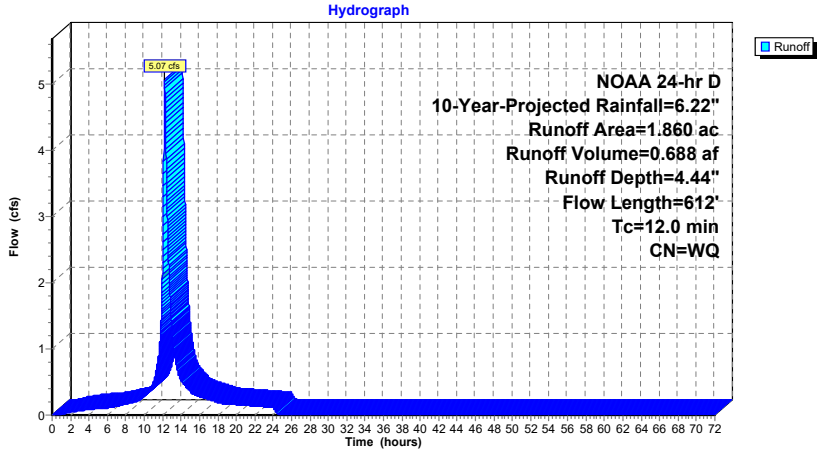
Runoff = 5.07 cfs @ 12.21 hrs, Volume= 0.688 af, Depth= 4.44"
Routed to Pond 102P : BASIN Q

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

	Area (ac)	CN	Description
*	0.750	61	Open Space
*	0.570	98	Road
*	0.140	98	Sidewalk
*	0.060	98	Roof
*	0.340	98	Driveway & Apron
	1.860		Weighted Average
	0.750		40.32% Pervious Area
	1.110		59.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	49	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.3	283	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.9	280		2.50		**Direct Entry, Pipe**
12.0	612	Total			

Subcatchment 101S: BASIN Q - DA



Summary for Subcatchment 104S: BASIN R - DA

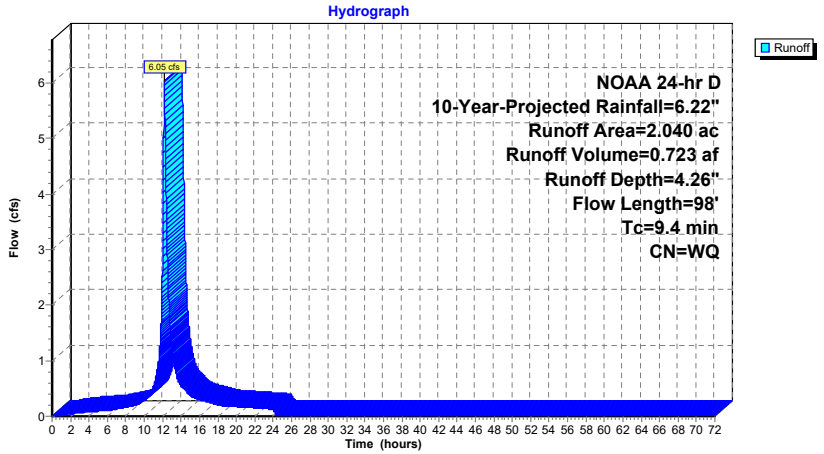
Runoff = 6.05 cfs @ 12.18 hrs, Volume= 0.723 af, Depth= 4.26"
Routed to Pond 105P : BASIN R

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

	Area (ac)	CN	Description
	0.810	61	>75% Grass cover, Good, HSG B
*	0.350	98	Road
*	0.090	98	Sidewalk
*	0.300	98	Roof
*	0.280	98	Driveway & Apron
	0.210	80	>75% Grass cover, Good, HSG D
	2.040		Weighted Average
	1.020		50.00% Pervious Area
	1.020		50.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	39	0.0250	2.55		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	98	Total			

Subcatchment 104S: BASIN R - DA



Summary for Subcatchment 107S: BASIN S - DA

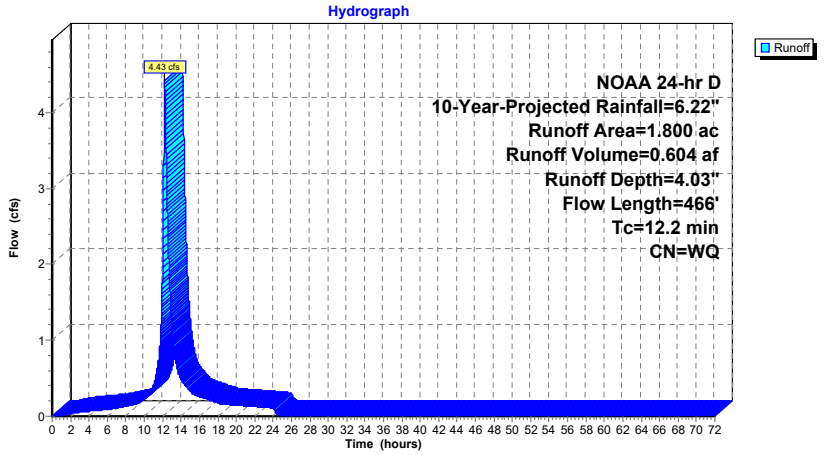
Runoff = 4.43 cfs @ 12.22 hrs, Volume= 0.604 af, Depth= 4.03"
Routed to Pond 108P : BASIN S

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

	Area (ac)	CN	Description
*	0.920	61	Open Space
*	0.590	98	Road
*	0.190	98	Sidewalk
*	0.080	98	Roof
*	0.020	98	Driveway & Apron
	1.800		Weighted Average
	0.920		51.11% Pervious Area
	0.880		48.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	6	0.0100	1.61		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
1.4	167	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.6	234		2.50		**Direct Entry, Pipe**
12.2	466	Total			

Subcatchment 107S: BASIN S - DA



Summary for Subcatchment 110S: BASIN T - DA

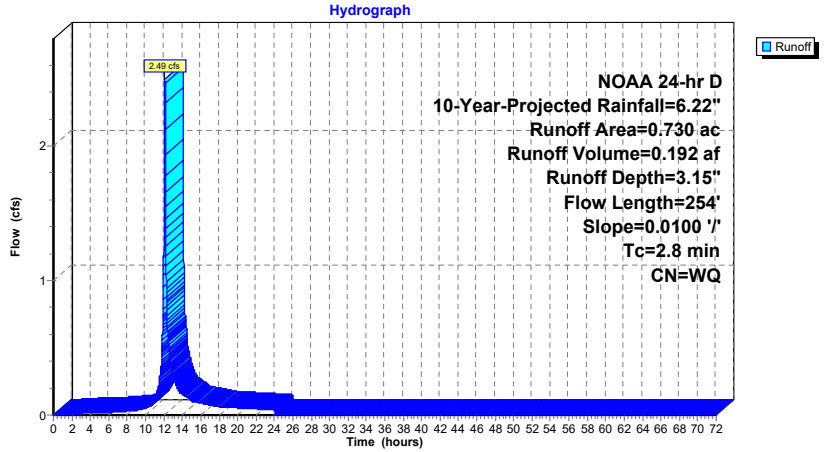
Runoff = 2.49 cfs @ 12.11 hrs, Volume= 0.192 af, Depth= 3.15"
Routed to Pond 111P : BASIN T

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

	Area (ac)	CN	Description
*	0.540	61	Open Space
*	0.140	98	Road
*	0.050	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	0.730		Weighted Average
	0.540		73.97% Pervious Area
	0.190		26.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.07		**Sheet Flow, Sheet Flow - Smooth Surfaces** Smooth surfaces n= 0.011 P2= 3.38"
0.8	93	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
0.4	61		2.50		**Direct Entry, Pipe**
2.8	254	Total			

Subcatchment 110S: BASIN T - DA



Summary for Subcatchment 113S: BASIN U - DA

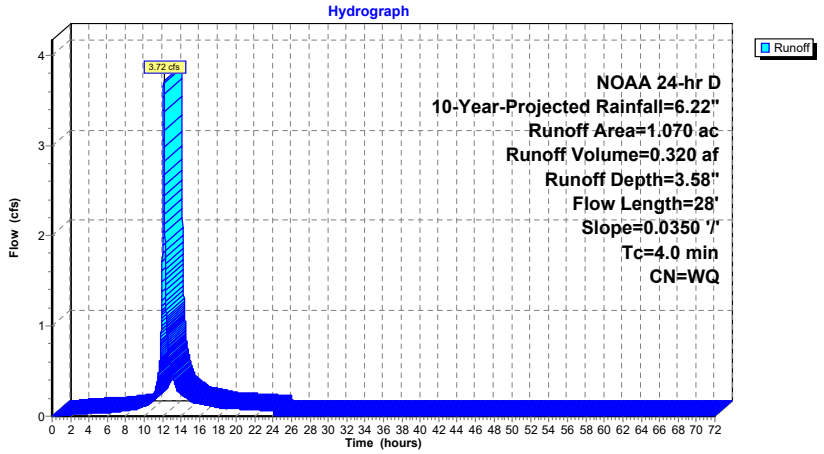
Runoff = 3.72 cfs @ 12.12 hrs, Volume= 0.320 af, Depth= 3.58"
Routed to Pond 114P : BASIN U

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.330	98	Road
*	0.070	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	1.070		Weighted Average
	0.670		62.62% Pervious Area
	0.400		37.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	28	0.0350	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"

Subcatchment 113S: BASIN U - DA



Summary for Pond 52P: BASIN A

Inflow Area = 2.470 ac, 53.85% Impervious, Inflow Depth = 4.22" for 10-Year-Projected event
Inflow = 7.18 cfs @ 12.18 hrs, Volume= 0.868 af
Outflow = 0.21 cfs @ 19.36 hrs, Volume= 0.681 af, Atten= 97%, Lag= 431.0 min
Primary = 0.21 cfs @ 19.36 hrs, Volume= 0.681 af
Routed to Pond 74P : BASIN B

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 34.54' @ 19.36 hrs Surf.Area= 0.339 ac Storage= 0.672 af

Plug-Flow detention time= 1,375.5 min calculated for 0.681 af (78% of inflow)
Center-of-Mass det. time= 1,283.9 min (2,067.9 - 784.0)

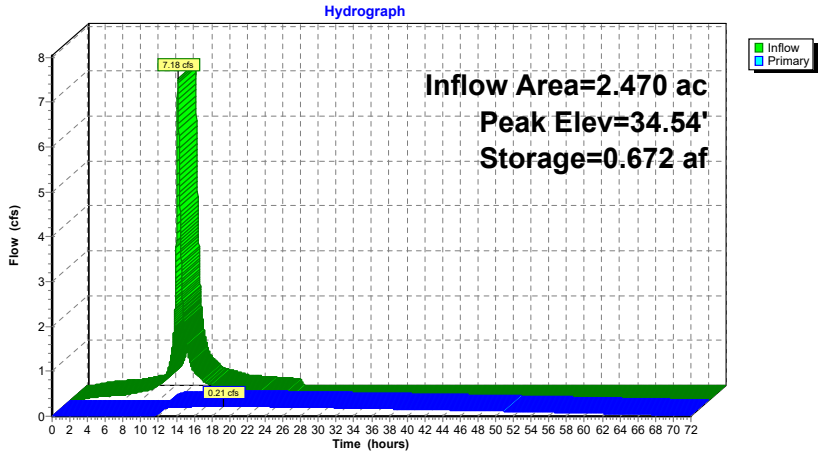
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.233 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.192	0.000	0.000
33.00	0.249	0.220	0.220
34.00	0.307	0.278	0.499
35.00	0.367	0.337	0.836
36.00	0.428	0.397	1.233

Device	Routing	Invert	Outlet Devices
#1	Primary	35.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.75'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.21 cfs @ 19.36 hrs HW=34.54' TW=31.60' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.21 cfs @ 6.24 fps)

Pond 52P: BASIN A



Summary for Pond 59P: BASIN C

Inflow Area = 4.720 ac, 47.25% Impervious, Inflow Depth > 3.29" for 10-Year-Projected event
Inflow = 3.68 cfs @ 12.31 hrs, Volume= 1.293 af
Outflow = 3.41 cfs @ 12.45 hrs, Volume= 1.248 af, Atten= 7%, Lag= 8.6 min
Primary = 3.41 cfs @ 12.45 hrs, Volume= 1.248 af
Routed to Pond 75P : BASIN D

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 30.18' @ 12.45 hrs Surf.Area= 0.070 ac Storage= 0.085 af

Plug-Flow detention time= 140.4 min calculated for 1.248 af (96% of inflow)
Center-of-Mass det. time= 51.5 min (1,621.1 - 1,569.7)

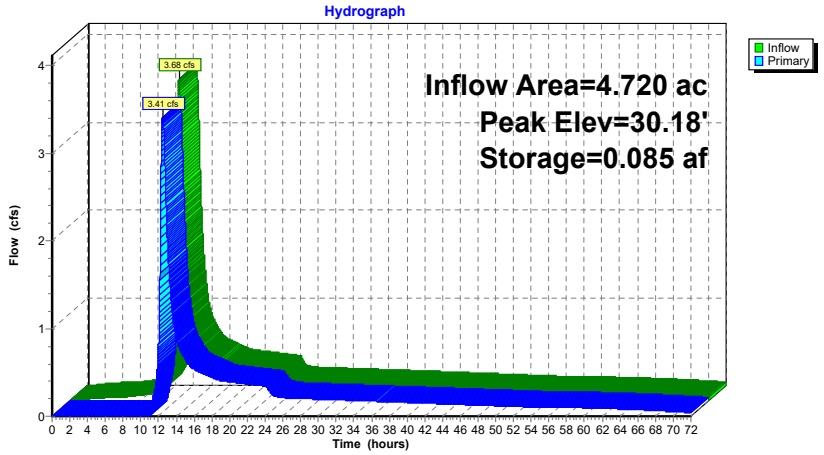
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.198 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.033	0.000	0.000
29.50	0.054	0.043	0.043
30.50	0.077	0.065	0.109
31.50	0.101	0.089	0.198

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	29.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=3.41 cfs @ 12.45 hrs HW=30.18' TW=28.55' (Dynamic Tailwater)
↑ **1=Grate** (Controls 0.00 cfs)
└ **2=Sharp-Crested Rectangular Weir** (Weir Controls 3.41 cfs @ 2.70 fps)

Pond 59P: BASIN C



Summary for Pond 60P: BASIN H

Inflow Area = 4.710 ac, 45.65% Impervious, Inflow Depth > 3.19" for 10-Year-Projected event
Inflow = 5.25 cfs @ 12.18 hrs, Volume= 1.253 af
Outflow = 1.15 cfs @ 13.75 hrs, Volume= 1.105 af, Atten= 78%, Lag= 94.3 min
Primary = 1.15 cfs @ 13.75 hrs, Volume= 1.105 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 30.48' @ 13.75 hrs Surf.Area= 0.283 ac Storage= 0.491 af

Plug-Flow detention time= 917.7 min calculated for 1.105 af (88% of inflow)
Center-of-Mass det. time= 717.6 min (1,879.6 - 1,162.0)

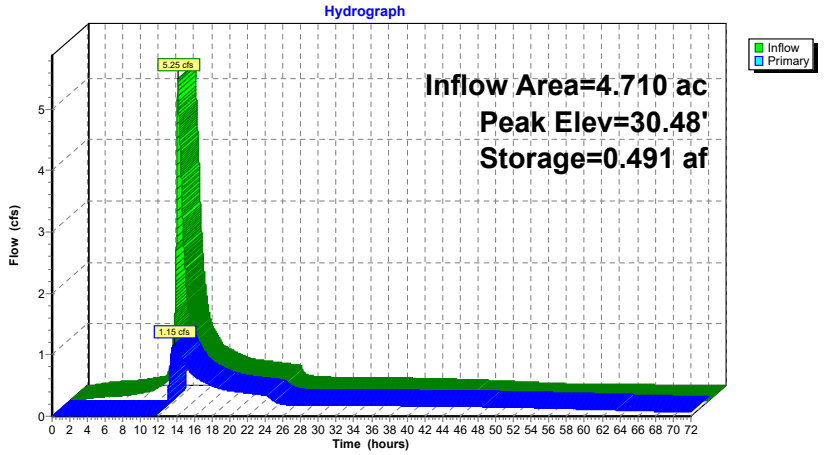
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.799 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.216	0.000	0.000
29.00	0.232	0.112	0.112
30.00	0.266	0.249	0.361
31.00	0.301	0.283	0.644
31.50	0.319	0.155	0.799

Device	Routing	Invert	Outlet Devices
#1	Primary	31.20'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.30'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	28.90'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.15 cfs @ 13.75 hrs HW=30.48' TW=28.45' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.95 cfs @ 1.37 fps)
- **3=Orifice** (Orifice Controls 0.20 cfs @ 5.84 fps)

Pond 60P: BASIN H



Summary for Pond 63P: BASIN P

Inflow = 10.01 cfs @ 12.18 hrs, Volume= 2.214 af
Outflow = 3.83 cfs @ 12.67 hrs, Volume= 1.888 af, Atten= 62%, Lag= 29.2 min
Primary = 3.83 cfs @ 12.67 hrs, Volume= 1.888 af
Routed to Pond 65P : BASIN E

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.67' @ 12.63 hrs Surf.Area= 0.274 ac Storage= 0.509 af

Plug-Flow detention time= 502.5 min calculated for 1.887 af (85% of inflow)
Center-of-Mass det. time= 177.6 min (1,521.2 - 1,343.6)

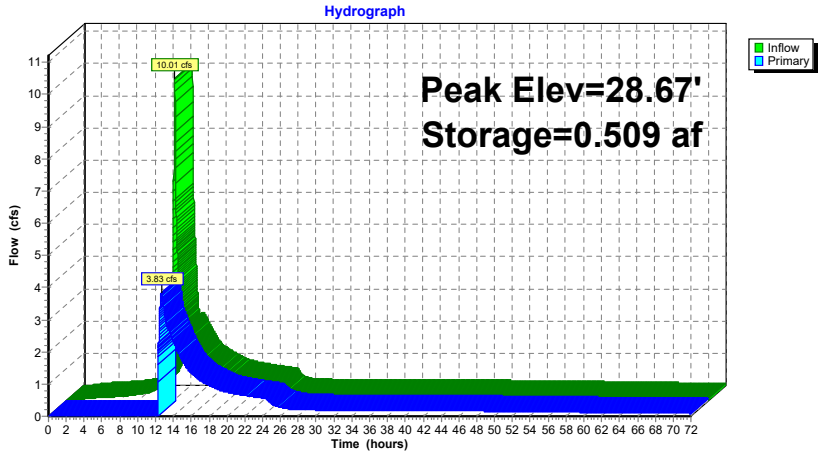
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.910 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.193	0.000	0.000
27.50	0.233	0.213	0.213
28.50	0.268	0.250	0.463
29.50	0.303	0.286	0.749
30.00	0.340	0.161	0.910

Device	Routing	Invert	Outlet Devices
#1	Primary	29.30'	**42.0" x 102.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**3.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.86 cfs @ 12.67 hrs HW=28.67' TW=28.60' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 3.80 cfs @ 1.29 fps)
- **3=Orifice** (Orifice Controls 0.06 cfs @ 1.23 fps)

Pond 63P: BASIN P



Summary for Pond 64P: BASIN I

Inflow Area = 0.530 ac, 33.96% Impervious, Inflow Depth = 3.45" for 10-Year-Projected event
Inflow = 1.27 cfs @ 12.18 hrs, Volume= 0.153 af
Outflow = 0.55 cfs @ 12.60 hrs, Volume= 0.129 af, Atten= 57%, Lag= 25.2 min
Primary = 0.55 cfs @ 12.60 hrs, Volume= 0.129 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 30.71' @ 12.60 hrs Surf.Area= 0.039 ac Storage= 0.068 af

Plug-Flow detention time= 250.1 min calculated for 0.129 af (85% of inflow)
Center-of-Mass det. time= 175.2 min (981.5 - 806.3)

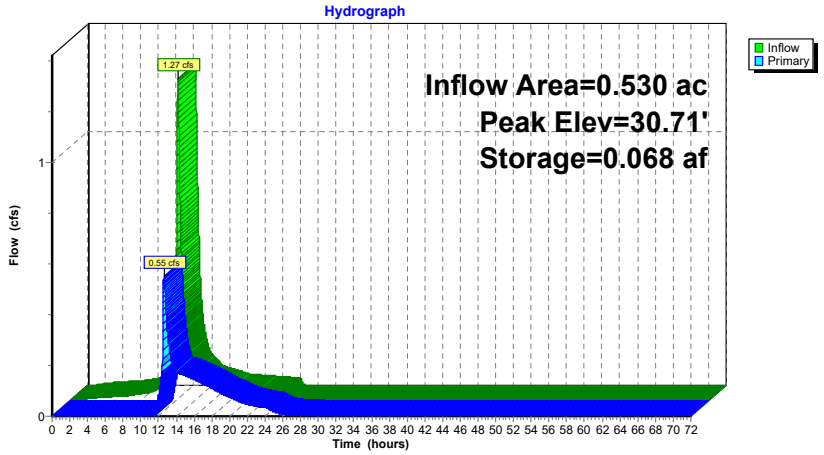
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.101 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.023	0.000	0.000
29.50	0.030	0.026	0.026
30.50	0.037	0.033	0.060
31.50	0.045	0.041	0.101

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.60'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	29.40'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.55 cfs @ 12.60 hrs HW=30.71' TW=28.67' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.37 cfs @ 1.10 fps)
- **3=Orifice** (Orifice Controls 0.18 cfs @ 5.29 fps)

Pond 64P: BASIN I



Summary for Pond 65P: BASIN E

Inflow = 7.55 cfs @ 12.25 hrs, Volume= 2.653 af
Outflow = 6.16 cfs @ 12.59 hrs, Volume= 2.486 af, Atten= 18%, Lag= 20.4 min
Primary = 6.16 cfs @ 12.59 hrs, Volume= 2.417 af
Routed to Link 46L : DA North
Secondary = 2.57 cfs @ 12.16 hrs, Volume= 0.070 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.61' @ 12.59 hrs Surf.Area= 0.161 ac Storage= 0.263 af

Plug-Flow detention time= 235.2 min calculated for 2.486 af (94% of inflow)
Center-of-Mass det. time= 73.2 min (1,381.9 - 1,308.6)

Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.421 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

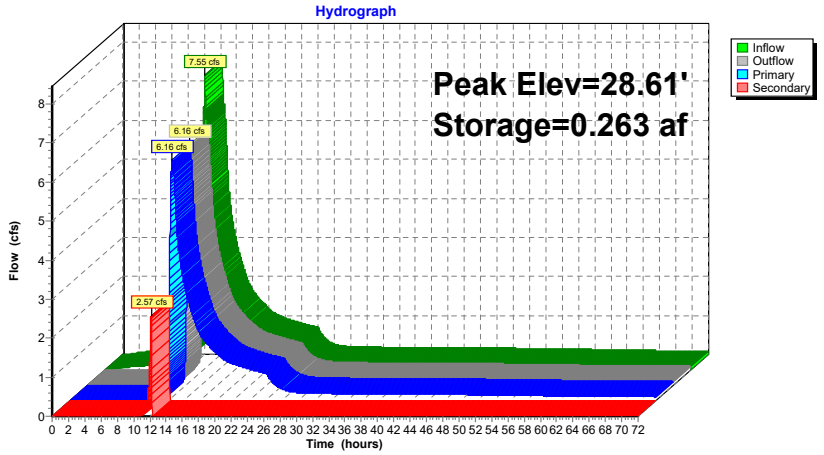
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.091	0.000	0.000
27.50	0.122	0.106	0.106
28.50	0.157	0.139	0.246
29.50	0.193	0.175	0.421

Device	Routing	Invert	Outlet Devices
#1	Primary	28.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#4	Secondary	27.50'	**3.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#5	Secondary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#6	Secondary	29.30'	**42.0" x 102.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=6.16 cfs @ 12.59 hrs HW=28.61' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Weir Controls 0.02 cfs @ 0.24 fps)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 5.97 cfs @ 2.54 fps)
- **3=Orifice** (Orifice Controls 0.16 cfs @ 4.82 fps)

Secondary OutFlow Max=2.40 cfs @ 12.16 hrs HW=28.28' TW=28.14' (Dynamic Tailwater)
- **4=Orifice** (Orifice Controls 0.09 cfs @ 1.82 fps)
- **5=Sharp-Crested Rectangular Weir** (Weir Controls 2.31 cfs @ 1.55 fps)
- **6=Grate** (Controls 0.00 cfs)

Pond 65P: BASIN E



Summary for Pond 70P: BASIN K

Inflow Area = 1.640 ac, 37.80% Impervious, Inflow Depth = 3.60" for 10-Year-Projected event
Inflow = 4.06 cfs @ 12.18 hrs, Volume= 0.492 af
Outflow = 1.17 cfs @ 12.81 hrs, Volume= 0.425 af, Atten= 71%, Lag= 37.3 min
Primary = 1.17 cfs @ 12.81 hrs, Volume= 0.425 af
Routed to Pond 90P : BASIN N

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 32.19' @ 12.81 hrs Surf.Area= 0.166 ac Storage= 0.242 af

Plug-Flow detention time= 423.8 min calculated for 0.425 af (86% of inflow)
Center-of-Mass det. time= 355.6 min (1,157.1 - 801.5)

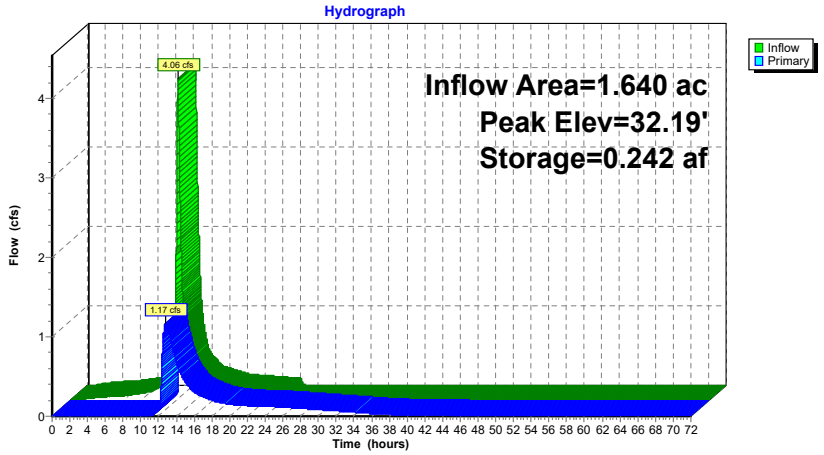
Volume	Invert	Avail.Storage	Storage Description
#1	30.50'	0.484 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.50	0.122	0.000	0.000
31.50	0.148	0.135	0.135
32.50	0.174	0.161	0.296
33.50	0.202	0.188	0.484

Device	Routing	Invert	Outlet Devices
#1	Primary	33.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.70'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.17 cfs @ 12.81 hrs HW=32.19' TW=30.61' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 1.00 cfs @ 2.28 fps)
- **3=Orifice** (Orifice Controls 0.17 cfs @ 5.01 fps)

Pond 70P: BASIN K



Summary for Pond 74P: BASIN B

Inflow Area = 3.730 ac, 48.53% Impervious, Inflow Depth > 3.41" for 10-Year-Projected event
Inflow = 3.29 cfs @ 12.18 hrs, Volume= 1.060 af
Outflow = 1.94 cfs @ 12.46 hrs, Volume= 0.982 af, Atten= 41%, Lag= 16.9 min
Primary = 1.94 cfs @ 12.46 hrs, Volume= 0.982 af
Routed to Pond 59P : BASIN C

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 31.93' @ 12.46 hrs Surf.Area= 0.111 ac Storage= 0.155 af

Plug-Flow detention time= 366.9 min calculated for 0.982 af (93% of inflow)
Center-of-Mass det. time= 201.0 min (1,815.5 - 1,614.4)

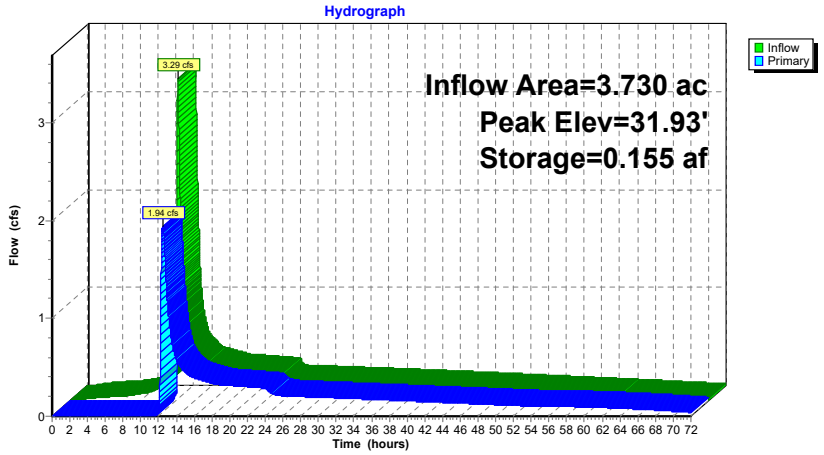
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	0.292 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.00	0.049	0.000	0.000
31.00	0.081	0.065	0.065
32.00	0.113	0.097	0.162
33.00	0.147	0.130	0.292

Device	Routing	Invert	Outlet Devices
#1	Primary	32.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.94 cfs @ 12.46 hrs HW=31.93' TW=30.18' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 1.79 cfs @ 2.16 fps)
- **3=Orifice** (Orifice Controls 0.15 cfs @ 4.39 fps)

Pond 74P: BASIN B



Summary for Pond 75P: BASIN D

Inflow Area = 7.390 ac, 48.71% Impervious, Inflow Depth > 3.51" for 10-Year-Projected event
Inflow = 9.73 cfs @ 12.20 hrs, Volume= 2.164 af
Outflow = 6.91 cfs @ 12.53 hrs, Volume= 1.887 af, Atten= 29%, Lag= 20.0 min
Primary = 6.91 cfs @ 12.53 hrs, Volume= 1.887 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.56' @ 12.53 hrs Surf.Area= 0.259 ac Storage= 0.468 af

Plug-Flow detention time= 453.1 min calculated for 1.887 af (87% of inflow)
Center-of-Mass det. time= 173.0 min (1,440.4 - 1,267.4)

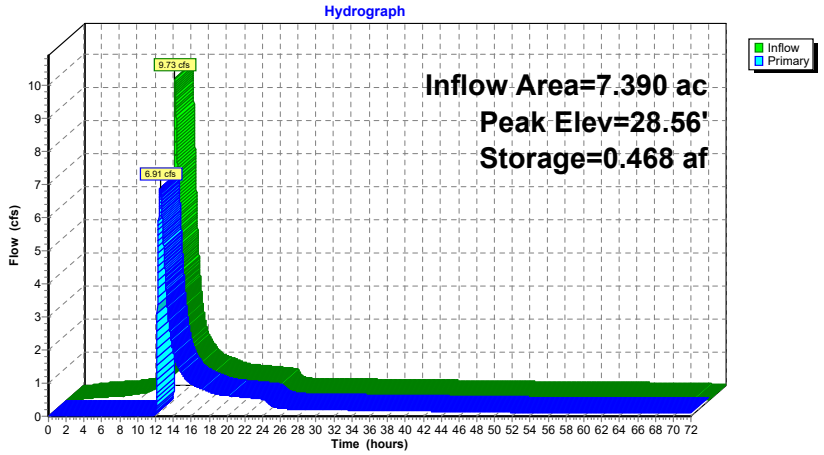
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.725 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.197	0.000	0.000
27.50	0.226	0.211	0.211
28.50	0.257	0.241	0.453
29.50	0.288	0.272	0.725

Device	Routing	Invert	Outlet Devices
#1	Primary	28.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.40'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=6.91 cfs @ 12.53 hrs HW=28.56' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 6.74 cfs @ 2.65 fps)
- **3=Orifice** (Orifice Controls 0.17 cfs @ 4.94 fps)

Pond 75P: BASIN D



Summary for Pond 76P: BASIN M

Inflow Area = 0.860 ac, 59.30% Impervious, Inflow Depth = 4.42" for 10-Year-Projected event
Inflow = 2.62 cfs @ 12.18 hrs, Volume= 0.317 af
Outflow = 0.90 cfs @ 12.67 hrs, Volume= 0.257 af, Atten= 66%, Lag= 29.5 min
Primary = 0.90 cfs @ 12.67 hrs, Volume= 0.257 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 34.13' @ 12.67 hrs Surf.Area= 0.070 ac Storage= 0.164 af

Plug-Flow detention time= 365.3 min calculated for 0.257 af (81% of inflow)
Center-of-Mass det. time= 280.2 min (1,059.4 - 779.1)

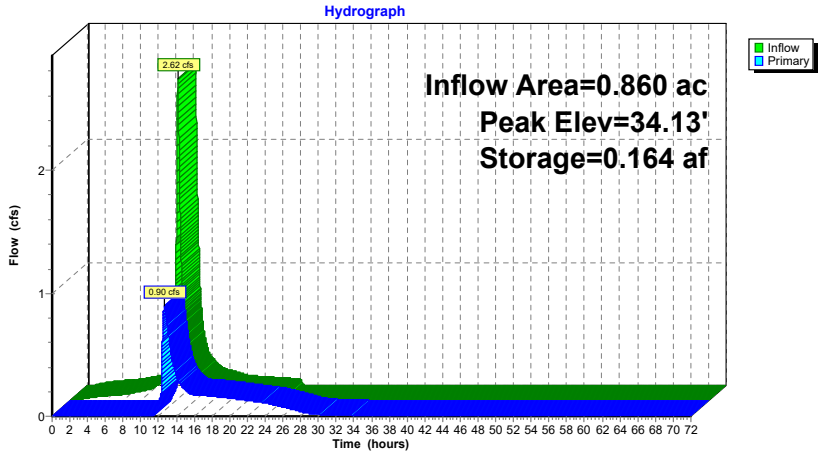
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	0.260 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.50	0.060	0.000	0.000
32.00	0.060	0.030	0.030
33.00	0.060	0.060	0.090
34.00	0.070	0.065	0.155
35.00	0.070	0.070	0.225
35.50	0.070	0.035	0.260

Device	Routing	Invert	Outlet Devices
#1	Primary	35.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	33.75'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.90 cfs @ 12.67 hrs HW=34.13' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.70 cfs @ 2.00 fps)
- **3=Orifice** (Orifice Controls 0.20 cfs @ 5.94 fps)

Pond 76P: BASIN M



Summary for Pond 83P: BASIN F

Inflow Area = 1.500 ac, 56.00% Impervious, Inflow Depth = 4.30" for 10-Year-Projected event
Inflow = 4.59 cfs @ 12.17 hrs, Volume= 0.537 af
Outflow = 0.15 cfs @ 18.06 hrs, Volume= 0.330 af, Atten= 97%, Lag= 353.1 min
Primary = 0.15 cfs @ 18.06 hrs, Volume= 0.330 af
Routed to Pond 86p : BASIN G

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.91' @ 18.06 hrs Surf.Area= 0.256 ac Storage= 0.413 af

Plug-Flow detention time= 1,057.2 min calculated for 0.330 af (61% of inflow)
Center-of-Mass det. time= 932.0 min (1,713.1 - 781.0)

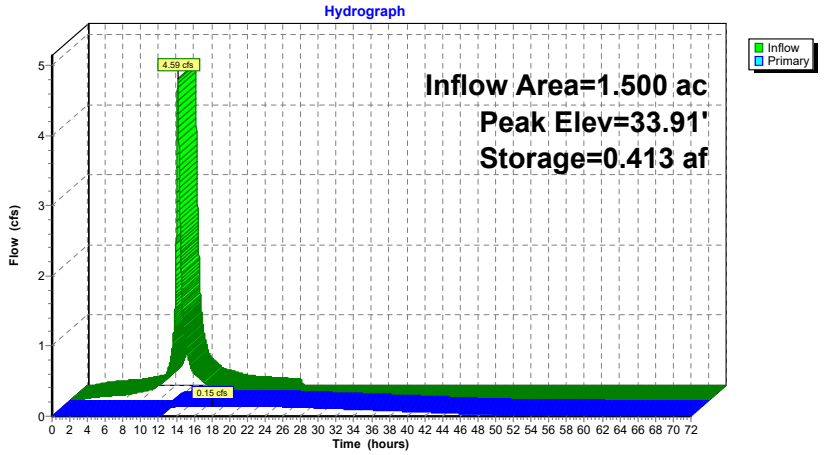
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.043 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.178	0.000	0.000
33.00	0.218	0.198	0.198
34.00	0.260	0.239	0.437
35.00	0.303	0.281	0.718
36.00	0.347	0.325	1.043

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.25'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.15 cfs @ 18.06 hrs HW=33.91' TW=32.83' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.15 cfs @ 4.32 fps)

Pond 83P: BASIN F



Summary for Pond 84P: BASIN L

Inflow Area = 0.970 ac, 50.52% Impervious, Inflow Depth = 4.09" for 10-Year-Projected event
Inflow = 2.77 cfs @ 12.18 hrs, Volume= 0.330 af
Outflow = 1.23 cfs @ 12.56 hrs, Volume= 0.282 af, Atten= 56%, Lag= 22.7 min
Primary = 1.23 cfs @ 12.56 hrs, Volume= 0.282 af
Routed to Pond 90P : BASIN N

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 34.20' @ 12.56 hrs Surf.Area= 0.106 ac Storage= 0.153 af

Plug-Flow detention time= 361.9 min calculated for 0.282 af (85% of inflow)
Center-of-Mass det. time= 290.4 min (1,077.2 - 786.8)

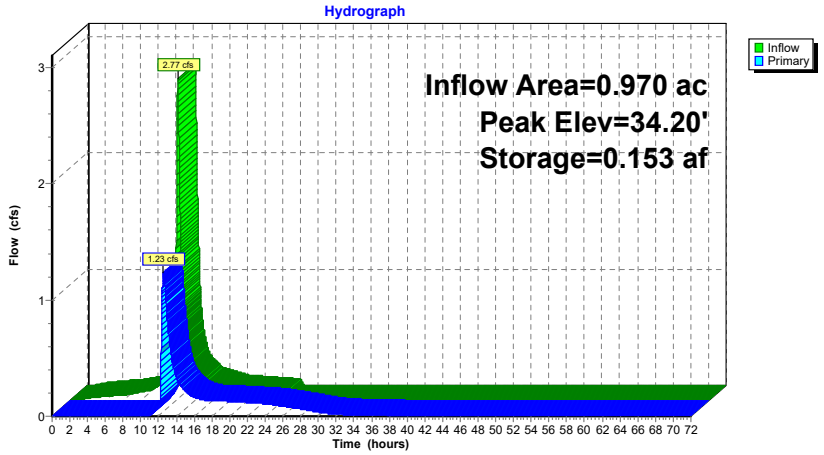
Volume	Invert	Avail.Storage	Storage Description
#1	32.50'	0.308 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.50	0.074	0.000	0.000
33.00	0.083	0.039	0.039
34.00	0.102	0.092	0.132
35.00	0.123	0.113	0.244
35.50	0.134	0.064	0.308

Device	Routing	Invert	Outlet Devices
#1	Primary	34.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	33.90'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.10'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.23 cfs @ 12.56 hrs HW=34.20' TW=30.59' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 1.06 cfs @ 1.80 fps)
- **3=Orifice** (Orifice Controls 0.16 cfs @ 4.82 fps)

Pond 84P: BASIN L



Summary for Pond 86P: BASIN G

Inflow Area = 2.760 ac, 47.46% Impervious, Inflow Depth > 3.07" for 10-Year-Projected event
Inflow = 3.16 cfs @ 12.18 hrs, Volume= 0.706 af
Outflow = 1.34 cfs @ 12.63 hrs, Volume= 0.635 af, Atten= 58%, Lag= 26.8 min
Primary = 1.34 cfs @ 12.63 hrs, Volume= 0.635 af
Routed to Pond 60P : BASIN H

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.08' @ 12.63 hrs Surf.Area= 0.120 ac Storage= 0.176 af

Plug-Flow detention time= 462.6 min calculated for 0.635 af (90% of inflow)
Center-of-Mass det. time= 291.9 min (1,519.4 - 1,227.5)

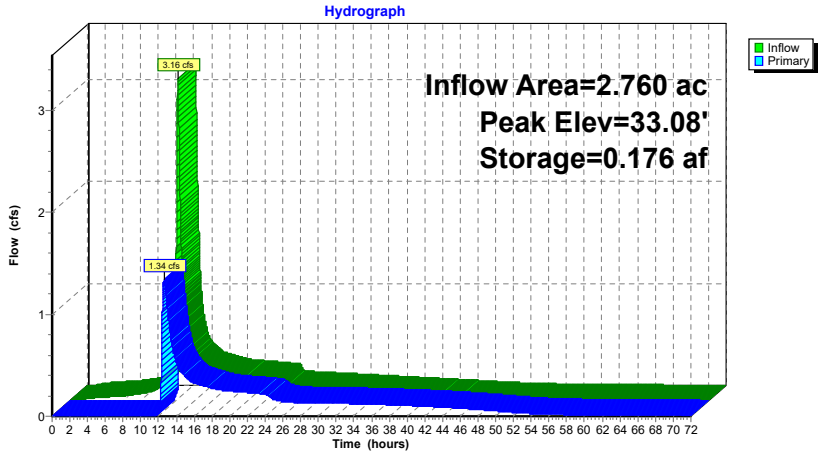
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	0.301 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.00	0.051	0.000	0.000
32.00	0.083	0.067	0.067
33.00	0.117	0.100	0.167
34.00	0.152	0.134	0.301

Device	Routing	Invert	Outlet Devices
#1	Primary	33.70'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	32.75'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.34 cfs @ 12.63 hrs HW=33.08' TW=30.03' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 1.18 cfs @ 1.87 fps)
- **3=Orifice** (Orifice Controls 0.16 cfs @ 4.75 fps)

Pond 86P: BASIN G



Summary for Pond 90P: BASIN N

Inflow Area = 4.000 ac, 43.75% Impervious, Inflow Depth > 3.52" for 10-Year-Projected event
Inflow = 4.26 cfs @ 12.37 hrs, Volume= 1.173 af
Outflow = 3.55 cfs @ 12.71 hrs, Volume= 1.064 af, Atten= 17%, Lag= 20.1 min
Primary = 3.55 cfs @ 12.71 hrs, Volume= 1.064 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 30.61' @ 12.71 hrs Surf.Area= 0.186 ac Storage= 0.259 af

Plug-Flow detention time= 294.8 min calculated for 1.064 af (91% of inflow)
Center-of-Mass det. time= 196.4 min (1,188.8 - 992.5)

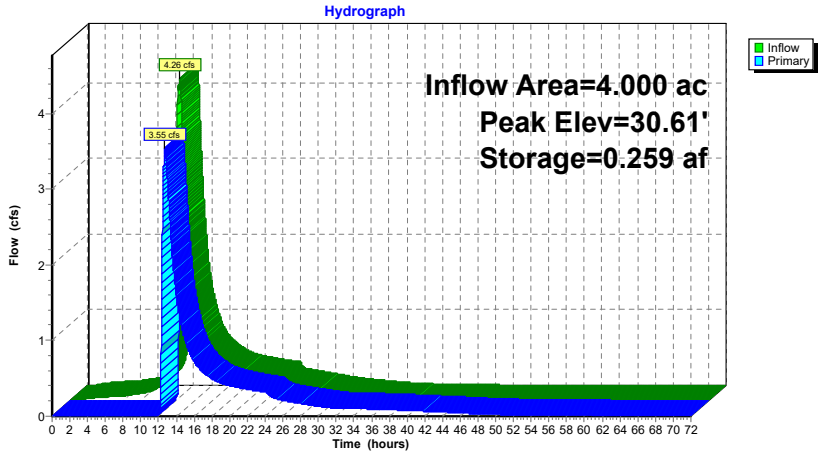
Volume	Invert	Avail.Storage	Storage Description
#1	29.00'	0.443 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
29.00	0.136	0.000	0.000
30.00	0.167	0.151	0.151
31.00	0.199	0.183	0.334
31.50	0.238	0.109	0.443

Device	Routing	Invert	Outlet Devices
#1	Primary	30.90'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.20'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	29.70'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.55 cfs @ 12.71 hrs HW=30.61' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 3.40 cfs @ 2.10 fps)
- **3=Orifice** (Orifice Controls 0.15 cfs @ 4.33 fps)

Pond 90P: BASIN N



Summary for Pond 93P: BASIN O

Inflow Area = 1.100 ac, 51.82% Impervious, Inflow Depth = 4.39" for 10-Year-Projected event
Inflow = 3.37 cfs @ 12.18 hrs, Volume= 0.402 af
Outflow = 2.73 cfs @ 12.30 hrs, Volume= 0.342 af, Atten= 19%, Lag= 7.2 min
Primary = 2.73 cfs @ 12.30 hrs, Volume= 0.342 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.42' @ 12.30 hrs Surf.Area= 0.088 ac Storage= 0.132 af

Plug-Flow detention time= 239.8 min calculated for 0.342 af (85% of inflow)
Center-of-Mass det. time= 168.0 min (953.0 - 785.0)

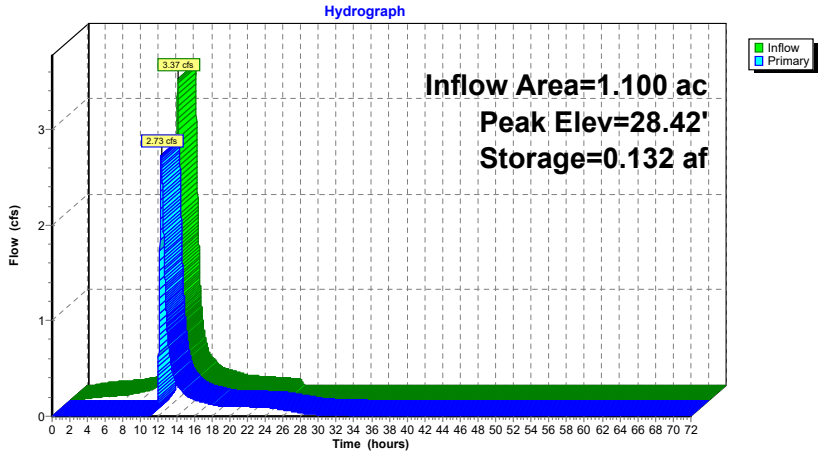
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.244 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.050	0.000	0.000
27.00	0.059	0.027	0.027
28.00	0.079	0.069	0.097
29.00	0.100	0.090	0.186
29.50	0.129	0.057	0.244

Device	Routing	Invert	Outlet Devices
#1	Primary	28.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.00'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.73 cfs @ 12.30 hrs HW=28.42' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 2.59 cfs @ 2.12 fps)
- **3=Orifice** (Orifice Controls 0.15 cfs @ 4.35 fps)

Pond 93P: BASIN O



Summary for Pond 102P: BASIN Q

Inflow Area = 1.860 ac, 59.68% Impervious, Inflow Depth = 4.44" for 10-Year-Projected event
Inflow = 5.07 cfs @ 12.21 hrs, Volume= 0.688 af
Outflow = 4.18 cfs @ 12.36 hrs, Volume= 0.506 af, Atten= 18%, Lag= 8.6 min
Primary = 4.18 cfs @ 12.36 hrs, Volume= 0.506 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.17' @ 12.36 hrs Surf.Area= 0.131 ac Storage= 0.242 af

Plug-Flow detention time= 205.1 min calculated for 0.506 af (74% of inflow)
Center-of-Mass det. time= 102.4 min (885.4 - 783.0)

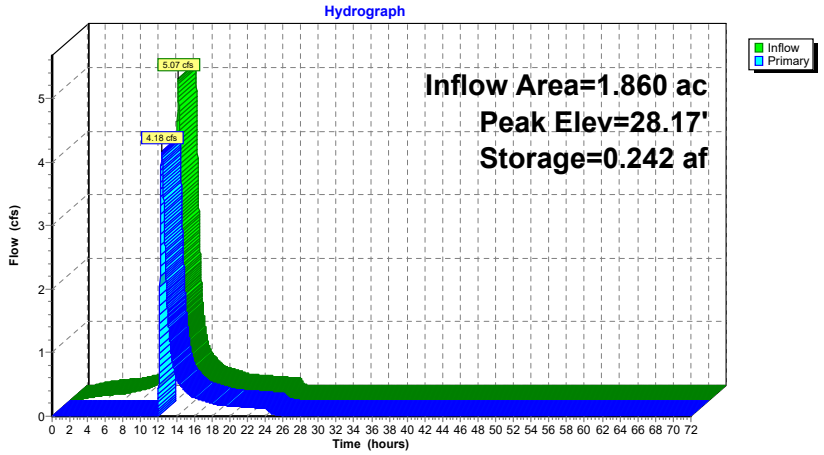
Volume	Invert	Avail.Storage	Storage Description
#1	26.00'	0.356 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.00	0.092	0.000	0.000
27.00	0.110	0.101	0.101
28.00	0.128	0.119	0.220
29.00	0.146	0.137	0.356

Device	Routing	Invert	Outlet Devices
#1	Primary	28.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.70'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.00'	**2.5" Vert. Orifice X 0.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.18 cfs @ 12.36 hrs HW=28.17' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 4.18 cfs @ 2.25 fps)
- **3=Orifice** (Controls 0.00 cfs)

Pond 102P: BASIN Q



Summary for Pond 105P: BASIN R

Inflow Area = 2.040 ac, 50.00% Impervious, Inflow Depth = 4.26" for 10-Year-Projected event
Inflow = 6.05 cfs @ 12.18 hrs, Volume= 0.723 af
Outflow = 3.13 cfs @ 12.49 hrs, Volume= 0.573 af, Atten= 48%, Lag= 18.6 min
Primary = 3.13 cfs @ 12.49 hrs, Volume= 0.573 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 24.42' @ 12.49 hrs Surf.Area= 0.204 ac Storage= 0.318 af

Plug-Flow detention time= 331.9 min calculated for 0.573 af (79% of inflow)
Center-of-Mass det. time= 242.4 min (1,029.3 - 786.9)

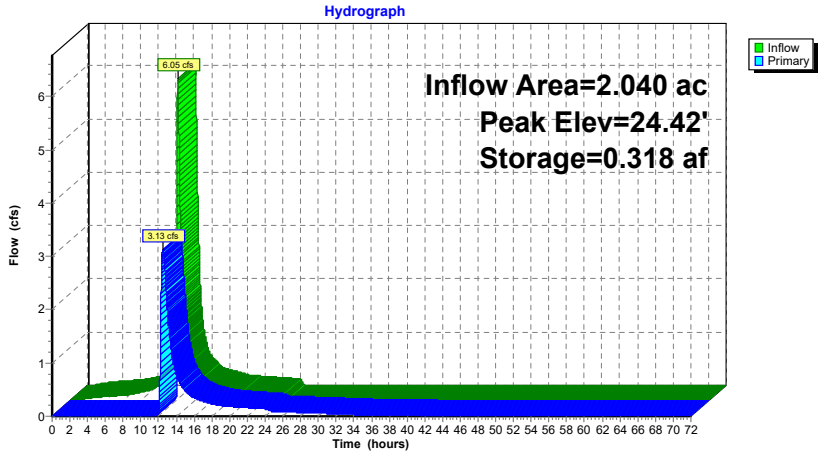
Volume	Invert	Avail.Storage	Storage Description
#1	22.50'	0.568 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
22.50	0.127	0.000	0.000
23.00	0.146	0.068	0.068
24.00	0.187	0.167	0.235
25.00	0.228	0.207	0.442
25.50	0.277	0.126	0.568

Device	Routing	Invert	Outlet Devices
#1	Primary	25.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	23.90'	**2.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	23.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.13 cfs @ 12.49 hrs HW=24.42' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 2.98 cfs @ 2.37 fps)
- **3=Orifice** (Orifice Controls 0.15 cfs @ 4.36 fps)

Pond 105P: BASIN R



Summary for Pond 108P: BASIN S

Inflow Area = 1.800 ac, 48.89% Impervious, Inflow Depth = 4.03" for 10-Year-Projected event
Inflow = 4.43 cfs @ 12.22 hrs, Volume= 0.604 af
Outflow = 0.68 cfs @ 13.51 hrs, Volume= 0.320 af, Atten= 85%, Lag= 77.6 min
Primary = 0.68 cfs @ 13.51 hrs, Volume= 0.320 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 20.47' @ 13.51 hrs Surf.Area= 0.254 ac Storage= 0.375 af

Plug-Flow detention time= 410.9 min calculated for 0.320 af (53% of inflow)
Center-of-Mass det. time= 269.4 min (1,062.4 - 793.0)

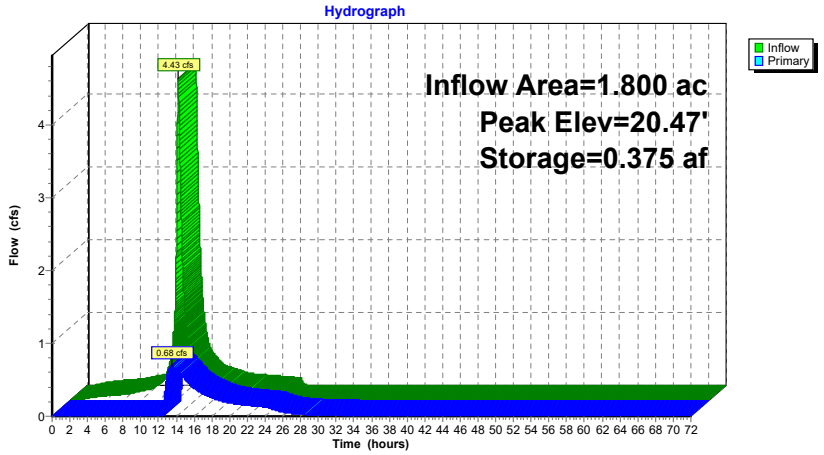
Volume	Invert	Avail.Storage	Storage Description
#1	18.80'	0.750 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
18.80	0.190	0.000	0.000
19.00	0.200	0.039	0.039
20.00	0.240	0.220	0.259
21.00	0.270	0.255	0.514
21.80	0.320	0.236	0.750

Device	Routing	Invert	Outlet Devices
#1	Primary	21.20'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.10'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	19.30'	**2.5" Vert. Orifice X 0.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.68 cfs @ 13.51 hrs HW=20.47' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.68 cfs @ 1.99 fps)
- **3=Orifice** (Controls 0.00 cfs)

Pond 108P: BASIN S



Summary for Pond 111P: BASIN T

Inflow Area = 1.800 ac, 32.78% Impervious, Inflow Depth > 2.61" for 10-Year-Projected event
Inflow = 2.49 cfs @ 12.11 hrs, Volume= 0.392 af
Outflow = 0.13 cfs @ 24.03 hrs, Volume= 0.274 af, Atten= 95%, Lag= 715.2 min
Primary = 0.13 cfs @ 24.03 hrs, Volume= 0.274 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 19.80' @ 24.03 hrs Surf.Area= 0.222 ac Storage= 0.256 af

Plug-Flow detention time= 985.4 min calculated for 0.274 af (70% of inflow)
Center-of-Mass det. time= 780.9 min (1,803.2 - 1,022.3)

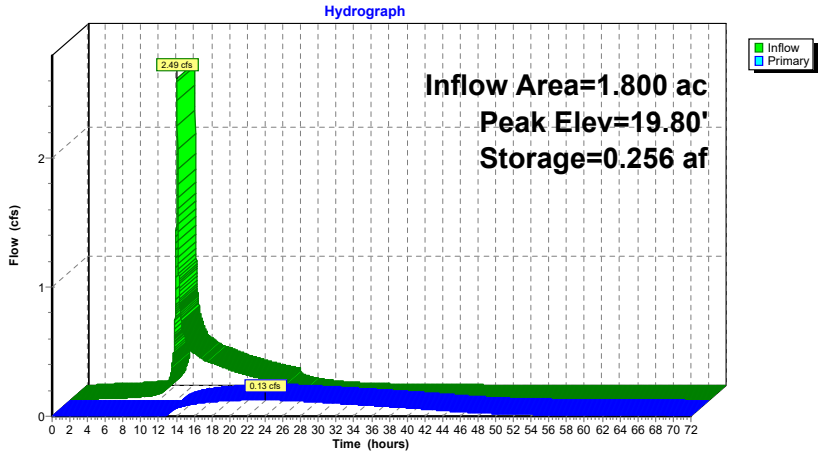
Volume	Invert	Avail.Storage	Storage Description
#1	18.50'	0.697 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
18.50	0.170	0.000	0.000
19.00	0.190	0.090	0.090
20.00	0.230	0.210	0.300
21.00	0.270	0.250	0.550
21.50	0.320	0.148	0.697

Device	Routing	Invert	Outlet Devices
#1	Primary	20.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.20'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	19.10'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.13 cfs @ 24.03 hrs HW=19.80' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.13 cfs @ 3.73 fps)

Pond 111P: BASIN T



Summary for Pond 114P: BASIN U

Inflow Area = 1.070 ac, 37.38% Impervious, Inflow Depth = 3.58" for 10-Year-Projected event
Inflow = 3.72 cfs @ 12.12 hrs, Volume= 0.320 af
Outflow = 0.21 cfs @ 14.43 hrs, Volume= 0.201 af, Atten= 94%, Lag= 138.7 min
Primary = 0.21 cfs @ 14.43 hrs, Volume= 0.201 af
Routed to Pond 111P : BASIN T

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 20.53' @ 14.43 hrs Surf.Area= 0.221 ac Storage= 0.206 af

Plug-Flow detention time= 558.7 min calculated for 0.201 af (63% of inflow)
Center-of-Mass det. time= 434.2 min (1,227.5 - 793.3)

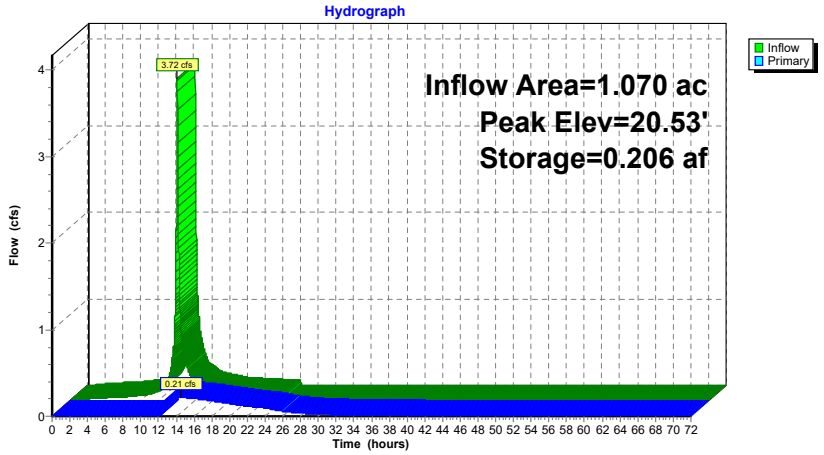
Volume	Invert	Avail.Storage	Storage Description
#1	19.50'	0.738 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
19.50	0.180	0.000	0.000
20.00	0.200	0.095	0.095
21.00	0.240	0.220	0.315
22.00	0.290	0.265	0.580
22.50	0.340	0.157	0.738

Device	Routing	Invert	Outlet Devices
#1	Primary	21.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.10'	**4.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.21 cfs @ 14.43 hrs HW=20.53' TW=19.40' (Dynamic Tailwater)
└─**1=Grate** (Controls 0.00 cfs)
└─**2=Orifice** (Orifice Controls 0.21 cfs @ 2.46 fps)

Pond 114P: BASIN U



Summary for Pond 117P: BASIN V

Inflow Area = 0.850 ac, 14.12% Impervious, Inflow Depth = 2.69" for 10-Year-Projected event
Inflow = 1.64 cfs @ 12.18 hrs, Volume= 0.191 af
Outflow = 0.28 cfs @ 13.33 hrs, Volume= 0.094 af, Atten= 83%, Lag= 69.1 min
Primary = 0.28 cfs @ 13.33 hrs, Volume= 0.094 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 37.98' @ 13.33 hrs Surf.Area= 0.120 ac Storage= 0.106 af

Plug-Flow detention time= 328.2 min calculated for 0.094 af (49% of inflow)
Center-of-Mass det. time= 182.1 min (1,022.5 - 840.4)

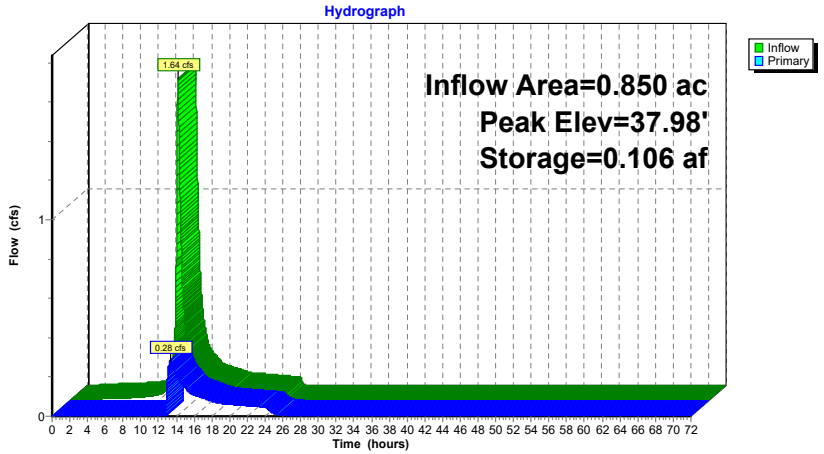
Volume	Invert	Avail.Storage	Storage Description
#1	37.00'	0.243 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
37.00	0.096	0.000	0.000
38.00	0.121	0.109	0.109
39.00	0.147	0.134	0.243

Device	Routing	Invert	Outlet Devices
#1	Primary	38.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	37.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.28 cfs @ 13.33 hrs HW=37.98' TW=0.00' (Dynamic Tailwater)
└─**1=Grate** (Controls 0.00 cfs)
└─**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.28 cfs @ 0.91 fps)

Pond 117P: BASIN V

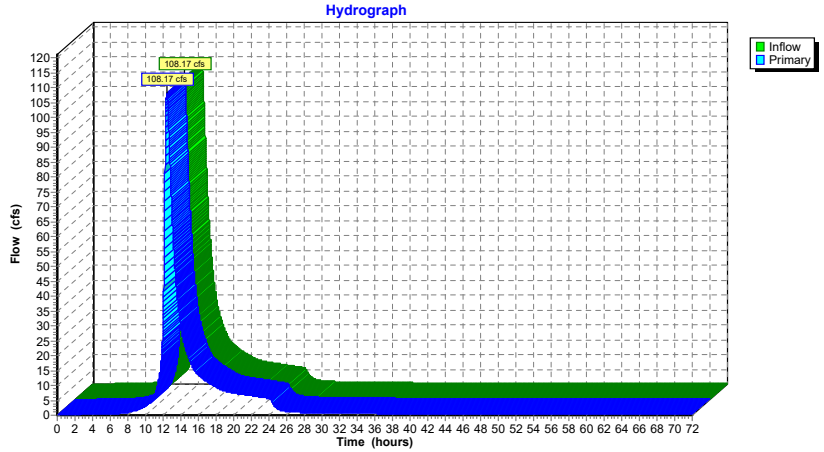


Summary for Link 46L: DA North

Inflow = 108.17 cfs @ 12.40 hrs, Volume= 23.242 af
Primary = 108.17 cfs @ 12.41 hrs, Volume= 23.242 af, Atten= 0%, Lag= 0.6 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 46L: DA North

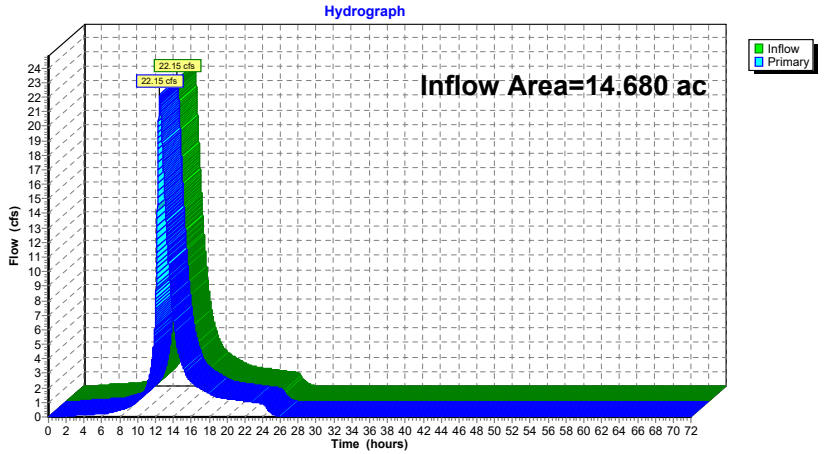


Summary for Link 51L: DA Undetained

Inflow Area = 14.680 ac, 15.60% Impervious, Inflow Depth = 3.76" for 10-Year-Projected event
Inflow = 22.15 cfs @ 12.48 hrs, Volume= 4.594 af
Primary = 22.15 cfs @ 12.49 hrs, Volume= 4.594 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 51L: DA Undetained

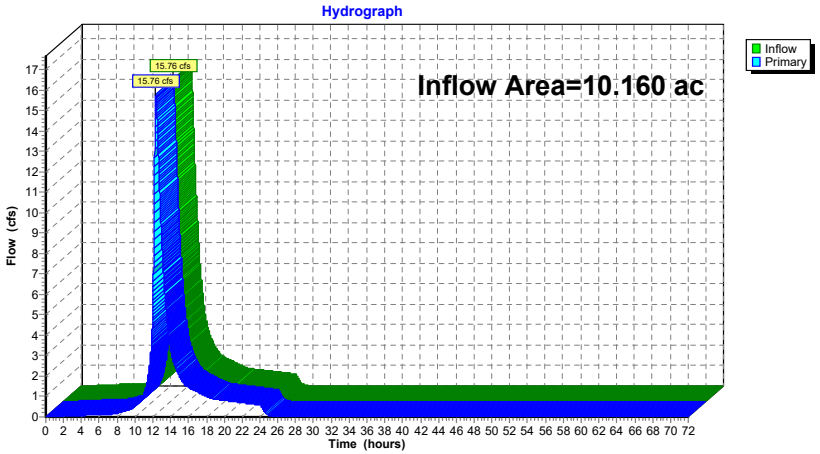


Summary for Link 52L: X

Inflow Area = 10.160 ac, 29.97% Impervious, Inflow Depth = 3.23" for 10-Year-Projected event
Inflow = 15.76 cfs @ 12.33 hrs, Volume= 2.735 af
Primary = 15.76 cfs @ 12.34 hrs, Volume= 2.735 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 52L: X

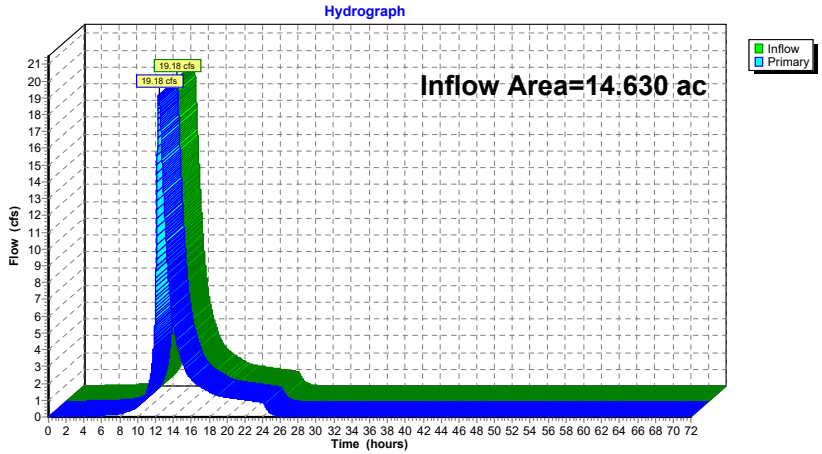


Summary for Link 53L: W

Inflow Area = 14.630 ac, 28.71% Impervious, Inflow Depth = 3.18" for 10-Year-Projected event
Inflow = 19.18 cfs @ 12.35 hrs, Volume= 3.871 af
Primary = 19.18 cfs @ 12.36 hrs, Volume= 3.871 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 53L: W

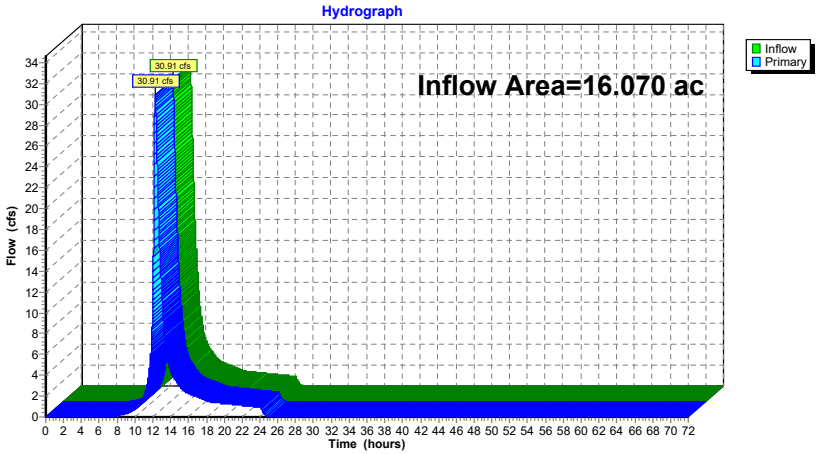


Summary for Link 58L: Y

Inflow Area = 16.070 ac, 30.59% Impervious, Inflow Depth = 3.22" for 10-Year-Projected event
Inflow = 30.91 cfs @ 12.25 hrs, Volume= 4.307 af
Primary = 30.91 cfs @ 12.26 hrs, Volume= 4.307 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 58L: Y



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Sim-Route method - Pond routing by Sim-Route method

Subcatchment54S: Y - OFFSITE Runoff Area=12.620 ac 38.00% Impervious Runoff Depth=6.06"
Flow Length=760' Tc=15.1 min CN=75 Runoff=46.69 cfs 6.376 af

Subcatchment56S: W- OFFSITE Runoff Area=8.210 ac 38.00% Impervious Runoff Depth=6.06"
Flow Length=373' Tc=18.9 min CN=75 Runoff=27.05 cfs 4.148 af

Subcatchment57S: Pipe Y Runoff Area=3.450 ac 3.48% Impervious Runoff Depth=4.48"
Flow Length=1,229' Slope=0.0200 '/' Tc=16.9 min CN=WQ Runoff=8.74 cfs 1.287 af

Subcatchment59S: X - OFFSITE Runoff Area=5.170 ac 38.00% Impervious Runoff Depth=6.06"
Flow Length=880' Tc=18.5 min CN=75 Runoff=17.22 cfs 2.612 af

Subcatchment60S: BASIN A - DA Runoff Area=2.470 ac 53.85% Impervious Runoff Depth=6.77"
Flow Length=102' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=11.68 cfs 1.395 af

Subcatchment61S: BASIN I - DA Runoff Area=0.530 ac 33.96% Impervious Runoff Depth=5.87"
Flow Length=134' Slope=0.0200 '/' Tc=9.6 min CN=WQ Runoff=2.21 cfs 0.259 af

Subcatchment62S: Undetained Runoff Area=14.680 ac 15.60% Impervious Runoff Depth=6.33"
Flow Length=3,276' Tc=30.2 min CN=WQ Runoff=37.51 cfs 7.738 af

Subcatchment63S: BASIN N - DA Runoff Area=1.390 ac 46.04% Impervious Runoff Depth=6.56"
Flow Length=108' Tc=9.3 min CN=WQ Runoff=6.45 cfs 0.759 af

Subcatchment64S: BASIN E - DA Runoff Area=2.240 ac 50.89% Impervious Runoff Depth=6.64"
Flow Length=609' Tc=8.1 min CN=WQ Runoff=11.12 cfs 1.240 af

Subcatchment65S: BASIN V - DA Runoff Area=0.850 ac 14.12% Impervious Runoff Depth=4.96"
Flow Length=100' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=3.13 cfs 0.352 af

Subcatchment67S: Pipe W Runoff Area=6.420 ac 16.82% Impervious Runoff Depth=5.09"
Flow Length=5,045' Tc=42.5 min CN=WQ Runoff=10.64 cfs 2.721 af

Subcatchment68S: BASIN K - DA Runoff Area=1.640 ac 37.80% Impervious Runoff Depth=6.04"
Flow Length=136' Slope=0.0200 '/' Tc=9.7 min CN=WQ Runoff=6.96 cfs 0.826 af

Subcatchment69S: BASIN O - DA Runoff Area=1.100 ac 51.82% Impervious Runoff Depth=7.00"
Flow Length=113' Tc=9.4 min CN=WQ Runoff=5.41 cfs 0.642 af

Subcatchment70S: Pipe X Runoff Area=4.990 ac 21.64% Impervious Runoff Depth=5.31"
Flow Length=2,554' Tc=25.8 min CN=WQ Runoff=11.50 cfs 2.207 af

Subcatchment71S: BASIN B - DA Runoff Area=1.260 ac 38.10% Impervious Runoff Depth=6.06"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=5.44 cfs 0.636 af

Subcatchment73S: BASIN C - DA Runoff Area=0.990 ac 42.42% Impervious Runoff Depth=6.25"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=4.38 cfs 0.516 af

Subcatchment75S: BASIN M - DA Runoff Area=0.860 ac 59.30% Impervious Runoff Depth=7.02"
Flow Length=225' Slope=0.0200 '/' Tc=9.3 min CN=WQ Runoff=4.20 cfs 0.503 af

Subcatchment76S: BASIN F - DA Runoff Area=1.500 ac 56.00% Impervious Runoff Depth=6.87"
Flow Length=447' Tc=8.7 min CN=WQ Runoff=7.42 cfs 0.859 af

Subcatchment77S: BASIN D - DA Runoff Area=2.670 ac 51.31% Impervious Runoff Depth=6.66"
Flow Length=795' Tc=9.0 min CN=WQ Runoff=12.73 cfs 1.482 af

Subcatchment83S: BASIN L - DA Runoff Area=0.970 ac 50.52% Impervious Runoff Depth=6.62"
Flow Length=96' Tc=9.2 min CN=WQ Runoff=4.55 cfs 0.535 af

Subcatchment85S: BASIN G - DA Runoff Area=1.260 ac 37.30% Impervious Runoff Depth=6.02"
Flow Length=102' Tc=9.3 min CN=WQ Runoff=5.42 cfs 0.632 af

Subcatchment88S: BASIN H - DA Runoff Area=1.950 ac 43.08% Impervious Runoff Depth=6.28"
Flow Length=111' Slope=0.0200 '/' Tc=9.5 min CN=WQ Runoff=8.63 cfs 1.021 af

Subcatchment98S: BASIN P - DA Runoff Area=2.760 ac 47.10% Impervious Runoff Depth=6.47"
Flow Length=214' Slope=0.0200 '/' Tc=10.2 min CN=WQ Runoff=12.10 cfs 1.487 af

Subcatchment101S: BASIN Q - DA Runoff Area=1.860 ac 59.68% Impervious Runoff Depth=7.04"
Flow Length=612' Tc=12.0 min CN=WQ Runoff=8.12 cfs 1.091 af

Subcatchment104S: BASIN R - DA Runoff Area=2.040 ac 50.00% Impervious Runoff Depth=6.84"
Flow Length=98' Tc=9.4 min CN=WQ Runoff=9.81 cfs 1.163 af

Subcatchment107S: BASIN S - DA Runoff Area=1.800 ac 48.89% Impervious Runoff Depth=6.55"
Flow Length=466' Tc=12.2 min CN=WQ Runoff=7.32 cfs 0.982 af

Subcatchment110S: BASIN T - DA Runoff Area=0.730 ac 26.03% Impervious Runoff Depth=5.51"
Flow Length=254' Slope=0.0100 '/' Tc=2.8 min CN=WQ Runoff=4.44 cfs 0.335 af

Subcatchment113S: BASIN U - DA Runoff Area=1.070 ac 37.38% Impervious Runoff Depth=6.02"
Flow Length=28' Slope=0.0350 '/' Tc=4.0 min CN=WQ Runoff=6.37 cfs 0.537 af

Pond 52P: BASIN A Peak Elev=35.26' Storage=0.932 af Inflow=11.68 cfs 1.395 af
Outflow=1.08 cfs 1.174 af

Pond 59P: BASIN C Peak Elev=30.65' Storage=0.120 af Inflow=7.76 cfs 2.227 af
Outflow=7.10 cfs 2.181 af

Pond 60P: BASIN H Peak Elev=30.88' Storage=0.609 af Inflow=11.12 cfs 2.219 af
Outflow=5.86 cfs 1.957 af

Pond 63P: BASIN P Peak Elev=29.20' Storage=0.659 af Inflow=13.75 cfs 3.758 af
Outflow=12.39 cfs 3.419 af

Pond 64P: BASIN I Peak Elev=30.92' Storage=0.076 af Inflow=2.21 cfs 0.259 af
Outflow=1.90 cfs 0.236 af

Pond 65P: BASIN E Peak Elev=28.87' Storage=0.307 af Inflow=17.49 cfs 4.659 af
Primary=17.44 cfs 4.407 af Secondary=1.19 cfs 0.078 af Outflow=17.44 cfs 4.485 af

Pond 70P: BASIN K Peak Elev=32.75' Storage=0.340 af Inflow=6.96 cfs 0.826 af
Outflow=2.98 cfs 0.759 af

Pond 74P: BASIN B Peak Elev=32.25' Storage=0.192 af Inflow=5.62 cfs 1.810 af
Outflow=4.13 cfs 1.711 af

Pond 75P: BASIN D Peak Elev=28.91' Storage=0.562 af Inflow=17.98 cfs 3.662 af
Outflow=16.16 cfs 3.361 af

Pond 76P: BASIN M Peak Elev=34.65' Storage=0.200 af Inflow=4.20 cfs 0.503 af
Outflow=2.52 cfs 0.443 af

Pond 83P: BASIN F Peak Elev=34.83' Storage=0.668 af Inflow=7.42 cfs 0.859 af
Outflow=0.22 cfs 0.642 af

Pond 84P: BASIN L Peak Elev=34.51' Storage=0.186 af Inflow=4.55 cfs 0.535 af
Outflow=3.12 cfs 0.487 af

Pond 86P: BASIN G Peak Elev=33.44' Storage=0.222 af Inflow=5.53 cfs 1.275 af
Outflow=3.67 cfs 1.197 af

Pond 90P: BASIN N Peak Elev=30.98' Storage=0.329 af Inflow=10.57 cfs 2.005 af
Outflow=9.79 cfs 1.896 af

Pond 93P: BASIN O Peak Elev=28.61' Storage=0.148 af Inflow=5.41 cfs 0.642 af
Outflow=4.60 cfs 0.582 af

Pond 102P: BASIN Q Peak Elev=28.38' Storage=0.269 af Inflow=8.12 cfs 1.091 af
Outflow=7.08 cfs 0.909 af

Pond 105P: BASIN R Peak Elev=24.78' Storage=0.394 af Inflow=9.81 cfs 1.163 af
Outflow=6.50 cfs 1.013 af

Pond 108P: BASIN S Peak Elev=20.98' Storage=0.510 af Inflow=7.32 cfs 0.982 af
Outflow=2.24 cfs 0.699 af

Pond 111P: BASIN T Peak Elev=20.36' Storage=0.386 af Inflow=4.65 cfs 0.753 af
Outflow=0.38 cfs 0.631 af

Pond 114P: BASIN U Peak Elev=21.10' Storage=0.338 af Inflow=6.37 cfs 0.537 af
Outflow=0.38 cfs 0.418 af

Pond 117P: BASIN V Peak Elev=38.17' Storage=0.129 af Inflow=3.13 cfs 0.352 af
Outflow=1.80 cfs 0.255 af

Link 46L: DA North Inflow=215.29 cfs 41.284 af
Primary=215.29 cfs 41.284 af

Link 51L: DA Undetained Inflow=37.51 cfs 7.738 af
Primary=37.51 cfs 7.738 af

Link 52L: X Inflow=28.17 cfs 4.819 af
Primary=28.17 cfs 4.819 af

Link 53L: W Inflow=34.29 cfs 6.869 af
Primary=34.29 cfs 6.869 af

Link 58L: Y Inflow=55.28 cfs 7.663 af
Primary=55.28 cfs 7.663 af

Total Runoff Area = 87.480 ac Runoff Volume = 44.343 af Average Runoff Depth = 6.08"
66.43% Pervious = 58.110 ac 33.57% Impervious = 29.370 ac

Summary for Subcatchment 54S: Y - OFFSITE UNDISTURBED

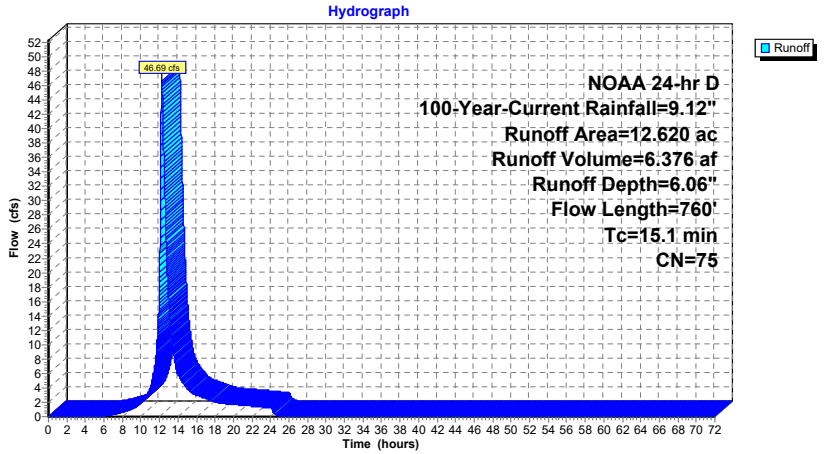
Runoff = 46.69 cfs @ 12.25 hrs, Volume= 6.376 af, Depth= 6.06"
Routed to Link 58L : Y

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

Area (ac)	CN	Description
12.620	75	1/4 acre lots, 38% imp, HSG B
7.824		62.00% Pervious Area
4.796		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.1	100	0.0350	0.15		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.5	280	0.0370	3.10		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.5	380	0.0240	2.49		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
15.1	760	Total			

Subcatchment 54S: Y - OFFSITE UNDISTURBED



Summary for Subcatchment 56S: W- OFFSITE UNDISTURBED

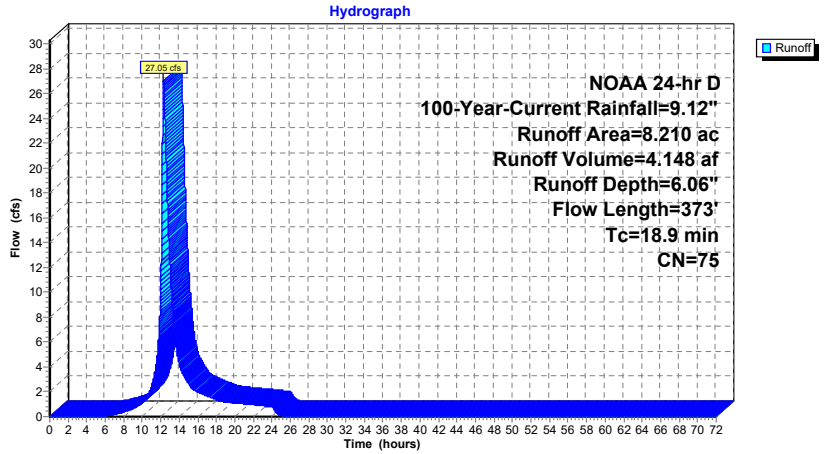
Runoff = 27.05 cfs @ 12.31 hrs, Volume= 4.148 af, Depth= 6.06"
Routed to Link 53L : W

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

Area (ac)	CN	Description
8.210	75	1/4 acre lots, 38% imp, HSG B
5.090		62.00% Pervious Area
3.120		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	100	0.0120	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.38"
0.9	179	0.0410	3.26		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.0	94	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.9	373	Total			

Subcatchment 56S: W- OFFSITE UNDISTURBED



Summary for Subcatchment 57S: Pipe Y

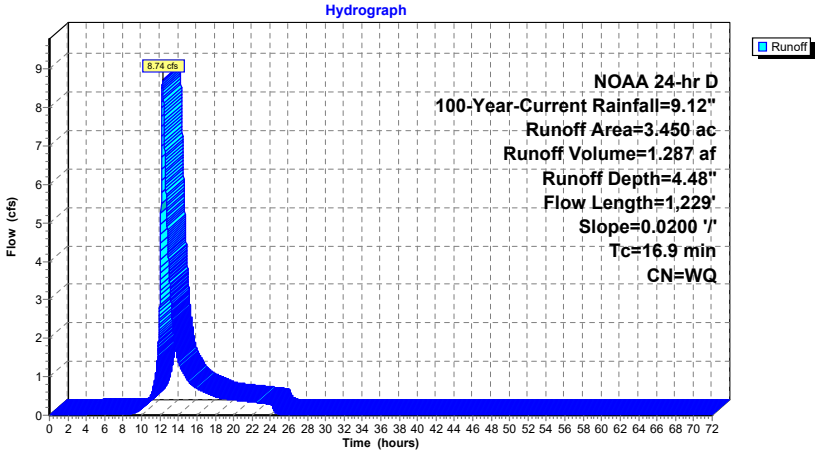
Runoff = 8.74 cfs @ 12.28 hrs, Volume= 1.287 af, Depth= 4.48"
Routed to Link 58L : Y

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

	Area (ac)	CN	Description
*	3.330	61	Open Space
*	0.000	98	Road/Sidewalk
*	0.120	98	Roof
*	0.000	98	Driveway
	3.450		Weighted Average
	3.330		96.52% Pervious Area
	0.120		3.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.2	170	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
6.2	936		2.50		**Direct Entry,**
0.4	64		2.50		**Direct Entry,**
16.9	1,229	Total			

Subcatchment 57S: Pipe Y



Summary for Subcatchment 59S: X - OFFSITE UNDISTURBED

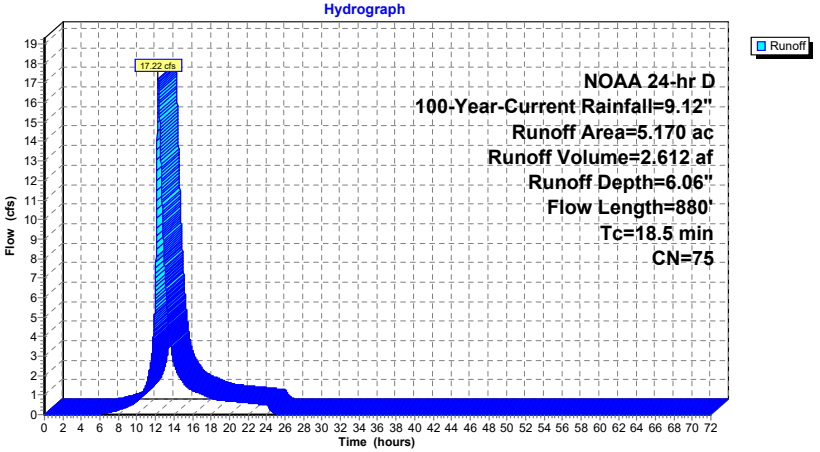
Runoff = 17.22 cfs @ 12.29 hrs, Volume= 2.612 af, Depth= 6.06"
Routed to Link 52L : X

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

Area (ac)	CN	Description
5.170	75	1/4 acre lots, 38% imp, HSG B
3.205		62.00% Pervious Area
1.965		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	100	0.0200	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.4	408	0.0320	2.88		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.2	372	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.5	880	Total			

Subcatchment 59S: X - OFFSITE UNDISTURBED



Summary for Subcatchment 60S: BASIN A - DA

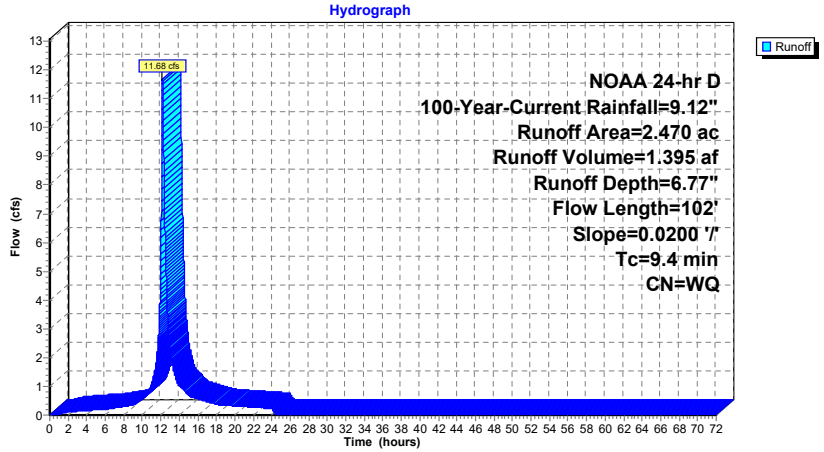
Runoff = 11.68 cfs @ 12.18 hrs, Volume= 1.395 af, Depth= 6.77"
Routed to Pond 52P : BASIN A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

	Area (ac)	CN	Description
*	1.140	61	Open Space
*	0.600	98	Road
*	0.130	98	Sidewalk
*	0.300	98	Roof
*	0.300	98	Driveway & Apron
	2.470		Weighted Average
	1.140		46.15% Pervious Area
	1.330		53.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	43	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	102	Total			

Subcatchment 60S: BASIN A - DA



Summary for Subcatchment 61S: BASIN I - DA

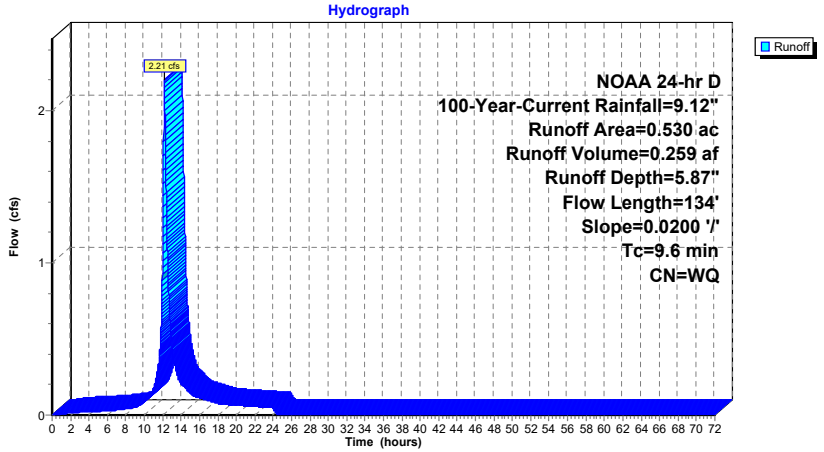
Runoff = 2.21 cfs @ 12.18 hrs, Volume= 0.259 af, Depth= 5.87"
Routed to Pond 64P : BASIN I

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.180	98	Roof
*	0.000	98	Driveway & Apron
	0.530		Weighted Average
	0.350		66.04% Pervious Area
	0.180		33.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.5	75	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.6	134	Total			

Subcatchment 61S: BASIN I - DA



Summary for Subcatchment 62S: Undetained

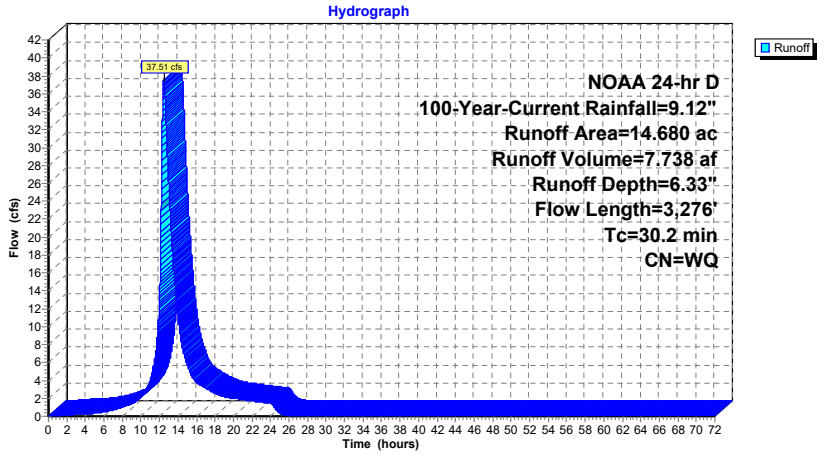
Runoff = 37.51 cfs @ 12.48 hrs, Volume= 7.738 af, Depth= 6.33"
Routed to Link 51L : DA Undetained

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

	Area (ac)	CN	Description
	3.170	61	>75% Grass cover, Good, HSG B
	0.870	55	Woods, Good, HSG B
	8.150	80	>75% Grass cover, Good, HSG D
	0.200	77	Woods, Good, HSG D
*	0.730	98	Water Surface, HSG D
*	0.740	98	Roofs, HSG B
*	0.570	98	Roofs, HSG D
	0.130	98	Paved parking, HSG B
	0.120	98	Unconnected pavement, HSG B
	14.680		Weighted Average
	12.390		84.40% Pervious Area
	2.290		15.60% Impervious Area
	0.120		5.24% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	88	0.0450	0.16		**Sheet Flow, Sheet Flow - Grass**
					Grass: Dense n= 0.240 P2= 3.38"
					Using McCuen-Spiess flow length
1.3	216	0.0300	2.79		**Shallow Concentrated Flow, SCF - Unpaved**
					Unpaved Kv= 16.1 fps
19.8	2,972		2.50		**Direct Entry,**
30.2	3,276	Total			

Subcatchment 62S: Undetained



Summary for Subcatchment 63S: BASIN N - DA

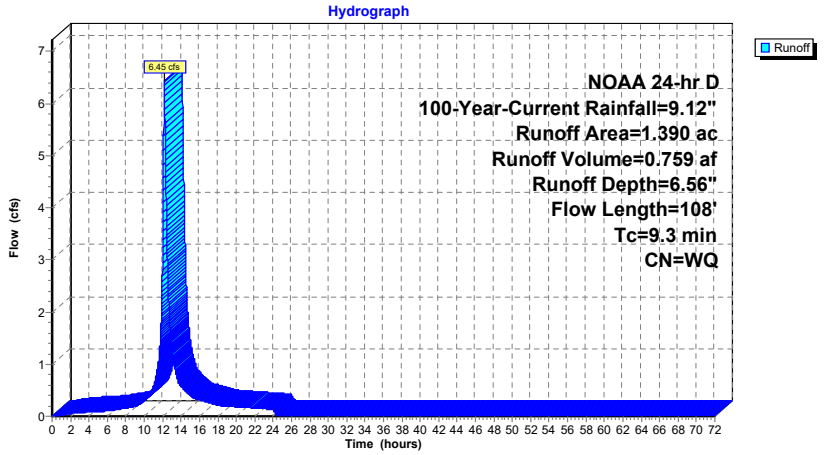
Runoff = 6.45 cfs @ 12.18 hrs, Volume= 0.759 af, Depth= 6.56"
Routed to Pond 90P : BASIN N

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.080	80	Open Space, HSG D
*	0.160	98	Road
*	0.040	98	Sidewalk
*	0.300	98	Roof
*	0.140	98	Driveway & Apron
	1.390		Weighted Average
	0.750		53.96% Pervious Area
	0.640		46.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass**
					Grass: Dense n= 0.240 P2= 3.38"
					Using McCuen-Spiess flow length
0.2	49	0.0600	3.94		**Shallow Concentrated Flow, SCF - Unpaved**
					Unpaved Kv= 16.1 fps
9.3	108	Total			

Subcatchment 63S: BASIN N - DA



Summary for Subcatchment 64S: BASIN E - DA

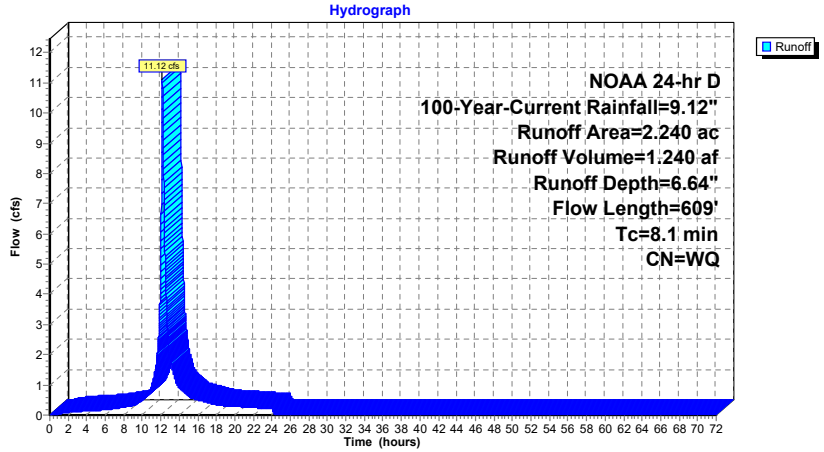
Runoff = 11.12 cfs @ 12.17 hrs, Volume= 1.240 af, Depth= 6.64"
Routed to Pond 65P : BASIN E

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

	Area (ac)	CN	Description
*	1.100	61	Open Space
*	0.450	98	Road
*	0.110	98	Sidewalk
*	0.240	98	Roof
*	0.340	98	Driveway & Apron
	2.240		Weighted Average
	1.100		49.11% Pervious Area
	1.140		50.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0500	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.5	300	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.9	279		2.50		**Direct Entry, Pipe**
8.1	609	Total			

Subcatchment 64S: BASIN E - DA



Summary for Subcatchment 65S: BASIN V - DA

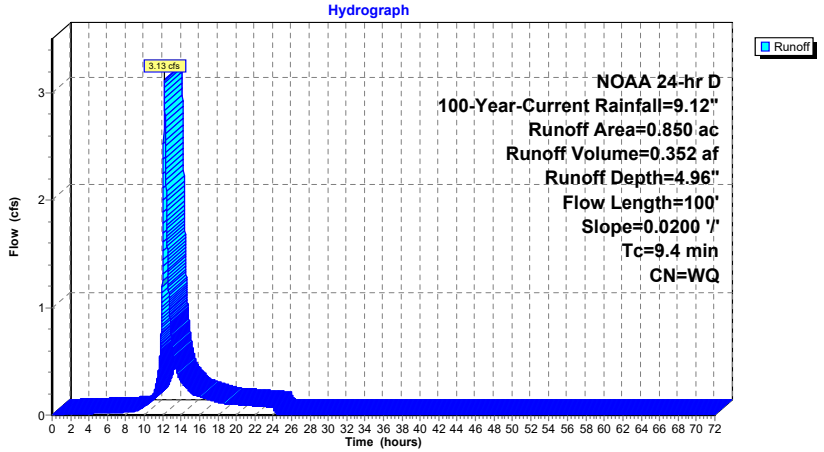
Runoff = 3.13 cfs @ 12.18 hrs, Volume= 0.352 af, Depth= 4.96"
Routed to Pond 117P : BASIN V

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

	Area (ac)	CN	Description
*	0.730	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.120	98	Roof
*	0.000	98	Driveway & Apron
	0.850		Weighted Average
	0.730		85.88% Pervious Area
	0.120		14.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	41	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	100	Total			

Subcatchment 65S: BASIN V - DA



Summary for Subcatchment 67S: Pipe W

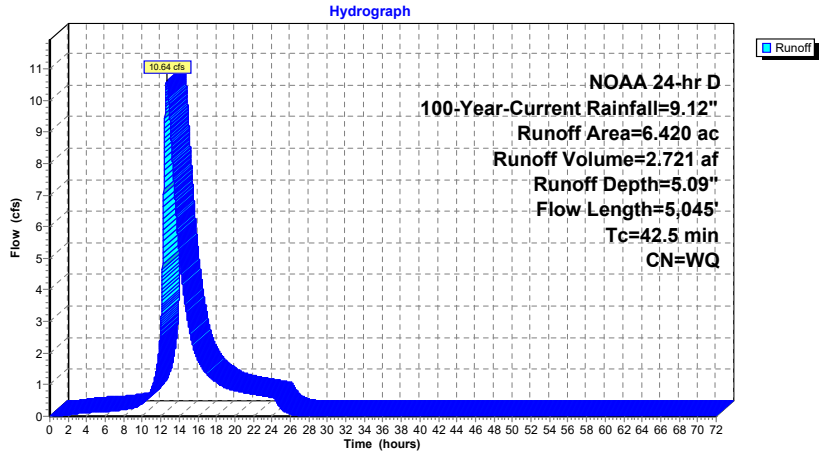
Runoff = 10.64 cfs @ 12.65 hrs, Volume= 2.721 af, Depth= 5.09"
Routed to Link 53L : W

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

Area (ac)	CN	Description
5.340	61	>75% Grass cover, Good, HSG B
1.080	98	Roofs, HSG B
6.420		Weighted Average
5.340		83.18% Pervious Area
1.080		16.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	66	0.0250	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.1	144	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
12.2	1,824		2.50		**Direct Entry,**
20.1	3,011		2.50		**Direct Entry,**
42.5	5,045	Total			

Subcatchment 67S: Pipe W



Summary for Subcatchment 68S: BASIN K - DA

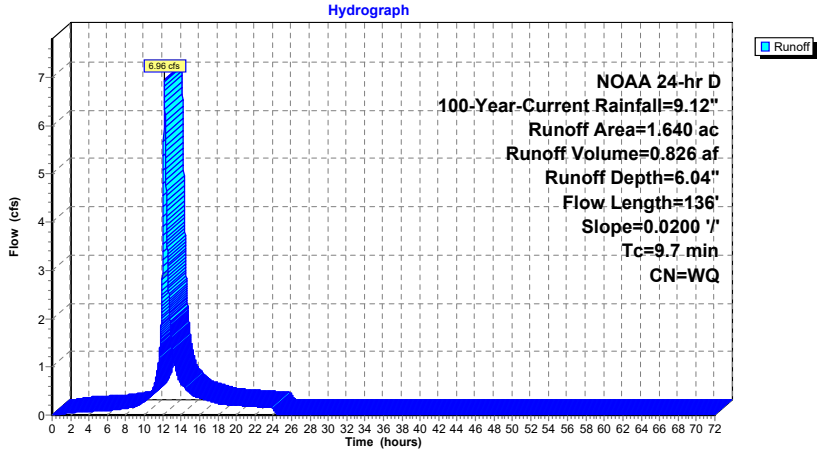
Runoff = 6.96 cfs @ 12.18 hrs, Volume= 0.826 af, Depth= 6.04"
Routed to Pond 70P : BASIN K

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

	Area (ac)	CN	Description
*	1.020	61	Open Space
*	0.000	98	Road
*	0.020	98	Sidewalk
*	0.600	98	Roof
*	0.000	98	Driveway & Apron
	1.640		Weighted Average
	1.020		62.20% Pervious Area
	0.620		37.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.6	77	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.7	136	Total			

Subcatchment 68S: BASIN K - DA



Summary for Subcatchment 69S: BASIN O - DA

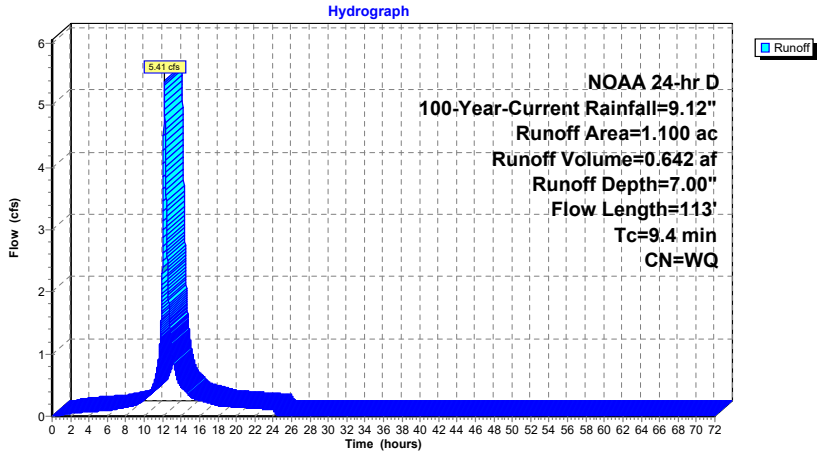
Runoff = 5.41 cfs @ 12.18 hrs, Volume= 0.642 af, Depth= 7.00"
Routed to Pond 93P : BASIN O

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

	Area (ac)	CN	Description
*	0.380	61	Open Space
*	0.150	80	Open Space, HSG D
*	0.150	98	Road
*	0.040	98	Sidewalk
*	0.240	98	Roof
*	0.140	98	Driveway & Apron
	1.100		Weighted Average
	0.530		48.18% Pervious Area
	0.570		51.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	54	0.0300	2.79		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	113	Total			

Subcatchment 69S: BASIN O - DA



Summary for Subcatchment 70S: Pipe X

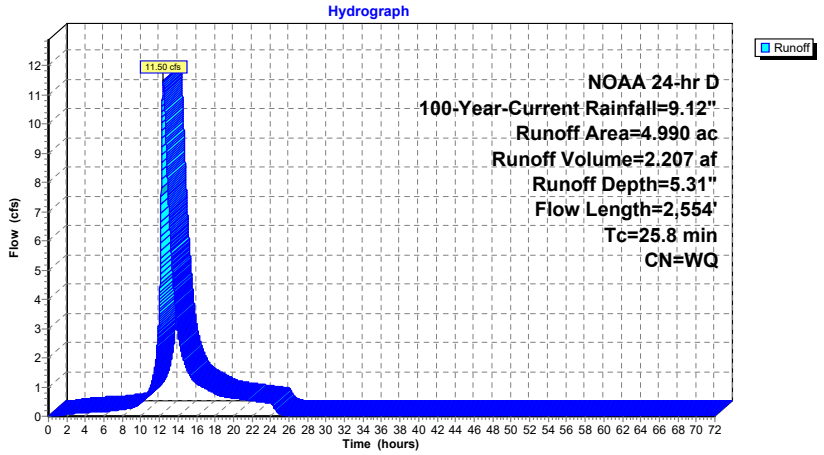
Runoff = 11.50 cfs @ 12.39 hrs, Volume= 2.207 af, Depth= 5.31"
Routed to Link 52L : X

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

	Area (ac)	CN	Description
*	3.910	61	Open Space
*	0.000	98	Road/Sidewalk
*	1.080	98	Roof
*	0.000	98	Driveway
	4.990		Weighted Average
	3.910		78.36% Pervious Area
	1.080		21.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.2	168	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
7.4	1,103		2.50		**Direct Entry,**
0.8	123	0.0250	2.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.3	1,101		2.50		**Direct Entry,**
25.8	2,554	Total			

Subcatchment 70S: Pipe X



Summary for Subcatchment 71S: BASIN B - DA

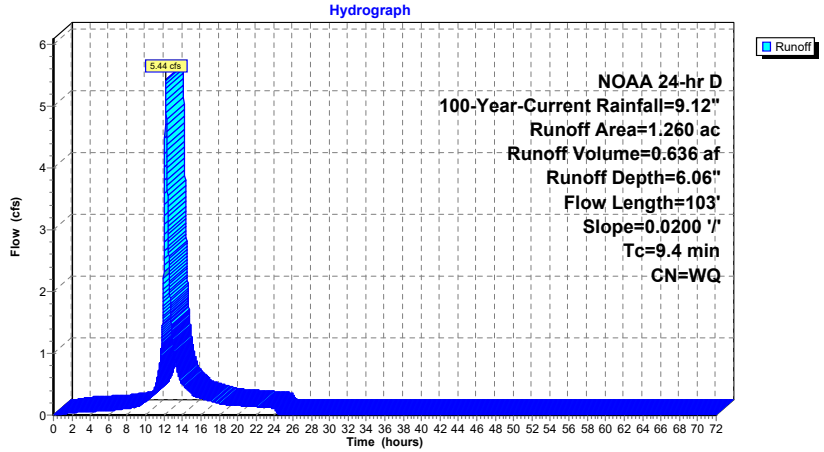
Runoff = 5.44 cfs @ 12.18 hrs, Volume= 0.636 af, Depth= 6.06"
Routed to Pond 74P : BASIN B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

	Area (ac)	CN	Description
*	0.780	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.480	98	Roof
*	0.000	98	Driveway
	1.260		Weighted Average
	0.780		61.90% Pervious Area
	0.480		38.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 71S: BASIN B - DA



Summary for Subcatchment 73S: BASIN C - DA

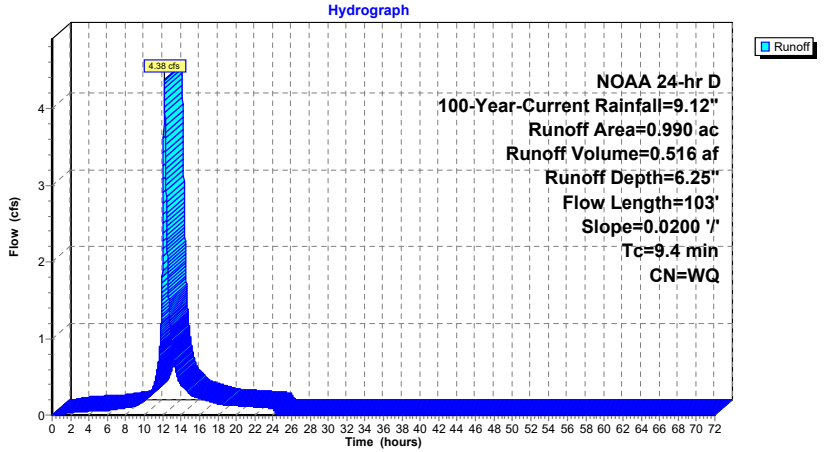
Runoff = 4.38 cfs @ 12.18 hrs, Volume= 0.516 af, Depth= 6.25"
Routed to Pond 59P : BASIN C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

	Area (ac)	CN	Description
*	0.570	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.420	98	Roof
*	0.000	98	Driveway
	0.990		Weighted Average
	0.570		57.58% Pervious Area
	0.420		42.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 73S: BASIN C - DA



Summary for Subcatchment 75S: BASIN M - DA

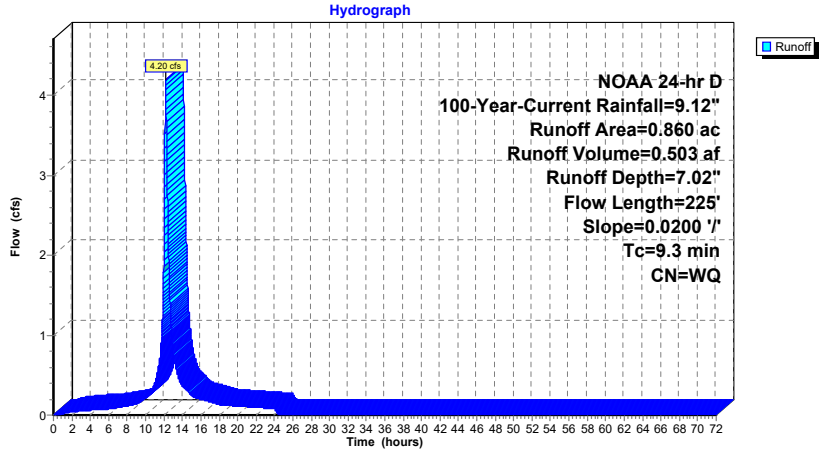
Runoff = 4.20 cfs @ 12.18 hrs, Volume= 0.503 af, Depth= 7.02"
Routed to Pond 76P : BASIN M

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.280	98	Road
*	0.050	98	Sidewalk
*	0.060	98	Roof
*	0.120	98	Driveway & Apron
	0.860		Weighted Average
	0.350		40.70% Pervious Area
	0.510		59.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	52	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
0.5	87	0.0200	2.87		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
0.6	86		2.50		**Direct Entry, Pipe**
9.3	225	Total			

Subcatchment 75S: BASIN M - DA



Summary for Subcatchment 76S: BASIN F - DA

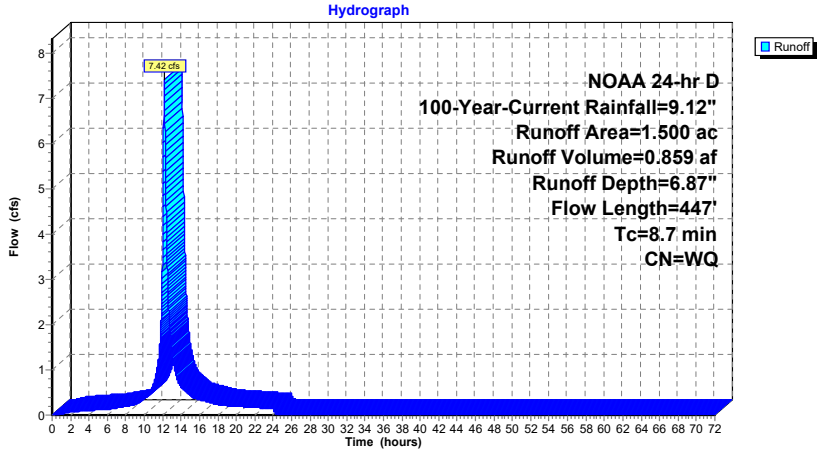
Runoff = 7.42 cfs @ 12.17 hrs, Volume= 0.859 af, Depth= 6.87"
Routed to Pond 83P : BASIN F

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

	Area (ac)	CN	Description
*	0.660	61	Open Space
*	0.440	98	Road
*	0.100	98	Sidewalk
*	0.120	98	Roof
*	0.180	98	Driveway & Apron
	1.500		Weighted Average
	0.660		44.00% Pervious Area
	0.840		56.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	33	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.3	158	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.7	256		2.50		**Direct Entry, Pipe**
8.7	447	Total			

Subcatchment 76S: BASIN F - DA



Summary for Subcatchment 77S: BASIN D - DA

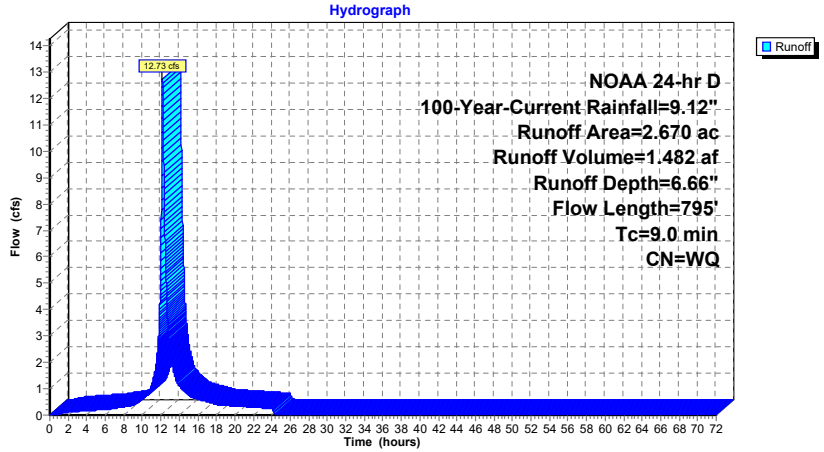
Runoff = 12.73 cfs @ 12.18 hrs, Volume= 1.482 af, Depth= 6.66"
Routed to Pond 75P : BASIN D

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

	Area (ac)	CN	Description
*	1.300	61	Open Space
*	0.430	98	Road
*	0.120	98	Sidewalk
*	0.420	98	Roof
*	0.400	98	Driveway & Apron
	2.670		Weighted Average
	1.300		48.69% Pervious Area
	1.370		51.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0500	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.2	300	0.0120	2.22		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
3.1	465		2.50		**Direct Entry, Pipe**
9.0	795	Total			

Subcatchment 77S: BASIN D - DA



Summary for Subcatchment 83S: BASIN L - DA

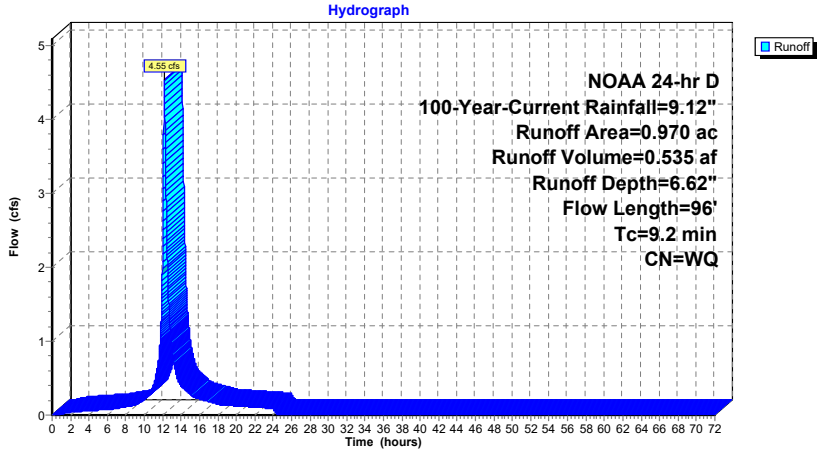
Runoff = 4.55 cfs @ 12.18 hrs, Volume= 0.535 af, Depth= 6.62"
Routed to Pond 84P : BASIN L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

	Area (ac)	CN	Description
*	0.480	61	Open Space
*	0.220	98	Road
*	0.050	98	Sidewalk
*	0.120	98	Roof
*	0.100	98	Driveway & Apron
	0.970		Weighted Average
	0.480		49.48% Pervious Area
	0.490		50.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	37	0.0800	4.55		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.2	96	Total			

Subcatchment 83S: BASIN L - DA



Summary for Subcatchment 85S: BASIN G - DA

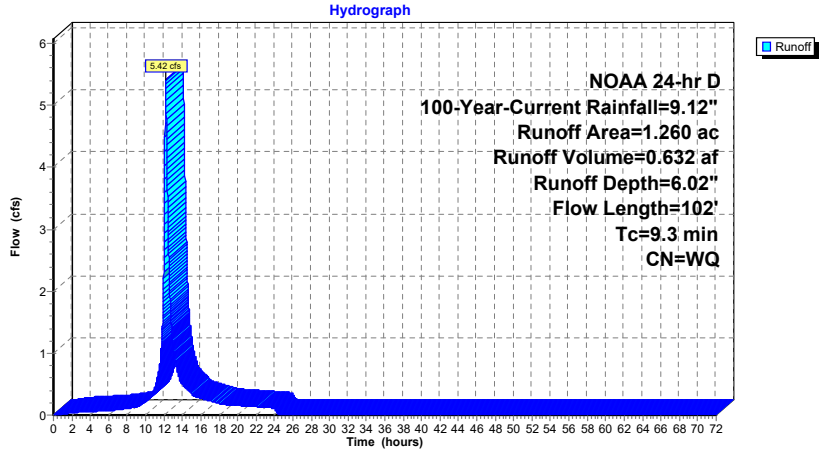
Runoff = 5.42 cfs @ 12.18 hrs, Volume= 0.632 af, Depth= 6.02"
Routed to Pond 86P : BASIN G

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

	Area (ac)	CN	Description
*	0.790	61	Open Space
*	0.060	98	Road
*	0.010	98	Sidewalk
*	0.360	98	Roof
*	0.040	98	Driveway & Apron
	1.260		Weighted Average
	0.790		62.70% Pervious Area
	0.470		37.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.2	43	0.0350	3.01		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.3	102	Total			

Subcatchment 85S: BASIN G - DA



Summary for Subcatchment 88S: BASIN H - DA

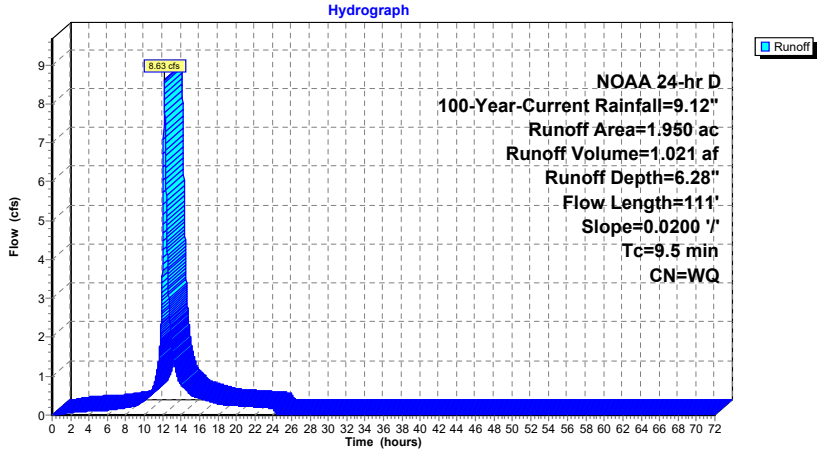
Runoff = 8.63 cfs @ 12.18 hrs, Volume= 1.021 af, Depth= 6.28"
Routed to Pond 60P : BASIN H

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

	Area (ac)	CN	Description
*	1.110	61	Open Space
*	0.230	98	Road
*	0.050	98	Sidewalk
*	0.420	98	Roof
*	0.140	98	Driveway & Apron
	1.950		Weighted Average
	1.110		56.92% Pervious Area
	0.840		43.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.4	52	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.5	111	Total			

Subcatchment 88S: BASIN H - DA



Summary for Subcatchment 98S: BASIN P - DA

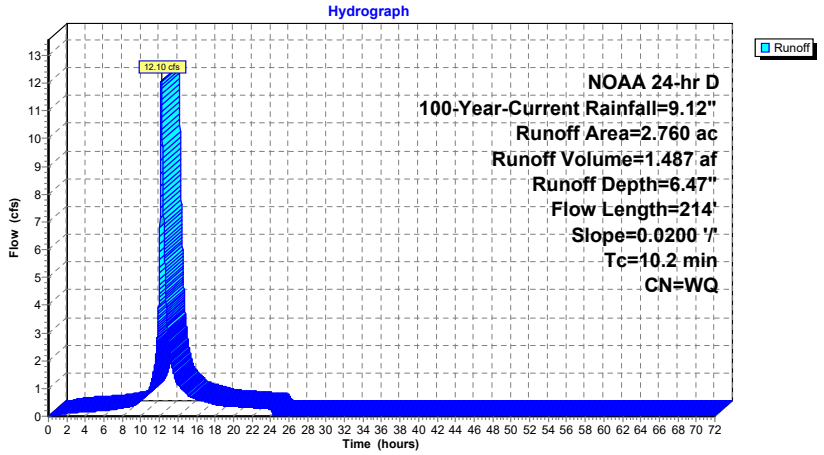
Runoff = 12.10 cfs @ 12.19 hrs, Volume= 1.487 af, Depth= 6.47"
Routed to Pond 63P : BASIN P

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

	Area (ac)	CN	Description
*	1.460	61	Open Space
*	0.410	98	Road
*	0.110	98	Sidewalk
*	0.420	98	Roof
*	0.360	98	Driveway & Apron
	2.760		Weighted Average
	1.460		52.90% Pervious Area
	1.300		47.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.7	99	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
0.4	56		2.50		**Direct Entry,**
10.2	214	Total			

Subcatchment 98S: BASIN P - DA



Summary for Subcatchment 101S: BASIN Q - DA

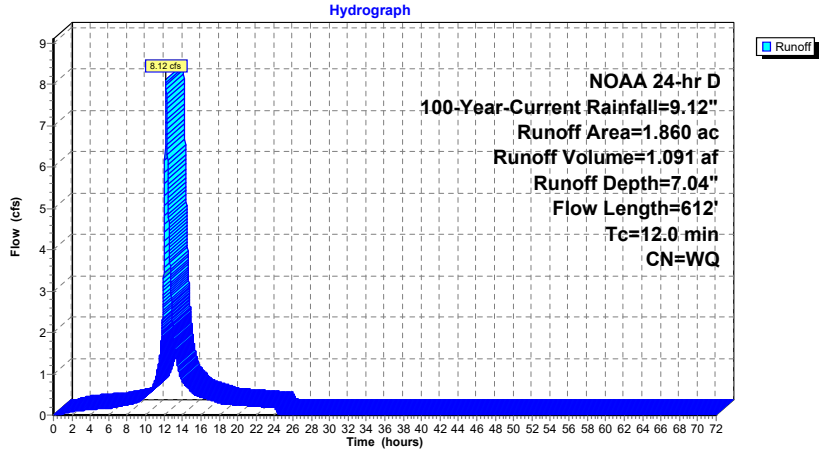
Runoff = 8.12 cfs @ 12.21 hrs, Volume= 1.091 af, Depth= 7.04"
Routed to Pond 102P : BASIN Q

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

	Area (ac)	CN	Description
*	0.750	61	Open Space
*	0.570	98	Road
*	0.140	98	Sidewalk
*	0.060	98	Roof
*	0.340	98	Driveway & Apron
	1.860		Weighted Average
	0.750		40.32% Pervious Area
	1.110		59.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	49	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.3	283	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.9	280		2.50		**Direct Entry, Pipe**
12.0	612	Total			

Subcatchment 101S: BASIN Q - DA



Summary for Subcatchment 104S: BASIN R - DA

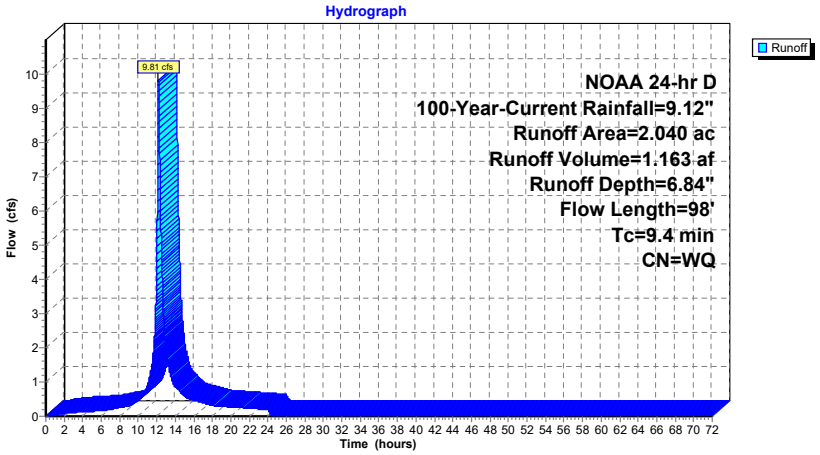
Runoff = 9.81 cfs @ 12.18 hrs, Volume= 1.163 af, Depth= 6.84"
Routed to Pond 105P : BASIN R

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

	Area (ac)	CN	Description
	0.810	61	>75% Grass cover, Good, HSG B
*	0.350	98	Road
*	0.090	98	Sidewalk
*	0.300	98	Roof
*	0.280	98	Driveway & Apron
	0.210	80	>75% Grass cover, Good, HSG D
	2.040		Weighted Average
	1.020		50.00% Pervious Area
	1.020		50.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	39	0.0250	2.55		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	98	Total			

Subcatchment 104S: BASIN R - DA



Summary for Subcatchment 107S: BASIN S - DA

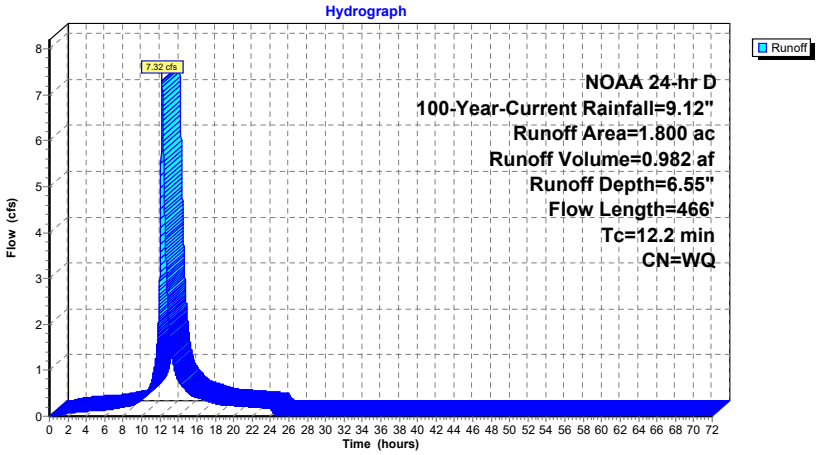
Runoff = 7.32 cfs @ 12.22 hrs, Volume= 0.982 af, Depth= 6.55"
Routed to Pond 108P : BASIN S

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

	Area (ac)	CN	Description
*	0.920	61	Open Space
*	0.590	98	Road
*	0.190	98	Sidewalk
*	0.080	98	Roof
*	0.020	98	Driveway & Apron
	1.800		Weighted Average
	0.920		51.11% Pervious Area
	0.880		48.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	6	0.0100	1.61		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
1.4	167	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.6	234		2.50		**Direct Entry, Pipe**
12.2	466	Total			

Subcatchment 107S: BASIN S - DA



Summary for Subcatchment 110S: BASIN T - DA

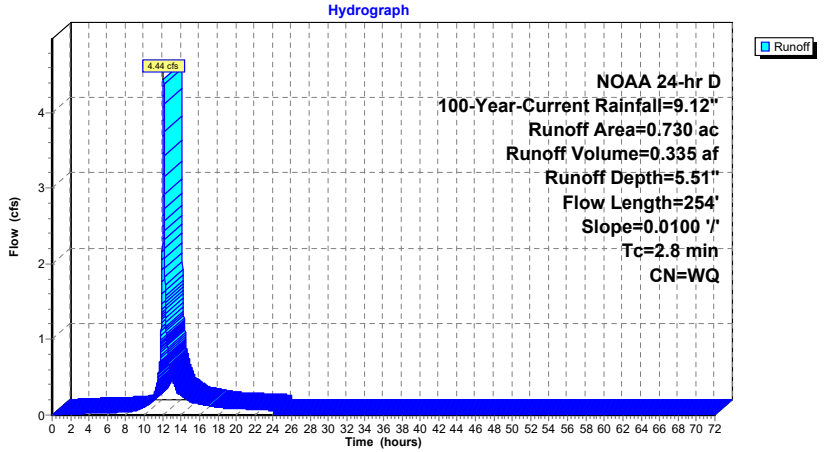
Runoff = 4.44 cfs @ 12.11 hrs, Volume= 0.335 af, Depth= 5.51"
Routed to Pond 111P : BASIN T

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

	Area (ac)	CN	Description
*	0.540	61	Open Space
*	0.140	98	Road
*	0.050	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	0.730		Weighted Average
	0.540		73.97% Pervious Area
	0.190		26.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.07		**Sheet Flow, Sheet Flow - Smooth Surfaces** Smooth surfaces n= 0.011 P2= 3.38"
0.8	93	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
0.4	61		2.50		**Direct Entry, Pipe**
2.8	254	Total			

Subcatchment 110S: BASIN T - DA



Summary for Subcatchment 113S: BASIN U - DA

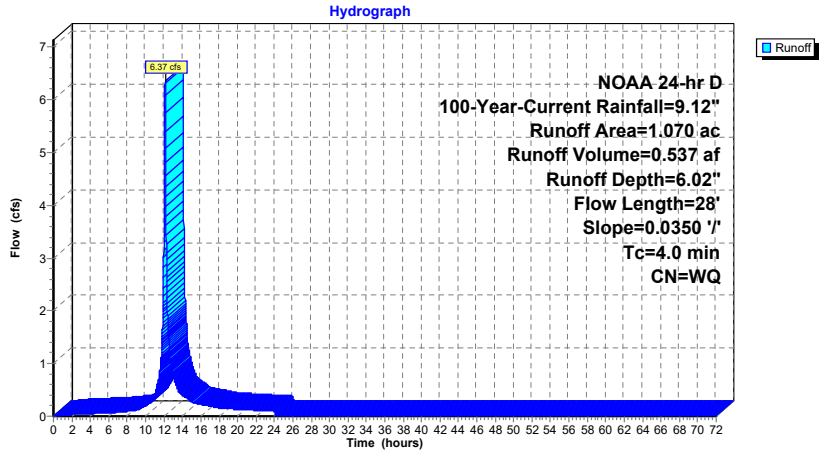
Runoff = 6.37 cfs @ 12.12 hrs, Volume= 0.537 af, Depth= 6.02"
Routed to Pond 114P : BASIN U

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.330	98	Road
*	0.070	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	1.070		Weighted Average
	0.670		62.62% Pervious Area
	0.400		37.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	28	0.0350	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"

Subcatchment 113S: BASIN U - DA



Summary for Pond 52P: BASIN A

Inflow Area = 2.470 ac, 53.85% Impervious, Inflow Depth = 6.77" for 100-Year-Current event
Inflow = 11.68 cfs @ 12.18 hrs, Volume= 1.395 af
Outflow = 1.08 cfs @ 13.89 hrs, Volume= 1.174 af, Atten= 91%, Lag= 102.7 min
Primary = 1.08 cfs @ 13.89 hrs, Volume= 1.174 af
Routed to Pond 74P : BASIN B

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 35.26' @ 13.89 hrs Surf.Area= 0.382 ac Storage= 0.932 af

Plug-Flow detention time= 1,162.8 min calculated for 1.174 af (84% of inflow)
Center-of-Mass det. time= 1,087.7 min (1,868.6 - 780.9)

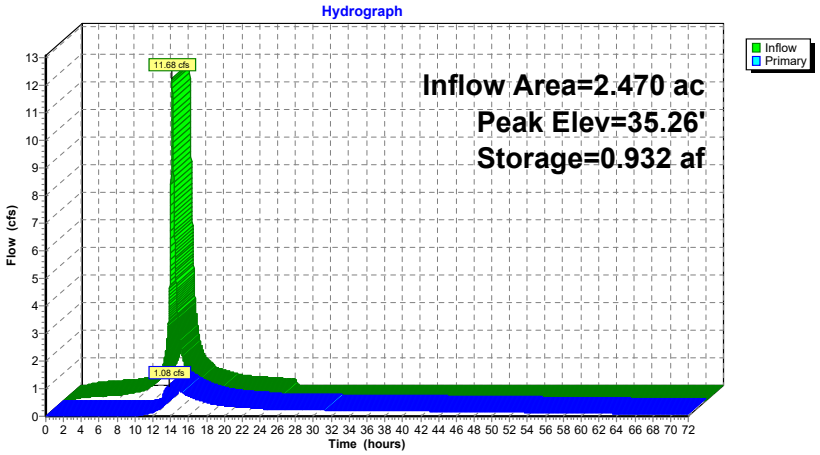
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.233 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.192	0.000	0.000
33.00	0.249	0.220	0.220
34.00	0.307	0.278	0.499
35.00	0.367	0.337	0.836
36.00	0.428	0.397	1.233

Device	Routing	Invert	Outlet Devices
#1	Primary	35.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.75'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.08 cfs @ 13.89 hrs HW=35.26' TW=31.89' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.83 cfs @ 1.66 fps)
- **3=Orifice** (Orifice Controls 0.25 cfs @ 7.46 fps)

Pond 52P: BASIN A



Summary for Pond 59P: BASIN C

Inflow Area = 4.720 ac, 47.25% Impervious, Inflow Depth > 5.66" for 100-Year-Current event
Inflow = 7.76 cfs @ 12.23 hrs, Volume= 2.227 af
Outflow = 7.10 cfs @ 12.38 hrs, Volume= 2.181 af, Atten= 9%, Lag= 8.5 min
Primary = 7.10 cfs @ 12.38 hrs, Volume= 2.181 af
Routed to Pond 75P : BASIN D

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 30.65' @ 12.38 hrs Surf.Area= 0.080 ac Storage= 0.120 af

Plug-Flow detention time= 88.7 min calculated for 2.181 af (98% of inflow)
Center-of-Mass det. time= 30.5 min (1,434.7 - 1,404.2)

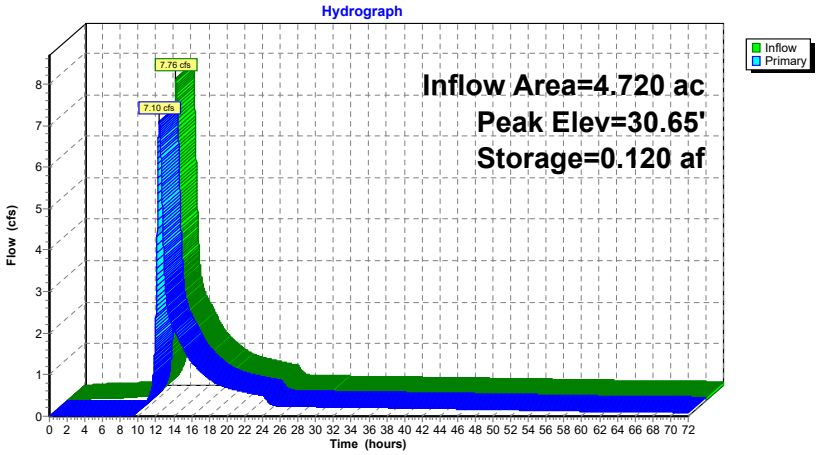
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.198 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.033	0.000	0.000
29.50	0.054	0.043	0.043
30.50	0.077	0.065	0.109
31.50	0.101	0.089	0.198

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	29.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=7.10 cfs @ 12.38 hrs HW=30.65' TW=28.91' (Dynamic Tailwater)
└**1=Grate** (Controls 0.00 cfs)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 7.10 cfs @ 3.50 fps)

Pond 59P: BASIN C



Summary for Pond 60P: BASIN H

Inflow Area = 4.710 ac, 45.65% Impervious, Inflow Depth > 5.65" for 100-Year-Current event
Inflow = 11.12 cfs @ 12.20 hrs, Volume= 2.219 af
Outflow = 5.86 cfs @ 12.68 hrs, Volume= 1.957 af, Atten= 47%, Lag= 28.6 min
Primary = 5.86 cfs @ 12.68 hrs, Volume= 1.957 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 30.88' @ 12.68 hrs Surf.Area= 0.297 ac Storage= 0.609 af

Plug-Flow detention time= 618.0 min calculated for 1.957 af (88% of inflow)
Center-of-Mass det. time= 361.3 min (1,602.0 - 1,240.7)

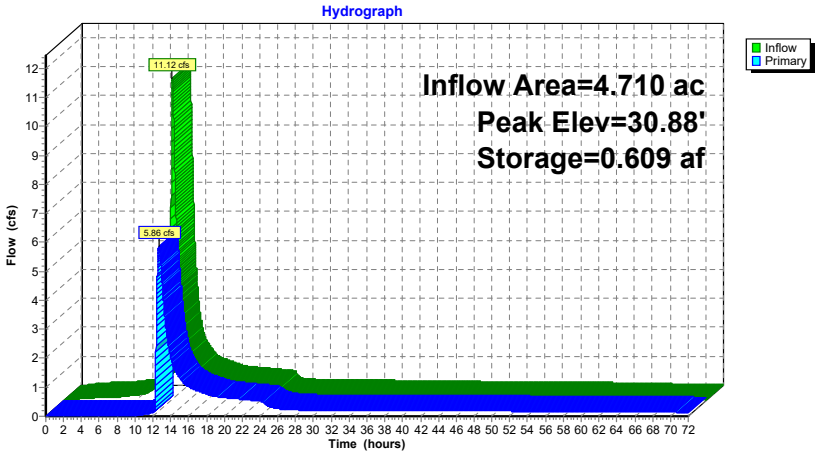
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.799 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.216	0.000	0.000
29.00	0.232	0.112	0.112
30.00	0.266	0.249	0.361
31.00	0.301	0.283	0.644
31.50	0.319	0.155	0.799

Device	Routing	Invert	Outlet Devices
#1	Primary	31.20'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.30'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	28.90'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.86 cfs @ 12.68 hrs HW=30.88' TW=29.18' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 5.64 cfs @ 2.50 fps)
- **3=Orifice** (Orifice Controls 0.21 cfs @ 6.28 fps)

Pond 60P: BASIN H



Summary for Pond 63P: BASIN P

Inflow = 13.75 cfs @ 12.20 hrs, Volume= 3.758 af
Outflow = 12.39 cfs @ 12.60 hrs, Volume= 3.419 af, Atten= 10%, Lag= 24.0 min
Primary = 12.39 cfs @ 12.60 hrs, Volume= 3.419 af
Routed to Pond 65P : BASIN E

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 29.20' @ 12.57 hrs Surf.Area= 0.292 ac Storage= 0.659 af

Plug-Flow detention time= 320.6 min calculated for 3.419 af (91% of inflow)
Center-of-Mass det. time= 94.0 min (1,312.9 - 1,218.8)

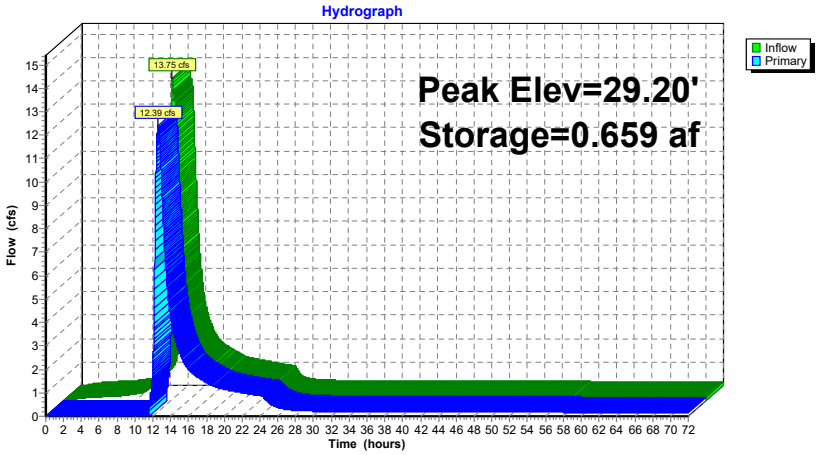
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.910 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.193	0.000	0.000
27.50	0.233	0.213	0.213
28.50	0.268	0.250	0.463
29.50	0.303	0.286	0.749
30.00	0.340	0.161	0.910

Device	Routing	Invert	Outlet Devices
#1	Primary	29.30'	**42.0" x 102.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**3.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=12.41 cfs @ 12.60 hrs HW=29.20' TW=28.86' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 12.27 cfs @ 2.53 fps)
- **3=Orifice** (Orifice Controls 0.14 cfs @ 2.81 fps)

Pond 63P: BASIN P



Summary for Pond 64P: BASIN I

Inflow Area = 0.530 ac, 33.96% Impervious, Inflow Depth = 5.87" for 100-Year-Current event
Inflow = 2.21 cfs @ 12.18 hrs, Volume= 0.259 af
Outflow = 1.90 cfs @ 12.28 hrs, Volume= 0.236 af, Atten= 14%, Lag= 6.0 min
Primary = 1.90 cfs @ 12.28 hrs, Volume= 0.236 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 30.92' @ 12.28 hrs Surf.Area= 0.040 ac Storage= 0.076 af

Plug-Flow detention time= 180.7 min calculated for 0.236 af (91% of inflow)
Center-of-Mass det. time= 131.5 min (933.4 - 801.9)

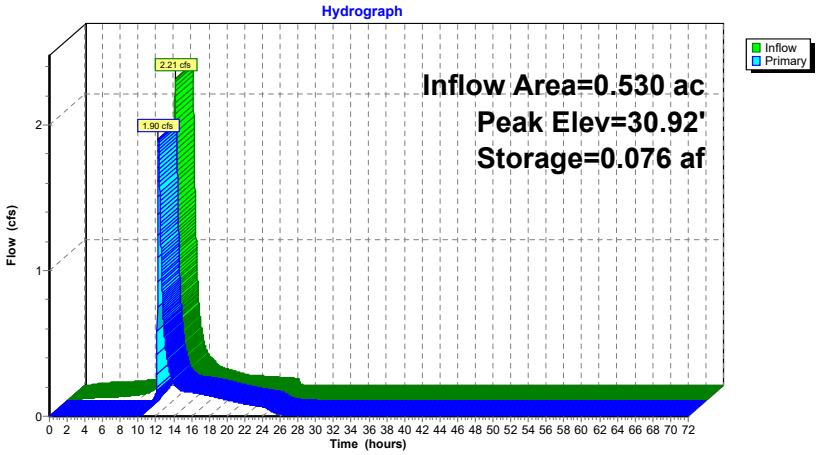
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.101 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.023	0.000	0.000
29.50	0.030	0.026	0.026
30.50	0.037	0.033	0.060
31.50	0.045	0.041	0.101

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.60'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	29.40'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.90 cfs @ 12.28 hrs HW=30.92' TW=29.05' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 1.70 cfs @ 1.84 fps)
- **3=Orifice** (Orifice Controls 0.20 cfs @ 5.72 fps)

Pond 64P: BASIN I



Summary for Pond 65P: BASIN E

Inflow = 17.49 cfs @ 12.34 hrs, Volume= 4.659 af
Outflow = 17.44 cfs @ 12.38 hrs, Volume= 4.485 af, Atten= 0%, Lag= 2.2 min
Primary = 17.44 cfs @ 12.38 hrs, Volume= 4.407 af
Routed to Link 46L : DA North
Secondary = 1.19 cfs @ 12.09 hrs, Volume= 0.078 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.87' @ 12.38 hrs Surf.Area= 0.170 ac Storage= 0.307 af

Plug-Flow detention time= 143.4 min calculated for 4.485 af (96% of inflow)
Center-of-Mass det. time= 38.1 min (1,209.5 - 1,171.5)

Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.421 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

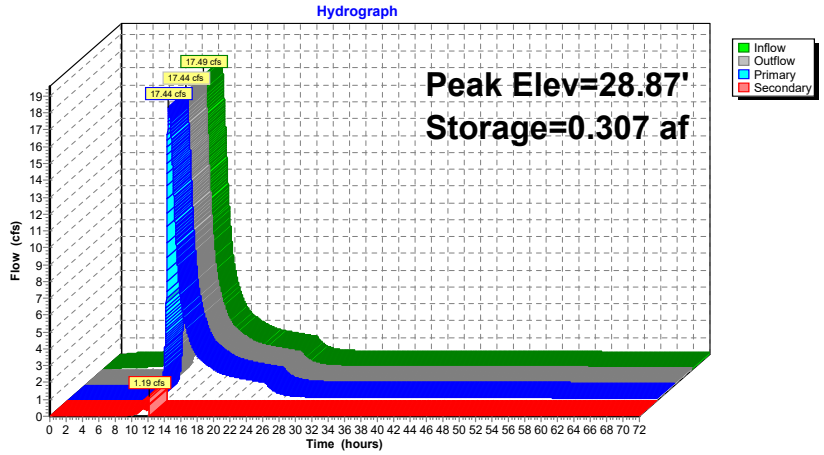
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.091	0.000	0.000
27.50	0.122	0.106	0.106
28.50	0.157	0.139	0.246
29.50	0.193	0.175	0.421

Device	Routing	Invert	Outlet Devices
#1	Primary	28.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#4	Secondary	27.50'	**3.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#5	Secondary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#6	Secondary	29.30'	**42.0" x 102.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=17.44 cfs @ 12.38 hrs HW=28.87' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Weir Controls 7.03 cfs @ 1.71 fps)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 10.22 cfs @ 3.06 fps)
- **3=Orifice** (Orifice Controls 0.18 cfs @ 5.43 fps)

Secondary OutFlow Max=0.00 cfs @ 12.09 hrs HW=28.63' TW=28.65' (Dynamic Tailwater)
- **4=Orifice** (Controls 0.00 cfs)
- **5=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **6=Grate** (Controls 0.00 cfs)

Pond 65P: BASIN E



Summary for Pond 70P: BASIN K

Inflow Area = 1.640 ac, 37.80% Impervious, Inflow Depth = 6.04" for 100-Year-Current event
Inflow = 6.96 cfs @ 12.18 hrs, Volume= 0.826 af
Outflow = 2.98 cfs @ 12.60 hrs, Volume= 0.759 af, Atten= 57%, Lag= 25.0 min
Primary = 2.98 cfs @ 12.60 hrs, Volume= 0.759 af
Routed to Pond 90P : BASIN N

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 32.75' @ 12.60 hrs Surf.Area= 0.181 ac Storage= 0.340 af

Plug-Flow detention time= 286.7 min calculated for 0.759 af (92% of inflow)
Center-of-Mass det. time= 241.9 min (1,039.5 - 797.5)

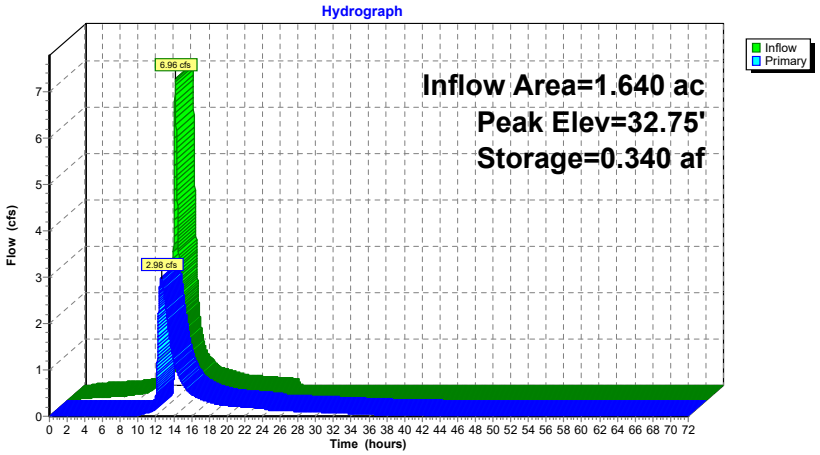
Volume	Invert	Avail.Storage	Storage Description
#1	30.50'	0.484 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.50	0.122	0.000	0.000
31.50	0.148	0.135	0.135
32.50	0.174	0.161	0.296
33.50	0.202	0.188	0.484

Device	Routing	Invert	Outlet Devices
#1	Primary	33.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.70'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.98 cfs @ 12.60 hrs HW=32.75' TW=30.94' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 2.77 cfs @ 3.35 fps)
- **3=Orifice** (Orifice Controls 0.21 cfs @ 6.17 fps)

Pond 70P: BASIN K



Summary for Pond 74P: BASIN B

Inflow Area = 3.730 ac, 48.53% Impervious, Inflow Depth > 5.82" for 100-Year-Current event
Inflow = 5.62 cfs @ 12.18 hrs, Volume= 1.810 af
Outflow = 4.13 cfs @ 12.35 hrs, Volume= 1.711 af, Atten= 26%, Lag= 10.4 min
Primary = 4.13 cfs @ 12.35 hrs, Volume= 1.711 af
Routed to Pond 59P : BASIN C

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 32.25' @ 12.35 hrs Surf.Area= 0.122 ac Storage= 0.192 af

Plug-Flow detention time= 234.7 min calculated for 1.711 af (95% of inflow)
Center-of-Mass det. time= 97.0 min (1,588.9 - 1,491.9)

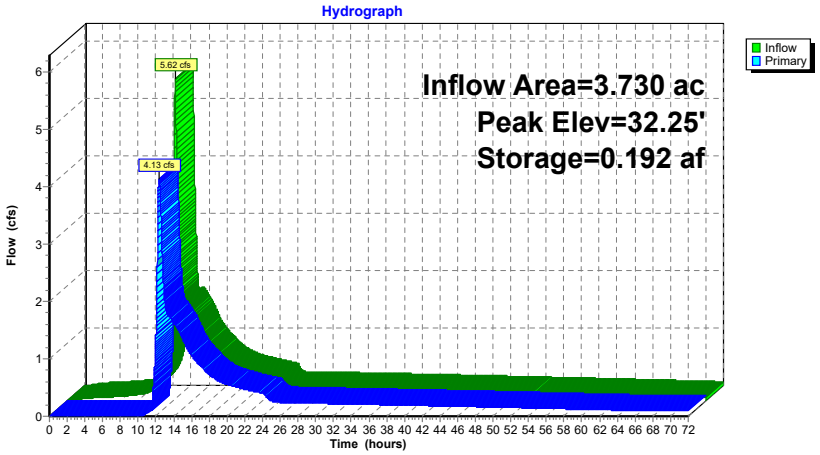
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	0.292 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.00	0.049	0.000	0.000
31.00	0.081	0.065	0.065
32.00	0.113	0.097	0.162
33.00	0.147	0.130	0.292

Device	Routing	Invert	Outlet Devices
#1	Primary	32.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.13 cfs @ 12.35 hrs HW=32.25' TW=30.64' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 3.95 cfs @ 2.84 fps)
- **3=Orifice** (Orifice Controls 0.18 cfs @ 5.16 fps)

Pond 74P: BASIN B



Summary for Pond 75P: BASIN D

Inflow Area = 7.390 ac, 48.71% Impervious, Inflow Depth > 5.95" for 100-Year-Current event
Inflow = 17.98 cfs @ 12.20 hrs, Volume= 3.662 af
Outflow = 16.16 cfs @ 12.34 hrs, Volume= 3.361 af, Atten= 10%, Lag= 8.4 min
Primary = 16.16 cfs @ 12.34 hrs, Volume= 3.361 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.91' @ 12.34 hrs Surf.Area= 0.270 ac Storage= 0.562 af

Plug-Flow detention time= 281.8 min calculated for 3.361 af (92% of inflow)
Center-of-Mass det. time= 84.7 min (1,255.5 - 1,170.8)

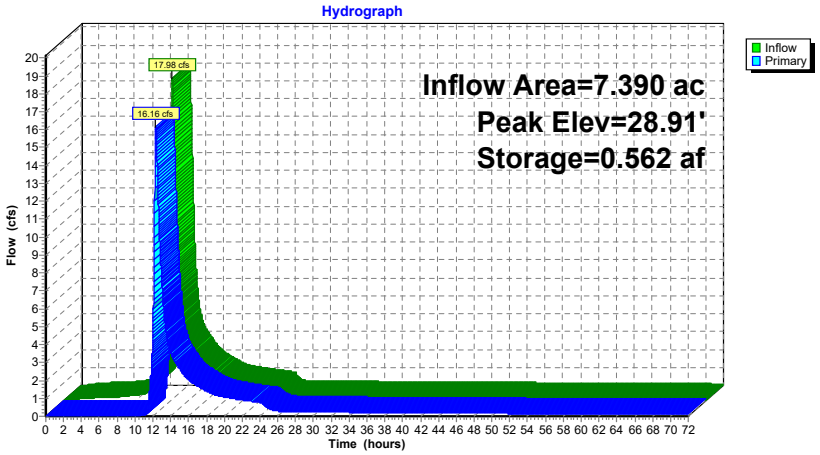
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.725 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.197	0.000	0.000
27.50	0.226	0.211	0.211
28.50	0.257	0.241	0.453
29.50	0.288	0.272	0.725

Device	Routing	Invert	Outlet Devices
#1	Primary	28.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.40'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=16.16 cfs @ 12.34 hrs HW=28.91' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Weir Controls 3.28 cfs @ 1.33 fps)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 12.69 cfs @ 3.29 fps)
- **3=Orifice** (Orifice Controls 0.19 cfs @ 5.72 fps)

Pond 75P: BASIN D



Summary for Pond 76P: BASIN M

Inflow Area = 0.860 ac, 59.30% Impervious, Inflow Depth = 7.02" for 100-Year-Current event
Inflow = 4.20 cfs @ 12.18 hrs, Volume= 0.503 af
Outflow = 2.52 cfs @ 12.42 hrs, Volume= 0.443 af, Atten= 40%, Lag= 14.6 min
Primary = 2.52 cfs @ 12.42 hrs, Volume= 0.443 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 34.65' @ 12.42 hrs Surf.Area= 0.070 ac Storage= 0.200 af

Plug-Flow detention time= 275.1 min calculated for 0.443 af (88% of inflow)
Center-of-Mass det. time= 213.1 min (989.1 - 776.0)

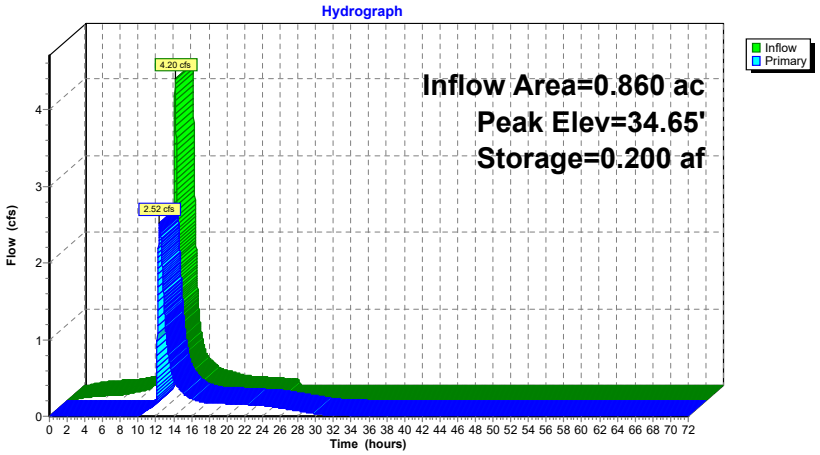
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	0.260 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.50	0.060	0.000	0.000
32.00	0.060	0.030	0.030
33.00	0.060	0.060	0.090
34.00	0.070	0.065	0.155
35.00	0.070	0.070	0.225
35.50	0.070	0.035	0.260

Device	Routing	Invert	Outlet Devices
#1	Primary	35.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	33.75'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.52 cfs @ 12.42 hrs HW=34.65' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 2.28 cfs @ 3.10 fps)
- **3=Orifice** (Orifice Controls 0.23 cfs @ 6.88 fps)

Pond 76P: BASIN M



Summary for Pond 83P: BASIN F

Inflow Area = 1.500 ac, 56.00% Impervious, Inflow Depth = 6.87" for 100-Year-Current event
Inflow = 7.42 cfs @ 12.17 hrs, Volume= 0.859 af
Outflow = 0.22 cfs @ 18.46 hrs, Volume= 0.642 af, Atten= 97%, Lag= 377.6 min
Primary = 0.22 cfs @ 18.46 hrs, Volume= 0.642 af
Routed to Pond 86p : BASIN G

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 34.83' @ 18.46 hrs Surf.Area= 0.296 ac Storage= 0.668 af

Plug-Flow detention time= 1,314.5 min calculated for 0.642 af (75% of inflow)
Center-of-Mass det. time= 1,215.4 min (1,993.4 - 777.9)

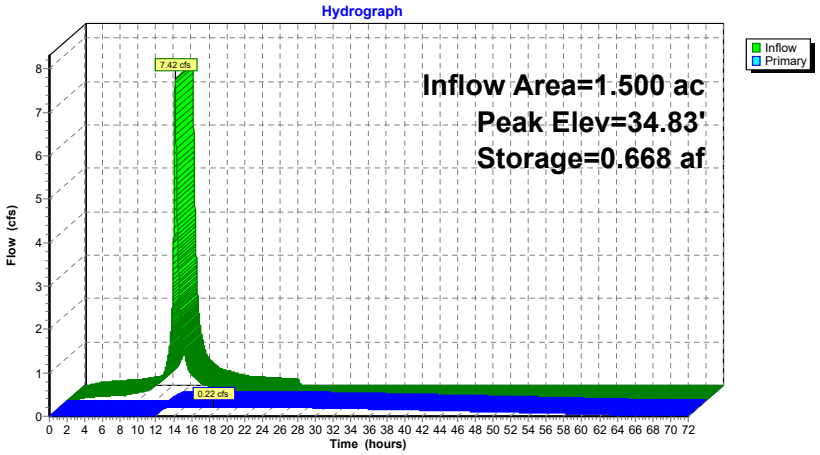
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.043 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.178	0.000	0.000
33.00	0.218	0.198	0.198
34.00	0.260	0.239	0.437
35.00	0.303	0.281	0.718
36.00	0.347	0.325	1.043

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.25'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.22 cfs @ 18.46 hrs HW=34.83' TW=32.87' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.22 cfs @ 6.33 fps)

Pond 83P: BASIN F



Summary for Pond 84P: BASIN L

Inflow Area = 0.970 ac, 50.52% Impervious, Inflow Depth = 6.62" for 100-Year-Current event
Inflow = 4.55 cfs @ 12.18 hrs, Volume= 0.535 af
Outflow = 3.12 cfs @ 12.36 hrs, Volume= 0.487 af, Atten= 31%, Lag= 11.3 min
Primary = 3.12 cfs @ 12.36 hrs, Volume= 0.487 af
Routed to Pond 90P : BASIN N

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 34.51' @ 12.36 hrs Surf.Area= 0.113 ac Storage= 0.186 af

Plug-Flow detention time= 262.9 min calculated for 0.487 af (91% of inflow)
Center-of-Mass det. time= 213.1 min (996.8 - 783.7)

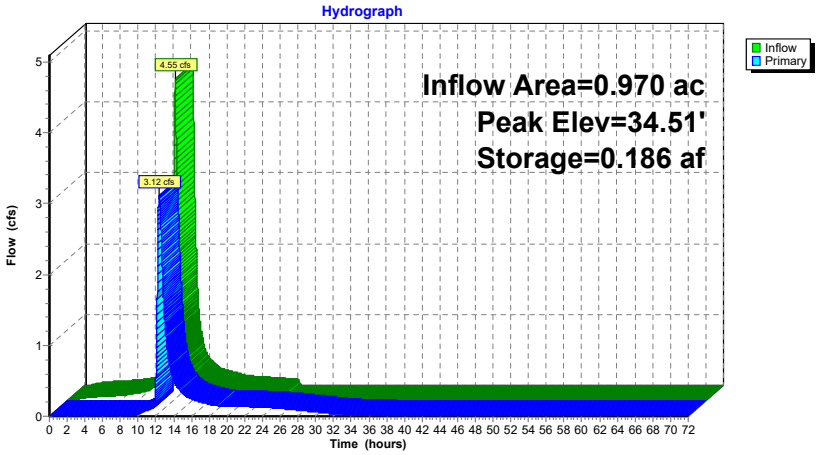
Volume	Invert	Avail.Storage	Storage Description
#1	32.50'	0.308 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.50	0.074	0.000	0.000
33.00	0.083	0.039	0.039
34.00	0.102	0.092	0.132
35.00	0.123	0.113	0.244
35.50	0.134	0.064	0.308

Device	Routing	Invert	Outlet Devices
#1	Primary	34.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	33.90'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.10'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.12 cfs @ 12.36 hrs HW=34.51' TW=30.97' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 2.93 cfs @ 2.56 fps)
- **3=Orifice** (Orifice Controls 0.19 cfs @ 5.50 fps)

Pond 84P: BASIN L



Summary for Pond 86P: BASIN G

Inflow Area = 2.760 ac, 47.46% Impervious, Inflow Depth > 5.54" for 100-Year-Current event
Inflow = 5.53 cfs @ 12.18 hrs, Volume= 1.275 af
Outflow = 3.67 cfs @ 12.39 hrs, Volume= 1.197 af, Atten= 34%, Lag= 12.9 min
Primary = 3.67 cfs @ 12.39 hrs, Volume= 1.197 af
Routed to Pond 60P : BASIN H

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.44' @ 12.39 hrs Surf.Area= 0.132 ac Storage= 0.222 af

Plug-Flow detention time= 361.5 min calculated for 1.197 af (94% of inflow)
Center-of-Mass det. time= 223.6 min (1,623.8 - 1,400.2)

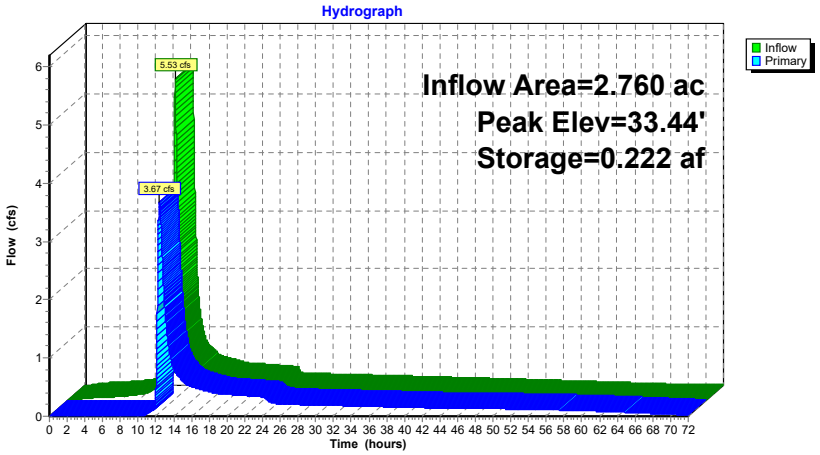
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	0.301 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.00	0.051	0.000	0.000
32.00	0.083	0.067	0.067
33.00	0.117	0.100	0.167
34.00	0.152	0.134	0.301

Device	Routing	Invert	Outlet Devices
#1	Primary	33.70'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	32.75'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.66 cfs @ 12.39 hrs HW=33.44' TW=30.68' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 3.48 cfs @ 2.71 fps)
- **3=Orifice** (Orifice Controls 0.19 cfs @ 5.56 fps)

Pond 86P: BASIN G



Summary for Pond 90P: BASIN N

Inflow Area = 4.000 ac, 43.75% Impervious, Inflow Depth > 6.02" for 100-Year-Current event
Inflow = 10.57 cfs @ 12.26 hrs, Volume= 2.005 af
Outflow = 9.79 cfs @ 12.41 hrs, Volume= 1.896 af, Atten= 7%, Lag= 9.2 min
Primary = 9.79 cfs @ 12.41 hrs, Volume= 1.896 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 30.98' @ 12.41 hrs Surf.Area= 0.198 ac Storage= 0.329 af

Plug-Flow detention time= 184.9 min calculated for 1.895 af (95% of inflow)
Center-of-Mass det. time= 122.3 min (1,055.8 - 933.5)

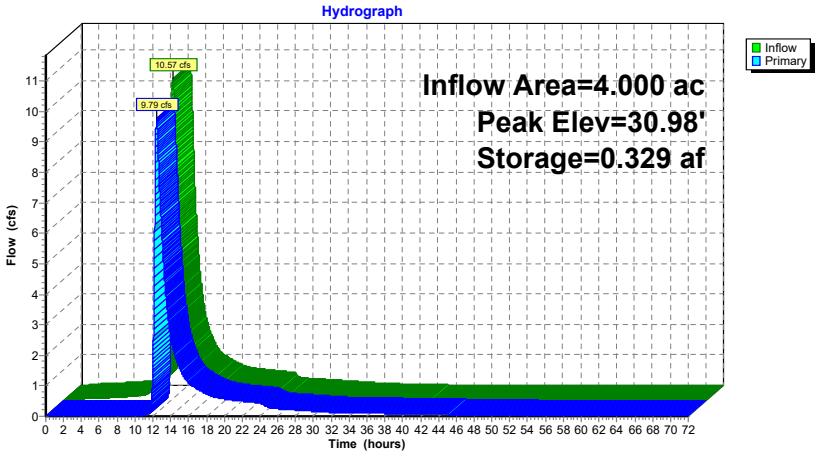
Volume	Invert	Avail.Storage	Storage Description
#1	29.00'	0.443 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
29.00	0.136	0.000	0.000
30.00	0.167	0.151	0.151
31.00	0.199	0.183	0.334
31.50	0.238	0.109	0.443

Device	Routing	Invert	Outlet Devices
#1	Primary	30.90'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.20'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	29.70'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=9.79 cfs @ 12.41 hrs HW=30.98' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Weir Controls 1.02 cfs @ 0.90 fps)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 8.59 cfs @ 2.88 fps)
- **3=Orifice** (Orifice Controls 0.18 cfs @ 5.21 fps)

Pond 90P: BASIN N



Summary for Pond 93P: BASIN O

Inflow Area = 1.100 ac, 51.82% Impervious, Inflow Depth = 7.00" for 100-Year-Current event
Inflow = 5.41 cfs @ 12.18 hrs, Volume= 0.642 af
Outflow = 4.60 cfs @ 12.28 hrs, Volume= 0.582 af, Atten= 15%, Lag= 5.9 min
Primary = 4.60 cfs @ 12.28 hrs, Volume= 0.582 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.61' @ 12.28 hrs Surf.Area= 0.092 ac Storage= 0.148 af

Plug-Flow detention time= 172.7 min calculated for 0.582 af (91% of inflow)
Center-of-Mass det. time= 122.0 min (902.6 - 780.5)

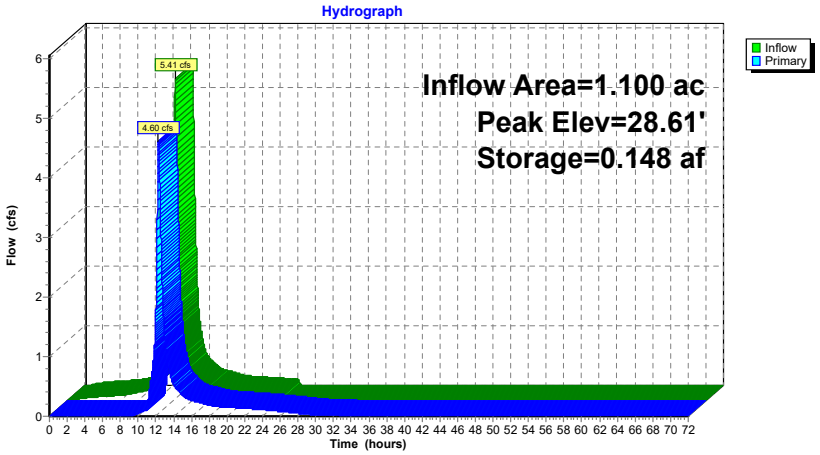
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.244 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.050	0.000	0.000
27.00	0.059	0.027	0.027
28.00	0.079	0.069	0.097
29.00	0.100	0.090	0.186
29.50	0.129	0.057	0.244

Device	Routing	Invert	Outlet Devices
#1	Primary	28.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.00'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.60 cfs @ 12.28 hrs HW=28.61' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 4.44 cfs @ 2.54 fps)
- **3=Orifice** (Orifice Controls 0.16 cfs @ 4.82 fps)

Pond 93P: BASIN O



Summary for Pond 102P: BASIN Q

Inflow Area = 1.860 ac, 59.68% Impervious, Inflow Depth = 7.04" for 100-Year-Current event
Inflow = 8.12 cfs @ 12.21 hrs, Volume= 1.091 af
Outflow = 7.08 cfs @ 12.32 hrs, Volume= 0.909 af, Atten= 13%, Lag= 6.6 min
Primary = 7.08 cfs @ 12.32 hrs, Volume= 0.909 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.38' @ 12.32 hrs Surf.Area= 0.135 ac Storage= 0.269 af

Plug-Flow detention time= 157.4 min calculated for 0.909 af (83% of inflow)
Center-of-Mass det. time= 79.5 min (859.3 - 779.9)

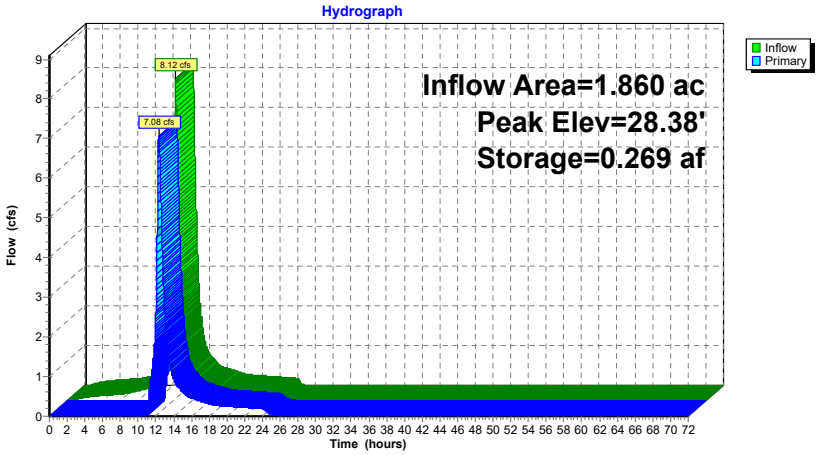
Volume	Invert	Avail.Storage	Storage Description
#1	26.00'	0.356 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.00	0.092	0.000	0.000
27.00	0.110	0.101	0.101
28.00	0.128	0.119	0.220
29.00	0.146	0.137	0.356

Device	Routing	Invert	Outlet Devices
#1	Primary	28.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.70'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.00'	**2.5" Vert. Orifice X 0.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=7.07 cfs @ 12.32 hrs HW=28.38' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 7.07 cfs @ 2.70 fps)
- **3=Orifice** (Controls 0.00 cfs)

Pond 102P: BASIN Q



Summary for Pond 105P: BASIN R

Inflow Area = 2.040 ac, 50.00% Impervious, Inflow Depth = 6.84" for 100-Year-Current event
Inflow = 9.81 cfs @ 12.18 hrs, Volume= 1.163 af
Outflow = 6.50 cfs @ 12.38 hrs, Volume= 1.013 af, Atten= 34%, Lag= 12.3 min
Primary = 6.50 cfs @ 12.38 hrs, Volume= 1.013 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 24.78' @ 12.38 hrs Surf.Area= 0.219 ac Storage= 0.394 af

Plug-Flow detention time= 230.7 min calculated for 1.013 af (87% of inflow)
Center-of-Mass det. time= 166.0 min (948.7 - 782.7)

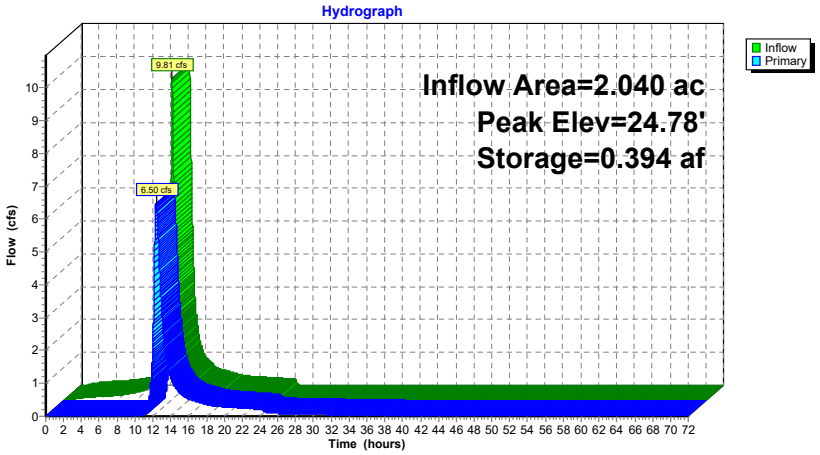
Volume	Invert	Avail.Storage	Storage Description
#1	22.50'	0.568 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
22.50	0.127	0.000	0.000
23.00	0.146	0.068	0.068
24.00	0.187	0.167	0.235
25.00	0.228	0.207	0.442
25.50	0.277	0.126	0.568

Device	Routing	Invert	Outlet Devices
#1	Primary	25.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	23.90'	**2.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	23.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=6.50 cfs @ 12.38 hrs HW=24.78' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 6.32 cfs @ 3.07 fps)
- **3=Orifice** (Orifice Controls 0.18 cfs @ 5.23 fps)

Pond 105P: BASIN R



Summary for Pond 108P: BASIN S

Inflow Area = 1.800 ac, 48.89% Impervious, Inflow Depth = 6.55" for 100-Year-Current event
Inflow = 7.32 cfs @ 12.22 hrs, Volume= 0.982 af
Outflow = 2.24 cfs @ 12.91 hrs, Volume= 0.699 af, Atten= 69%, Lag= 41.5 min
Primary = 2.24 cfs @ 12.91 hrs, Volume= 0.699 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 20.98' @ 12.91 hrs Surf.Area= 0.270 ac Storage= 0.510 af

Plug-Flow detention time= 294.5 min calculated for 0.699 af (71% of inflow)
Center-of-Mass det. time= 187.5 min (977.4 - 789.8)

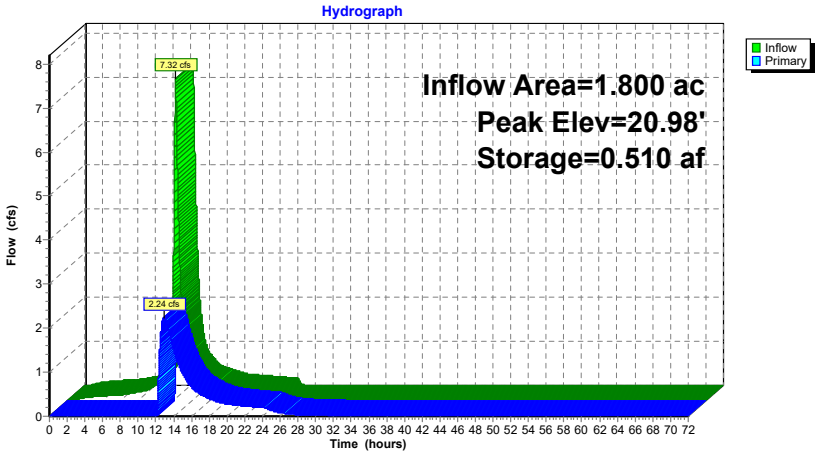
Volume	Invert	Avail.Storage	Storage Description
#1	18.80'	0.750 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
18.80	0.190	0.000	0.000
19.00	0.200	0.039	0.039
20.00	0.240	0.220	0.259
21.00	0.270	0.255	0.514
21.80	0.320	0.236	0.750

Device	Routing	Invert	Outlet Devices
#1	Primary	21.20'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.10'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	19.30'	**2.5" Vert. Orifice X 0.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.24 cfs @ 12.91 hrs HW=20.98' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 2.24 cfs @ 3.08 fps)
- **3=Orifice** (Controls 0.00 cfs)

Pond 108P: BASIN S



Summary for Pond 111P: BASIN T

Inflow Area = 1.800 ac, 32.78% Impervious, Inflow Depth > 5.02" for 100-Year-Current event
Inflow = 4.65 cfs @ 12.11 hrs, Volume= 0.753 af
Outflow = 0.38 cfs @ 19.47 hrs, Volume= 0.631 af, Atten= 92%, Lag= 441.4 min
Primary = 0.38 cfs @ 19.47 hrs, Volume= 0.631 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 20.36' @ 19.47 hrs Surf.Area= 0.244 ac Storage= 0.386 af

Plug-Flow detention time= 882.6 min calculated for 0.631 af (84% of inflow)
Center-of-Mass det. time= 745.6 min (1,792.3 - 1,046.7)

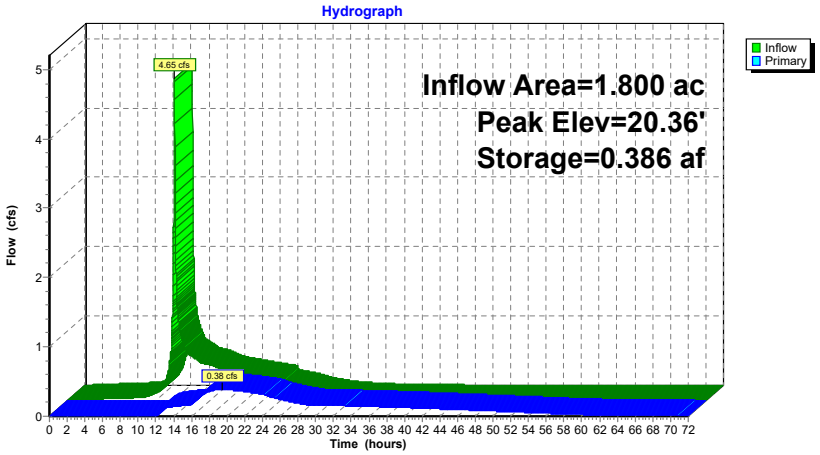
Volume	Invert	Avail.Storage	Storage Description
#1	18.50'	0.697 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
18.50	0.170	0.000	0.000
19.00	0.190	0.090	0.090
20.00	0.230	0.210	0.300
21.00	0.270	0.250	0.550
21.50	0.320	0.148	0.697

Device	Routing	Invert	Outlet Devices
#1	Primary	20.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.20'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	19.10'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.38 cfs @ 19.47 hrs HW=20.36' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.21 cfs @ 1.32 fps)
- **3=Orifice** (Orifice Controls 0.18 cfs @ 5.18 fps)

Pond 111P: BASIN T



Summary for Pond 114P: BASIN U

Inflow Area = 1.070 ac, 37.38% Impervious, Inflow Depth = 6.02" for 100-Year-Current event
Inflow = 6.37 cfs @ 12.12 hrs, Volume= 0.537 af
Outflow = 0.38 cfs @ 14.16 hrs, Volume= 0.418 af, Atten= 94%, Lag= 122.4 min
Primary = 0.38 cfs @ 14.16 hrs, Volume= 0.418 af
Routed to Pond 111P : BASIN T

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 21.10' @ 14.16 hrs Surf.Area= 0.245 ac Storage= 0.338 af

Plug-Flow detention time= 547.1 min calculated for 0.418 af (78% of inflow)
Center-of-Mass det. time= 454.1 min (1,243.3 - 789.3)

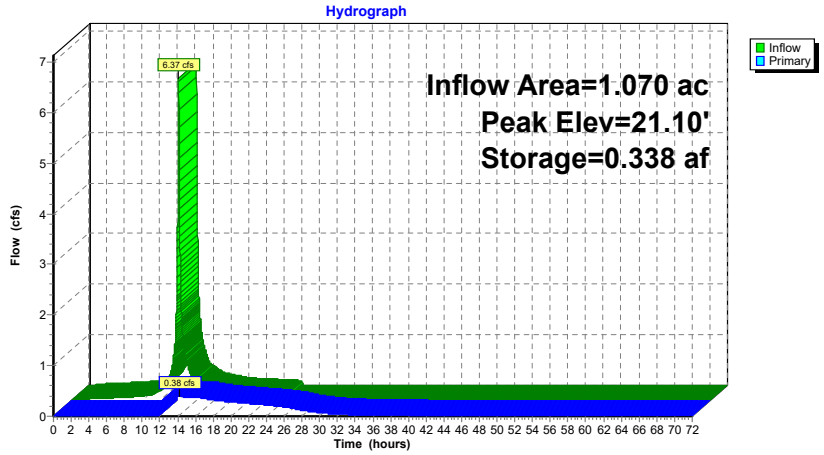
Volume	Invert	Avail.Storage	Storage Description
#1	19.50'	0.738 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
19.50	0.180	0.000	0.000
20.00	0.200	0.095	0.095
21.00	0.240	0.220	0.315
22.00	0.290	0.265	0.580
22.50	0.340	0.157	0.738

Device	Routing	Invert	Outlet Devices
#1	Primary	21.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.10'	**4.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.38 cfs @ 14.16 hrs HW=21.10' TW=19.95' (Dynamic Tailwater)
└**1=Grate** (Controls 0.00 cfs)
└**2=Orifice** (Orifice Controls 0.38 cfs @ 4.39 fps)

Pond 114P: BASIN U



Summary for Pond 117P: BASIN V

Inflow Area = 0.850 ac, 14.12% Impervious, Inflow Depth = 4.96" for 100-Year-Current event
Inflow = 3.13 cfs @ 12.18 hrs, Volume= 0.352 af
Outflow = 1.80 cfs @ 12.46 hrs, Volume= 0.255 af, Atten= 43%, Lag= 16.6 min
Primary = 1.80 cfs @ 12.46 hrs, Volume= 0.255 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 38.17' @ 12.46 hrs Surf.Area= 0.125 ac Storage= 0.129 af

Plug-Flow detention time= 194.2 min calculated for 0.255 af (73% of inflow)
Center-of-Mass det. time= 90.2 min (919.8 - 829.7)

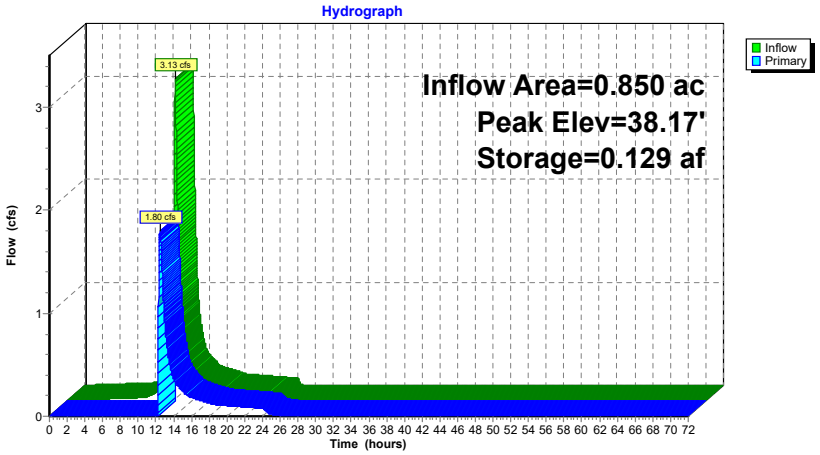
Volume	Invert	Avail.Storage	Storage Description
#1	37.00'	0.243 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
37.00	0.096	0.000	0.000
38.00	0.121	0.109	0.109
39.00	0.147	0.134	0.243

Device	Routing	Invert	Outlet Devices
#1	Primary	38.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	37.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.80 cfs @ 12.46 hrs HW=38.17' TW=0.00' (Dynamic Tailwater)
└**1=Grate** (Controls 0.00 cfs)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 1.80 cfs @ 1.69 fps)

Pond 117P: BASIN V

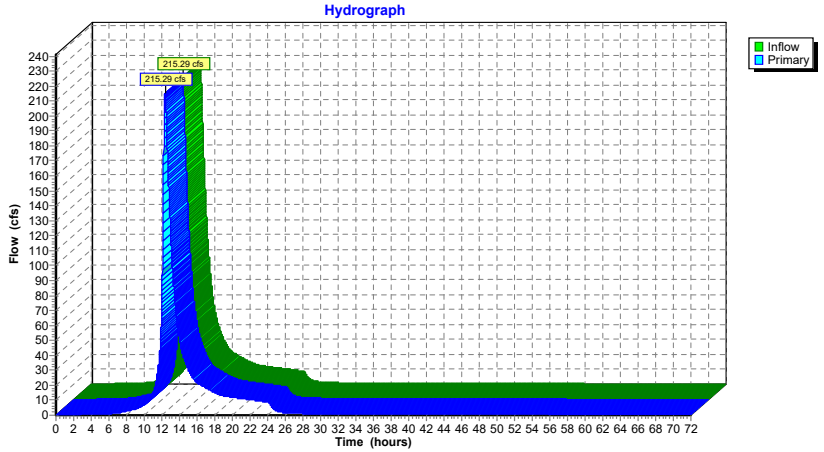


Summary for Link 46L: DA North

Inflow = 215.29 cfs @ 12.36 hrs, Volume= 41.284 af
Primary = 215.29 cfs @ 12.37 hrs, Volume= 41.284 af, Atten= 0%, Lag= 0.6 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 46L: DA North

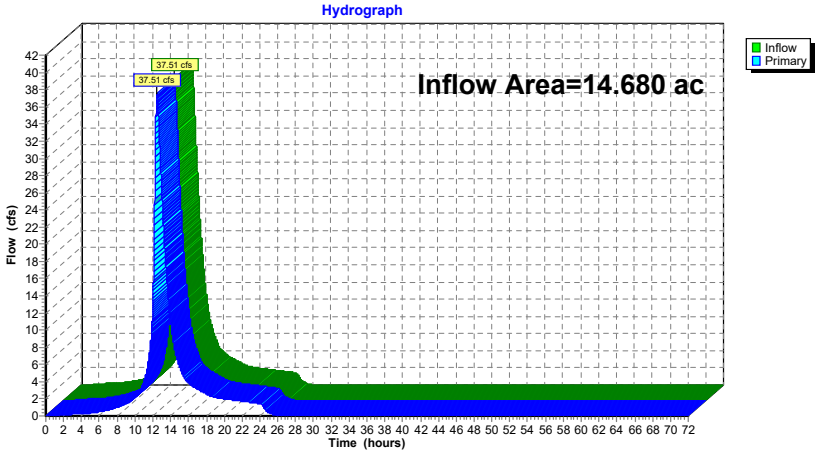


Summary for Link 51L: DA Undetained

Inflow Area = 14.680 ac, 15.60% Impervious, Inflow Depth = 6.33" for 100-Year-Current event
Inflow = 37.51 cfs @ 12.48 hrs, Volume= 7.738 af
Primary = 37.51 cfs @ 12.49 hrs, Volume= 7.738 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 51L: DA Undetained

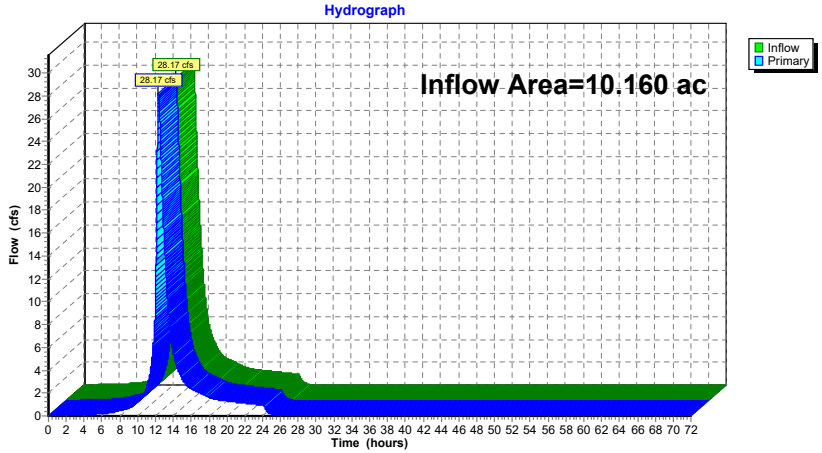


Summary for Link 52L: X

Inflow Area = 10.160 ac, 29.97% Impervious, Inflow Depth = 5.69" for 100-Year-Current event
Inflow = 28.17 cfs @ 12.33 hrs, Volume= 4.819 af
Primary = 28.17 cfs @ 12.34 hrs, Volume= 4.819 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 52L: X

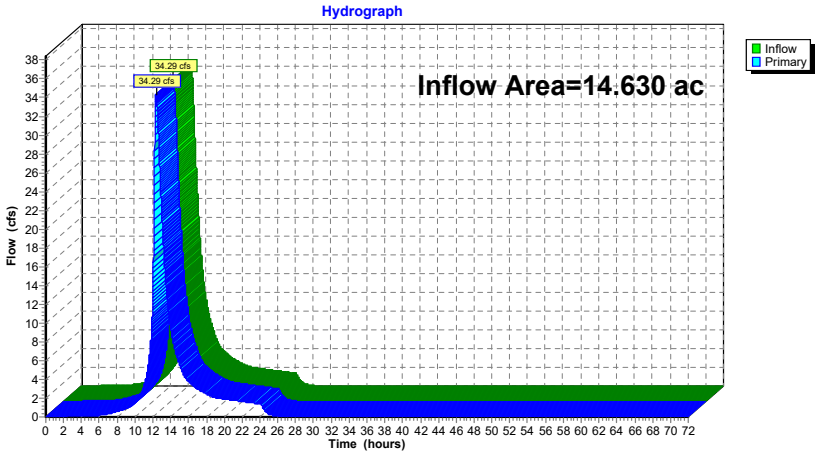


Summary for Link 53L: W

Inflow Area = 14.630 ac, 28.71% Impervious, Inflow Depth = 5.63" for 100-Year-Current event
Inflow = 34.29 cfs @ 12.35 hrs, Volume= 6.869 af
Primary = 34.29 cfs @ 12.36 hrs, Volume= 6.869 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 53L: W

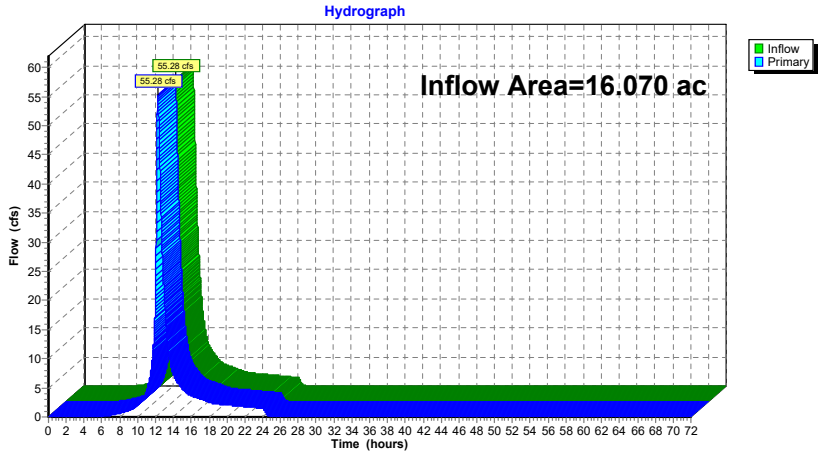


Summary for Link 58L: Y

Inflow Area = 16.070 ac, 30.59% Impervious, Inflow Depth = 5.72" for 100-Year-Current event
Inflow = 55.28 cfs @ 12.25 hrs, Volume= 7.663 af
Primary = 55.28 cfs @ 12.26 hrs, Volume= 7.663 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 58L: Y



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Sim-Route method - Pond routing by Sim-Route method

Subcatchment54S: Y - OFFSITE Runoff Area=12.620 ac 38.00% Impervious Runoff Depth=8.06"
Flow Length=760' Tc=15.1 min CN=75 Runoff=61.63 cfs 8.474 af

Subcatchment56S: W- OFFSITE Runoff Area=8.210 ac 38.00% Impervious Runoff Depth=8.06"
Flow Length=373' Tc=18.9 min CN=75 Runoff=35.72 cfs 5.513 af

Subcatchment57S: Pipe Y Runoff Area=3.450 ac 3.48% Impervious Runoff Depth=6.26"
Flow Length=1,229' Slope=0.0200 '/' Tc=16.9 min CN=WQ Runoff=12.34 cfs 1.799 af

Subcatchment59S: X - OFFSITE Runoff Area=5.170 ac 38.00% Impervious Runoff Depth=8.06"
Flow Length=880' Tc=18.5 min CN=75 Runoff=22.75 cfs 3.472 af

Subcatchment60S: BASIN A - DA Runoff Area=2.470 ac 53.85% Impervious Runoff Depth=8.74"
Flow Length=102' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=15.12 cfs 1.799 af

Subcatchment61S: BASIN I - DA Runoff Area=0.530 ac 33.96% Impervious Runoff Depth=7.76"
Flow Length=134' Slope=0.0200 '/' Tc=9.6 min CN=WQ Runoff=2.94 cfs 0.343 af

Subcatchment62S: Undetained Runoff Area=14.680 ac 15.60% Impervious Runoff Depth=8.30"
Flow Length=3,276' Tc=30.2 min CN=WQ Runoff=49.13 cfs 10.156 af

Subcatchment63S: BASIN N - DA Runoff Area=1.390 ac 46.04% Impervious Runoff Depth=8.51"
Flow Length=108' Tc=9.3 min CN=WQ Runoff=8.39 cfs 0.986 af

Subcatchment64S: BASIN E - DA Runoff Area=2.240 ac 50.89% Impervious Runoff Depth=8.60"
Flow Length=609' Tc=8.1 min CN=WQ Runoff=14.44 cfs 1.604 af

Subcatchment65S: BASIN V - DA Runoff Area=0.850 ac 14.12% Impervious Runoff Depth=6.78"
Flow Length=100' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=4.31 cfs 0.480 af

Subcatchment67S: Pipe W Runoff Area=6.420 ac 16.82% Impervious Runoff Depth=6.91"
Flow Length=5,045' Tc=42.5 min CN=WQ Runoff=14.64 cfs 3.699 af

Subcatchment68S: BASIN K - DA Runoff Area=1.640 ac 37.80% Impervious Runoff Depth=7.95"
Flow Length=136' Slope=0.0200 '/' Tc=9.7 min CN=WQ Runoff=9.21 cfs 1.086 af

Subcatchment69S: BASIN O - DA Runoff Area=1.100 ac 51.82% Impervious Runoff Depth=9.00"
Flow Length=113' Tc=9.4 min CN=WQ Runoff=6.95 cfs 0.825 af

Subcatchment70S: Pipe X Runoff Area=4.990 ac 21.64% Impervious Runoff Depth=7.15"
Flow Length=2,554' Tc=25.8 min CN=WQ Runoff=15.68 cfs 2.974 af

Subcatchment71S: BASIN B - DA Runoff Area=1.260 ac 38.10% Impervious Runoff Depth=7.96"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=7.19 cfs 0.836 af

Subcatchment73S: BASIN C - DA Runoff Area=0.990 ac 42.42% Impervious Runoff Depth=8.18"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=5.76 cfs 0.675 af

Subcatchment75S: BASIN M - DA Runoff Area=0.860 ac 59.30% Impervious Runoff Depth=9.01"
Flow Length=225' Slope=0.0200 '/' Tc=9.3 min CN=WQ Runoff=5.41 cfs 0.646 af

Subcatchment76S: BASIN F - DA Runoff Area=1.500 ac 56.00% Impervious Runoff Depth=8.85"
Flow Length=447' Tc=8.7 min CN=WQ Runoff=9.59 cfs 1.106 af

Subcatchment77S: BASIN D - DA Runoff Area=2.670 ac 51.31% Impervious Runoff Depth=8.62"
Flow Length=795' Tc=9.0 min CN=WQ Runoff=16.53 cfs 1.917 af

Subcatchment83S: BASIN L - DA Runoff Area=0.970 ac 50.52% Impervious Runoff Depth=8.58"
Flow Length=96' Tc=9.2 min CN=WQ Runoff=5.91 cfs 0.693 af

Subcatchment85S: BASIN G - DA Runoff Area=1.260 ac 37.30% Impervious Runoff Depth=7.92"
Flow Length=102' Tc=9.3 min CN=WQ Runoff=7.18 cfs 0.832 af

Subcatchment88S: BASIN H - DA Runoff Area=1.950 ac 43.08% Impervious Runoff Depth=8.21"
Flow Length=111' Slope=0.0200 '/' Tc=9.5 min CN=WQ Runoff=11.34 cfs 1.334 af

Subcatchment98S: BASIN P - DA Runoff Area=2.760 ac 47.10% Impervious Runoff Depth=8.41"
Flow Length=214' Slope=0.0200 '/' Tc=10.2 min CN=WQ Runoff=15.81 cfs 1.934 af

Subcatchment101S: BASIN Q - DA Runoff Area=1.860 ac 59.68% Impervious Runoff Depth=9.03"
Flow Length=612' Tc=12.0 min CN=WQ Runoff=10.45 cfs 1.399 af

Subcatchment104S: BASIN R - DA Runoff Area=2.040 ac 50.00% Impervious Runoff Depth=8.82"
Flow Length=98' Tc=9.4 min CN=WQ Runoff=12.67 cfs 1.500 af

Subcatchment107S: BASIN S - DA Runoff Area=1.800 ac 48.89% Impervious Runoff Depth=8.50"
Flow Length=466' Tc=12.2 min CN=WQ Runoff=9.54 cfs 1.274 af

Subcatchment110S: BASIN T - DA Runoff Area=0.730 ac 26.03% Impervious Runoff Depth=7.37"
Flow Length=254' Slope=0.0100 '/' Tc=2.8 min CN=WQ Runoff=5.95 cfs 0.448 af

Subcatchment113S: BASIN U - DA Runoff Area=1.070 ac 37.38% Impervious Runoff Depth=7.93"
Flow Length=28' Slope=0.0350 '/' Tc=4.0 min CN=WQ Runoff=8.41 cfs 0.707 af

Pond 52P: BASIN A Peak Elev=35.57' Storage=1.053 af Inflow=15.12 cfs 1.799 af
Outflow=2.90 cfs 1.576 af

Pond 59P: BASIN C Peak Elev=30.92' Storage=0.143 af Inflow=10.39 cfs 2.988 af
Outflow=9.49 cfs 2.941 af

Pond 60P: BASIN H Peak Elev=31.16' Storage=0.694 af Inflow=15.40 cfs 2.946 af
Outflow=10.24 cfs 2.618 af

Pond 63P: BASIN P Peak Elev=29.48' Storage=0.743 af Inflow=23.17 cfs 4.928 af
Outflow=22.15 cfs 4.588 af

Pond 64P: BASIN I Peak Elev=31.01' Storage=0.080 af Inflow=2.94 cfs 0.343 af
Outflow=2.74 cfs 0.319 af

Pond 65P: BASIN E Peak Elev=29.08' Storage=0.343 af Inflow=30.58 cfs 6.192 af
Primary=30.38 cfs 5.960 af Secondary=0.64 cfs 0.057 af Outflow=30.38 cfs 6.017 af

Pond 70P: BASIN K Peak Elev=33.08' Storage=0.401 af Inflow=9.21 cfs 1.086 af
Outflow=5.07 cfs 1.019 af

Pond 74P: BASIN B Peak Elev=32.43' Storage=0.214 af Inflow=7.40 cfs 2.413 af
Outflow=5.54 cfs 2.313 af

Pond 75P: BASIN D Peak Elev=29.03' Storage=0.594 af Inflow=23.75 cfs 4.858 af
Outflow=22.39 cfs 4.557 af

Pond 76P: BASIN M Peak Elev=34.97' Storage=0.223 af Inflow=5.41 cfs 0.646 af
Outflow=3.60 cfs 0.585 af

Pond 83P: BASIN F Peak Elev=35.41' Storage=0.848 af Inflow=9.59 cfs 1.106 af
Outflow=0.35 cfs 0.874 af

Pond 84P: BASIN L Peak Elev=34.65' Storage=0.203 af Inflow=5.91 cfs 0.693 af
Outflow=4.76 cfs 0.645 af

Pond 86P: BASIN G Peak Elev=33.64' Storage=0.249 af Inflow=7.31 cfs 1.706 af
Outflow=5.22 cfs 1.612 af

Pond 90P: BASIN N Peak Elev=31.09' Storage=0.352 af Inflow=15.22 cfs 2.650 af
Outflow=14.75 cfs 2.540 af

Pond 93P: BASIN O Peak Elev=28.73' Storage=0.160 af Inflow=6.95 cfs 0.825 af
Outflow=5.98 cfs 0.765 af

Pond 102P: BASIN Q Peak Elev=28.51' Storage=0.287 af Inflow=10.45 cfs 1.399 af
Outflow=9.25 cfs 1.217 af

Pond 105P: BASIN R Peak Elev=24.99' Storage=0.439 af Inflow=12.67 cfs 1.500 af
Outflow=8.64 cfs 1.350 af

Pond 108P: BASIN S Peak Elev=21.29' Storage=0.595 af Inflow=9.54 cfs 1.274 af
Outflow=4.54 cfs 0.991 af

Pond 111P: BASIN T Peak Elev=20.46' Storage=0.410 af Inflow=6.26 cfs 1.035 af
Outflow=0.59 cfs 0.912 af

Pond 114P: BASIN U Peak Elev=21.53' Storage=0.450 af Inflow=8.41 cfs 0.707 af
Outflow=0.47 cfs 0.587 af

Pond 117P: BASIN V Peak Elev=38.30' Storage=0.146 af Inflow=4.31 cfs 0.480 af
Outflow=3.23 cfs 0.384 af

Link 46L: DA North Inflow=297.48 cfs 55.347 af
Primary=297.48 cfs 55.347 af

Link 51L: DA Undetained Inflow=49.13 cfs 10.156 af
Primary=49.13 cfs 10.156 af

Link 52L: X Inflow=37.69 cfs 6.446 af
Primary=37.69 cfs 6.446 af

Link 53L: W Inflow=45.84 cfs 9.212 af
Primary=45.84 cfs 9.212 af

Link 58L: Y Inflow=73.80 cfs 10.273 af
Primary=73.80 cfs 10.273 af

Total Runoff Area = 87.480 ac Runoff Volume = 58.513 af Average Runoff Depth = 8.03"
66.43% Pervious = 58.110 ac 33.57% Impervious = 29.370 ac

Summary for Subcatchment 54S: Y - OFFSITE UNDISTURBED

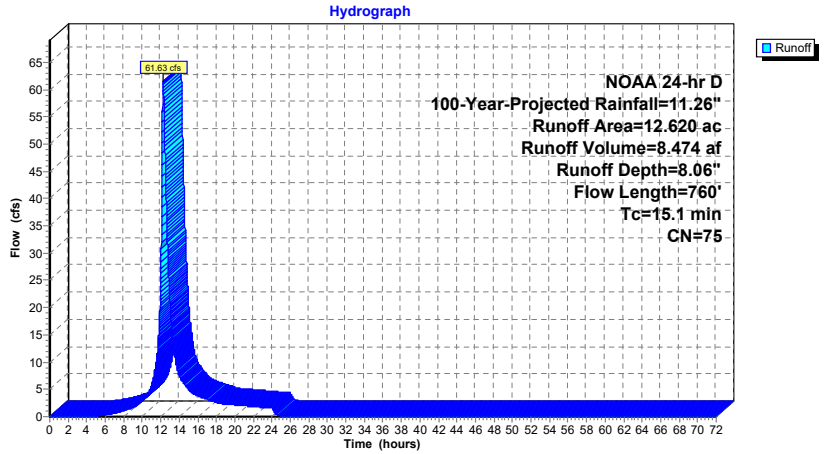
Runoff = 61.63 cfs @ 12.25 hrs, Volume= 8.474 af, Depth= 8.06"
Routed to Link 58L : Y

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

Area (ac)	CN	Description
12.620	75	1/4 acre lots, 38% imp, HSG B
7.824		62.00% Pervious Area
4.796		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.1	100	0.0350	0.15		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.5	280	0.0370	3.10		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.5	380	0.0240	2.49		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
15.1	760	Total			

Subcatchment 54S: Y - OFFSITE UNDISTURBED



Summary for Subcatchment 56S: W- OFFSITE UNDISTURBED

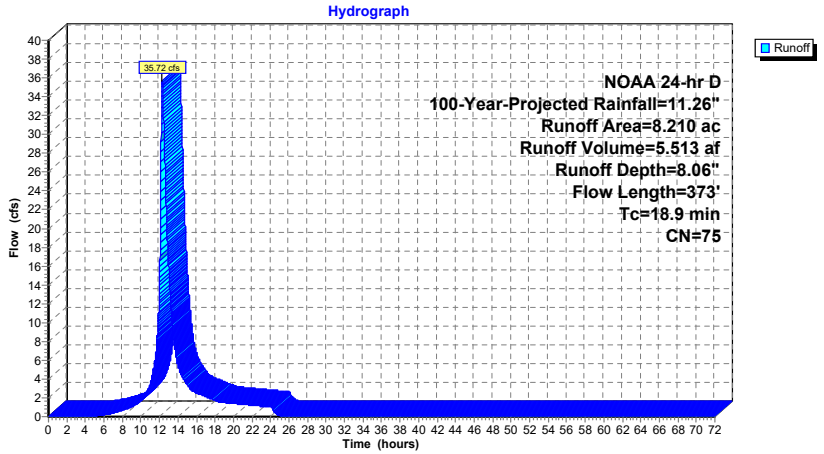
Runoff = 35.72 cfs @ 12.30 hrs, Volume= 5.513 af, Depth= 8.06"
Routed to Link 53L : W

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

Area (ac)	CN	Description
8.210	75	1/4 acre lots, 38% imp, HSG B
5.090		62.00% Pervious Area
3.120		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	100	0.0120	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.38"
0.9	179	0.0410	3.26		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.0	94	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.9	373	Total			

Subcatchment 56S: W- OFFSITE UNDISTURBED



Summary for Subcatchment 57S: Pipe Y

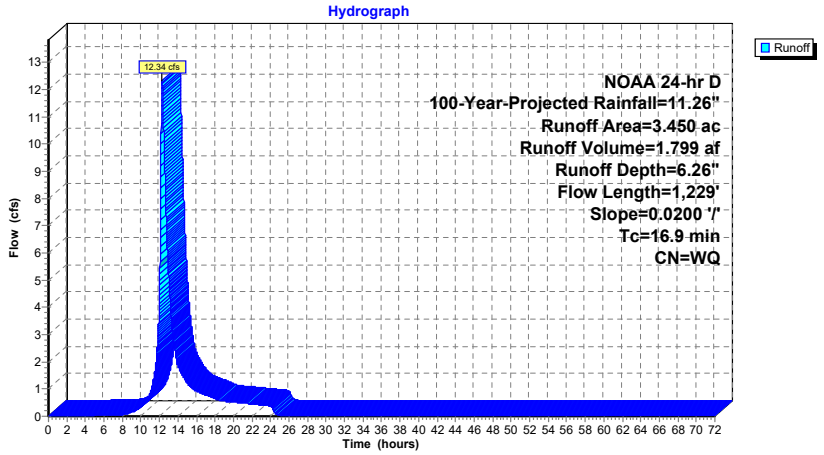
Runoff = 12.34 cfs @ 12.28 hrs, Volume= 1.799 af, Depth= 6.26"
Routed to Link 58L : Y

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

	Area (ac)	CN	Description
*	3.330	61	Open Space
*	0.000	98	Road/Sidewalk
*	0.120	98	Roof
*	0.000	98	Driveway
	3.450		Weighted Average
	3.330		96.52% Pervious Area
	0.120		3.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.2	170	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
6.2	936		2.50		**Direct Entry,**
0.4	64		2.50		**Direct Entry,**
16.9	1,229	Total			

Subcatchment 57S: Pipe Y



Summary for Subcatchment 59S: X - OFFSITE UNDISTURBED

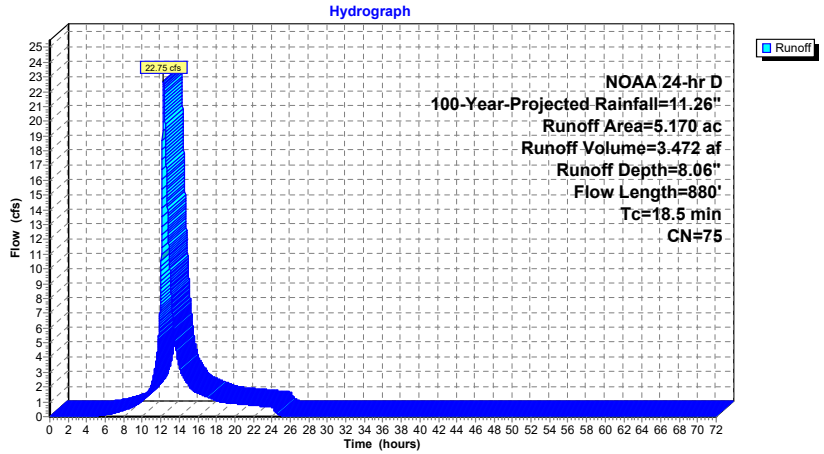
Runoff = 22.75 cfs @ 12.29 hrs, Volume= 3.472 af, Depth= 8.06"
Routed to Link 52L : X

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

Area (ac)	CN	Description
5.170	75	1/4 acre lots, 38% imp, HSG B
3.205		62.00% Pervious Area
1.965		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	100	0.0200	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.4	408	0.0320	2.88		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.2	372	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.5	880	Total			

Subcatchment 59S: X - OFFSITE UNDISTURBED



Summary for Subcatchment 60S: BASIN A - DA

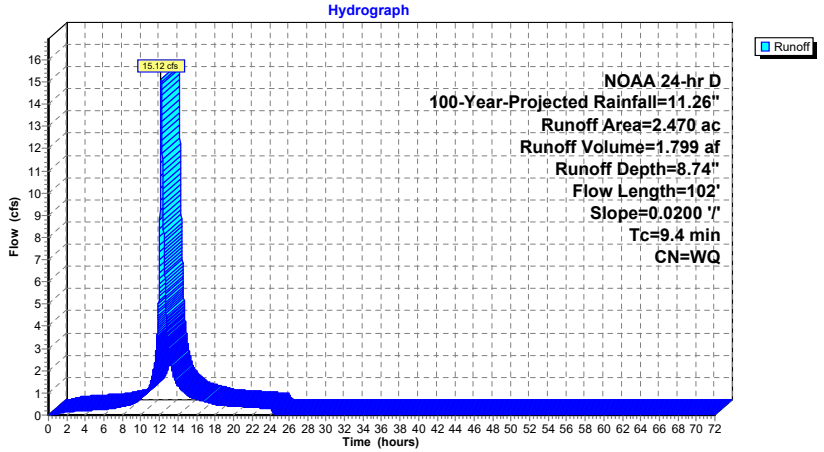
Runoff = 15.12 cfs @ 12.18 hrs, Volume= 1.799 af, Depth= 8.74"
Routed to Pond 52P : BASIN A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

	Area (ac)	CN	Description
*	1.140	61	Open Space
*	0.600	98	Road
*	0.130	98	Sidewalk
*	0.300	98	Roof
*	0.300	98	Driveway & Apron
	2.470		Weighted Average
	1.140		46.15% Pervious Area
	1.330		53.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	43	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	102	Total			

Subcatchment 60S: BASIN A - DA



Summary for Subcatchment 61S: BASIN I - DA

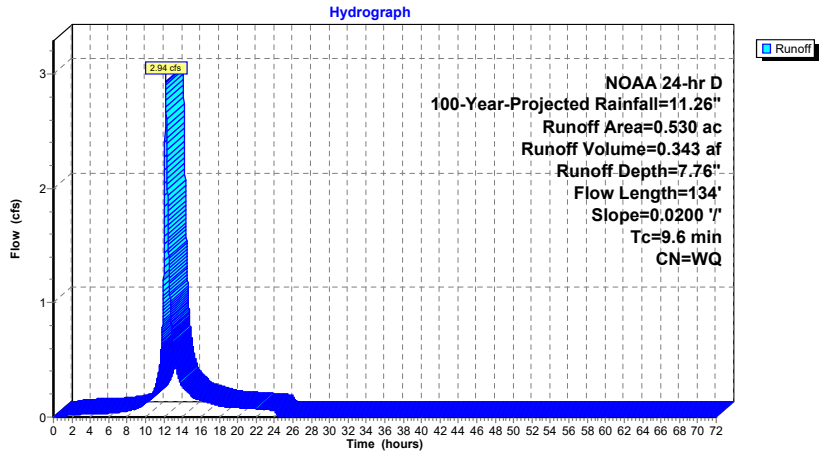
Runoff = 2.94 cfs @ 12.18 hrs, Volume= 0.343 af, Depth= 7.76"
Routed to Pond 64P : BASIN I

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.180	98	Roof
*	0.000	98	Driveway & Apron
	0.530		Weighted Average
	0.350		66.04% Pervious Area
	0.180		33.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.5	75	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.6	134	Total			

Subcatchment 61S: BASIN I - DA



Summary for Subcatchment 62S: Undetained

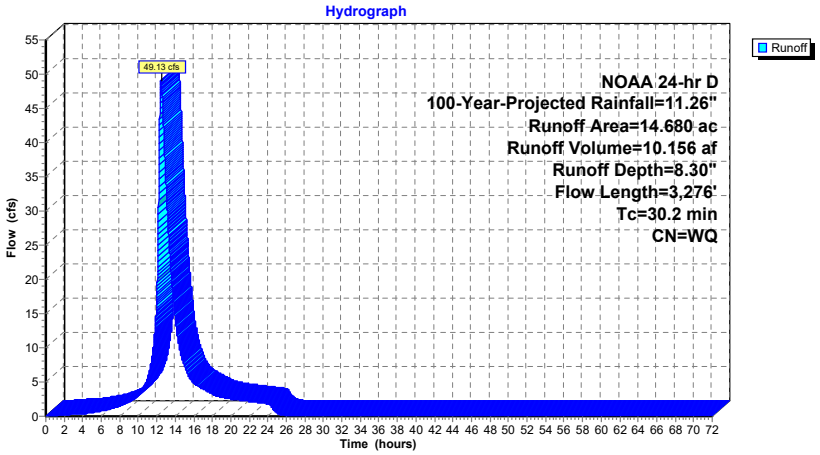
Runoff = 49.13 cfs @ 12.47 hrs, Volume= 10.156 af, Depth= 8.30"
Routed to Link 51L : DA Undetained

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

	Area (ac)	CN	Description
	3.170	61	>75% Grass cover, Good, HSG B
	0.870	55	Woods, Good, HSG B
	8.150	80	>75% Grass cover, Good, HSG D
	0.200	77	Woods, Good, HSG D
*	0.730	98	Water Surface, HSG D
*	0.740	98	Roofs, HSG B
*	0.570	98	Roofs, HSG D
	0.130	98	Paved parking, HSG B
	0.120	98	Unconnected pavement, HSG B
	14.680		Weighted Average
	12.390		84.40% Pervious Area
	2.290		15.60% Impervious Area
	0.120		5.24% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	88	0.0450	0.16		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.3	216	0.0300	2.79		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
19.8	2,972		2.50		**Direct Entry,**
30.2	3,276	Total			

Subcatchment 62S: Undetained



Summary for Subcatchment 63S: BASIN N - DA

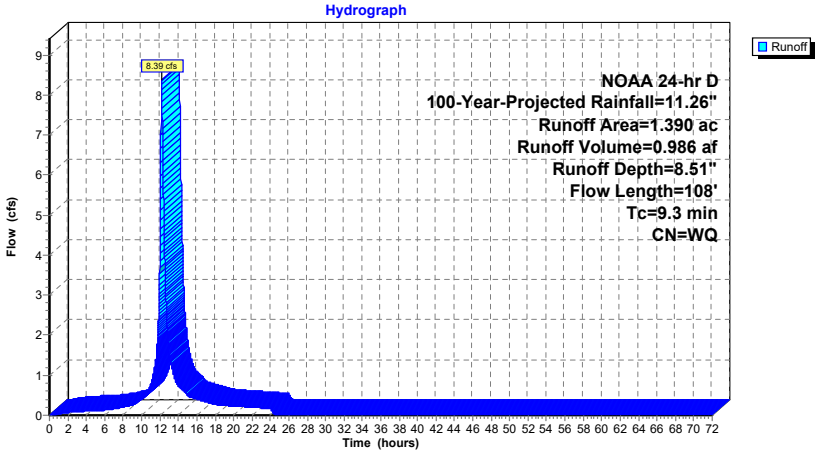
Runoff = 8.39 cfs @ 12.18 hrs, Volume= 0.986 af, Depth= 8.51"
Routed to Pond 90P : BASIN N

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.080	80	Open Space, HSG D
*	0.160	98	Road
*	0.040	98	Sidewalk
*	0.300	98	Roof
*	0.140	98	Driveway & Apron
	1.390		Weighted Average
	0.750		53.96% Pervious Area
	0.640		46.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.2	49	0.0600	3.94		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.3	108	Total			

Subcatchment 63S: BASIN N - DA



Summary for Subcatchment 64S: BASIN E - DA

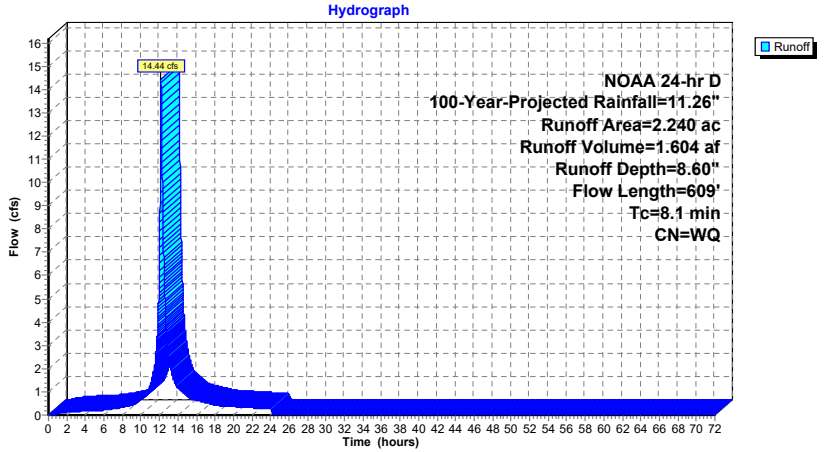
Runoff = 14.44 cfs @ 12.16 hrs, Volume= 1.604 af, Depth= 8.60"
Routed to Pond 65P : BASIN E

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

	Area (ac)	CN	Description
*	1.100	61	Open Space
*	0.450	98	Road
*	0.110	98	Sidewalk
*	0.240	98	Roof
*	0.340	98	Driveway & Apron
	2.240		Weighted Average
	1.100		49.11% Pervious Area
	1.140		50.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0500	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.5	300	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.9	279		2.50		**Direct Entry, Pipe**
8.1	609	Total			

Subcatchment 64S: BASIN E - DA



Summary for Subcatchment 65S: BASIN V - DA

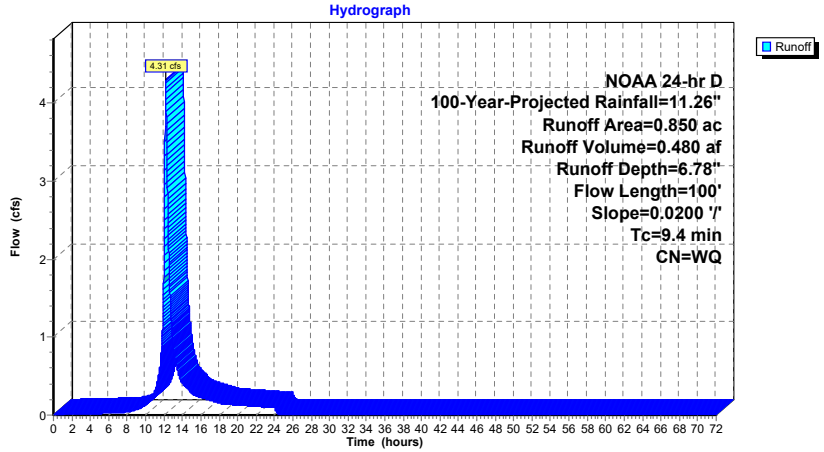
Runoff = 4.31 cfs @ 12.18 hrs, Volume= 0.480 af, Depth= 6.78"
Routed to Pond 117P : BASIN V

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

	Area (ac)	CN	Description
*	0.730	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.120	98	Roof
*	0.000	98	Driveway & Apron
	0.850		Weighted Average
	0.730		85.88% Pervious Area
	0.120		14.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	41	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	100	Total			

Subcatchment 65S: BASIN V - DA



Summary for Subcatchment 67S: Pipe W

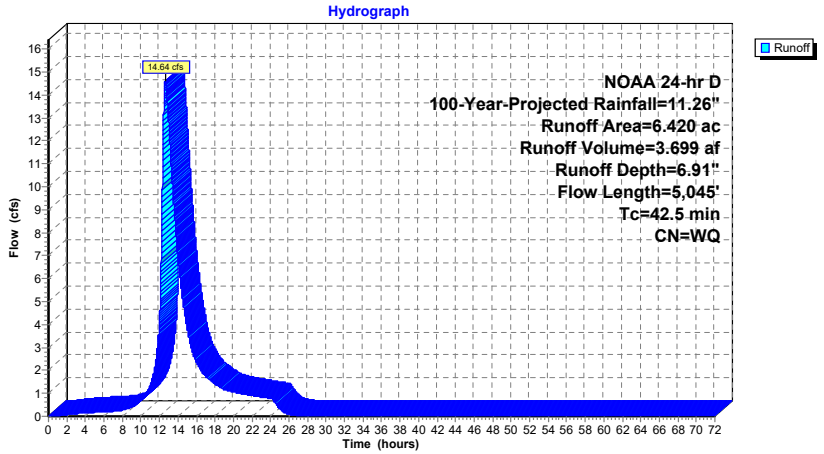
Runoff = 14.64 cfs @ 12.65 hrs, Volume= 3.699 af, Depth= 6.91"
Routed to Link 53L : W

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

Area (ac)	CN	Description
5.340	61	>75% Grass cover, Good, HSG B
1.080	98	Roofs, HSG B
6.420		Weighted Average
5.340		83.18% Pervious Area
1.080		16.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	66	0.0250	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.1	144	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
12.2	1,824		2.50		**Direct Entry,**
20.1	3,011		2.50		**Direct Entry,**
42.5	5,045	Total			

Subcatchment 67S: Pipe W



Summary for Subcatchment 68S: BASIN K - DA

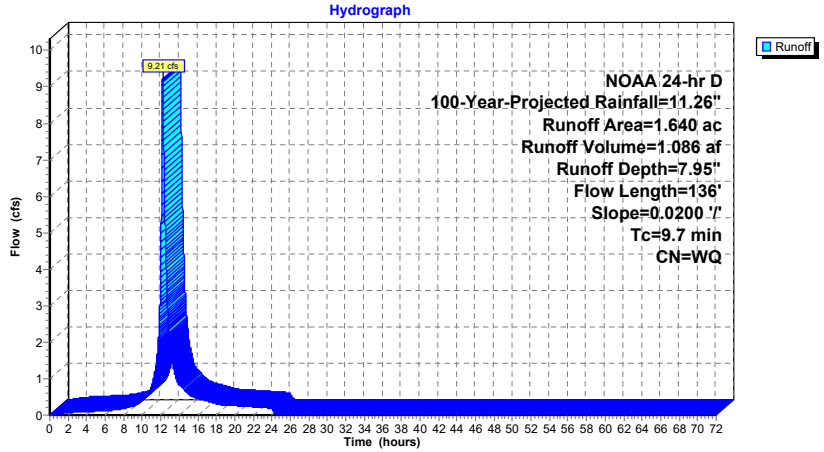
Runoff = 9.21 cfs @ 12.18 hrs, Volume= 1.086 af, Depth= 7.95"
Routed to Pond 70P : BASIN K

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

	Area (ac)	CN	Description
*	1.020	61	Open Space
*	0.000	98	Road
*	0.020	98	Sidewalk
*	0.600	98	Roof
*	0.000	98	Driveway & Apron
	1.640		Weighted Average
	1.020		62.20% Pervious Area
	0.620		37.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.6	77	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.7	136	Total			

Subcatchment 68S: BASIN K - DA



Summary for Subcatchment 69S: BASIN O - DA

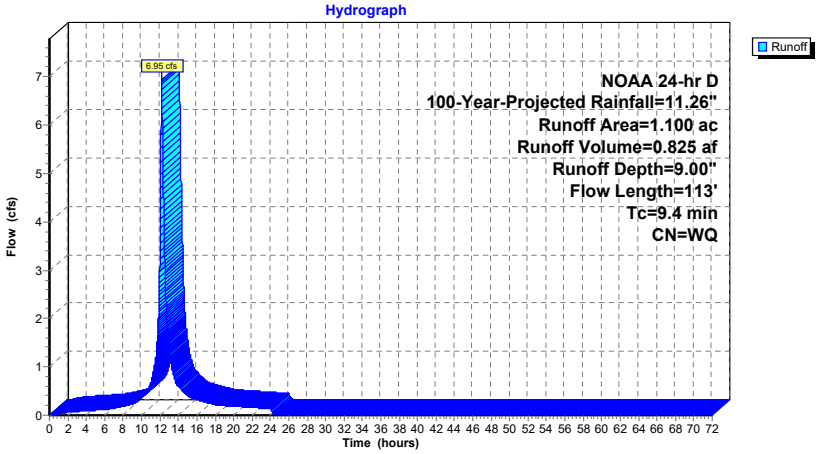
Runoff = 6.95 cfs @ 12.18 hrs, Volume= 0.825 af, Depth= 9.00"
Routed to Pond 93P : BASIN O

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

	Area (ac)	CN	Description
*	0.380	61	Open Space
*	0.150	80	Open Space, HSG D
*	0.150	98	Road
*	0.040	98	Sidewalk
*	0.240	98	Roof
*	0.140	98	Driveway & Apron
	1.100		Weighted Average
	0.530		48.18% Pervious Area
	0.570		51.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	54	0.0300	2.79		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	113	Total			

Subcatchment 69S: BASIN O - DA



Summary for Subcatchment 70S: Pipe X

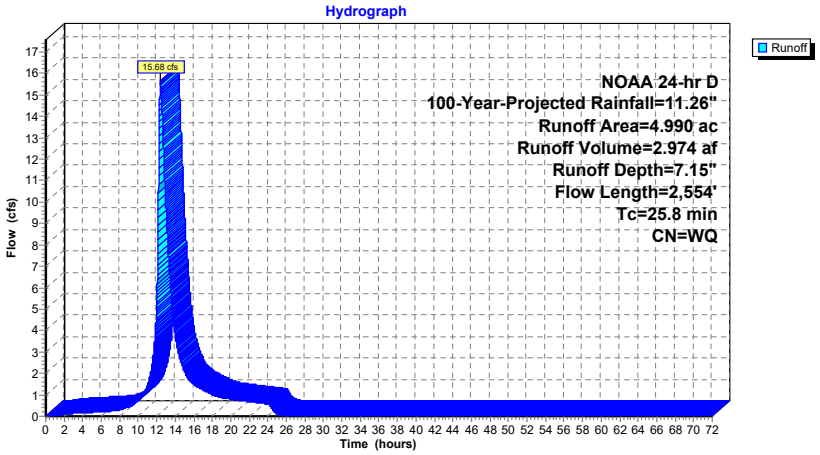
Runoff = 15.68 cfs @ 12.39 hrs, Volume= 2.974 af, Depth= 7.15"
Routed to Link 52L : X

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

	Area (ac)	CN	Description
*	3.910	61	Open Space
*	0.000	98	Road/Sidewalk
*	1.080	98	Roof
*	0.000	98	Driveway
	4.990		Weighted Average
	3.910		78.36% Pervious Area
	1.080		21.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.2	168	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
7.4	1,103		2.50		**Direct Entry,**
0.8	123	0.0250	2.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.3	1,101		2.50		**Direct Entry,**
25.8	2,554	Total			

Subcatchment 70S: Pipe X



Summary for Subcatchment 71S: BASIN B - DA

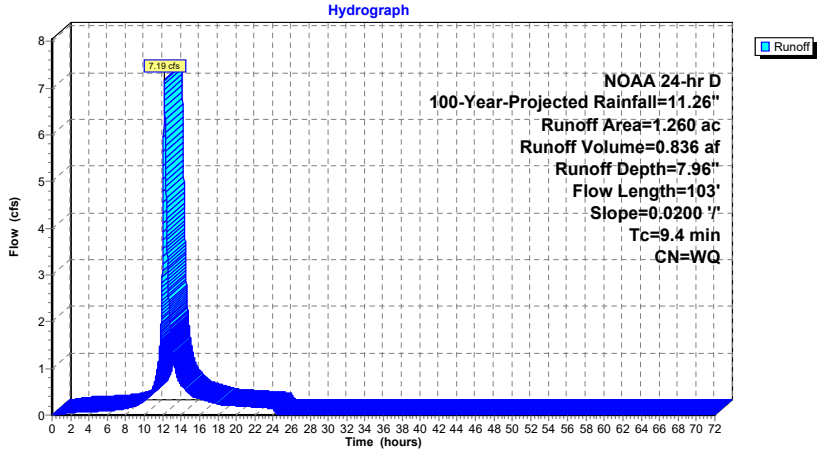
Runoff = 7.19 cfs @ 12.18 hrs, Volume= 0.836 af, Depth= 7.96"
Routed to Pond 74P : BASIN B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

	Area (ac)	CN	Description
*	0.780	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.480	98	Roof
*	0.000	98	Driveway
	1.260		Weighted Average
	0.780		61.90% Pervious Area
	0.480		38.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 71S: BASIN B - DA



Summary for Subcatchment 73S: BASIN C - DA

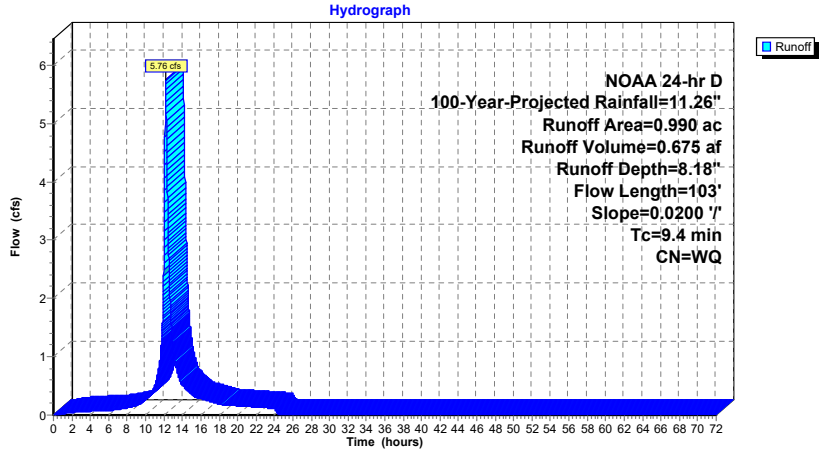
Runoff = 5.76 cfs @ 12.18 hrs, Volume= 0.675 af, Depth= 8.18"
Routed to Pond 59P : BASIN C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

	Area (ac)	CN	Description
*	0.570	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.420	98	Roof
*	0.000	98	Driveway
	0.990		Weighted Average
	0.570		57.58% Pervious Area
	0.420		42.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 73S: BASIN C - DA



Summary for Subcatchment 75S: BASIN M - DA

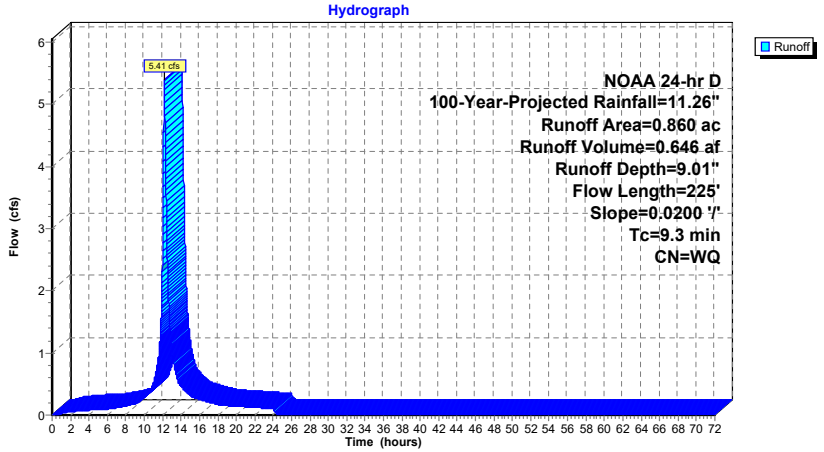
Runoff = 5.41 cfs @ 12.18 hrs, Volume= 0.646 af, Depth= 9.01"
Routed to Pond 76P : BASIN M

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.280	98	Road
*	0.050	98	Sidewalk
*	0.060	98	Roof
*	0.120	98	Driveway & Apron
	0.860		Weighted Average
	0.350		40.70% Pervious Area
	0.510		59.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	52	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
0.5	87	0.0200	2.87		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
0.6	86		2.50		**Direct Entry, Pipe**
9.3	225	Total			

Subcatchment 75S: BASIN M - DA



Summary for Subcatchment 76S: BASIN F - DA

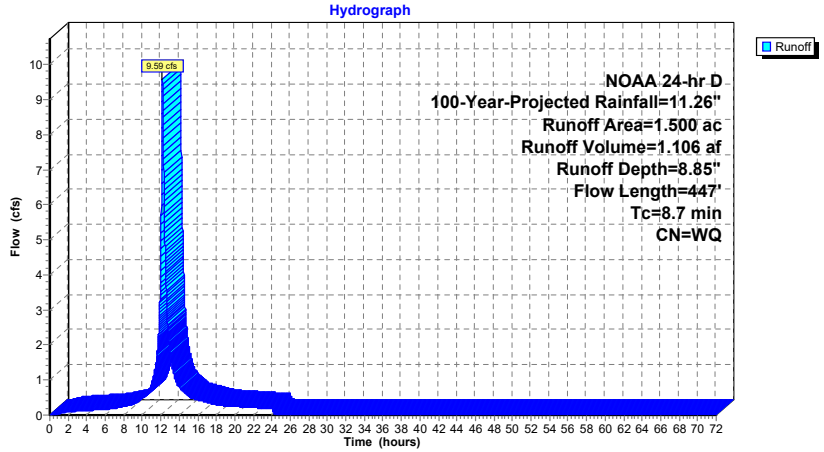
Runoff = 9.59 cfs @ 12.17 hrs, Volume= 1.106 af, Depth= 8.85"
Routed to Pond 83P : BASIN F

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

	Area (ac)	CN	Description
*	0.660	61	Open Space
*	0.440	98	Road
*	0.100	98	Sidewalk
*	0.120	98	Roof
*	0.180	98	Driveway & Apron
	1.500		Weighted Average
	0.660		44.00% Pervious Area
	0.840		56.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	33	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.3	158	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.7	256		2.50		**Direct Entry, Pipe**
8.7	447	Total			

Subcatchment 76S: BASIN F - DA



Summary for Subcatchment 77S: BASIN D - DA

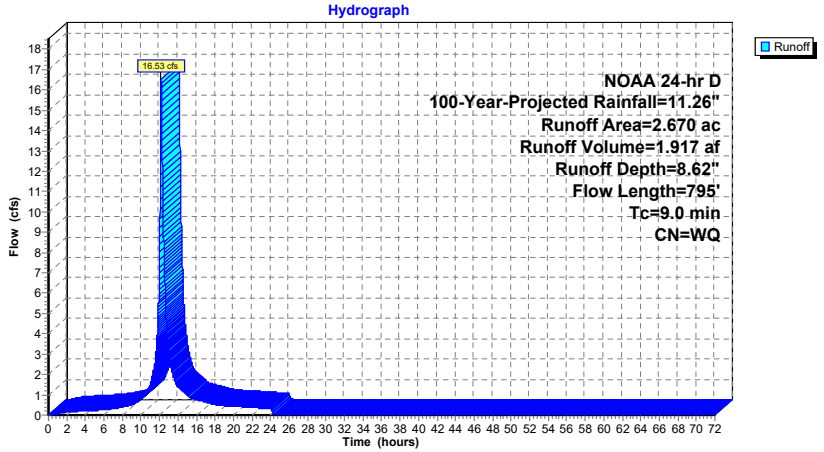
Runoff = 16.53 cfs @ 12.18 hrs, Volume= 1.917 af, Depth= 8.62"
Routed to Pond 75P : BASIN D

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

	Area (ac)	CN	Description
*	1.300	61	Open Space
*	0.430	98	Road
*	0.120	98	Sidewalk
*	0.420	98	Roof
*	0.400	98	Driveway & Apron
	2.670		Weighted Average
	1.300		48.69% Pervious Area
	1.370		51.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0500	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.2	300	0.0120	2.22		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
3.1	465		2.50		**Direct Entry, Pipe**
9.0	795	Total			

Subcatchment 77S: BASIN D - DA



Summary for Subcatchment 83S: BASIN L - DA

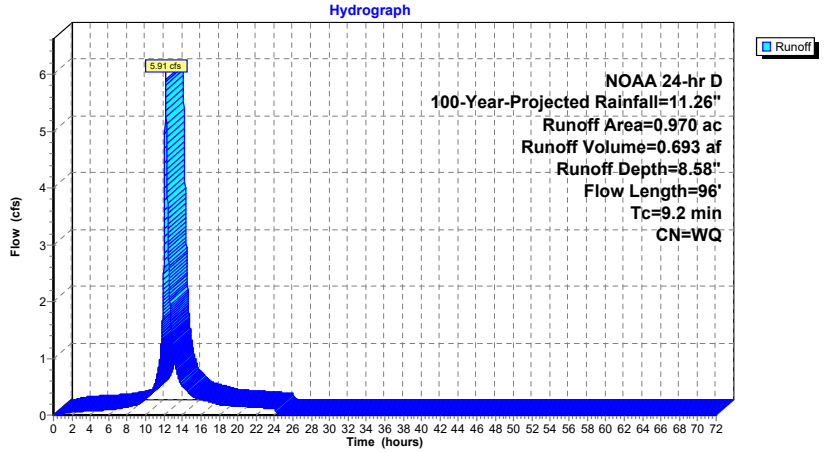
Runoff = 5.91 cfs @ 12.18 hrs, Volume= 0.693 af, Depth= 8.58"
Routed to Pond 84P : BASIN L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

	Area (ac)	CN	Description
*	0.480	61	Open Space
*	0.220	98	Road
*	0.050	98	Sidewalk
*	0.120	98	Roof
*	0.100	98	Driveway & Apron
	0.970		Weighted Average
	0.480		49.48% Pervious Area
	0.490		50.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	37	0.0800	4.55		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.2	96	Total			

Subcatchment 83S: BASIN L - DA



Summary for Subcatchment 85S: BASIN G - DA

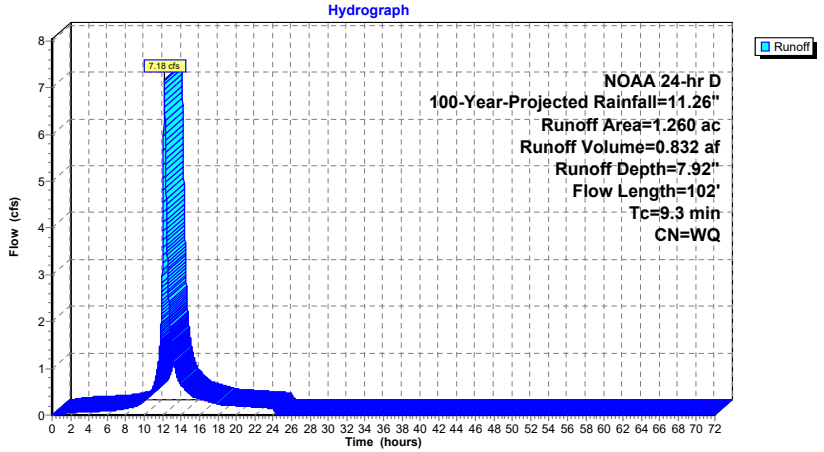
Runoff = 7.18 cfs @ 12.18 hrs, Volume= 0.832 af, Depth= 7.92"
Routed to Pond 86P : BASIN G

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

	Area (ac)	CN	Description
*	0.790	61	Open Space
*	0.060	98	Road
*	0.010	98	Sidewalk
*	0.360	98	Roof
*	0.040	98	Driveway & Apron
	1.260		Weighted Average
	0.790		62.70% Pervious Area
	0.470		37.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.2	43	0.0350	3.01		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.3	102	Total			

Subcatchment 85S: BASIN G - DA



Summary for Subcatchment 88S: BASIN H - DA

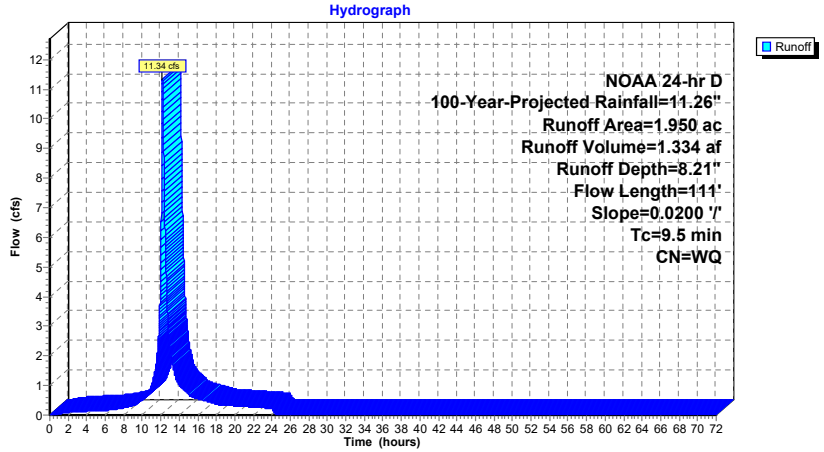
Runoff = 11.34 cfs @ 12.18 hrs, Volume= 1.334 af, Depth= 8.21"
Routed to Pond 60P : BASIN H

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

	Area (ac)	CN	Description
*	1.110	61	Open Space
*	0.230	98	Road
*	0.050	98	Sidewalk
*	0.420	98	Roof
*	0.140	98	Driveway & Apron
	1.950		Weighted Average
	1.110		56.92% Pervious Area
	0.840		43.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.4	52	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.5	111	Total			

Subcatchment 88S: BASIN H - DA



Summary for Subcatchment 98S: BASIN P - DA

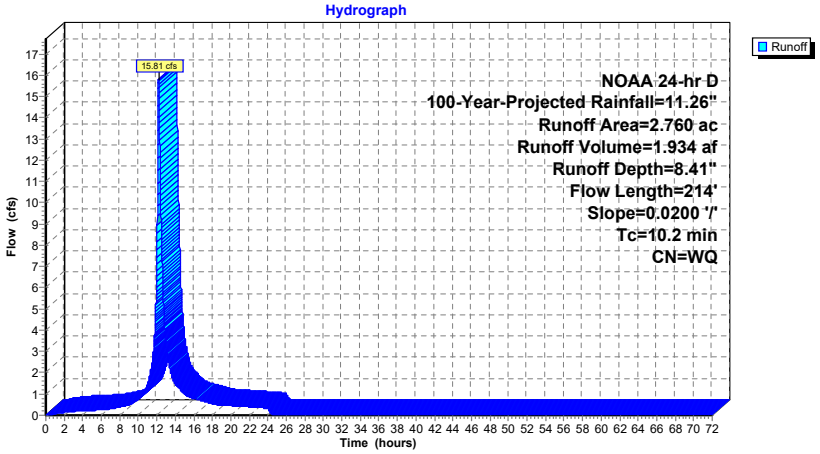
Runoff = 15.81 cfs @ 12.19 hrs, Volume= 1.934 af, Depth= 8.41"
Routed to Pond 63P : BASIN P

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

	Area (ac)	CN	Description
*	1.460	61	Open Space
*	0.410	98	Road
*	0.110	98	Sidewalk
*	0.420	98	Roof
*	0.360	98	Driveway & Apron
	2.760		Weighted Average
	1.460		52.90% Pervious Area
	1.300		47.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.7	99	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
0.4	56		2.50		**Direct Entry,**
10.2	214	Total			

Subcatchment 98S: BASIN P - DA



Summary for Subcatchment 101S: BASIN Q - DA

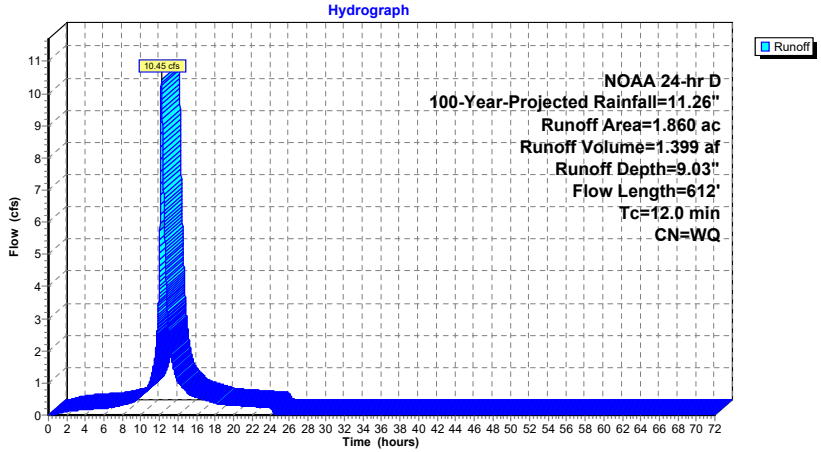
Runoff = 10.45 cfs @ 12.21 hrs, Volume= 1.399 af, Depth= 9.03"
Routed to Pond 102P : BASIN Q

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

	Area (ac)	CN	Description
*	0.750	61	Open Space
*	0.570	98	Road
*	0.140	98	Sidewalk
*	0.060	98	Roof
*	0.340	98	Driveway & Apron
	1.860		Weighted Average
	0.750		40.32% Pervious Area
	1.110		59.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	49	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.3	283	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.9	280		2.50		**Direct Entry, Pipe**
12.0	612	Total			

Subcatchment 101S: BASIN Q - DA



Summary for Subcatchment 104S: BASIN R - DA

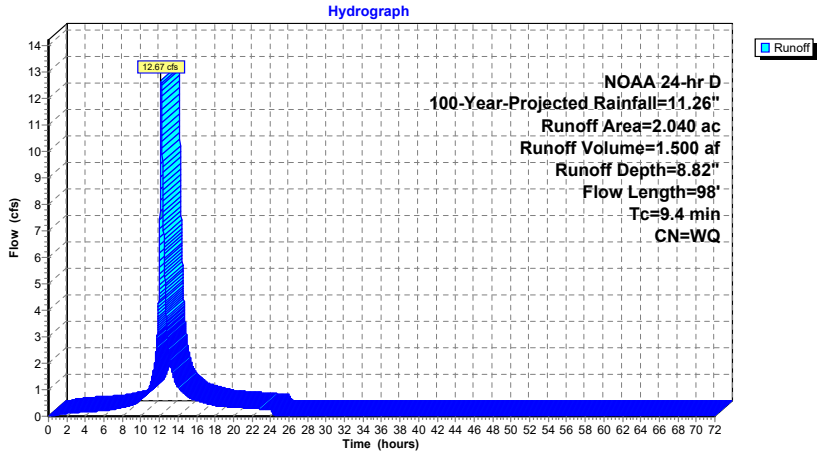
Runoff = 12.67 cfs @ 12.18 hrs, Volume= 1.500 af, Depth= 8.82"
Routed to Pond 105P : BASIN R

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

	Area (ac)	CN	Description
	0.810	61	>75% Grass cover, Good, HSG B
*	0.350	98	Road
*	0.090	98	Sidewalk
*	0.300	98	Roof
*	0.280	98	Driveway & Apron
	0.210	80	>75% Grass cover, Good, HSG D
	2.040		Weighted Average
	1.020		50.00% Pervious Area
	1.020		50.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass**
					Grass: Dense n= 0.240 P2= 3.38"
					Using McCuen-Spiess flow length
0.3	39	0.0250	2.55		**Shallow Concentrated Flow, SCF - Unpaved**
					Unpaved Kv= 16.1 fps
9.4	98	Total			

Subcatchment 104S: BASIN R - DA



Summary for Subcatchment 107S: BASIN S - DA

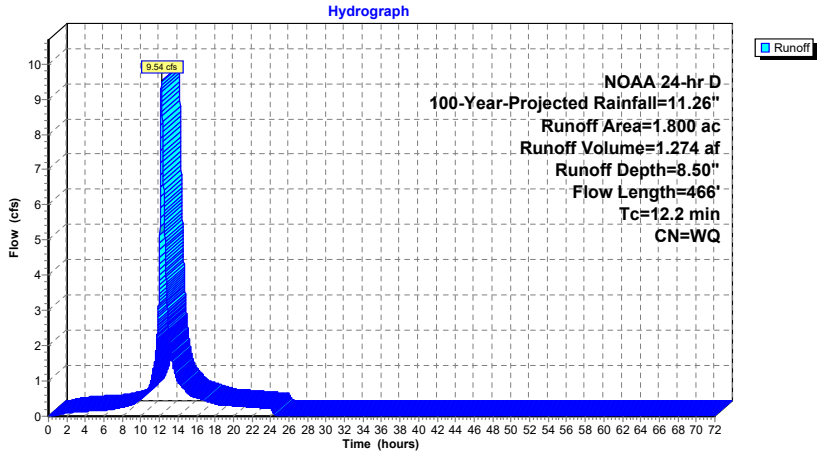
Runoff = 9.54 cfs @ 12.21 hrs, Volume= 1.274 af, Depth= 8.50"
Routed to Pond 108P : BASIN S

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

	Area (ac)	CN	Description
*	0.920	61	Open Space
*	0.590	98	Road
*	0.190	98	Sidewalk
*	0.080	98	Roof
*	0.020	98	Driveway & Apron
	1.800		Weighted Average
	0.920		51.11% Pervious Area
	0.880		48.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	6	0.0100	1.61		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
1.4	167	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.6	234		2.50		**Direct Entry, Pipe**
12.2	466	Total			

Subcatchment 107S: BASIN S - DA



Summary for Subcatchment 110S: BASIN T - DA

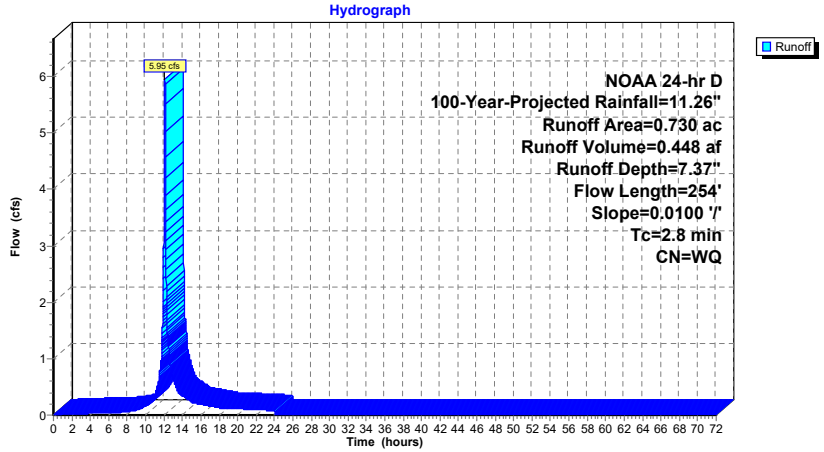
Runoff = 5.95 cfs @ 12.11 hrs, Volume= 0.448 af, Depth= 7.37"
Routed to Pond 111P : BASIN T

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

	Area (ac)	CN	Description
*	0.540	61	Open Space
*	0.140	98	Road
*	0.050	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	0.730		Weighted Average
	0.540		73.97% Pervious Area
	0.190		26.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.07		**Sheet Flow, Sheet Flow - Smooth Surfaces** Smooth surfaces n= 0.011 P2= 3.38"
0.8	93	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
0.4	61		2.50		**Direct Entry, Pipe**
2.8	254	Total			

Subcatchment 110S: BASIN T - DA



Summary for Subcatchment 113S: BASIN U - DA

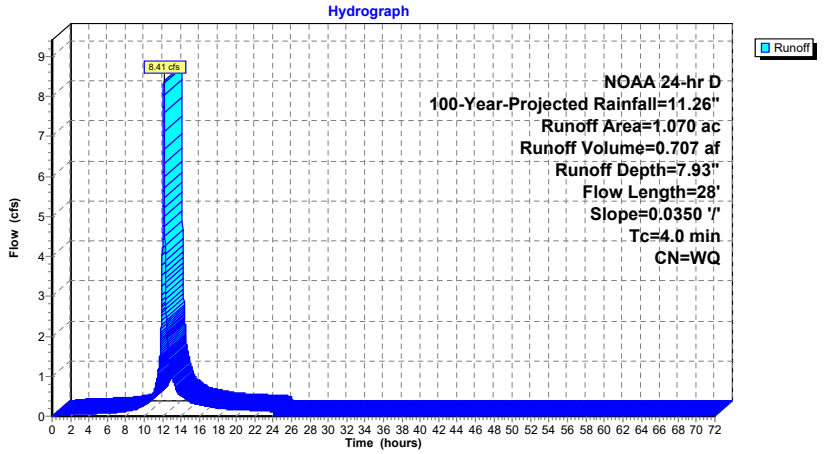
Runoff = 8.41 cfs @ 12.12 hrs, Volume= 0.707 af, Depth= 7.93"
Routed to Pond 114P : BASIN U

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.330	98	Road
*	0.070	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	1.070		Weighted Average
	0.670		62.62% Pervious Area
	0.400		37.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	28	0.0350	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"

Subcatchment 113S: BASIN U - DA



Summary for Pond 52P: BASIN A

Inflow Area = 2.470 ac, 53.85% Impervious, Inflow Depth = 8.74" for 100-Year-Projected event
Inflow = 15.12 cfs @ 12.18 hrs, Volume= 1.799 af
Outflow = 2.90 cfs @ 13.03 hrs, Volume= 1.576 af, Atten= 81%, Lag= 51.0 min
Primary = 2.90 cfs @ 13.03 hrs, Volume= 1.576 af
Routed to Pond 74P : BASIN B

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 35.57' @ 13.03 hrs Surf.Area= 0.401 ac Storage= 1.053 af

Plug-Flow detention time= 907.4 min calculated for 1.576 af (88% of inflow)
Center-of-Mass det. time= 844.6 min (1,623.3 - 778.7)

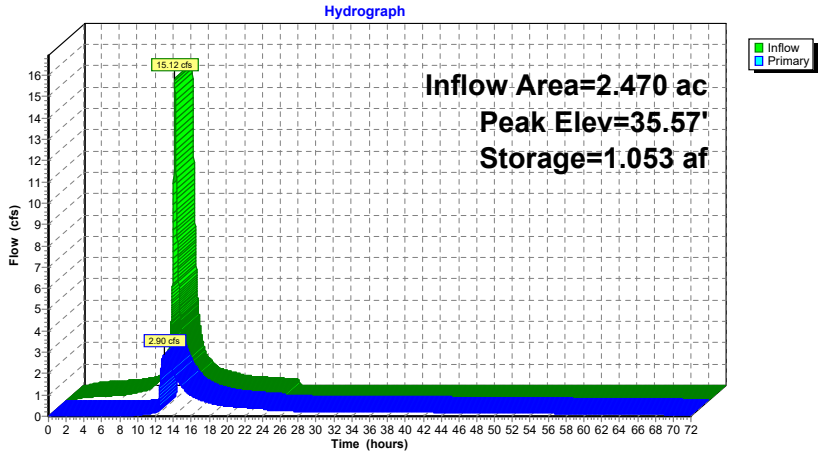
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.233 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.192	0.000	0.000
33.00	0.249	0.220	0.220
34.00	0.307	0.278	0.499
35.00	0.367	0.337	0.836
36.00	0.428	0.397	1.233

Device	Routing	Invert	Outlet Devices
#1	Primary	35.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.75'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.90 cfs @ 13.03 hrs HW=35.57' TW=32.32' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 2.63 cfs @ 2.46 fps)
- **3=Orifice** (Orifice Controls 0.27 cfs @ 7.93 fps)

Pond 52P: BASIN A



Summary for Pond 59P: BASIN C

Inflow Area = 4.720 ac, 47.25% Impervious, Inflow Depth > 7.60" for 100-Year-Projected event
Inflow = 10.39 cfs @ 12.23 hrs, Volume= 2.988 af
Outflow = 9.49 cfs @ 12.37 hrs, Volume= 2.941 af, Atten= 9%, Lag= 8.5 min
Primary = 9.49 cfs @ 12.37 hrs, Volume= 2.941 af
Routed to Pond 75P : BASIN D

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 30.92' @ 12.37 hrs Surf.Area= 0.087 ac Storage= 0.143 af

Plug-Flow detention time= 68.6 min calculated for 2.941 af (98% of inflow)
Center-of-Mass det. time= 23.2 min (1,289.8 - 1,266.6)

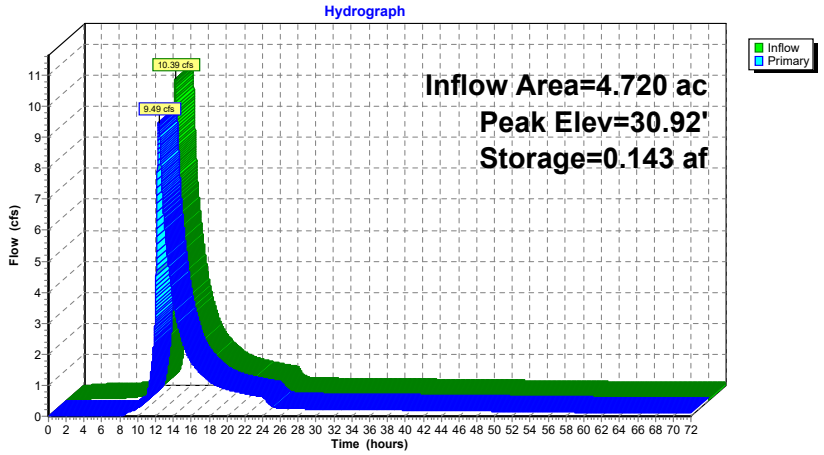
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.198 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.033	0.000	0.000
29.50	0.054	0.043	0.043
30.50	0.077	0.065	0.109
31.50	0.101	0.089	0.198

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	29.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=9.49 cfs @ 12.37 hrs HW=30.92' TW=29.01' (Dynamic Tailwater)
└─**1=Grate** (Controls 0.00 cfs)
└─**2=Sharp-Crested Rectangular Weir** (Weir Controls 9.49 cfs @ 3.90 fps)

Pond 59P: BASIN C



Summary for Pond 60P: BASIN H

Inflow Area = 4.710 ac, 45.65% Impervious, Inflow Depth > 7.50" for 100-Year-Projected event
Inflow = 15.40 cfs @ 12.20 hrs, Volume= 2.946 af
Outflow = 10.24 cfs @ 12.52 hrs, Volume= 2.618 af, Atten= 34%, Lag= 19.1 min
Primary = 10.24 cfs @ 12.52 hrs, Volume= 2.618 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 31.16' @ 12.52 hrs Surf.Area= 0.307 ac Storage= 0.694 af

Plug-Flow detention time= 487.8 min calculated for 2.618 af (89% of inflow)
Center-of-Mass det. time= 231.0 min (1,465.4 - 1,234.3)

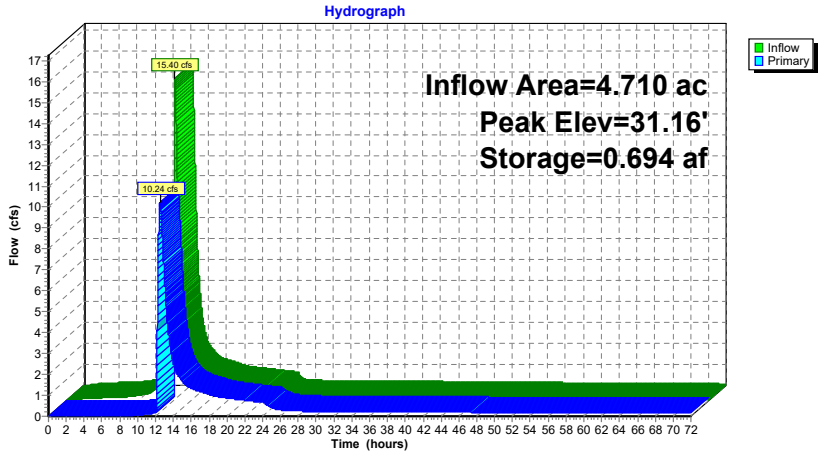
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.799 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.216	0.000	0.000
29.00	0.232	0.112	0.112
30.00	0.266	0.249	0.361
31.00	0.301	0.283	0.644
31.50	0.319	0.155	0.799

Device	Routing	Invert	Outlet Devices
#1	Primary	31.20'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.30'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	28.90'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=10.24 cfs @ 12.52 hrs HW=31.16' TW=29.46' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 10.02 cfs @ 3.04 fps)
- **3=Orifice** (Orifice Controls 0.21 cfs @ 6.28 fps)

Pond 60P: BASIN H



Summary for Pond 63P: BASIN P

Inflow = 23.17 cfs @ 12.29 hrs, Volume= 4.928 af
Outflow = 22.15 cfs @ 12.42 hrs, Volume= 4.588 af, Atten= 4%, Lag= 7.5 min
Primary = 22.15 cfs @ 12.42 hrs, Volume= 4.588 af
Routed to Pond 65P : BASIN E

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 29.48' @ 12.41 hrs Surf.Area= 0.302 ac Storage= 0.743 af

Plug-Flow detention time= 252.6 min calculated for 4.588 af (93% of inflow)
Center-of-Mass det. time= 72.8 min (1,225.9 - 1,153.1)

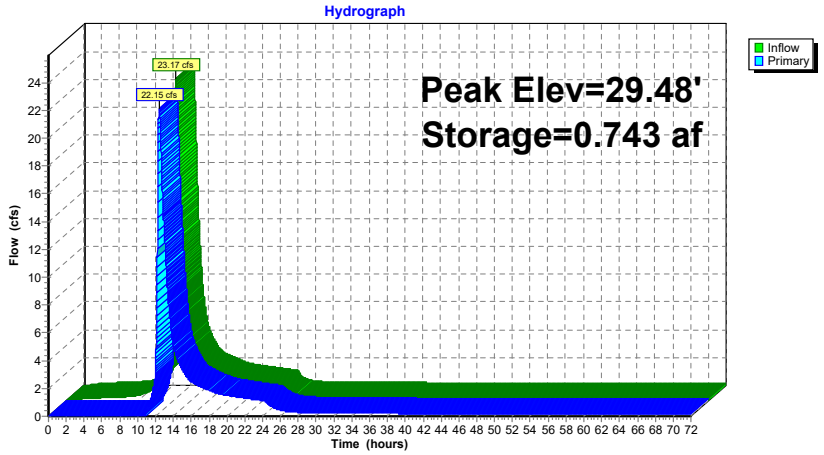
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.910 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.193	0.000	0.000
27.50	0.233	0.213	0.213
28.50	0.268	0.250	0.463
29.50	0.303	0.286	0.749
30.00	0.340	0.161	0.910

Device	Routing	Invert	Outlet Devices
#1	Primary	29.30'	**42.0" x 102.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**3.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=22.17 cfs @ 12.42 hrs HW=29.48' TW=29.08' (Dynamic Tailwater)
- **1=Grate** (Weir Controls 5.95 cfs @ 1.38 fps)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 16.07 cfs @ 2.76 fps)
- **3=Orifice** (Orifice Controls 0.15 cfs @ 3.05 fps)

Pond 63P: BASIN P



Summary for Pond 64P: BASIN I

Inflow Area = 0.530 ac, 33.96% Impervious, Inflow Depth = 7.76" for 100-Year-Projected event
Inflow = 2.94 cfs @ 12.18 hrs, Volume= 0.343 af
Outflow = 2.74 cfs @ 12.24 hrs, Volume= 0.319 af, Atten= 7%, Lag= 3.6 min
Primary = 2.74 cfs @ 12.24 hrs, Volume= 0.319 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 31.01' @ 12.24 hrs Surf.Area= 0.041 ac Storage= 0.080 af

Plug-Flow detention time= 153.6 min calculated for 0.319 af (93% of inflow)
Center-of-Mass det. time= 114.8 min (913.3 - 798.5)

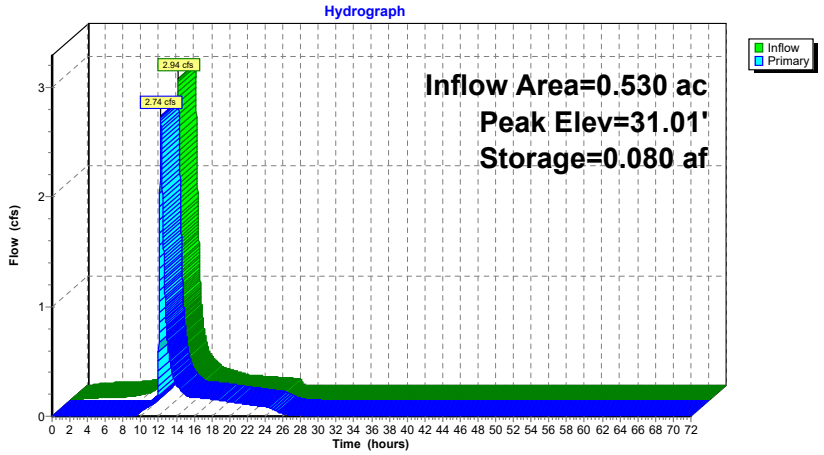
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.101 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.023	0.000	0.000
29.50	0.030	0.026	0.026
30.50	0.037	0.033	0.060
31.50	0.045	0.041	0.101

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.60'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	29.40'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.74 cfs @ 12.24 hrs HW=31.01' TW=29.31' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 2.53 cfs @ 2.10 fps)
- **3=Orifice** (Orifice Controls 0.20 cfs @ 5.91 fps)

Pond 64P: BASIN I



Summary for Pond 65P: BASIN E

Inflow = 30.58 cfs @ 12.35 hrs, Volume= 6.192 af
Outflow = 30.38 cfs @ 12.39 hrs, Volume= 6.017 af, Atten= 1%, Lag= 2.1 min
Primary = 30.38 cfs @ 12.39 hrs, Volume= 5.960 af
Routed to Link 46L : DA North
Secondary = 0.64 cfs @ 10.62 hrs, Volume= 0.057 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 29.08' @ 12.39 hrs Surf.Area= 0.178 ac Storage= 0.343 af

Plug-Flow detention time= 111.3 min calculated for 6.017 af (97% of inflow)
Center-of-Mass det. time= 29.3 min (1,139.4 - 1,110.1)

Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.421 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

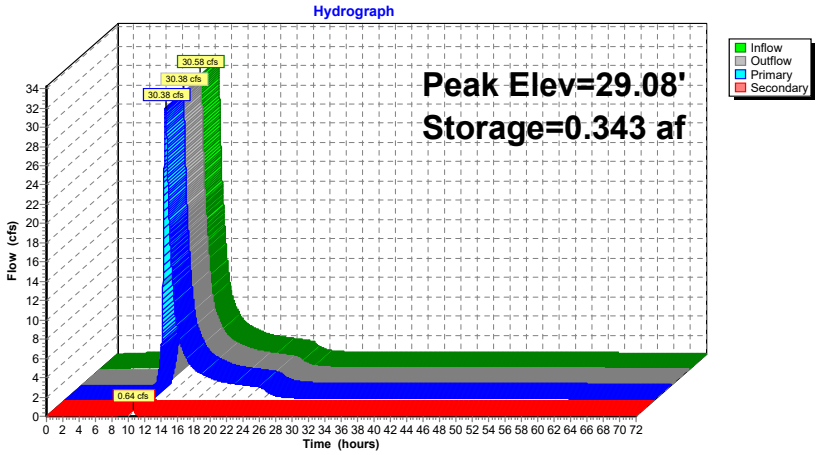
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.091	0.000	0.000
27.50	0.122	0.106	0.106
28.50	0.157	0.139	0.246
29.50	0.193	0.175	0.421

Device	Routing	Invert	Outlet Devices
#1	Primary	28.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#4	Secondary	27.50'	**3.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#5	Secondary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#6	Secondary	29.30'	**42.0" x 102.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=30.37 cfs @ 12.39 hrs HW=29.08' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Weir Controls 16.29 cfs @ 2.26 fps)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 13.88 cfs @ 3.40 fps)
- **3=Orifice** (Orifice Controls 0.20 cfs @ 5.85 fps)

Secondary OutFlow Max=0.63 cfs @ 10.62 hrs HW=28.02' TW=27.91' (Dynamic Tailwater)
- **4=Orifice** (Orifice Controls 0.08 cfs @ 1.60 fps)
- **5=Sharp-Crested Rectangular Weir** (Weir Controls 0.55 cfs @ 1.13 fps)
- **6=Grate** (Controls 0.00 cfs)

Pond 65P: BASIN E



Summary for Pond 70P: BASIN K

Inflow Area = 1.640 ac, 37.80% Impervious, Inflow Depth = 7.95" for 100-Year-Projected event
Inflow = 9.21 cfs @ 12.18 hrs, Volume= 1.086 af
Outflow = 5.07 cfs @ 12.47 hrs, Volume= 1.019 af, Atten= 45%, Lag= 17.5 min
Primary = 5.07 cfs @ 12.47 hrs, Volume= 1.019 af
Routed to Pond 90P : BASIN N

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.08' @ 12.47 hrs Surf.Area= 0.190 ac Storage= 0.401 af

Plug-Flow detention time= 235.7 min calculated for 1.019 af (94% of inflow)
Center-of-Mass det. time= 200.0 min (994.4 - 794.5)

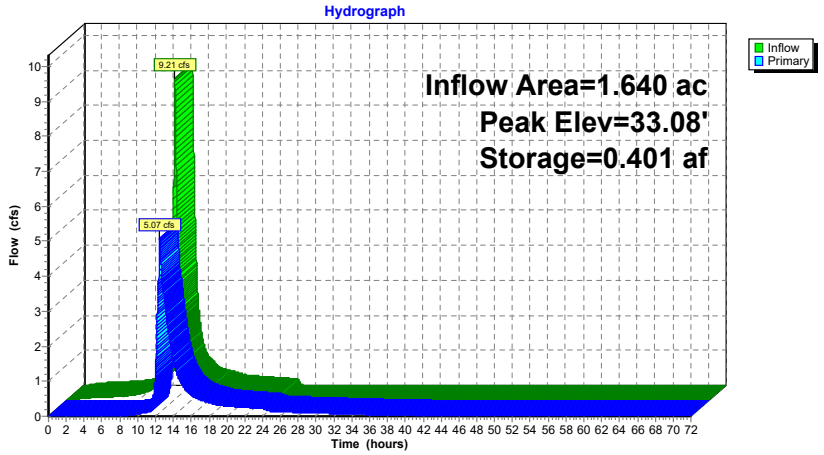
Volume	Invert	Avail.Storage	Storage Description
#1	30.50'	0.484 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.50	0.122	0.000	0.000
31.50	0.148	0.135	0.135
32.50	0.174	0.161	0.296
33.50	0.202	0.188	0.484

Device	Routing	Invert	Outlet Devices
#1	Primary	33.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.70'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.07 cfs @ 12.47 hrs HW=33.08' TW=31.07' (Dynamic Tailwater)
- **1=Grate** (Weir Controls 1.02 cfs @ 0.90 fps)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 3.82 cfs @ 3.84 fps)
- **3=Orifice** (Orifice Controls 0.23 cfs @ 6.76 fps)

Pond 70P: BASIN K



Summary for Pond 74P: BASIN B

Inflow Area = 3.730 ac, 48.53% Impervious, Inflow Depth > 7.76" for 100-Year-Projected event
Inflow = 7.40 cfs @ 12.18 hrs, Volume= 2.413 af
Outflow = 5.54 cfs @ 12.35 hrs, Volume= 2.313 af, Atten= 25%, Lag= 10.0 min
Primary = 5.54 cfs @ 12.35 hrs, Volume= 2.313 af
Routed to Pond 59P : BASIN C

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 32.43' @ 12.35 hrs Surf.Area= 0.128 ac Storage= 0.214 af

Plug-Flow detention time= 179.9 min calculated for 2.313 af (96% of inflow)
Center-of-Mass det. time= 70.2 min (1,405.9 - 1,335.7)

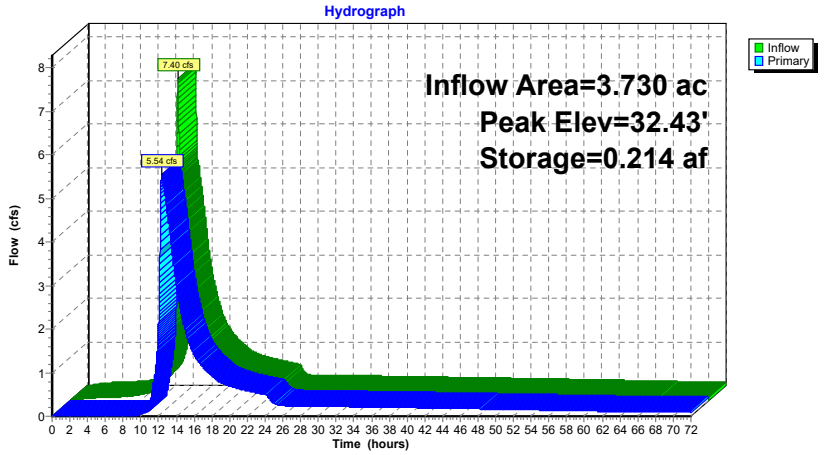
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	0.292 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.00	0.049	0.000	0.000
31.00	0.081	0.065	0.065
32.00	0.113	0.097	0.162
33.00	0.147	0.130	0.292

Device	Routing	Invert	Outlet Devices
#1	Primary	32.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.54 cfs @ 12.35 hrs HW=32.43' TW=30.92' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 5.35 cfs @ 3.16 fps)
- **3=Orifice** (Orifice Controls 0.19 cfs @ 5.55 fps)

Pond 74P: BASIN B



Summary for Pond 75P: BASIN D

Inflow Area = 7.390 ac, 48.71% Impervious, Inflow Depth > 7.89" for 100-Year-Projected event
Inflow = 23.75 cfs @ 12.20 hrs, Volume= 4.858 af
Outflow = 22.39 cfs @ 12.29 hrs, Volume= 4.557 af, Atten= 6%, Lag= 5.6 min
Primary = 22.39 cfs @ 12.29 hrs, Volume= 4.557 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 29.03' @ 12.29 hrs Surf.Area= 0.273 ac Storage= 0.594 af

Plug-Flow detention time= 215.3 min calculated for 4.556 af (94% of inflow)
Center-of-Mass det. time= 63.8 min (1,152.5 - 1,088.7)

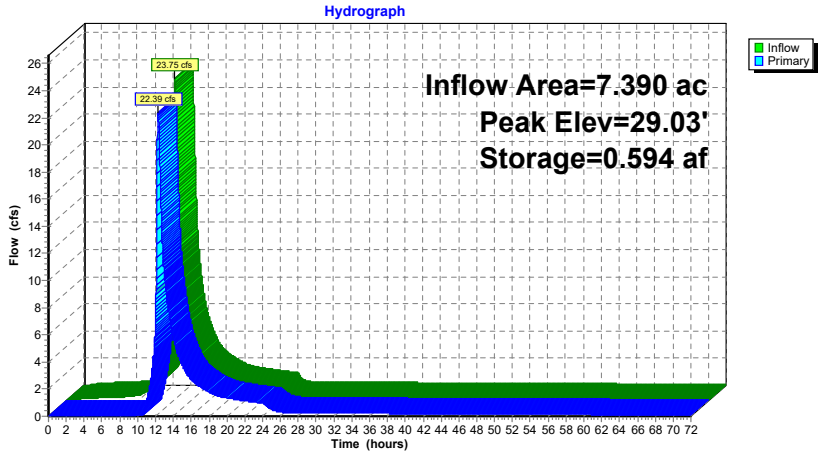
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.725 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.197	0.000	0.000
27.50	0.226	0.211	0.211
28.50	0.257	0.241	0.453
29.50	0.288	0.272	0.725

Device	Routing	Invert	Outlet Devices
#1	Primary	28.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.40'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=22.39 cfs @ 12.29 hrs HW=29.03' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Weir Controls 7.33 cfs @ 1.74 fps)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 14.86 cfs @ 3.48 fps)
- **3=Orifice** (Orifice Controls 0.20 cfs @ 5.95 fps)

Pond 75P: BASIN D



Summary for Pond 76P: BASIN M

Inflow Area = 0.860 ac, 59.30% Impervious, Inflow Depth = 9.01" for 100-Year-Projected event
Inflow = 5.41 cfs @ 12.18 hrs, Volume= 0.646 af
Outflow = 3.60 cfs @ 12.38 hrs, Volume= 0.585 af, Atten= 33%, Lag= 12.1 min
Primary = 3.60 cfs @ 12.38 hrs, Volume= 0.585 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 34.97' @ 12.38 hrs Surf.Area= 0.070 ac Storage= 0.223 af

Plug-Flow detention time= 236.7 min calculated for 0.585 af (91% of inflow)
Center-of-Mass det. time= 185.4 min (959.3 - 774.0)

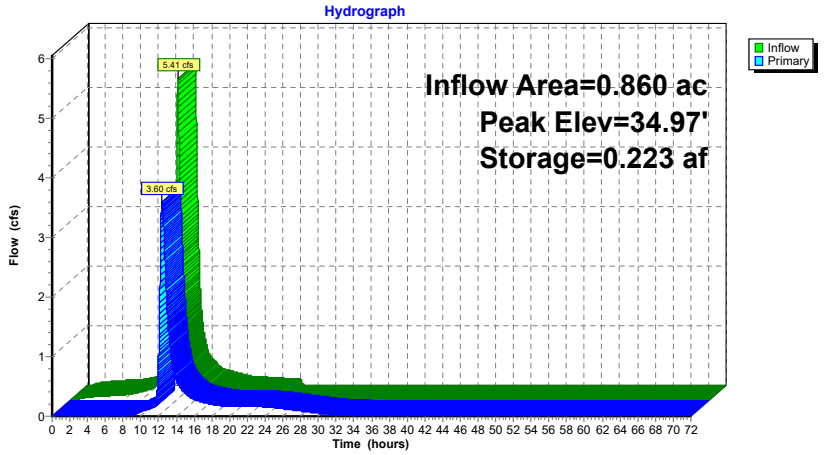
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	0.260 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.50	0.060	0.000	0.000
32.00	0.060	0.030	0.030
33.00	0.060	0.060	0.090
34.00	0.070	0.065	0.155
35.00	0.070	0.070	0.225
35.50	0.070	0.035	0.260

Device	Routing	Invert	Outlet Devices
#1	Primary	35.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	33.75'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.60 cfs @ 12.38 hrs HW=34.97' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 3.35 cfs @ 3.62 fps)
- **3=Orifice** (Orifice Controls 0.25 cfs @ 7.41 fps)

Pond 76P: BASIN M



Summary for Pond 83P: BASIN F

Inflow Area = 1.500 ac, 56.00% Impervious, Inflow Depth = 8.85" for 100-Year-Projected event
Inflow = 9.59 cfs @ 12.17 hrs, Volume= 1.106 af
Outflow = 0.35 cfs @ 17.20 hrs, Volume= 0.874 af, Atten= 96%, Lag= 301.9 min
Primary = 0.35 cfs @ 17.20 hrs, Volume= 0.874 af
Routed to Pond 86p : BASIN G

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 35.41' @ 17.20 hrs Surf.Area= 0.321 ac Storage= 0.848 af

Plug-Flow detention time= 1,367.1 min calculated for 0.874 af (79% of inflow)
Center-of-Mass det. time= 1,277.9 min (2,053.7 - 775.8)

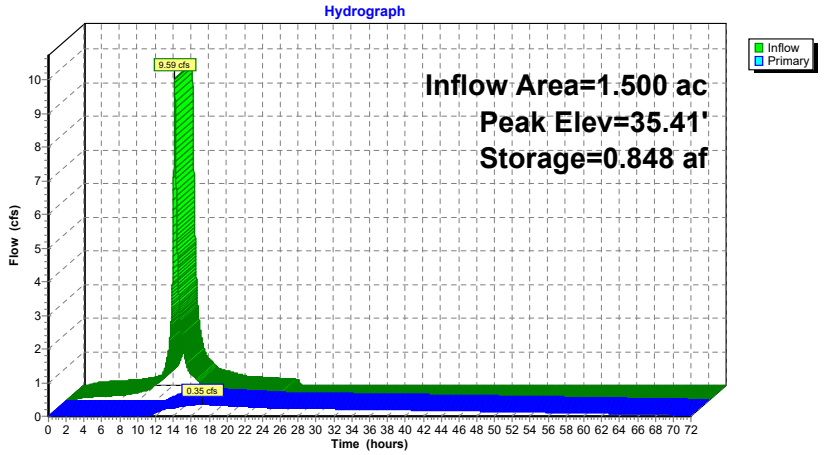
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.043 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.178	0.000	0.000
33.00	0.218	0.198	0.198
34.00	0.260	0.239	0.437
35.00	0.303	0.281	0.718
36.00	0.347	0.325	1.043

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.25'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.35 cfs @ 17.20 hrs HW=35.41' TW=32.93' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.10 cfs @ 1.32 fps)
- **3=Orifice** (Orifice Controls 0.25 cfs @ 7.32 fps)

Pond 83P: BASIN F



Summary for Pond 84P: BASIN L

Inflow Area = 0.970 ac, 50.52% Impervious, Inflow Depth = 8.58" for 100-Year-Projected event
Inflow = 5.91 cfs @ 12.18 hrs, Volume= 0.693 af
Outflow = 4.76 cfs @ 12.30 hrs, Volume= 0.645 af, Atten= 20%, Lag= 7.3 min
Primary = 4.76 cfs @ 12.30 hrs, Volume= 0.645 af
Routed to Pond 90P : BASIN N

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 34.65' @ 12.30 hrs Surf.Area= 0.116 ac Storage= 0.203 af

Plug-Flow detention time= 219.3 min calculated for 0.645 af (93% of inflow)
Center-of-Mass det. time= 179.1 min (960.5 - 781.3)

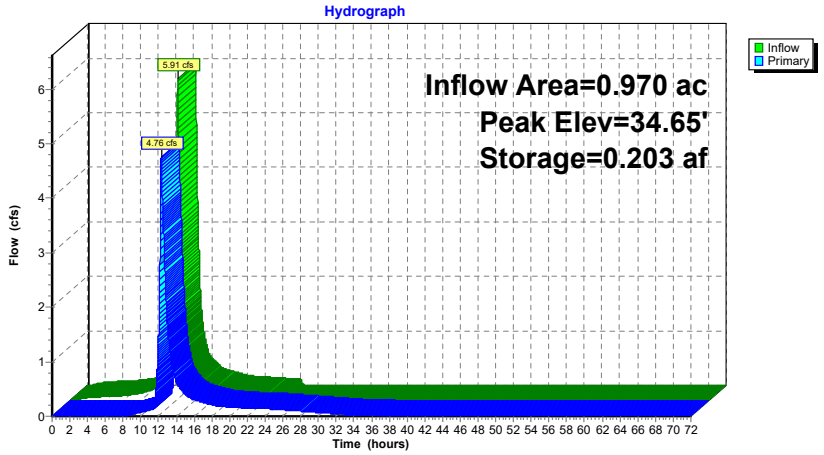
Volume	Invert	Avail.Storage	Storage Description
#1	32.50'	0.308 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.50	0.074	0.000	0.000
33.00	0.083	0.039	0.039
34.00	0.102	0.092	0.132
35.00	0.123	0.113	0.244
35.50	0.134	0.064	0.308

Device	Routing	Invert	Outlet Devices
#1	Primary	34.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	33.90'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.10'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.76 cfs @ 12.30 hrs HW=34.65' TW=31.09' (Dynamic Tailwater)
- **1=Grate** (Weir Controls 0.60 cfs @ 0.76 fps)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 3.95 cfs @ 2.84 fps)
- **3=Orifice** (Orifice Controls 0.20 cfs @ 5.80 fps)

Pond 84P: BASIN L



Summary for Pond 86P: BASIN G

Inflow Area = 2.760 ac, 47.46% Impervious, Inflow Depth > 7.42" for 100-Year-Projected event
Inflow = 7.31 cfs @ 12.18 hrs, Volume= 1.706 af
Outflow = 5.22 cfs @ 12.36 hrs, Volume= 1.612 af, Atten= 29%, Lag= 10.8 min
Primary = 5.22 cfs @ 12.36 hrs, Volume= 1.612 af
Routed to Pond 60P : BASIN H

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.64' @ 12.36 hrs Surf.Area= 0.139 ac Storage= 0.249 af

Plug-Flow detention time= 300.7 min calculated for 1.612 af (94% of inflow)
Center-of-Mass det. time= 163.9 min (1,603.2 - 1,439.3)

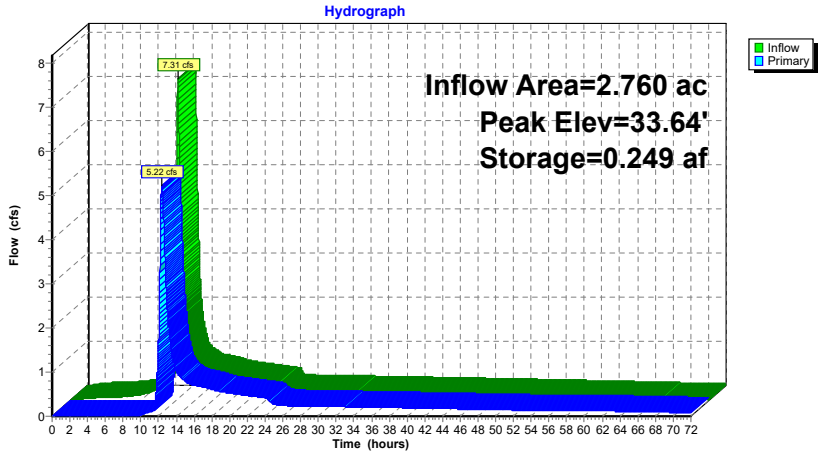
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	0.301 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.00	0.051	0.000	0.000
32.00	0.083	0.067	0.067
33.00	0.117	0.100	0.167
34.00	0.152	0.134	0.301

Device	Routing	Invert	Outlet Devices
#1	Primary	33.70'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	32.75'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.22 cfs @ 12.36 hrs HW=33.64' TW=31.08' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 5.02 cfs @ 3.09 fps)
- **3=Orifice** (Orifice Controls 0.20 cfs @ 5.97 fps)

Pond 86P: BASIN G



Summary for Pond 90P: BASIN N

Inflow Area = 4.000 ac, 43.75% Impervious, Inflow Depth = 7.95" for 100-Year-Projected event
Inflow = 15.22 cfs @ 12.27 hrs, Volume= 2.650 af
Outflow = 14.75 cfs @ 12.33 hrs, Volume= 2.540 af, Atten= 3%, Lag= 3.6 min
Primary = 14.75 cfs @ 12.33 hrs, Volume= 2.540 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 31.09' @ 12.33 hrs Surf.Area= 0.206 ac Storage= 0.352 af

Plug-Flow detention time= 146.5 min calculated for 2.540 af (96% of inflow)
Center-of-Mass det. time= 97.2 min (1,005.2 - 908.0)

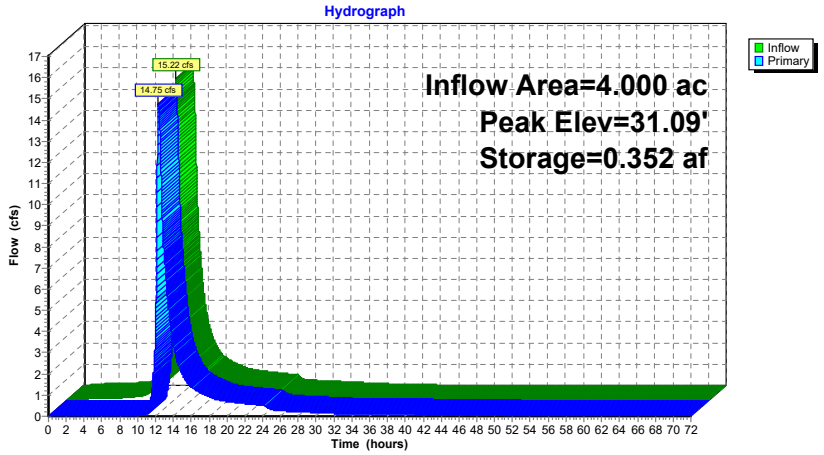
Volume	Invert	Avail.Storage	Storage Description
#1	29.00'	0.443 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
29.00	0.136	0.000	0.000
30.00	0.167	0.151	0.151
31.00	0.199	0.183	0.334
31.50	0.238	0.109	0.443

Device	Routing	Invert	Outlet Devices
#1	Primary	30.90'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.20'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	29.70'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=14.75 cfs @ 12.33 hrs HW=31.09' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Weir Controls 4.07 cfs @ 1.43 fps)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 10.50 cfs @ 3.09 fps)
- **3=Orifice** (Orifice Controls 0.19 cfs @ 5.46 fps)

Pond 90P: BASIN N



Summary for Pond 93P: BASIN O

Inflow Area = 1.100 ac, 51.82% Impervious, Inflow Depth = 9.00" for 100-Year-Projected event
Inflow = 6.95 cfs @ 12.18 hrs, Volume= 0.825 af
Outflow = 5.98 cfs @ 12.27 hrs, Volume= 0.765 af, Atten= 14%, Lag= 5.6 min
Primary = 5.98 cfs @ 12.27 hrs, Volume= 0.765 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.73' @ 12.27 hrs Surf.Area= 0.095 ac Storage= 0.160 af

Plug-Flow detention time= 143.4 min calculated for 0.765 af (93% of inflow)
Center-of-Mass det. time= 102.2 min (879.9 - 777.7)

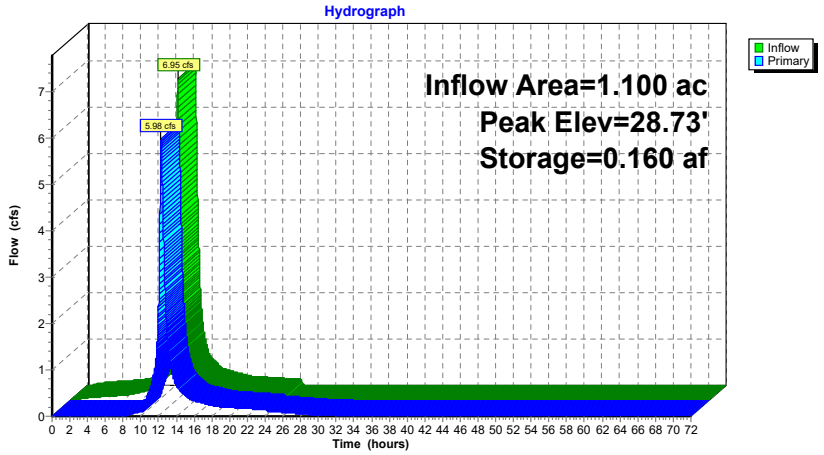
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.244 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.050	0.000	0.000
27.00	0.059	0.027	0.027
28.00	0.079	0.069	0.097
29.00	0.100	0.090	0.186
29.50	0.129	0.057	0.244

Device	Routing	Invert	Outlet Devices
#1	Primary	28.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.00'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=5.98 cfs @ 12.27 hrs HW=28.73' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 5.81 cfs @ 2.79 fps)
- **3=Orifice** (Orifice Controls 0.17 cfs @ 5.11 fps)

Pond 93P: BASIN O



Summary for Pond 102P: BASIN Q

Inflow Area = 1.860 ac, 59.68% Impervious, Inflow Depth = 9.03" for 100-Year-Projected event
Inflow = 10.45 cfs @ 12.21 hrs, Volume= 1.399 af
Outflow = 9.25 cfs @ 12.31 hrs, Volume= 1.217 af, Atten= 11%, Lag= 6.0 min
Primary = 9.25 cfs @ 12.31 hrs, Volume= 1.217 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.51' @ 12.31 hrs Surf.Area= 0.137 ac Storage= 0.287 af

Plug-Flow detention time= 135.4 min calculated for 1.217 af (87% of inflow)
Center-of-Mass det. time= 69.7 min (847.5 - 777.8)

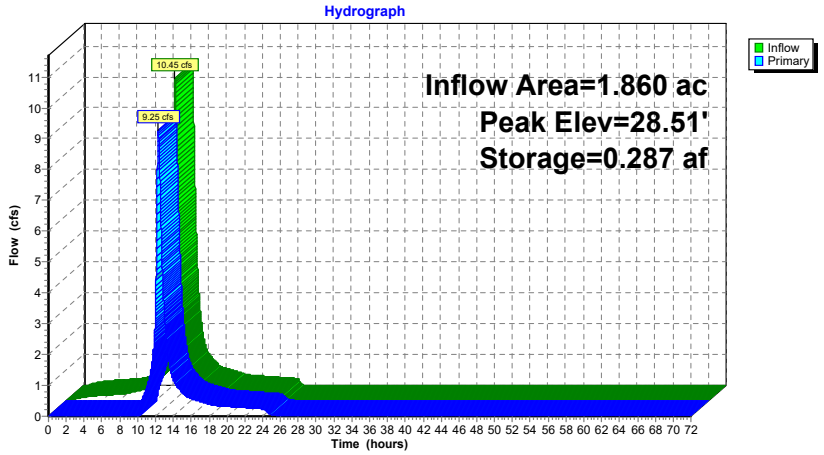
Volume	Invert	Avail.Storage	Storage Description
#1	26.00'	0.356 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.00	0.092	0.000	0.000
27.00	0.110	0.101	0.101
28.00	0.128	0.119	0.220
29.00	0.146	0.137	0.356

Device	Routing	Invert	Outlet Devices
#1	Primary	28.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.70'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.00'	**2.5" Vert. Orifice X 0.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=9.25 cfs @ 12.31 hrs HW=28.51' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Weir Controls 0.07 cfs @ 0.36 fps)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 9.19 cfs @ 2.95 fps)
- **3=Orifice** (Controls 0.00 cfs)

Pond 102P: BASIN Q



Summary for Pond 105P: BASIN R

Inflow Area = 2.040 ac, 50.00% Impervious, Inflow Depth = 8.82" for 100-Year-Projected event
Inflow = 12.67 cfs @ 12.18 hrs, Volume= 1.500 af
Outflow = 8.64 cfs @ 12.37 hrs, Volume= 1.350 af, Atten= 32%, Lag= 11.5 min
Primary = 8.64 cfs @ 12.37 hrs, Volume= 1.350 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 24.99' @ 12.37 hrs Surf.Area= 0.227 ac Storage= 0.439 af

Plug-Flow detention time= 192.1 min calculated for 1.349 af (90% of inflow)
Center-of-Mass det. time= 138.7 min (918.6 - 779.9)

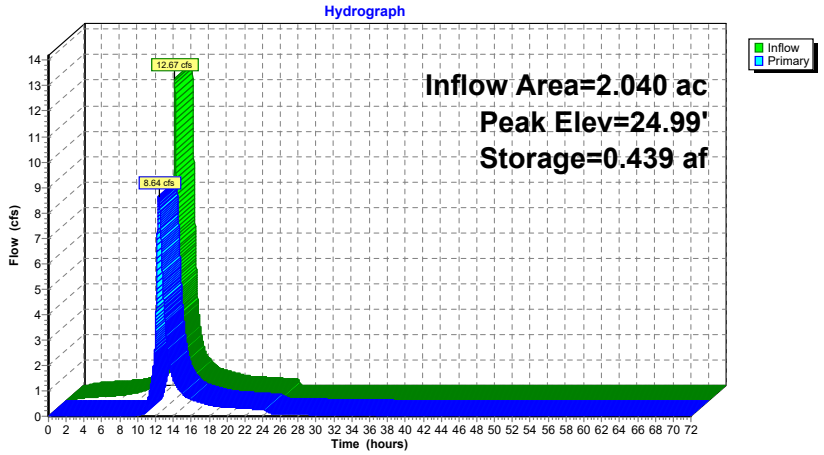
Volume	Invert	Avail.Storage	Storage Description
#1	22.50'	0.568 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
22.50	0.127	0.000	0.000
23.00	0.146	0.068	0.068
24.00	0.187	0.167	0.235
25.00	0.228	0.207	0.442
25.50	0.277	0.126	0.568

Device	Routing	Invert	Outlet Devices
#1	Primary	25.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	23.90'	**2.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	23.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=8.64 cfs @ 12.37 hrs HW=24.99' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 8.45 cfs @ 3.41 fps)
- **3=Orifice** (Orifice Controls 0.19 cfs @ 5.66 fps)

Pond 105P: BASIN R



Summary for Pond 108P: BASIN S

Inflow Area = 1.800 ac, 48.89% Impervious, Inflow Depth = 8.50" for 100-Year-Projected event
Inflow = 9.54 cfs @ 12.21 hrs, Volume= 1.274 af
Outflow = 4.54 cfs @ 12.65 hrs, Volume= 0.991 af, Atten= 52%, Lag= 26.2 min
Primary = 4.54 cfs @ 12.65 hrs, Volume= 0.991 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 21.29' @ 12.65 hrs Surf.Area= 0.288 ac Storage= 0.595 af

Plug-Flow detention time= 253.8 min calculated for 0.991 af (78% of inflow)
Center-of-Mass det. time= 162.0 min (949.4 - 787.4)

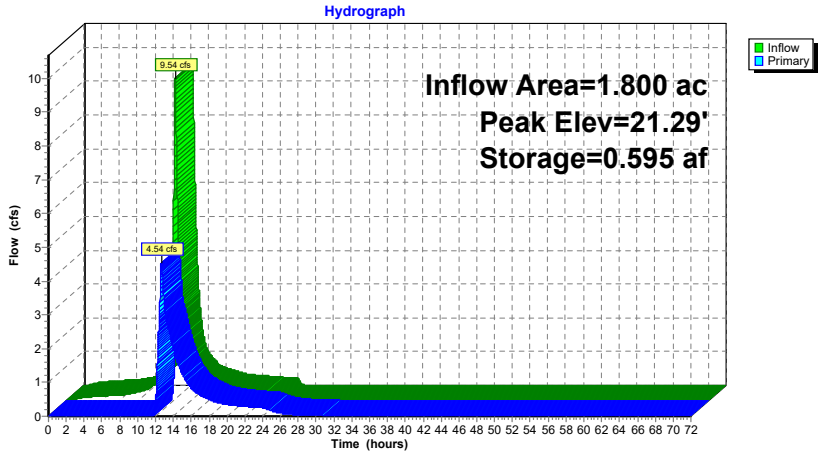
Volume	Invert	Avail.Storage	Storage Description
#1	18.80'	0.750 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
18.80	0.190	0.000	0.000
19.00	0.200	0.039	0.039
20.00	0.240	0.220	0.259
21.00	0.270	0.255	0.514
21.80	0.320	0.236	0.750

Device	Routing	Invert	Outlet Devices
#1	Primary	21.20'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.10'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	19.30'	**2.5" Vert. Orifice X 0.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=4.54 cfs @ 12.65 hrs HW=21.29' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Weir Controls 1.31 cfs @ 0.98 fps)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 3.23 cfs @ 3.57 fps)
- **3=Orifice** (Controls 0.00 cfs)

Pond 108P: BASIN S



Summary for Pond 111P: BASIN T

Inflow Area = 1.800 ac, 32.78% Impervious, Inflow Depth > 6.90" for 100-Year-Projected event
Inflow = 6.26 cfs @ 12.11 hrs, Volume= 1.035 af
Outflow = 0.59 cfs @ 16.64 hrs, Volume= 0.912 af, Atten= 91%, Lag= 271.8 min
Primary = 0.59 cfs @ 16.64 hrs, Volume= 0.912 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 20.46' @ 16.64 hrs Surf.Area= 0.248 ac Storage= 0.410 af

Plug-Flow detention time= 727.1 min calculated for 0.912 af (88% of inflow)
Center-of-Mass det. time= 609.0 min (1,689.4 - 1,080.4)

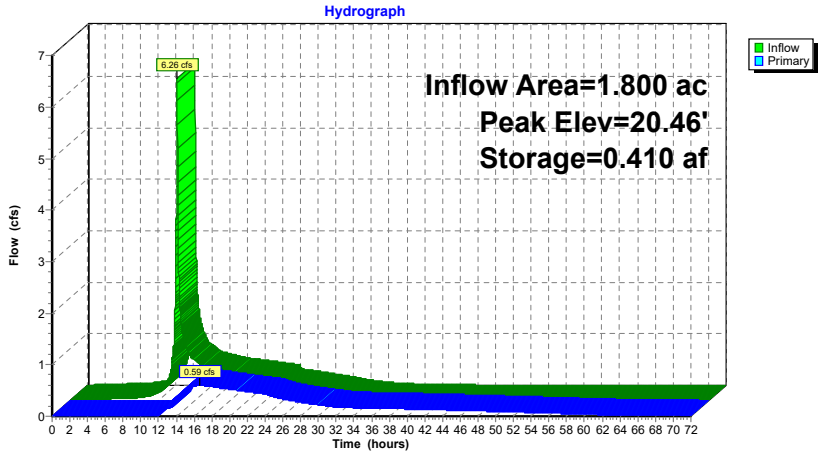
Volume	Invert	Avail.Storage	Storage Description
#1	18.50'	0.697 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
18.50	0.170	0.000	0.000
19.00	0.190	0.090	0.090
20.00	0.230	0.210	0.300
21.00	0.270	0.250	0.550
21.50	0.320	0.148	0.697

Device	Routing	Invert	Outlet Devices
#1	Primary	20.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.20'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	19.10'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.59 cfs @ 16.64 hrs HW=20.46' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.41 cfs @ 1.67 fps)
- **3=Orifice** (Orifice Controls 0.18 cfs @ 5.39 fps)

Pond 111P: BASIN T



Summary for Pond 114P: BASIN U

Inflow Area = 1.070 ac, 37.38% Impervious, Inflow Depth = 7.93" for 100-Year-Projected event
Inflow = 8.41 cfs @ 12.12 hrs, Volume= 0.707 af
Outflow = 0.47 cfs @ 13.69 hrs, Volume= 0.587 af, Atten= 94%, Lag= 93.9 min
Primary = 0.47 cfs @ 13.69 hrs, Volume= 0.587 af
Routed to Pond 111P : BASIN T

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 21.53' @ 14.43 hrs Surf.Area= 0.267 ac Storage= 0.450 af

Plug-Flow detention time= 588.4 min calculated for 0.587 af (83% of inflow)
Center-of-Mass det. time= 510.4 min (1,296.6 - 786.2)

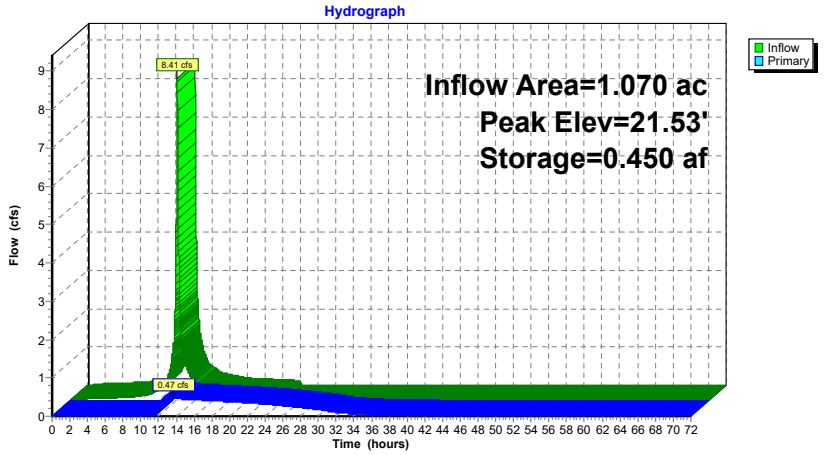
Volume	Invert	Avail.Storage	Storage Description
#1	19.50'	0.738 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
19.50	0.180	0.000	0.000
20.00	0.200	0.095	0.095
21.00	0.240	0.220	0.315
22.00	0.290	0.265	0.580
22.50	0.340	0.157	0.738

Device	Routing	Invert	Outlet Devices
#1	Primary	21.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.10'	**4.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.47 cfs @ 13.69 hrs HW=21.52' TW=20.27' (Dynamic Tailwater)
└─**1=Grate** (Controls 0.00 cfs)
└─**2=Orifice** (Orifice Controls 0.47 cfs @ 5.39 fps)

Pond 114P: BASIN U



Summary for Pond 117P: BASIN V

Inflow Area = 0.850 ac, 14.12% Impervious, Inflow Depth = 6.78" for 100-Year-Projected event
Inflow = 4.31 cfs @ 12.18 hrs, Volume= 0.480 af
Outflow = 3.23 cfs @ 12.34 hrs, Volume= 0.384 af, Atten= 25%, Lag= 9.6 min
Primary = 3.23 cfs @ 12.34 hrs, Volume= 0.384 af
Routed to Link 46L : DA North

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 38.30' @ 12.34 hrs Surf.Area= 0.129 ac Storage= 0.146 af

Plug-Flow detention time= 156.9 min calculated for 0.384 af (80% of inflow)
Center-of-Mass det. time= 70.9 min (894.1 - 823.2)

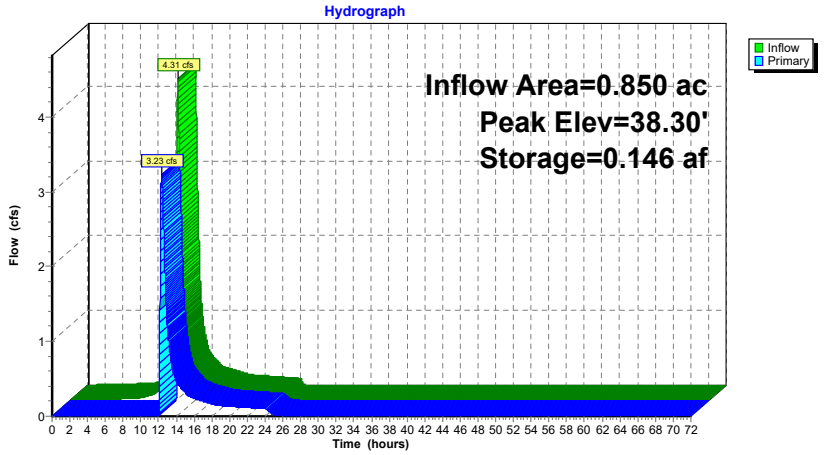
Volume	Invert	Avail.Storage	Storage Description
#1	37.00'	0.243 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
37.00	0.096	0.000	0.000
38.00	0.121	0.109	0.109
39.00	0.147	0.134	0.243

Device	Routing	Invert	Outlet Devices
#1	Primary	38.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	37.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=3.23 cfs @ 12.34 hrs HW=38.30' TW=0.00' (Dynamic Tailwater)
↑**1=Grate** (Controls 0.00 cfs)
└**2=Sharp-Crested Rectangular Weir** (Weir Controls 3.23 cfs @ 2.07 fps)

Pond 117P: BASIN V

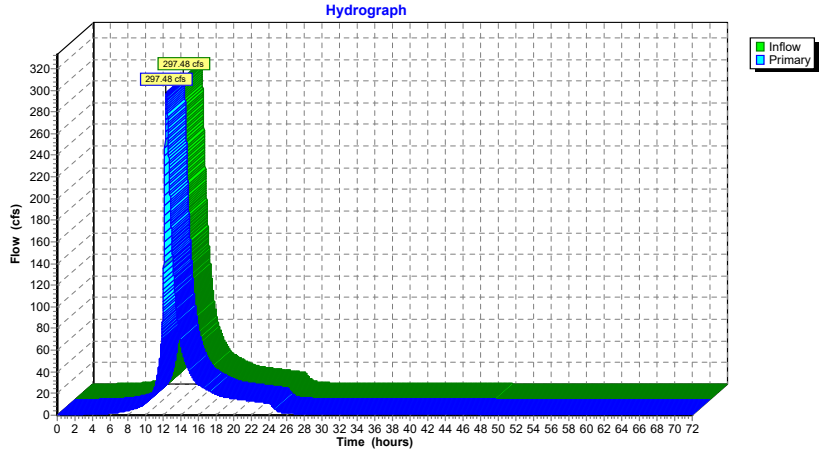


Summary for Link 46L: DA North

Inflow = 297.48 cfs @ 12.35 hrs, Volume= 55.347 af
Primary = 297.48 cfs @ 12.36 hrs, Volume= 55.347 af, Atten= 0%, Lag= 0.6 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 46L: DA North

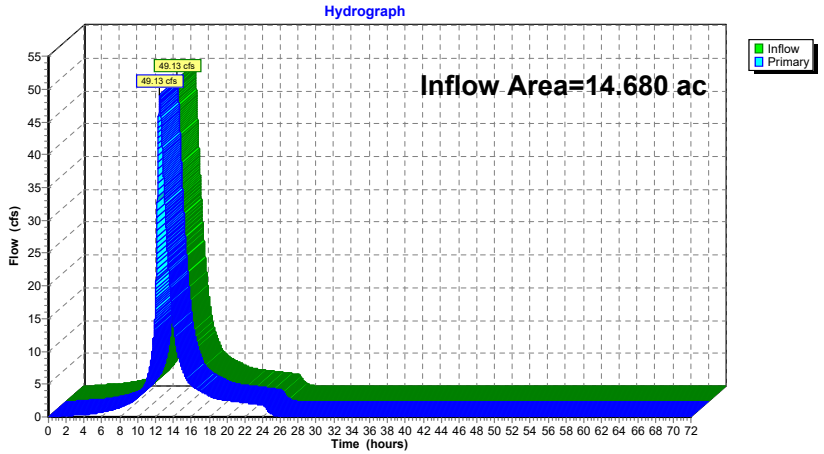


Summary for Link 51L: DA Undetained

Inflow Area = 14.680 ac, 15.60% Impervious, Inflow Depth = 8.30" for 100-Year-Projected event
Inflow = 49.13 cfs @ 12.47 hrs, Volume= 10.156 af
Primary = 49.13 cfs @ 12.48 hrs, Volume= 10.156 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 51L: DA Undetained

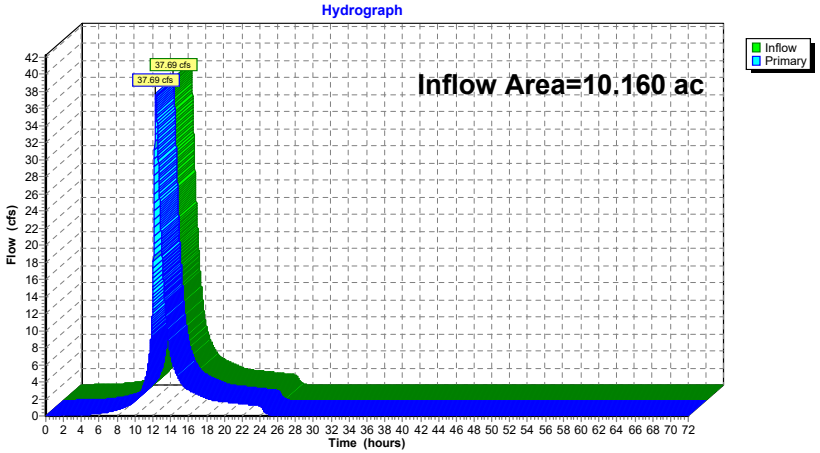


Summary for Link 52L: X

Inflow Area = 10.160 ac, 29.97% Impervious, Inflow Depth = 7.61" for 100-Year-Projected event
Inflow = 37.69 cfs @ 12.33 hrs, Volume= 6.446 af
Primary = 37.69 cfs @ 12.34 hrs, Volume= 6.446 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 52L: X

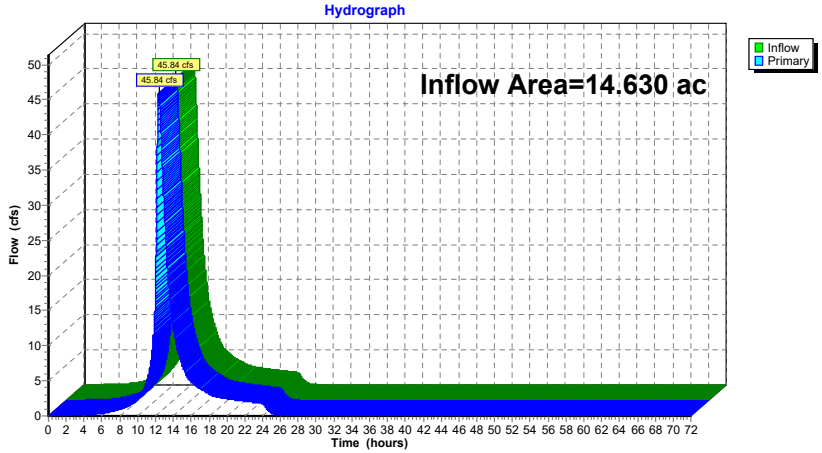


Summary for Link 53L: W

Inflow Area = 14.630 ac, 28.71% Impervious, Inflow Depth = 7.56" for 100-Year-Projected event
Inflow = 45.84 cfs @ 12.35 hrs, Volume= 9.212 af
Primary = 45.84 cfs @ 12.36 hrs, Volume= 9.212 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 53L: W

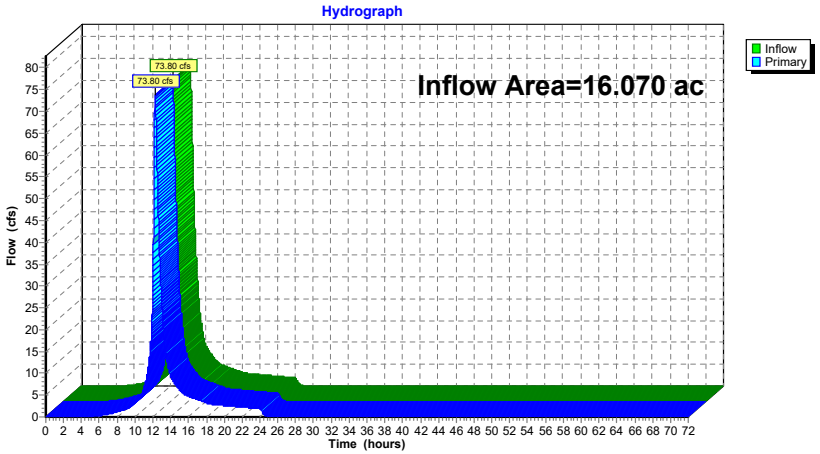


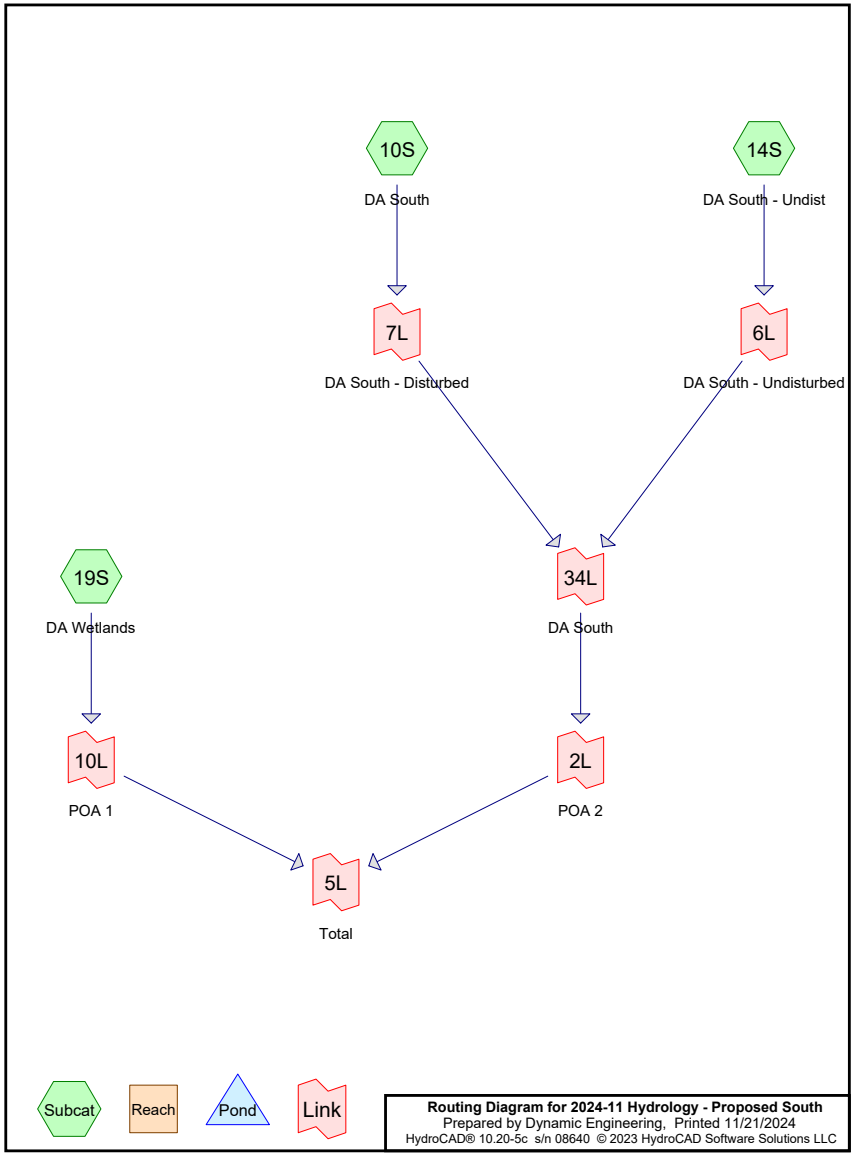
Summary for Link 58L: Y

Inflow Area = 16.070 ac, 30.59% Impervious, Inflow Depth = 7.67" for 100-Year-Projected event
Inflow = 73.80 cfs @ 12.25 hrs, Volume= 10.273 af
Primary = 73.80 cfs @ 12.26 hrs, Volume= 10.273 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 58L: Y





Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	25 - Year	NOAA 24-hr	D	Default	24.00	1	6.53	2
2	2-Year-Current	NOAA 24-hr	D	Default	24.00	1	3.38	2
3	2-Year-Projected	NOAA 24-hr	D	Default	24.00	1	4.02	2
4	10-Year-Current	NOAA 24-hr	D	Default	24.00	1	5.28	2
5	10-Year-Projected	NOAA 24-hr	D	Default	24.00	1	6.22	2
6	100-Year-Current	NOAA 24-hr	D	Default	24.00	1	9.12	2
7	100-Year-Projected	NOAA 24-hr	D	Default	24.00	1	11.26	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
36.820	39	>75% Grass cover, Good, HSG A (10S, 19S)
4.950	80	>75% Grass cover, Good, HSG D (10S, 19S)
1.840	98	Paved parking, HSG A (10S, 19S)
0.650	98	Paved parking, HSG D (10S, 19S)
8.020	89	Urban commercial, 85% imp, HSG A (14S)
0.730	98	Water Surface, HSG D (10S)
13.190	30	Woods, Good, HSG A (10S, 19S)
1.200	77	Woods, Good, HSG D (10S, 19S)
67.400	**50**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
59.870	HSG A	10S, 14S, 19S
0.000	HSG B	
0.000	HSG C	
7.530	HSG D	10S, 19S
0.000	Other	
67.400		**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
36.820	0.000	0.000	4.950	0.000	41.770	>75% Grass cover, Good	10S, 19S
1.840	0.000	0.000	0.650	0.000	2.490	Paved parking	10S, 19S
8.020	0.000	0.000	0.000	0.000	8.020	Urban commercial, 85% imp	14S
0.000	0.000	0.000	0.730	0.000	0.730	Water Surface	10S
13.190	0.000	0.000	1.200	0.000	14.390	Woods, Good	10S, 19S
59.870	**0.000**	**0.000**	**7.530**	**0.000**	**67.400**	**TOTAL AREA**	

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment10S: DA South Runoff Area=49.160 ac 4.84% Impervious Runoff Depth=1.15"
Flow Length=1,105' Tc=16.3 min CN=WQ Runoff=23.78 cfs 4.723 af

Subcatchment14S: DA South - Undist Runoff Area=8.020 ac 85.00% Impervious Runoff Depth=5.25"
Flow Length=1,105' Tc=16.3 min CN=89 Runoff=23.99 cfs 3.509 af

Subcatchment19S: DA Wetlands Runoff Area=10.220 ac 8.22% Impervious Runoff Depth=1.33"
Flow Length=753' Tc=13.8 min CN=WQ Runoff=6.29 cfs 1.134 af

Link 2L: POA 2 Inflow=47.73 cfs 8.232 af
Primary=47.73 cfs 8.232 af

Link 5L: Total Inflow=53.98 cfs 9.366 af
Primary=53.98 cfs 9.366 af

Link 6L: DA South - Undisturbed Inflow=23.99 cfs 3.509 af
Primary=23.99 cfs 3.509 af

Link 7L: DA South - Disturbed Inflow=23.78 cfs 4.723 af
Primary=23.78 cfs 4.723 af

Link 10L: POA 1 Inflow=6.29 cfs 1.134 af
Primary=6.29 cfs 1.134 af

Link 34L: DA South Inflow=47.73 cfs 8.232 af
Primary=47.73 cfs 8.232 af

Total Runoff Area = 67.400 ac Runoff Volume = 9.366 af Average Runoff Depth = 1.67"
85.11% Pervious = 57.363 ac 14.89% Impervious = 10.037 ac

Summary for Subcatchment 10S: DA South

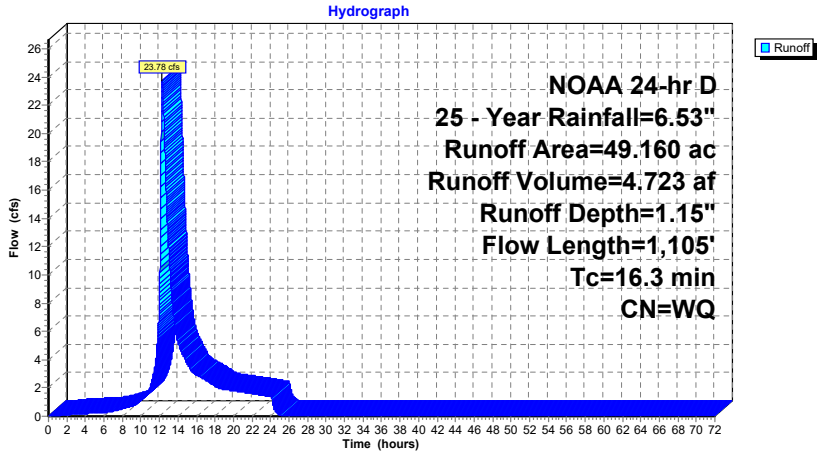
Runoff = 23.78 cfs @ 12.28 hrs, Volume= 4.723 af, Depth= 1.15"
Routed to Link 7L : DA South - Disturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

Area (ac)	CN	Description
11.500	30	Woods, Good, HSG A
0.690	77	Woods, Good, HSG D
30.110	39	>75% Grass cover, Good, HSG A
4.480	80	>75% Grass cover, Good, HSG D
1.310	98	Paved parking, HSG A
0.340	98	Paved parking, HSG D
0.730	98	Water Surface, HSG D
49.160		Weighted Average
46.780		95.16% Pervious Area
2.380		4.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 10S: DA South



Summary for Subcatchment 14S: DA South - Undist

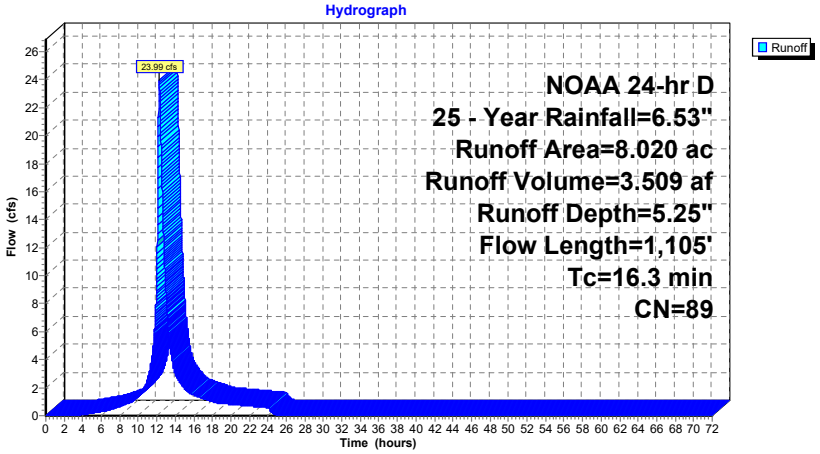
Runoff = 23.99 cfs @ 12.27 hrs, Volume= 3.509 af, Depth= 5.25"
Routed to Link 6L : DA South - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

Area (ac)	CN	Description
8.020	89	Urban commercial, 85% imp, HSG A
1.203		15.00% Pervious Area
6.817		85.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 14S: DA South - Undist



Summary for Subcatchment 19S: DA Wetlands

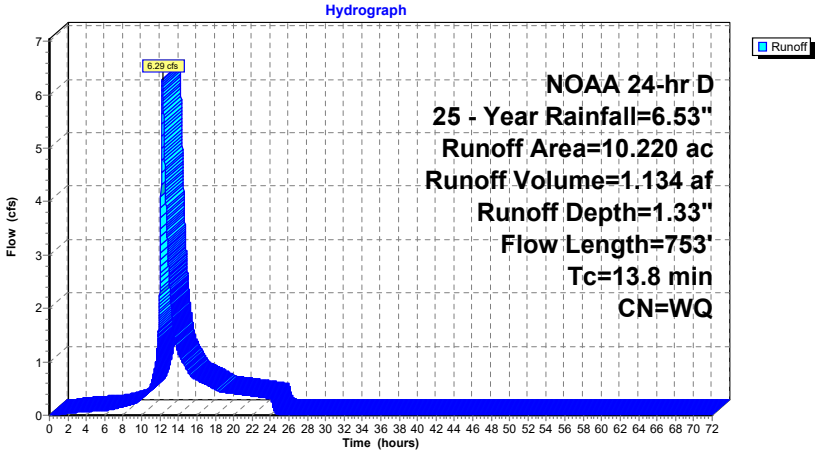
Runoff = 6.29 cfs @ 12.26 hrs, Volume= 1.134 af, Depth= 1.33"
Routed to Link 10L : POA 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 25 - Year Rainfall=6.53"

Area (ac)	CN	Description
1.690	30	Woods, Good, HSG A
0.510	77	Woods, Good, HSG D
6.710	39	>75% Grass cover, Good, HSG A
0.470	80	>75% Grass cover, Good, HSG D
0.530	98	Paved parking, HSG A
0.310	98	Paved parking, HSG D
10.220		Weighted Average
9.380		91.78% Pervious Area
0.840		8.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	72	0.0300	0.13		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
2.7	344	0.0180	2.16		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.0	337	0.0290	2.74		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
13.8	753	Total			

Subcatchment 19S: DA Wetlands

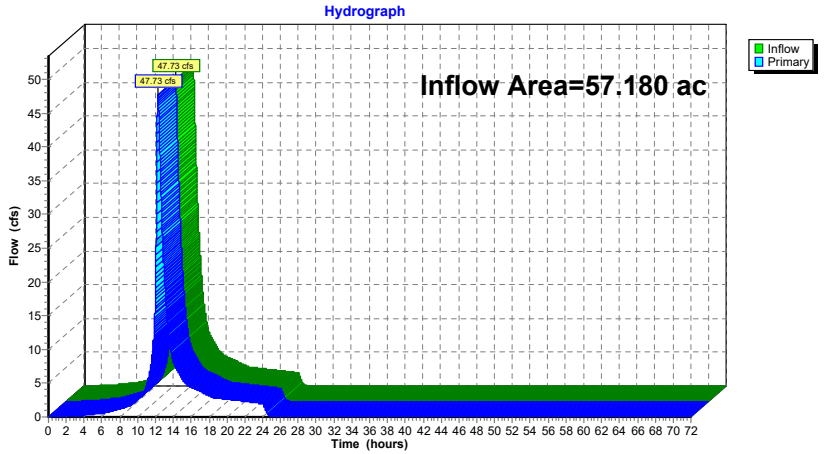


Summary for Link 2L: POA 2

Inflow Area = 57.180 ac, 16.08% Impervious, Inflow Depth = 1.73" for 25 - Year event
Inflow = 47.73 cfs @ 12.28 hrs, Volume= 8.232 af
Primary = 47.73 cfs @ 12.28 hrs, Volume= 8.232 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 2L: POA 2

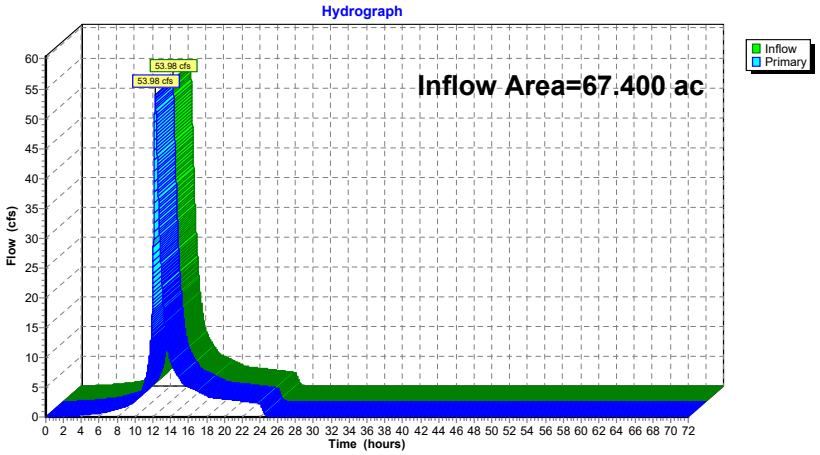


Summary for Link 5L: Total

Inflow Area = 67.400 ac, 14.89% Impervious, Inflow Depth = 1.67" for 25 - Year event
Inflow = 53.98 cfs @ 12.28 hrs, Volume= 9.366 af
Primary = 53.98 cfs @ 12.28 hrs, Volume= 9.366 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 5L: Total

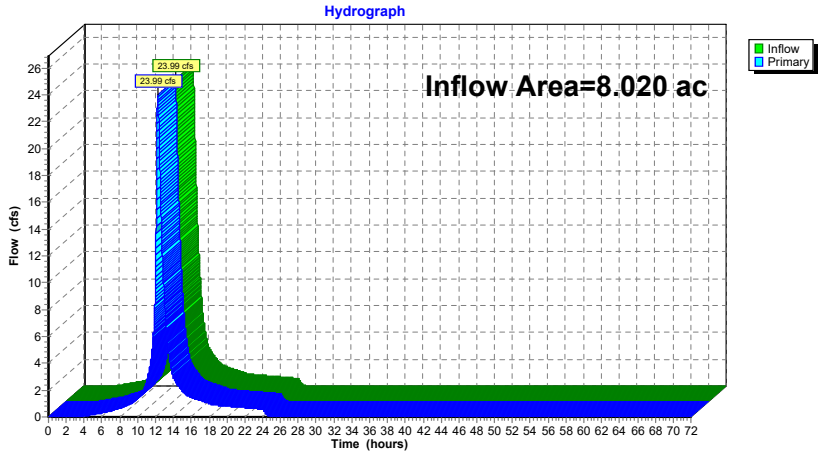


Summary for Link 6L: DA South - Undisturbed

Inflow Area = 8.020 ac, 85.00% Impervious, Inflow Depth = 5.25" for 25 - Year event
Inflow = 23.99 cfs @ 12.27 hrs, Volume= 3.509 af
Primary = 23.99 cfs @ 12.27 hrs, Volume= 3.509 af, Atten= 0%, Lag= 0.0 min
Routed to Link 34L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 6L: DA South - Undisturbed

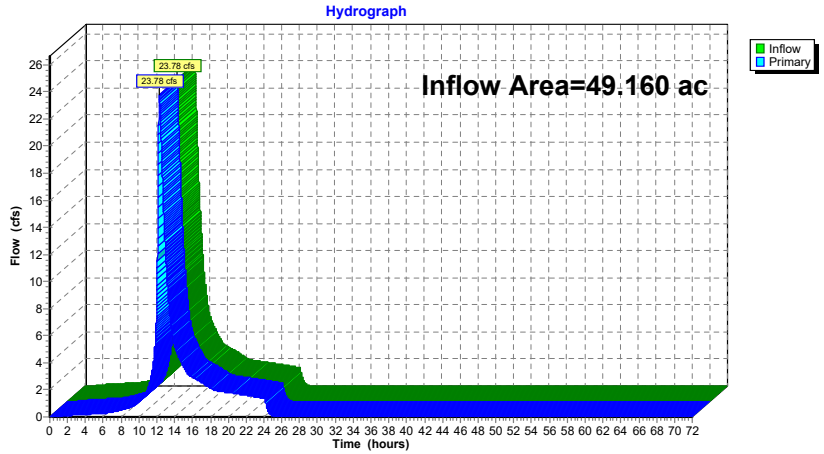


Summary for Link 7L: DA South - Disturbed

Inflow Area = 49.160 ac, 4.84% Impervious, Inflow Depth = 1.15" for 25 - Year event
Inflow = 23.78 cfs @ 12.28 hrs, Volume= 4.723 af
Primary = 23.78 cfs @ 12.28 hrs, Volume= 4.723 af, Atten= 0%, Lag= 0.0 min
Routed to Link 34L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 7L: DA South - Disturbed

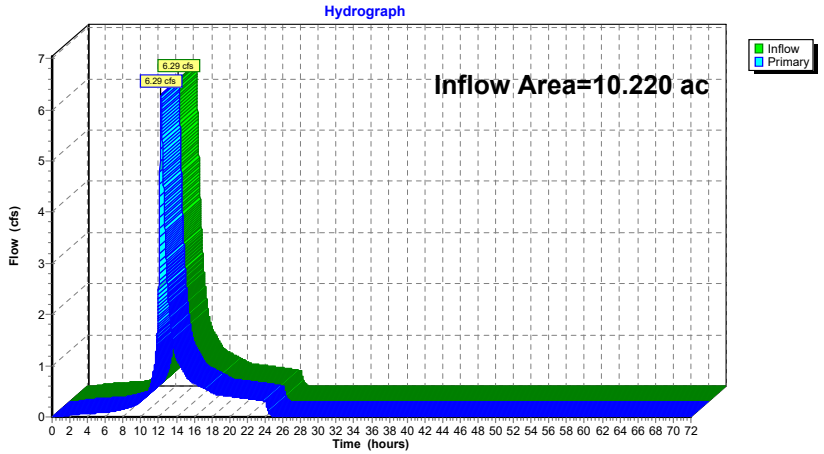


Summary for Link 10L: POA 1

Inflow Area = 10.220 ac, 8.22% Impervious, Inflow Depth = 1.33" for 25 - Year event
Inflow = 6.29 cfs @ 12.26 hrs, Volume= 1.134 af
Primary = 6.29 cfs @ 12.26 hrs, Volume= 1.134 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 10L: POA 1

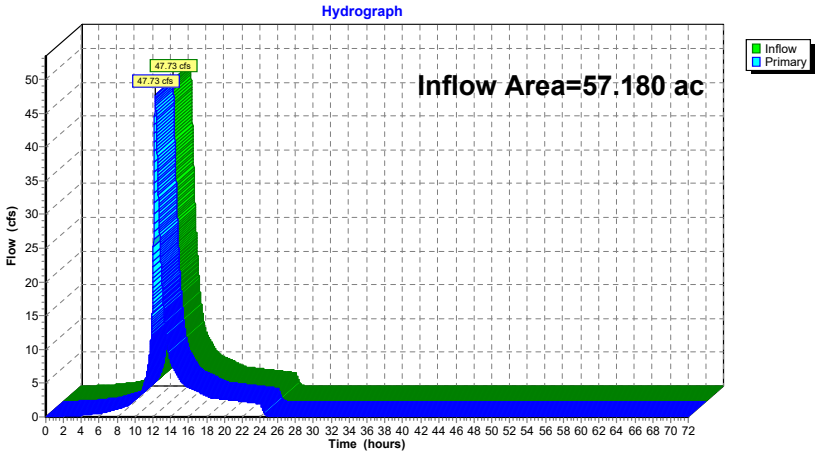


Summary for Link 34L: DA South

Inflow Area = 57.180 ac, 16.08% Impervious, Inflow Depth = 1.73" for 25 - Year event
Inflow = 47.73 cfs @ 12.28 hrs, Volume= 8.232 af
Primary = 47.73 cfs @ 12.28 hrs, Volume= 8.232 af, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : POA 2

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 34L: DA South



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment10S: DA South Runoff Area=49.160 ac 4.84% Impervious Runoff Depth=0.31"
Flow Length=1,105' Tc=16.3 min CN=WQ Runoff=8.53 cfs 1.287 af

Subcatchment14S: DA South - Undist Runoff Area=8.020 ac 85.00% Impervious Runoff Depth=2.25"
Flow Length=1,105' Tc=16.3 min CN=89 Runoff=10.58 cfs 1.501 af

Subcatchment19S: DA Wetlands Runoff Area=10.220 ac 8.22% Impervious Runoff Depth=0.40"
Flow Length=753' Tc=13.8 min CN=WQ Runoff=2.41 cfs 0.340 af

Link 2L: POA 2 Inflow=19.10 cfs 2.788 af
Primary=19.10 cfs 2.788 af

Link 5L: Total Inflow=21.45 cfs 3.128 af
Primary=21.45 cfs 3.128 af

Link 6L: DA South - Undisturbed Inflow=10.58 cfs 1.501 af
Primary=10.58 cfs 1.501 af

Link 7L: DA South - Disturbed Inflow=8.53 cfs 1.287 af
Primary=8.53 cfs 1.287 af

Link 10L: POA 1 Inflow=2.41 cfs 0.340 af
Primary=2.41 cfs 0.340 af

Link 34L: DA South Inflow=19.10 cfs 2.788 af
Primary=19.10 cfs 2.788 af

Total Runoff Area = 67.400 ac Runoff Volume = 3.128 af Average Runoff Depth = 0.56"
85.11% Pervious = 57.363 ac 14.89% Impervious = 10.037 ac

Summary for Subcatchment 10S: DA South

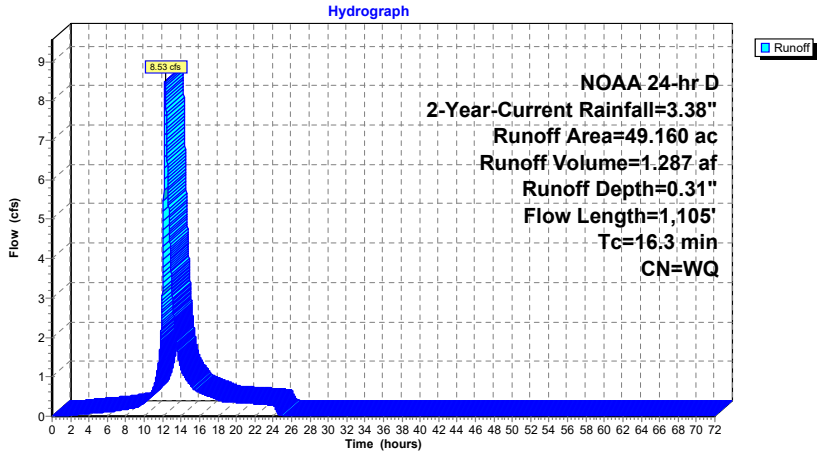
Runoff = 8.53 cfs @ 12.28 hrs, Volume= 1.287 af, Depth= 0.31"
Routed to Link 7L : DA South - Disturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

Area (ac)	CN	Description
11.500	30	Woods, Good, HSG A
0.690	77	Woods, Good, HSG D
30.110	39	>75% Grass cover, Good, HSG A
4.480	80	>75% Grass cover, Good, HSG D
1.310	98	Paved parking, HSG A
0.340	98	Paved parking, HSG D
0.730	98	Water Surface, HSG D
49.160		Weighted Average
46.780		95.16% Pervious Area
2.380		4.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 10S: DA South



Summary for Subcatchment 14S: DA South - Undist

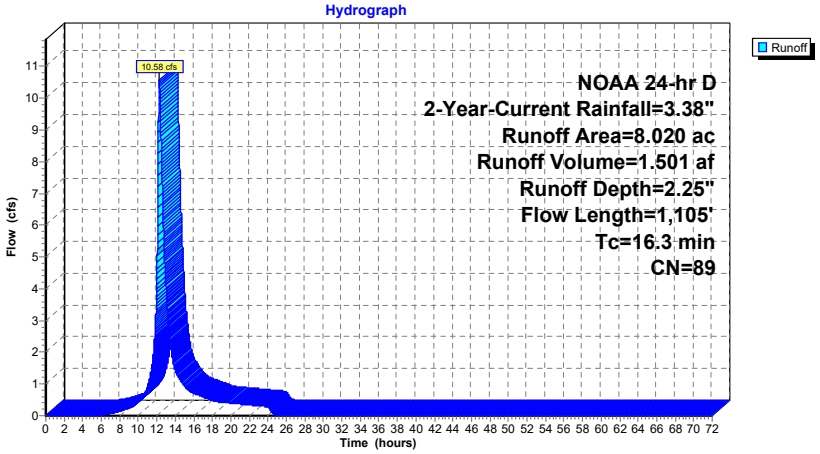
Runoff = 10.58 cfs @ 12.28 hrs, Volume= 1.501 af, Depth= 2.25"
Routed to Link 6L : DA South - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

Area (ac)	CN	Description
8.020	89	Urban commercial, 85% imp, HSG A
1.203		15.00% Pervious Area
6.817		85.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 14S: DA South - Undist



Summary for Subcatchment 19S: DA Wetlands

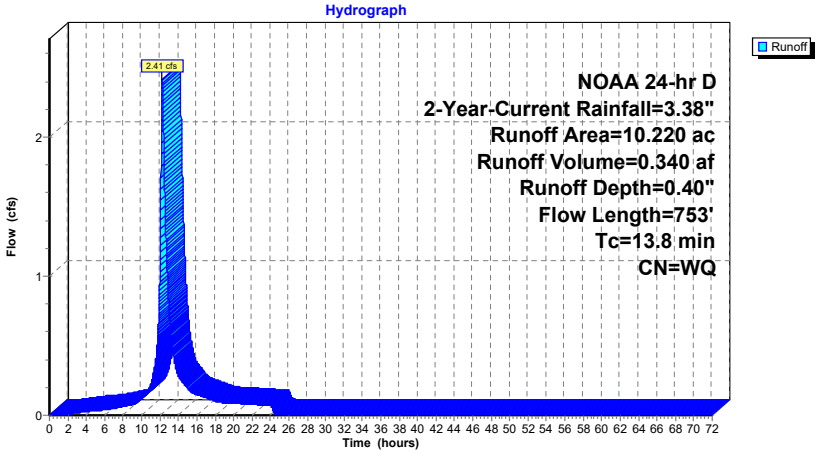
Runoff = 2.41 cfs @ 12.24 hrs, Volume= 0.340 af, Depth= 0.40"
Routed to Link 10L : POA 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

Area (ac)	CN	Description
1.690	30	Woods, Good, HSG A
0.510	77	Woods, Good, HSG D
6.710	39	>75% Grass cover, Good, HSG A
0.470	80	>75% Grass cover, Good, HSG D
0.530	98	Paved parking, HSG A
0.310	98	Paved parking, HSG D
10.220		Weighted Average
9.380		91.78% Pervious Area
0.840		8.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	72	0.0300	0.13		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
2.7	344	0.0180	2.16		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.0	337	0.0290	2.74		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
13.8	753	Total			

Subcatchment 19S: DA Wetlands

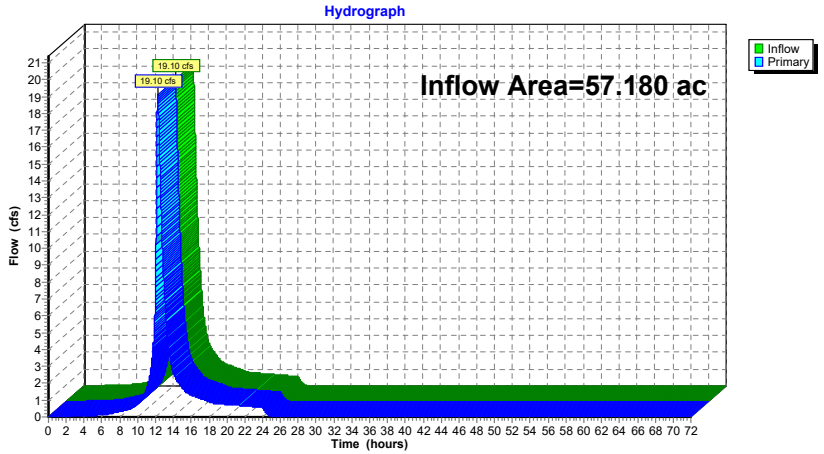


Summary for Link 2L: POA 2

Inflow Area = 57.180 ac, 16.08% Impervious, Inflow Depth = 0.59" for 2-Year-Current event
Inflow = 19.10 cfs @ 12.28 hrs, Volume= 2.788 af
Primary = 19.10 cfs @ 12.28 hrs, Volume= 2.788 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 2L: POA 2

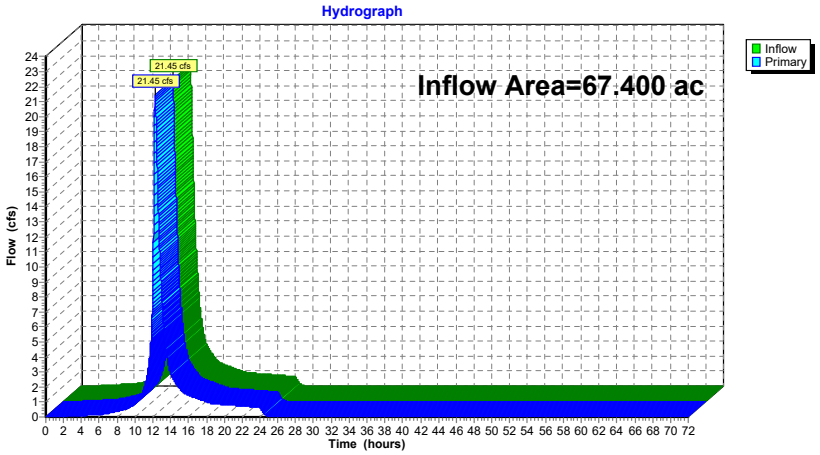


Summary for Link 5L: Total

Inflow Area = 67.400 ac, 14.89% Impervious, Inflow Depth = 0.56" for 2-Year-Current event
Inflow = 21.45 cfs @ 12.27 hrs, Volume= 3.128 af
Primary = 21.45 cfs @ 12.27 hrs, Volume= 3.128 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 5L: Total

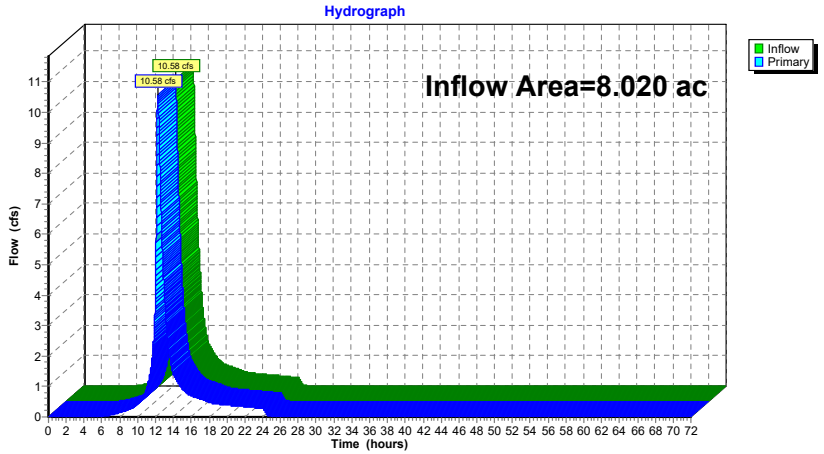


Summary for Link 6L: DA South - Undisturbed

Inflow Area = 8.020 ac, 85.00% Impervious, Inflow Depth = 2.25" for 2-Year-Current event
Inflow = 10.58 cfs @ 12.28 hrs, Volume= 1.501 af
Primary = 10.58 cfs @ 12.28 hrs, Volume= 1.501 af, Atten= 0%, Lag= 0.0 min
Routed to Link 34L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 6L: DA South - Undisturbed

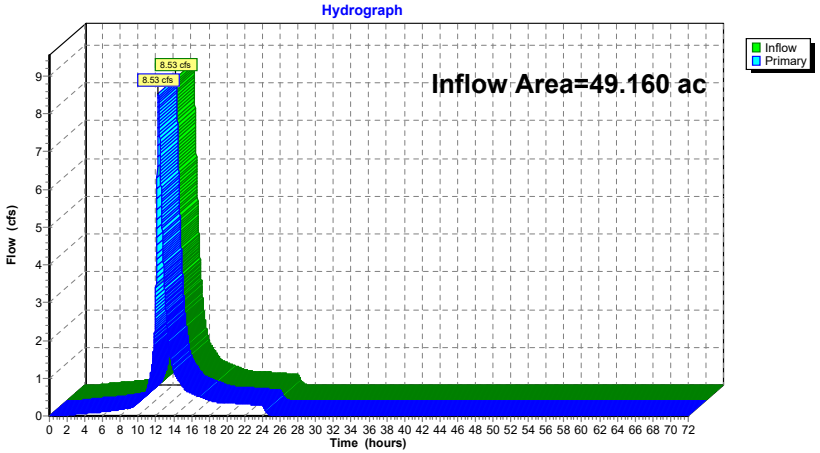


Summary for Link 7L: DA South - Disturbed

Inflow Area = 49.160 ac, 4.84% Impervious, Inflow Depth = 0.31" for 2-Year-Current event
Inflow = 8.53 cfs @ 12.28 hrs, Volume= 1.287 af
Primary = 8.53 cfs @ 12.28 hrs, Volume= 1.287 af, Atten= 0%, Lag= 0.0 min
Routed to Link 34L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 7L: DA South - Disturbed

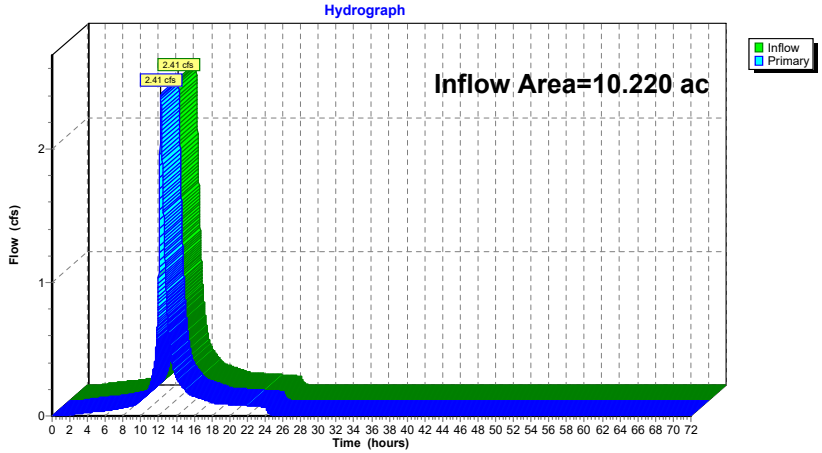


Summary for Link 10L: POA 1

Inflow Area = 10.220 ac, 8.22% Impervious, Inflow Depth = 0.40" for 2-Year-Current event
Inflow = 2.41 cfs @ 12.24 hrs, Volume= 0.340 af
Primary = 2.41 cfs @ 12.24 hrs, Volume= 0.340 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 10L: POA 1

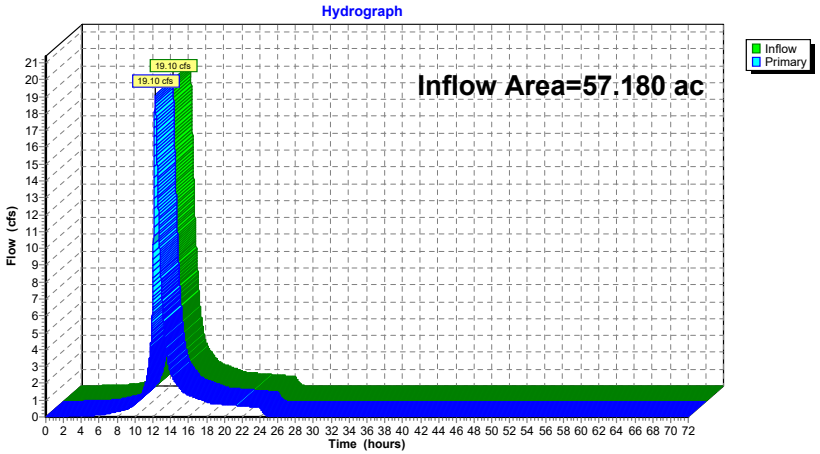


Summary for Link 34L: DA South

Inflow Area = 57.180 ac, 16.08% Impervious, Inflow Depth = 0.59" for 2-Year-Current event
Inflow = 19.10 cfs @ 12.28 hrs, Volume= 2.788 af
Primary = 19.10 cfs @ 12.28 hrs, Volume= 2.788 af, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : POA 2

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 34L: DA South



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment10S: DA South Runoff Area=49.160 ac 4.84% Impervious Runoff Depth=0.43"
Flow Length=1,105' Tc=16.3 min CN=WQ Runoff=10.91 cfs 1.745 af

Subcatchment14S: DA South - Undist Runoff Area=8.020 ac 85.00% Impervious Runoff Depth=2.84"
Flow Length=1,105' Tc=16.3 min CN=89 Runoff=13.30 cfs 1.899 af

Subcatchment19S: DA Wetlands Runoff Area=10.220 ac 8.22% Impervious Runoff Depth=0.53"
Flow Length=753' Tc=13.8 min CN=WQ Runoff=3.04 cfs 0.450 af

Link 2L: POA 2 Inflow=24.21 cfs 3.644 af
Primary=24.21 cfs 3.644 af

Link 5L: Total Inflow=27.17 cfs 4.094 af
Primary=27.17 cfs 4.094 af

Link 6L: DA South - Undisturbed Inflow=13.30 cfs 1.899 af
Primary=13.30 cfs 1.899 af

Link 7L: DA South - Disturbed Inflow=10.91 cfs 1.745 af
Primary=10.91 cfs 1.745 af

Link 10L: POA 1 Inflow=3.04 cfs 0.450 af
Primary=3.04 cfs 0.450 af

Link 34L: DA South Inflow=24.21 cfs 3.644 af
Primary=24.21 cfs 3.644 af

Total Runoff Area = 67.400 ac Runoff Volume = 4.094 af Average Runoff Depth = 0.73"
85.11% Pervious = 57.363 ac 14.89% Impervious = 10.037 ac

Summary for Subcatchment 10S: DA South

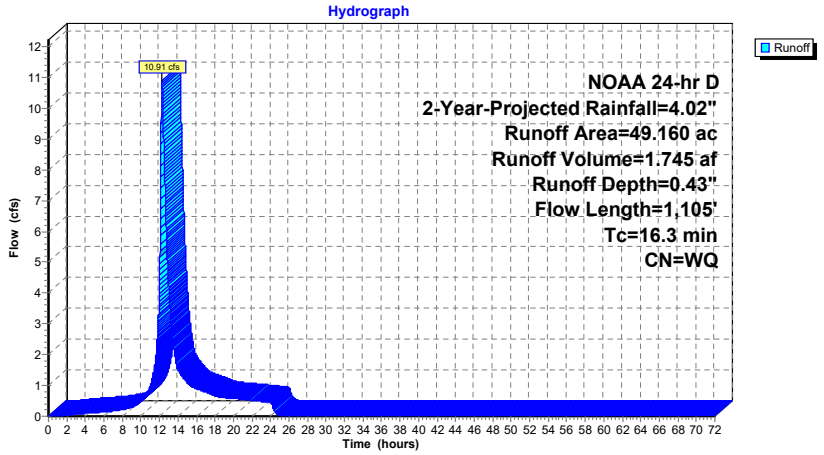
Runoff = 10.91 cfs @ 12.28 hrs, Volume= 1.745 af, Depth= 0.43"
Routed to Link 7L : DA South - Disturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

Area (ac)	CN	Description
11.500	30	Woods, Good, HSG A
0.690	77	Woods, Good, HSG D
30.110	39	>75% Grass cover, Good, HSG A
4.480	80	>75% Grass cover, Good, HSG D
1.310	98	Paved parking, HSG A
0.340	98	Paved parking, HSG D
0.730	98	Water Surface, HSG D
49.160		Weighted Average
46.780		95.16% Pervious Area
2.380		4.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 10S: DA South



Summary for Subcatchment 14S: DA South - Undist

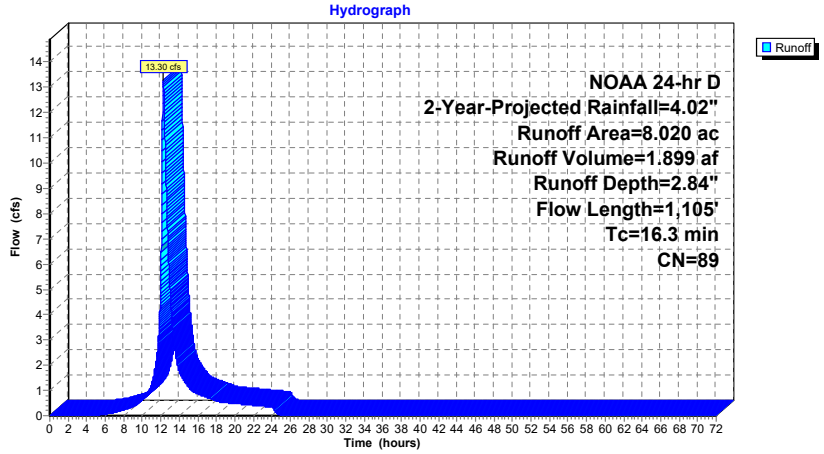
Runoff = 13.30 cfs @ 12.27 hrs, Volume= 1.899 af, Depth= 2.84"
Routed to Link 6L : DA South - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

Area (ac)	CN	Description
8.020	89	Urban commercial, 85% imp, HSG A
1.203		15.00% Pervious Area
6.817		85.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 14S: DA South - Undist



Summary for Subcatchment 19S: DA Wetlands

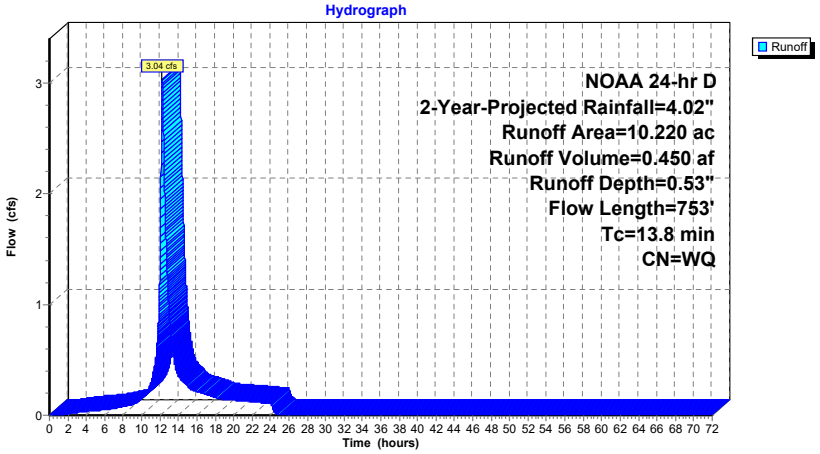
Runoff = 3.04 cfs @ 12.24 hrs, Volume= 0.450 af, Depth= 0.53"
Routed to Link 10L : POA 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Projected Rainfall=4.02"

Area (ac)	CN	Description
1.690	30	Woods, Good, HSG A
0.510	77	Woods, Good, HSG D
6.710	39	>75% Grass cover, Good, HSG A
0.470	80	>75% Grass cover, Good, HSG D
0.530	98	Paved parking, HSG A
0.310	98	Paved parking, HSG D
10.220		Weighted Average
9.380		91.78% Pervious Area
0.840		8.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	72	0.0300	0.13		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
2.7	344	0.0180	2.16		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.0	337	0.0290	2.74		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
13.8	753	Total			

Subcatchment 19S: DA Wetlands

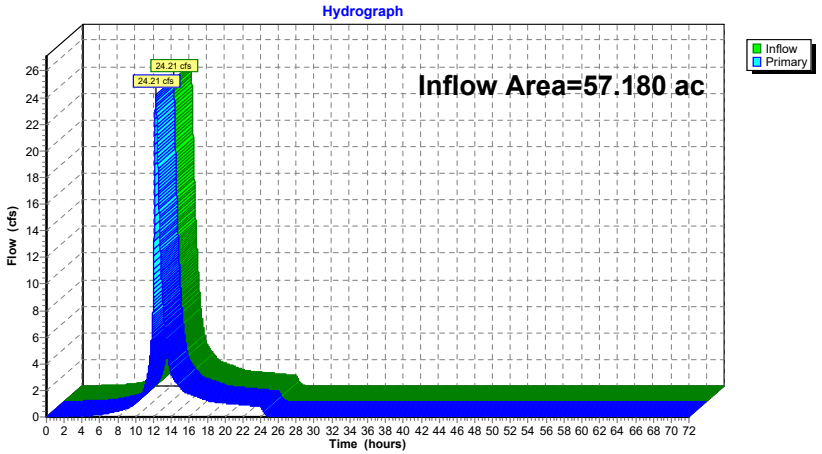


Summary for Link 2L: POA 2

Inflow Area = 57.180 ac, 16.08% Impervious, Inflow Depth = 0.76" for 2-Year-Projected event
Inflow = 24.21 cfs @ 12.28 hrs, Volume= 3.644 af
Primary = 24.21 cfs @ 12.28 hrs, Volume= 3.644 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 2L: POA 2

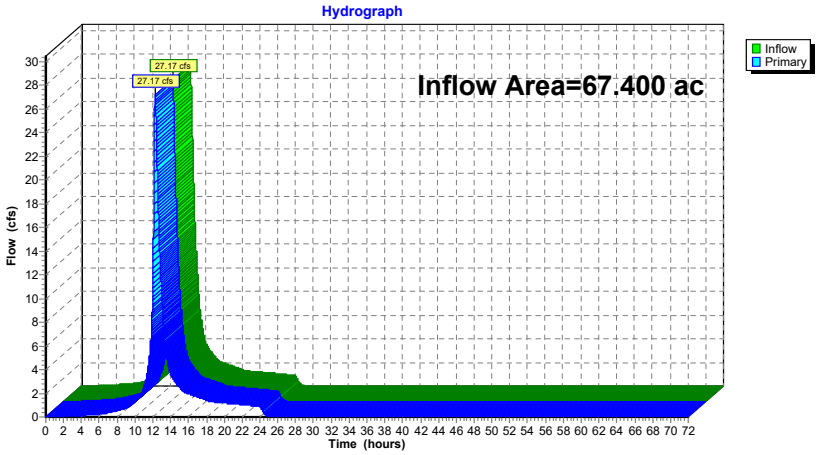


Summary for Link 5L: Total

Inflow Area = 67.400 ac, 14.89% Impervious, Inflow Depth = 0.73" for 2-Year-Projected event
Inflow = 27.17 cfs @ 12.27 hrs, Volume= 4.094 af
Primary = 27.17 cfs @ 12.27 hrs, Volume= 4.094 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 5L: Total

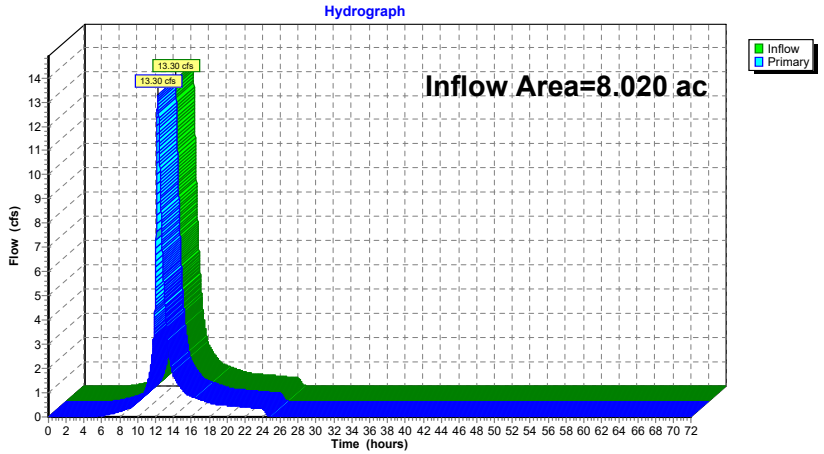


Summary for Link 6L: DA South - Undisturbed

Inflow Area = 8.020 ac, 85.00% Impervious, Inflow Depth = 2.84" for 2-Year-Projected event
Inflow = 13.30 cfs @ 12.27 hrs, Volume= 1.899 af
Primary = 13.30 cfs @ 12.27 hrs, Volume= 1.899 af, Atten= 0%, Lag= 0.0 min
Routed to Link 34L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 6L: DA South - Undisturbed

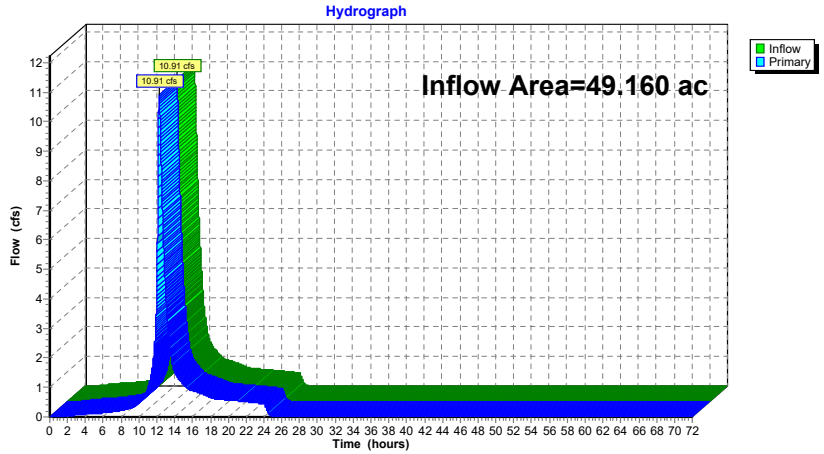


Summary for Link 7L: DA South - Disturbed

Inflow Area = 49.160 ac, 4.84% Impervious, Inflow Depth = 0.43" for 2-Year-Projected event
Inflow = 10.91 cfs @ 12.28 hrs, Volume= 1.745 af
Primary = 10.91 cfs @ 12.28 hrs, Volume= 1.745 af, Atten= 0%, Lag= 0.0 min
Routed to Link 34L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 7L: DA South - Disturbed

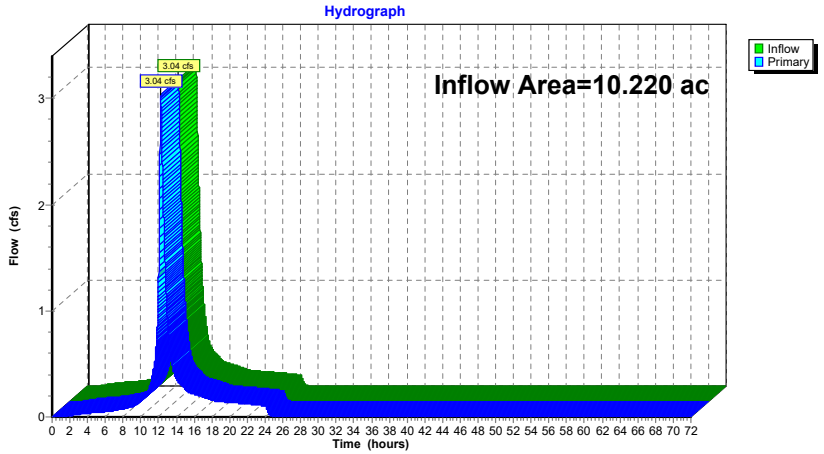


Summary for Link 10L: POA 1

Inflow Area = 10.220 ac, 8.22% Impervious, Inflow Depth = 0.53" for 2-Year-Projected event
Inflow = 3.04 cfs @ 12.24 hrs, Volume= 0.450 af
Primary = 3.04 cfs @ 12.24 hrs, Volume= 0.450 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 10L: POA 1

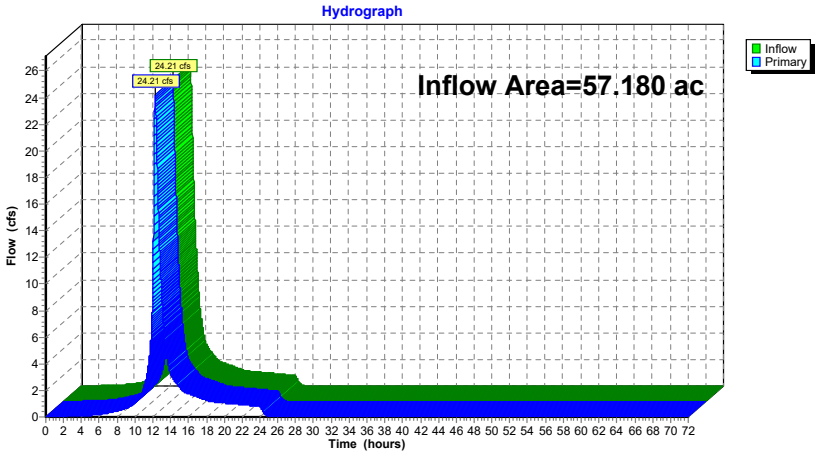


Summary for Link 34L: DA South

Inflow Area = 57.180 ac, 16.08% Impervious, Inflow Depth = 0.76" for 2-Year-Projected event
Inflow = 24.21 cfs @ 12.28 hrs, Volume= 3.644 af
Primary = 24.21 cfs @ 12.28 hrs, Volume= 3.644 af, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : POA 2

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 34L: DA South



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment10S: DA South Runoff Area=49.160 ac 4.84% Impervious Runoff Depth=0.73"
Flow Length=1,105' Tc=16.3 min CN=WQ Runoff=15.80 cfs 3.004 af

Subcatchment14S: DA South - Undist Runoff Area=8.020 ac 85.00% Impervious Runoff Depth=4.04"
Flow Length=1,105' Tc=16.3 min CN=89 Runoff=18.68 cfs 2.700 af

Subcatchment19S: DA Wetlands Runoff Area=10.220 ac 8.22% Impervious Runoff Depth=0.87"
Flow Length=753' Tc=13.8 min CN=WQ Runoff=4.30 cfs 0.745 af

Link 2L: POA 2 Inflow=34.46 cfs 5.705 af
Primary=34.46 cfs 5.705 af

Link 5L: Total Inflow=38.69 cfs 6.450 af
Primary=38.69 cfs 6.450 af

Link 6L: DA South - Undisturbed Inflow=18.68 cfs 2.700 af
Primary=18.68 cfs 2.700 af

Link 7L: DA South - Disturbed Inflow=15.80 cfs 3.004 af
Primary=15.80 cfs 3.004 af

Link 10L: POA 1 Inflow=4.30 cfs 0.745 af
Primary=4.30 cfs 0.745 af

Link 34L: DA South Inflow=34.46 cfs 5.705 af
Primary=34.46 cfs 5.705 af

Total Runoff Area = 67.400 ac Runoff Volume = 6.450 af Average Runoff Depth = 1.15"
85.11% Pervious = 57.363 ac 14.89% Impervious = 10.037 ac

Summary for Subcatchment 10S: DA South

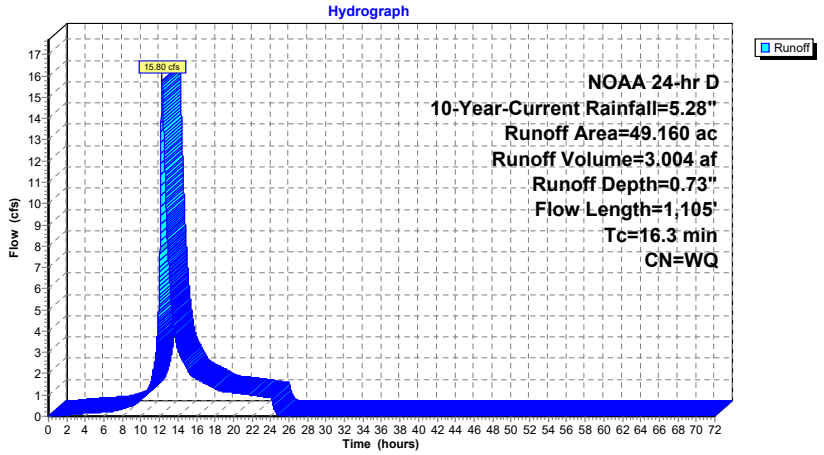
Runoff = 15.80 cfs @ 12.28 hrs, Volume= 3.004 af, Depth= 0.73"
Routed to Link 7L : DA South - Disturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

Area (ac)	CN	Description
11.500	30	Woods, Good, HSG A
0.690	77	Woods, Good, HSG D
30.110	39	>75% Grass cover, Good, HSG A
4.480	80	>75% Grass cover, Good, HSG D
1.310	98	Paved parking, HSG A
0.340	98	Paved parking, HSG D
0.730	98	Water Surface, HSG D
49.160		Weighted Average
46.780		95.16% Pervious Area
2.380		4.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 10S: DA South



Summary for Subcatchment 14S: DA South - Undist

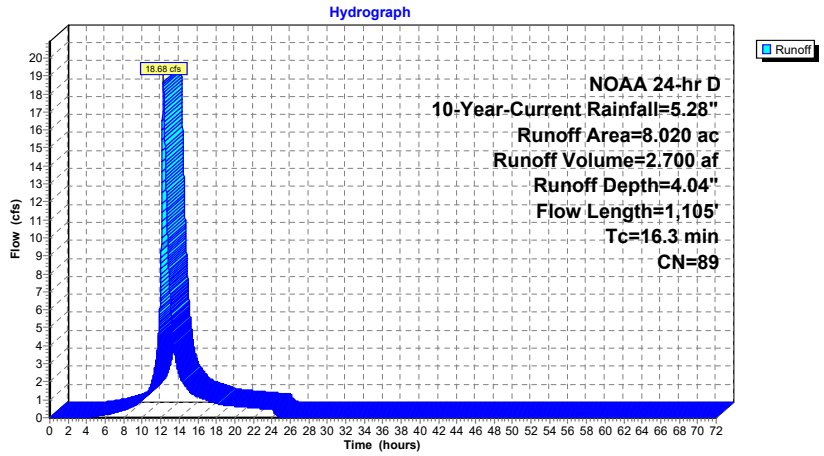
Runoff = 18.68 cfs @ 12.27 hrs, Volume= 2.700 af, Depth= 4.04"
Routed to Link 6L : DA South - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

Area (ac)	CN	Description
8.020	89	Urban commercial, 85% imp, HSG A
1.203		15.00% Pervious Area
6.817		85.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 14S: DA South - Undist



Summary for Subcatchment 19S: DA Wetlands

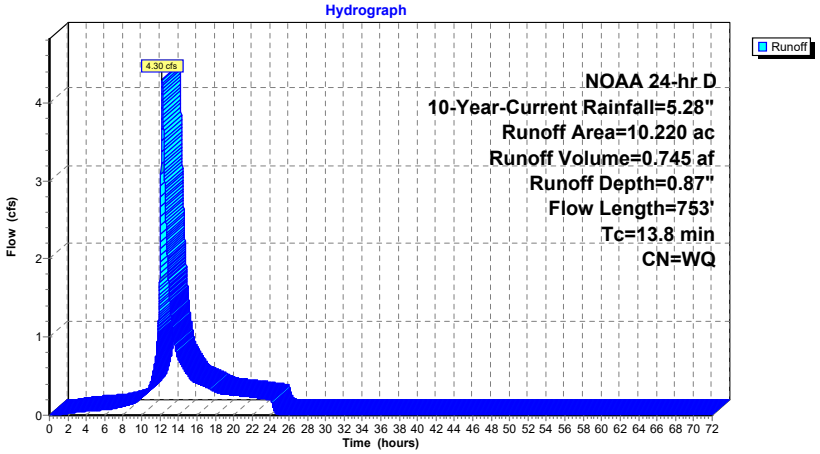
Runoff = 4.30 cfs @ 12.24 hrs, Volume= 0.745 af, Depth= 0.87"
Routed to Link 10L : POA 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

Area (ac)	CN	Description
1.690	30	Woods, Good, HSG A
0.510	77	Woods, Good, HSG D
6.710	39	>75% Grass cover, Good, HSG A
0.470	80	>75% Grass cover, Good, HSG D
0.530	98	Paved parking, HSG A
0.310	98	Paved parking, HSG D
10.220		Weighted Average
9.380		91.78% Pervious Area
0.840		8.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	72	0.0300	0.13		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
2.7	344	0.0180	2.16		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.0	337	0.0290	2.74		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
13.8	753	Total			

Subcatchment 19S: DA Wetlands

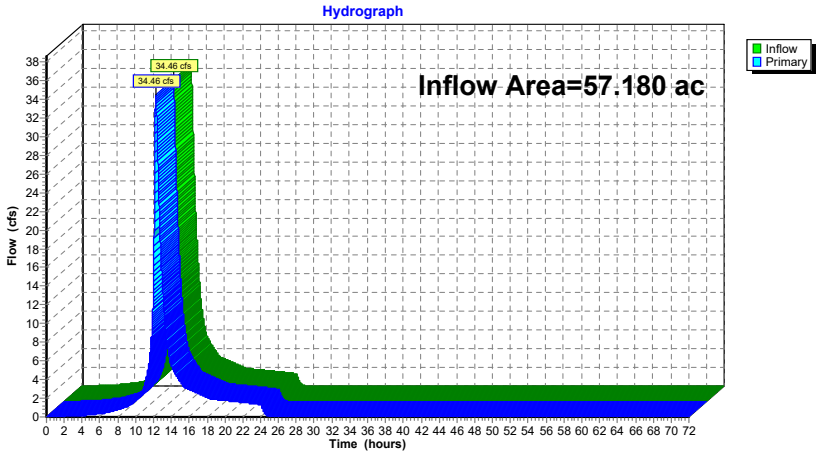


Summary for Link 2L: POA 2

Inflow Area = 57.180 ac, 16.08% Impervious, Inflow Depth = 1.20" for 10-Year-Current event
Inflow = 34.46 cfs @ 12.27 hrs, Volume= 5.705 af
Primary = 34.46 cfs @ 12.27 hrs, Volume= 5.705 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 2L: POA 2

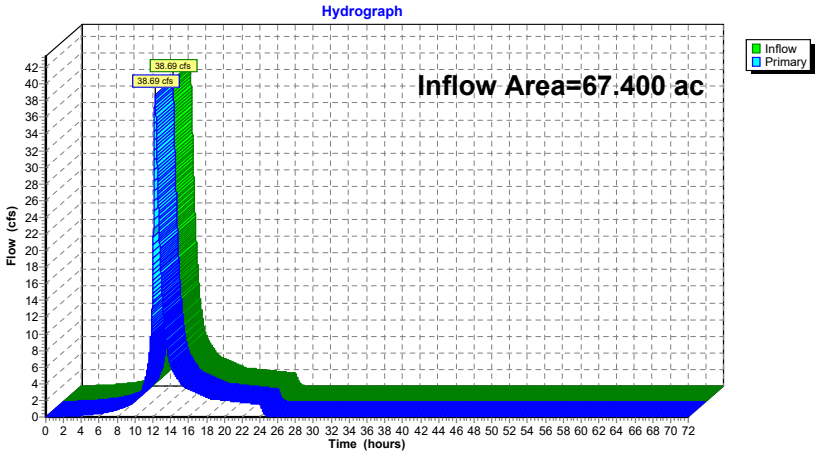


Summary for Link 5L: Total

Inflow Area = 67.400 ac, 14.89% Impervious, Inflow Depth = 1.15" for 10-Year-Current event
Inflow = 38.69 cfs @ 12.27 hrs, Volume= 6.450 af
Primary = 38.69 cfs @ 12.27 hrs, Volume= 6.450 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 5L: Total

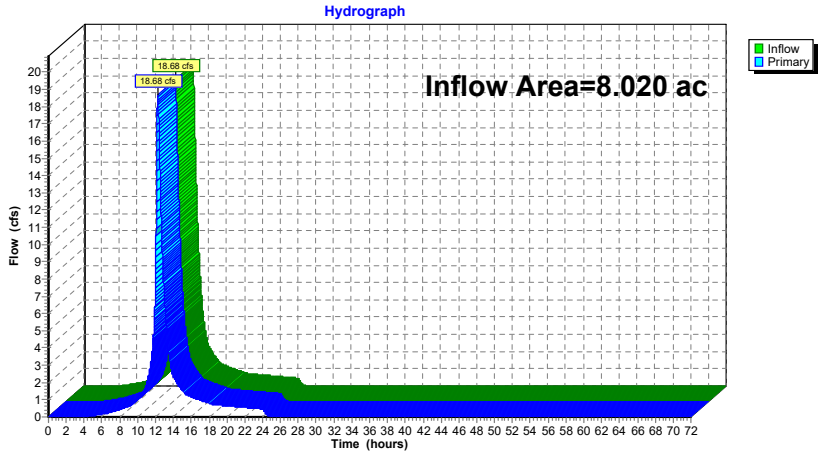


Summary for Link 6L: DA South - Undisturbed

Inflow Area = 8.020 ac, 85.00% Impervious, Inflow Depth = 4.04" for 10-Year-Current event
Inflow = 18.68 cfs @ 12.27 hrs, Volume= 2.700 af
Primary = 18.68 cfs @ 12.27 hrs, Volume= 2.700 af, Atten= 0%, Lag= 0.0 min
Routed to Link 34L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 6L: DA South - Undisturbed

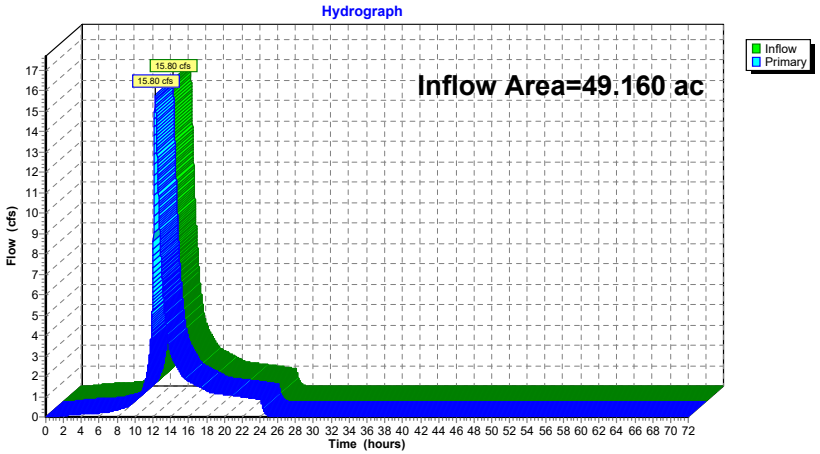


Summary for Link 7L: DA South - Disturbed

Inflow Area = 49.160 ac, 4.84% Impervious, Inflow Depth = 0.73" for 10-Year-Current event
Inflow = 15.80 cfs @ 12.28 hrs, Volume= 3.004 af
Primary = 15.80 cfs @ 12.28 hrs, Volume= 3.004 af, Atten= 0%, Lag= 0.0 min
Routed to Link 34L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 7L: DA South - Disturbed

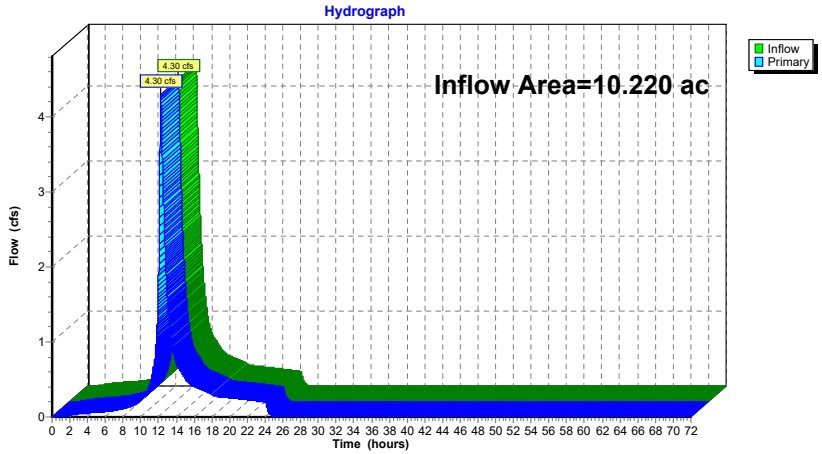


Summary for Link 10L: POA 1

Inflow Area = 10.220 ac, 8.22% Impervious, Inflow Depth = 0.87" for 10-Year-Current event
Inflow = 4.30 cfs @ 12.24 hrs, Volume= 0.745 af
Primary = 4.30 cfs @ 12.24 hrs, Volume= 0.745 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 10L: POA 1

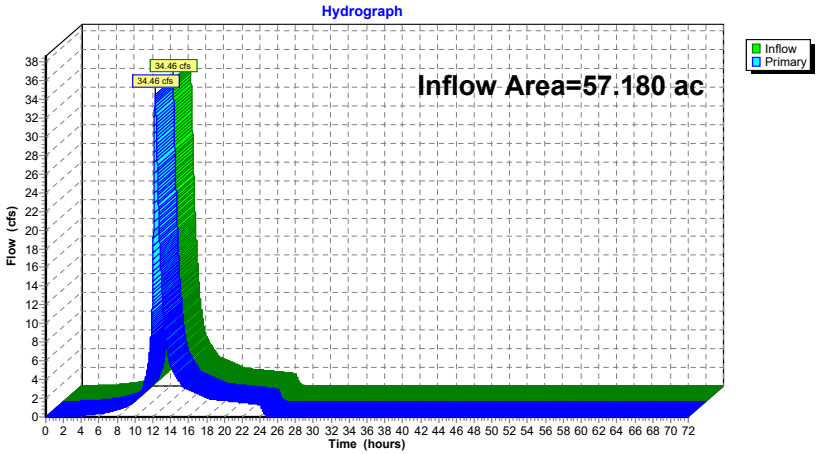


Summary for Link 34L: DA South

Inflow Area = 57.180 ac, 16.08% Impervious, Inflow Depth = 1.20" for 10-Year-Current event
Inflow = 34.46 cfs @ 12.27 hrs, Volume= 5.705 af
Primary = 34.46 cfs @ 12.27 hrs, Volume= 5.705 af, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : POA 2

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 34L: DA South



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment10S: DA South Runoff Area=49.160 ac 4.84% Impervious Runoff Depth=1.04"
Flow Length=1,105' Tc=16.3 min CN=WQ Runoff=21.36 cfs 4.257 af

Subcatchment14S: DA South - Undist Runoff Area=8.020 ac 85.00% Impervious Runoff Depth=4.95"
Flow Length=1,105' Tc=16.3 min CN=89 Runoff=22.68 cfs 3.307 af

Subcatchment19S: DA Wetlands Runoff Area=10.220 ac 8.22% Impervious Runoff Depth=1.21"
Flow Length=753' Tc=13.8 min CN=WQ Runoff=5.68 cfs 1.030 af

Link 2L: POA 2 Inflow=44.02 cfs 7.564 af
Primary=44.02 cfs 7.564 af

Link 5L: Total Inflow=49.65 cfs 8.594 af
Primary=49.65 cfs 8.594 af

Link 6L: DA South - Undisturbed Inflow=22.68 cfs 3.307 af
Primary=22.68 cfs 3.307 af

Link 7L: DA South - Disturbed Inflow=21.36 cfs 4.257 af
Primary=21.36 cfs 4.257 af

Link 10L: POA 1 Inflow=5.68 cfs 1.030 af
Primary=5.68 cfs 1.030 af

Link 34L: DA South Inflow=44.02 cfs 7.564 af
Primary=44.02 cfs 7.564 af

Total Runoff Area = 67.400 ac Runoff Volume = 8.594 af Average Runoff Depth = 1.53"
85.11% Pervious = 57.363 ac 14.89% Impervious = 10.037 ac

Summary for Subcatchment 10S: DA South

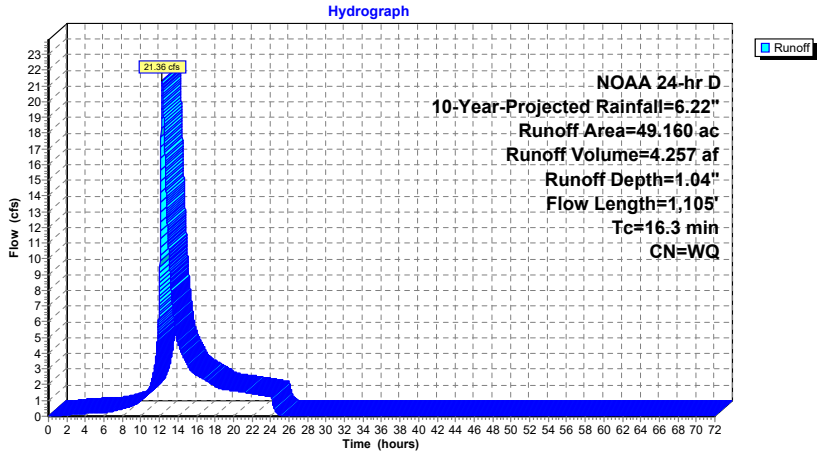
Runoff = 21.36 cfs @ 12.28 hrs, Volume= 4.257 af, Depth= 1.04"
Routed to Link 7L : DA South - Disturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

Area (ac)	CN	Description
11.500	30	Woods, Good, HSG A
0.690	77	Woods, Good, HSG D
30.110	39	>75% Grass cover, Good, HSG A
4.480	80	>75% Grass cover, Good, HSG D
1.310	98	Paved parking, HSG A
0.340	98	Paved parking, HSG D
0.730	98	Water Surface, HSG D
49.160		Weighted Average
46.780		95.16% Pervious Area
2.380		4.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 10S: DA South



Summary for Subcatchment 14S: DA South - Undist

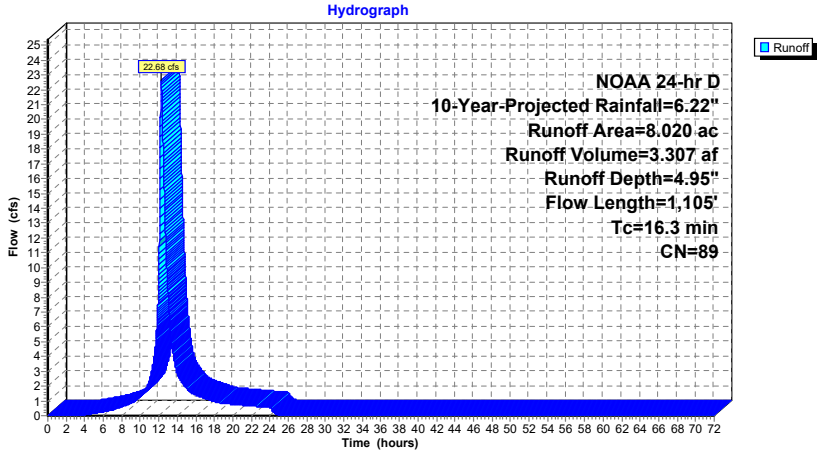
Runoff = 22.68 cfs @ 12.27 hrs, Volume= 3.307 af, Depth= 4.95"
Routed to Link 6L : DA South - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

Area (ac)	CN	Description
8.020	89	Urban commercial, 85% imp, HSG A
1.203		15.00% Pervious Area
6.817		85.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 14S: DA South - Undist



Summary for Subcatchment 19S: DA Wetlands

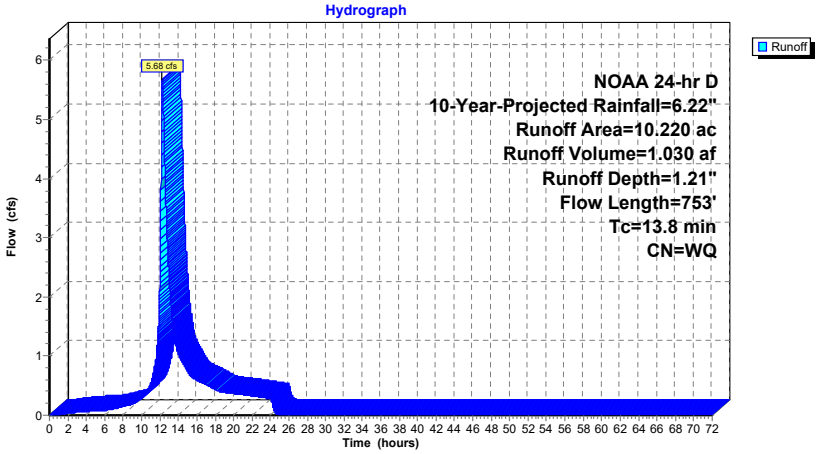
Runoff = 5.68 cfs @ 12.24 hrs, Volume= 1.030 af, Depth= 1.21"
Routed to Link 10L : POA 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Projected Rainfall=6.22"

Area (ac)	CN	Description
1.690	30	Woods, Good, HSG A
0.510	77	Woods, Good, HSG D
6.710	39	>75% Grass cover, Good, HSG A
0.470	80	>75% Grass cover, Good, HSG D
0.530	98	Paved parking, HSG A
0.310	98	Paved parking, HSG D
10.220		Weighted Average
9.380		91.78% Pervious Area
0.840		8.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	72	0.0300	0.13		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
2.7	344	0.0180	2.16		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.0	337	0.0290	2.74		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
13.8	753	Total			

Subcatchment 19S: DA Wetlands

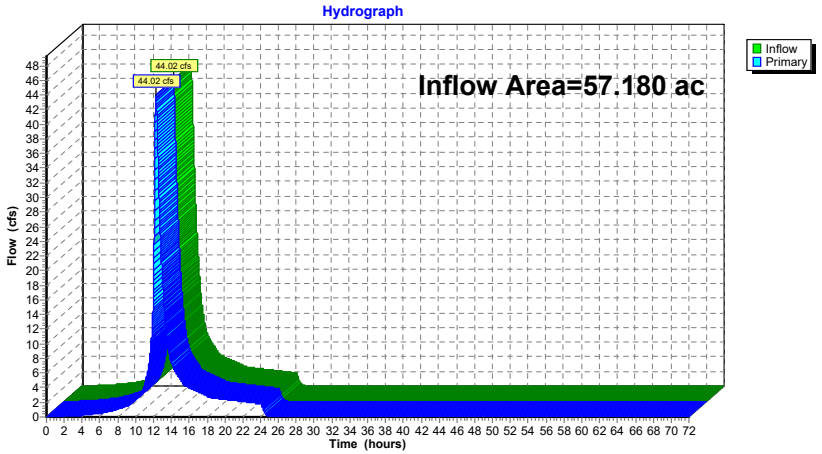


Summary for Link 2L: POA 2

Inflow Area = 57.180 ac, 16.08% Impervious, Inflow Depth = 1.59" for 10-Year-Projected event
Inflow = 44.02 cfs @ 12.28 hrs, Volume= 7.564 af
Primary = 44.02 cfs @ 12.28 hrs, Volume= 7.564 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 2L: POA 2

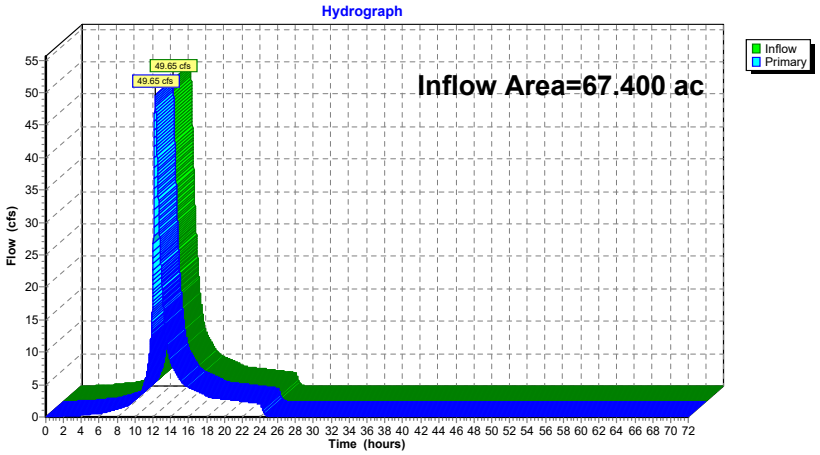


Summary for Link 5L: Total

Inflow Area = 67.400 ac, 14.89% Impervious, Inflow Depth = 1.53" for 10-Year-Projected event
Inflow = 49.65 cfs @ 12.28 hrs, Volume= 8.594 af
Primary = 49.65 cfs @ 12.28 hrs, Volume= 8.594 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 5L: Total

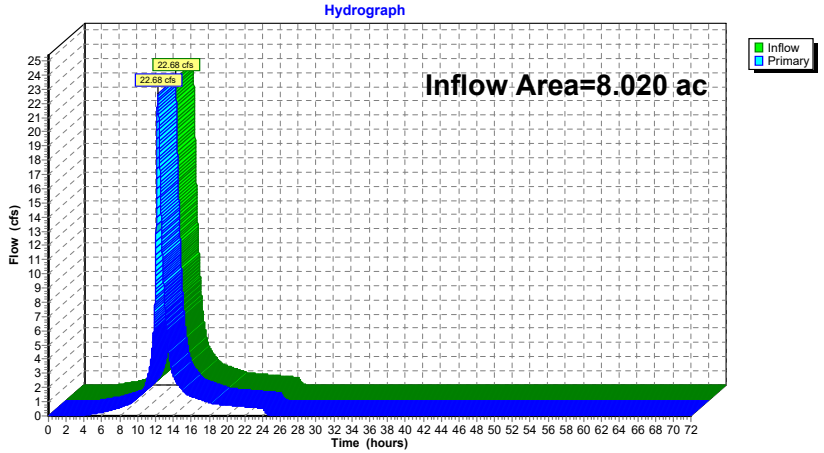


Summary for Link 6L: DA South - Undisturbed

Inflow Area = 8.020 ac, 85.00% Impervious, Inflow Depth = 4.95" for 10-Year-Projected event
Inflow = 22.68 cfs @ 12.27 hrs, Volume= 3.307 af
Primary = 22.68 cfs @ 12.27 hrs, Volume= 3.307 af, Atten= 0%, Lag= 0.0 min
Routed to Link 34L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 6L: DA South - Undisturbed

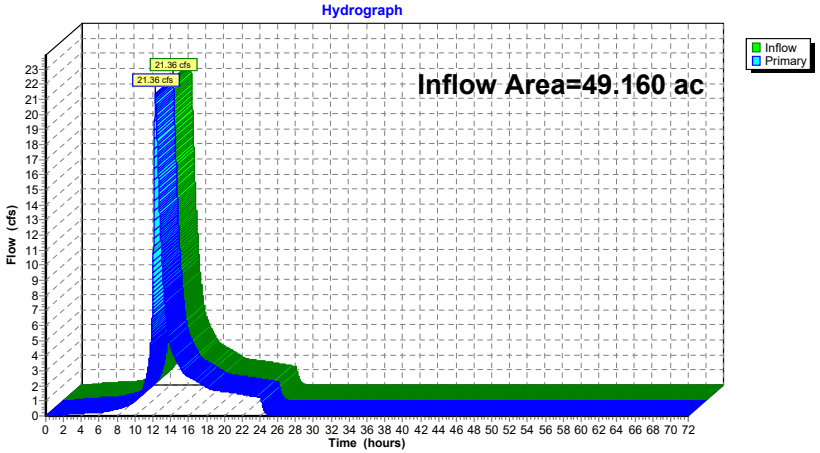


Summary for Link 7L: DA South - Disturbed

Inflow Area = 49.160 ac, 4.84% Impervious, Inflow Depth = 1.04" for 10-Year-Projected event
Inflow = 21.36 cfs @ 12.28 hrs, Volume= 4.257 af
Primary = 21.36 cfs @ 12.28 hrs, Volume= 4.257 af, Atten= 0%, Lag= 0.0 min
Routed to Link 34L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 7L: DA South - Disturbed

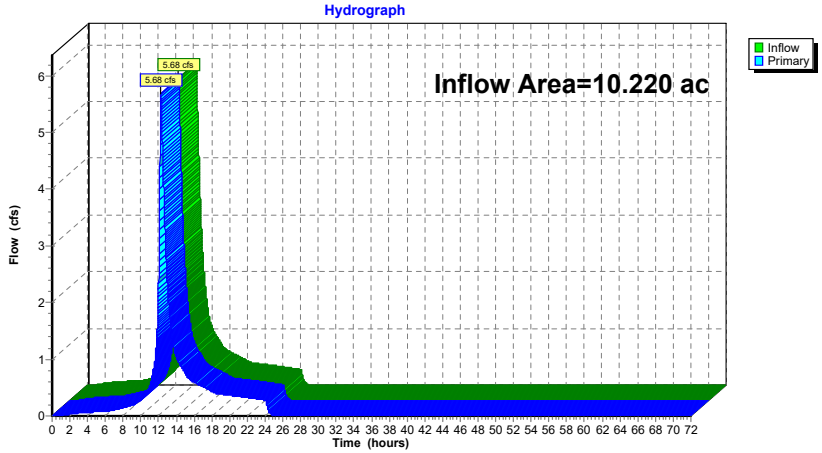


Summary for Link 10L: POA 1

Inflow Area = 10.220 ac, 8.22% Impervious, Inflow Depth = 1.21" for 10-Year-Projected event
Inflow = 5.68 cfs @ 12.24 hrs, Volume= 1.030 af
Primary = 5.68 cfs @ 12.24 hrs, Volume= 1.030 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 10L: POA 1

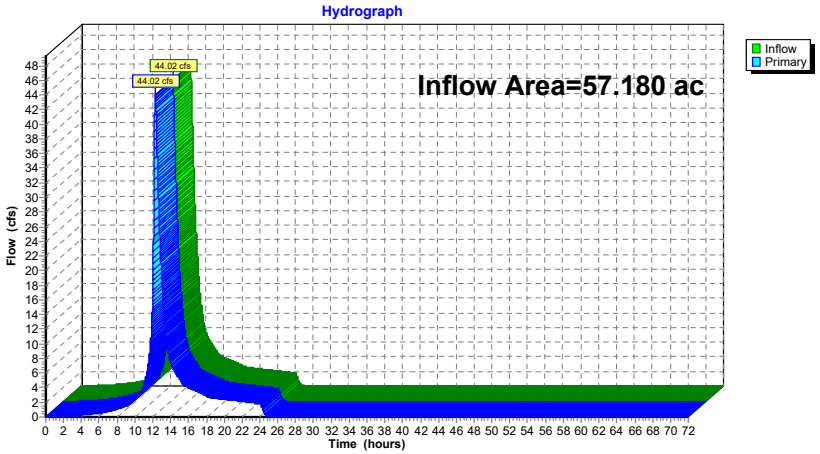


Summary for Link 34L: DA South

Inflow Area = 57.180 ac, 16.08% Impervious, Inflow Depth = 1.59" for 10-Year-Projected event
Inflow = 44.02 cfs @ 12.28 hrs, Volume= 7.564 af
Primary = 44.02 cfs @ 12.28 hrs, Volume= 7.564 af, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : POA 2

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 34L: DA South



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment10S: DA South Runoff Area=49.160 ac 4.84% Impervious Runoff Depth=2.31"
Flow Length=1,105' Tc=16.3 min CN=WQ Runoff=52.36 cfs 9.467 af

Subcatchment14S: DA South - Undist Runoff Area=8.020 ac 85.00% Impervious Runoff Depth=7.79"
Flow Length=1,105' Tc=16.3 min CN=89 Runoff=34.89 cfs 5.205 af

Subcatchment19S: DA Wetlands Runoff Area=10.220 ac 8.22% Impervious Runoff Depth=2.56"
Flow Length=753' Tc=13.8 min CN=WQ Runoff=13.36 cfs 2.180 af

Link 2L: POA 2 Inflow=87.17 cfs 14.672 af
Primary=87.17 cfs 14.672 af

Link 5L: Total Inflow=100.43 cfs 16.852 af
Primary=100.43 cfs 16.852 af

Link 6L: DA South - Undisturbed Inflow=34.89 cfs 5.205 af
Primary=34.89 cfs 5.205 af

Link 7L: DA South - Disturbed Inflow=52.36 cfs 9.467 af
Primary=52.36 cfs 9.467 af

Link 10L: POA 1 Inflow=13.36 cfs 2.180 af
Primary=13.36 cfs 2.180 af

Link 34L: DA South Inflow=87.17 cfs 14.672 af
Primary=87.17 cfs 14.672 af

Total Runoff Area = 67.400 ac Runoff Volume = 16.852 af Average Runoff Depth = 3.00"
85.11% Pervious = 57.363 ac 14.89% Impervious = 10.037 ac

Summary for Subcatchment 10S: DA South

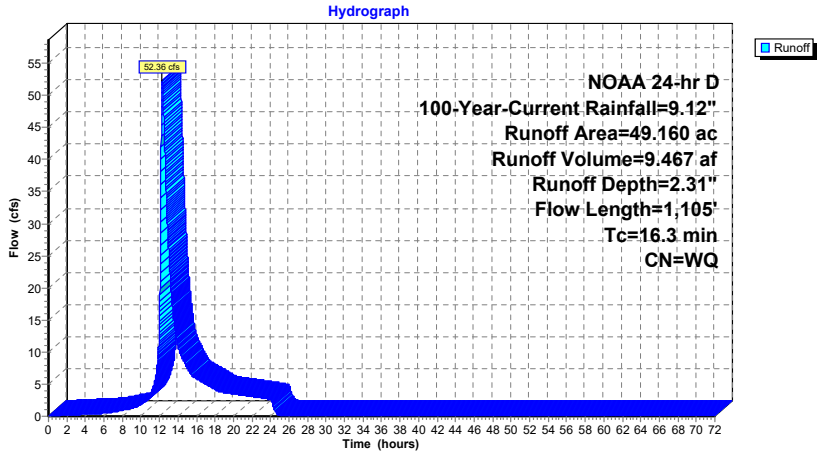
Runoff = 52.36 cfs @ 12.28 hrs, Volume= 9.467 af, Depth= 2.31"
Routed to Link 7L : DA South - Disturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

Area (ac)	CN	Description
11.500	30	Woods, Good, HSG A
0.690	77	Woods, Good, HSG D
30.110	39	>75% Grass cover, Good, HSG A
4.480	80	>75% Grass cover, Good, HSG D
1.310	98	Paved parking, HSG A
0.340	98	Paved parking, HSG D
0.730	98	Water Surface, HSG D
49.160		Weighted Average
46.780		95.16% Pervious Area
2.380		4.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 10S: DA South



Summary for Subcatchment 14S: DA South - Undist

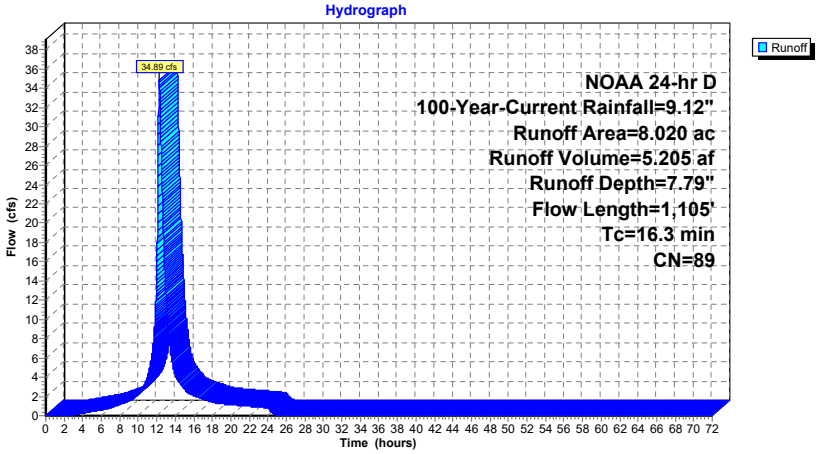
Runoff = 34.89 cfs @ 12.25 hrs, Volume= 5.205 af, Depth= 7.79"
Routed to Link 6L : DA South - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

Area (ac)	CN	Description
8.020	89	Urban commercial, 85% imp, HSG A
1.203		15.00% Pervious Area
6.817		85.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 14S: DA South - Undist



Summary for Subcatchment 19S: DA Wetlands

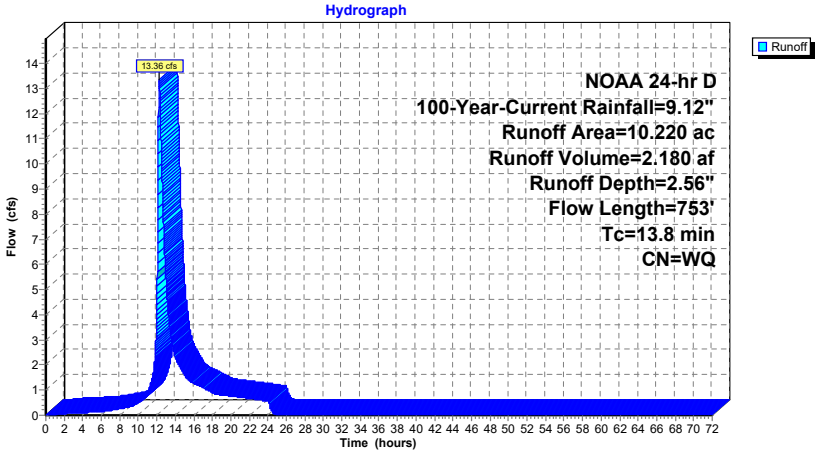
Runoff = 13.36 cfs @ 12.26 hrs, Volume= 2.180 af, Depth= 2.56"
Routed to Link 10L : POA 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Current Rainfall=9.12"

Area (ac)	CN	Description
1.690	30	Woods, Good, HSG A
0.510	77	Woods, Good, HSG D
6.710	39	>75% Grass cover, Good, HSG A
0.470	80	>75% Grass cover, Good, HSG D
0.530	98	Paved parking, HSG A
0.310	98	Paved parking, HSG D
10.220		Weighted Average
9.380		91.78% Pervious Area
0.840		8.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	72	0.0300	0.13		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
2.7	344	0.0180	2.16		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.0	337	0.0290	2.74		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
13.8	753	Total			

Subcatchment 19S: DA Wetlands

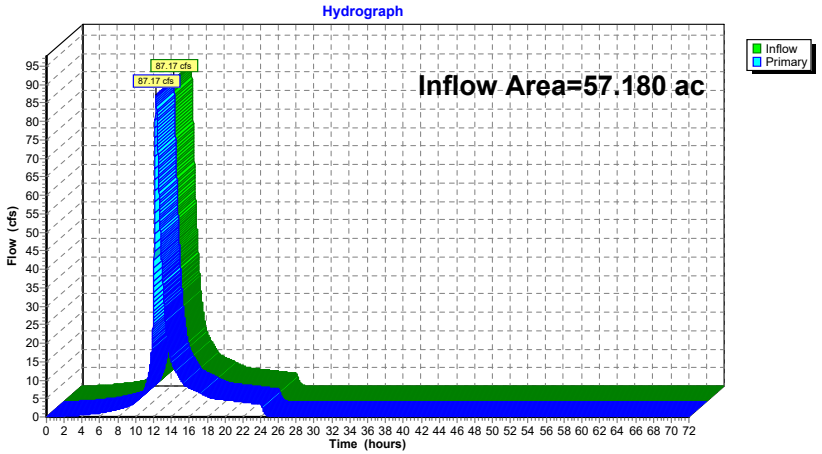


Summary for Link 2L: POA 2

Inflow Area = 57.180 ac, 16.08% Impervious, Inflow Depth = 3.08" for 100-Year-Current event
Inflow = 87.17 cfs @ 12.28 hrs, Volume= 14.672 af
Primary = 87.17 cfs @ 12.28 hrs, Volume= 14.672 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 2L: POA 2

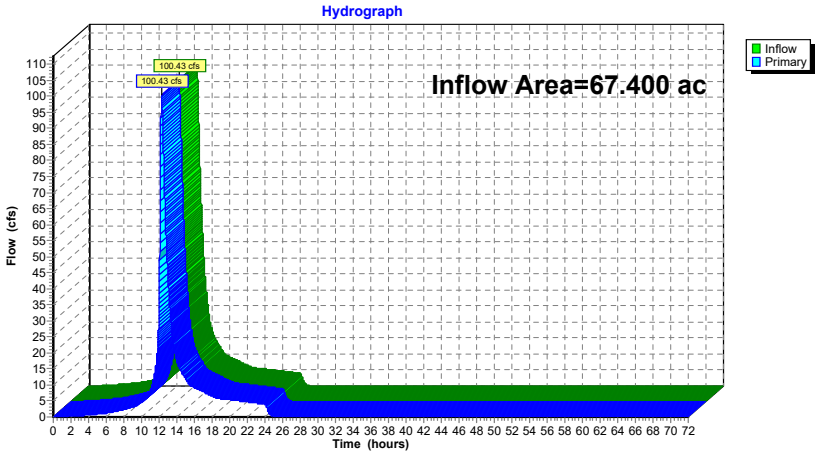


Summary for Link 5L: Total

Inflow Area = 67.400 ac, 14.89% Impervious, Inflow Depth = 3.00" for 100-Year-Current event
Inflow = 100.43 cfs @ 12.28 hrs, Volume= 16.852 af
Primary = 100.43 cfs @ 12.28 hrs, Volume= 16.852 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 5L: Total

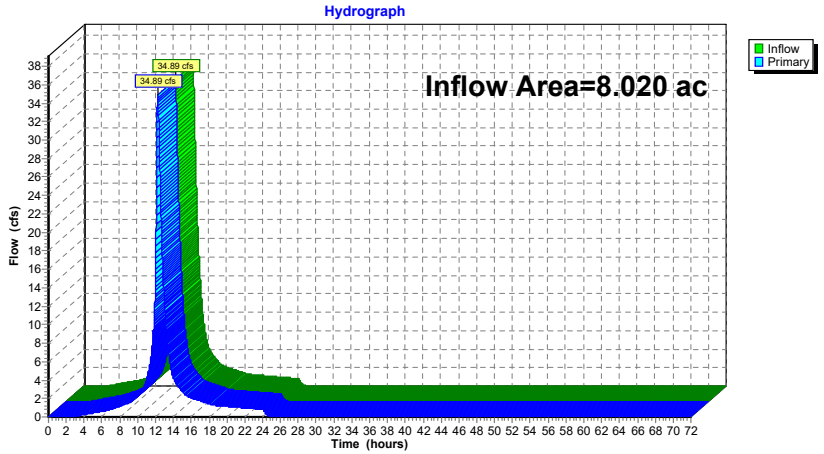


Summary for Link 6L: DA South - Undisturbed

Inflow Area = 8.020 ac, 85.00% Impervious, Inflow Depth = 7.79" for 100-Year-Current event
Inflow = 34.89 cfs @ 12.25 hrs, Volume= 5.205 af
Primary = 34.89 cfs @ 12.25 hrs, Volume= 5.205 af, Atten= 0%, Lag= 0.0 min
Routed to Link 34L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 6L: DA South - Undisturbed

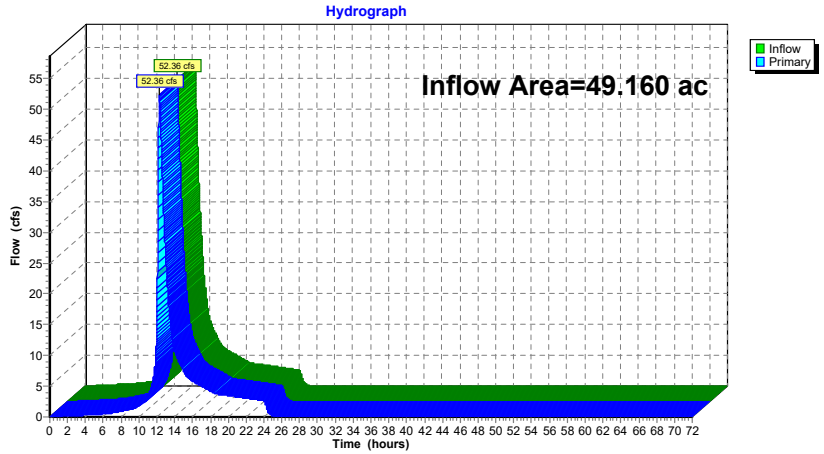


Summary for Link 7L: DA South - Disturbed

Inflow Area = 49.160 ac, 4.84% Impervious, Inflow Depth = 2.31" for 100-Year-Current event
Inflow = 52.36 cfs @ 12.28 hrs, Volume= 9.467 af
Primary = 52.36 cfs @ 12.28 hrs, Volume= 9.467 af, Atten= 0%, Lag= 0.0 min
Routed to Link 34L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 7L: DA South - Disturbed

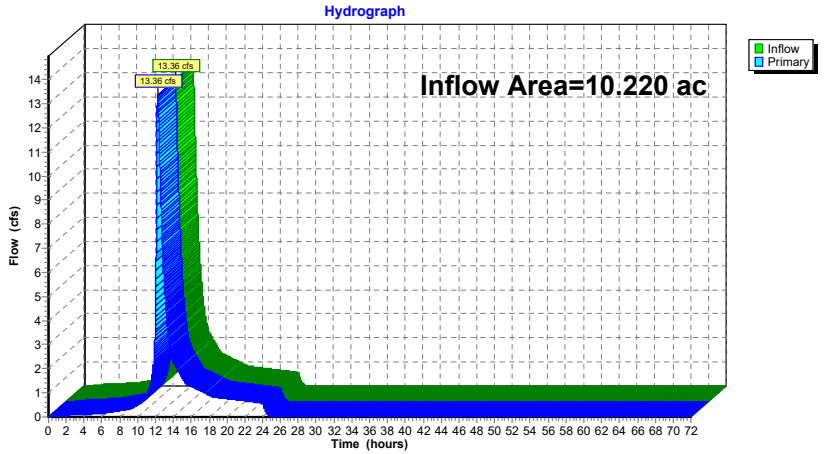


Summary for Link 10L: POA 1

Inflow Area = 10.220 ac, 8.22% Impervious, Inflow Depth = 2.56" for 100-Year-Current event
Inflow = 13.36 cfs @ 12.26 hrs, Volume= 2.180 af
Primary = 13.36 cfs @ 12.26 hrs, Volume= 2.180 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 10L: POA 1

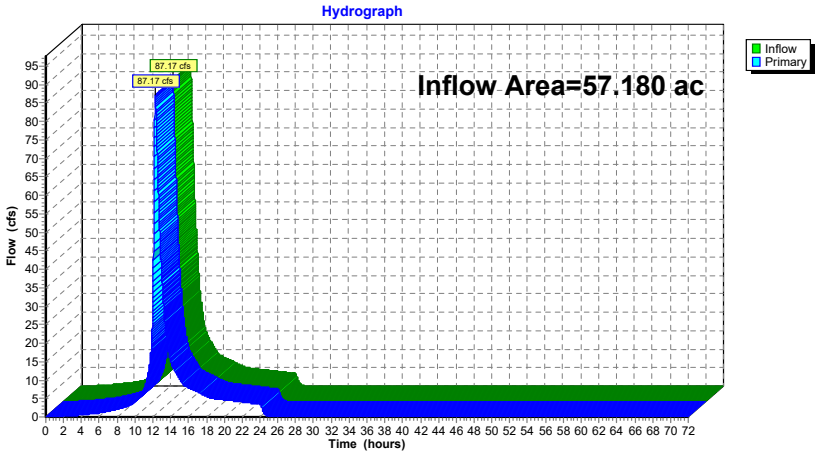


Summary for Link 34L: DA South

Inflow Area = 57.180 ac, 16.08% Impervious, Inflow Depth = 3.08" for 100-Year-Current event
Inflow = 87.17 cfs @ 12.28 hrs, Volume= 14.672 af
Primary = 87.17 cfs @ 12.28 hrs, Volume= 14.672 af, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : POA 2

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 34L: DA South



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment10S: DA South Runoff Area=49.160 ac 4.84% Impervious Runoff Depth=3.49"
Flow Length=1,105' Tc=16.3 min CN=WQ Runoff=85.48 cfs 14.296 af

Subcatchment14S: DA South - Undist Runoff Area=8.020 ac 85.00% Impervious Runoff Depth=9.90"
Flow Length=1,105' Tc=16.3 min CN=89 Runoff=43.83 cfs 6.618 af

Subcatchment19S: DA Wetlands Runoff Area=10.220 ac 8.22% Impervious Runoff Depth=3.79"
Flow Length=753' Tc=13.8 min CN=WQ Runoff=21.23 cfs 3.227 af

Link 2L: POA 2 Inflow=129.21 cfs 20.913 af
Primary=129.21 cfs 20.913 af

Link 5L: Total Inflow=150.23 cfs 24.140 af
Primary=150.23 cfs 24.140 af

Link 6L: DA South - Undisturbed Inflow=43.83 cfs 6.618 af
Primary=43.83 cfs 6.618 af

Link 7L: DA South - Disturbed Inflow=85.48 cfs 14.296 af
Primary=85.48 cfs 14.296 af

Link 10L: POA 1 Inflow=21.23 cfs 3.227 af
Primary=21.23 cfs 3.227 af

Link 34L: DA South Inflow=129.21 cfs 20.913 af
Primary=129.21 cfs 20.913 af

Total Runoff Area = 67.400 ac Runoff Volume = 24.140 af Average Runoff Depth = 4.30"
85.11% Pervious = 57.363 ac 14.89% Impervious = 10.037 ac

Summary for Subcatchment 10S: DA South

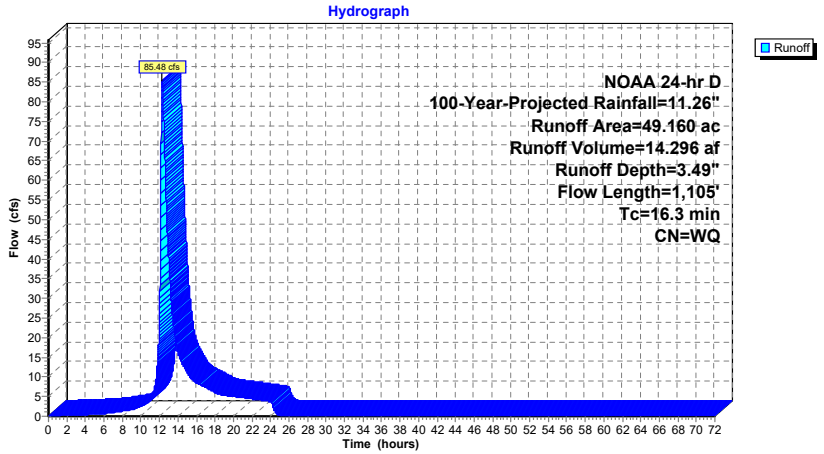
Runoff = 85.48 cfs @ 12.28 hrs, Volume= 14.296 af, Depth= 3.49"
Routed to Link 7L : DA South - Disturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

Area (ac)	CN	Description
11.500	30	Woods, Good, HSG A
0.690	77	Woods, Good, HSG D
30.110	39	>75% Grass cover, Good, HSG A
4.480	80	>75% Grass cover, Good, HSG D
1.310	98	Paved parking, HSG A
0.340	98	Paved parking, HSG D
0.730	98	Water Surface, HSG D
49.160		Weighted Average
46.780		95.16% Pervious Area
2.380		4.84% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 10S: DA South



Summary for Subcatchment 14S: DA South - Undist

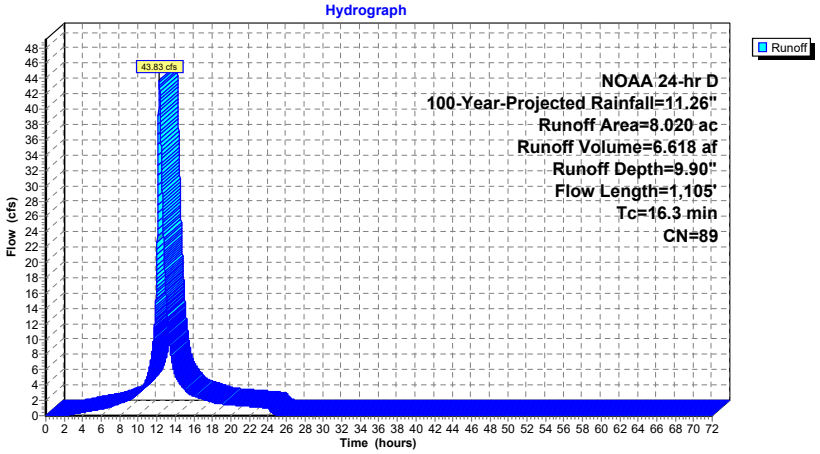
Runoff = 43.83 cfs @ 12.25 hrs, Volume= 6.618 af, Depth= 9.90"
Routed to Link 6L : DA South - Undisturbed

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

Area (ac)	CN	Description
8.020	89	Urban commercial, 85% imp, HSG A
1.203		15.00% Pervious Area
6.817		85.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	25	0.0100	0.05		**Sheet Flow, Sheet Flow - Woods** Woods: Light underbrush n= 0.400 P2= 3.38" Using McCuen-Spiess flow length
7.2	1,080	0.0240	2.49		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
16.3	1,105	Total			

Subcatchment 14S: DA South - Undist



Summary for Subcatchment 19S: DA Wetlands

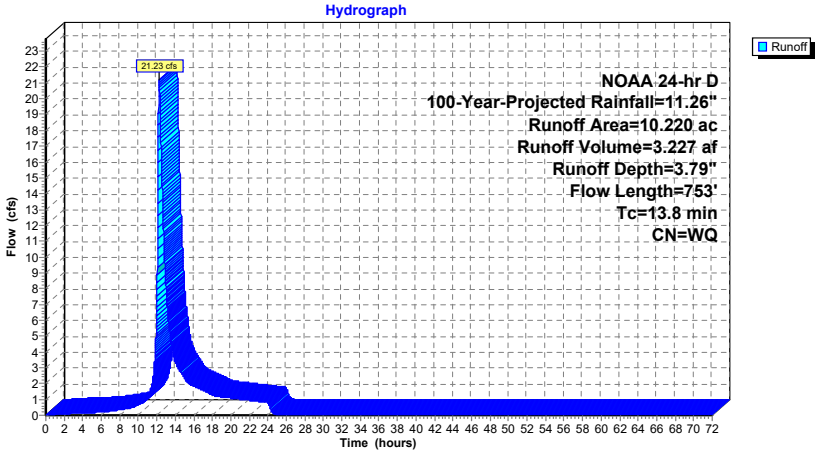
Runoff = 21.23 cfs @ 12.24 hrs, Volume= 3.227 af, Depth= 3.79"
Routed to Link 10L : POA 1

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 100-Year-Projected Rainfall=11.26"

Area (ac)	CN	Description
1.690	30	Woods, Good, HSG A
0.510	77	Woods, Good, HSG D
6.710	39	>75% Grass cover, Good, HSG A
0.470	80	>75% Grass cover, Good, HSG D
0.530	98	Paved parking, HSG A
0.310	98	Paved parking, HSG D
10.220		Weighted Average
9.380		91.78% Pervious Area
0.840		8.22% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	72	0.0300	0.13		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
2.7	344	0.0180	2.16		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.0	337	0.0290	2.74		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
13.8	753	Total			

Subcatchment 19S: DA Wetlands

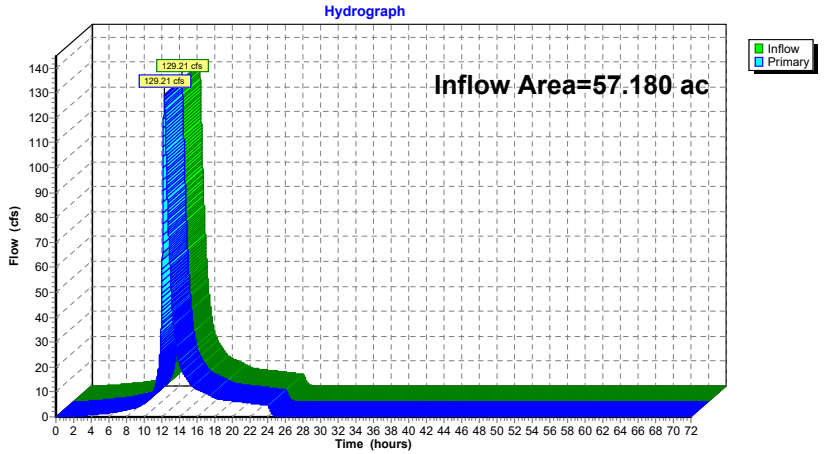


Summary for Link 2L: POA 2

Inflow Area = 57.180 ac, 16.08% Impervious, Inflow Depth = 4.39" for 100-Year-Projected event
Inflow = 129.21 cfs @ 12.28 hrs, Volume= 20.913 af
Primary = 129.21 cfs @ 12.28 hrs, Volume= 20.913 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 2L: POA 2

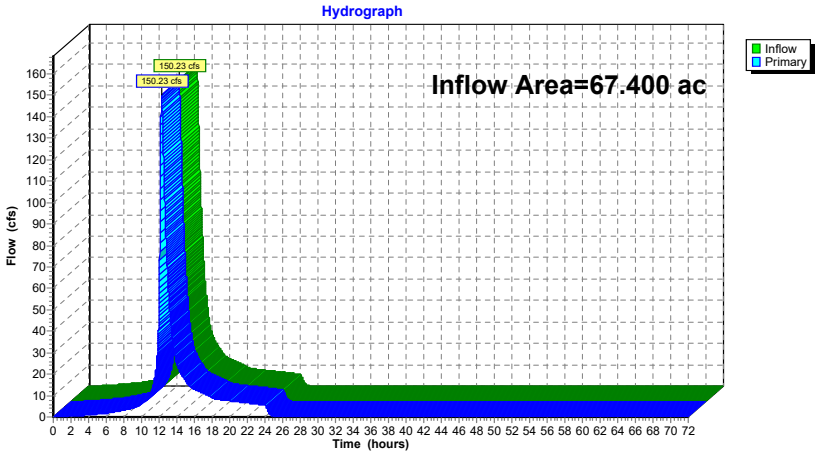


Summary for Link 5L: Total

Inflow Area = 67.400 ac, 14.89% Impervious, Inflow Depth = 4.30" for 100-Year-Projected event
Inflow = 150.23 cfs @ 12.28 hrs, Volume= 24.140 af
Primary = 150.23 cfs @ 12.28 hrs, Volume= 24.140 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 5L: Total

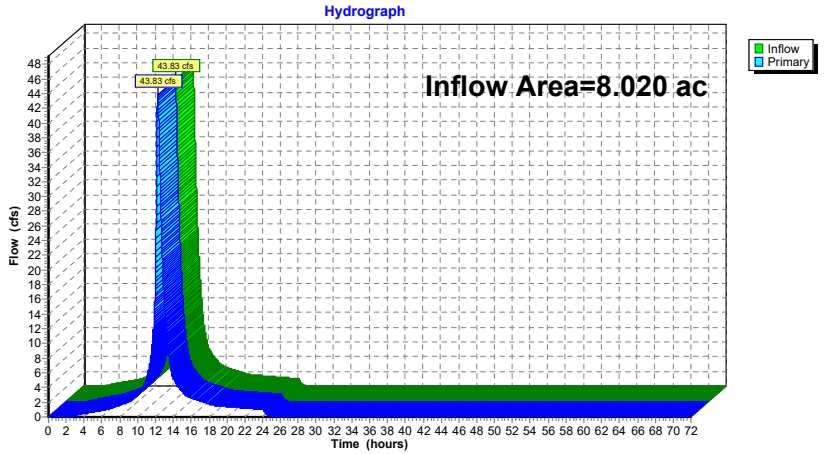


Summary for Link 6L: DA South - Undisturbed

Inflow Area = 8.020 ac, 85.00% Impervious, Inflow Depth = 9.90" for 100-Year-Projected event
Inflow = 43.83 cfs @ 12.25 hrs, Volume= 6.618 af
Primary = 43.83 cfs @ 12.25 hrs, Volume= 6.618 af, Atten= 0%, Lag= 0.0 min
Routed to Link 34L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 6L: DA South - Undisturbed

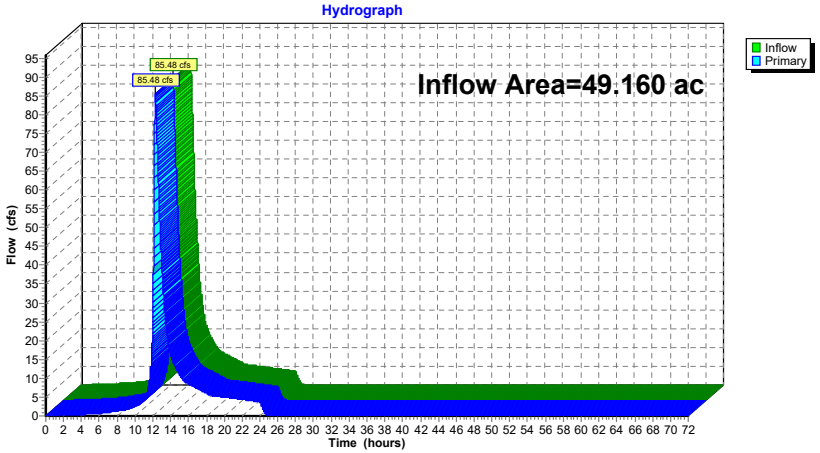


Summary for Link 7L: DA South - Disturbed

Inflow Area = 49.160 ac, 4.84% Impervious, Inflow Depth = 3.49" for 100-Year-Projected event
Inflow = 85.48 cfs @ 12.28 hrs, Volume= 14.296 af
Primary = 85.48 cfs @ 12.28 hrs, Volume= 14.296 af, Atten= 0%, Lag= 0.0 min
Routed to Link 34L : DA South

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 7L: DA South - Disturbed

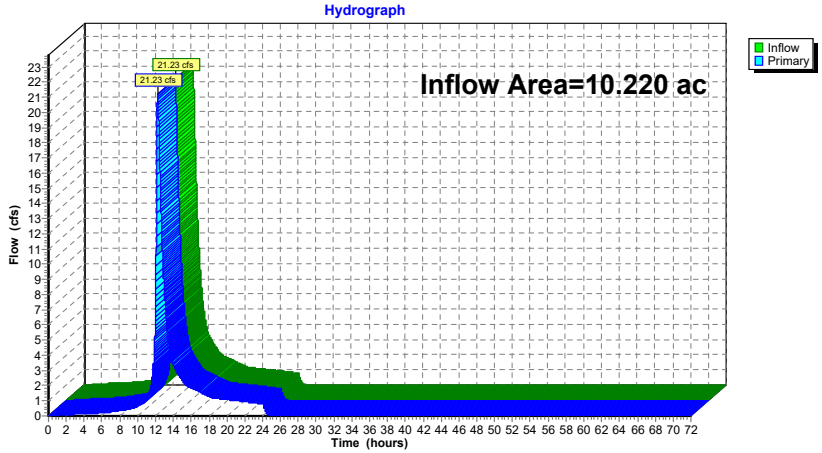


Summary for Link 10L: POA 1

Inflow Area = 10.220 ac, 8.22% Impervious, Inflow Depth = 3.79" for 100-Year-Projected event
Inflow = 21.23 cfs @ 12.24 hrs, Volume= 3.227 af
Primary = 21.23 cfs @ 12.24 hrs, Volume= 3.227 af, Atten= 0%, Lag= 0.0 min
Routed to Link 5L : Total

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 10L: POA 1



Summary for Link 34L: DA South

Inflow Area = 57.180 ac, 16.08% Impervious, Inflow Depth = 4.39" for 100-Year-Projected event
Inflow = 129.21 cfs @ 12.28 hrs, Volume= 20.913 af
Primary = 129.21 cfs @ 12.28 hrs, Volume= 20.913 af, Atten= 0%, Lag= 0.0 min
Routed to Link 2L : POA 2

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 34L: DA South

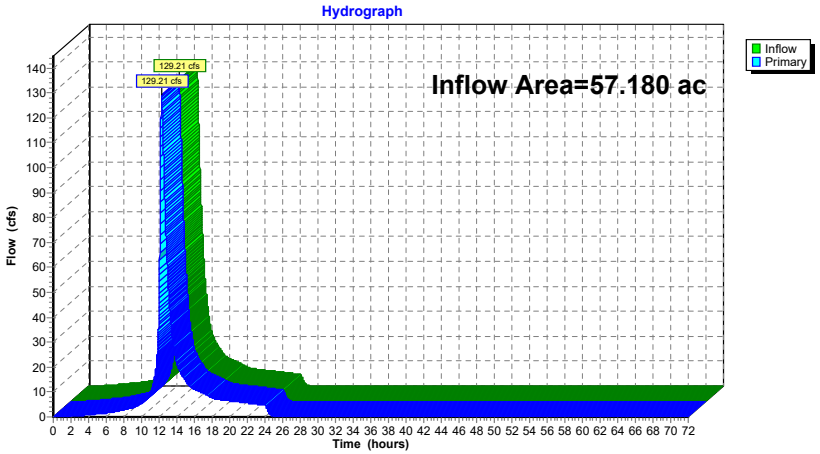


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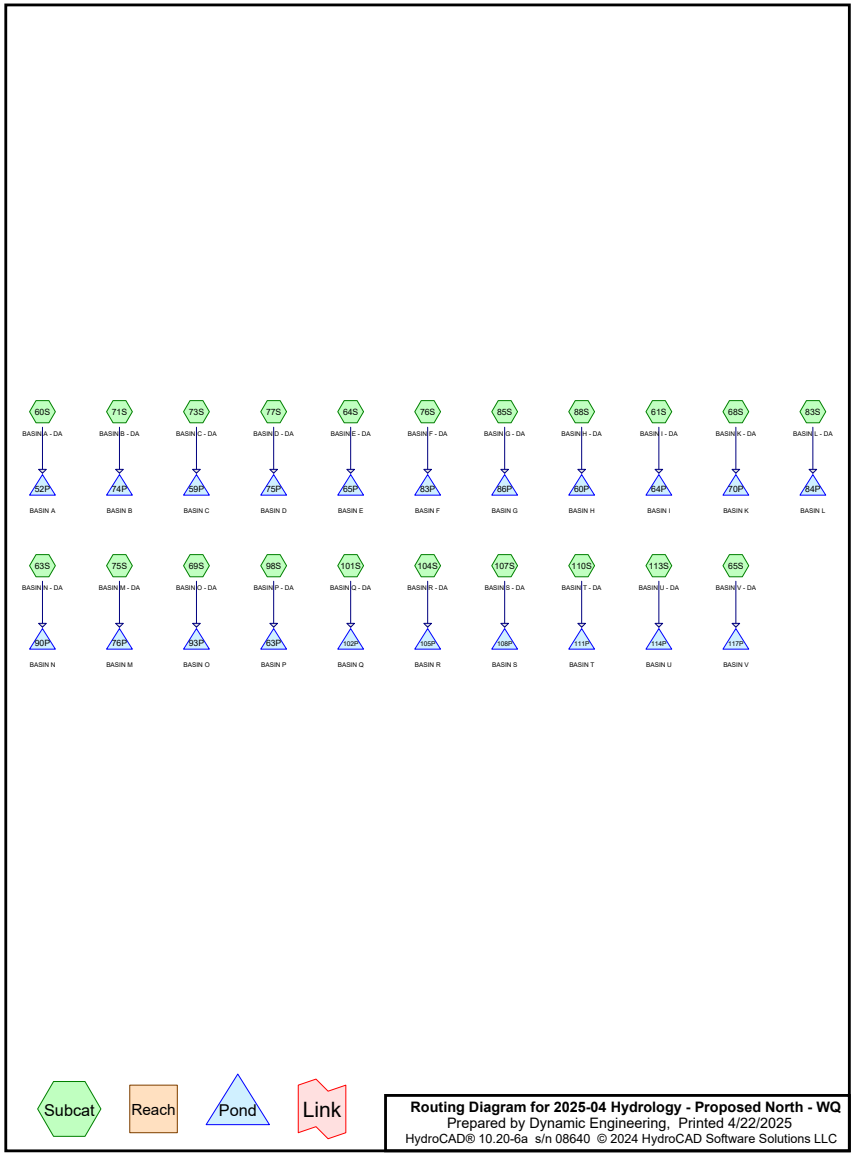
45 Subcat 14S: DA South - Undist
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51 Link 7L: DA South - Disturbed
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87 Link 7L: DA South - Disturbed
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HYDROGRAPH SUMMARY REPORTS – WATER QUALITY STORM



Project Notes

Rainfall events imported from "NJ-Rain.txt" for 6612 NJ Monmouth-D

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	WQ	NJ DEP 2-hr		Default	2.00	1	1.25	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.810	61	>75% Grass cover, Good, HSG B (104S)
0.210	80	>75% Grass cover, Good, HSG D (104S)
2.900	98	Driveway & Apron (60S, 63S, 64S, 69S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 104S, 107S)
15.770	61	Open Space (60S, 61S, 63S, 64S, 65S, 68S, 69S, 71S, 73S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 107S, 110S, 113S)
0.230	80	Open Space, HSG D (63S, 69S)
5.410	98	Road (60S, 63S, 64S, 69S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 104S, 107S, 110S, 113S)
5.240	98	Roof (60S, 61S, 63S, 64S, 65S, 68S, 69S, 71S, 73S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 104S, 107S)
1.370	98	Sidewalk (60S, 63S, 64S, 68S, 69S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 104S, 107S, 110S, 113S)
31.940	**79**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.810	HSG B	104S
0.000	HSG C	
0.440	HSG D	63S, 69S, 104S
30.690	Other	60S, 61S, 63S, 64S, 65S, 68S, 69S, 71S, 73S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 104S, 107S, 110S, 113S
31.940		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.810	0.000	0.210	0.000	1.020	>75% Grass cover, Good	104S
0.000	0.000	0.000	0.000	2.900	2.900	Driveway & Apron	60S, 63S, 64S, 69S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 104S, 107S
0.000	0.000	0.000	0.230	15.770	16.000	Open Space	60S, 61S, 63S, 64S, 65S, 68S, 69S, 71S, 73S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 107S, 110S, 113S
0.000	0.000	0.000	0.000	5.410	5.410	Road	60S, 63S, 64S, 69S, 75S, 76S, 77S, 83S, 85S, 88S, 98S,

Ground Covers (all nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.000	5.240	5.240	Roof	60S, 61S, 63S, 64S, 65S, 68S, 69S, 71S, 73S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 104S, 107S
0.000	0.000	0.000	0.000	1.370	1.370	Sidewalk	60S, 63S, 64S, 68S, 69S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 104S, 107S, 110S, 113S
0.000	**0.810**	**0.000**	**0.440**	**30.690**	**31.940**	**TOTAL AREA**	

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Dyn-Stor-Ind method - Pond routing by Dyn-Stor-Ind method

Subcatchment60S: BASIN A - DA Runoff Area=2.470 ac 53.85% Impervious Runoff Depth=0.56"
Flow Length=102' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=2.57 cfs 0.115 af

Subcatchment61S: BASIN I - DA Runoff Area=0.530 ac 33.96% Impervious Runoff Depth=0.35"
Flow Length=134' Slope=0.0200 '/' Tc=9.6 min CN=WQ Runoff=0.34 cfs 0.016 af

Subcatchment63S: BASIN N - DA Runoff Area=1.390 ac 46.04% Impervious Runoff Depth=0.49"
Flow Length=108' Tc=9.3 min CN=WQ Runoff=1.26 cfs 0.056 af

Subcatchment64S: BASIN E - DA Runoff Area=2.240 ac 50.89% Impervious Runoff Depth=0.53"
Flow Length=609' Tc=8.1 min CN=WQ Runoff=2.37 cfs 0.098 af

Subcatchment65S: BASIN V - DA Runoff Area=0.850 ac 14.12% Impervious Runoff Depth=0.15"
Flow Length=100' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=0.23 cfs 0.010 af

Subcatchment68S: BASIN K - DA Runoff Area=1.640 ac 37.80% Impervious Runoff Depth=0.39"
Flow Length=136' Slope=0.0200 '/' Tc=9.7 min CN=WQ Runoff=1.18 cfs 0.053 af

Subcatchment69S: BASIN O - DA Runoff Area=1.100 ac 51.82% Impervious Runoff Depth=0.56"
Flow Length=113' Tc=9.4 min CN=WQ Runoff=1.14 cfs 0.051 af

Subcatchment71S: BASIN B - DA Runoff Area=1.260 ac 38.10% Impervious Runoff Depth=0.39"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=0.93 cfs 0.041 af

Subcatchment73S: BASIN C - DA Runoff Area=0.990 ac 42.42% Impervious Runoff Depth=0.44"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=0.81 cfs 0.036 af

Subcatchment75S: BASIN M - DA Runoff Area=0.860 ac 59.30% Impervious Runoff Depth=0.61"
Flow Length=225' Slope=0.0200 '/' Tc=9.3 min CN=WQ Runoff=0.99 cfs 0.044 af

Subcatchment76S: BASIN F - DA Runoff Area=1.500 ac 56.00% Impervious Runoff Depth=0.58"
Flow Length=447' Tc=8.7 min CN=WQ Runoff=1.69 cfs 0.072 af

Subcatchment77S: BASIN D - DA Runoff Area=2.670 ac 51.31% Impervious Runoff Depth=0.53"
Flow Length=795' Tc=9.0 min CN=WQ Runoff=2.71 cfs 0.118 af

Subcatchment83S: BASIN L - DA Runoff Area=0.970 ac 50.52% Impervious Runoff Depth=0.52"
Flow Length=96' Tc=9.2 min CN=WQ Runoff=0.96 cfs 0.042 af

Subcatchment85S: BASIN G - DA Runoff Area=1.260 ac 37.30% Impervious Runoff Depth=0.39"
Flow Length=102' Tc=9.3 min CN=WQ Runoff=0.91 cfs 0.041 af

Subcatchment88S: BASIN H - DA Runoff Area=1.950 ac 43.08% Impervious Runoff Depth=0.45"
Flow Length=111' Slope=0.0200 '/' Tc=9.5 min CN=WQ Runoff=1.61 cfs 0.072 af

Subcatchment98S: BASIN P - DA Runoff Area=2.760 ac 47.10% Impervious Runoff Depth=0.49"
Flow Length=214' Slope=0.0200 '/' Tc=10.2 min CN=WQ Runoff=2.40 cfs 0.112 af

Subcatchment101S: BASIN Q - DA Runoff Area=1.860 ac 59.68% Impervious Runoff Depth=0.62"
Flow Length=612' Tc=12.0 min CN=WQ Runoff=1.88 cfs 0.096 af

Subcatchment104S: BASIN R - DA Runoff Area=2.040 ac 50.00% Impervious Runoff Depth=0.54"
Flow Length=98' Tc=9.4 min CN=WQ Runoff=2.02 cfs 0.091 af

Subcatchment107S: BASIN S - DA Runoff Area=1.800 ac 48.89% Impervious Runoff Depth=0.51"
Flow Length=466' Tc=12.2 min CN=WQ Runoff=1.48 cfs 0.076 af

Subcatchment110S: BASIN T - DA Runoff Area=0.730 ac 26.03% Impervious Runoff Depth=0.27"
Flow Length=254' Slope=0.0100 '/' Tc=2.8 min CN=WQ Runoff=0.56 cfs 0.016 af

Subcatchment113S: BASIN U - DA Runoff Area=1.070 ac 37.38% Impervious Runoff Depth=0.39"
Flow Length=28' Slope=0.0350 '/' Tc=4.0 min CN=WQ Runoff=1.09 cfs 0.034 af

Pond 52P: BASIN A Peak Elev=32.55' Storage=0.115 af Inflow=2.57 cfs 0.115 af
Outflow=0.00 cfs 0.000 af

Pond 59P: BASIN C Peak Elev=29.36' Storage=0.036 af Inflow=0.81 cfs 0.036 af
Outflow=0.00 cfs 0.000 af

Pond 60P: BASIN H Peak Elev=28.83' Storage=0.072 af Inflow=1.61 cfs 0.072 af
Outflow=0.00 cfs 0.000 af

Pond 63P: BASIN P Peak Elev=27.05' Storage=0.112 af Inflow=2.40 cfs 0.112 af
Outflow=0.00 cfs 0.000 af

Pond 64P: BASIN I Peak Elev=29.12' Storage=0.016 af Inflow=0.34 cfs 0.016 af
Outflow=0.00 cfs 0.000 af

Pond 65P: BASIN E Peak Elev=27.43' Storage=0.098 af Inflow=2.37 cfs 0.098 af
Primary=0.00 cfs 0.000 af Secondary=0.00 cfs 0.000 af Outflow=0.00 cfs 0.000 af

Pond 70P: BASIN K Peak Elev=30.92' Storage=0.053 af Inflow=1.18 cfs 0.053 af
Outflow=0.00 cfs 0.000 af

Pond 74P: BASIN B Peak Elev=30.69' Storage=0.041 af Inflow=0.93 cfs 0.041 af
Outflow=0.00 cfs 0.000 af

Pond 75P: BASIN D Peak Elev=27.08' Storage=0.118 af Inflow=2.71 cfs 0.118 af
Outflow=0.00 cfs 0.000 af

Pond 76P: BASIN M Peak Elev=32.23' Storage=0.044 af Inflow=0.99 cfs 0.044 af
Outflow=0.00 cfs 0.000 af

Pond 83P: BASIN F Peak Elev=32.39' Storage=0.072 af Inflow=1.69 cfs 0.072 af
Outflow=0.00 cfs 0.000 af

Pond 84P: BASIN L Peak Elev=33.04' Storage=0.042 af Inflow=0.96 cfs 0.042 af
Outflow=0.00 cfs 0.000 af

Pond 86P: BASIN G Peak Elev=31.66' Storage=0.041 af Inflow=0.91 cfs 0.041 af
Outflow=0.00 cfs 0.000 af

Pond 90P: BASIN N Peak Elev=29.40' Storage=0.056 af Inflow=1.26 cfs 0.056 af
Outflow=0.00 cfs 0.000 af

Pond 93P: BASIN O Peak Elev=27.38' Storage=0.051 af Inflow=1.14 cfs 0.051 af
Outflow=0.00 cfs 0.000 af

Pond 102P: BASIN Q Peak Elev=26.95' Storage=0.096 af Inflow=1.88 cfs 0.096 af
Outflow=0.00 cfs 0.000 af

Pond 105P: BASIN R Peak Elev=23.15' Storage=0.091 af Inflow=2.02 cfs 0.091 af
Outflow=0.00 cfs 0.000 af

Pond 108P: BASIN S Peak Elev=19.18' Storage=0.076 af Inflow=1.48 cfs 0.076 af
Outflow=0.00 cfs 0.000 af

Pond 111P: BASIN T Peak Elev=18.60' Storage=0.016 af Inflow=0.56 cfs 0.016 af
Outflow=0.00 cfs 0.000 af

Pond 114P: BASIN U Peak Elev=19.69' Storage=0.034 af Inflow=1.09 cfs 0.034 af
Outflow=0.00 cfs 0.000 af

Pond 117P: BASIN V Peak Elev=37.11' Storage=0.010 af Inflow=0.23 cfs 0.010 af
Outflow=0.00 cfs 0.000 af

Total Runoff Area = 31.940 ac Runoff Volume = 1.293 af Average Runoff Depth = 0.49"
53.29% Pervious = 17.020 ac 46.71% Impervious = 14.920 ac

Summary for Subcatchment 60S: BASIN A - DA

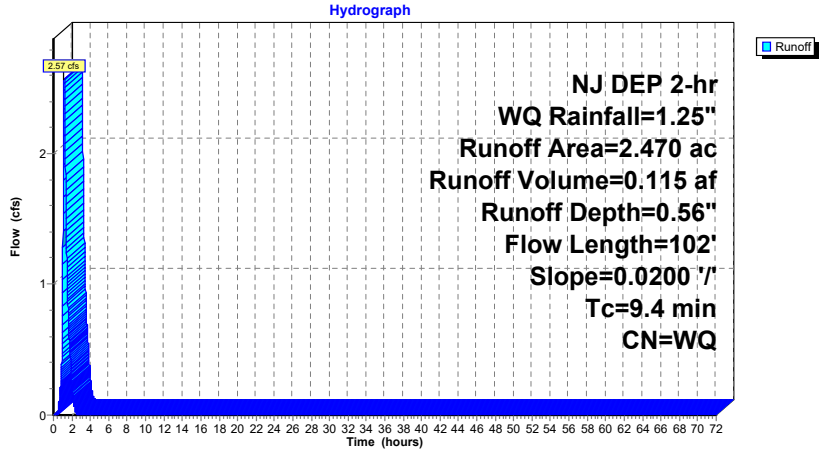
Runoff = 2.57 cfs @ 1.16 hrs, Volume= 0.115 af, Depth= 0.56"
Routed to Pond 52P : BASIN A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

	Area (ac)	CN	Description
*	1.140	61	Open Space
*	0.600	98	Road
*	0.130	98	Sidewalk
*	0.300	98	Roof
*	0.300	98	Driveway & Apron
	2.470		Weighted Average
	1.140		46.15% Pervious Area
	1.330		53.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	43	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	102	Total			

Subcatchment 60S: BASIN A - DA



Summary for Subcatchment 61S: BASIN I - DA

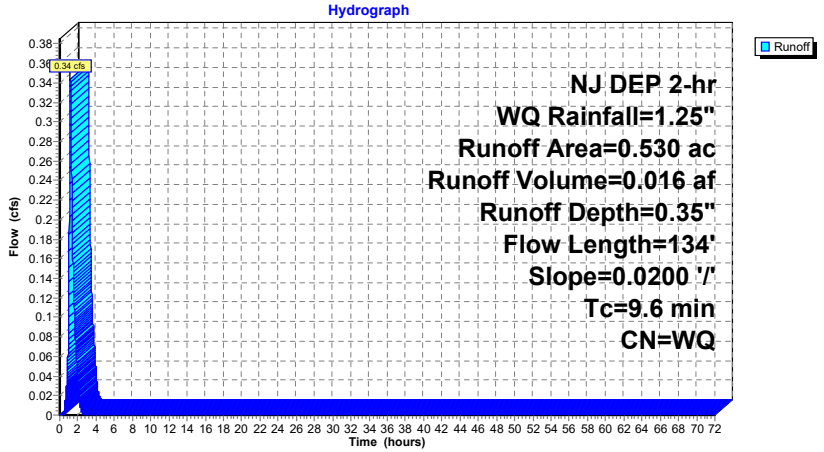
Runoff = 0.34 cfs @ 1.17 hrs, Volume= 0.016 af, Depth= 0.35"
Routed to Pond 64P : BASIN I

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.180	98	Roof
*	0.000	98	Driveway & Apron
	0.530		Weighted Average
	0.350		66.04% Pervious Area
	0.180		33.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.5	75	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.6	134	Total			

Subcatchment 61S: BASIN I - DA



Summary for Subcatchment 63S: BASIN N - DA

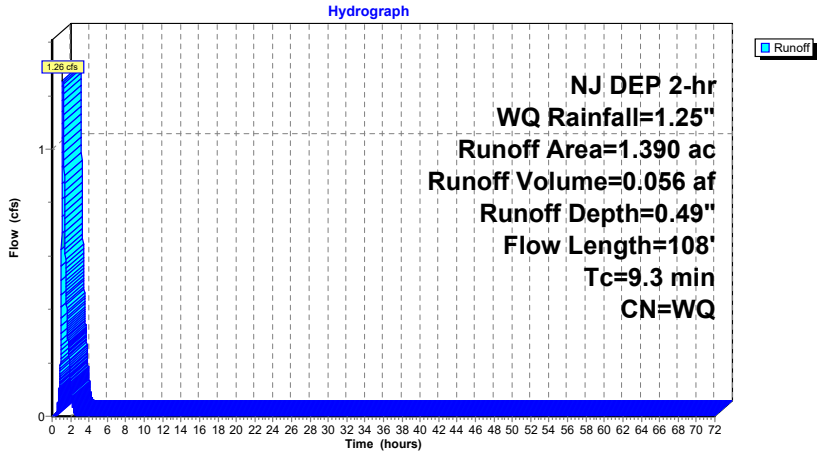
Runoff = 1.26 cfs @ 1.16 hrs, Volume= 0.056 af, Depth= 0.49"
Routed to Pond 90P : BASIN N

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.080	80	Open Space, HSG D
*	0.160	98	Road
*	0.040	98	Sidewalk
*	0.300	98	Roof
*	0.140	98	Driveway & Apron
	1.390		Weighted Average
	0.750		53.96% Pervious Area
	0.640		46.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass**
					Grass: Dense n= 0.240 P2= 3.38"
					Using McCuen-Spiess flow length
0.2	49	0.0600	3.94		**Shallow Concentrated Flow, SCF - Unpaved**
					Unpaved Kv= 16.1 fps
9.3	108	Total			

Subcatchment 63S: BASIN N - DA



Summary for Subcatchment 64S: BASIN E - DA

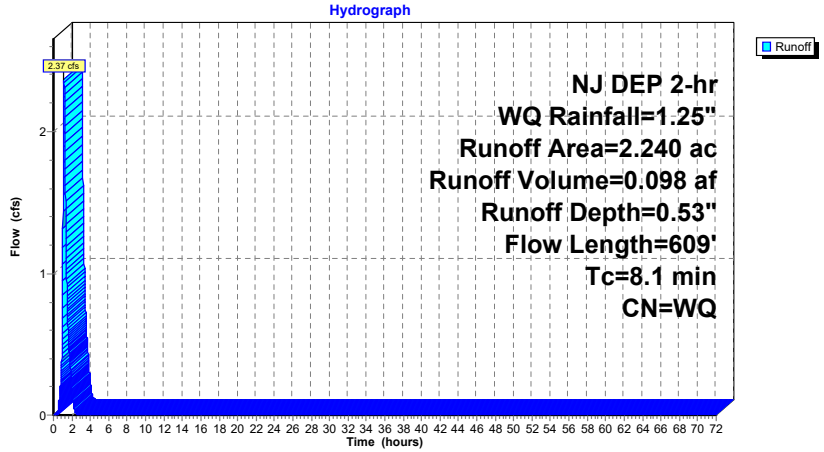
Runoff = 2.37 cfs @ 1.15 hrs, Volume= 0.098 af, Depth= 0.53"
Routed to Pond 65P : BASIN E

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

	Area (ac)	CN	Description
*	1.100	61	Open Space
*	0.450	98	Road
*	0.110	98	Sidewalk
*	0.240	98	Roof
*	0.340	98	Driveway & Apron
	2.240		Weighted Average
	1.100		49.11% Pervious Area
	1.140		50.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0500	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.5	300	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.9	279		2.50		**Direct Entry, Pipe**
8.1	609	Total			

Subcatchment 64S: BASIN E - DA



Summary for Subcatchment 65S: BASIN V - DA

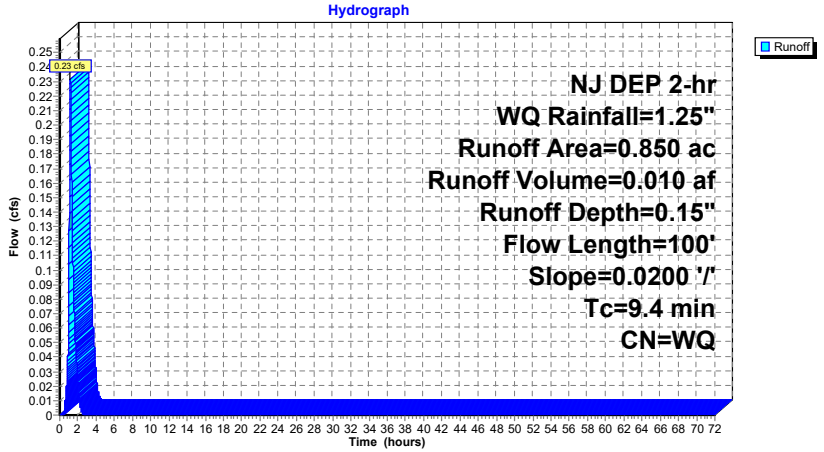
Runoff = 0.23 cfs @ 1.16 hrs, Volume= 0.010 af, Depth= 0.15"
Routed to Pond 117P : BASIN V

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

	Area (ac)	CN	Description
*	0.730	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.120	98	Roof
*	0.000	98	Driveway & Apron
	0.850		Weighted Average
	0.730		85.88% Pervious Area
	0.120		14.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	41	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	100	Total			

Subcatchment 65S: BASIN V - DA



Summary for Subcatchment 68S: BASIN K - DA

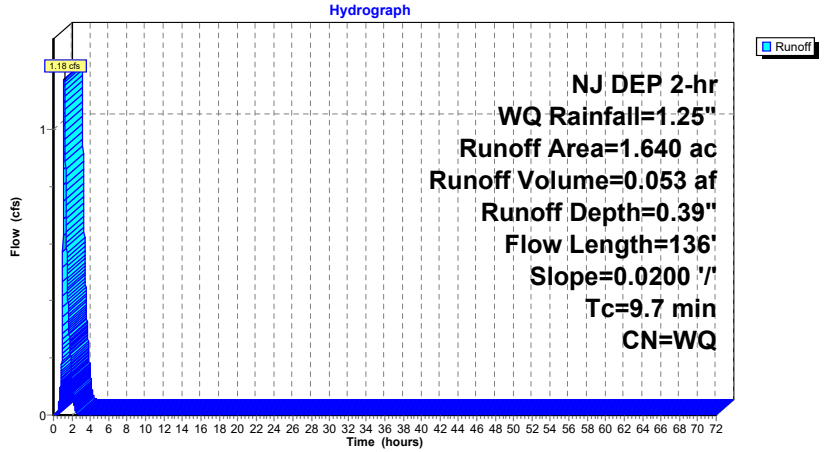
Runoff = 1.18 cfs @ 1.16 hrs, Volume= 0.053 af, Depth= 0.39"
Routed to Pond 70P : BASIN K

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

	Area (ac)	CN	Description
*	1.020	61	Open Space
*	0.000	98	Road
*	0.020	98	Sidewalk
*	0.600	98	Roof
*	0.000	98	Driveway & Apron
	1.640		Weighted Average
	1.020		62.20% Pervious Area
	0.620		37.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.6	77	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.7	136	Total			

Subcatchment 68S: BASIN K - DA



Summary for Subcatchment 69S: BASIN O - DA

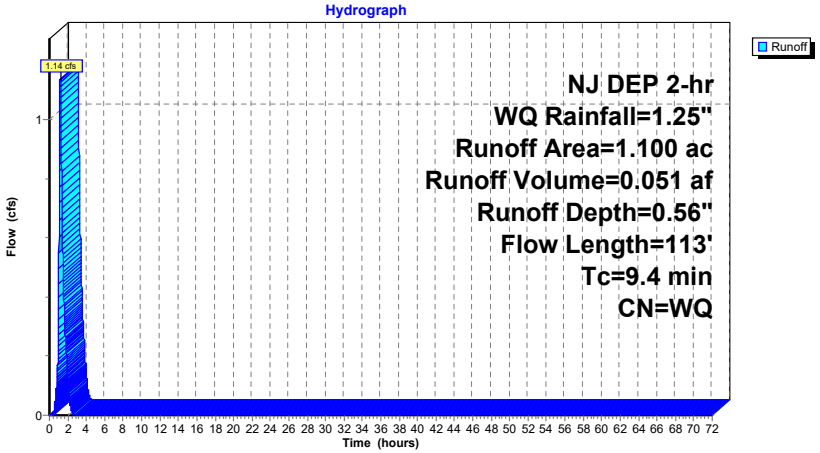
Runoff = 1.14 cfs @ 1.17 hrs, Volume= 0.051 af, Depth= 0.56"
Routed to Pond 93P : BASIN O

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

	Area (ac)	CN	Description
*	0.380	61	Open Space
*	0.150	80	Open Space, HSG D
*	0.150	98	Road
*	0.040	98	Sidewalk
*	0.240	98	Roof
*	0.140	98	Driveway & Apron
	1.100		Weighted Average
	0.530		48.18% Pervious Area
	0.570		51.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	54	0.0300	2.79		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	113	Total			

Subcatchment 69S: BASIN O - DA



Summary for Subcatchment 71S: BASIN B - DA

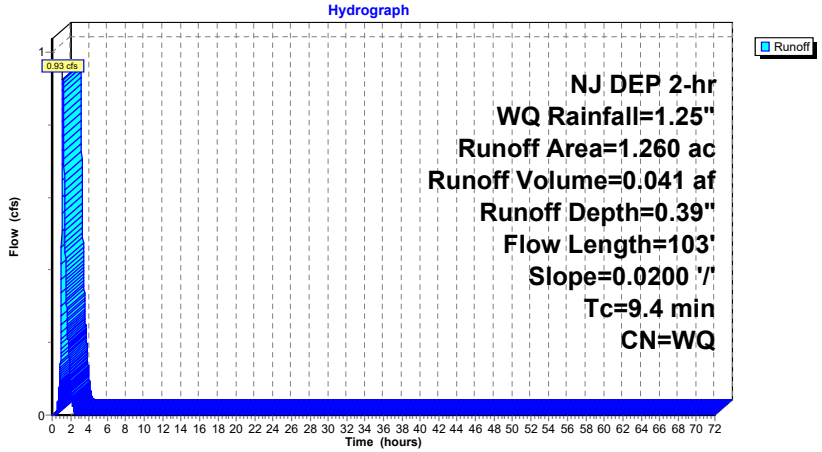
Runoff = 0.93 cfs @ 1.16 hrs, Volume= 0.041 af, Depth= 0.39"
Routed to Pond 74P : BASIN B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

	Area (ac)	CN	Description
*	0.780	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.480	98	Roof
*	0.000	98	Driveway
	1.260		Weighted Average
	0.780		61.90% Pervious Area
	0.480		38.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 71S: BASIN B - DA



Summary for Subcatchment 73S: BASIN C - DA

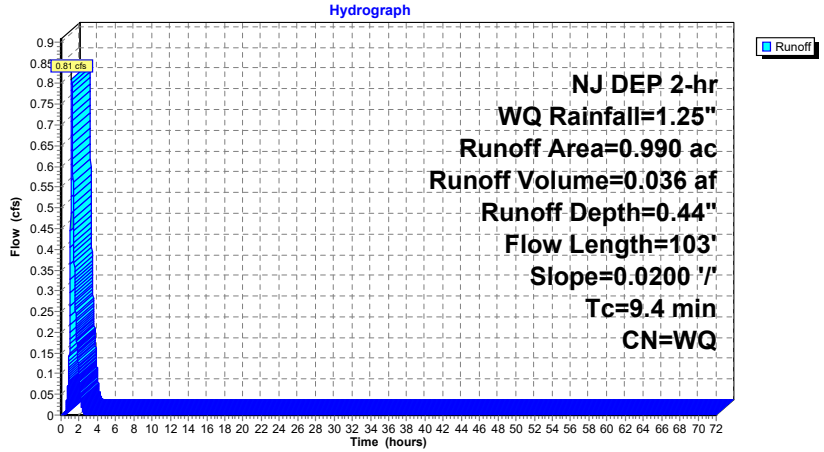
Runoff = 0.81 cfs @ 1.16 hrs, Volume= 0.036 af, Depth= 0.44"
Routed to Pond 59P : BASIN C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

	Area (ac)	CN	Description
*	0.570	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.420	98	Roof
*	0.000	98	Driveway
	0.990		Weighted Average
	0.570		57.58% Pervious Area
	0.420		42.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 73S: BASIN C - DA



Summary for Subcatchment 75S: BASIN M - DA

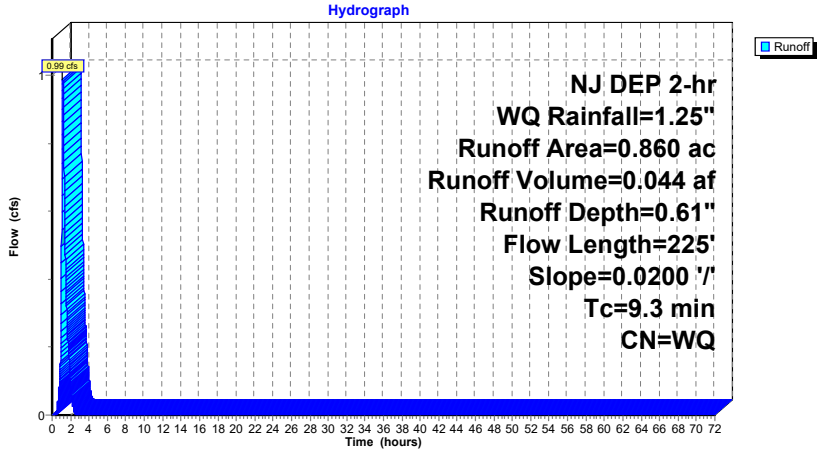
Runoff = 0.99 cfs @ 1.16 hrs, Volume= 0.044 af, Depth= 0.61"
Routed to Pond 76P : BASIN M

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.280	98	Road
*	0.050	98	Sidewalk
*	0.060	98	Roof
*	0.120	98	Driveway & Apron
	0.860		Weighted Average
	0.350		40.70% Pervious Area
	0.510		59.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	52	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
0.5	87	0.0200	2.87		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
0.6	86		2.50		**Direct Entry, Pipe**
9.3	225	Total			

Subcatchment 75S: BASIN M - DA



Summary for Subcatchment 76S: BASIN F - DA

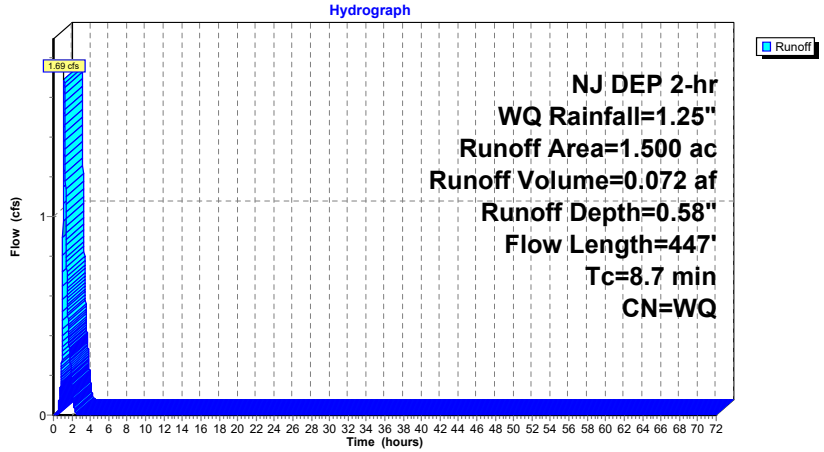
Runoff = 1.69 cfs @ 1.15 hrs, Volume= 0.072 af, Depth= 0.58"
Routed to Pond 83P : BASIN F

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

	Area (ac)	CN	Description
*	0.660	61	Open Space
*	0.440	98	Road
*	0.100	98	Sidewalk
*	0.120	98	Roof
*	0.180	98	Driveway & Apron
	1.500		Weighted Average
	0.660		44.00% Pervious Area
	0.840		56.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	33	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.3	158	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.7	256		2.50		**Direct Entry, Pipe**
8.7	447	Total			

Subcatchment 76S: BASIN F - DA



Summary for Subcatchment 77S: BASIN D - DA

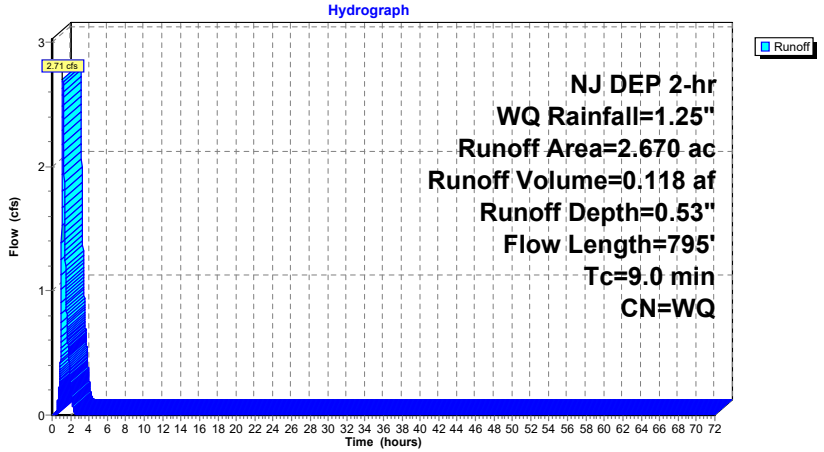
Runoff = 2.71 cfs @ 1.16 hrs, Volume= 0.118 af, Depth= 0.53"
Routed to Pond 75P : BASIN D

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

	Area (ac)	CN	Description
*	1.300	61	Open Space
*	0.430	98	Road
*	0.120	98	Sidewalk
*	0.420	98	Roof
*	0.400	98	Driveway & Apron
	2.670		Weighted Average
	1.300		48.69% Pervious Area
	1.370		51.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0500	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.2	300	0.0120	2.22		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
3.1	465		2.50		**Direct Entry, Pipe**
9.0	795	Total			

Subcatchment 77S: BASIN D - DA



Summary for Subcatchment 83S: BASIN L - DA

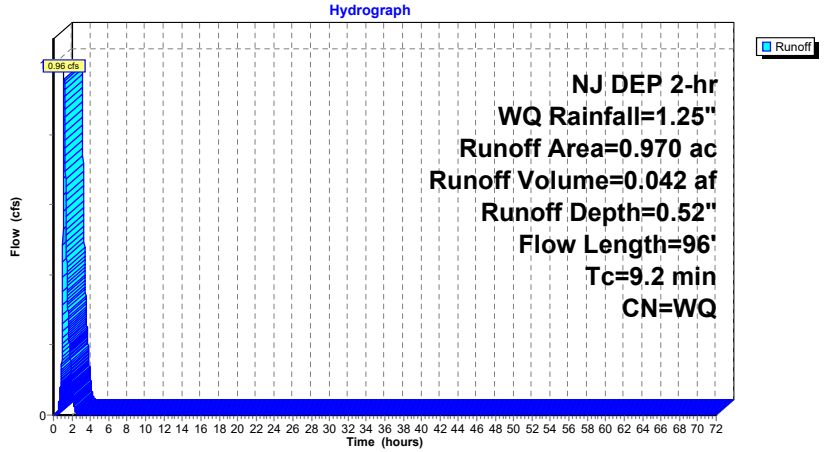
Runoff = 0.96 cfs @ 1.16 hrs, Volume= 0.042 af, Depth= 0.52"
Routed to Pond 84P : BASIN L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

	Area (ac)	CN	Description
*	0.480	61	Open Space
*	0.220	98	Road
*	0.050	98	Sidewalk
*	0.120	98	Roof
*	0.100	98	Driveway & Apron
	0.970		Weighted Average
	0.480		49.48% Pervious Area
	0.490		50.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	37	0.0800	4.55		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.2	96	Total			

Subcatchment 83S: BASIN L - DA



Summary for Subcatchment 85S: BASIN G - DA

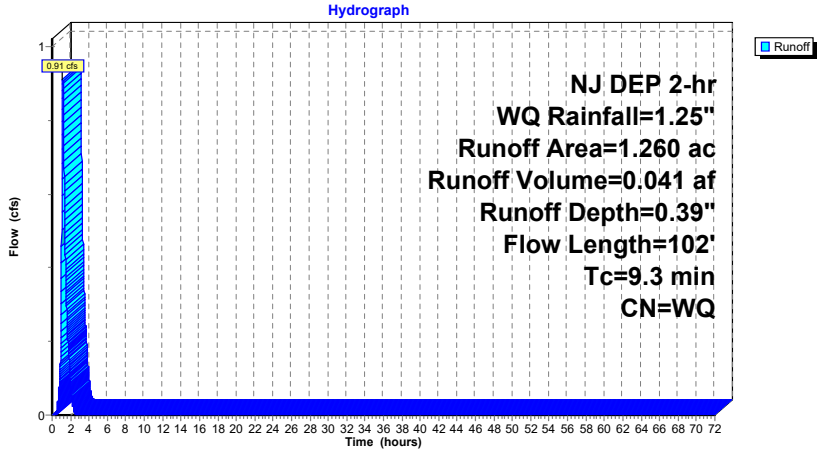
Runoff = 0.91 cfs @ 1.16 hrs, Volume= 0.041 af, Depth= 0.39"
Routed to Pond 86P : BASIN G

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

	Area (ac)	CN	Description
*	0.790	61	Open Space
*	0.060	98	Road
*	0.010	98	Sidewalk
*	0.360	98	Roof
*	0.040	98	Driveway & Apron
	1.260		Weighted Average
	0.790		62.70% Pervious Area
	0.470		37.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.2	43	0.0350	3.01		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.3	102	Total			

Subcatchment 85S: BASIN G - DA



Summary for Subcatchment 88S: BASIN H - DA

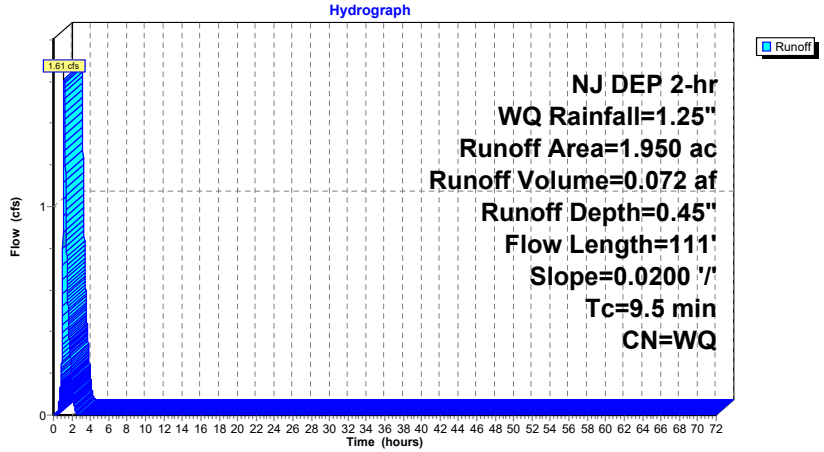
Runoff = 1.61 cfs @ 1.16 hrs, Volume= 0.072 af, Depth= 0.45"
Routed to Pond 60P : BASIN H

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

	Area (ac)	CN	Description
*	1.110	61	Open Space
*	0.230	98	Road
*	0.050	98	Sidewalk
*	0.420	98	Roof
*	0.140	98	Driveway & Apron
	1.950		Weighted Average
	1.110		56.92% Pervious Area
	0.840		43.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.4	52	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.5	111	Total			

Subcatchment 88S: BASIN H - DA



Summary for Subcatchment 98S: BASIN P - DA

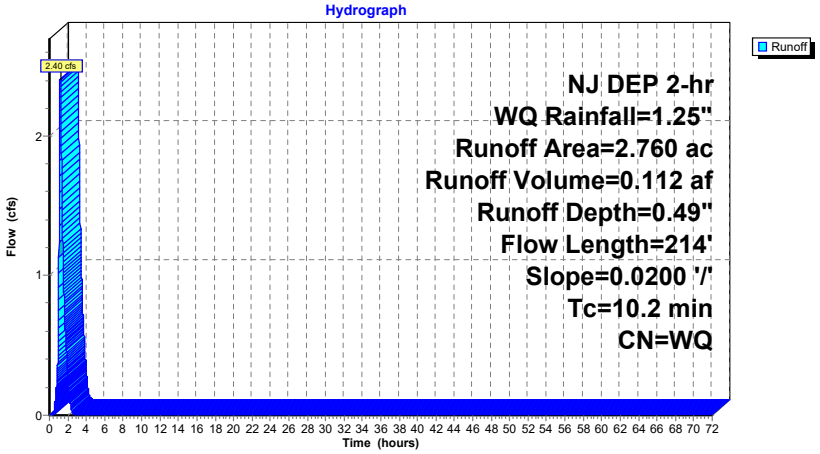
Runoff = 2.40 cfs @ 1.17 hrs, Volume= 0.112 af, Depth= 0.49"
Routed to Pond 63P : BASIN P

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

	Area (ac)	CN	Description
*	1.460	61	Open Space
*	0.410	98	Road
*	0.110	98	Sidewalk
*	0.420	98	Roof
*	0.360	98	Driveway & Apron
	2.760		Weighted Average
	1.460		52.90% Pervious Area
	1.300		47.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.7	99	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
0.4	56		2.50		**Direct Entry,**
10.2	214	Total			

Subcatchment 98S: BASIN P - DA



Summary for Subcatchment 101S: BASIN Q - DA

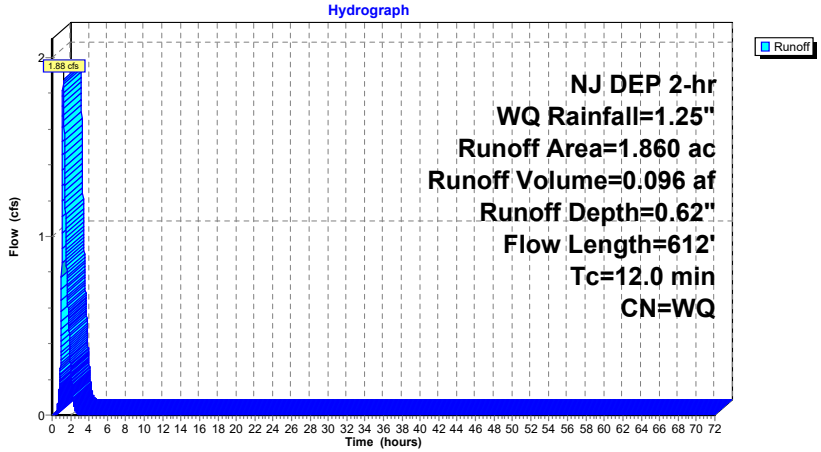
Runoff = 1.88 cfs @ 1.20 hrs, Volume= 0.096 af, Depth= 0.62"
Routed to Pond 102P : BASIN Q

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

	Area (ac)	CN	Description
*	0.750	61	Open Space
*	0.570	98	Road
*	0.140	98	Sidewalk
*	0.060	98	Roof
*	0.340	98	Driveway & Apron
	1.860		Weighted Average
	0.750		40.32% Pervious Area
	1.110		59.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	49	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.3	283	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.9	280		2.50		**Direct Entry, Pipe**
12.0	612	Total			

Subcatchment 101S: BASIN Q - DA



Summary for Subcatchment 104S: BASIN R - DA

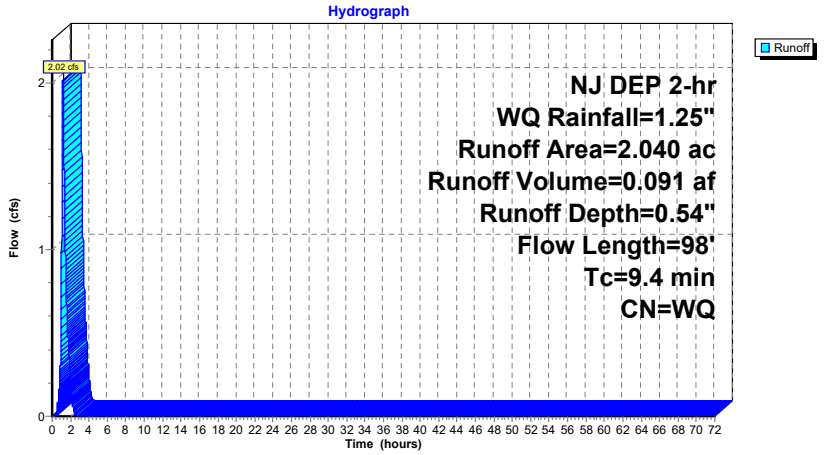
Runoff = 2.02 cfs @ 1.17 hrs, Volume= 0.091 af, Depth= 0.54"
Routed to Pond 105P : BASIN R

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

	Area (ac)	CN	Description
	0.810	61	>75% Grass cover, Good, HSG B
*	0.350	98	Road
*	0.090	98	Sidewalk
*	0.300	98	Roof
*	0.280	98	Driveway & Apron
	0.210	80	>75% Grass cover, Good, HSG D
	2.040		Weighted Average
	1.020		50.00% Pervious Area
	1.020		50.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass**
					Grass: Dense n= 0.240 P2= 3.38"
					Using McCuen-Spiess flow length
0.3	39	0.0250	2.55		**Shallow Concentrated Flow, SCF - Unpaved**
					Unpaved Kv= 16.1 fps
9.4	98	Total			

Subcatchment 104S: BASIN R - DA



Summary for Subcatchment 107S: BASIN S - DA

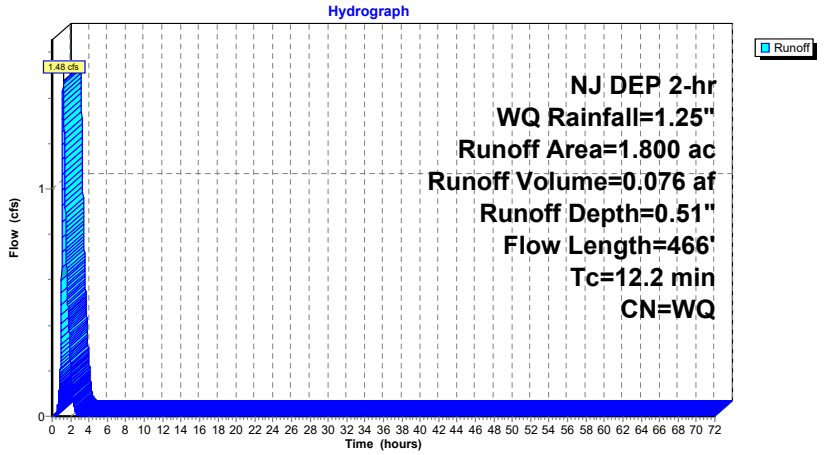
Runoff = 1.48 cfs @ 1.19 hrs, Volume= 0.076 af, Depth= 0.51"
Routed to Pond 108P : BASIN S

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

	Area (ac)	CN	Description
*	0.920	61	Open Space
*	0.590	98	Road
*	0.190	98	Sidewalk
*	0.080	98	Roof
*	0.020	98	Driveway & Apron
	1.800		Weighted Average
	0.920		51.11% Pervious Area
	0.880		48.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	6	0.0100	1.61		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
1.4	167	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.6	234		2.50		**Direct Entry, Pipe**
12.2	466	Total			

Subcatchment 107S: BASIN S - DA



Summary for Subcatchment 110S: BASIN T - DA

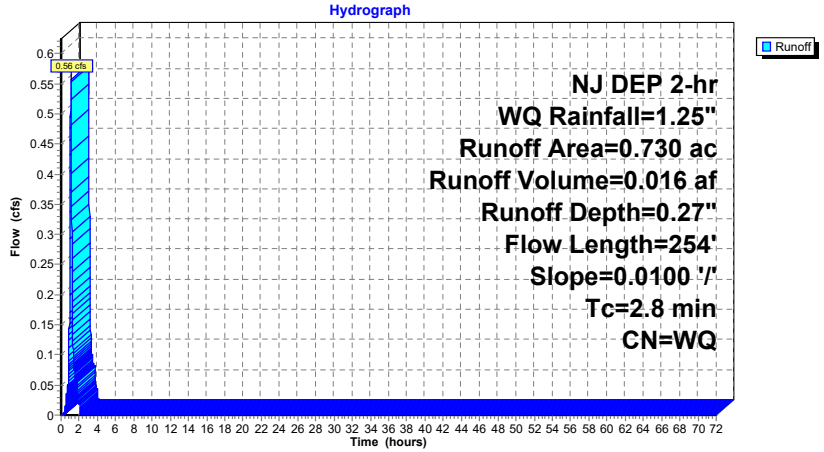
Runoff = 0.56 cfs @ 1.09 hrs, Volume= 0.016 af, Depth= 0.27"
Routed to Pond 111P : BASIN T

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

	Area (ac)	CN	Description
*	0.540	61	Open Space
*	0.140	98	Road
*	0.050	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	0.730		Weighted Average
	0.540		73.97% Pervious Area
	0.190		26.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.07		**Sheet Flow, Sheet Flow - Smooth Surfaces** Smooth surfaces n= 0.011 P2= 3.38"
0.8	93	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
0.4	61		2.50		**Direct Entry, Pipe**
2.8	254	Total			

Subcatchment 110S: BASIN T - DA



Summary for Subcatchment 113S: BASIN U - DA

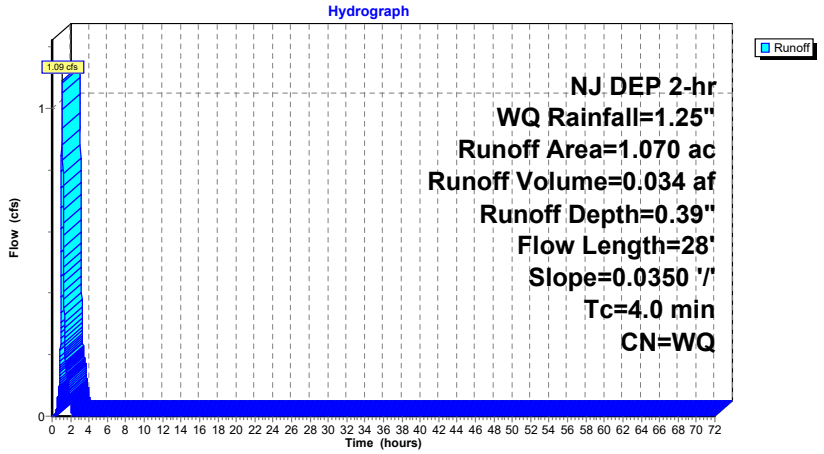
Runoff = 1.09 cfs @ 1.10 hrs, Volume= 0.034 af, Depth= 0.39"
Routed to Pond 114P : BASIN U

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NJ DEP 2-hr WQ Rainfall=1.25"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.330	98	Road
*	0.070	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	1.070		Weighted Average
	0.670		62.62% Pervious Area
	0.400		37.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	28	0.0350	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"

Subcatchment 113S: BASIN U - DA



Summary for Pond 52P: BASIN A

Inflow Area = 2.470 ac, 53.85% Impervious, Inflow Depth = 0.56" for WQ event
Inflow = 2.57 cfs @ 1.16 hrs, Volume= 0.115 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 32.55' @ 3.04 hrs Surf.Area= 0.223 ac Storage= 0.115 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

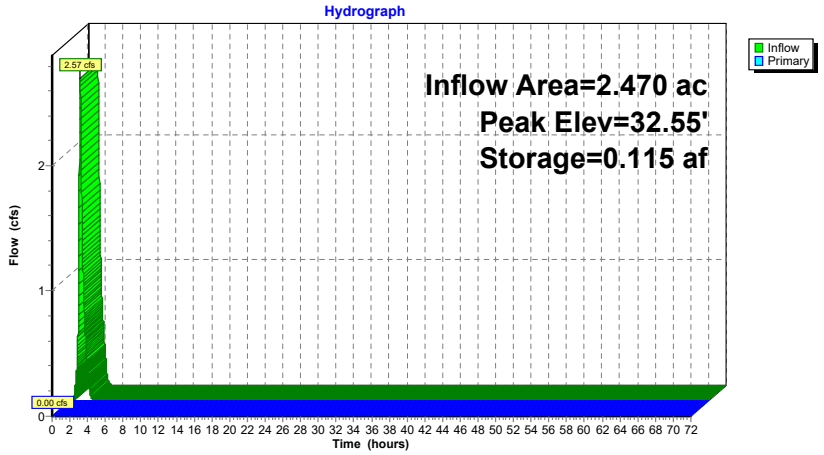
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.233 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.192	0.000	0.000
33.00	0.249	0.220	0.220
34.00	0.307	0.278	0.499
35.00	0.367	0.337	0.836
36.00	0.428	0.397	1.233

Device	Routing	Invert	Outlet Devices
#1	Primary	35.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.75'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=32.00' (Free Discharge)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Controls 0.00 cfs)

Pond 52P: BASIN A



Summary for Pond 59P: BASIN C

Inflow Area = 0.990 ac, 42.42% Impervious, Inflow Depth = 0.44" for WQ event
Inflow = 0.81 cfs @ 1.16 hrs, Volume= 0.036 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 29.36' @ 3.04 hrs Surf.Area= 0.051 ac Storage= 0.036 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

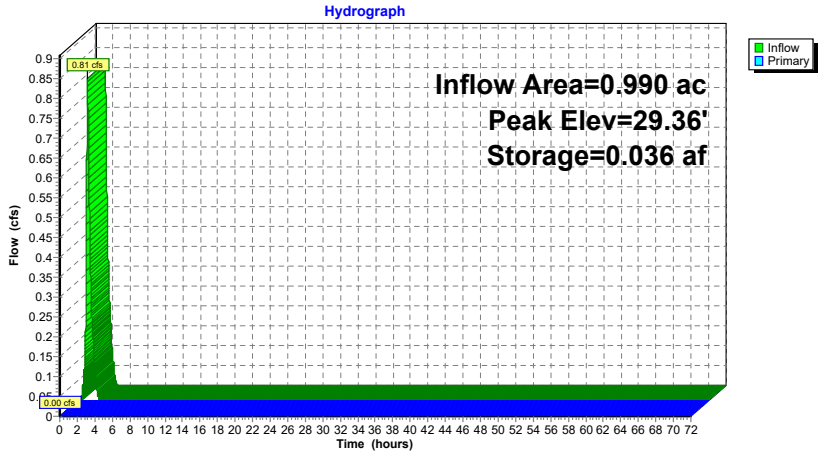
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.198 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.033	0.000	0.000
29.50	0.054	0.043	0.043
30.50	0.077	0.065	0.109
31.50	0.101	0.089	0.198

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	29.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=28.50' (Free Discharge)
└**1=Grate** (Controls 0.00 cfs)
└**2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 59P: BASIN C



Summary for Pond 60P: BASIN H

Inflow Area = 1.950 ac, 43.08% Impervious, Inflow Depth = 0.45" for WQ event
Inflow = 1.61 cfs @ 1.16 hrs, Volume= 0.072 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.83' @ 3.05 hrs Surf.Area= 0.226 ac Storage= 0.072 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

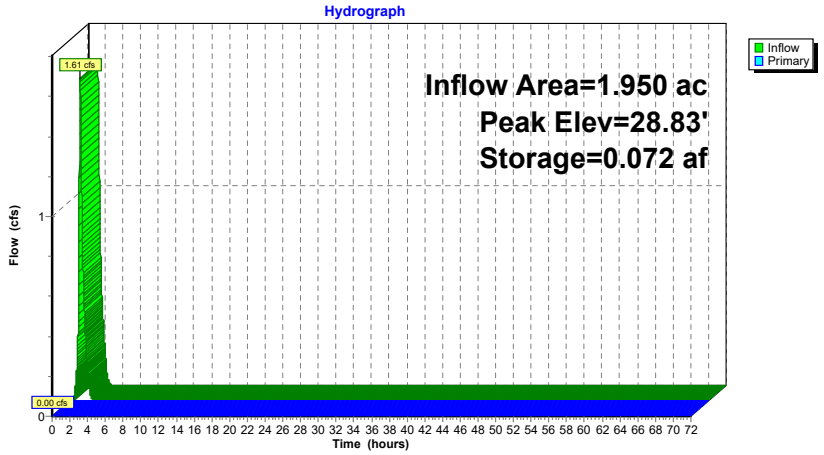
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.799 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.216	0.000	0.000
29.00	0.232	0.112	0.112
30.00	0.266	0.249	0.361
31.00	0.301	0.283	0.644
31.50	0.319	0.155	0.799

Device	Routing	Invert	Outlet Devices
#1	Primary	31.20'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.30'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	28.90'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=28.50' (Free Discharge)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Controls 0.00 cfs)

Pond 60P: BASIN H



Summary for Pond 63P: BASIN P

Inflow Area = 2.760 ac, 47.10% Impervious, Inflow Depth = 0.49" for WQ event
Inflow = 2.40 cfs @ 1.17 hrs, Volume= 0.112 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 27.05' @ 3.14 hrs Surf.Area= 0.215 ac Storage= 0.112 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

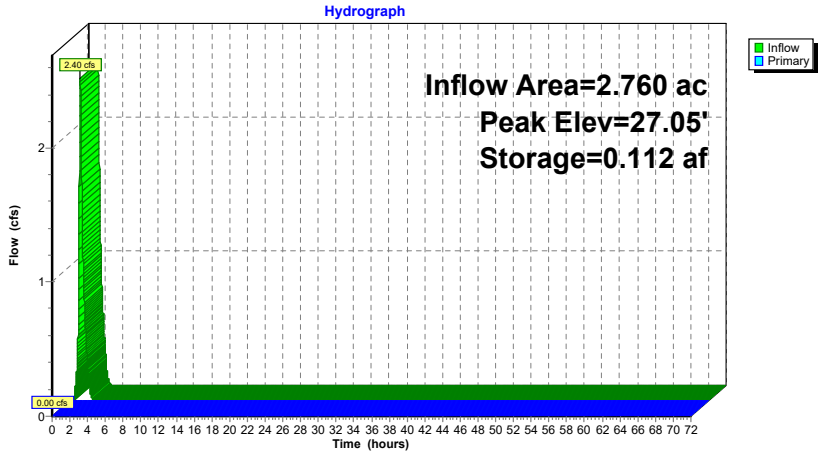
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.910 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.193	0.000	0.000
27.50	0.233	0.213	0.213
28.50	0.268	0.250	0.463
29.50	0.303	0.286	0.749
30.00	0.340	0.161	0.910

Device	Routing	Invert	Outlet Devices
#1	Primary	29.30'	**42.0" x 102.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**3.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=26.50' (Free Discharge)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Controls 0.00 cfs)

Pond 63P: BASIN P



Summary for Pond 64P: BASIN I

Inflow Area = 0.530 ac, 33.96% Impervious, Inflow Depth = 0.35" for WQ event
Inflow = 0.34 cfs @ 1.17 hrs, Volume= 0.016 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 29.12' @ 3.06 hrs Surf.Area= 0.027 ac Storage= 0.016 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

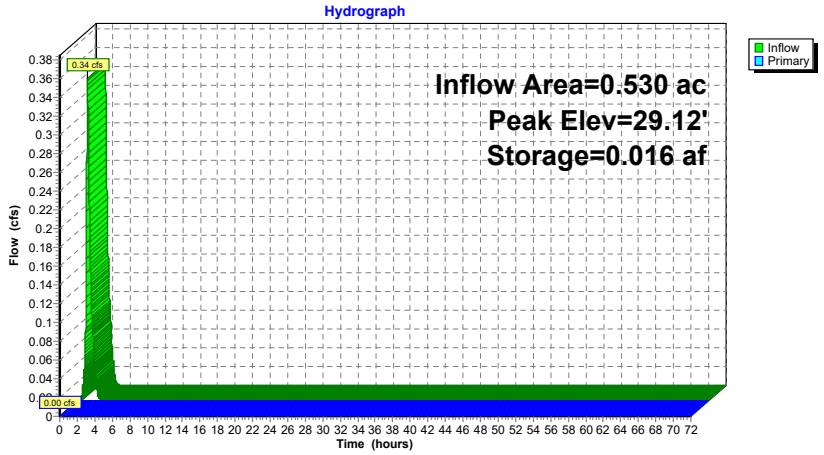
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.101 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.023	0.000	0.000
29.50	0.030	0.026	0.026
30.50	0.037	0.033	0.060
31.50	0.045	0.041	0.101

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.60'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	29.40'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=28.50' (Free Discharge)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Controls 0.00 cfs)

Pond 64P: BASIN I



Summary for Pond 65P: BASIN E

Inflow Area = 2.240 ac, 50.89% Impervious, Inflow Depth = 0.53" for WQ event
Inflow = 2.37 cfs @ 1.15 hrs, Volume= 0.098 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to nonexistent node 46L
Secondary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 27.43' @ 2.91 hrs Surf.Area= 0.120 ac Storage= 0.098 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.421 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

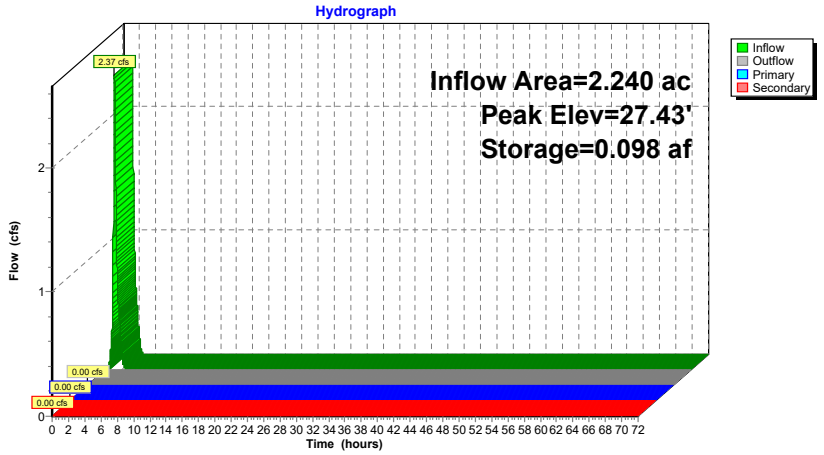
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.091	0.000	0.000
27.50	0.122	0.106	0.106
28.50	0.157	0.139	0.246
29.50	0.193	0.175	0.421

Device	Routing	Invert	Outlet Devices
#1	Primary	28.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#4	Secondary	27.50'	**3.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#5	Secondary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#6	Secondary	29.30'	**42.0" x 102.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=26.50' (Free Discharge)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Controls 0.00 cfs)

Secondary OutFlow Max=0.00 cfs @ 0.00 hrs HW=26.50' (Free Discharge)
- **4=Orifice** (Controls 0.00 cfs)
- **5=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **6=Grate** (Controls 0.00 cfs)

Pond 65P: BASIN E



Summary for Pond 70P: BASIN K

Inflow Area = 1.640 ac, 37.80% Impervious, Inflow Depth = 0.39" for WQ event
Inflow = 1.18 cfs @ 1.16 hrs, Volume= 0.053 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 30.92' @ 3.07 hrs Surf.Area= 0.133 ac Storage= 0.053 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

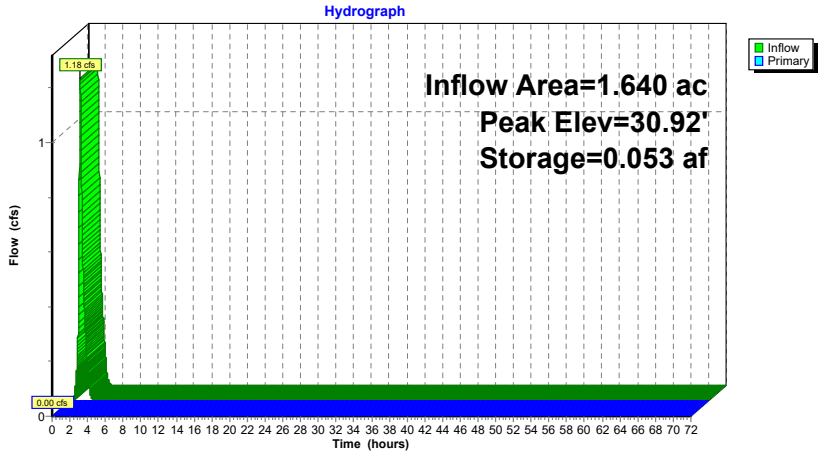
Volume	Invert	Avail.Storage	Storage Description
#1	30.50'	0.484 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.50	0.122	0.000	0.000
31.50	0.148	0.135	0.135
32.50	0.174	0.161	0.296
33.50	0.202	0.188	0.484

Device	Routing	Invert	Outlet Devices
#1	Primary	33.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.70'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=30.50' (Free Discharge)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Controls 0.00 cfs)

Pond 70P: BASIN K



Summary for Pond 74P: BASIN B

Inflow Area = 1.260 ac, 38.10% Impervious, Inflow Depth = 0.39" for WQ event
Inflow = 0.93 cfs @ 1.16 hrs, Volume= 0.041 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 30.69' @ 3.04 hrs Surf.Area= 0.071 ac Storage= 0.041 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

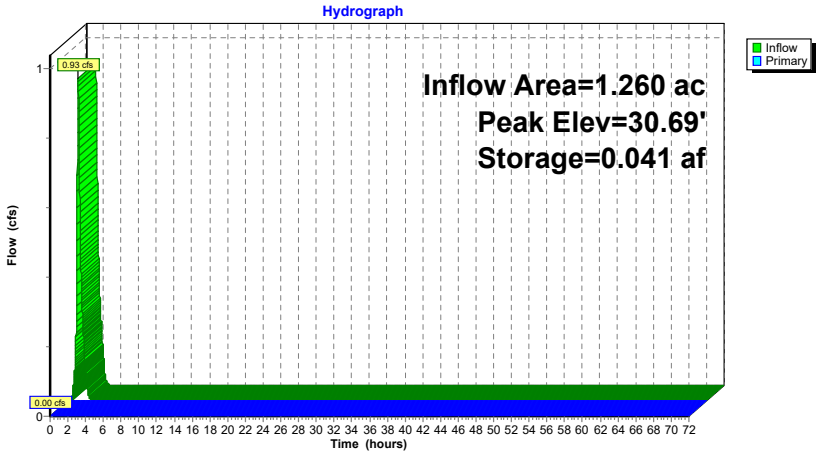
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	0.292 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.00	0.049	0.000	0.000
31.00	0.081	0.065	0.065
32.00	0.113	0.097	0.162
33.00	0.147	0.130	0.292

Device	Routing	Invert	Outlet Devices
#1	Primary	32.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=30.00' (Free Discharge)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Controls 0.00 cfs)

Pond 74P: BASIN B



Summary for Pond 75P: BASIN D

Inflow Area = 2.670 ac, 51.31% Impervious, Inflow Depth = 0.53" for WQ event
Inflow = 2.71 cfs @ 1.16 hrs, Volume= 0.118 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to nonexistent node 46L

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 27.08' @ 2.99 hrs Surf.Area= 0.214 ac Storage= 0.118 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

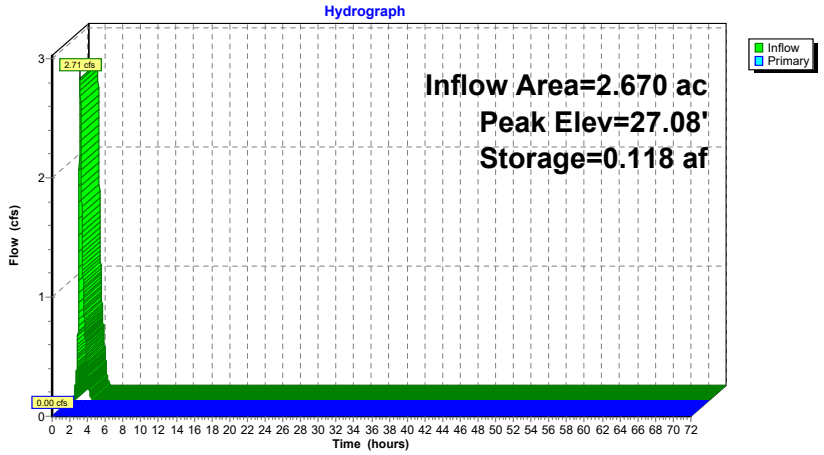
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.725 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.197	0.000	0.000
27.50	0.226	0.211	0.211
28.50	0.257	0.241	0.453
29.50	0.288	0.272	0.725

Device	Routing	Invert	Outlet Devices
#1	Primary	28.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.40'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=26.50' (Free Discharge)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Controls 0.00 cfs)

Pond 75P: BASIN D



Summary for Pond 76P: BASIN M

Inflow Area = 0.860 ac, 59.30% Impervious, Inflow Depth = 0.61" for WQ event
Inflow = 0.99 cfs @ 1.16 hrs, Volume= 0.044 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to nonexistent node 46L

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 32.23' @ 3.03 hrs Surf.Area= 0.060 ac Storage= 0.044 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

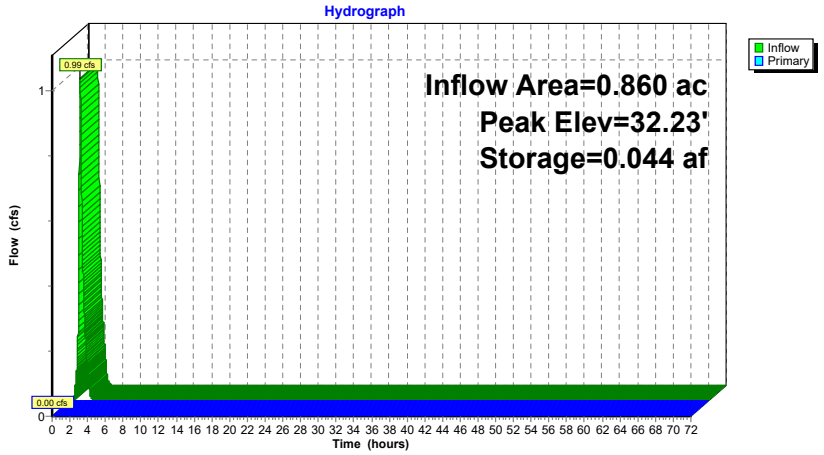
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	0.260 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.50	0.060	0.000	0.000
32.00	0.060	0.030	0.030
33.00	0.060	0.060	0.090
34.00	0.070	0.065	0.155
35.00	0.070	0.070	0.225
35.50	0.070	0.035	0.260

Device	Routing	Invert	Outlet Devices
#1	Primary	35.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	33.75'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=31.50' (Free Discharge)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Controls 0.00 cfs)

Pond 76P: BASIN M



Summary for Pond 83P: BASIN F

Inflow Area = 1.500 ac, 56.00% Impervious, Inflow Depth = 0.58" for WQ event
Inflow = 1.69 cfs @ 1.15 hrs, Volume= 0.072 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 32.39' @ 2.97 hrs Surf.Area= 0.194 ac Storage= 0.072 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

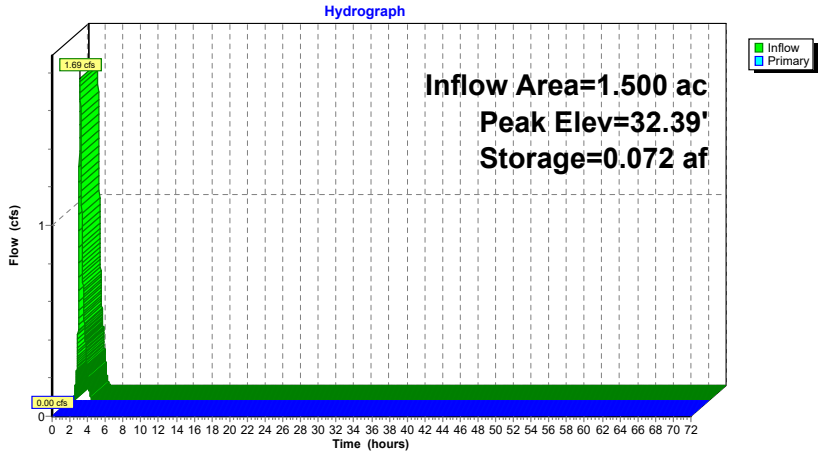
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.043 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.178	0.000	0.000
33.00	0.218	0.198	0.198
34.00	0.260	0.239	0.437
35.00	0.303	0.281	0.718
36.00	0.347	0.325	1.043

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.25'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=32.00' (Free Discharge)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Controls 0.00 cfs)

Pond 83P: BASIN F



Summary for Pond 84P: BASIN L

Inflow Area = 0.970 ac, 50.52% Impervious, Inflow Depth = 0.52" for WQ event
Inflow = 0.96 cfs @ 1.16 hrs, Volume= 0.042 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.04' @ 3.02 hrs Surf.Area= 0.083 ac Storage= 0.042 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

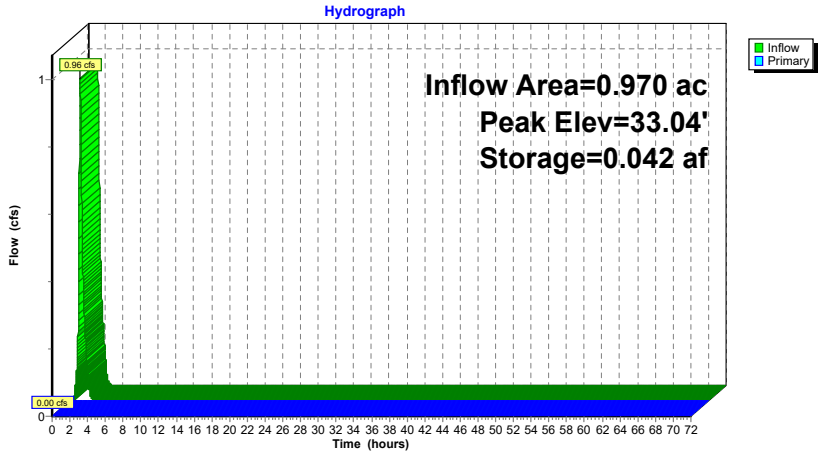
Volume	Invert	Avail.Storage	Storage Description
#1	32.50'	0.308 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.50	0.074	0.000	0.000
33.00	0.083	0.039	0.039
34.00	0.102	0.092	0.132
35.00	0.123	0.113	0.244
35.50	0.134	0.064	0.308

Device	Routing	Invert	Outlet Devices
#1	Primary	34.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	33.90'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.10'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=32.50' (Free Discharge)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Controls 0.00 cfs)

Pond 84P: BASIN L



Summary for Pond 86P: BASIN G

Inflow Area = 1.260 ac, 37.30% Impervious, Inflow Depth = 0.39" for WQ event
Inflow = 0.91 cfs @ 1.16 hrs, Volume= 0.041 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 31.66' @ 3.03 hrs Surf.Area= 0.072 ac Storage= 0.041 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

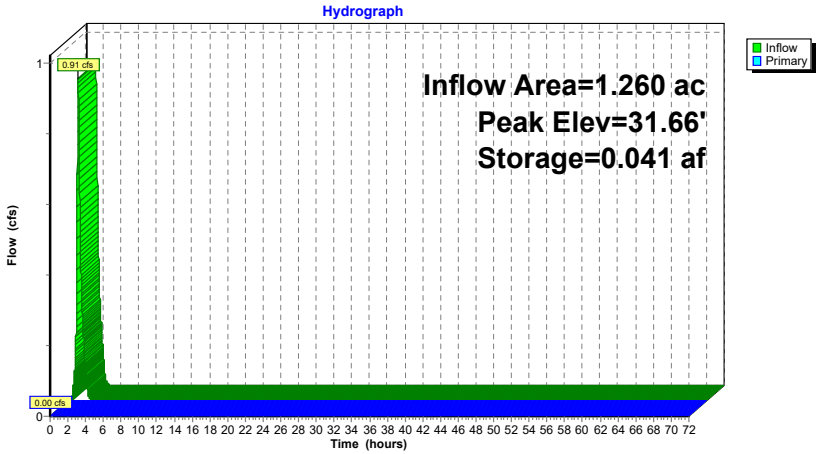
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	0.301 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.00	0.051	0.000	0.000
32.00	0.083	0.067	0.067
33.00	0.117	0.100	0.167
34.00	0.152	0.134	0.301

Device	Routing	Invert	Outlet Devices
#1	Primary	33.70'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	32.75'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=31.00' (Free Discharge)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Controls 0.00 cfs)

Pond 86P: BASIN G



Summary for Pond 90P: BASIN N

Inflow Area = 1.390 ac, 46.04% Impervious, Inflow Depth = 0.49" for WQ event
Inflow = 1.26 cfs @ 1.16 hrs, Volume= 0.056 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to nonexistent node 46L

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 29.40' @ 3.03 hrs Surf.Area= 0.148 ac Storage= 0.056 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

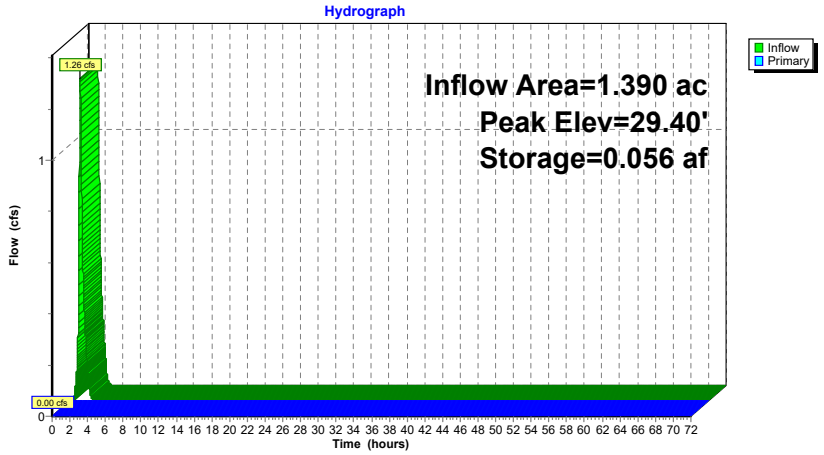
Volume	Invert	Avail.Storage	Storage Description
#1	29.00'	0.443 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
29.00	0.136	0.000	0.000
30.00	0.167	0.151	0.151
31.00	0.199	0.183	0.334
31.50	0.238	0.109	0.443

Device	Routing	Invert	Outlet Devices
#1	Primary	30.90'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.20'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	29.70'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=29.00' (Free Discharge)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Controls 0.00 cfs)

Pond 90P: BASIN N



Summary for Pond 93P: BASIN O

Inflow Area = 1.100 ac, 51.82% Impervious, Inflow Depth = 0.56" for WQ event
Inflow = 1.14 cfs @ 1.17 hrs, Volume= 0.051 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to nonexistent node 46L

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 27.38' @ 3.04 hrs Surf.Area= 0.067 ac Storage= 0.051 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

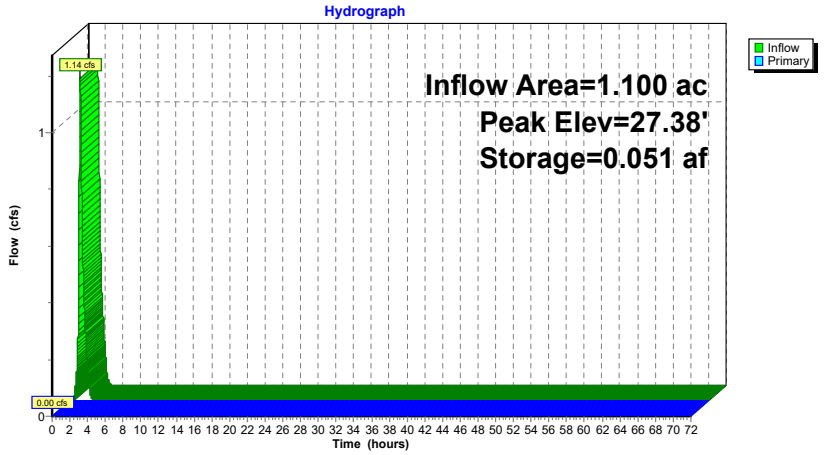
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.244 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.050	0.000	0.000
27.00	0.059	0.027	0.027
28.00	0.079	0.069	0.097
29.00	0.100	0.090	0.186
29.50	0.129	0.057	0.244

Device	Routing	Invert	Outlet Devices
#1	Primary	28.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.00'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=26.50' (Free Discharge)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Controls 0.00 cfs)

Pond 93P: BASIN O



Summary for Pond 102P: BASIN Q

Inflow Area = 1.860 ac, 59.68% Impervious, Inflow Depth = 0.62" for WQ event
Inflow = 1.88 cfs @ 1.20 hrs, Volume= 0.096 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to nonexistent node 46L

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 26.95' @ 3.32 hrs Surf.Area= 0.109 ac Storage= 0.096 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

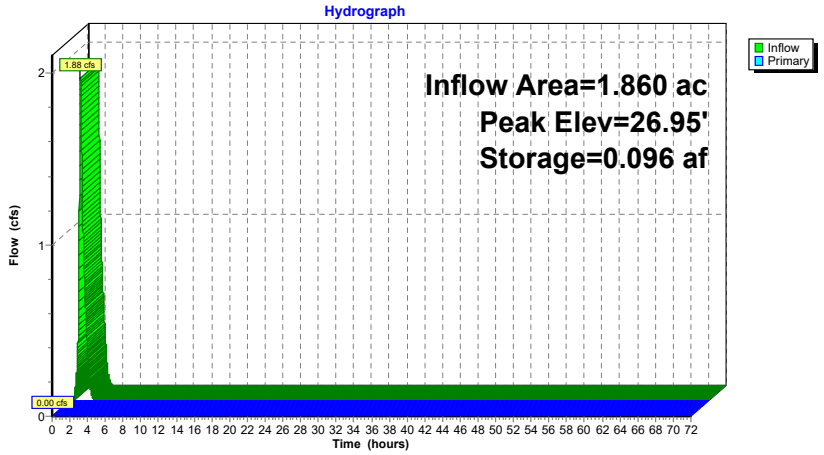
Volume	Invert	Avail.Storage	Storage Description
#1	26.00'	0.356 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.00	0.092	0.000	0.000
27.00	0.110	0.101	0.101
28.00	0.128	0.119	0.220
29.00	0.146	0.137	0.356

Device	Routing	Invert	Outlet Devices
#1	Primary	28.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.70'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.00'	**2.5" Vert. Orifice X 0.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=26.00' (Free Discharge)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Controls 0.00 cfs)

Pond 102P: BASIN Q



Summary for Pond 105P: BASIN R

Inflow Area = 2.040 ac, 50.00% Impervious, Inflow Depth = 0.54" for WQ event
Inflow = 2.02 cfs @ 1.17 hrs, Volume= 0.091 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to nonexistent node 46L

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 23.15' @ 3.04 hrs Surf.Area= 0.152 ac Storage= 0.091 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

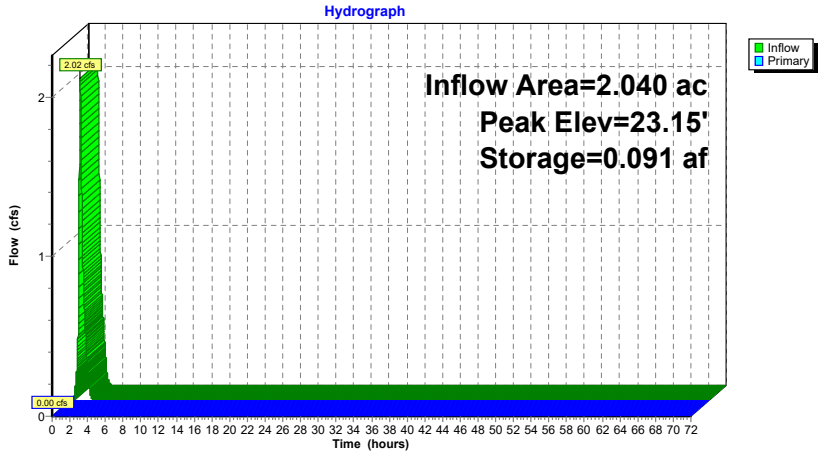
Volume	Invert	Avail.Storage	Storage Description
#1	22.50'	0.568 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
22.50	0.127	0.000	0.000
23.00	0.146	0.068	0.068
24.00	0.187	0.167	0.235
25.00	0.228	0.207	0.442
25.50	0.277	0.126	0.568

Device	Routing	Invert	Outlet Devices
#1	Primary	25.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	23.90'	**2.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	23.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=22.50' (Free Discharge)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Controls 0.00 cfs)

Pond 105P: BASIN R



Summary for Pond 108P: BASIN S

Inflow Area = 1.800 ac, 48.89% Impervious, Inflow Depth = 0.51" for WQ event
Inflow = 1.48 cfs @ 1.19 hrs, Volume= 0.076 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to nonexistent node 46L

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 19.18' @ 3.34 hrs Surf.Area= 0.207 ac Storage= 0.076 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

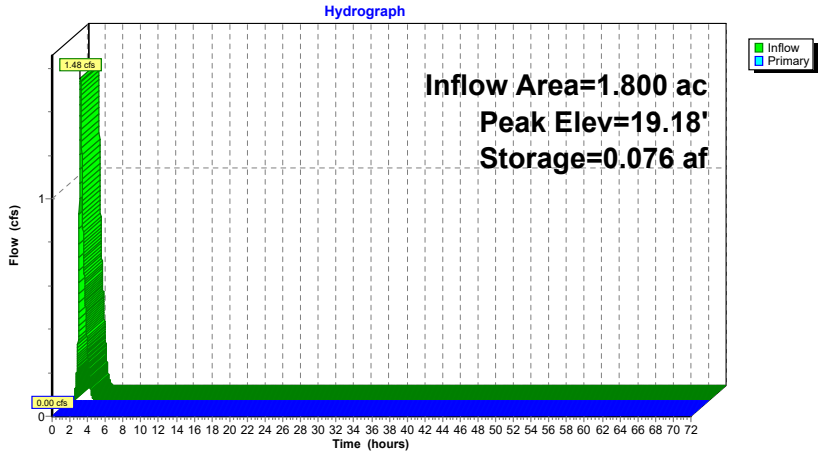
Volume	Invert	Avail.Storage	Storage Description
#1	18.80'	0.750 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
18.80	0.190	0.000	0.000
19.00	0.200	0.039	0.039
20.00	0.240	0.220	0.259
21.00	0.270	0.255	0.514
21.80	0.320	0.236	0.750

Device	Routing	Invert	Outlet Devices
#1	Primary	21.20'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.10'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	19.30'	**2.5" Vert. Orifice X 0.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=18.80' (Free Discharge)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Controls 0.00 cfs)

Pond 108P: BASIN S



Summary for Pond 111P: BASIN T

Inflow Area = 0.730 ac, 26.03% Impervious, Inflow Depth = 0.27" for WQ event
Inflow = 0.56 cfs @ 1.09 hrs, Volume= 0.016 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to nonexistent node 46L

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 18.60' @ 2.32 hrs Surf.Area= 0.174 ac Storage= 0.016 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

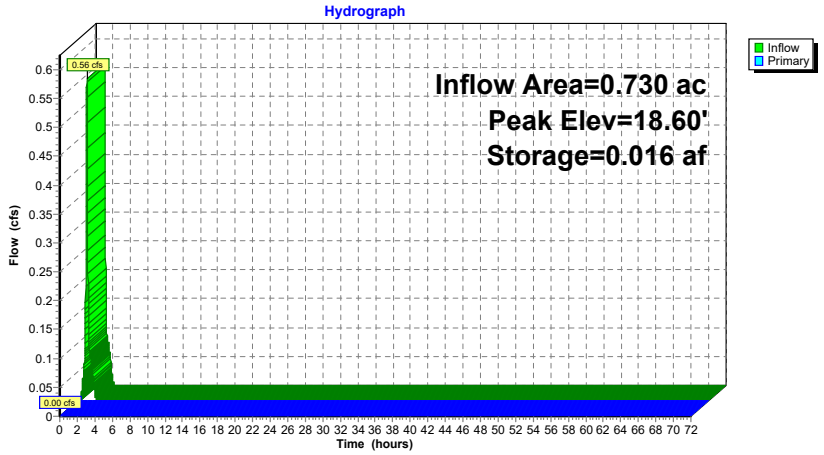
Volume	Invert	Avail.Storage	Storage Description
#1	18.50'	0.697 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
18.50	0.170	0.000	0.000
19.00	0.190	0.090	0.090
20.00	0.230	0.210	0.300
21.00	0.270	0.250	0.550
21.50	0.320	0.148	0.697

Device	Routing	Invert	Outlet Devices
#1	Primary	20.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.20'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	19.10'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=18.50' (Free Discharge)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Controls 0.00 cfs)

Pond 111P: BASIN T



Summary for Pond 114P: BASIN U

Inflow Area = 1.070 ac, 37.38% Impervious, Inflow Depth = 0.39" for WQ event
Inflow = 1.09 cfs @ 1.10 hrs, Volume= 0.034 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 19.69' @ 2.45 hrs Surf.Area= 0.188 ac Storage= 0.034 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

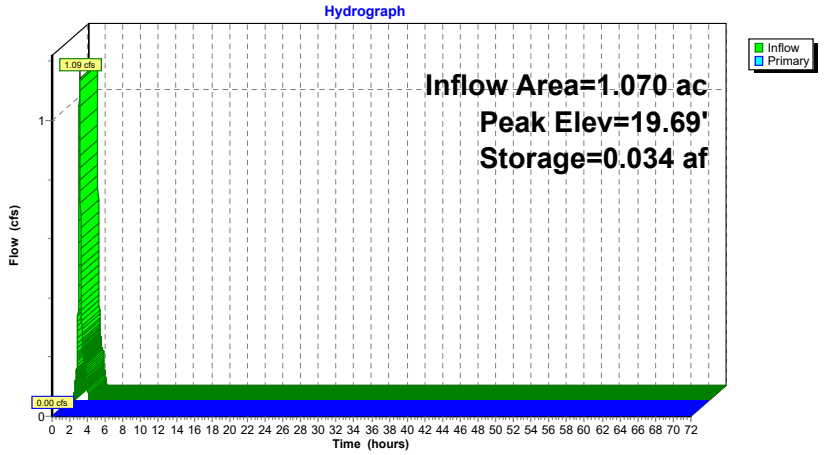
Volume	Invert	Avail.Storage	Storage Description
#1	19.50'	0.738 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
19.50	0.180	0.000	0.000
20.00	0.200	0.095	0.095
21.00	0.240	0.220	0.315
22.00	0.290	0.265	0.580
22.50	0.340	0.157	0.738

Device	Routing	Invert	Outlet Devices
#1	Primary	21.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.10'	**4.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=19.50' (Free Discharge)
└**1=Grate** (Controls 0.00 cfs)
└**2=Orifice** (Controls 0.00 cfs)

Pond 114P: BASIN U



Summary for Pond 117P: BASIN V

Inflow Area = 0.850 ac, 14.12% Impervious, Inflow Depth = 0.15" for WQ event
Inflow = 0.23 cfs @ 1.16 hrs, Volume= 0.010 af
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af
Routed to nonexistent node 46L

Routing by Dyn-Stor-Ind method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 37.11' @ 3.04 hrs Surf.Area= 0.099 ac Storage= 0.010 af

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= (not calculated: no outflow)

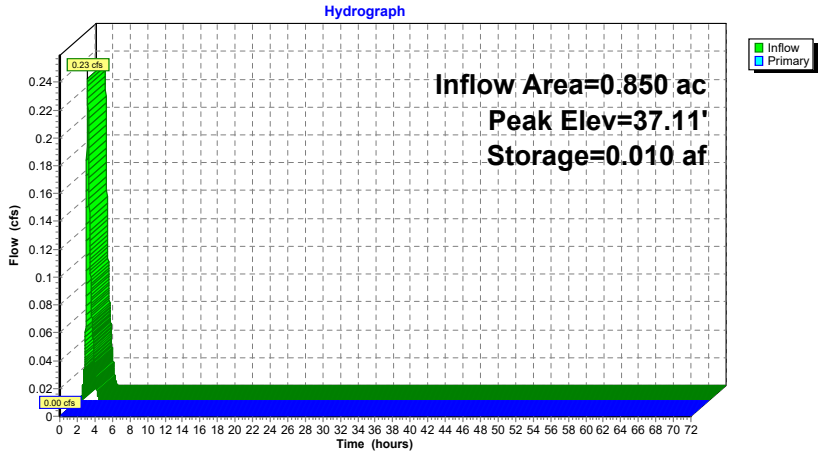
Volume	Invert	Avail.Storage	Storage Description
#1	37.00'	0.243 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
37.00	0.096	0.000	0.000
38.00	0.121	0.109	0.109
39.00	0.147	0.134	0.243

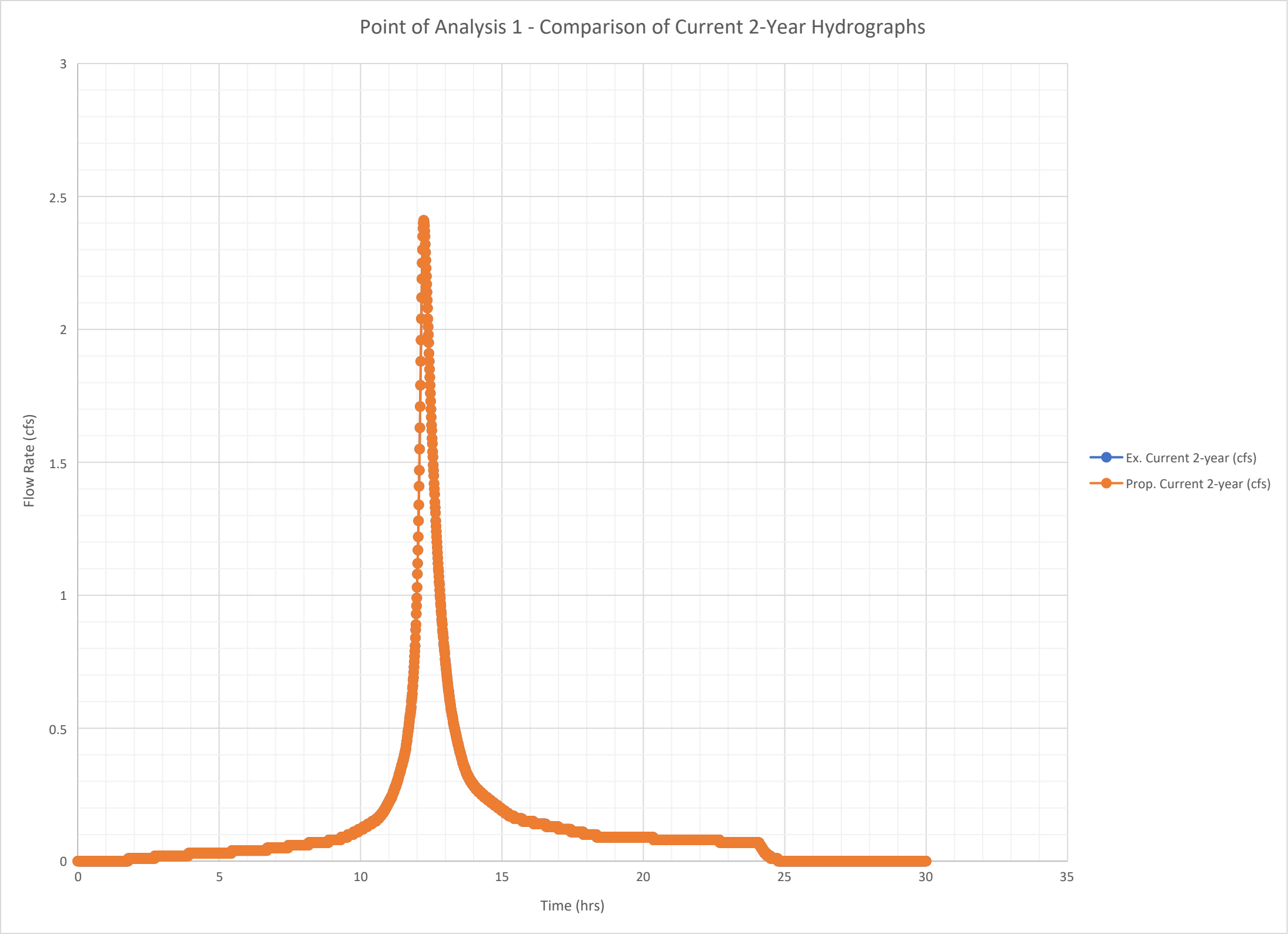
Device	Routing	Invert	Outlet Devices
#1	Primary	38.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	37.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

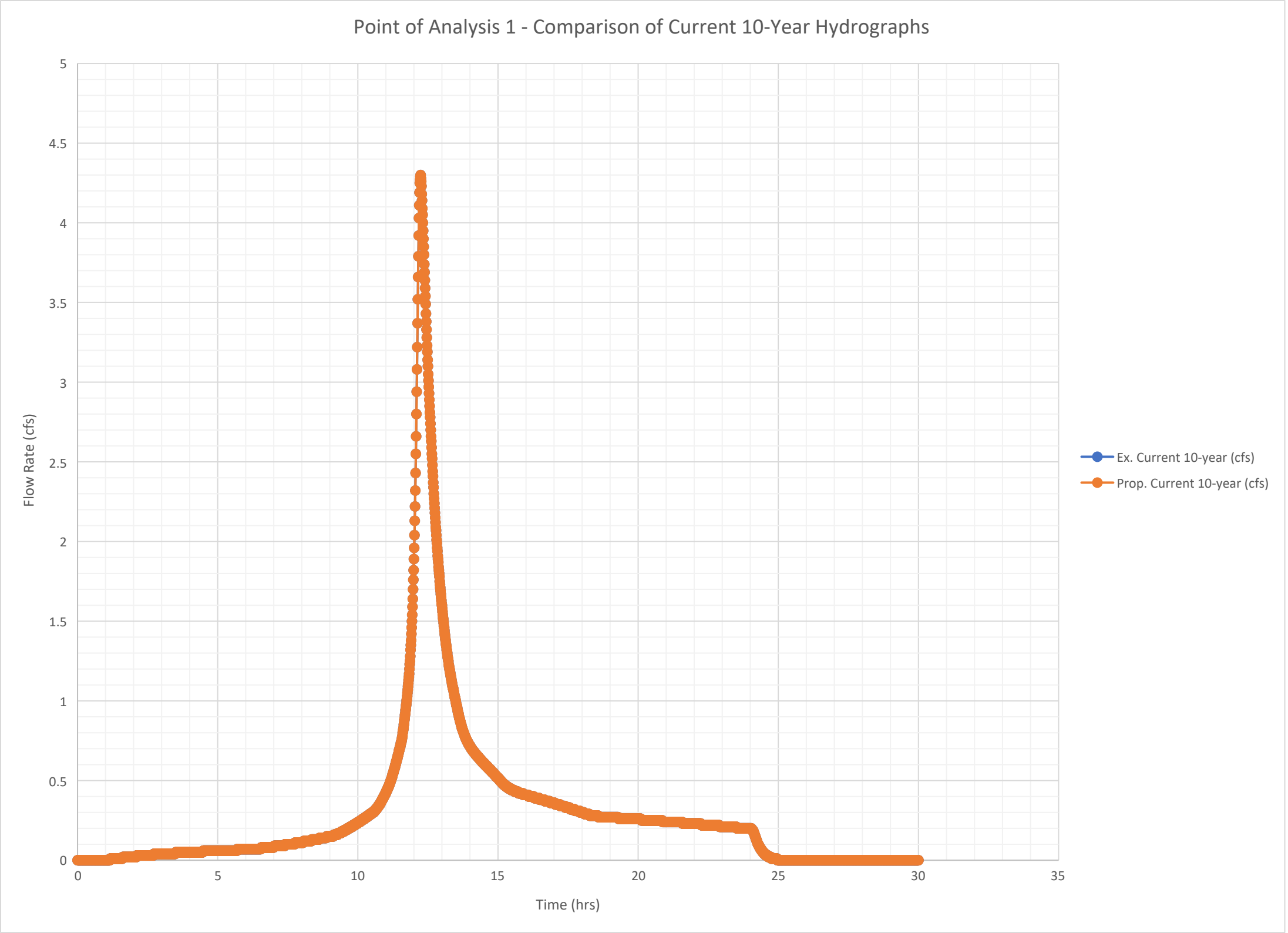
Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=37.00' (Free Discharge)
1=Grate (Controls 0.00 cfs)
2=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

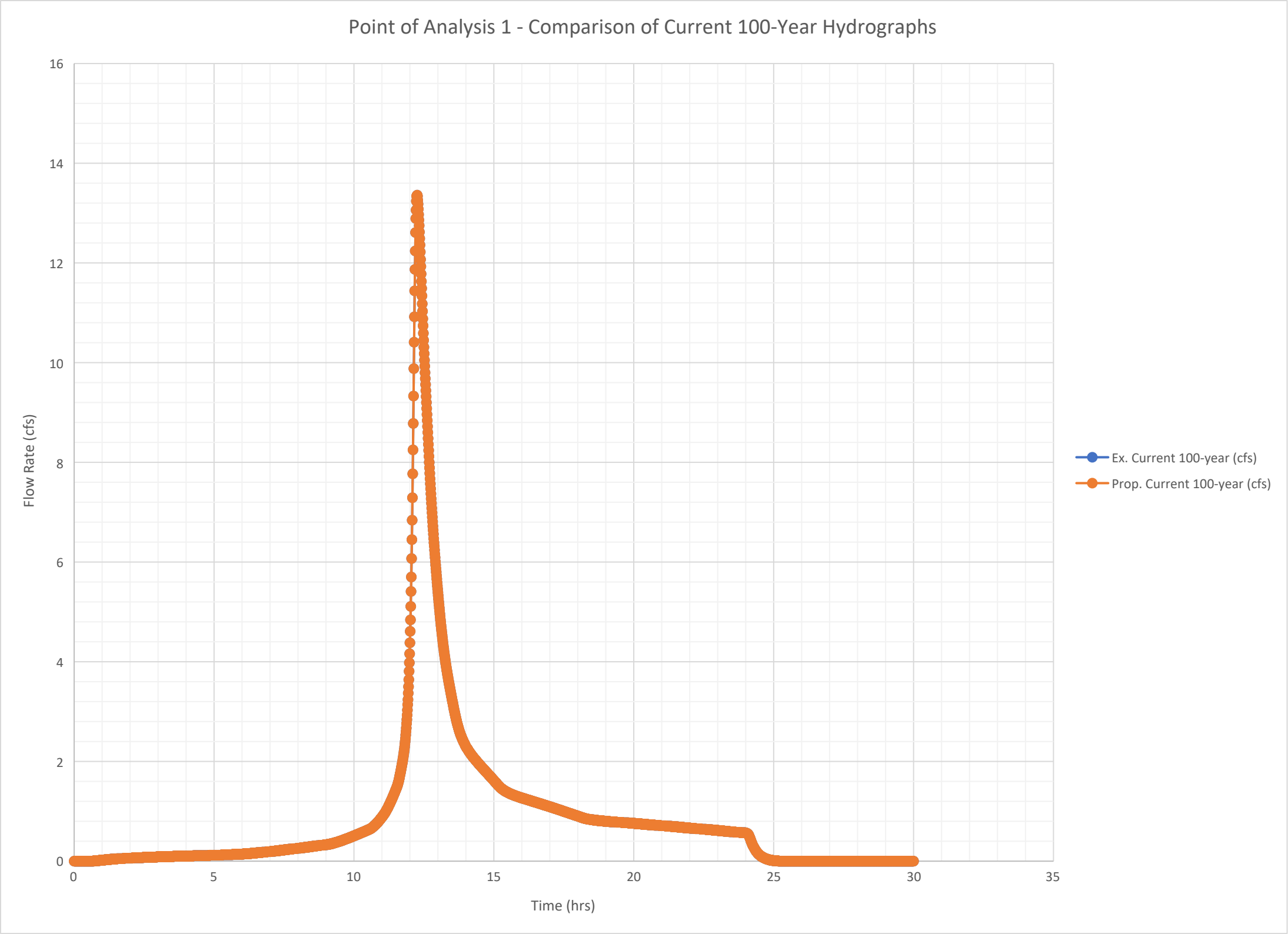
Pond 117P: BASIN V

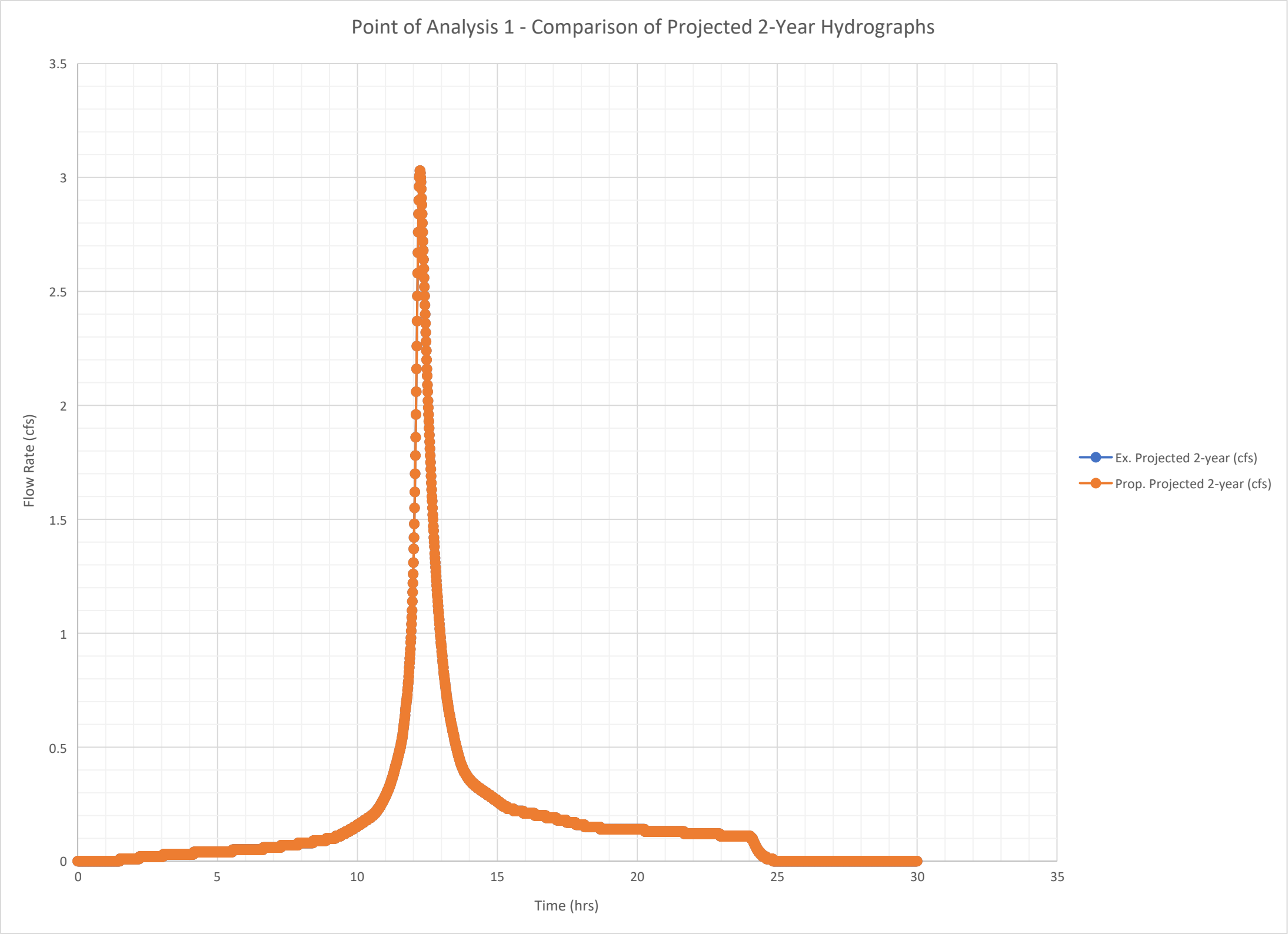


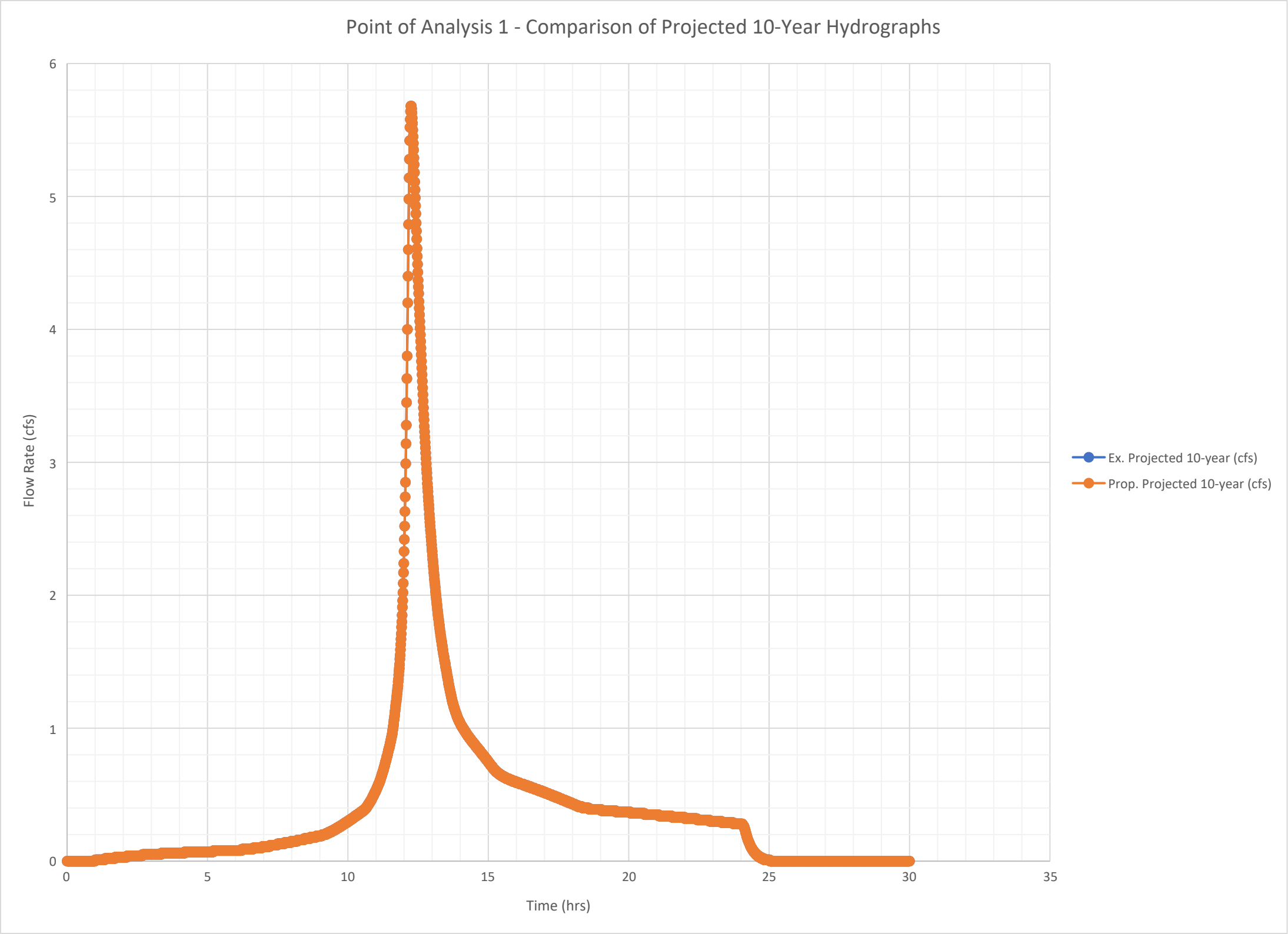
COMPARATIVE HYDROGRAPHS – POA #1
CURRENT & PROJECTED 2, 10, 25 & 100-YEAR

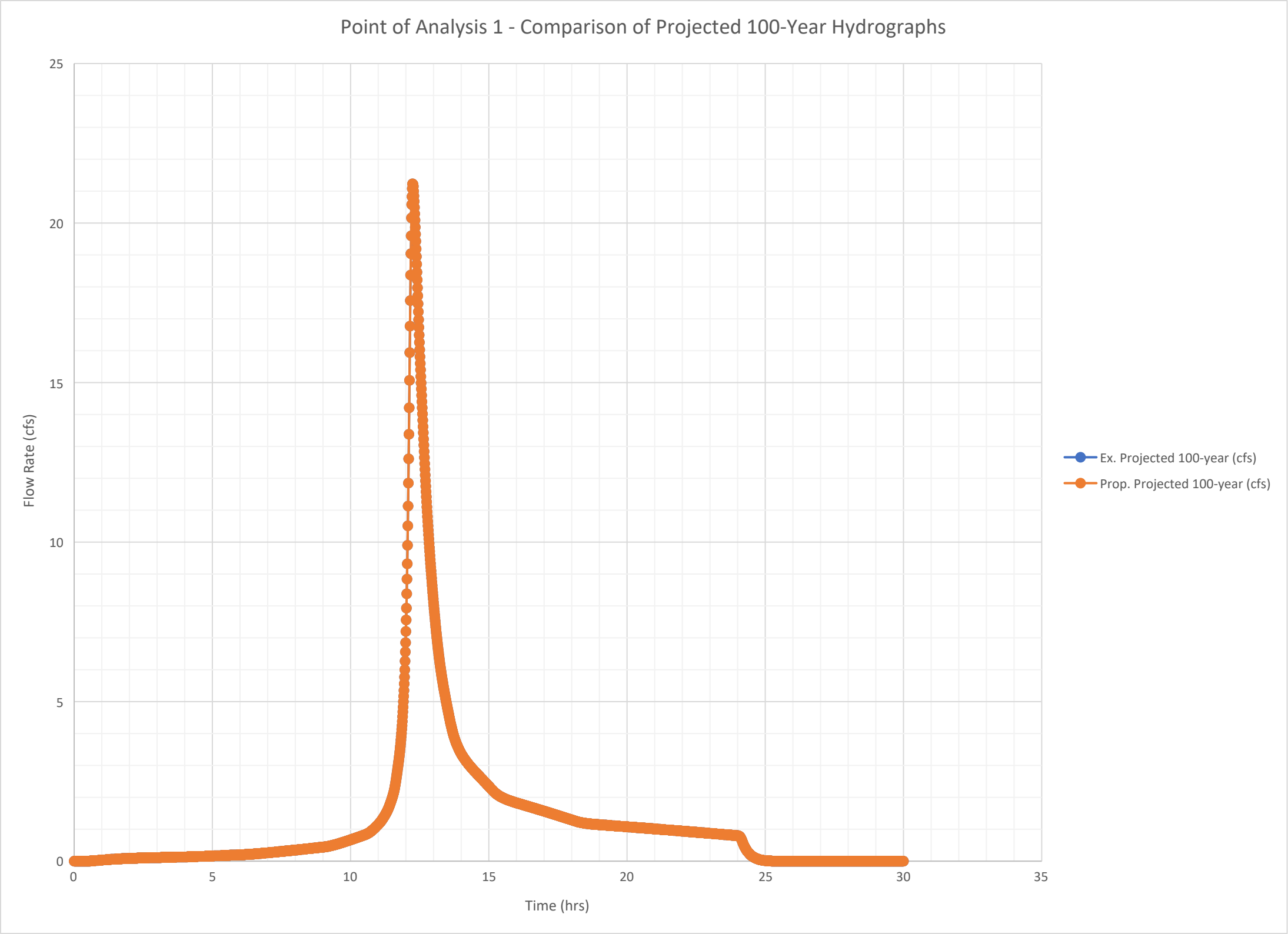

Point of Analysis 1 - Comparison of Current 2-Year Hydrographs
Flow Rate (cfs)
3
2.5
2
1.5
1
0.5
0
0
5
10
15
20
25
30
35
Time (hrs)
Ex. Current 2-year (cfs)
Prop. Current 2-year (cfs)


Point of Analysis 1 - Comparison of Current 10-Year Hydrographs
Flow Rate (cfs)
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
5
10
15
20
25
30
35
Time (hrs)
Ex. Current 10-year (cfs)
Prop. Current 10-year (cfs)

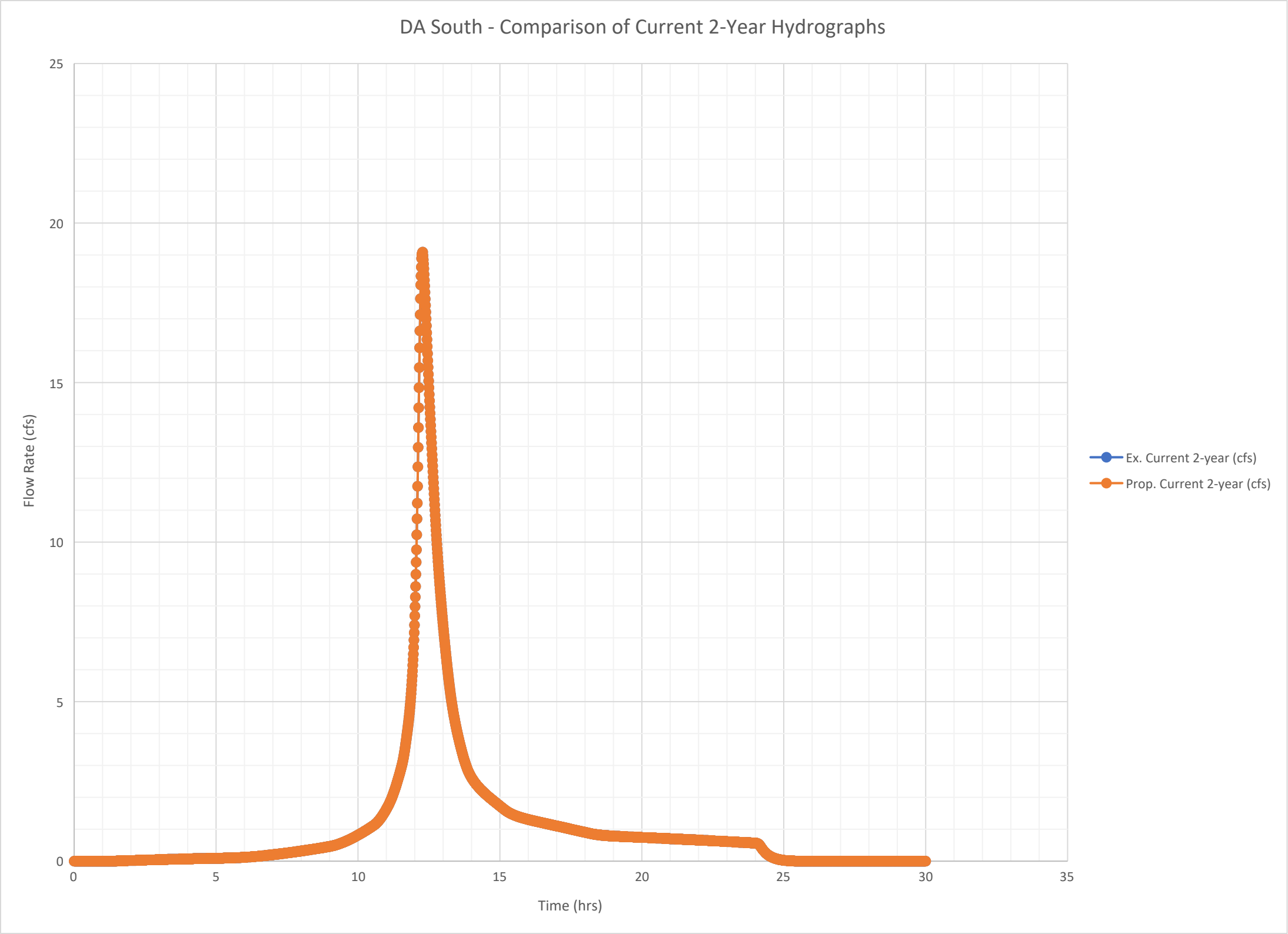

Point of Analysis 1 - Comparison of Current 100-Year Hydrographs
Flow Rate (cfs)
Time (hrs)
0
2
4
6
8
10
12
14
16
0
5
10
15
20
25
30
35
Ex. Current 100-year (cfs)
Prop. Current 100-year (cfs)

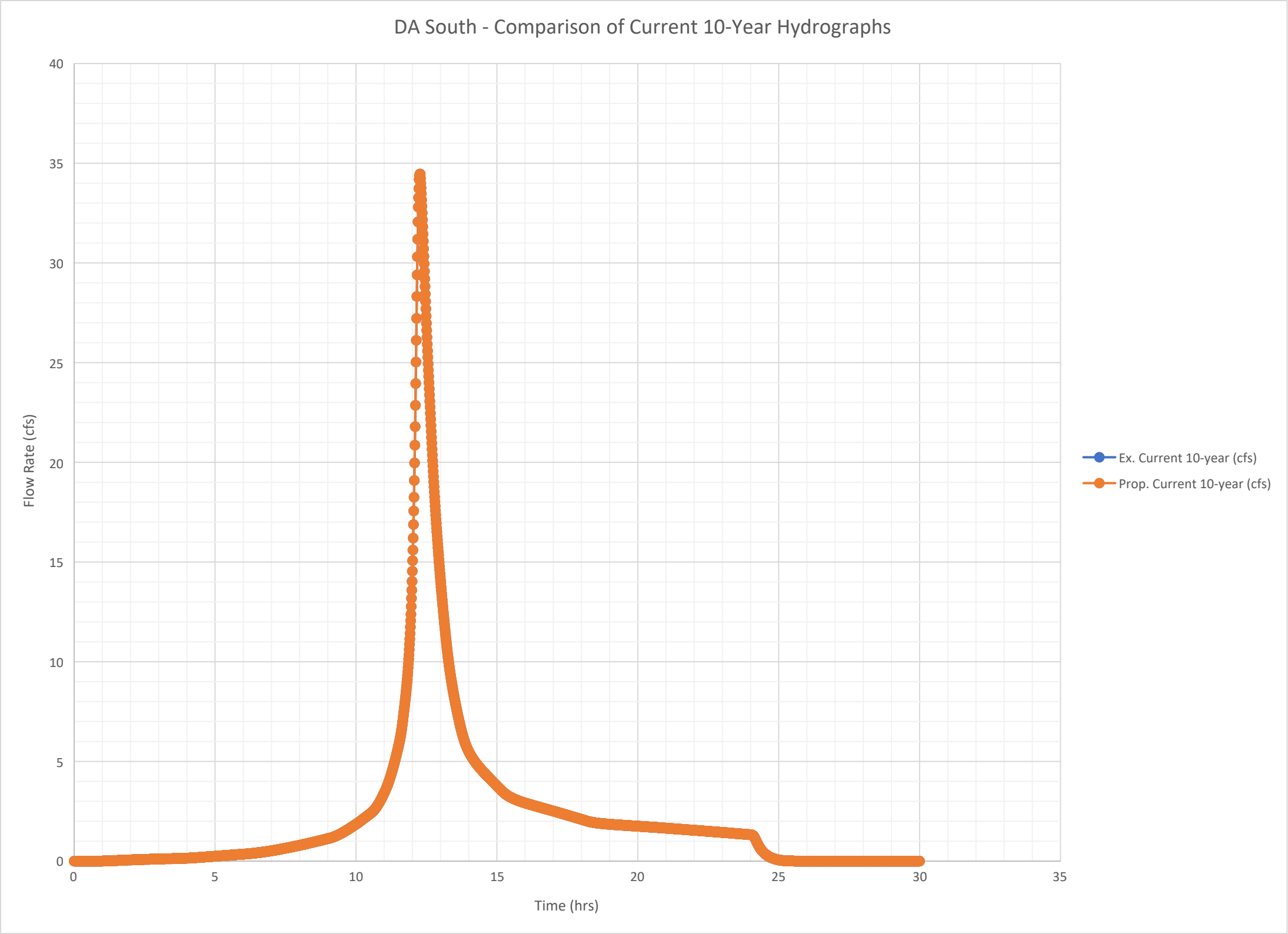

Point of Analysis 1 - Comparison of Projected 2-Year Hydrographs
Flow Rate (cfs)
3.5
3
2.5
2
1.5
1
0.5
0
0
5
10
15
20
25
30
35
Time (hrs)
Ex. Projected 2-year (cfs)
Prop. Projected 2-year (cfs)

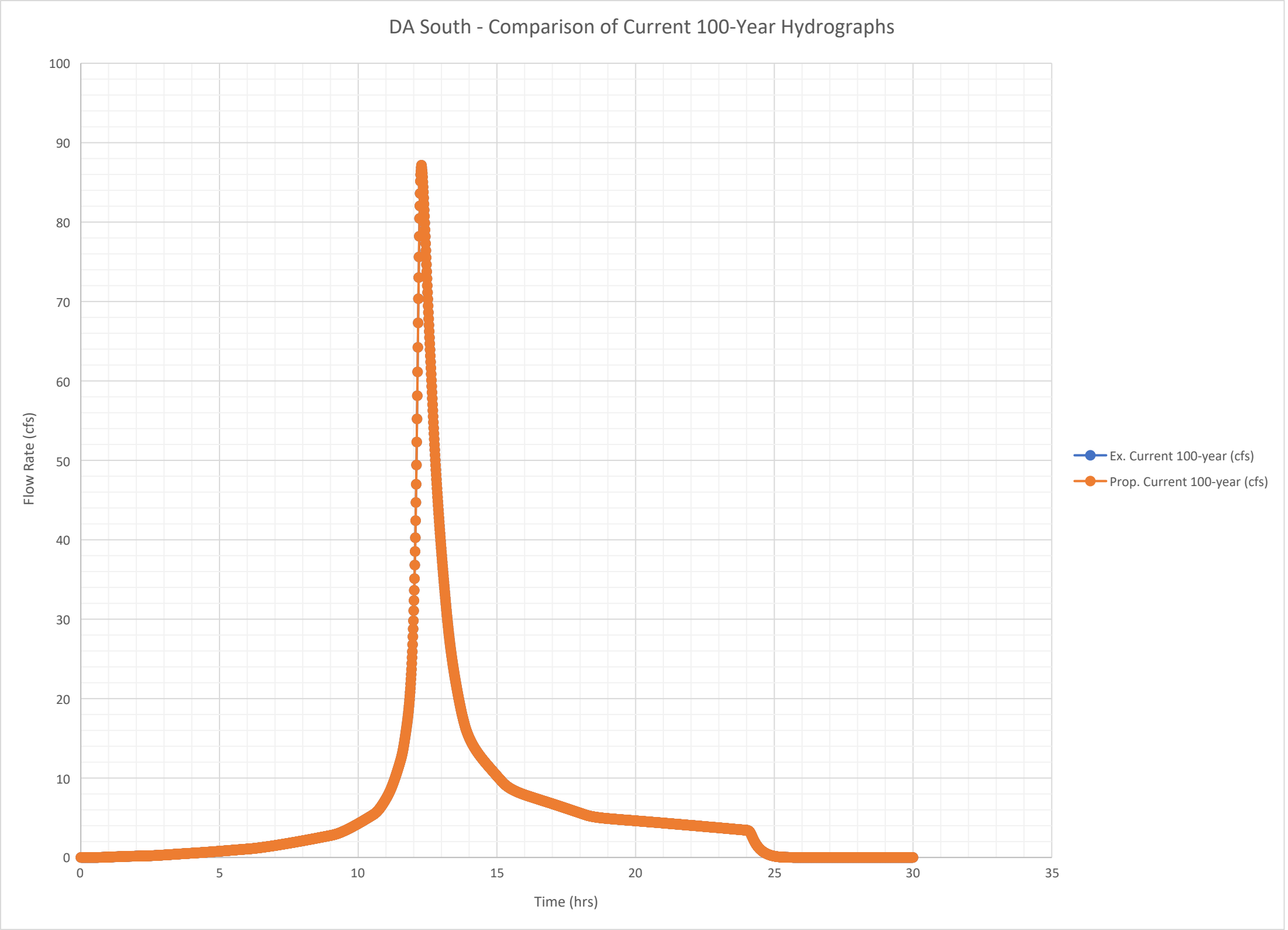

Point of Analysis 1 - Comparison of Projected 10-Year Hydrographs
Flow Rate (cfs)
0
1
2
3
4
5
6
0
5
10
15
20
25
30
35
Time (hrs)
Ex. Projected 10-year (cfs)
Prop. Projected 10-year (cfs)

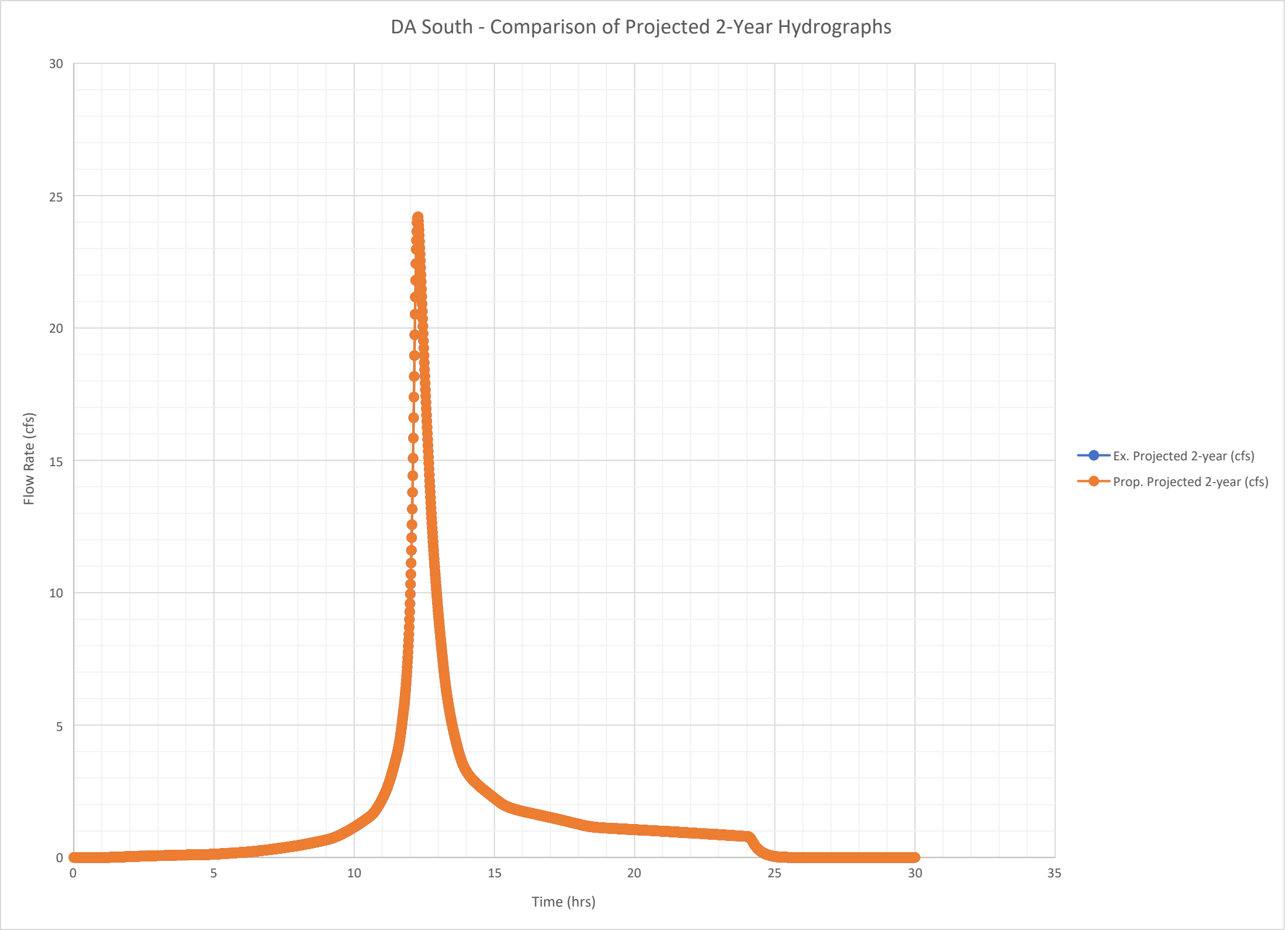

Point of Analysis 1 - Comparison of Projected 100-Year Hydrographs
Flow Rate (cfs)
0
5
10
15
20
25
Time (hrs)
0
5
10
15
20
25
30
35
Ex. Projected 100-year (cfs)
Prop. Projected 100-year (cfs)

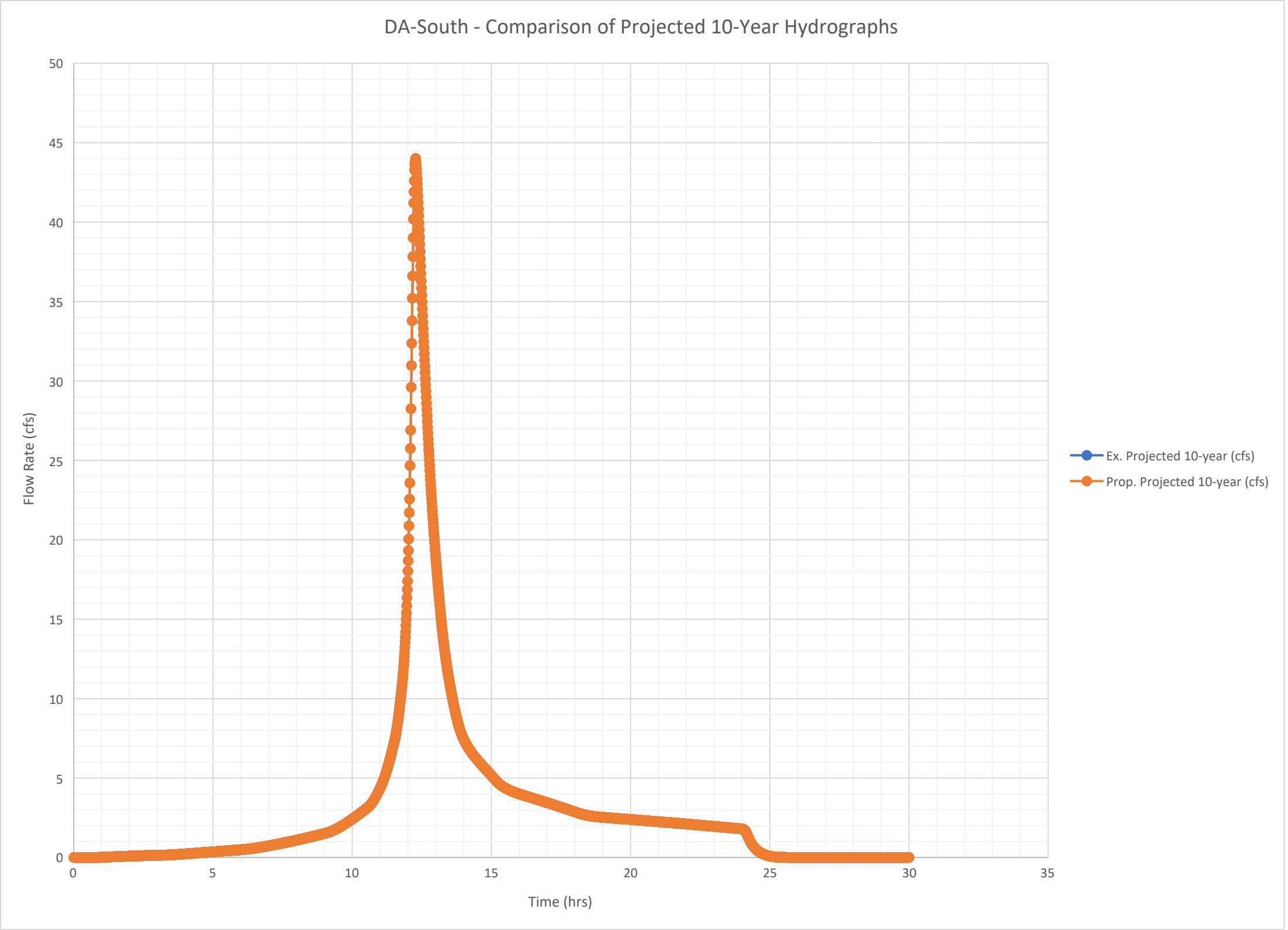
COMPARATIVE HYDROGRAPHS – POA #2 SOUTH CURRENT & PROJECTED 2, 10, 25 & 100-YEAR

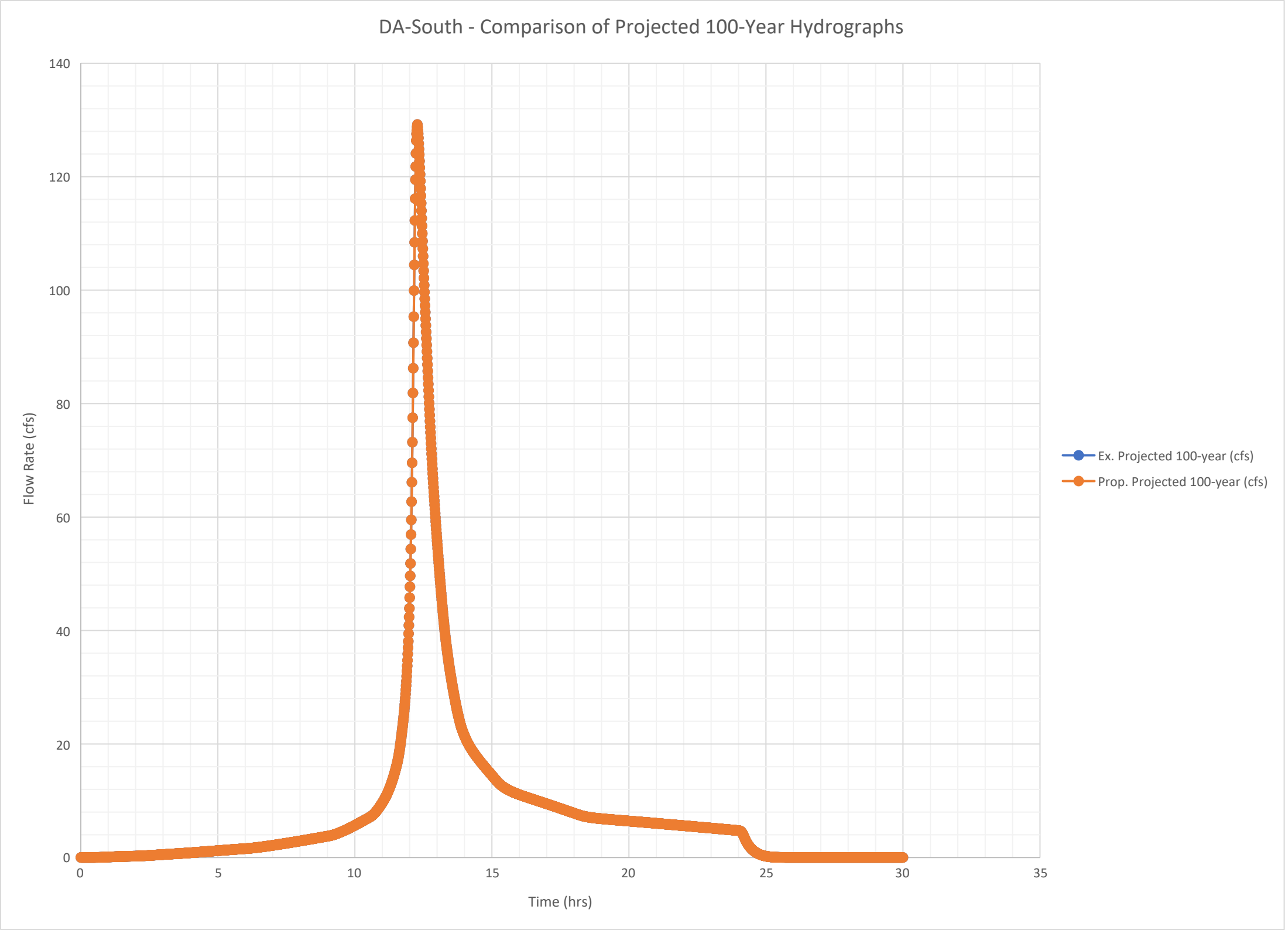

DA South - Comparison of Current 2-Year Hydrographs
Flow Rate (cfs)
25
20
15
10
5
0
0
5
10
15
20
25
30
35
Time (hrs)
Ex. Current 2-year (cfs)
Prop. Current 2-year (cfs)


DA South - Comparison of Current 10-Year Hydrographs
Flow Rate (cfs)
Time (hrs)
0
5
10
15
20
25
30
35
40
Ex. Current 10-year (cfs)
Prop. Current 10-year (cfs)


DA South - Comparison of Current 100-Year Hydrographs
Flow Rate (cfs)
Time (hrs)
0
10
20
30
40
50
60
70
80
90
100
0
5
10
15
20
25
30
35
Ex. Current 100-year (cfs)
Prop. Current 100-year (cfs)


DA South - Comparison of Projected 2-Year Hydrographs
Flow Rate (cfs)
Time (hrs)
0
5
10
15
20
25
30
35
Ex. Projected 2-year (cfs)
Prop. Projected 2-year (cfs)


DA-South - Comparison of Projected 10-Year Hydrographs
Flow Rate (cfs)
Time (hrs)
0
5
10
15
20
25
30
35
40
45
50
Ex. Projected 10-year (cfs)
Prop. Projected 10-year (cfs)


DA-South - Comparison of Projected 100-Year Hydrographs
Flow Rate (cfs)
140
120
100
80
60
40
20
0
0
5
10
15
20
25
30
35
Time (hrs)
Ex. Projected 100-year (cfs)
Prop. Projected 100-year (cfs)

STORMWATER COLLECTION SYSTEM CALCULATIONS (PIPE SIZING)

Figure 3-1

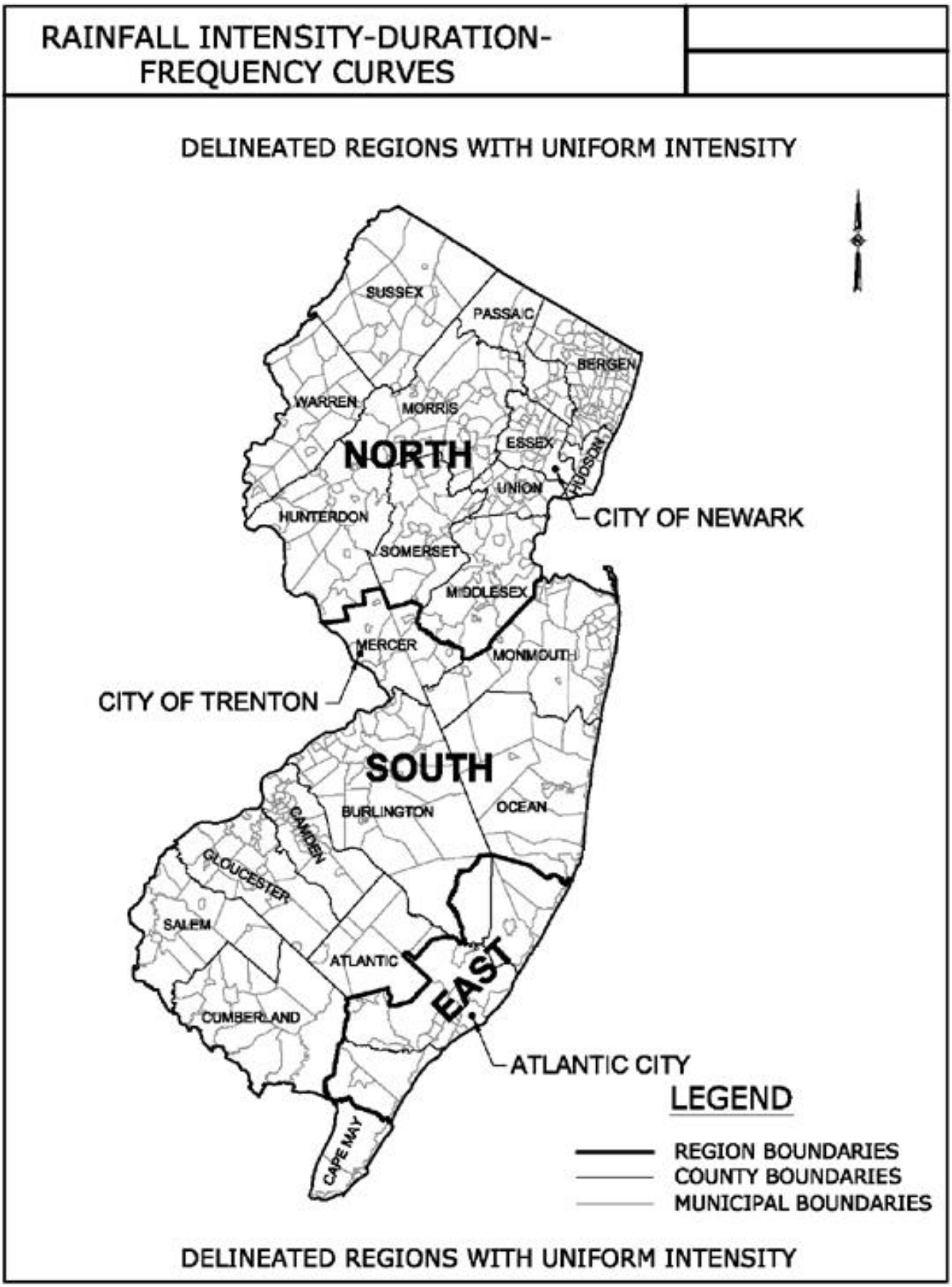
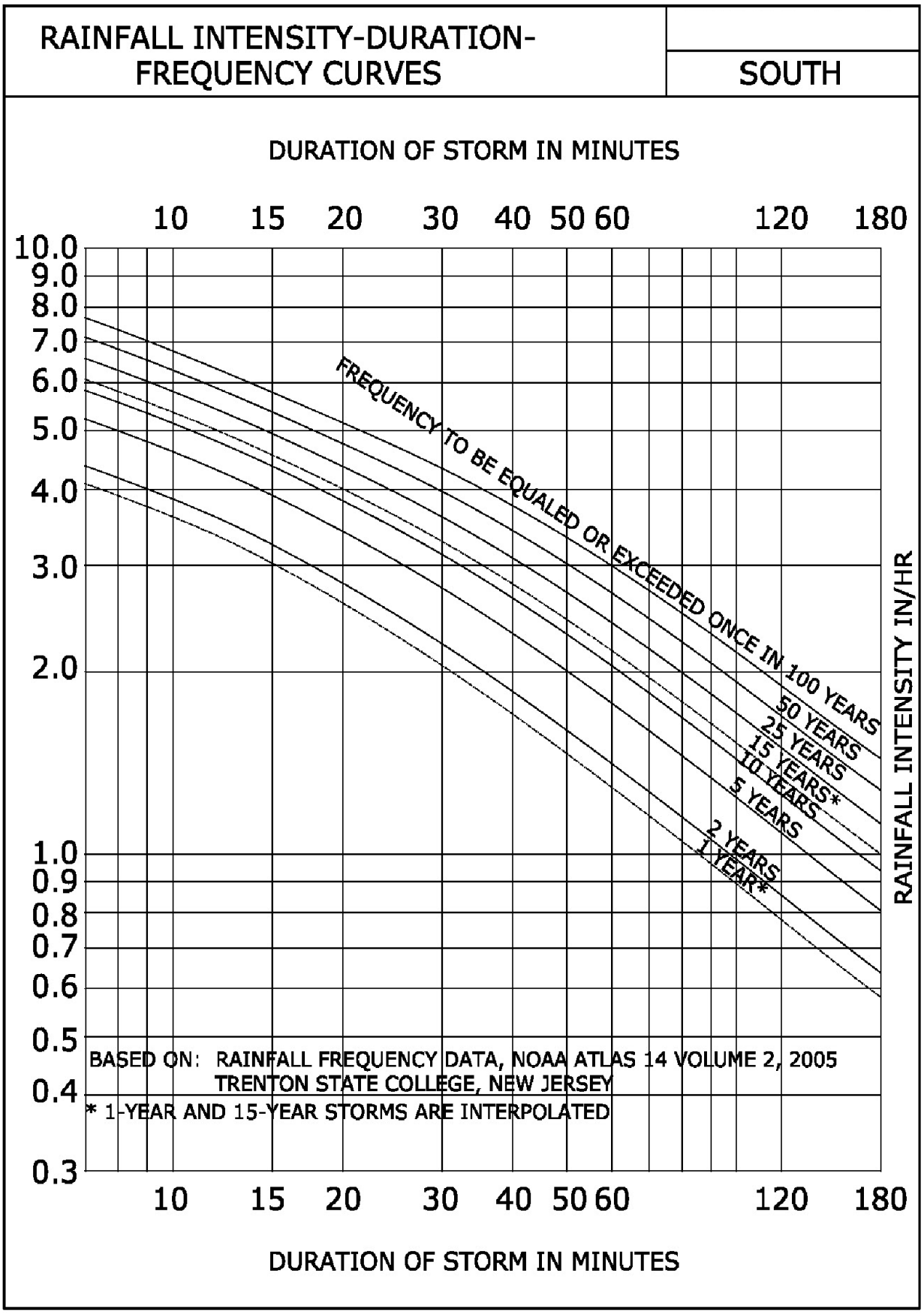

RAINFALL INTENSITY-DURATION-
FREQUENCY CURVES
DELINEATED REGIONS WITH UNIFORM INTENSITY
SUSSEX
PASSAIC
BERGEN
WARREN
MORRIS
ESSEX
HUDSON
NORTH
UNION
CITY OF NEWARK
HUNTERDON
SOMERSET
MIDDLESEX
MERCER
MONMOUTH
CITY OF TRENTON
SOUTH
BURLINGTON
OCEAN
CAMDEN
GLOUCESTER
SALEM
ATLANTIC
EAST
CUMBERLAND
ATLANTIC CITY
CAPE MAY
LEGEND
REGION BOUNDARIES
COUNTY BOUNDARIES
MUNICIPAL BOUNDARIES
DELINEATED REGIONS WITH UNIFORM INTENSITY

Figure 3-3


RAINFALL INTENSITY-DURATION-FREQUENCY CURVES
SOUTH
DURATION OF STORM IN MINUTES
10 15 20 30 40 50 60 120 180
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.9
0.8
0.7
0.6
0.5
0.4
0.3
FREQUENCY TO BE EQUALED OR EXCEEDED ONCE IN 100 YEARS
50 YEARS
25 YEARS
15 YEARS*
10 YEARS
5 YEARS
2 YEARS
1 YEAR*
RAINFALL INTENSITY IN/HR
BASED ON: RAINFALL FREQUENCY DATA, NOAA ATLAS 14 VOLUME 2, 2005
TRENTON STATE COLLEGE, NEW JERSEY
* 1-YEAR AND 15-YEAR STORMS ARE INTERPOLATED
10 15 20 30 40 50 60 120 180
DURATION OF STORM IN MINUTES

DYNAMIC ENGINEERING

Inlet Area Summary and Average Coefficient (C) Calculations

Project: Proposed Residential Subdivision
Job #: 3272-99-005
Location: Eatontown, NJ

Computed By: KB
Checked By:
Date: 4/21/2025

Drainage Area	Impervious Area (sf)	Coefficient (C) Used	Open Space (SF)	Coefficient (C) Used	Average Coefficient (C) Used	Total Area (SF)	Total Area (acres)
Inlet A-130	4030	0.99	1490	0.35	0.82	5520	0.13
Inlet A-120	2000	0.99	590	0.35	0.84	2590	0.06
Inlet A- 110	1425	0.99	0	0.35	0.99	1425	0.03
Inlet A- 212	3500	0.99	2550	0.35	0.72	6050	0.14
Inlet A- 211	2675	0.99	0	0.35	0.99	2675	0.06
Inlet A- 220	8520	0.99	6130	0.35	0.72	14650	0.34
Inlet A- 210	7060	0.99	0	0.35	0.99	7060	0.16
Inlet A- 330	6100	0.99	4010	0.35	0.74	10110	0.23
Inlet A- 320	2010	0.99	1440	0.35	0.72	3450	0.08
Inlet A- 310	1350	0.99	0	0.35	0.99	1350	0.03
Inlet D- 121	9100	0.99	6225	0.35	0.73	15325	0.35
Inlet D- 120	8835	0.99	5975	0.35	0.73	14810	0.34
Inlet D- 111	8700	0.99	6200	0.35	0.72	14900	0.34
Inlet D- 110	8735	0.99	6245	0.35	0.72	14980	0.34
Inlet F- 130	4060	0.99	85	0.35	0.98	4145	0.10
Inlet F- 120	1610	0.99	110	0.35	0.95	1720	0.04
Inlet F- 110	1240	0.99	0	0.35	0.99	1240	0.03
Inlet F-211	9245	0.99	6385	0.35	0.73	15630	0.36
Inlet F-220	5740	0.99	4035	0.35	0.73	9775	0.22
Inlet F-210	5130	0.99	0	0.35	0.99	5130	0.12
Inlet G- 130	2090	0.99	1300	0.35	0.74	3390	0.08
Inlet G- 120	1945	0.99	1345	0.35	0.73	3290	0.08
Inlet G- 110	445	0.99	855	0.35	0.57	1300	0.03
Inlet H- 120	11200	0.99	4695	0.35	0.80	15895	0.36
Inlet H-110	5345	0.99	3500	0.35	0.74	8845	0.20
Inlet E- 131	8585	0.99	6380	0.35	0.72	14965	0.34
Inlet E- 130	9170	0.99	5850	0.35	0.74	15020	0.34
Inlet E- 121	3395	0.99	2480	0.35	0.72	5875	0.13
Inlet E- 120	3870	0.99	2535	0.35	0.74	6405	0.15
Inlet E- 111	6555	0.99	3425	0.35	0.77	9980	0.23
Inlet E- 110	3360	0.99	1490	0.35	0.79	4850	0.11
Inlet K-120	80	0.99	220	0.35	0.52	300	0.01
Inlet K-110	790	0.99	2630	0.35	0.50	3420	0.08
Inlet M- 220	5040	0.99	2685	0.35	0.77	7725	0.18
Inlet M- 210	3275	0.99	0	0.35	0.99	3275	0.08
Inlet M- 120	7800	0.99	5300	0.35	0.73	13100	0.30
Inlet M- 110	1675	0.99	0	0.35	0.99	1675	0.04
Inlet L- 120	1160	0.99	0	0.35	0.99	1160	0.03
Inlet L- 110	3175	0.99	0	0.35	0.99	3175	0.07
Inlet L- 220	8110	0.99	5765	0.35	0.72	13875	0.32
Inlet L- 210	1310	0.99	0	0.35	0.99	1310	0.03
Inlet N- 130	5925	0.99	3695	0.35	0.74	9620	0.22
Inlet N- 120	6470	0.99	4190	0.35	0.74	10660	0.24
Inlet N- 110	240	0.99	540	0.35	0.55	780	0.02
Inlet O-230	6570	0.99	4040	0.35	0.75	10610	0.24
Inlet O-220	5915	0.99	4485	0.35	0.71	10400	0.24
Inlet P- 330	6760	0.99	4800	0.35	0.72	11560	0.27
Inlet P- 320	6030	0.99	4625	0.35	0.71	10655	0.24

Inlet P-310	2610	0.99	6820	0.35	0.53	9430	0.22
Inlet P- 120	10575	0.99	7395	0.35	0.73	17970	0.41
Inlet P- 110	9950	0.99	8020	0.35	0.70	17970	0.41
Inlet Q- 130	9695	0.99	7820	0.35	0.70	17515	0.40
Inlet Q- 120	8745	0.99	7270	0.35	0.70	16015	0.37
Inlet Q- 111	5495	0.99	4350	0.35	0.71	9845	0.23
Inlet Q- 110	5380	0.99	2220	0.35	0.80	7600	0.17
Inlet Q- 220	5060	0.99	1315	0.35	0.86	6375	0.15
Inlet Q- 210	5140	0.99	1620	0.35	0.84	6760	0.16
Inlet R- 120	13945	0.99	8975	0.35	0.74	22920	0.53
Inlet R- 110	13735	0.99	9450	0.35	0.73	23185	0.53
Inlet S- 140	4540	0.99	2730	0.35	0.75	7270	0.17
Inlet S-132	10180	0.99	1190	0.35	0.92	11370	0.26
Inlet S- 131	620	0.99	0	0.35	0.99	620	0.01
Inlet S- 130	3810	0.99	1240	0.35	0.83	5050	0.12
Inlet S- 121	2695	0.99	2155	0.35	0.71	4850	0.11
Inlet S- 120	7240	0.99	4500	0.35	0.74	11740	0.27
Inlet S- 111	4620	0.99	3565	0.35	0.71	8185	0.19
Inlet S- 110	5090	0.99	3455	0.35	0.73	8545	0.20
Inlet T- 120	4050	0.99	3130	0.35	0.71	7180	0.16
Inlet T- 110	4215	0.99	3095	0.35	0.72	7310	0.17
Inlet U- 220	3880	0.99	1690	0.35	0.80	5570	0.13
Inlet U- 210	3720	0.99	1500	0.35	0.81	5220	0.12
Inlet U- 120	4430	0.99	2220	0.35	0.78	6650	0.15
Inlet U- 110	4900	0.99	2140	0.35	0.80	7040	0.16
Y-161	219195	0.55	3405	0.35	0.55	222600	5.11
Y-160	5230	0.99	18450	0.35	0.49	23680	0.54
Y-150	0	0.99	11340	0.35	0.35	11340	0.26
Y-140	0	0.99	6140	0.35	0.35	6140	0.14
Y-141	16075	0.55	17150	0.35	0.45	33225	0.76
Y-142	4735	0.55	19485	0.35	0.39	24220	0.56
Y-130	0	0.99	5710	0.35	0.35	5710	0.13
Y-120	10230	0.55	4830	0.35	0.49	15060	0.35
Y-110	129990	0.55	6660	0.35	0.54	136650	3.14
Y-101	23415	0.55	17740	0.35	0.46	41155	0.94
Y-102	22680	0.55	15880	0.35	0.47	38560	0.89
Y-103	39805	0.55	13795	0.35	0.50	53600	1.23
Y-104	39285	0.55	3005	0.35	0.54	42290	0.97
Y-105	43070	0.55	2900	0.35	0.54	45970	1.06
X-181	56530	0.55	5720	0.35	0.53	62250	1.43
X-180	0	0.95	3300	0.35	0.35	3300	0.08
X-170	7845	0.99	25490	0.35	0.50	33330	0.77
X-161	41040	0.55	12365	0.35	0.50	53405	1.23
X-160	7845	0.99	24305	0.35	0.51	32150	0.74
X-150	10460	0.99	24290	0.35	0.54	34750	0.80
X-140	10460	0.99	25290	0.35	0.54	35750	0.82
X-131	128000	0.55	17160	0.35	0.53	145160	3.33
X-130A	7845	0.99	22408	0.35	0.52	30253	0.69
X-130	2615	0.99	8915	0.35	0.50	11530	0.26
W-191	45115	0.55	12135	0.35	0.51	57250	1.31
W-180	7845	0.99	23465	0.35	0.51	31310	0.72
W-170	5230	0.99	17170	0.35	0.50	22400	0.51
W-160	5230	0.99	13345	0.35	0.53	18575	0.43
W-151	252880	0.55	31285	0.35	0.53	284165	6.52
W-150	7845	0.99	21950	0.35	0.52	29795	0.68
W-145	7845	0.99	29685	0.35	0.48	37530	0.86
W-140	0	0.95	1202	0.35	0.35	1202	0.03
W-132	6955	0.55	2860	0.35	0.49	9815	0.23
W-131	8500	0.55	2375	0.35	0.51	10875	0.25
W-130	0	0.99	10520	0.35	0.35	10520	0.24

W-125	0	0.99	10025	0.35	0.27	12810	0.29
W-121	44330	0.55	12660	0.35	0.51	56990	1.31
W-120	2615	0.99	10235	0.35	0.48	12850	0.29
W-110	10460	0.99	28155	0.35	0.52	38615	0.89

Design Storm: 25-year
Basin Discharge: 100-yr projected storm

Start Node	Stop Node	Upstream Inlet Area (AC)	Upstream Inlet C	System Intensity (in/h)	System CA (AC)	Upstream Structure Flow (Total Surface) (cfs)	Upstream Inlet Tc (min)	Flow (cfs)	Capacity (Full Flow) (cfs)	Velocity (Out) (ft/s)	Size	Material	Manning's n	Length (Unified) (ft)	Slope (Calculated) (%)	Invert (Start) (ft)	Invert (Stop) (ft)	Elevation Ground (Start) (ft)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade line (Out) (ft)
E-300	D-310	(N/A)	(N/A)	8.02	0.00	0.00	0	30.38	40.46	6.33	30 inch	Concrete	0.013	13	1.0%	23.92	23.79	28.60	26.18	26.15
D-300	D-310	(N/A)	(N/A)	8.02	0.00	0.00	0	22.39	28.05	8.86	24 inch	Concrete	0.013	13	1.5%	24.99	24.79	28.75	26.68	26.29
D-310	D-320	(N/A)	(N/A)	9.61	0.00	0.00	0	52.77	66.69	10.46	36 inch	Concrete	0.013	326	1.0%	23.79	20.53	29.30	26.15	22.54
I-100	P-310	(N/A)	(N/A)	8.02	0.00	0.00	0	2.74	4.55	2.45	15 inch	Concrete	0.013	125	0.5%	27.40	26.78	31.10	28.10	27.85
P-330	P-320	0.27	0.72	6.70	0.19	1.31	10	1.31	4.62	2.03	15 inch	Concrete	0.013	31	0.5%	27.65	27.49	30.35	28.15	28.14
P-320	P-310	0.24	0.71	6.66	0.37	1.15	10	2.45	4.57	2.19	15 inch	Concrete	0.013	142	0.5%	27.49	26.78	30.33	28.14	27.85
P-310	P-300	0.22	0.53	6.50	0.48	0.79	10	5.90	6.79	5.07	18 inch	Concrete	0.013	67	0.4%	26.78	26.50	31.51	27.85	27.44
D-111	D-110	0.34	0.72	6.70	0.25	1.65	10	1.65	4.57	1.48	15 inch	Concrete	0.013	30	0.5%	27.33	27.18	31.11	28.27	28.26
D-121	D-120	0.35	0.73	6.70	0.26	1.73	10	1.73	4.57	2.08	15 inch	Concrete	0.013	30	0.5%	28.83	28.68	34.08	29.49	29.48
D-120	D-110	0.34	0.73	6.66	0.50	1.68	10	3.38	4.57	3.02	15 inch	Concrete	0.013	298	0.5%	28.68	27.18	34.08	29.48	28.26
D-110	D-100	0.34	0.72	6.37	0.99	1.65	10	6.38	7.43	5.23	18 inch	Concrete	0.013	137	0.5%	27.18	26.50	31.11	28.26	27.48
E-111	E-110	0.23	0.77	6.70	0.18	1.20	10	1.20	3.55	1.09	15 inch	Concrete	0.013	64	0.3%	26.83	26.64	29.85	27.70	27.68
E-121	E-120	0.13	0.72	6.70	0.09	0.63	10	0.63	4.57	0.63	15 inch	Concrete	0.013	30	0.5%	27.41	27.26	31.06	28.21	28.21
E-131	E-130	0.34	0.72	6.70	0.25	1.65	10	1.65	4.57	2.01	15 inch	Concrete	0.013	30	0.5%	28.00	27.85	32.28	28.66	28.64
E-130	E-120	0.34	0.74	6.66	0.50	1.70	10	3.33	4.57	3.33	15 inch	Concrete	0.013	118	0.5%	27.85	27.26	32.28	28.64	28.21
E-120	E-110	0.15	0.74	6.54	0.70	0.75	10	4.62	5.00	4.21	15 inch	Concrete	0.013	104	0.6%	27.26	26.64	31.07	28.21	27.68
E-110	E-100	0.11	0.79	6.45	0.97	0.59	10	6.27	7.43	5.20	18 inch	Concrete	0.013	27	0.5%	26.64	26.50	29.92	27.68	27.47
P-120	P-110	0.41	0.73	6.70	0.30	2.02	10	2.02	4.56	2.15	15 inch	Concrete	0.013	31	0.5%	27.34	27.18	30.33	28.10	28.08
P-110	P-100	0.41	0.70	6.66	0.59	1.94	10	3.94	4.57	4.73	15 inch	Concrete	0.013	137	0.5%	27.18	26.50	30.33	28.08	27.30
C-200	D-200	(N/A)	(N/A)	8.02	0.00	0.00	0	9.49	12.94	7.62	18 inch	Concrete	0.013	27	1.5%	26.91	26.50	31.10	28.10	27.50
P-400	E-200	(N/A)	(N/A)	8.02	0.00	0.00	0	22.15	22.95	8.11	19x30 inch	Concrete	0.013	22	1.0%	26.73	26.50	29.30	28.13	27.79
H-300	P-200	(N/A)	(N/A)	8.02	0.00	0.00	0	10.24	12.79	7.74	18 inch	Concrete	0.013	29	1.5%	26.93	26.50	31.20	28.16	27.55
H-120	H-110	0.36	0.80	6.70	0.29	1.95	10	1.95	4.51	2.47	15 inch	Concrete	0.013	61	0.5%	29.48	29.18	32.43	30.05	29.95
H-110	H-100	0.25	0.74	6.63	0.47	1.25	10	3.16	4.57	4.35	15 inch	Concrete	0.013	136	0.5%	29.18	28.50	32.73	29.95	29.22
B-200	C-100	(N/A)	(N/A)	8.02	0.00	0.00	0	5.54	6.46	5.91	15 inch	Concrete	0.013	26	1.0%	28.76	28.50	32.60	29.71	29.39
G-300	H-200	(N/A)	(N/A)	8.02	0.00	0.00	0	5.22	6.47	5.86	15 inch	Concrete	0.013	32	1.0%	28.82	28.50	33.70	29.75	29.35
A-400	B-100	(N/A)	(N/A)	8.02	0.00	0.00	0	2.90	4.57	4.22	15 inch	Concrete	0.013	36	0.5%	30.18	30.00	35.60	30.90	30.68
G-130	G-120	0.08	0.74	6.70	0.06	0.40	10	0.40	4.57	1.41	15 inch	Concrete	0.013	30	0.5%	31.95	31.80	34.65	32.20	32.15
G-120	G-110	0.08	0.73	6.65	0.12	0.39	10	0.79	4.57	2.54	15 inch	Concrete	0.013	23	0.5%	31.80	31.68	34.65	32.15	32.06
G-110	G-100	0.03	0.57	6.61	0.14	0.12	10	0.90	4.57	2.93	15 inch	Concrete	0.013	136	0.5%	31.68	31.00	34.43	32.06	31.37
F-300	G-200	(N/A)	(N/A)	8.02	0.00	0.00	0	0.35	4.57	2.26	15 inch	Concrete	0.013	32	0.5%	31.16	31.00	35.50	31.39	31.23
F-211	F-210	0.36	0.73	6.70	0.26	1.77	10	1.77	3.53	2.13	15 inch	Concrete	0.013	221	0.3%	32.85	32.19	35.43	33.48	32.99
F-220	F-210	0.22	0.73	6.70	0.16	1.08	10	1.08	4.57	1.28	15 inch	Concrete	0.013	30	0.5%	32.33	32.18	36.48	33.00	32.99
F-210	F-200	0.12	0.99	6.39	0.54	0.80	10	3.49	4.57	4.51	15 inch	Concrete	0.013	35	0.5%	32.18	32.00	36.48	32.99	32.75
F-130	F-120	0.10	0.98	6.70	0.10	0.66	10	0.66	4.57	2.11	15 inch	Concrete	0.013	30	0.5%	32.58	32.43	35.32	32.90	32.81
F-120	F-110	0.04	0.95	6.65	0.14	0.26	10	0.91	4.56	2.54	15 inch	Concrete	0.013	65	0.5%	32.43	32.11	35.32	32.81	32.52
F-110	F-100	0.03	0.99	6.56	0.17	0.20	10	1.10	4.57	3.11	15 inch	Concrete	0.013	21	0.5%	32.11	32.00	35.96	32.52	32.41
A-130	A-120	0.13	0.82	6.70	0.11	0.72	10	0.72	3.54	1.72	15 inch	Concrete	0.013	30	0.3%	32.40	32.31	35.38	32.81	32.78
A-120	A-110	0.06	0.84	6.65	0.16	0.34	10	1.05	3.53	2.34	15 inch	Concrete	0.013	80	0.3%	32.31	32.07	35.38	32.78	32.56
A-110	A-100	0.03	0.99	6.51	0.19	0.20	10	1.23	3.64	3.21	15 inch	Concrete	0.013	22	0.3%	32.07	32.00	36.20	32.56	32.44
A-212	A-211	0.14	0.72	6.70	0.10	0.68	10	0.68	4.57	1.93	15 inch	Concrete	0.013	30	0.5%	32.95	32.80	36.78	33.28	33.21
A-211	A-210	0.06	0.99	6.65	0.16	0.40	10	1.07	4.57	1.21	15 inch	Concrete	0.013	124	0.5%	32.80	32.18	36.78	33.21	33.03
A-220	A-210	0.34	0.72	6.70	0.25	1.65	10	1.65	4.54	1.87	15 inch	Concrete	0.013	30	0.5%	32.33	32.18	36.81	33.04	33.03
A-210	A-200	0.16	0.99	6.484	0.56	1.07	10	3.68	4.57	4.60	15 inch	Concrete	0.013	36	0.5%	32.18	32.00	36.81	33.03	32.78
A-330	A-320	0.23	0.74	6.70	0.17	1.15	10	1.15	4.57	2.52	15 inch	Concrete	0.013	30	0.5%	32.67	32.52	37.07	33.10	33.02
A-320	A-310	0.08	0.72	6.66	0.23	0.39	10	1.53	4.57	3.10	15 inch	Concrete	0.013	77	0.5%	32.52	32.14	37.07	33.02	32.67
A-310	A-300	0.03	0.99	6.564	0.26	0.20	10	1.70	4.57	3.55	15 inch	Concrete	0.013	27	0.5%	32.14	32.00	37.84	32.67	32.52

Design Storm: 25-year
Basin Discharge: 100-yr projected storm

Start Node	Stop Node	Upstream Inlet Area (AC)	Upstream Inlet C	System Intensity (in/h)	System CA (AC)	Upstream Structure Flow (Total Surface) (cfs)	Upstream Inlet Tc (min)	Flow (cfs)	Capacity (Full Flow) (cfs)	Velocity (Out) (ft/s)	Size	Material	Manning's n	Length (Unified) (ft)	Slope (Calculated) (%)	Invert (Start) (ft)	Invert (Stop) (ft)	Elevation Ground (Start) (ft)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade line (Out) (ft)
O-230	O-220	0.24	0.75	6.70	0.18	1.22	10	1.22	4.57	1.94	15 inch	Concrete	0.013	30	0.5%	27.46	27.31	31.00	27.96	27.95
O-220	O-210	0.24	0.71	6.66	0.35	1.15	10	2.35	4.57	3.76	15 inch	Concrete	0.013	138	0.5%	27.31	26.62	31.05	27.95	27.25
O-210	O-200	(N/A)	(N/A)	6.51	0.35	0.00	0	2.30	4.48	3.90	15 inch	Concrete	0.013	25	0.5%	26.62	26.50	29.59	27.25	27.11
O-100	O-120	(N/A)	(N/A)	8.02	0.00	0.00	0	5.98	7.55	5.10	18 inch	Concrete	0.013	29	0.5%	22.41	22.26	28.75	23.41	23.20
N-200	W-105	(N/A)	(N/A)	8.02	0.00	0.00	0	14.75	16.00	4.85	24 inch	Concrete	0.013	70	0.5%	24.83	24.48	30.90	26.56	26.34
M-300	W-140	(N/A)	(N/A)	8.02	0.00	0.00	0	3.60	4.57	4.56	15 inch	Concrete	0.013	6	0.5%	30.53	30.50	35.00	31.34	31.27
W-191	W-180	1.31	0.51	6.65	0.67	4.48	10.2	4.48	13.66	3.81	15 inch	Concrete	0.013	91	4.5%	37.93	33.86	48.18	38.79	35.00
W-180	W-170	0.72	0.51	6.61	1.04	2.48	10	6.90	7.45	4.86	18 inch	Concrete	0.013	179	0.5%	33.86	32.96	36.65	35.00	34.08
W-170	W-160	0.51	0.50	6.46	1.29	1.72	10	8.40	10.50	4.75	18 inch	Concrete	0.013	134	1.0%	32.96	31.62	36.25	34.08	33.23
W-160	W-150	0.43	0.53	6.38	1.52	1.54	10	9.77	10.50	5.53	18 inch	Concrete	0.013	114	1.0%	31.62	30.48	35.50	33.23	32.24
W-151	W-150	6.52	0.53	5.00	3.46	17.40	18.5	17.40	29.40	9.55	24 inch	Concrete	0.013	87	1.7%	32.47	31.00	43.21	33.97	32.13
W-150	W-145	0.68	0.52	4.97	5.33	2.39	10	26.69	40.31	6.37	30 inch	Concrete	0.013	235	1.0%	30.48	28.21	34.20	32.24	30.20
W-145	W-140	0.86	0.48	4.90	5.74	2.79	10	28.32	29.00	7.37	30 inch	Concrete	0.013	126	0.5%	28.21	27.58	32.41	30.20	29.41
W-140	W-130	0.03	0.35	4.85	5.75	0.07	10	31.68	47.16	6.86	36 inch	Concrete	0.013	104	0.5%	27.58	27.06	35.55	29.41	28.93
W-132	W-131	0.23	0.49	6.86	0.11	0.78	9.2	0.78	4.55	1.67	15 inch	Concrete	0.013	109	0.5%	39.80	39.26	43.00	40.15	39.77
W-131	W-130	0.25	0.51	6.73	0.24	0.88	9.3	1.63	11.19	6.50	15 inch	Concrete	0.013	82	3.0%	39.26	36.80	46.73	39.77	37.12
W-130	W-125	0.24	0.35	4.81	6.08	0.57	10	33.03	47.11	7.13	36 inch	Concrete	0.013	154	0.5%	27.06	26.29	39.80	28.93	28.16
W-125	W-120	0.29	0.35	4.75	6.18	0.69	10	33.17	47.43	6.64	36 inch	Concrete	0.013	87	0.5%	26.29	25.85	36.75	28.16	27.85
W-121	W-120	1.31	0.51	6.34	0.67	4.27	11.5	4.27	4.57	4.89	15 inch	Concrete	0.013	80	0.5%	33.06	32.66	37.07	34.02	33.50
W-120	W-110	0.29	0.48	4.72	6.98	0.94	10	36.85	47.16	7.14	36 inch	Concrete	0.013	242	0.5%	25.85	24.64	36.62	27.85	26.69
W-110	W-105	0.89	0.52	4.65	7.45	3.13	10	38.52	47.36	6.69	36 inch	Concrete	0.013	115	0.5%	24.64	24.06	31.79	26.69	26.34
W-105	W-100	(N/A)	(N/A)	4.62	7.45	0.00	0	53.02	70.39	8.04	42 inch	Concrete	0.013	96	0.5%	24.06	23.59	28.81	26.34	25.86
K-200	N-130	(N/A)	(N/A)	8.02	0.00	0.00	0	5.07	12.24	2.13	19x30 inch	Concrete	0.013	138	0.3%	30.50	30.09	33.00	31.30	31.22
N-130	N-120	0.22	0.74	6.70	0.16	1.10	10	6.17	12.59	3.10	24 inch	Concrete	0.013	42	0.3%	30.09	29.96	33.12	31.22	31.17
N-120	N-110	0.24	0.74	6.66	0.34	1.20	10	7.35	12.39	2.85	24 inch	Concrete	0.013	180	0.3%	29.96	29.42	33.41	31.17	30.95
L-300	N-110	(N/A)	(N/A)	8.02	0.00	0.00	0	4.76	7.35	2.69	18 inch	Concrete	0.013	49	0.5%	29.66	29.42	34.60	31.04	30.95
N-110	N-100	0.02	0.55	6.47	0.35	0.07	10	12.12	12.37	5.86	24 inch	Concrete	0.013	137	0.3%	29.41	29.00	35.18	30.95	30.25
K-120	K-110	0.001	0.52	6.70	0.00	0.00	10	0.00	4.56	0.03	15 inch	Concrete	0.013	109	0.5%	31.52	30.98	36.60	31.54	31.17
K-110	K-100	0.08	0.50	5.97	0.04	0.27	10	0.24	4.69	2.06	15 inch	Concrete	0.013	90	0.5%	30.98	30.50	34.75	31.17	30.69
L-120	L-110	0.03	0.99	6.70	0.03	0.20	10	0.20	4.59	0.82	15 inch	Concrete	0.013	115	0.5%	33.27	32.69	37.01	33.45	33.01
L-110	L-100	0.07	0.99	6.44	0.10	0.47	10	0.64	4.57	2.67	15 inch	Concrete	0.013	38	0.5%	32.69	32.50	36.28	33.01	32.81
L-220	L-210	0.32	0.72	6.70	0.23	1.56	10	1.56	4.52	3.10	15 inch	Concrete	0.013	32	0.5%	32.75	32.59	35.31	33.26	33.13
L-210	L-200	0.03	0.99	6.66	0.26	0.20	10	1.75	4.57	3.57	15 inch	Concrete	0.013	19	0.5%	32.59	32.50	35.43	33.13	33.02
M-220	M-210	0.18	0.77	6.70	0.14	0.94	10	0.94	4.60	2.13	15 inch	Concrete	0.013	51	0.5%	31.93	31.67	38.12	32.31	32.15
M-210	M-200	0.08	0.99	6.63	0.22	0.53	10	1.46	4.58	3.38	15 inch	Concrete	0.013	34	0.5%	31.67	31.50	37.90	32.15	31.98
M-120	M-110	0.30	0.73	6.70	0.22	1.48	10	1.48	4.57	2.96	15 inch	Concrete	0.013	146	0.5%	32.35	31.62	35.43	32.84	32.15
M-110	M-100	0.04	0.99	6.52	0.26	0.27	10	1.70	4.48	3.54	15 inch	Concrete	0.013	25	0.5%	31.62	31.50	36.73	32.15	32.02

Design Storm: 25-year
Basin Discharge: 100-yr projected storm

Start Node	Stop Node	Upstream Inlet Area (AC)	Upstream Inlet C	System Intensity (in/h)	System CA (AC)	Upstream Structure Flow (Total Surface) (cfs)	Upstream Inlet Tc (min)	Flow (cfs)	Capacity (Full Flow) (cfs)	Velocity (Out) (ft/s)	Size	Material	Manning's n	Length (Unified) (ft)	Slope (Calculated) (%)	Invert (Start) (ft)	Invert (Stop) (ft)	Elevation Ground (Start) (ft)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade line (Out) (ft)
X-161	X-160	1.23	0.50	6.17	0.62	3.82	12.3	3.82	6.48	3.12	15 inch	Concrete	0.013	86	1.0%	30.17	29.31	34.35	30.96	30.78
X-190	X-180	(N/A)	(N/A)	8.02	0.00	0.00	0	3.23	4.48	4.38	15 inch	Concrete	0.013	19	0.5%	35.65	35.56	38.50	36.42	36.28
X-182	X-181	(N/A)	(N/A)	8.02	0.00	0.00	0	0.00	12.11	0.00	15 inch	Concrete	0.013	177	3.5%	45.20	39.00	53.89	45.20	39.90
X-181	X-180	1.43	0.53	6.45	0.76	4.93	11	4.93	12.92	9.82	15 inch	Concrete	0.013	86	4.0%	39.00	35.56	47.53	39.90	36.10
X-180	X-170	0.08	0.35	6.42	0.79	0.19	10	8.31	14.83	5.60	18 inch	Concrete	0.013	155	2.0%	34.79	31.70	38.58	35.91	32.87
X-170	X-160	0.77	0.50	6.35	1.17	2.60	10	10.73	21.48	4.34	24 inch	Concrete	0.013	265	0.9%	31.70	29.31	35.25	32.87	30.78
X-160	X-150	0.74	0.51	6.12	2.16	2.55	10	16.57	22.62	7.87	24 inch	Concrete	0.013	200	1.0%	29.31	27.31	33.25	30.78	28.58
X-150	X-140	0.80	0.54	6.03	2.60	2.92	10	19.01	22.62	8.07	24 inch	Concrete	0.013	200	1.0%	25.31	23.31	31.26	26.88	24.71
X-140	X-130	0.82	0.54	5.96	3.04	2.99	10	21.49	22.37	7.50	24 inch	Concrete	0.013	45	1.0%	21.53	21.09	27.39	23.19	22.80
X-131	X-130A	3.33	0.53	5.06	1.77	9.01	18.1	9.01	10.50	6.68	18 inch	Concrete	0.013	105	1.0%	23.55	22.50	26.45	24.71	23.57
X-130A	X-130	0.69	0.52	5.02	2.12	2.42	10	10.74	16.00	4.75	24 inch	Concrete	0.013	110	0.5%	22.00	21.45	25.50	23.20	22.80
X-130	X-125	0.26	0.50	4.96	5.29	0.88	10	29.69	42.28	6.48	36 inch	Concrete	0.013	139	0.4%	20.95	20.39	25.80	22.80	22.24
X-125	X-120	(N/A)	(N/A)	4.90	5.29	0.00	0	29.37	42.35	5.69	36 inch	Concrete	0.013	124	0.4%	20.39	19.89	27.32	22.24	21.94
Q-300	X-120	(N/A)	(N/A)	8.02	0.00	0.00	0	9.25	10.50	6.63	18 inch	Concrete	0.013	17	1.0%	22.29	22.12	28.50	23.47	23.22
X-120	X-110	(N/A)	(N/A)	4.85	5.29	0.00	0	38.35	47.16	6.82	36 inch	Concrete	0.013	158	0.5%	19.89	19.10	28.80	21.94	21.33
R-200	X-110	(N/A)	(N/A)	8.02	0.00	0.00	0	8.64	10.50	6.55	18 inch	Concrete	0.013	21	1.0%	20.80	20.59	25.00	21.94	21.64
X-110	X-100	(N/A)	(N/A)	4.79	5.29	0.00	0	46.69	52.03	8.33	36 inch	Concrete	0.013	23	0.6%	19.10	18.96	25.00	21.33	21.18
R-120	R-110	0.53	0.74	6.70	0.39	2.65	10	2.65	4.57	2.70	15 inch	Concrete	0.013	30	0.5%	23.35	23.20	25.99	24.17	24.13
R-110	R-100	0.53	0.73	6.67	0.78	2.61	10	5.24	7.42	4.85	18 inch	Concrete	0.013	141	0.5%	23.20	22.50	25.99	24.13	23.38
Q-220	Q-210	0.15	0.86	6.70	0.13	0.87	10	0.87	4.57	1.72	15 inch	Concrete	0.013	30	0.5%	26.31	26.16	29.38	26.71	26.70
Q-210	Q-200	0.16	0.84	6.66	0.26	0.91	10	1.77	4.56	3.59	15 inch	Concrete	0.013	32	0.5%	26.16	26.00	29.38	26.70	26.53
Q-130	Q-120	0.40	0.70	6.70	0.28	1.89	10	1.89	4.57	2.16	15 inch	Concrete	0.013	30	0.5%	27.40	27.25	29.83	28.11	28.09
Q-120	Q-115	0.37	0.70	6.67	0.54	1.75	10	3.62	4.57	4.17	15 inch	Concrete	0.013	71	0.5%	27.25	26.89	29.83	28.09	27.73
Q-115	Q-110	(N/A)	(N/A)	6.59	0.54	0.00	0	3.58	4.57	3.59	15 inch	Concrete	0.013	160	0.5%	26.89	26.09	30.44	27.73	27.04
Q-111	Q-110	0.23	0.71	6.70	0.16	1.10	10	1.1	4.57	1.10	15 inch	Concrete	0.013	30	0.5%	26.24	26.09	29.04	27.05	27.04
Q-110	Q-100	0.17	0.80	6.43	0.84	0.92	10	5.44	7.43	4.92	18 inch	Concrete	0.013	19	0.5%	26.09	26.00	29.04	27.04	26.90

Design Storm: 25-year
Basin Discharge: 100-yr projected storm

Start Node	Stop Node	Upstream Inlet Area (AC)	Upstream Inlet C	System Intensity (in/h)	System CA (AC)	Upstream Structure Flow (Total Surface) (cfs)	Upstream Inlet Tc (min)	Flow (cfs)	Capacity (Full Flow) (cfs)	Velocity (Out) (ft/s)	Size	Material	Manning's n	Length (Unified) (ft)	Slope (Calculated) (%)	Invert (Start) (ft)	Invert (Stop) (ft)	Elevation Ground (Start) (ft)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade line (Out) (ft)
S-120	S-121	0.27	0.74	6.70	0.20	1.35	10.0	1.35	4.57	1.44	15 inch	Concrete	0.013	20	0.50%	19.28	19.18	23.53	20.08	20.07
S-132	S-131	0.26	0.92	6.70	0.24	1.62	10.0	1.62	4.57	2.67	15 inch	Concrete	0.013	70	0.50%	20.66	20.31	25.45	21.17	20.93
S-131	S-130	0.01	0.99	6.61	0.25	0.07	10.0	1.66	4.57	2.39	15 inch	Concrete	0.013	16	0.50%	20.31	20.23	25.88	20.93	20.92
S-130	S-140	0.12	0.83	6.60	0.35	0.67	10.0	2.32	4.57	2.95	15 inch	Concrete	0.013	20	0.50%	20.23	20.13	25.59	20.92	20.89
S-140	S-121	0.17	0.75	6.57	0.48	0.86	10.0	3.15	4.57	3.36	15 inch	Concrete	0.013	190	0.50%	20.13	19.18	25.59	20.89	20.07
S-121	S-300	0.11	0.71	6.38	0.75	0.53	10.0	4.85	6.46	5.78	15 inch	Concrete	0.013	38	1.00%	19.18	18.80	23.53	20.07	19.61
T-300	T-310	(N/A)	(N/A)	8.02	0.00	0.00	0.0	0.59	4.57	2.61	15 inch	Concrete	0.013	102	0.50%	15.82	15.31	20.75	16.12	15.61
Y-105	Y-104	1.06	0.54	6.45	0.57	3.72	11.0	3.72	4.57	3.13	15 inch	Concrete	0.013	152	0.50%	17.14	16.38	21.00	18.00	17.54
Y-104	Y-103	0.97	0.54	6.32	1.10	3.42	10.9	6.98	7.41	4.37	18 inch	Concrete	0.013	187	0.50%	16.38	15.45	21.20	17.54	16.72
Y-103	Y-102	1.23	0.50	6.18	1.71	4.06	10.6	10.65	16.12	3.60	24 inch	Concrete	0.013	128	0.50%	15.45	14.80	19.81	16.72	16.59
Y-102	Y-101	0.89	0.47	6.10	2.13	2.70	11.2	13.10	15.95	4.17	24 inch	Concrete	0.013	167	0.50%	14.80	13.97	0.00	16.59	16.09
Y-101	Y-100	0.94	0.46	6.01	2.56	2.87	10.5	15.52	16.00	4.94	24 inch	Concrete	0.013	66	0.50%	13.97	13.64	19.20	16.09	15.78
S-200	MH-340	(N/A)	(N/A)	8.02	0.00	0.00	0.0	4.54	9.04	6.78	15 inch	Concrete	0.013	19	2.00%	18.19	17.82	21.20	19.05	18.49
Y-142	Y-141	0.56	0.39	6.48	0.22	1.43	10.9	1.43	4.57	1.20	15 inch	Concrete	0.013	102	0.50%	17.63	17.12	20.30	18.32	18.29
Y-141	Y-140	0.76	0.45	6.36	0.56	2.25	10.7	3.59	6.46	2.93	15 inch	Concrete	0.013	54	1.00%	17.12	16.58	23.59	18.29	18.13
Y-161	Y-160	5.11	0.55	5.68	2.81	16.08	15.1	16.08	29.86	6.33	24 inch	Concrete	0.013	93	1.70%	23.44	21.82	28.78	24.89	23.33
Y-160	Y-150	0.54	0.49	5.64	3.08	1.79	10.0	17.48	22.62	7.91	24 inch	Concrete	0.013	68	1.00%	21.82	21.14	25.71	23.33	22.47
Y-150	Y-140	0.026	0.35	5.61	3.08	0.06	10.0	17.43	22.62	7.94	24 inch	Concrete	0.013	212	1.00%	21.14	19.02	27.10	22.64	20.34
Y-140	Y-130	0.14	0.35	5.51	3.69	0.33	10.0	20.50	29.00	6.44	30 inch	Concrete	0.013	198	0.50%	16.58	15.59	27.41	18.13	17.13
Y-130	Y-120	0.13	0.35	5.40	3.74	0.31	10.0	20.34	29.00	6.23	30 inch	Concrete	0.013	126	0.50%	15.59	14.96	25.67	17.13	16.54
Y-120	Y-110	0.35	0.49	5.33	3.91	1.15	10.2	21.02	29.00	5.66	30 inch	Concrete	0.013	98	0.50%	14.96	14.47	20.00	16.54	16.24
Y-110	MH-340	3.14	0.54	5.28	5.61	11.49	9.9	29.84	52.88	6.32	36 inch	Concrete	0.013	70	0.60%	14.47	14.03	20.00	16.24	15.93
MH-340	Y-100	(N/A)	(N/A)	5.25	5.61	0.00	0.0	34.22	53.80	6.29	36 inch	Concrete	0.013	63	0.70%	14.03	13.62	21.07	15.93	15.78
Y-100	T-310	(N/A)	(N/A)	5.23	8.17	0.00	0.0	47.58	57.92	8.35	36 inch	Concrete	0.013	108	0.80%	13.53	12.72	20.52	15.78	14.97
T-310	340 (51) (STORM STR.)	(N/A)	(N/A)	5.19	8.17	0.00	0.0	47.86	64.76	9.94	36 inch	Concrete	0.013	120	0.90%	12.72	11.58	20.62	14.97	13.51
U-300	T-200	(N/A)	(N/A)	8.02	0.00	0.00	0.0	0.47	4.57	2.45	15 inch	Concrete	0.013	50	0.50%	18.75	18.50	21.75	19.02	18.77
T-120	T-110	0.16	0.71	6.70	0.11	0.77	10.0	0.77	4.57	1.64	15 inch	Concrete	0.013	20	0.50%	18.76	18.66	22.15	19.17	19.17
T-110	T-100	0.17	0.72	6.67	0.24	0.83	10.0	1.59	4.57	3.47	15 inch	Concrete	0.013	32	0.50%	18.66	18.50	22.15	19.17	19.00
S-110	S-111	0.20	0.73	6.70	0.15	0.99	10.0	0.99	4.57	1.85	15 inch	Concrete	0.013	20	0.50%	19.06	18.96	21.97	19.52	19.52
S-111	S-100	0.19	0.71	6.67	0.28	0.91	10.0	1.89	4.57	3.66	15 inch	Concrete	0.013	32	0.50%	18.96	18.80	21.98	19.52	19.35
U-220	U-210	0.13	0.8	6.70	0.10	0.70	10.0	0.70	3.51	1.43	15 inch	Concrete	0.013	44	0.30%	19.73	19.60	22.50	20.16	20.13
U-210	U-200	0.12	0.81	6.62	0.20	0.66	10.0	1.34	3.56	3.30	15 inch	Concrete	0.013	33	0.30%	19.60	19.50	22.50	20.13	19.96
U-120	U-110	0.15	0.78	6.70	0.12	0.79	10.0	0.79	4.50	1.66	15 inch	Concrete	0.013	35	0.50%	19.83	19.66	23.01	20.19	20.17
U-110	U-100	0.16	0.80	6.65	0.25	0.86	10.0	1.64	4.64	3.50	15 inch	Concrete	0.013	31	0.50%	19.66	19.50	23.00	20.17	20.01

PROPOSED DRIVEWAY STORMWATER COLLECTION SYSTEM 100 YEAR STORM CAPACITY CALCULATIONS (PIPE SIZING)

Start Node	Stop Node	Upstream Inlet Area (AC)	Upstream Inlet C	System Intensity (in/h)	System CA (AC)	Upstream Structure Flow (Total Surface) (cfs)	Upstream Inlet Tc (min)	Flow (cfs)	Capacity (Full Flow) (cfs)	Velocity (Out) (ft/s)	Size	Material	Manning's n	Length (Unified) (ft)	Slope (Calculated) (%)	Invert (Start) (ft)	Invert (Stop) (ft)	Elevation Ground (Start) (ft)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade line (Out) (ft)
U-220	U-210	0.13	0.80	8.00	0.10	0.84	10	0.84	3.51	1.52	15 inch	Concrete	0.013	44	0.3%	19.73	19.60	22.50	20.21	20.18
U-210	U-200	0.12	0.81	7.91	0.20	0.78	10	1.60	4.55	3.48	15 inch	Concrete	0.013	33	0.5%	19.66	19.50	22.50	20.18	20.00

CONDUIT OUTLET PROTECTION

DYNAMIC ENGINEERING

1904 Main Street Lake Como, NJ 07719
732-974-0198

Date: 4/22/2025
Project: Proposed Residential Subdivision
Project No: 3272-99-005

Calculated By: KB
Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # A-100

Design Parameters:

Design Storm Flow for 25 Year, Q	1.23	cfs
Vertical Dimension of Outlet Pipe, D_o	15	in
Horizontal Dimension of Outlet Pipe, W_o	15	in
Tailwater Depth, TW^1	1.33	ft

Apron Dimension Calculations:

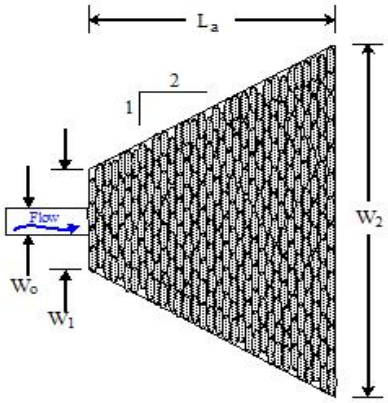
Unit Dicharge, $q = Q/D_o$ = 0.98 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = **L_a =**

Width, $W_1 = 3W_o$ = **W_1 =**

Width, $W_2 = 3W_o + L_a$ = **W_2 =**

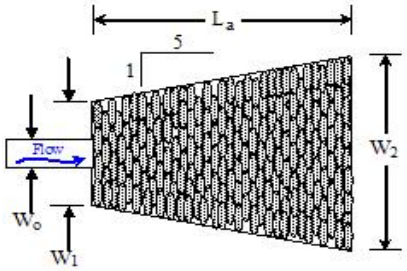


- **Case II: $TW \geq 1/2\ D_o$**

Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 2.64 ft or **L_a = 6 ft**

Width, $W_1 = 3W_o$ = 3.75 ft or **W_1 = 4 ft**

Width, $W_2 = 3W_o + 0.4L_a$ = 4.81 ft or **W_2 = 6 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 0.18 in **d_{50} = 6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

DYNAMIC ENGINEERING

1904 Main Street Lake Como, NJ 07719
732-974-0198

Date: 4/22/2025
Project: Proposed Residential Subdivision
Project No: 3272-99-005

Calculated By: KB
Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # A-200

Design Parameters:

Design Storm Flow for 25 Year, Q	3.68	cfs
Vertical Dimension of Outlet Pipe, D_o	15	in
Horizontal Dimension of Outlet Pipe, W_o	15	in
Tailwater Depth, TW^1	1.33	ft

Apron Dimension Calculations:

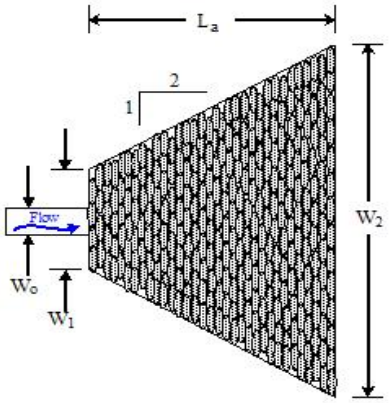
Unit Dicharge, $q = Q/D_o$ = 2.94 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = L_a =

  Width, $W_1 = 3W_o$ = W_1 =

  Width, $W_2 = 3W_o + L_a$ = W_2 =

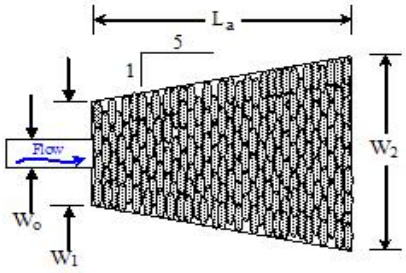


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 7.9 ft or L_a = **8 ft**

  Width, $W_1 = 3W_o$ = 3.75 ft or W_1 = **4 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 6.91 ft or W_2 = **7 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 0.76 in d_{50} = **6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

DYNAMIC ENGINEERING

1904 Main Street Lake Como, NJ 07719
732-974-0198

Date: 4/22/2025
Project: Proposed Residential Subdivision
Project No: 3272-99-005

Calculated By: KB
Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # A-300

Design Parameters:

Design Storm Flow for 25 Year, Q	1.70	cfs
Vertical Dimension of Outlet Pipe, D_o	15	in
Horizontal Dimension of Outlet Pipe, W_o	15	in
Tailwater Depth, TW[1]	1.33	ft

Apron Dimension Calculations:

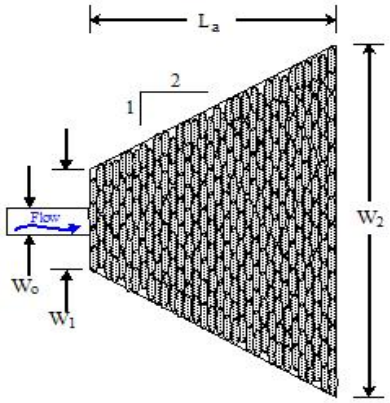
Unit Dicharge, $q = Q/D_o$ = 1.36 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = **L_a =**

  Width, $W_1 = 3W_o$ = **W_1 =**

  Width, $W_2 = 3W_o + L_a$ = **W_2 =**

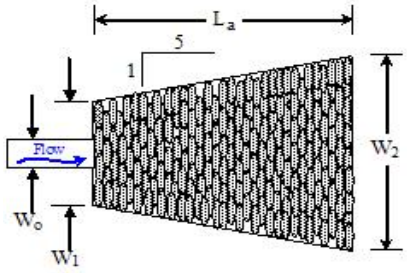


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 3.65 ft or **L_a = 6 ft**

  Width, $W_1 = 3W_o$ = 3.75 ft or **W_1 = 4 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 5.21 ft or **W_2 = 6 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 0.27 in **d_{50} = 6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

DYNAMIC ENGINEERING

1904 Main Street Lake Como, NJ 07719
732-974-0198

Date: 4/22/2025
Project: Proposed Residential Subdivision
Project No: 3272-99-005

Calculated By: KB
Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # B-100

Design Parameters:

Design Storm Flow for 100 Year, Q	2.90	cfs
Vertical Dimension of Outlet Pipe, D_o	15	in
Horizontal Dimension of Outlet Pipe, W_o	15	in
Tailwater Depth, TW^1	1.56	ft

Apron Dimension Calculations:

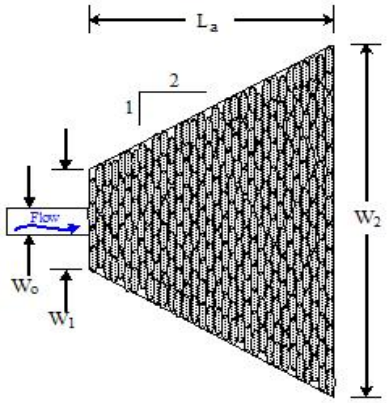
Unit Dicharge, $q = Q/D_o$ = 2.32 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = **L_a =**

  Width, $W_1 = 3W_o$ = **W_1 =**

  Width, $W_2 = 3W_o + L_a$ = **W_2 =**

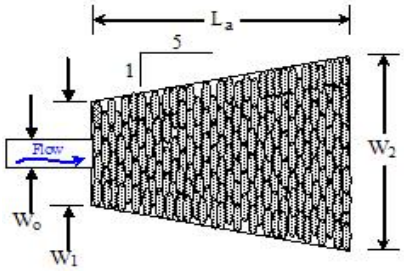


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 6.23 ft or **L_a = 7 ft**

  Width, $W_1 = 3W_o$ = 3.75 ft or **W_1 = 4 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 6.24 ft or **W_2 = 7 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 0.47 in **d_{50} = 6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

DYNAMIC ENGINEERING

1904 Main Street Lake Como, NJ 07719
732-974-0198

Date: 4/22/2025
Project: Proposed Residential Subdivision
Project No: 3272-99-005

Calculated By: KB
Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # C-100

Design Parameters:

Design Storm Flow for 100 Year, Q	5.54	cfs
Vertical Dimension of Outlet Pipe, D_o	15	in
Horizontal Dimension of Outlet Pipe, W_o	15	in
Tailwater Depth, TW^1	1.22	ft

Apron Dimension Calculations:

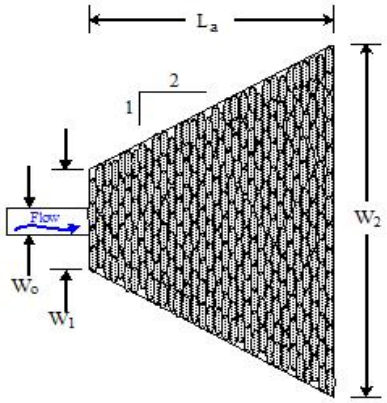
Unit Dicharge, $q = Q/D_o$ = 4.43 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = **L_a =**

  Width, $W_1 = 3W_o$ = **W_1 =**

  Width, $W_2 = 3W_o + L_a$ = **W_2 =**

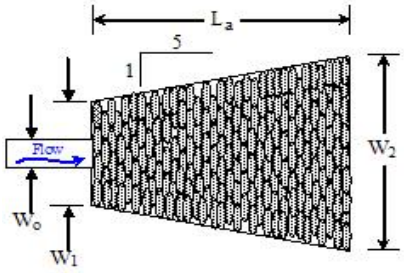


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 11.89 ft or **L_a = 12 ft**

  Width, $W_1 = 3W_o$ = 3.75 ft or **W_1 = 4 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 8.51 ft or **W_2 = 9 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 1.43 in **d_{50} = 6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

DYNAMIC ENGINEERING

1904 Main Street Lake Como, NJ 07719
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Project No: 3272-99-005

Calculated By: KB
Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # D-100

Design Parameters:

Design Storm Flow for 25 Year, Q	6.38	cfs
Vertical Dimension of Outlet Pipe, D_o	18	in
Horizontal Dimension of Outlet Pipe, W_o	18	in
Tailwater Depth, TW[1]	1.50	ft

Apron Dimension Calculations:

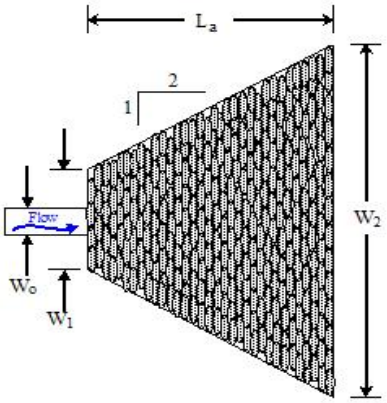
Unit Dicharge, $q = Q/D_o$ = 4.25 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = **L_a =**

  Width, $W_1 = 3W_o$ = **W_1 =**

  Width, $W_2 = 3W_o + L_a$ = **W_2 =**

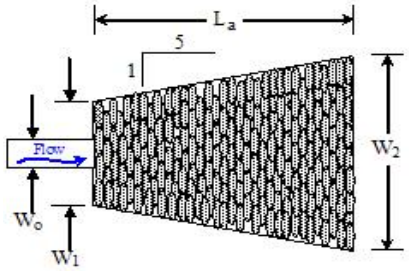


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 10.42 ft or **L_a = 11 ft**

  Width, $W_1 = 3W_o$ = 4.5 ft or **W_1 = 5 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 8.67 ft or **W_2 = 9 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 1.10 in **d_{50} = 6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

DYNAMIC ENGINEERING

1904 Main Street Lake Como, NJ 07719
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Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # D-200

Design Parameters:

Design Storm Flow for 100 Year, Q	9.49	cfs
Vertical Dimension of Outlet Pipe, D_o	18	in
Horizontal Dimension of Outlet Pipe, W_o	18	in
Tailwater Depth, TW^1	1.50	ft

Apron Dimension Calculations:

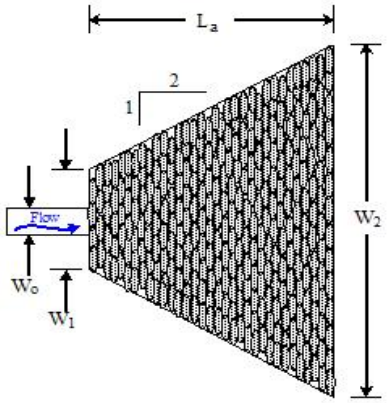
Unit Dicharge, $q = Q/D_o$ = 6.33 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = **L_a =**

  Width, $W_1 = 3W_o$ = **W_1 =**

  Width, $W_2 = 3W_o + L_a$ = **W_2 =**

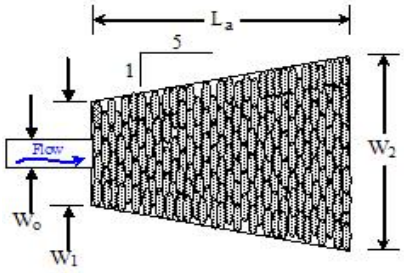


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 15.5 ft or **L_a = 16 ft**

  Width, $W_1 = 3W_o$ = 4.5 ft or **W_1 = 5 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 10.7 ft or **W_2 = 11 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 1.86 in **d_{50} = 6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

DYNAMIC ENGINEERING

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Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # E-100

Design Parameters:

Design Storm Flow for 25 Year, Q	6.27	cfs
Vertical Dimension of Outlet Pipe, D_o	18	in
Horizontal Dimension of Outlet Pipe, W_o	18	in
Tailwater Depth, TW^1	1.61	ft

Apron Dimension Calculations:

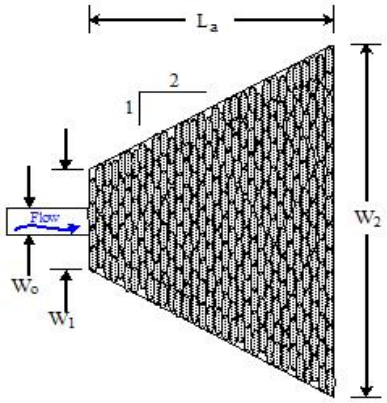
Unit Dicharge, $q = Q/D_o$ = 4.18 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = **L_a =**

  Width, $W_1 = 3W_o$ = **W_1 =**

  Width, $W_2 = 3W_o + L_a$ = **W_2 =**

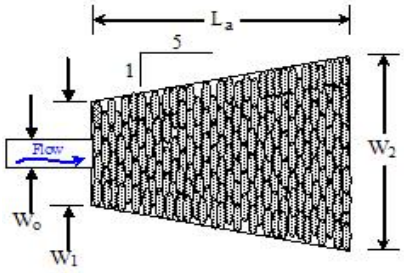


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 10.24 ft or **L_a = 11 ft**

  Width, $W_1 = 3W_o$ = 4.5 ft or **W_1 = 5 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 8.6 ft or **W_2 = 9 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 1.00 in **d_{50} = 6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

DYNAMIC ENGINEERING

1904 Main Street Lake Como, NJ 07719
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Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # E-200

Design Parameters:

Design Storm Flow for 100 Year, Q	22.15	cfs
Vertical Dimension of Outlet Pipe, D_o	19	in
Horizontal Dimension of Outlet Pipe, W_o	30	in
Tailwater Depth, TW^1	1.61	ft

Apron Dimension Calculations:

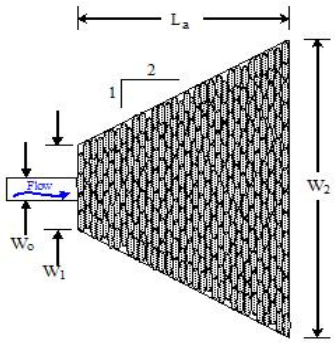
Unit Dicharge, $q = Q/D_o$ = 13.99 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = → L_a =

Width, $W_1 = 3W_o$ = → W_1 =

Width, $W_2 = 3W_o + L_a$ = → W_2 =

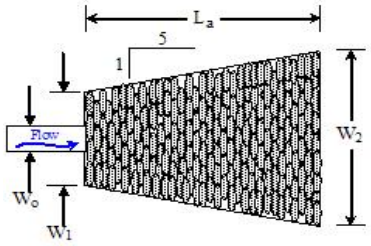


- **Case II: $TW \geq 1/2\ D_o$**

Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 33.35 ft or L_a = **34 ft**

Width, $W_1 = 3W_o$ = 7.5 ft or W_1 = **8 ft**

Width, $W_2 = 3W_o + 0.4L_a$ = 20.84 ft or W_2 = **21 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 4.98 in → d_{50} = **6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

DYNAMIC ENGINEERING

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Calculated By: KB
Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # E-400

Design Parameters:

Design Storm Flow for 100 Year, Q	30.58	cfs
Vertical Dimension of Outlet Pipe, D_o	30	in
Horizontal Dimension of Outlet Pipe, W_o	30	in
Tailwater Depth, TW^1	1.61	ft

Apron Dimension Calculations:

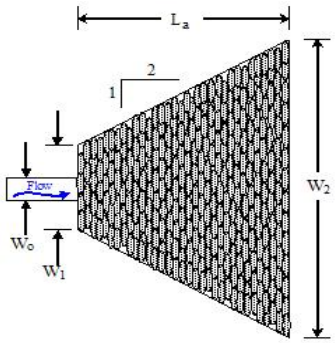
Unit Dicharge, $q = Q/D_o$ = 12.23 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = **L_a =**

Width, $W_1 = 3W_o$ = **W_1 =**

Width, $W_2 = 3W_o + L_a$ = **W_2 =**

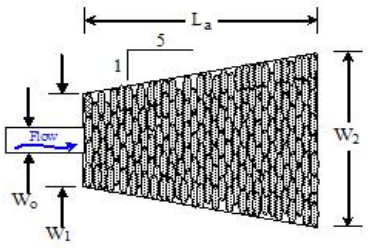


- **Case II: $TW \geq 1/2\ D_o$**

Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 23.21 ft or **L_a = 24 ft**

Width, $W_1 = 3W_o$ = 7.5 ft or **W_1 = 8 ft**

Width, $W_2 = 3W_o + 0.4L_a$ = 16.78 ft or **W_2 = 17 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 4.17 in **d_{50} = 6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

DYNAMIC ENGINEERING

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732-974-0198

Date: 4/22/2025
Project: Proposed Residential Subdivision
Project No: 3272-99-005

Calculated By: KB
Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # E-410

Design Parameters:

Design Storm Flow for 100 Year, Q	30.58	cfs
Vertical Dimension of Outlet Pipe, D_o	30	in
Horizontal Dimension of Outlet Pipe, W_o	30	in
Tailwater Depth, TW^1	1.61	ft

Apron Dimension Calculations:

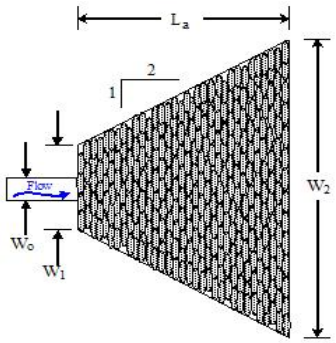
Unit Dicharge, $q = Q/D_o$ = 12.23 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = **L_a =**

Width, $W_1 = 3W_o$ = **W_1 =**

Width, $W_2 = 3W_o + L_a$ = **W_2 =**

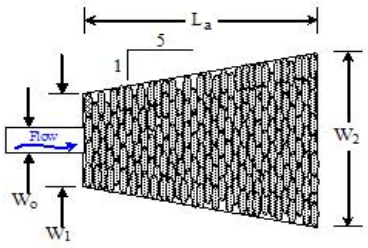


- **Case II: $TW \geq 1/2\ D_o$**

Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 23.21 ft or **L_a = 24 ft**

Width, $W_1 = 3W_o$ = 7.5 ft or **W_1 = 8 ft**

Width, $W_2 = 3W_o + 0.4L_a$ = 16.78 ft or **W_2 = 17 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 4.17 in **d_{50} = 6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

DYNAMIC ENGINEERING

1904 Main Street Lake Como, NJ 07719
732-974-0198

Date: 4/22/2025
Project: Proposed Residential Subdivision
Project No: 3272-99-005

Calculated By: KB
Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # F-100

Design Parameters:

Design Storm Flow for 25 Year, Q	1.10	cfs
Vertical Dimension of Outlet Pipe, D_o	15	in
Horizontal Dimension of Outlet Pipe, W_o	15	in
Tailwater Depth, TW[1]	1.15	ft

Apron Dimension Calculations:

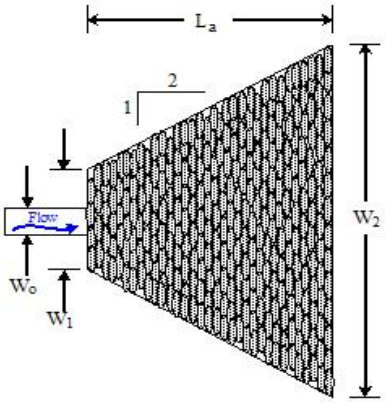
Unit Dicharge, $q = Q/D_o$ = 0.88 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = **L_a =**

  Width, $W_1 = 3W_o$ = **W_1 =**

  Width, $W_2 = 3W_o + L_a$ = **W_2 =**

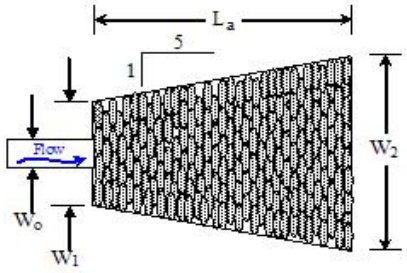


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 2.36 ft or **L_a = 6 ft**

  Width, $W_1 = 3W_o$ = 3.75 ft or **W_1 = 4 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 4.69 ft or **W_2 = 6 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 0.18 in **d_{50} = 6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

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Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # F-200

Design Parameters:

Design Storm Flow for 25 Year, Q	3.49	cfs
Vertical Dimension of Outlet Pipe, D_o	15	in
Horizontal Dimension of Outlet Pipe, W_o	15	in
Tailwater Depth, TW^1	1.15	ft

Apron Dimension Calculations:

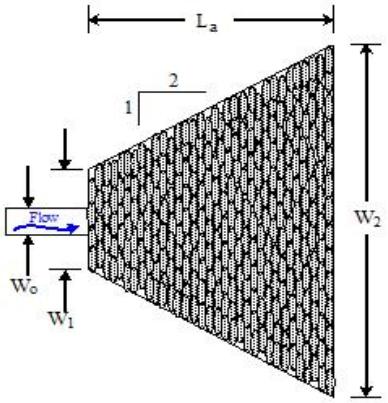
Unit Dicharge, $q = Q/D_o$ = 2.79 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = L_a =

  Width, $W_1 = 3W_o$ = W_1 =

  Width, $W_2 = 3W_o + L_a$ = W_2 =

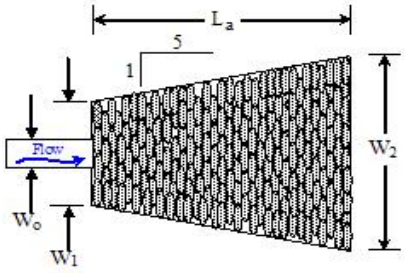


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 7.49 ft or L_a = **8 ft**

  Width, $W_1 = 3W_o$ = 3.75 ft or W_1 = **4 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 6.75 ft or W_2 = **7 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 0.82 in d_{50} = **6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

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Project No: 3272-99-005

Calculated By: KB
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Conduit Outlet Protection Calculations

Rip Rap Pad # G-100

Design Parameters:

Design Storm Flow for 25 Year, Q	0.90	cfs
Vertical Dimension of Outlet Pipe, D_o	15	in
Horizontal Dimension of Outlet Pipe, W_o	15	in
Tailwater Depth, TW^1	1.41	ft

Apron Dimension Calculations:

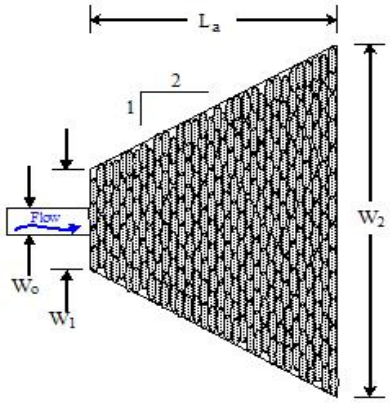
Unit Dicharge, $q = Q/D_o$ = 0.72 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = **L_a =**

  Width, $W_1 = 3W_o$ = **W_1 =**

  Width, $W_2 = 3W_o + L_a$ = **W_2 =**

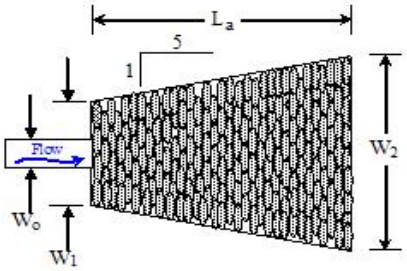


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 1.93 ft or **L_a = 6 ft**

  Width, $W_1 = 3W_o$ = 3.75 ft or **W_1 = 4 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 4.52 ft or **W_2 = 6 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 0.11 in **d_{50} = 6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

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Calculated By: KB
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Conduit Outlet Protection Calculations

Rip Rap Pad # G-200

Design Parameters:

Design Storm Flow for 100 Year, Q	0.35	cfs
Vertical Dimension of Outlet Pipe, D_o	15	in
Horizontal Dimension of Outlet Pipe, W_o	15	in
Tailwater Depth, TW^1	1.41	ft

Apron Dimension Calculations:

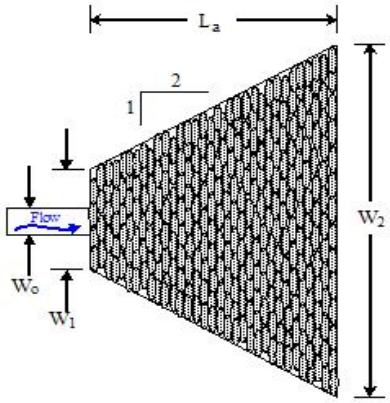
Unit Dicharge, $q = Q/D_o$ = 0.28 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = L_a =

  Width, $W_1 = 3W_o$ = W_1 =

  Width, $W_2 = 3W_o + L_a$ = W_2 =

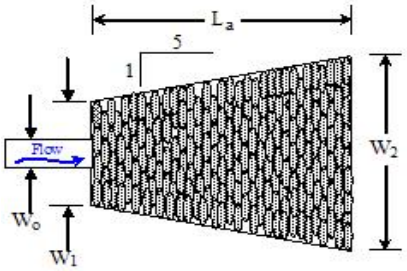


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = .75 ft or L_a = **6 ft**

  Width, $W_1 = 3W_o$ = 3.75 ft or W_1 = **4 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 4.05 ft or W_2 = **6 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 0.03 in d_{50} = **6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

DYNAMIC ENGINEERING
1904 Main Street Lake Como, NJ 07719
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Date: 4/22/2025
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Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # H-100

Design Parameters:

Design Storm Flow for 25 Year, Q	3.16	cfs
Vertical Dimension of Outlet Pipe, D_o	15	in
Horizontal Dimension of Outlet Pipe, W_o	15	in
Tailwater Depth, TW^1	1.04	ft

Apron Dimension Calculations:

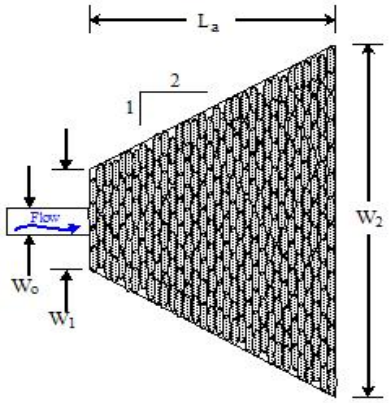
Unit Dicharge, $q = Q/D_o$ = 2.53 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = **L_a =**

Width, $W_1 = 3W_o$ = **W_1 =**

Width, $W_2 = 3W_o + L_a$ = **W_2 =**

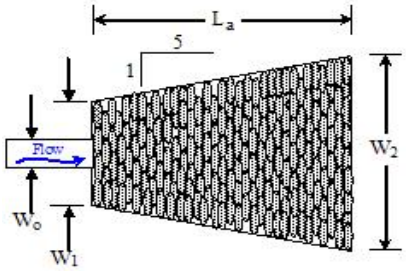


- **Case II: $TW \geq 1/2\ D_o$**

Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 6.78 ft or **L_a = 7 ft**

Width, $W_1 = 3W_o$ = 3.75 ft or **W_1 = 4 ft**

Width, $W_2 = 3W_o + 0.4L_a$ = 6.46 ft or **W_2 = 7 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 0.79 in **d_{50} = 6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

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Conduit Outlet Protection Calculations

Rip Rap Pad # H-200

Design Parameters:

Design Storm Flow for 100 Year, Q	5.22	cfs
Vertical Dimension of Outlet Pipe, D_o	15	in
Horizontal Dimension of Outlet Pipe, W_o	15	in
Tailwater Depth, TW^1	1.04	ft

Apron Dimension Calculations:

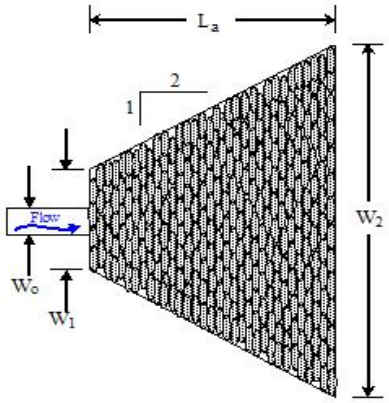
Unit Dicharge, $q = Q/D_o$ = 4.18 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = **L_a =**

  Width, $W_1 = 3W_o$ = **W_1 =**

  Width, $W_2 = 3W_o + L_a$ = **W_2 =**

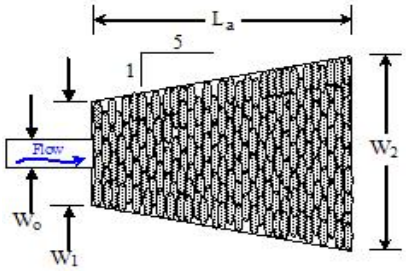


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 11.21 ft or **L_a = 12 ft**

  Width, $W_1 = 3W_o$ = 3.75 ft or **W_1 = 4 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 8.23 ft or **W_2 = 9 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 1.54 in **d_{50} = 6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
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Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
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Conduit Outlet Protection Calculations

Rip Rap Pad # K-100

Design Parameters:

Design Storm Flow for 100 Year, Q	0.24	cfs
Vertical Dimension of Outlet Pipe, D_o	15	in
Horizontal Dimension of Outlet Pipe, W_o	15	in
Tailwater Depth, TW[1]	1.02	ft

Apron Dimension Calculations:

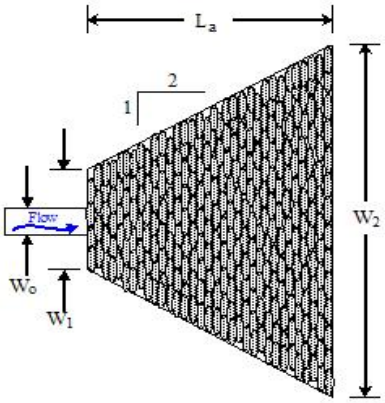
Unit Dicharge, $q = Q/D_o$ = 0.19 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = **L_a =**

  Width, $W_1 = 3W_o$ = **W_1 =**

  Width, $W_2 = 3W_o + L_a$ = **W_2 =**

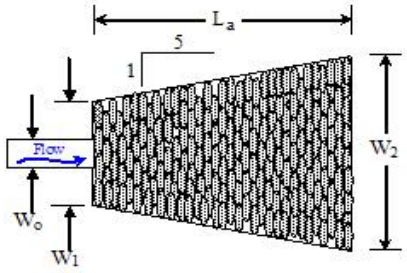


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = .52 ft or **L_a = 6 ft**

  Width, $W_1 = 3W_o$ = 3.75 ft or **W_1 = 4 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 3.96 ft or **W_2 = 6 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 0.03 in **d_{50} = 6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
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Footnote:

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2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

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Date: 4/22/2025
Project: Proposed Residential Subdivision
Project No: 3272-99-005

Calculated By: KB
Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # L-100

Design Parameters:

Design Storm Flow for 25 Year, Q	0.64	cfs
Vertical Dimension of Outlet Pipe, D_o	15	in
Horizontal Dimension of Outlet Pipe, W_o	15	in
Tailwater Depth, TW[1]	1.13	ft

Apron Dimension Calculations:

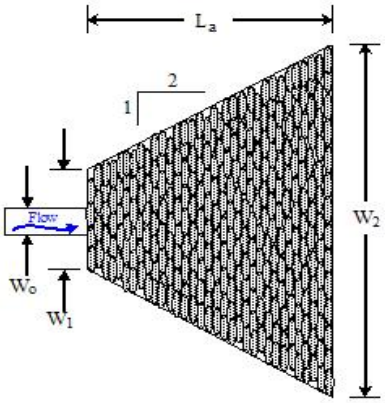
Unit Dicharge, $q = Q/D_o$ = 0.51 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = **L_a =**

  Width, $W_1 = 3W_o$ = **W_1 =**

  Width, $W_2 = 3W_o + L_a$ = **W_2 =**

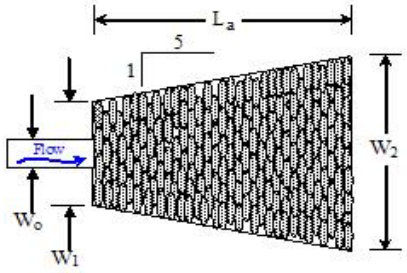


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 1.37 ft or **L_a = 6 ft**

  Width, $W_1 = 3W_o$ = 3.75 ft or **W_1 = 4 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 4.3 ft or **W_2 = 6 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 0.09 in **d_{50} = 6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

DYNAMIC ENGINEERING

1904 Main Street Lake Como, NJ 07719
732-974-0198

Date: 4/22/2025
Project: Proposed Residential Subdivision
Project No: 3272-99-005

Calculated By: KB
Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # L-200

Design Parameters:

Design Storm Flow for 25 Year, Q	1.75	cfs
Vertical Dimension of Outlet Pipe, D_o	15	in
Horizontal Dimension of Outlet Pipe, W_o	15	in
Tailwater Depth, TW[1]	1.13	ft

Apron Dimension Calculations:

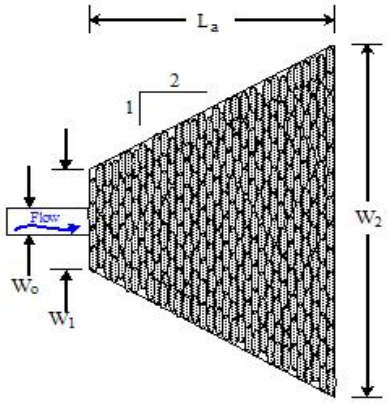
Unit Dicharge, $q = Q/D_o$ = 1.40 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = **L_a =**

  Width, $W_1 = 3W_o$ = **W_1 =**

  Width, $W_2 = 3W_o + L_a$ = **W_2 =**

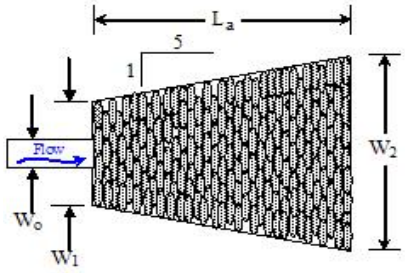


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 3.76 ft or **L_a = 6 ft**

  Width, $W_1 = 3W_o$ = 3.75 ft or **W_1 = 4 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 5.25 ft or **W_2 = 6 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 0.33 in **d_{50} = 6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

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Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # M-100

Design Parameters:

Design Storm Flow for 25 Year, Q	1.70	cfs
Vertical Dimension of Outlet Pipe, D_o	15	in
Horizontal Dimension of Outlet Pipe, W_o	15	in
Tailwater Depth, TW^1	1.60	ft

Apron Dimension Calculations:

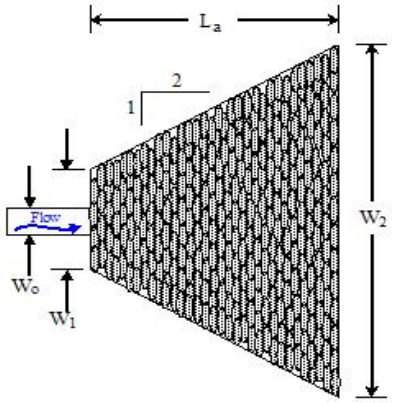
Unit Dicharge, $q = Q/D_o$ = 1.36 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = **L_a =**

  Width, $W_1 = 3W_o$ = **W_1 =**

  Width, $W_2 = 3W_o + L_a$ = **W_2 =**

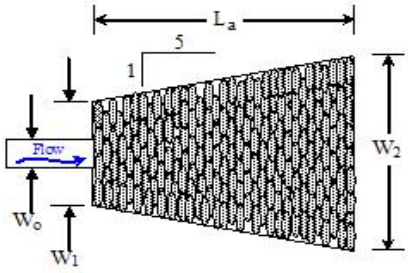


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 3.65 ft or **L_a = 6 ft**

  Width, $W_1 = 3W_o$ = 3.75 ft or **W_1 = 4 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 5.21 ft or **W_2 = 6 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 0.23 in **d_{50} = 6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

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Conduit Outlet Protection Calculations

Rip Rap Pad # M-200

Design Parameters:

Design Storm Flow for 25 Year, Q	1.46	cfs
Vertical Dimension of Outlet Pipe, D_o	15	in
Horizontal Dimension of Outlet Pipe, W_o	15	in
Tailwater Depth, TW[1]	1.60	ft

Apron Dimension Calculations:

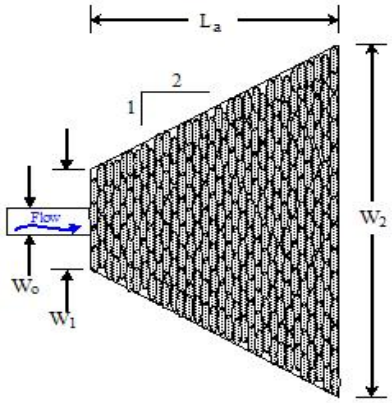
Unit Dicharge, $q = Q/D_o$ = 1.17 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = L_a =

  Width, $W_1 = 3W_o$ = W_1 =

  Width, $W_2 = 3W_o + L_a$ = W_2 =

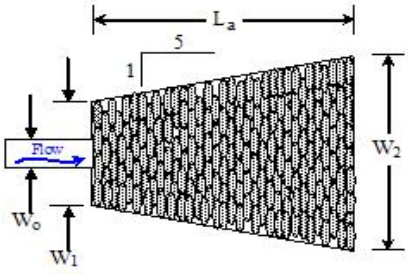


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 3.13 ft or L_a = **6 ft**

  Width, $W_1 = 3W_o$ = 3.75 ft or W_1 = **4 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 5. ft or W_2 = **6 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 0.18 in d_{50} = **6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

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Conduit Outlet Protection Calculations

Rip Rap Pad # N-100

Design Parameters:

Design Storm Flow for 25 Year, Q	12.12	cfs
Vertical Dimension of Outlet Pipe, D_o	24	in
Horizontal Dimension of Outlet Pipe, W_o	24	in
Tailwater Depth, TW^1	1.26	ft

Apron Dimension Calculations:

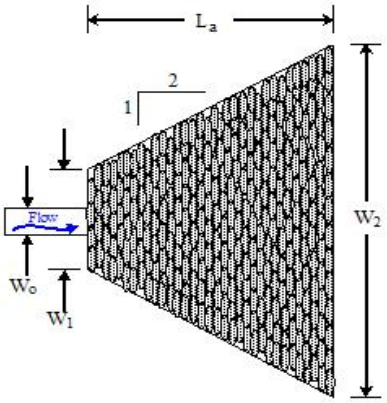
Unit Dicharge, $q = Q/D_o$ = 6.06 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = **L_a =**

  Width, $W_1 = 3W_o$ = **W_1 =**

  Width, $W_2 = 3W_o + L_a$ = **W_2 =**

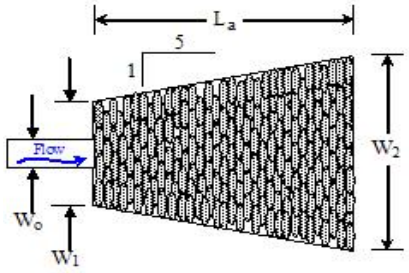


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 12.86 ft or **L_a = 13 ft**

  Width, $W_1 = 3W_o$ = 6. ft or **W_1 = 6 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 11.14 ft or **W_2 = 12 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 2.09 in **d_{50} = 6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

DYNAMIC ENGINEERING

1904 Main Street Lake Como, NJ 07719
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Conduit Outlet Protection Calculations

Rip Rap Pad # O-200

Design Parameters:

Design Storm Flow for 25 Year, Q	2.30	cfs
Vertical Dimension of Outlet Pipe, D_o	15	in
Horizontal Dimension of Outlet Pipe, W_o	15	in
Tailwater Depth, TW[1]	1.59	ft

Apron Dimension Calculations:

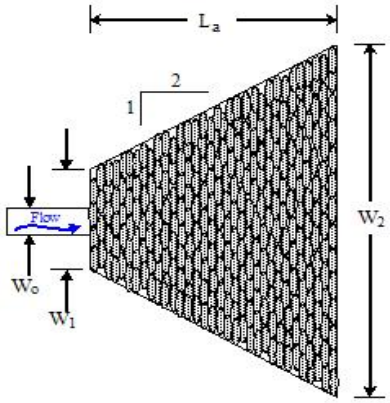
Unit Dicharge, $q = Q/D_o$ = 1.84 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = **L_a =**

  Width, $W_1 = 3W_o$ = **W_1 =**

  Width, $W_2 = 3W_o + L_a$ = **W_2 =**

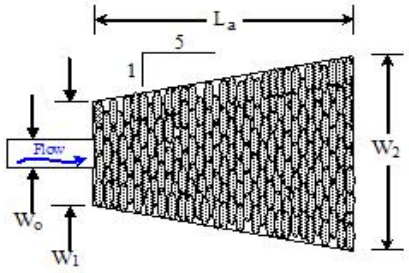


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 4.94 ft or **L_a = 6 ft**

  Width, $W_1 = 3W_o$ = 3.75 ft or **W_1 = 4 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 5.72 ft or **W_2 = 6 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 0.34 in **d_{50} = 6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

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Conduit Outlet Protection Calculations

Rip Rap Pad # P-100

Design Parameters:

Design Storm Flow for 25 Year, Q	3.94	cfs
Vertical Dimension of Outlet Pipe, D_o	15	in
Horizontal Dimension of Outlet Pipe, W_o	15	in
Tailwater Depth, TW^1	1.61	ft

Apron Dimension Calculations:

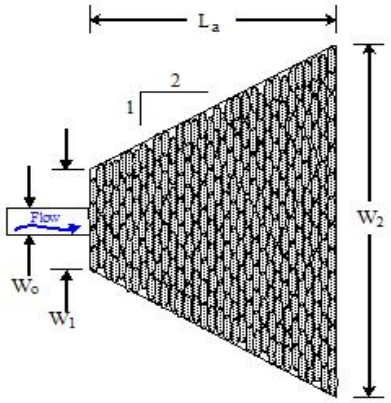
Unit Dicharge, $q = Q/D_o$ = 3.15 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = L_a =

Width, $W_1 = 3W_o$ = W_1 =

Width, $W_2 = 3W_o + L_a$ = W_2 =

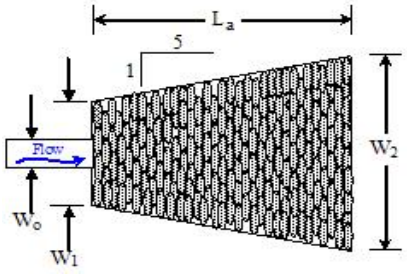


- **Case II: $TW \geq 1/2\ D_o$**

Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 8.46 ft or L_a = **9 ft**

Width, $W_1 = 3W_o$ = 3.75 ft or W_1 = **4 ft**

Width, $W_2 = 3W_o + 0.4L_a$ = 7.13 ft or W_2 = **8 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 0.69 in d_{50} = **6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

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Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # P-200

Design Parameters:

Design Storm Flow for 100 Year, Q	10.24	cfs
Vertical Dimension of Outlet Pipe, D_o	18	in
Horizontal Dimension of Outlet Pipe, W_o	18	in
Tailwater Depth, TW^1	1.61	ft

Apron Dimension Calculations:

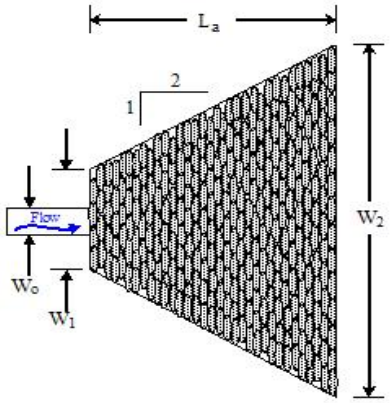
Unit Dicharge, $q = Q/D_o$ = 6.83 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = L_a =

  Width, $W_1 = 3W_o$ = W_1 =

  Width, $W_2 = 3W_o + L_a$ = W_2 =

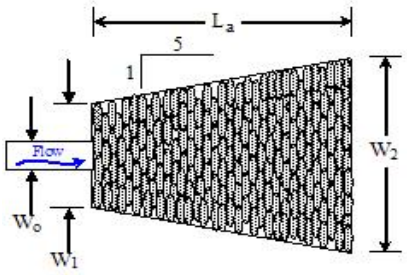


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 16.72 ft or L_a = **17 ft**

  Width, $W_1 = 3W_o$ = 4.5 ft or W_1 = **5 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 11.19 ft or W_2 = **12 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 1.92 in d_{50} = **6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

DYNAMIC ENGINEERING

1904 Main Street Lake Como, NJ 07719
732-974-0198

Date: 4/22/2025
Project: Proposed Residential Subdivision
Project No: 3272-99-005

Calculated By: KB
Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # P-300

Design Parameters:

Design Storm Flow for 100 Year, Q	5.90	cfs
Vertical Dimension of Outlet Pipe, D_o	18	in
Horizontal Dimension of Outlet Pipe, W_o	18	in
Tailwater Depth, TW^1	1.61	ft

Apron Dimension Calculations:

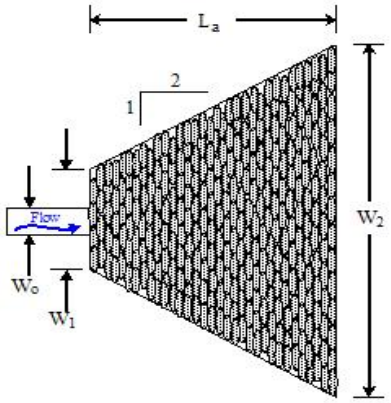
Unit Dicharge, $q = Q/D_o$ = 3.93 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = L_a =

  Width, $W_1 = 3W_o$ = W_1 =

  Width, $W_2 = 3W_o + L_a$ = W_2 =

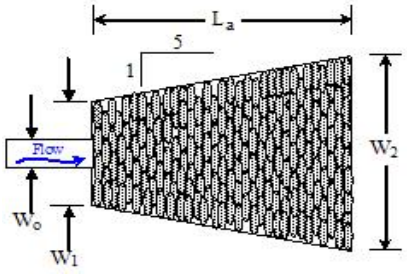


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 9.63 ft or L_a = **10 ft**

  Width, $W_1 = 3W_o$ = 4.5 ft or W_1 = **5 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 8.35 ft or W_2 = **9 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 0.92 in d_{50} = **6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

DYNAMIC ENGINEERING

1904 Main Street Lake Como, NJ 07719
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Date: 4/22/2025
Project: Proposed Residential Subdivision
Project No: 3272-99-005

Calculated By: KB
Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # Q-100

Design Parameters:

Design Storm Flow for 25 Year, Q	5.44	cfs
Vertical Dimension of Outlet Pipe, D_o	18	in
Horizontal Dimension of Outlet Pipe, W_o	18	in
Tailwater Depth, TW[1]	1.83	ft

Apron Dimension Calculations:

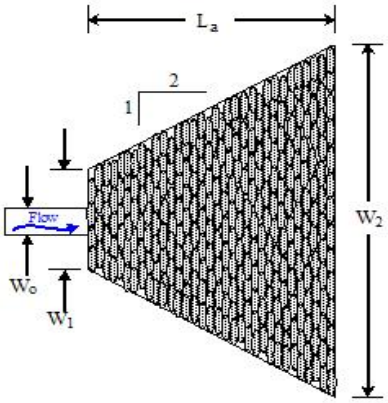
Unit Dicharge, $q = Q/D_o$ = 3.63 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = **L_a =**

  Width, $W_1 = 3W_o$ = **W_1 =**

  Width, $W_2 = 3W_o + L_a$ = **W_2 =**

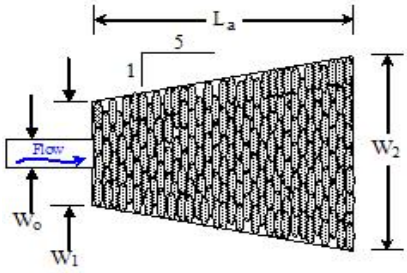


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 8.88 ft or **L_a = 9 ft**

  Width, $W_1 = 3W_o$ = 4.5 ft or **W_1 = 5 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 8.05 ft or **W_2 = 9 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 0.73 in **d_{50} = 6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

DYNAMIC ENGINEERING

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Project No: 3272-99-005

Calculated By: KB
Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # Q-200

Design Parameters:

Design Storm Flow for 25 Year, Q	1.77	cfs
Vertical Dimension of Outlet Pipe, D_o	15	in
Horizontal Dimension of Outlet Pipe, W_o	15	in
Tailwater Depth, TW[1]	1.83	ft

Apron Dimension Calculations:

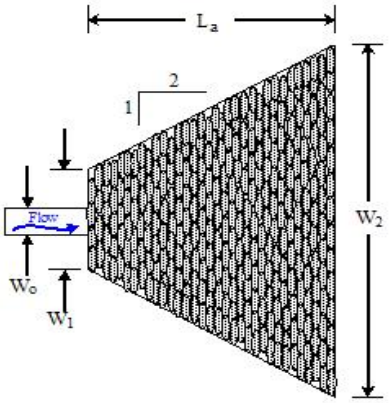
Unit Dicharge, $q = Q/D_o$ = 1.42 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = **L_a =**

  Width, $W_1 = 3W_o$ = **W_1 =**

  Width, $W_2 = 3W_o + L_a$ = **W_2 =**

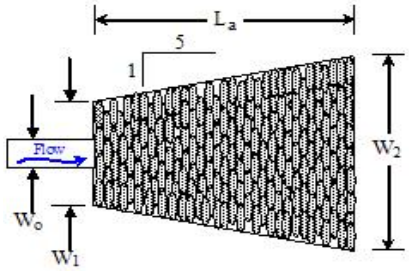


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 3.8 ft or **L_a = 6 ft**

  Width, $W_1 = 3W_o$ = 3.75 ft or **W_1 = 4 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 5.27 ft or **W_2 = 6 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 0.21 in **d_{50} = 6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

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Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # R-100

Design Parameters:

Design Storm Flow for 25 Year, Q	5.24	cfs
Vertical Dimension of Outlet Pipe, D_o	18	in
Horizontal Dimension of Outlet Pipe, W_o	18	in
Tailwater Depth, TW^1	1.46	ft

Apron Dimension Calculations:

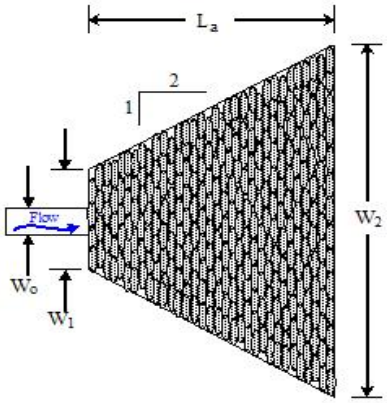
Unit Dicharge, $q = Q/D_o$ = 3.49 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = L_a =

  Width, $W_1 = 3W_o$ = W_1 =

  Width, $W_2 = 3W_o + L_a$ = W_2 =

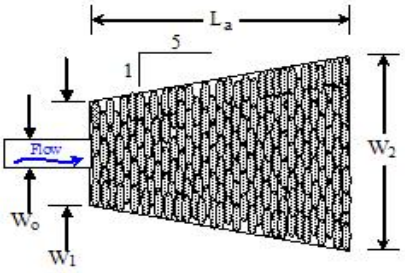


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 8.56 ft or L_a = **9 ft**

  Width, $W_1 = 3W_o$ = 4.5 ft or W_1 = **5 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 7.92 ft or W_2 = **8 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 0.87 in d_{50} = **6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

DYNAMIC ENGINEERING

1904 Main Street Lake Como, NJ 07719
732-974-0198

Date: 4/22/2025
Project: Proposed Residential Subdivision
Project No: 3272-99-005

Calculated By: KB
Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # S-100

Design Parameters:

Design Storm Flow for 25 Year, Q	1.89	cfs
Vertical Dimension of Outlet Pipe, D_o	15	in
Horizontal Dimension of Outlet Pipe, W_o	15	in
Tailwater Depth, TW^1	1.25	ft

Apron Dimension Calculations:

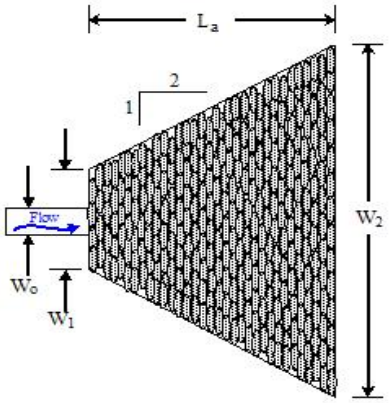
Unit Dicharge, $q = Q/D_o$ = 1.51 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = L_a =

  Width, $W_1 = 3W_o$ = W_1 =

  Width, $W_2 = 3W_o + L_a$ = W_2 =

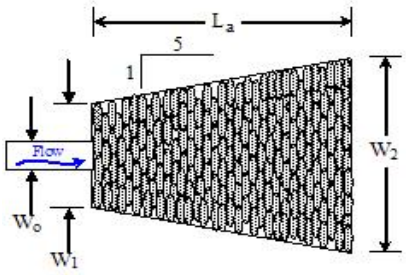


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 4.06 ft or L_a = **6 ft**

  Width, $W_1 = 3W_o$ = 3.75 ft or W_1 = **4 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 5.37 ft or W_2 = **6 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 0.33 in d_{50} = **6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

DYNAMIC ENGINEERING

1904 Main Street Lake Como, NJ 07719
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Date: 4/22/2025
Project: Proposed Residential Subdivision
Project No: 3272-99-005

Calculated By: KB
Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # S-300

Design Parameters:

Design Storm Flow for 25 Year, Q	4.85	cfs
Vertical Dimension of Outlet Pipe, D_o	15	in
Horizontal Dimension of Outlet Pipe, W_o	15	in
Tailwater Depth, TW^1	1.25	ft

Apron Dimension Calculations:

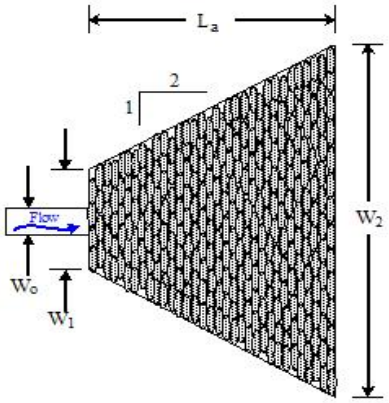
Unit Dicharge, $q = Q/D_o$ = 3.88 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = L_a =

  Width, $W_1 = 3W_o$ = W_1 =

  Width, $W_2 = 3W_o + L_a$ = W_2 =

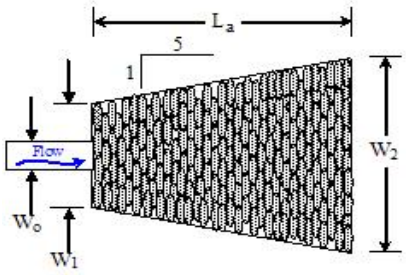


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 10.41 ft or L_a = **11 ft**

  Width, $W_1 = 3W_o$ = 3.75 ft or W_1 = **4 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 7.91 ft or W_2 = **8 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 1.17 in d_{50} = **6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

DYNAMIC ENGINEERING

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Date: 4/22/2025
Project: Proposed Residential Subdivision
Project No: 3272-99-005

Calculated By: KB
Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # T-100

Design Parameters:

Design Storm Flow for 25 Year, Q	1.59	cfs
Vertical Dimension of Outlet Pipe, D_o	15	in
Horizontal Dimension of Outlet Pipe, W_o	15	in
Tailwater Depth, TW^1	0.49	ft

Apron Dimension Calculations:

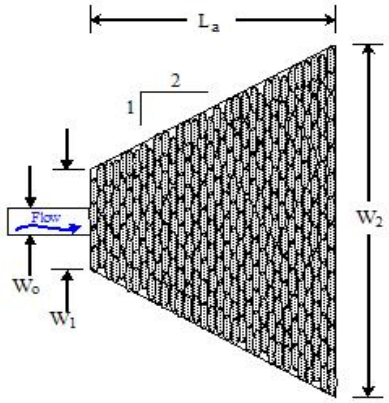
Unit Dicharge, $q = Q/D_o$ = 1.27 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = 10.8 ft or **L_a = 11 ft**

Width, $W_1 = 3W_o$ = 3.75 ft or **W_1 = 4 ft**

Width, $W_2 = 3W_o + L_a$ = 14.55 ft or **W_2 = 15 ft**

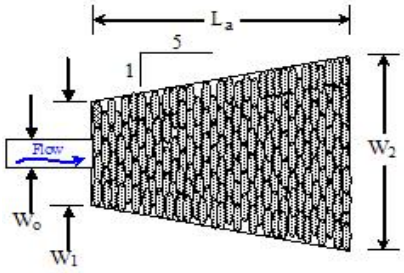


- **Case II: $TW \geq 1/2\ D_o$**

Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = **L_a =**

Width, $W_1 = 3W_o$ = **W_1 =**

Width, $W_2 = 3W_o + 0.4L_a$ = **W_2 =**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 0.67 in **d_{50} = 6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

DYNAMIC ENGINEERING

1904 Main Street Lake Como, NJ 07719
732-974-0198

Date: 4/22/2025
Project: Proposed Residential Subdivision
Project No: 3272-99-005

Calculated By: KB
Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # T-200

Design Parameters:

Design Storm Flow for 100 Year, Q	0.47	cfs
Vertical Dimension of Outlet Pipe, D_o	15	in
Horizontal Dimension of Outlet Pipe, W_o	15	in
Tailwater Depth, TW^1	0.49	ft

Apron Dimension Calculations:

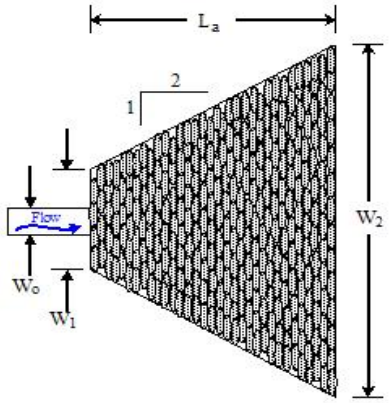
Unit Dicharge, $q = Q/D_o$ = 0.38 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = 9.36 ft or **L_a = 10 ft**

Width, $W_1 = 3W_o$ = 3.75 ft or **W_1 = 4 ft**

Width, $W_2 = 3W_o + L_a$ = 13.11 ft or **W_2 = 14 ft**

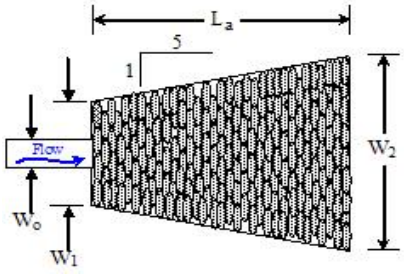


- **Case II: $TW \geq 1/2\ D_o$**

Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = **L_a =**

Width, $W_1 = 3W_o$ = **W_1 =**

Width, $W_2 = 3W_o + 0.4L_a$ = **W_2 =**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 0.13 in **d_{50} = 6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

DYNAMIC ENGINEERING

1904 Main Street Lake Como, NJ 07719
732-974-0198

Date: 4/22/2025
Project: Proposed Residential Subdivision
Project No: 3272-99-005

Calculated By: KB
Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # U-100

Design Parameters:

Design Storm Flow for 25 Year, Q	1.64	cfs
Vertical Dimension of Outlet Pipe, D_o	15	in
Horizontal Dimension of Outlet Pipe, W_o	15	in
Tailwater Depth, TW^1	0.67	ft

Apron Dimension Calculations:

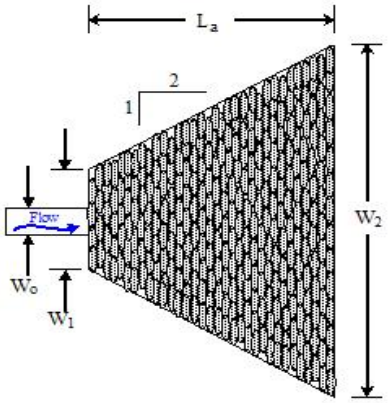
Unit Dicharge, $q = Q/D_o$ = 1.31 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = L_a =

  Width, $W_1 = 3W_o$ = W_1 =

  Width, $W_2 = 3W_o + L_a$ = W_2 =

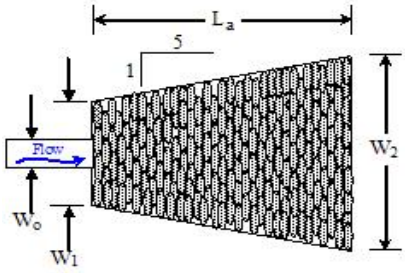


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 3.52 ft or L_a = **6 ft**

  Width, $W_1 = 3W_o$ = 3.75 ft or W_1 = **4 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 5.16 ft or W_2 = **6 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 0.51 in d_{50} = **6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

DYNAMIC ENGINEERING

1904 Main Street Lake Como, NJ 07719
732-974-0198

Date: 4/22/2025
Project: Proposed Residential Subdivision
Project No: 3272-99-005

Calculated By: KB
Checked By: CC

Conduit Outlet Protection Calculations

Rip Rap Pad # U-200

Design Parameters:

Design Storm Flow for 25 Year, Q	1.34	cfs
Vertical Dimension of Outlet Pipe, D_o	15	in
Horizontal Dimension of Outlet Pipe, W_o	15	in
Tailwater Depth, TW^1	0.67	ft

Apron Dimension Calculations:

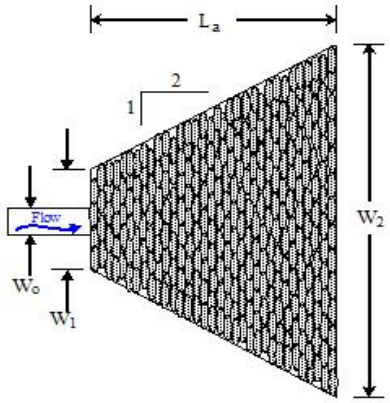
Unit Dicharge, $q = Q/D_o$ = 1.07 cfs per foot

- **Case I: $TW < 1/2\ D_o$**

  Apron Length, $L_a = \frac{1.8q}{D_o^{1/2}} + 7D_o$ = L_a =

  Width, $W_1 = 3W_o$ = W_1 =

  Width, $W_2 = 3W_o + L_a$ = W_2 =

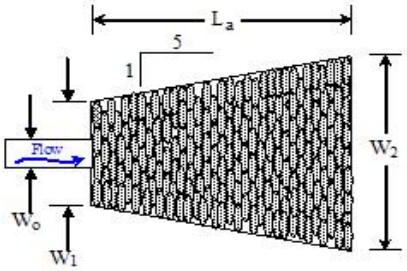


- **Case II: $TW \geq 1/2\ D_o$**

  Apron Length, $L_a = \frac{3q}{D_o^{1/2}}$ = 2.88 ft or L_a = **6 ft**

  Width, $W_1 = 3W_o$ = 3.75 ft or W_1 = **4 ft**

  Width, $W_2 = 3W_o + 0.4L_a$ = 4.9 ft or W_2 = **6 ft**



Rip Rap Stone Size Calculations:

Median Stone, $d_{50} = \frac{0.02q^{1.33}}{TW}$ = 0.39 in d_{50} = **6 in**

Notes:

1. Where there is a well-defined channel downstream of the apron, the bottom width of the apron shall be at least equal to the bottom width of the channel and the structural lining shall extend at least one foot above the tailwater elevation, but no lower than two-thirds of the vertical conduit dimension above the conduit invert.
2. The side slopes shall be 2:1 or flatter.
3. The bottom grade shall be 0.0% (level).
4. There shall be no overfall at the end of the apron or at the end of the culvert.
5. Fifty (50) percent by weight of the rip-rap mixture shall be smaller than the median size stone designated as d_{50}. The largest stone size in the mixture shall be 1.5 times the d_{50} size. The rip-rap shall be reasonably well graded.
6. The thickness of the rip-rap apron may be two (2) times the median stone diameter provided that the apron is constructed on a bedding of four (4) inches of 3/4 inch clean stone on approved filter fabric material.
7. Rip-rap and filter fabric shall meet the standards of the governing Soil Conservation District as well as the requirements of the local municipality.
8. No bends or curves at the intersection of the conduit and apron will be permitted.

Footnote:

1. Tailwater depth shall be the 2-year storm if discharging into a detention basin. For areas where tailwater cannot be computed, use $TW = 0.2D_o$.
2. For multiple pipes, increase rip-rap sizes by 25% when pipe spacing is greater than or equal to $1/4W_o$.

DYNAMIC ENGINEERING

SCOUR HOLE DESIGN

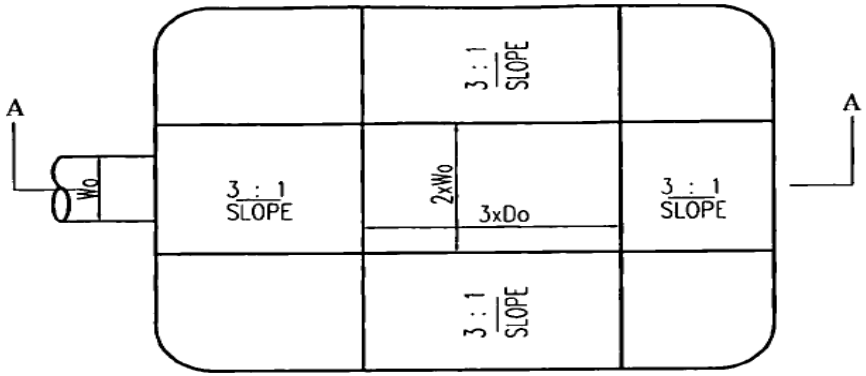
Project:	Proposed Residential Subdivision
Job #:	3272-99-005
Location:	Eatontown, NJ
Design Storm:	100 year
Computed By:	KB
Checked By:	CC
Date:	4/22/2025

Discharge not in Basin, Therefore Tailwater is less than 0.5 x Do

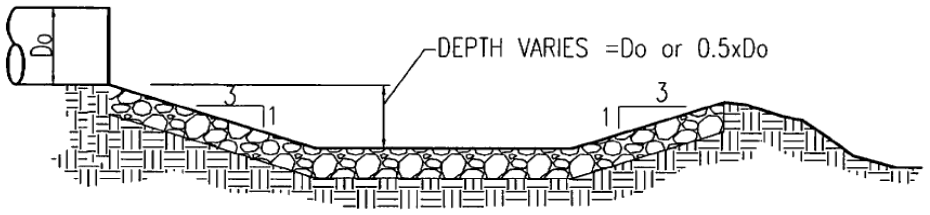
Discharge Point	Scour Hole D-320
Q (100-yr storm cfs)	**52.77**
Inside Height of Outlet Culvert, Do (in)	**36**
Inside Height of Outlet Culvert, Do (ft)	3.0
Tailwater (ft), Tw	0.60
Length of Apron, L (ft)	**9.00**
Width of Culvert, Wo(in)	**36**
Width of Culvert, Wo(ft)	**3.0**
Width of Apron, W(ft)	**6.00**
Where Y = 1/2 Do, Y(ft)	**1.500**
Median Stone Diameter, D50 (ft)	**0.94**
Where Y = Do, Y(ft)	**3.000**
Median Stone Diameter, D50 (ft)	**0.62**

Note: Use D50 of 6 inches minimum

Equations used:
L=3*Do
W=2*Wo
Tw=0.2*Do (If Tw cannot be computed)
Where Y=1/2 Do
D50=(0.0125/Tw)*(q^1.33)
Where Y=Do
D50=(0.0082/Tw)*(q^1.33)



PLAN



SECTION A–A

Notes:
1. The use of scour holes shall comply with county or local ordinances which would restrict the use of such devices due to the possible problems with mosquito breeding.
2. No bends or curves at the intersection of the conduit and apron or scour hole will be permitted.
3. There shall be no over fall from the end of the apron to the receiving material.
4. The thickness of the riprap lining, filter, and quality shall meet the requirements in the Riprap Standard Section of the Standards for Soil Erosion Control in New Jersey.

DYNAMIC ENGINEERING

SCOUR HOLE DESIGN

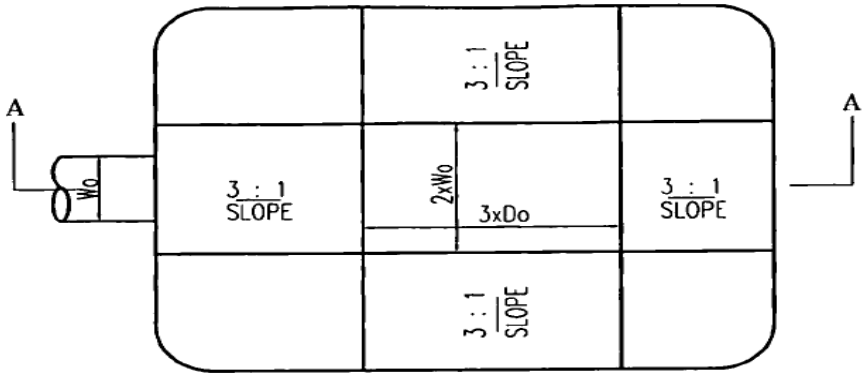
Project:	Proposed Residential Subdivision
Job #:	3272-99-005
Location:	Eatontown, NJ
Design Storm:	100 year
Computed By:	KB
Checked By:	CC
Date:	4/22/2025

Discharge not in Basin, Therefore Tailwater is less than 0.5 x Do

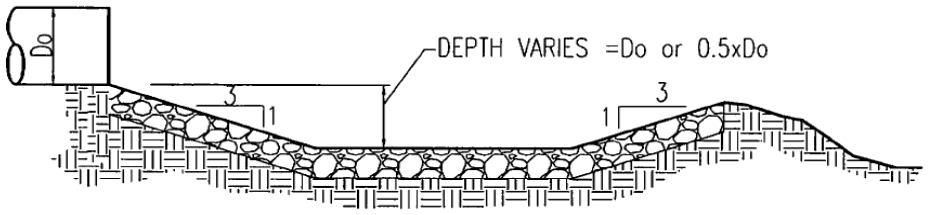
Discharge Point	Scour Hole O-120
Q (100-yr storm cfs)	**5.98**
Inside Height of Outlet Culvert, Do (in)	**18**
Inside Height of Outlet Culvert, Do (ft)	1.5
Tailwater (ft), Tw	0.30
Length of Apron, L (ft)	**4.50**
Width of Culvert, Wo(in)	**18**
Width of Culvert, Wo(ft)	**1.5**
Width of Apron, W(ft)	**3.00**
Where Y = 1/2 Do, Y(ft)	**0.750**
Median Stone Diameter, D50 (ft)	**0.26**
Where Y = Do, Y(ft)	**1.500**
Median Stone Diameter, D50 (ft)	**0.17**

Note: Use D50 of 6 inches minimum

Equations used:
L=3*Do
W=2*Wo
Tw=0.2*Do (If Tw cannot be computed)
Where Y=1/2 Do
D50=(0.0125/Tw)*(q^1.33)
Where Y=Do
D50=(0.0082/Tw)*(q^1.33)



PLAN



SECTION A–A

Notes:
1. The use of scour holes shall comply with county or local ordinances which would restrict the use of such devices due to the possible problems with mosquito breeding.
2. No bends or curves at the intersection of the conduit and apron or scour hole will be permitted.
3. There shall be no over fall from the end of the apron to the receiving material.
4. The thickness of the riprap lining, filter, and quality shall meet the requirements in the Riprap Standard Section of the Standards for Soil Erosion Control in New Jersey.

DYNAMIC ENGINEERING

SCOUR HOLE DESIGN

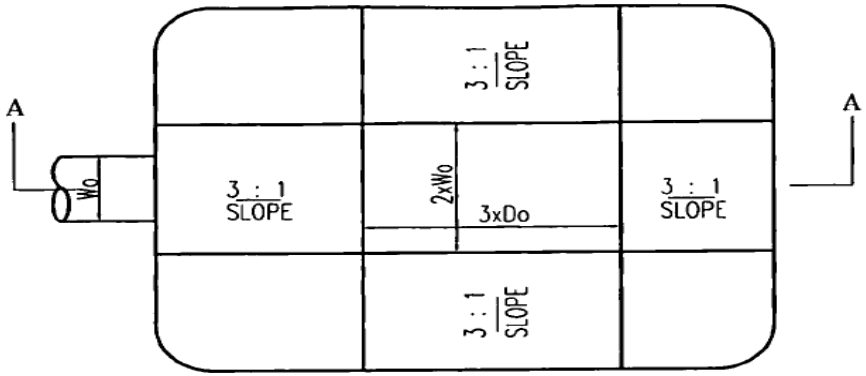
Project:	Proposed Residential Subdivision
Job #:	3272-99-005
Location:	Eatontown, NJ
Design Storm:	100 year
Computed By:	KB
Checked By:	CC
Date:	4/22/2025

Discharge not in Basin, Therefore Tailwater is less than 0.5 x Do

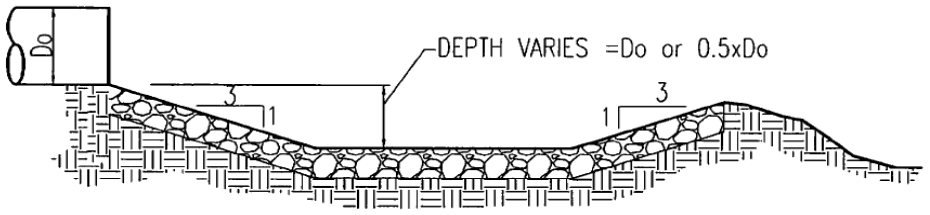
Discharge Point	Scour Hole W-100
Q (100-yr storm cfs)	**53.02**
Inside Height of Outlet Culvert, Do (in)	**42**
Inside Height of Outlet Culvert, Do (ft)	3.5
Tailwater (ft), Tw	0.70
Length of Apron, L (ft)	**10.50**
Width of Culvert, Wo(in)	**42**
Width of Culvert, Wo(ft)	**3.5**
Width of Apron, W(ft)	**7.00**
Where Y = 1/2 Do, Y(ft)	**1.750**
Median Stone Diameter, D50 (ft)	**0.66**
Where Y = Do, Y(ft)	**3.500**
Median Stone Diameter, D50 (ft)	**0.44**

Note: Use D50 of 6 inches minimum

Equations used:
L=3*Do
W=2*Wo
Tw=0.2*Do (If Tw cannot be computed)
Where Y=1/2 Do
D50=(0.0125/Tw)*(q^1.33)
Where Y=Do
D50=(0.0082/Tw)*(q^1.33)



PLAN



SECTION A–A

Notes:
1. The use of scour holes shall comply with county or local ordinances which would restrict the use of such devices due to the possible problems with mosquito breeding.
2. No bends or curves at the intersection of the conduit and apron or scour hole will be permitted.
3. There shall be no over fall from the end of the apron to the receiving material.
4. The thickness of the riprap lining, filter, and quality shall meet the requirements in the Riprap Standard Section of the Standards for Soil Erosion Control in New Jersey.

DYNAMIC ENGINEERING

SCOUR HOLE DESIGN

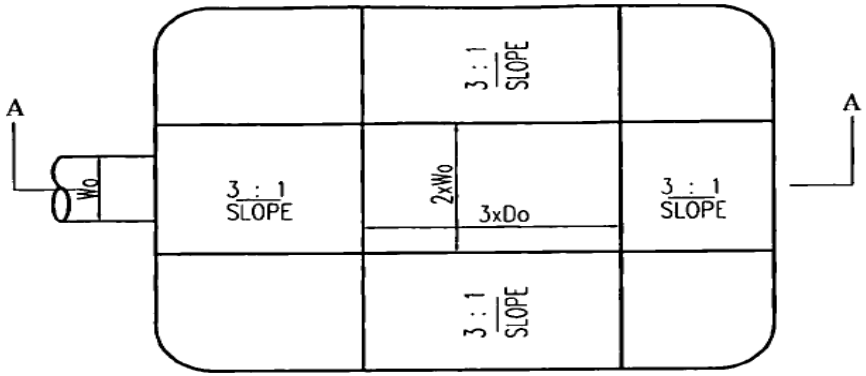
Project:	Proposed Residential Subdivision
Job #:	3272-99-005
Location:	Eatontown, NJ
Design Storm:	100 year
Computed By:	KB
Checked By:	CC
Date:	4/22/2025

Discharge not in Basin, Therefore Tailwater is less than 0.5 x Do

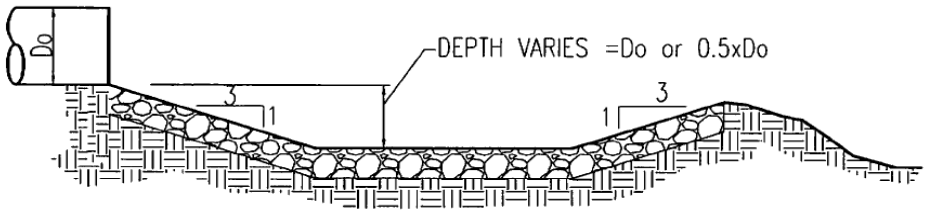
Discharge Point	Scour Hole X-100
Q (100-yr storm cfs)	**46.69**
Inside Height of Outlet Culvert, Do (in)	**36**
Inside Height of Outlet Culvert, Do (ft)	3.0
Tailwater (ft), Tw	0.60
Length of Apron, L (ft)	**9.00**
Width of Culvert, Wo(in)	**36**
Width of Culvert, Wo(ft)	**3.0**
Width of Apron, W(ft)	**6.00**
Where Y = 1/2 Do, Y(ft)	**1.500**
Median Stone Diameter, D50 (ft)	**0.80**
Where Y = Do, Y(ft)	**3.000**
Median Stone Diameter, D50 (ft)	**0.53**

Note: Use D50 of 6 inches minimum

Equations used:
L=3*Do
W=2*Wo
Tw=0.2*Do (If Tw cannot be computed)
Where Y=1/2 Do
D50=(0.0125/Tw)*(q^1.33)
Where Y=Do
D50=(0.0082/Tw)*(q^1.33)



PLAN



SECTION A–A

Notes:
1. The use of scour holes shall comply with county or local ordinances which would restrict the use of such devices due to the possible problems with mosquito breeding.
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3. There shall be no over fall from the end of the apron to the receiving material.
4. The thickness of the riprap lining, filter, and quality shall meet the requirements in the Riprap Standard Section of the Standards for Soil Erosion Control in New Jersey.

NEW JERSEY GROUNDWATER RECHARGE SPREADSHEET

New Jersey Groundwater Recharge Spreadsheet
Version 2.0
November 2003

Annual Groundwater Recharge Analysis (based on GSR-32)

Select Township ↓	Average Annual P (in)	Climatic Factor
MONMOUTH CO., EATONTOWN BORO	47.4	1.55

Project Name:	3272-99-005
Description:	Proposed Subdivision
Analysis Date:	02/07/25

Pre-Developed Conditions

Land Segment	Area (acres)	TR-55 Land Cover	Soil	Annual Recharge (in)	Annual Recharge (cu.ft)
1	0.9	Gravel, dirt	Downer	10.8	35,244
2	0.7	Impervious areas	Downer	0.0	-
3	31.9	Open space	Downer	16.2	1,878,633
4	10	Woods	Downer	16.2	586,935
5	0.2	Gravel, dirt	Evesboro	14.8	10,759
6	5	Open space	Evesboro	17.6	319,213
7	3.2	Woods	Evesboro	17.2	199,348
8	0.6	Gravel, dirt	Freehold	9.8	21,280
9	3.5	Impervious areas	Freehold	0.0	-
10	45.7	Open space	Freehold	15.6	2,587,319
11	1.6	Woods	Freehold	15.9	92,606
12					
13					
14					
15					
Total =	103.3			Total Annual Recharge (in)	Total Annual Recharge (cu-ft)
				15.3	5,731,337

Post-Developed Conditions

Land Segment	Area (acres)	TR-55 Land Cover	Soil	Annual Recharge (in)	Annual Recharge (cu.ft)
1	0.9	Gravel, dirt	Downer	10.8	35,244
2	0.7	Impervious areas	Downer	0.0	-
3	31.9	Open space	Downer	16.2	1,878,633
4	10	Woods	Downer	16.2	586,935
5	0.2	Gravel, dirt	Evesboro	14.8	10,759
6	5	Open space	Evesboro	17.6	319,213
7	3.2	Woods	Evesboro	17.2	199,348
8	18.2	Impervious areas	Freehold	0.0	-
9	32.3	Open space	Freehold	15.6	1,828,674
10	0.9	Woods	Freehold	15.9	52,091
11					
12					
13					
14					
15					
Total =	103.3			Total Annual Recharge (in)	Total Annual Recharge (cu.ft)
				13.1	4,910,897

Annual Recharge Requirements Calculation ↓

% of Pre-Developed Annual Recharge to Preserve =	100%	Total Impervious Area (sq.ft)	823,284
Post-Development Annual Recharge Deficit=	***820,440***	(cubic feet)	

Recharge Efficiency Parameters Calculations (area averages)

RWC=	#N/A	(in)	DRWC=	#N/A	(in)
ERWC =	#N/A	(in)	EDRWC=	#N/A	(in)

Procedure to fill the Pre-Development and Post-Development Conditions Tables

For each land segment, first enter the area, then select TR-55 Land Cover, then select Soil. Start from the top of the table and proceed downward. Don't leave blank rows (with A=0) in between your segment entries. Rows with A=0 will not be displayed or used in calculations. For impervious areas outside of standard lots select "Impervious Areas" as the Land Cover. Soil type for impervious areas are only required if an infiltration facility will be built within these areas.

New Jersey Groundwater Recharge Spreadsheet
Version 2.0
November 2003

Annual Groundwater Recharge Analysis (based on GSR-32)

Select Township ↓	Average Annual P (in)	Climatic Factor
MONMOUTH CO., EATONTOWN BORO	47.4	1.55

Project Name:	3272-99-005
Description:	Proposed Subdivision
Analysis Date:	02/07/25

Pre-Developed Conditions

Land Segment	Area (acres)	TR-55 Land Cover	Soil	Annual Recharge (in)	Annual Recharge (cu.ft)
1	0.06	Gravel, dirt	Humaquepts	0.0	-
2	0.86	Impervious areas	Humaquepts	0.0	-
3	13.12	Open space	Humaquepts	0.0	-
4	0.89	Woods	Humaquepts	0.0	-
5	1.46	Impervious areas	Humaquepts	0.0	-
6	0.01	Gravel, dirt	Fallsington	0.0	-
7	0.3	Impervious areas	Fallsington	0.0	-
8	0.47	Open space	Fallsington	0.0	-
9	0.51	Woods	Fallsington	0.0	-
10					
11					
12					
13					
14					
15					
Total =	17.7			Total Annual Recharge (in)	Total Annual Recharge (cu-ft)
				0.0	-

Post-Developed Conditions

Land Segment	Area (acres)	TR-55 Land Cover	Soil	Annual Recharge (in)	Annual Recharge (cu.ft)
1	0.03	Gravel, dirt	Humaquepts	0.0	-
2	0.88	Impervious areas	Humaquepts	0.0	-
3	13.13	Open space	Humaquepts	0.0	-
4	0.89	Woods	Humaquepts	0.0	-
5	1.46	Impervious areas	Humaquepts	0.0	-
6	0.01	Gravel, dirt	Fallsington	0.0	-
7	0.3	Impervious areas	Fallsington	0.0	-
8	0.47	Open space	Fallsington	0.0	-
9	0.51	Woods	Fallsington	0.0	-
10					
11					
12					
13					
14					
15					
Total =	17.7			Total Annual Recharge (in)	Total Annual Recharge (cu.ft)
				0.0	-

Annual Recharge Requirements Calculation ↓

% of Pre-Developed Annual Recharge to Preserve =	100%	Total Impervious Area (sq.ft)	114,998
Post-Development Annual Recharge Deficit=	*0*	(cubic feet)	

Recharge Efficiency Parameters Calculations (area averages)

RWC=	0.00	(in)	DRWC=	0.00	(in)
ERWC =	0.00	(in)	EDRWC=	0.00	(in)

Procedure to fill the Pre-Development and Post-Development Conditions Tables

For each land segment, first enter the area, then select TR-55 Land Cover, then select Soil. Start from the top of the table and proceed downward. Don't leave blank rows (with A=0) in between your segment entries. Rows with A=0 will not be displayed or used in calculations. For impervious areas outside of standard lots select "Impervious Areas" as the Land Cover. Soil type for impervious areas are only required if an infiltration facility will be built within these areas.

Project Name	Description	Analysis Date	BMP or LID Type
3272-99-005	Proposed Subdivision	02/07/25	Bioretention Basin with Infiltration A

Recharge BMP Input Parameters

Parameter	Symbol	Value	Unit
BMP Area	ABMP	8361.0	sq.ft
BMP Effective Depth, this is the design variable	dBMP	9.0	in
Upper level of the BMP surface (negative if above ground)	dBMPu	-9.0	in
Depth of lower surface of BMP, must be>=dBMPu	dEXC	0.0	in
Post-development Land Segment Location of BMP , Input Zero if Location is distributed or undetermined	SegBMP	8	unitless

Root Zone Water capacity Calculated Parameters

Parameter	Symbol	Value	Unit
Empty Portion of RWC under Post-D Natural Recharge	ERWC	0.66	in
ERWC Modified to consider dEXC	EDRWC	0.66	in
Empty Portion of RWC under Infilt. BMP	RERWC	0.52	in

Recharge Design Parameters

Parameter	Symbol	Value	Unit
Inches of Runoff to capture	Qdesign	1.39	in
Inches of Rainfall to capture	Pdesign	1.61	in
Recharge Provided Avg. over Imp. Area		28.0	in
Runoff Captured Avg. over imp. Area		33.8	in

BMP Calculated Size Parameters

ABMP/Aimp	Aratio	0.14	unitless
BMP Volume	VBMP	6,271	cu.ft

Parameters from Annual Recharge Worksheet

Parameter	Symbol	Value	Unit
Post-D Deficit Recharge (or desired recharge volume)	Vdef	820,440	cu.ft
Post-D Impervious Area (or target Impervious Area)	Aimp	57,935	sq.ft
Root Zone Water Capacity	RWC	2.92	in
RWC Modified to consider dEXC	DRWC	2.92	in
Climatic Factor	C-factor	1.55	no units
Average Annual P	Pavg	47.4	in
Recharge Requirement over Imp. Area	dr	12.0	in

System Performance Calculated Parameters

Annual BMP Recharge Volume		135,224	cu.ft
Avg BMP Recharge Efficiency		82.9%	Represents % Infiltration Recharged
%Rainfall became Runoff		78.2%	%
%Runoff Infiltrated		91.2%	%
%Runoff Recharged		5.3%	%
%Rainfall Recharged		4.2%	%

CALCULATION CHECK MESSAGES

Volume Balance-> **Solve Problem to satisfy Annual Recharge**
dBMP Check---> **OK**
dEXC Check---> **OK**
BMP Location---> **OK**

OTHER NOTES

Pdesign is accurate only after BMP dimensions are updated to make rech volume= deficit volume. The portion of BMP infiltration prior to filling and the area occupied by BMP are ignored in these calculations. Results are sensetive to dBMP, make sure dBMP selected is small enough for BMP to empty in less than 3 days. For land Segment Location of BMP if you select "impervious areas" RWC will be minimal but not zero as determined by the soil type and a shallow root zone for this Land Cover allowing consideration of lateral flow and other losses

How to solve for different recharge volumes: By default the spreadsheet assigns the values of total deficit recharge volume "Vdef" and total proposed impervious area "Aimp" from the "Annual Recharge" sheet to "Vdef" and "Aimp" on this page. This allows solution for a single BMP to handle the entire recharge requirement assuming the runoff from entire impervious area is available to the BMP.
To solve for a smaller BMP or a LID-IMP to recharge only part of the recharge requirement, set Vdef to your target value and Aimp to impervious area directly connected to your infiltration facility and then solve for ABMP or dBMP. To go back to the default configuration clik the "Default Vdef & Aimp" button.

Project Name	Description	Analysis Date	BMP or LID Type
3272-99-005	Proposed Subdivision	02/07/25	Bioretention Basin with Infiltration B

Recharge BMP Input Parameters

Parameter	Symbol	Value	Unit
BMP Area	ABMP	2148.0	sq.ft
BMP Effective Depth, this is the design variable	dBMP	12.0	in
Upper level of the BMP surface (negative if above ground)	dBMPu	-12.0	in
Depth of lower surface of BMP, must be>=dBMPu	dEXC	0.0	in
Post-development Land Segment Location of BMP , Input Zero if Location is distributed or undetermined	SegBMP	8	unitless

Root Zone Water capacity Calculated Parameters

Parameter	Symbol	Value	Unit
Empty Portion of RWC under Post-D Natural Recharge	ERWC	0.66	in
ERWC Modified to consider dEXC	EDRWC	0.66	in
Empty Portion of RWC under Infilt. BMP	RERWC	0.52	in

Recharge Design Parameters

Parameter	Symbol	Value	Unit
Inches of Runoff to capture	Qdesign	1.27	in
Inches of Rainfall to capture	Pdesign	1.49	in
Recharge Provided Avg. over Imp. Area		29.3	in
Runoff Captured Avg. over imp. Area		33.4	in

BMP Calculated Size Parameters

ABMP/Aimp	Aratio	0.10	unitless
BMP Volume	VBMP	2,148	cu.ft

Parameters from Annual Recharge Worksheet

Parameter	Symbol	Value	Unit
Post-D Deficit Recharge (or desired recharge volume)	Vdef	820,440	cu.ft
Post-D Impervious Area (or target Impervious Area)	Aimp	20,909	sq.ft
Root Zone Water Capacity	RWC	2.92	in
RWC Modified to consider dEXC	DRWC	2.92	in
Climatic Factor	C-factor	1.55	no units
Average Annual P	Pavg	47.4	in
Recharge Requirement over Imp. Area	dr	12.0	in

System Performance Calculated Parameters

Parameter		Value	Unit
Annual BMP Recharge Volume		50,982	cu.ft
Avg BMP Recharge Efficiency		87.5%	Represents % Infiltration Recharged
%Rainfall became Runoff		78.2%	%
%Runoff Infiltrated		90.2%	%
%Runoff Recharged		2.0%	%
%Rainfall Recharged		1.6%	%

CALCULATION CHECK MESSAGES

Volume Balance-> Solve Problem to satisfy Annual Recharge
dBMP Check---> OK
dEXC Check---> OK
BMP Location---> OK

OTHER NOTES

Pdesign is accurate only after BMP dimensions are updated to make rech volume= deficit volume. The portion of BMP infiltration prior to filling and the area occupied by BMP are ignored in these calculations. Results are sensetive to dBMP, make sure dBMP selected is small enough for BMP to empty in less than 3 days. For land Segment Location of BMP if you select "impervious areas" RWC will be minimal but not zero as determined by the soil type and a shallow root zone for this Land Cover allowing consideration of lateral flow and other losses

How to solve for different recharge volumes: By default the spreadsheet assigns the values of total deficit recharge volume "Vdef" and total proposed impervious area "Aimp" from the "Annual Recharge" sheet to "Vdef" and "Aimp" on this page. This allows solution for a single BMP to handle the entire recharge requirement assuming the runoff from entire impervious area is available to the BMP.
To solve for a smaller BMP or a LID-IMP to recharge only part of the recharge requirement, set Vdef to your target value and Aimp to impervious area directly connected to your infiltration facility and then solve for ABMP or dBMP. To go back to the default configuration clik the "Default Vdef & Aimp" button.

Project Name	Description	Analysis Date	BMP or LID Type
3272-99-005	Proposed Subdivision	02/07/25	Bioretention Basin with Infiltration Basin C

Recharge BMP Input Parameters

Parameter	Symbol	Value	Unit
BMP Area	ABMP	1423.0	sq.ft
BMP Effective Depth, this is the design variable	dBMP	12.0	in
Upper level of the BMP surface (negative if above ground)	dBMPu	-12.0	in
Depth of lower surface of BMP, must be>=dBMPu	dEXC	0.0	in
Post-development Land Segment Location of BMP , Input Zero if Location is distributed or undetermined	SegBMP	8	unitless

Root Zone Water capacity Calculated Parameters

Parameter	Symbol	Value	Unit
Empty Portion of RWC under Post-D Natural Recharge	ERWC	0.66	in
ERWC Modified to consider dEXC	EDRWC	0.66	in
Empty Portion of RWC under Infilt. BMP	RERWC	0.51	in

Recharge Design Parameters

Parameter	Symbol	Value	Unit
Inches of Runoff to capture	Qdesign	0.96	in
Inches of Rainfall to capture	Pdesign	1.17	in
Recharge Provided Avg. over Imp. Area		28.0	in
Runoff Captured Avg. over imp. Area		31.1	in

BMP Calculated Size Parameters

ABMP/Aimp	Aratio	0.08	unitless
BMP Volume	VBMP	1,423	cu.ft

Parameters from Annual Recharge Worksheet

Post-D Deficit Recharge (or desired recharge volume)	Vdef	820,440	cu.ft
Post-D Impervious Area (or target Impervious Area)	Aimp	18,295	sq.ft
Root Zone Water Capacity	RWC	2.92	in
RWC Modified to consider dEXC	DRWC	2.92	in
Climatic Factor	C-factor	1.55	no units
Average Annual P	Pavg	47.4	in
Recharge Requirement over Imp. Area	dr	12.0	in

System Performance Calculated Parameters

Annual BMP Recharge Volume		42,641	cu.ft
Avg BMP Recharge Efficiency		89.8%	Represents % Infiltration Recharged
%Rainfall became Runoff		78.2%	%
%Runoff Infiltrated		84.0%	%
%Runoff Recharged		1.7%	%
%Rainfall Recharged		1.3%	%

CALCULATION CHECK MESSAGES

Volume Balance-> Solve Problem to satisfy Annual Recharge
dBMP Check---> OK
dEXC Check---> OK
BMP Location---> OK

OTHER NOTES

Pdesign is accurate only after BMP dimensions are updated to make rech volume= deficit volume. The portion of BMP infiltration prior to filling and the area occupied by BMP are ignored in these calculations. Results are sensetive to dBMP, make sure dBMP selected is small enough for BMP to empty in less than 3 days. For land Segment Location of BMP if you select "impervious areas" RWC will be minimal but not zero as determined by the soil type and a shallow root zone for this Land Cover allowing consideration of lateral flow and other losses

How to solve for different recharge volumes: By default the spreadsheet assigns the values of total deficit recharge volume "Vdef" and total proposed impervious area "Aimp" from the "Annual Recharge" sheet to "Vdef" and "Aimp" on this page. This allows solution for a single BMP to handle the entire recharge requirement assuming the runoff from entire impervious area is available to the BMP.
To solve for a smaller BMP or a LID-IMP to recharge only part of the recharge requirement, set Vdef to your target value and Aimp to impervious area directly connected to your infiltration facility and then solve for ABMP or dBMP. To go back to the default configuration clik the "Default Vdef & Aimp" button.

Project Name	Description	Analysis Date	BMP or LID Type
3272-99-005	Proposed Subdivision	02/07/25	Infiltration Basin D

Recharge BMP Input Parameters

Parameter	Symbol	Value	Unit
BMP Area	ABMP	3264.0	sq.ft
BMP Effective Depth, this is the design variable	dBMP	10.8	in
Upper level of the BMP surface (negative if above ground)	dBMPu	-10.8	in
Depth of lower surface of BMP, must be>=dBMPu	dEXC	0.0	in
Post-development Land Segment Location of BMP , Input Zero if Location is distributed or undetermined	SegBMP	8	unitless

Root Zone Water capacity Calculated Parameters

Parameter	Symbol	Value	Unit
Empty Portion of RWC under Post-D Natural Recharge	ERWC	0.66	in
ERWC Modified to consider dEXC	EDRWC	0.66	in
Empty Portion of RWC under Infilt. BMP	RERWC	0.51	in

Recharge Design Parameters

Parameter	Symbol	Value	Unit
Inches of Runoff to capture	Qdesign	0.60	in
Inches of Rainfall to capture	Pdesign	0.74	in
Recharge Provided Avg. over Imp. Area		23.8	in
Runoff Captured Avg. over imp. Area		26.1	in

BMP Calculated Size Parameters

ABMP/Aimp	Aratio	0.05	unitless
BMP Volume	VBMP	2,938	cu.ft

Parameters from Annual Recharge Worksheet

Post-D Deficit Recharge (or desired recharge volume)	Vdef	820,440	cu.ft
Post-D Impervious Area (or target Impervious Area)	Aimp	59677.0	sq.ft
Root Zone Water Capacity	RWC	2.92	in
RWC Modified to consider dEXC	DRWC	2.92	in
Climatic Factor	C-factor	1.55	no units
Average Annual P	Pavg	47.4	in
Recharge Requirement over Imp. Area	dr	12.0	in

System Performance Calculated Parameters

Annual BMP Recharge Volume		118,584	cu.ft
Avg BMP Recharge Efficiency		91.5%	Represents % Infiltration Recharged
%Rainfall became Runoff		78.2%	%
%Runoff Infiltrated		70.3%	%
%Runoff Recharged		4.7%	%
%Rainfall Recharged		3.6%	%

CALCULATION CHECK MESSAGES

Volume Balance-> Solve Problem to satisfy Annual Recharge
dBMP Check---> OK
dEXC Check---> OK
BMP Location---> OK

OTHER NOTES

Pdesign is accurate only after BMP dimensions are updated to make rech volume= deficit volume. The portion of BMP infiltration prior to filling and the area occupied by BMP are ignored in these calculations. Results are sensetive to dBMP, make sure dBMP selected is small enough for BMP to empty in less than 3 days. For land Segment Location of BMP if you select "impervious areas" RWC will be minimal but not zero as determined by the soil type and a shallow root zone for this Land Cover allowing consideration of lateral flow and other losses

How to solve for different recharge volumes: By default the spreadsheet assigns the values of total deficit recharge volume "Vdef" and total proposed impervious area "Aimp" from the "Annual Recharge" sheet to "Vdef" and "Aimp" on this page. This allows solution for a single BMP to handle the entire recharge requirement assuming the runoff from entire impervious area is available to the BMP.
To solve for a smaller BMP or a LID-IMP to recharge only part of the recharge requirement, set Vdef to your target value and Aimp to impervious area directly connected to your infiltration facility and then solve for ABMP or dBMP. To go back to the default configuration clik the "Default Vdef & Aimp" button.

Project Name	Description	Analysis Date	BMP or LID Type
3272-99-005	Proposed Subdivision	02/07/25	Bioretention Basin with Infiltration G

Recharge BMP Input Parameters

Parameter	Symbol	Value	Unit
BMP Area	ABMP	2214.0	sq.ft
BMP Effective Depth, this is the design variable	dBMP	12.0	in
Upper level of the BMP surface (negative if above ground)	dBMPu	-12.0	in
Depth of lower surface of BMP, must be>=dBMPu	dEXC	0.0	in
Post-development Land Segment Location of BMP , Input Zero if Location is distributed or undetermined	SegBMP	8	unitless

Root Zone Water capacity Calculated Parameters

Parameter	Symbol	Value	Unit
Empty Portion of RWC under Post-D Natural Recharge	ERWC	0.66	in
ERWC Modified to consider dEXC	EDRWC	0.66	in
Empty Portion of RWC under Infilt. BMP	RERWC	0.52	in

Recharge Design Parameters

Parameter	Symbol	Value	Unit
Inches of Runoff to capture	Qdesign	1.39	in
Inches of Rainfall to capture	Pdesign	1.61	in
Recharge Provided Avg. over Imp. Area		29.4	in
Runoff Captured Avg. over imp. Area		33.8	in

BMP Calculated Size Parameters

ABMP/Aimp	Aratio	0.11	unitless
BMP Volume	VBMP	2,214	cu.ft

Parameters from Annual Recharge Worksheet

Parameter	Symbol	Value	Unit
Post-D Deficit Recharge (or desired recharge volume)	Vdef	820,440	cu.ft
Post-D Impervious Area (or target Impervious Area)	Aimp	20,474	sq.ft
Root Zone Water Capacity	RWC	2.92	in
RWC Modified to consider dEXC	DRWC	2.92	in
Climatic Factor	C-factor	1.55	no units
Average Annual P	Pavg	47.4	in
Recharge Requirement over Imp. Area	dr	12.0	in

System Performance Calculated Parameters

Annual BMP Recharge Volume		50,169	cu.ft
Avg BMP Recharge Efficiency		87.0%	Represents % Infiltration Recharged
%Rainfall became Runoff		78.2%	%
%Runoff Infiltrated		91.2%	%
%Runoff Recharged		2.0%	%
%Rainfall Recharged		1.5%	%

CALCULATION CHECK MESSAGES

Volume Balance-> Solve Problem to satisfy Annual Recharge
dBMP Check---> OK
dEXC Check---> OK
BMP Location---> OK

OTHER NOTES

Pdesign is accurate only after BMP dimensions are updated to make rech volume= deficit volume. The portion of BMP infiltration prior to filling and the area occupied by BMP are ignored in these calculations. Results are sensetive to dBMP, make sure dBMP selected is small enough for BMP to empty in less than 3 days. For land Segment Location of BMP if you select "impervious areas" RWC will be minimal but not zero as determined by the soil type and a shallow root zone for this Land Cover allowing consideration of lateral flow and other losses

How to solve for different recharge volumes: By default the spreadsheet assigns the values of total deficit recharge volume "Vdef" and total proposed impervious area "Aimp" from the "Annual Recharge" sheet to "Vdef" and "Aimp" on this page. This allows solution for a single BMP to handle the entire recharge requirement assuming the runoff from entire impervious area is available to the BMP.
To solve for a smaller BMP or a LID-IMP to recharge only part of the recharge requirement, set Vdef to your target value and Aimp to impervious area directly connected to your infiltration facility and then solve for ABMP or dBMP. To go back to the default configuration clik the "Default Vdef & Aimp" button.

Project Name	Description	Analysis Date	BMP or LID Type
3272-99-005	Proposed Subdivision	02/07/25	Bioretention Basin with Infiltration H

Recharge BMP Input Parameters

Parameter	Symbol	Value	Unit
BMP Area	ABMP	9409.0	sq.ft
BMP Effective Depth, this is the design variable	dBMP	4.8	in
Upper level of the BMP surface (negative if above ground)	dBMPu	-4.8	in
Depth of lower surface of BMP, must be>=dBMPu	dEXC	0.0	in
Post-development Land Segment Location of BMP , Input Zero if Location is distributed or undetermined	SegBMP	8	unitless

Root Zone Water capacity Calculated Parameters

Parameter	Symbol	Value	Unit
Empty Portion of RWC under Post-D Natural Recharge	ERWC	0.66	in
ERWC Modified to consider dEXC	EDRWC	0.66	in
Empty Portion of RWC under Infilt. BMP	RERWC	0.53	in

Recharge Design Parameters

Parameter	Symbol	Value	Unit
Inches of Runoff to capture	Qdesign	1.27	in
Inches of Rainfall to capture	Pdesign	1.49	in
Recharge Provided Avg. over Imp. Area		23.7	in
Runoff Captured Avg. over imp. Area		33.4	in

BMP Calculated Size Parameters

ABMP/Aimp	Aratio	0.26	unitless
BMP Volume	VBMP	3,764	cu.ft

Parameters from Annual Recharge Worksheet

Parameter	Symbol	Value	Unit
Post-D Deficit Recharge (or desired recharge volume)	Vdef	820,440	cu.ft
Post-D Impervious Area (or target Impervious Area)	Aimp	36,590	sq.ft
Root Zone Water Capacity	RWC	2.92	in
RWC Modified to consider dEXC	DRWC	2.92	in
Climatic Factor	C-factor	1.55	no units
Average Annual P	Pavg	47.4	in
Recharge Requirement over Imp. Area	dr	12.0	in

System Performance Calculated Parameters

Annual BMP Recharge Volume		72,177	cu.ft
Avg BMP Recharge Efficiency		70.8%	Represents % Infiltration Recharged
%Rainfall became Runoff		78.2%	%
%Runoff Infiltrated		90.2%	%
%Runoff Recharged		2.8%	%
%Rainfall Recharged		2.2%	%

CALCULATION CHECK MESSAGES

Volume Balance-> Solve Problem to satisfy Annual Recharge
dBMP Check---> OK
dEXC Check---> OK
BMP Location---> OK

OTHER NOTES

Pdesign is accurate only after BMP dimensions are updated to make rech volume= deficit volume. The portion of BMP infiltration prior to filling and the area occupied by BMP are ignored in these calculations. Results are sensetive to dBMP, make sure dBMP selected is small enough for BMP to empty in less than 3 days. For land Segment Location of BMP if you select "impervious areas" RWC will be minimal but not zero as determined by the soil type and a shallow root zone for this Land Cover allowing consideration of lateral flow and other losses

How to solve for different recharge volumes: By default the spreadsheet assigns the values of total deficit recharge volume "Vdef" and total proposed impervious area "Aimp" from the "Annual Recharge" sheet to "Vdef" and "Aimp" on this page. This allows solution for a single BMP to handle the entire recharge requirement assuming the runoff from entire impervious area is available to the BMP.
To solve for a smaller BMP or a LID-IMP to recharge only part of the recharge requirement, set Vdef to your target value and Aimp to impervious area directly connected to your infiltration facility and then solve for ABMP or dBMP. To go back to the default configuration clik the "Default Vdef & Aimp" button.

Project Name	Description	Analysis Date	BMP or LID Type
3272-99-005	Proposed Subdivision	02/07/25	Bioretention Basin with Infiltration K

Recharge BMP Input Parameters

Parameter	Symbol	Value	Unit
BMP Area	ABMP	**5317.0**	sq.ft
BMP Effective Depth, this is the design variable	dBMP	**6.0**	in
Upper level of the BMP surface (negative if above ground)	dBMPu	**-6.0**	in
Depth of lower surface of BMP, must be>=dBMPu	dEXC	**0.0**	in
Post-development Land Segment Location of BMP , Input Zero if Location is distributed or undetermined	SegBMP	**8**	unitless

Root Zone Water capacity Calculated Parameters

Parameter	Symbol	Value	Unit
Empty Portion of RWC under Post-D Natural Recharge	ERWC	**0.66**	in
ERWC Modified to consider dEXC	EDRWC	**0.66**	in
Empty Portion of RWC under Infilt. BMP	RERWC	**0.53**	in

Recharge Design Parameters

Parameter	Symbol	Value	Unit
Inches of Runoff to capture	Qdesign	**1.27**	in
Inches of Rainfall to capture	Pdesign	**1.49**	in
Recharge Provided Avg. over Imp. Area		**25.4**	in
Runoff Captured Avg. over imp. Area		**33.1**	in

BMP Calculated Size Parameters

ABMP/Aimp	Aratio	**0.20**	unitless
BMP Volume	VBMP	**2,659**	cu.ft

Parameters from Annual Recharge Worksheet

Post-D Deficit Recharge (or desired recharge volume)	Vdef	**820,440**	cu.ft
Post-D Impervious Area (or target Impervious Area)	Aimp	**27,007**	sq.ft
Root Zone Water Capacity	RWC	**2.92**	in
RWC Modified to consider dEXC	DRWC	**2.92**	in
Climatic Factor	C-factor	**1.55**	no units
Average Annual P	Pavg	**47.4**	in
Recharge Requirement over Imp. Area	dr	**12.0**	in

System Performance Calculated Parameters

Annual BMP Recharge Volume		**57,184**	cu.ft
Avg BMP Recharge Efficiency		**76.7%**	Represents % Infiltration Recharged
%Rainfall became Runoff		**78.2%**	%
%Runoff Infiltrated		**89.3%**	%
%Runoff Recharged		**2.2%**	%
%Rainfall Recharged		**1.8%**	%

CALCULATION CHECK MESSAGES

Volume Balance-> **Solve Problem to satisfy Annual Recharge**
dBMP Check---> **OK**
dEXC Check---> **OK**
BMP Location---> **OK**

OTHER NOTES

Pdesign is accurate only after BMP dimensions are updated to make rech volume= deficit volume. The portion of BMP infiltration prior to filling and the area occupied by BMP are ignored in these calculations. Results are sensetive to dBMP, make sure dBMP selected is small enough for BMP to empty in less than 3 days. For land Segment Location of BMP if you select "impervious areas" RWC will be minimal but not zero as determined by the soil type and a shallow root zone for this Land Cover allowing consideration of lateral flow and other losses

How to solve for different recharge volumes: By default the spreadsheet assigns the values of total deficit recharge volume "Vdef" and total proposed impervious area "Aimp" from the "Annual Recharge" sheet to "Vdef" and "Aimp" on this page. This allows solution for a single BMP to handle the entire recharge requirement assuming the runoff from entire impervious area is available to the BMP.
To solve for a smaller BMP or a LID-IMP to recharge only part of the recharge requirement, set Vdef to your target value and Aimp to impervious area directly connected to your infiltration facility and then solve for ABMP or dBMP. To go back to the default configuration clik the "Default Vdef & Aimp" button.

Project Name	Description	Analysis Date	BMP or LID Type
3272-99-005	Proposed Subdivision	02/07/25	Bioretention Basin with Infiltration M

Recharge BMP Input Parameters

Parameter	Symbol	Value	Unit
BMP Area	ABMP	2614.0	sq.ft
BMP Effective Depth, this is the design variable	dBMP	12.0	in
Upper level of the BMP surface (negative if above ground)	dBMPu	-12.0	in
Depth of lower surface of BMP, must be>=dBMPu	dEXC	0.0	in
Post-development Land Segment Location of BMP , Input Zero if Location is distributed or undetermined	SegBMP	8	unitless

Root Zone Water capacity Calculated Parameters

Parameter	Symbol	Value	Unit
Empty Portion of RWC under Post-D Natural Recharge	ERWC	0.66	in
ERWC Modified to consider dEXC	EDRWC	0.66	in
Empty Portion of RWC under Infilt. BMP	RERWC	0.52	in

Recharge Design Parameters

Parameter	Symbol	Value	Unit
Inches of Runoff to capture	Qdesign	1.55	in
Inches of Rainfall to capture	Pdesign	1.77	in
Recharge Provided Avg. over Imp. Area		29.6	in
Runoff Captured Avg. over imp. Area		34.3	in

BMP Calculated Size Parameters

ABMP/Aimp	Aratio	0.12	unitless
BMP Volume	VBMP	2,614	cu.ft

Parameters from Annual Recharge Worksheet

Post-D Deficit Recharge (or desired recharge volume)	Vdef	820,440	cu.ft
Post-D Impervious Area (or target Impervious Area)	Aimp	22,216	sq.ft
Root Zone Water Capacity	RWC	2.92	in
RWC Modified to consider dEXC	DRWC	2.92	in
Climatic Factor	C-factor	1.55	no units
Average Annual P	Pavg	47.4	in
Recharge Requirement over Imp. Area	dr	12.0	in

System Performance Calculated Parameters

Annual BMP Recharge Volume		54,760	cu.ft
Avg BMP Recharge Efficiency		86.1%	Represents % Infiltration Recharged
%Rainfall became Runoff		78.2%	%
%Runoff Infiltrated		92.6%	%
%Runoff Recharged		2.2%	%
%Rainfall Recharged		1.7%	%

CALCULATION CHECK MESSAGES

Volume Balance-> Solve Problem to satisfy Annual Recharge
dBMP Check---> OK
dEXC Check---> OK
BMP Location---> OK

OTHER NOTES

Pdesign is accurate only after BMP dimensions are updated to make rech volume= deficit volume. The portion of BMP infiltration prior to filling and the area occupied by BMP are ignored in these calculations. Results are sensetive to dBMP, make sure dBMP selected is small enough for BMP to empty in less than 3 days. For land Segment Location of BMP if you select "impervious areas" RWC will be minimal but not zero as determined by the soil type and a shallow root zone for this Land Cover allowing consideration of lateral flow and other losses

How to solve for different recharge volumes: By default the spreadsheet assigns the values of total deficit recharge volume "Vdef" and total proposed impervious area "Aimp" from the "Annual Recharge" sheet to "Vdef" and "Aimp" on this page. This allows solution for a single BMP to handle the entire recharge requirement assuming the runoff from entire impervious area is available to the BMP.
To solve for a smaller BMP or a LID-IMP to recharge only part of the recharge requirement, set Vdef to your target value and Aimp to impervious area directly connected to your infiltration facility and then solve for ABMP or dBMP. To go back to the default configuration clik the "Default Vdef & Aimp" button.

Project Name	Description	Analysis Date	BMP or LID Type
3272-99-005	Proposed Subdivision	02/07/25	Infiltration Basin R

Recharge BMP Input Parameters

Parameter	Symbol	Value	Unit
BMP Area	ABMP	**5537.0**	sq.ft
BMP Effective Depth, this is the design variable	dBMP	**12.0**	in
Upper level of the BMP surface (negative if above ground)	dBMPu	**24.0**	in
Depth of lower surface of BMP, must be>=dBMPu	dEXC	**36.0**	in
Post-development Land Segment Location of BMP , Input Zero if Location is distributed or undetermined	SegBMP	**8**	unitless

Root Zone Water capacity Calculated Parameters

Parameter	Symbol	Value	Unit
Empty Portion of RWC under Post-D Natural Recharge	ERWC	**0.66**	in
ERWC Modified to consider dEXC	EDRWC	**0.00**	in
Empty Portion of RWC under Infilt. BMP	RERWC	**0.00**	in

Recharge Design Parameters

Parameter	Symbol	Value	Unit
Inches of Runoff to capture	Qdesign	**1.55**	in
Inches of Rainfall to capture	Pdesign	**1.77**	in
Recharge Provided Avg. over Imp. Area		**34.7**	in
Runoff Captured Avg. over imp. Area		**34.7**	in

BMP Calculated Size Parameters

ABMP/Aimp	Aratio	**0.12**	unitless
BMP Volume	VBMP	**5,537**	cu.ft

CALCULATION CHECK MESSAGES

Volume Balance-> **Solve Problem to satisfy Annual Recharge**
dBMP Check---> **OK**
dEXC Check---> **OK**
BMP Location---> **OK**

Parameters from Annual Recharge Worksheet

Post-D Deficit Recharge (or desired recharge volume)	Vdef	**820,440**	cu.ft
Post-D Impervious Area (or target Impervious Area)	Aimp	**44431.0**	sq.ft
Root Zone Water Capacity	RWC	**2.92**	in
RWC Modified to consider dEXC	DRWC	**0.00**	in
Climatic Factor	C-factor	**1.55**	no units
Average Annual P	Pavg	**47.4**	in
Recharge Requirement over Imp. Area	dr	**12.0**	in

System Performance Calculated Parameters

Annual BMP Recharge Volume		**128,401**	cu.ft
Avg BMP Recharge Efficiency		**100.0%**	Represents % Infiltration Recharged
%Rainfall became Runoff		**78.2%**	%
%Runoff Infiltrated		**93.5%**	%
%Runoff Recharged		**5.0%**	%
%Rainfall Recharged		**3.9%**	%

OTHER NOTES

Pdesign is accurate only after BMP dimensions are updated to make rech volume= deficit volume. The portion of BMP infiltration prior to filling and the area occupied by BMP are ignored in these calculations. Results are sensetive to dBMP, make sure dBMP selected is small enough for BMP to empty in less than 3 days. For land Segment Location of BMP if you select "impervious areas" RWC will be minimal but not zero as determined by the soil type and a shallow root zone for this Land Cover allowing consideration of lateral flow and other losses

How to solve for different recharge volumes: By default the spreadsheet assigns the values of total deficit recharge volume "Vdef" and total proposed impervious area "Aimp" from the "Annual Recharge" sheet to "Vdef" and "Aimp" on this page. This allows solution for a single BMP to handle the entire recharge requirement assuming the runoff from entire impervious area is available to the BMP.
To solve for a smaller BMP or a LID-IMP to recharge only part of the recharge requirement, set Vdef to your target value and Aimp to impervious area directly connected to your infiltration facility and then solve for ABMP or dBMP. To go back to the default configuration clik the "Default Vdef & Aimp" button.

Project Name	Description	Analysis Date	BMP or LID Type
3272-99-005	Proposed Subdivision	02/07/25	Infiltration Basin S

Recharge BMP Input Parameters

Parameter	Symbol	Value	Unit
BMP Area	ABMP	**8276.0**	sq.ft
BMP Effective Depth, this is the design variable	dBMP	**6.0**	in
Upper level of the BMP surface (negative if above ground)	dBMPu	**30.0**	in
Depth of lower surface of BMP, must be>=dBMPu	dEXC	**36.0**	in
Post-development Land Segment Location of BMP , Input Zero if Location is distributed or undetermined	SegBMP	**8**	unitless

Root Zone Water capacity Calculated Parameters

Parameter	Symbol	Value	Unit
Empty Portion of RWC under Post-D Natural Recharge	ERWC	**0.66**	in
ERWC Modified to consider dEXC	EDRWC	**0.00**	in
Empty Portion of RWC under Infilt. BMP	RERWC	**0.00**	in

Recharge Design Parameters

Parameter	Symbol	Value	Unit
Inches of Runoff to capture	Qdesign	**1.39**	in
Inches of Rainfall to capture	Pdesign	**1.61**	in
Recharge Provided Avg. over Imp. Area		**33.8**	in
Runoff Captured Avg. over imp. Area		**33.8**	in

BMP Calculated Size Parameters

ABMP/Aimp	Aratio	**0.22**	unitless
BMP Volume	VBMP	**4,138**	cu.ft

Parameters from Annual Recharge Worksheet

Post-D Deficit Recharge (or desired recharge volume)	Vdef	**820,440**	cu.ft
Post-D Impervious Area (or target Impervious Area)	Aimp	**38333.0**	sq.ft
Root Zone Water Capacity	RWC	**2.92**	in
RWC Modified to consider dEXC	DRWC	**0.00**	in
Climatic Factor	C-factor	**1.55**	no units
Average Annual P	Pavg	**47.4**	in
Recharge Requirement over Imp. Area	dr	**12.0**	in

System Performance Calculated Parameters

Annual BMP Recharge Volume		**107,917**	cu.ft
Avg BMP Recharge Efficiency		**100.0%**	Represents % Infiltration Recharged
%Rainfall became Runoff		**78.2%**	%
%Runoff Infiltrated		**91.1%**	%
%Runoff Recharged		**4.2%**	%
%Rainfall Recharged		**3.3%**	%

CALCULATION CHECK MESSAGES

Volume Balance-> **Solve Problem to satisfy Annual Recharge**
dBMP Check---> **OK**
dEXC Check---> **OK**
BMP Location---> **OK**

OTHER NOTES

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Project Name	Description	Analysis Date	BMP or LID Type
3272-99-005	Proposed Subdivision	02/07/25	Infiltration Basin T

Recharge BMP Input Parameters

Parameter	Symbol	Value	Unit
BMP Area	ABMP	7405.0	sq.ft
BMP Effective Depth, this is the design variable	dBMP	7.2	in
Upper level of the BMP surface (negative if above ground)	dBMPu	28.8	in
Depth of lower surface of BMP, must be>=dBMPu	dEXC	36.0	in
Post-development Land Segment Location of BMP , Input Zero if Location is distributed or undetermined	SegBMP	8	unitless

Root Zone Water capacity Calculated Parameters

Parameter	Symbol	Value	Unit
Empty Portion of RWC under Post-D Natural Recharge	ERWC	0.66	in
ERWC Modified to consider dEXC	EDRWC	0.00	in
Empty Portion of RWC under Infilt. BMP	RERWC	0.00	in

Recharge Design Parameters

Parameter	Symbol	Value	Unit
Inches of Runoff to capture	Qdesign	2.94	in
Inches of Rainfall to capture	Pdesign	3.17	in
Recharge Provided Avg. over Imp. Area		37.1	in
Runoff Captured Avg. over imp. Area		37.1	in

BMP Calculated Size Parameters

ABMP/Aimp	Aratio	0.89	unitless
BMP Volume	VBMP	4,443	cu.ft

Parameters from Annual Recharge Worksheet

Post-D Deficit Recharge (or desired recharge volume)	Vdef	820,440	cu.ft
Post-D Impervious Area (or target Impervious Area)	Aimp	8276.0	sq.ft
Root Zone Water Capacity	RWC	2.92	in
RWC Modified to consider dEXC	DRWC	0.00	in
Climatic Factor	C-factor	1.55	no units
Average Annual P	Pavg	47.4	in
Recharge Requirement over Imp. Area	dr	12.0	in

System Performance Calculated Parameters

Annual BMP Recharge Volume		25,569	cu.ft
Avg BMP Recharge Efficiency		100.0%	Represents % Infiltration Recharged
%Rainfall became Runoff		78.2%	%
%Runoff Infiltrated		100.0%	%
%Runoff Recharged		1.0%	%
%Rainfall Recharged		0.8%	%

CALCULATION CHECK MESSAGES

Volume Balance-> Solve Problem to satisfy Annual Recharge
dBMP Check---> OK
dEXC Check---> OK
BMP Location---> OK

OTHER NOTES

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Project Name	Description	Analysis Date	BMP or LID Type
3272-99-005	Proposed Subdivision	02/07/25	Infiltration Basin U

Recharge BMP Input Parameters

Parameter	Symbol	Value	Unit
BMP Area	ABMP	7841.0	sq.ft
BMP Effective Depth, this is the design variable	dBMP	7.2	in
Upper level of the BMP surface (negative if above ground)	dBMPu	28.8	in
Depth of lower surface of BMP, must be>=dBMPu	dEXC	36.0	in
Post-development Land Segment Location of BMP , Input Zero if Location is distributed or undetermined	SegBMP	8	unitless

Root Zone Water capacity Calculated Parameters

Parameter	Symbol	Value	Unit
Empty Portion of RWC under Post-D Natural Recharge	ERWC	0.66	in
ERWC Modified to consider dEXC	EDRWC	0.00	in
Empty Portion of RWC under Infilt. BMP	RERWC	0.00	in

Recharge Design Parameters

Parameter	Symbol	Value	Unit
Inches of Runoff to capture	Qdesign	2.94	in
Inches of Rainfall to capture	Pdesign	3.17	in
Recharge Provided Avg. over Imp. Area		37.1	in
Runoff Captured Avg. over imp. Area		37.1	in

BMP Calculated Size Parameters

ABMP/Aimp	Aratio	0.45	unitless
BMP Volume	VBMP	4,705	cu.ft

CALCULATION CHECK MESSAGES

Volume Balance-> Solve Problem to satisfy Annual Recharge
dBMP Check---> OK
dEXC Check---> OK
BMP Location---> OK

Parameters from Annual Recharge Worksheet

Post-D Deficit Recharge (or desired recharge volume)	Vdef	820,440	cu.ft
Post-D Impervious Area (or target Impervious Area)	Aimp	17424.0	sq.ft
Root Zone Water Capacity	RWC	2.92	in
RWC Modified to consider dEXC	DRWC	0.00	in
Climatic Factor	C-factor	1.55	no units
Average Annual P	Pavg	47.4	in
Recharge Requirement over Imp. Area	dr	12.0	in

System Performance Calculated Parameters

Annual BMP Recharge Volume		53,833	cu.ft
Avg BMP Recharge Efficiency		100.0%	Represents % Infiltration Recharged
%Rainfall became Runoff		78.2%	%
%Runoff Infiltrated		100.0%	%
%Runoff Recharged		2.1%	%
%Rainfall Recharged		1.7%	%

OTHER NOTES

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Project Name	Description	Analysis Date	BMP or LID Type
3272-99-005	Proposed Subdivision	02/07/25	Bioretention Basin with Infiltration V

Recharge BMP Input Parameters

Parameter	Symbol	Value	Unit
BMP Area	ABMP	4187.0	sq.ft
BMP Effective Depth, this is the design variable	dBMP	10.8	in
Upper level of the BMP surface (negative if above ground)	dBMPu	-10.8	in
Depth of lower surface of BMP, must be>=dBMPu	dEXC	0.0	in
Post-development Land Segment Location of BMP , Input Zero if Location is distributed or undetermined	SegBMP	8	unitless

Root Zone Water capacity Calculated Parameters

Parameter	Symbol	Value	Unit
Empty Portion of RWC under Post-D Natural Recharge	ERWC	0.66	in
ERWC Modified to consider dEXC	EDRWC	0.66	in
Empty Portion of RWC under Infilt. BMP	RERWC	0.57	in

Recharge Design Parameters

Parameter	Symbol	Value	Unit
Inches of Runoff to capture	Qdesign	2.94	in
Inches of Rainfall to capture	Pdesign	3.17	in
Recharge Provided Avg. over Imp. Area		14.2	in
Runoff Captured Avg. over imp. Area		37.1	in

BMP Calculated Size Parameters

ABMP/Aimp	Aratio	0.80	unitless
BMP Volume	VBMP	3,768	cu.ft

Parameters from Annual Recharge Worksheet

Post-D Deficit Recharge (or desired recharge volume)	Vdef	820,440	cu.ft
Post-D Impervious Area (or target Impervious Area)	Aimp	5227.0	sq.ft
Root Zone Water Capacity	RWC	2.92	in
RWC Modified to consider dEXC	DRWC	2.92	in
Climatic Factor	C-factor	1.55	no units
Average Annual P	Pavg	47.4	in
Recharge Requirement over Imp. Area	dr	12.0	in

System Performance Calculated Parameters

Annual BMP Recharge Volume		6,189	cu.ft
Avg BMP Recharge Efficiency		38.3%	Represents % Infiltration Recharged
%Rainfall became Runoff		78.2%	%
%Runoff Infiltrated		100.0%	%
%Runoff Recharged		0.2%	%
%Rainfall Recharged		0.2%	%

CALCULATION CHECK MESSAGES

Volume Balance-> Solve Problem to satisfy Annual Recharge
dBMP Check---> OK
dEXC Check---> OK
BMP Location---> OK

OTHER NOTES

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How to solve for different recharge volumes: By default the spreadsheet assigns the values of total deficit recharge volume "Vdef" and total proposed impervious area "Aimp" from the "Annual Recharge" sheet to "Vdef" and "Aimp" on this page. This allows solution for a single BMP to handle the entire recharge requirement assuming the runoff from entire impervious area is available to the BMP.
To solve for a smaller BMP or a LID-IMP to recharge only part of the recharge requirement, set Vdef to your target value and Aimp to impervious area directly connected to your infiltration facility and then solve for ABMP or dBMP. To go back to the default configuration clik the "Default Vdef & Aimp" button.

GROUNDWATER MOUNDING CALCULATIONS

Basin A

Basin Bottom: 32.00 SHWT Elevation: 27.80

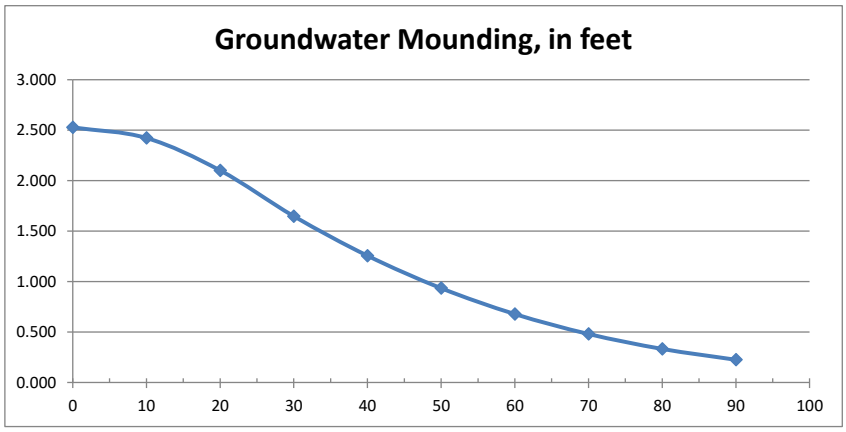
Input Values

0.14	*R*	Recharge rate (permeability rate) (in/hr)
		Specific yield, Sy (dimensionless)
0.150	Sy	default value is 0.15; max value is 0.2 provided that a lab test data is submitted
		Horizontal hydraulic conductivity (in/hr)
4.00	Kh	Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
22.000	x	1/2 length of basin (x direction, in feet)
95.000	y	1/2 width of basin (y direction, in feet)
72.00	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

12.528	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
2.528	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
2.528	0
2.422	10
2.101	20
1.647	30
1.256	40
0.934	50
0.678	60
0.480	70
0.332	80
0.225	90

Re-Calculate Now



Disclaimer

This spreadsheet solving the Hantush (1967) equation for ground-water mounding beneath an infiltration basin is made available to the general public as a convenience for those wishing to replicate values documented in the USGS Scientific Investigations Report 2010-5102 "Groundwater mounding beneath hypothetical stormwater infiltration basins" or to calculate values based on user-specified site conditions. Any changes made to the spreadsheet (other than values identified as user-specified) after transmission from the USGS could have unintended, undesirable consequences. These consequences could include, but may not be limited to: erroneous output, numerical instabilities, and violations of underlying assumptions that are inherent in results presented in the accompanying USGS published report. The USGS assumes no responsibility for the consequences of any changes made to the spreadsheet. If changes are made to the spreadsheet, the user is responsible for documenting the changes and justifying the results and conclusions.

Basin A (Swapped X & Y)

Basin Bottom: 32.00 SHWT Elevation: 27.80

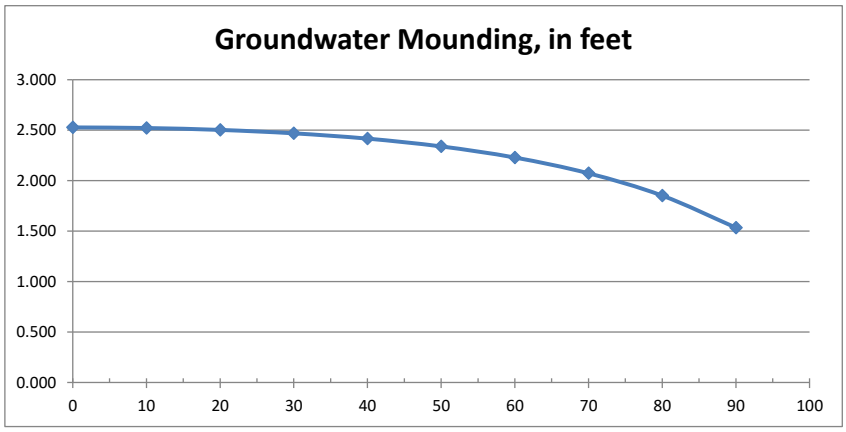
Input Values

0.14	*R*	Recharge rate (permeability rate) (in/hr)
0.150	Sy	Specific yield, Sy (dimensionless) default value is 0.15; max value is 0.2 provided that a lab test data is submitted
4.00	Kh	Horizontal hydraulic conductivity (in/hr) Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
95.000	x	1/2 length of basin (x direction, in feet)
22.000	y	1/2 width of basin (y direction, in feet)
72.00	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

12.528	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
2.528	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
2.528	0
2.521	10
2.503	20
2.469	30
2.416	40
2.339	50
2.229	60
2.073	70
1.852	80
1.534	90

Re-Calculate Now



Disclaimer

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Basin B

Basin Bottom: 30.00 SHWT Elevation: 26.10

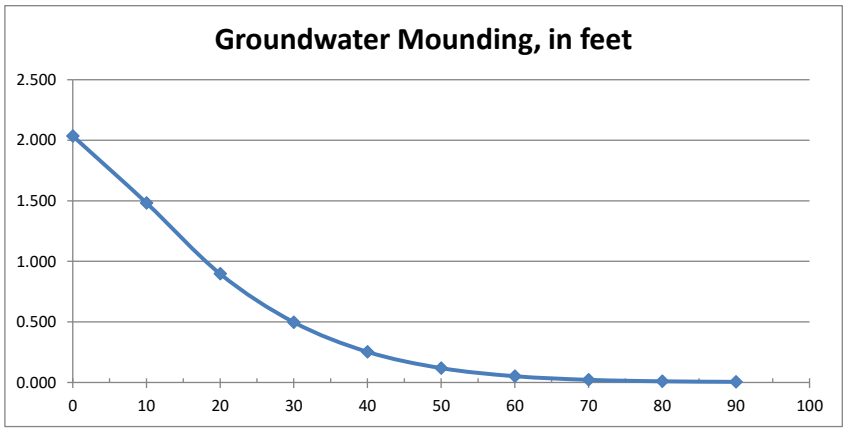
Input Values

0.50	*R*	Recharge rate (permeability rate) (in/hr)
		Specific yield, Sy (dimensionless)
0.150	Sy	default value is 0.15; max value is 0.2 provided that a lab test data is submitted
		Horizontal hydraulic conductivity (in/hr)
2.50	Kh	Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
5.000	x	1/2 length of basin (x direction, in feet)
107.400	y	1/2 width of basin (y direction, in feet)
31.62	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

12.036	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
2.036	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
2.036	0
1.483	10
0.897	20
0.497	30
0.253	40
0.119	50
0.052	60
0.022	70
0.010	80
0.005	90

Re-Calculate Now



Disclaimer

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Basin B (Swapped X & Y)

Basin Bottom: 30.00 SHWT Elevation: 26.10

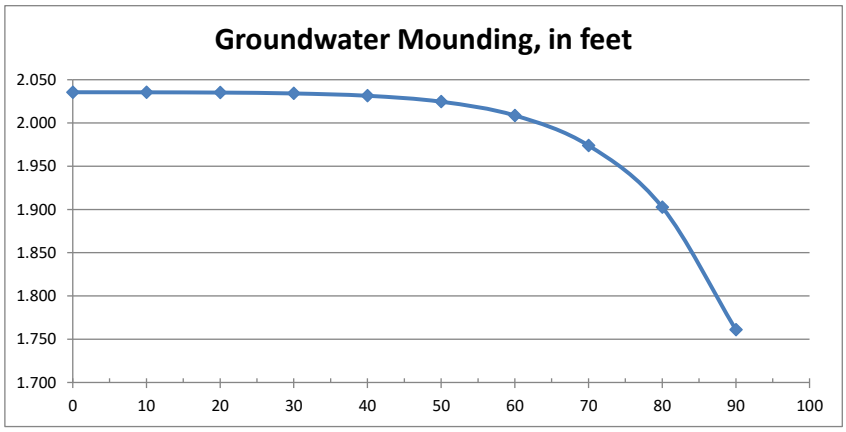
Input Values

0.50	*R*	Recharge rate (permeability rate) (in/hr)
0.150	Sy	Specific yield, Sy (dimensionless) default value is 0.15; max value is 0.2 provided that a lab test data is submitted
2.50	Kh	Horizontal hydraulic conductivity (in/hr) Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
107.400	x	1/2 length of basin (x direction, in feet)
5.000	y	1/2 width of basin (y direction, in feet)
31.62	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

12.036	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
2.036	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
2.036	0
2.035	10
2.035	20
2.034	30
2.031	40
2.025	50
2.009	60
1.974	70
1.903	80
1.761	90

Re-Calculate Now



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Basin C

Basin Bottom: 28.50 SHWT Elevation: 24.80

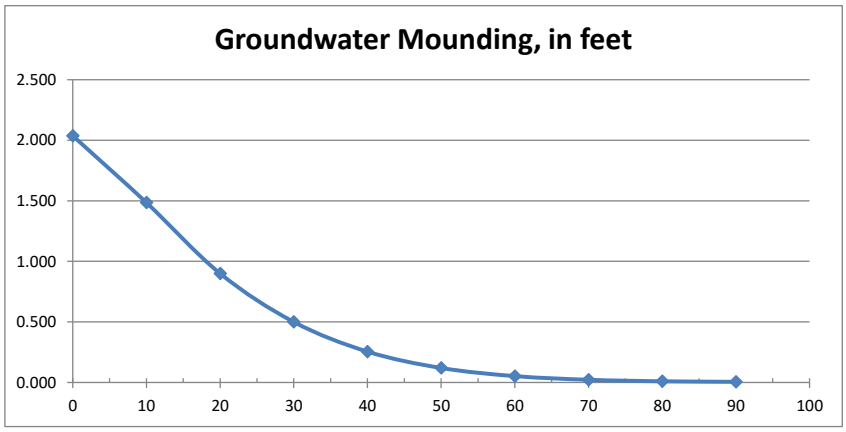
Input Values

1.55	*R*	Recharge rate (permeability rate) (in/hr)
		Specific yield, Sy (dimensionless)
0.150	Sy	default value is 0.15; max value is 0.2 provided that a lab test data is submitted
		Horizontal hydraulic conductivity (in/hr)
7.75	Kh	Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
5.000	x	1/2 length of basin (x direction, in feet)
71.200	y	1/2 width of basin (y direction, in feet)
10.27	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

12.037	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
2.037	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
2.037	0
1.485	10
0.900	20
0.500	30
0.255	40
0.120	50
0.052	60
0.022	70
0.010	80
0.005	90

Re-Calculate Now



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Basin C (Swapped X & Y)

Basin Bottom: 28.50 SHWT Elevation: 24.80

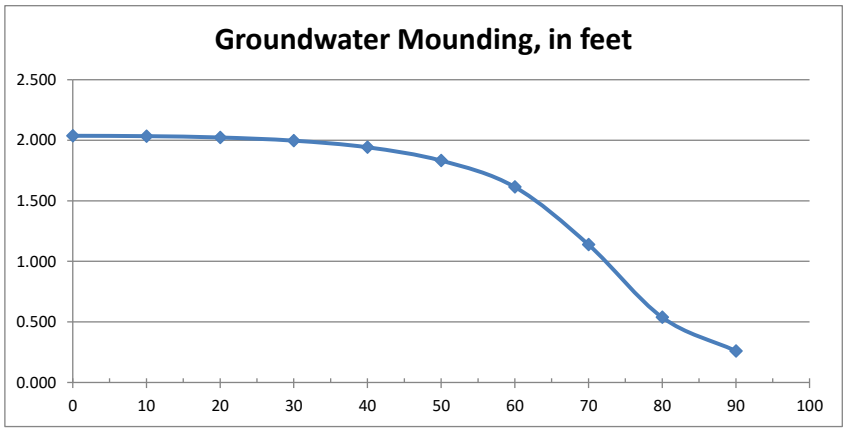
Input Values

1.55	*R*	Recharge rate (permeability rate) (in/hr)
0.150	Sy	Specific yield, Sy (dimensionless) default value is 0.15; max value is 0.2 provided that a lab test data is submitted
7.75	Kh	Horizontal hydraulic conductivity (in/hr) Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
71.200	x	1/2 length of basin (x direction, in feet)
5.000	y	1/2 width of basin (y direction, in feet)
10.27	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

12.037	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
2.037	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
2.037	0
2.034	10
2.023	20
1.997	30
1.942	40
1.832	50
1.614	60
1.138	70
0.538	80
0.260	90

Re-Calculate Now



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Basin D

Basin Bottom: 26.50 SHWT Elevation: 22.70

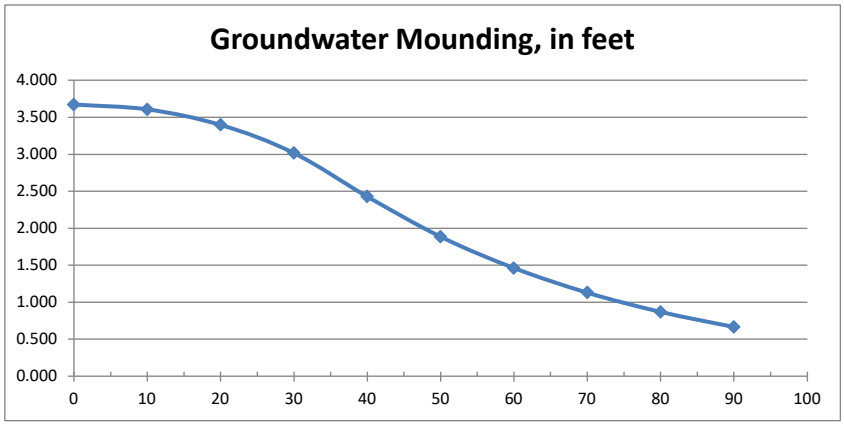
Input Values

0.42	*R*	Recharge rate (permeability rate) (in/hr)
0.150	Sy	Specific yield, Sy (dimensionless) default value is 0.15; max value is 0.2 provided that a lab test data is submitted
7.50	Kh	Horizontal hydraulic conductivity (in/hr) Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
37.000	x	1/2 length of basin (x direction, in feet)
22.100	y	1/2 width of basin (y direction, in feet)
72.00	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

13.672	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
3.672	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
3.672	0
3.605	10
3.397	20
3.015	30
2.428	40
1.883	50
1.460	60
1.128	70
0.868	80
0.663	90

Re-Calculate Now



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Basin D (Swapped X & Y)

Basin Bottom: 26.50 SHWT Elevation: 22.70

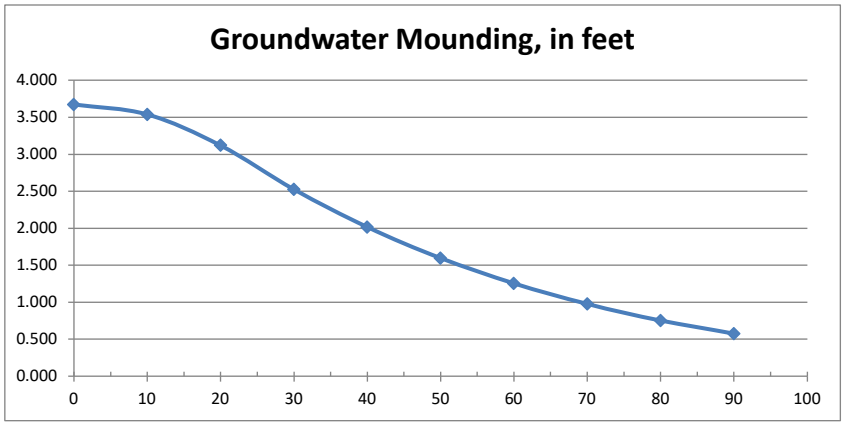
Input Values

0.42	*R*	Recharge rate (permeability rate) (in/hr)
0.150	Sy	Specific yield, Sy (dimensionless) default value is 0.15; max value is 0.2 provided that a lab test data is submitted
7.50	Kh	Horizontal hydraulic conductivity (in/hr) Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
22.100	x	1/2 length of basin (x direction, in feet)
37.000	y	1/2 width of basin (y direction, in feet)
72.00	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

13.672	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
3.672	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
3.672	0
3.538	10
3.120	20
2.524	30
2.014	40
1.595	50
1.252	60
0.974	70
0.751	80
0.574	90

Re-Calculate Now



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Basin G

Basin Bottom: 31.00 SHWT Elevation: 27.50

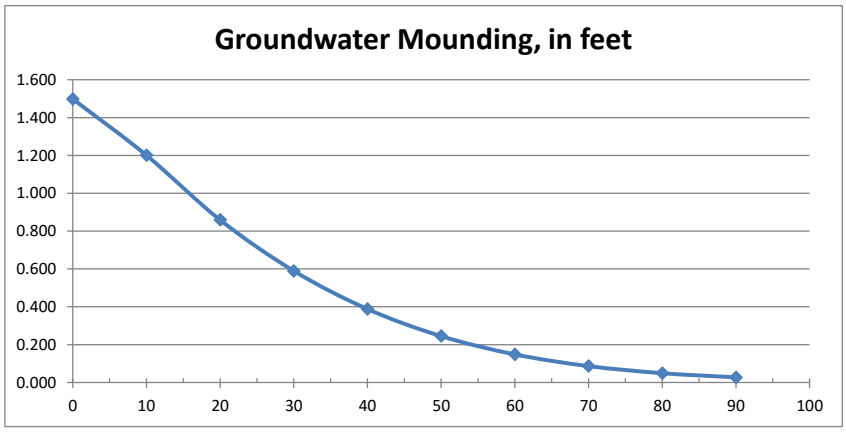
Input Values

0.25	*R*	Recharge rate (permeability rate) (in/hr)
		Specific yield, Sy (dimensionless)
0.150	Sy	default value is 0.15; max value is 0.2 provided that a lab test data is submitted
		Horizontal hydraulic conductivity (in/hr)
2.50	Kh	Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
5.000	x	1/2 length of basin (x direction, in feet)
110.700	y	1/2 width of basin (y direction, in feet)
63.24	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

11.498	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
1.498	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
1.498	0
1.201	10
0.859	20
0.590	30
0.388	40
0.245	50
0.148	60
0.087	70
0.049	80
0.027	90

Re-Calculate Now



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Basin G (Swapped X & Y)

Basin Bottom: 31.00 SHWT Elevation: 27.50

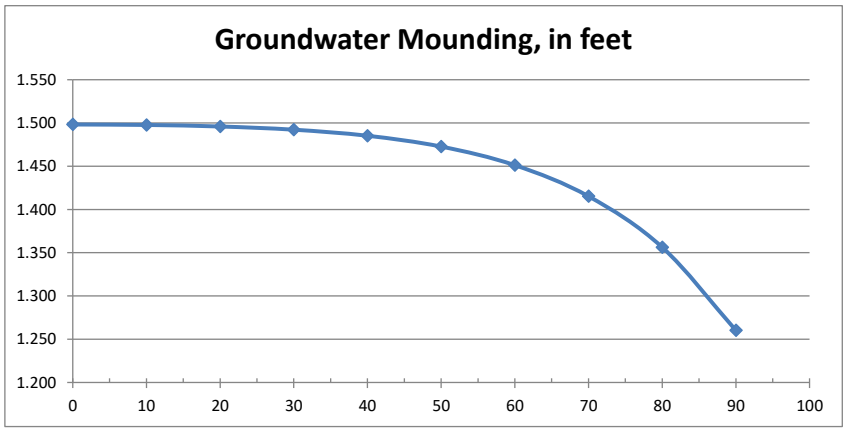
Input Values

0.25	*R*	Recharge rate (permeability rate) (in/hr)
0.150	Sy	Specific yield, Sy (dimensionless) default value is 0.15; max value is 0.2 provided that a lab test data is submitted
2.50	Kh	Horizontal hydraulic conductivity (in/hr) Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
110.700	x	1/2 length of basin (x direction, in feet)
5.000	y	1/2 width of basin (y direction, in feet)
63.24	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

11.498	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
1.498	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
1.498	0
1.498	10
1.496	20
1.492	30
1.485	40
1.473	50
1.451	60
1.415	70
1.356	80
1.260	90

Re-Calculate Now



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Basin H

Basin Bottom: 28.50 SHWT Elevation: 24.80

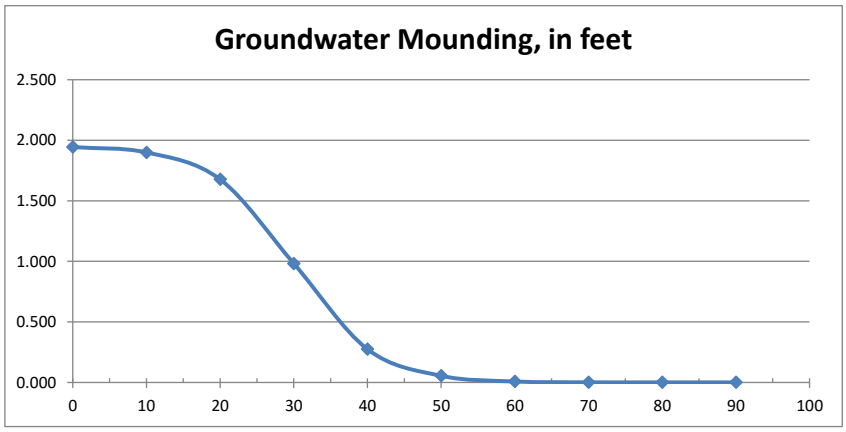
Input Values

0.50	*R*	Recharge rate (permeability rate) (in/hr)
0.150	Sy	Specific yield, Sy (dimensionless) default value is 0.15; max value is 0.2 provided that a lab test data is submitted
2.50	Kh	Horizontal hydraulic conductivity (in/hr) Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
30.000	x	1/2 length of basin (x direction, in feet)
78.400	y	1/2 width of basin (y direction, in feet)
7.07	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

11.944	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
1.944	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
1.944	0
1.900	10
1.677	20
0.982	30
0.275	40
0.055	50
0.008	60
0.001	70
0.001	80
0.001	90

Re-Calculate Now



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Basin H (Swapped X & Y)

Basin Bottom: 28.50 SHWT Elevation: 24.80

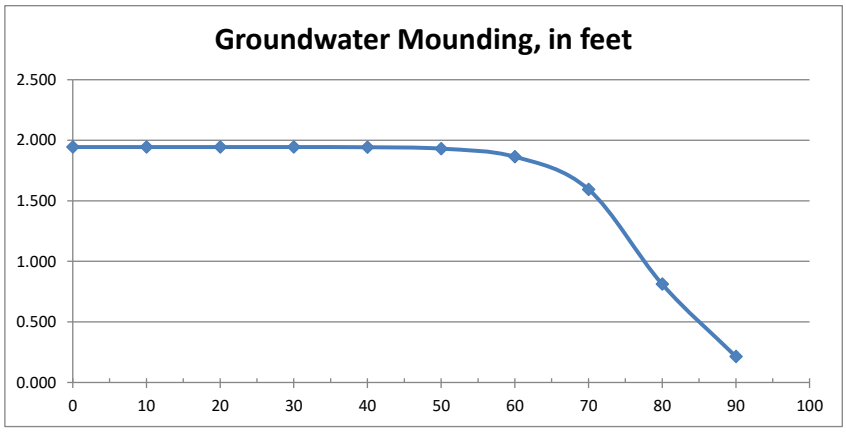
Input Values

0.50	*R*	Recharge rate (permeability rate) (in/hr)
		Specific yield, Sy (dimensionless)
0.150	Sy	default value is 0.15; max value is 0.2 provided that a lab test data is submitted
		Horizontal hydraulic conductivity (in/hr)
2.50	Kh	Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
78.400	x	1/2 length of basin (x direction, in feet)
30.000	y	1/2 width of basin (y direction, in feet)
7.07	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

11.944	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
1.944	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
1.944	0
1.944	10
1.944	20
1.944	30
1.942	40
1.931	50
1.864	60
1.594	70
0.812	80
0.214	90

Re-Calculate Now



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Basin K

Basin Bottom: 30.50 SHWT Elevation: 26.70

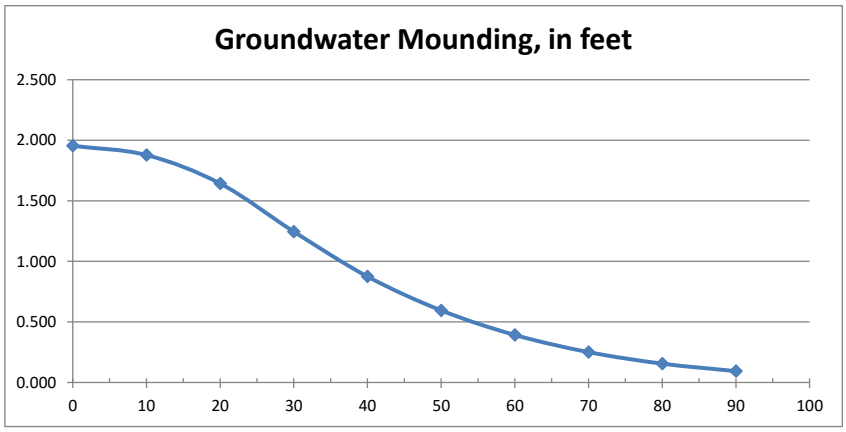
Input Values

0.09	*R*	Recharge rate (permeability rate) (in/hr)
		Specific yield, Sy (dimensionless)
0.150	Sy	default value is 0.15; max value is 0.2 provided that a lab test data is submitted
		Horizontal hydraulic conductivity (in/hr)
2.75	Kh	Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
27.000	x	1/2 length of basin (x direction, in feet)
49.200	y	1/2 width of basin (y direction, in feet)
72.00	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

11.954	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
1.954	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
1.954	0
1.878	10
1.643	20
1.245	30
0.875	40
0.595	50
0.392	60
0.251	70
0.155	80
0.094	90

Re-Calculate Now



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Basin K (Swapped X & Y)
Basin Bottom: 30.50 SHWT Elevation: 26.70

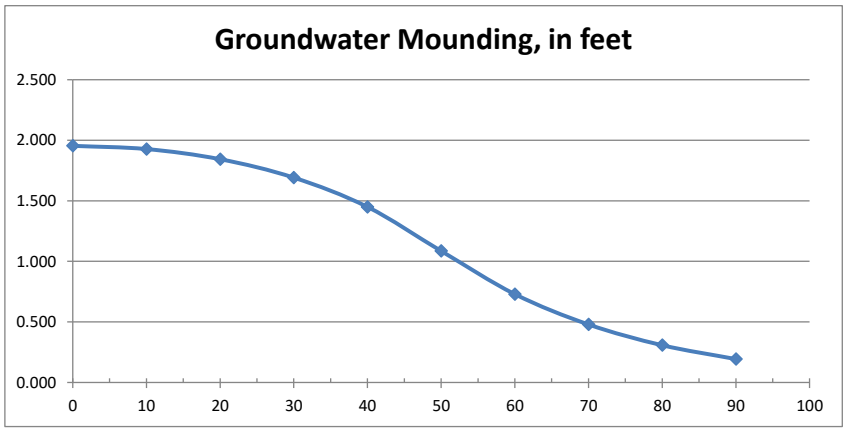
Input Values

0.09	*R*	Recharge rate (permeability rate) (in/hr)
0.150	Sy	Specific yield, Sy (dimensionless) default value is 0.15; max value is 0.2 provided that a lab test data is submitted
2.75	Kh	Horizontal hydraulic conductivity (in/hr) Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
49.200	x	1/2 length of basin (x direction, in feet)
27.000	y	1/2 width of basin (y direction, in feet)
72.00	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

11.954	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
1.954	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
1.954	0
1.927	10
1.844	20
1.691	30
1.450	40
1.086	50
0.729	60
0.479	70
0.308	80
0.193	90

Re-Calculate Now



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Basin M

Basin Bottom: 31.50 SHWT Elevation: 27.50

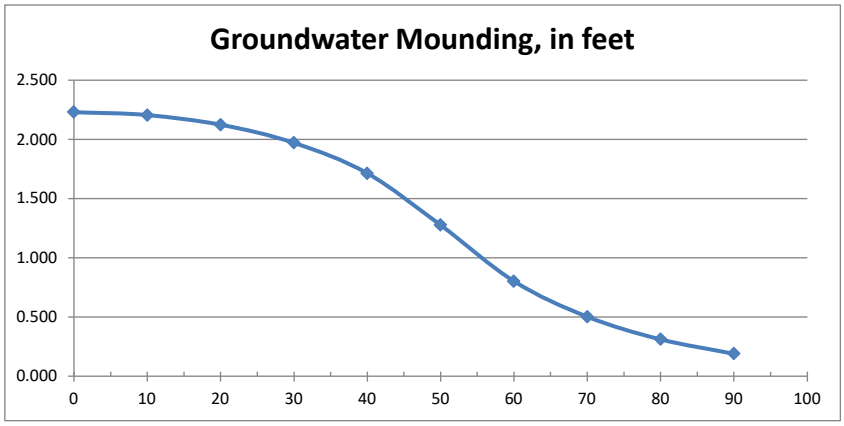
Input Values

0.77	*R*	Recharge rate (permeability rate) (in/hr)
0.150	Sy	Specific yield, Sy (dimensionless) default value is 0.15; max value is 0.2 provided that a lab test data is submitted
11.50	Kh	Horizontal hydraulic conductivity (in/hr) Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
50.500	x	1/2 length of basin (x direction, in feet)
12.900	y	1/2 width of basin (y direction, in feet)
15.65	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

12.231	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
2.231	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
2.231	0
2.206	10
2.124	20
1.971	30
1.713	40
1.276	50
0.801	60
0.502	70
0.310	80
0.189	90

Re-Calculate Now



Disclaimer

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Basin M (Swapped X & Y)

Basin Bottom: 31.50 SHWT Elevation: 27.50

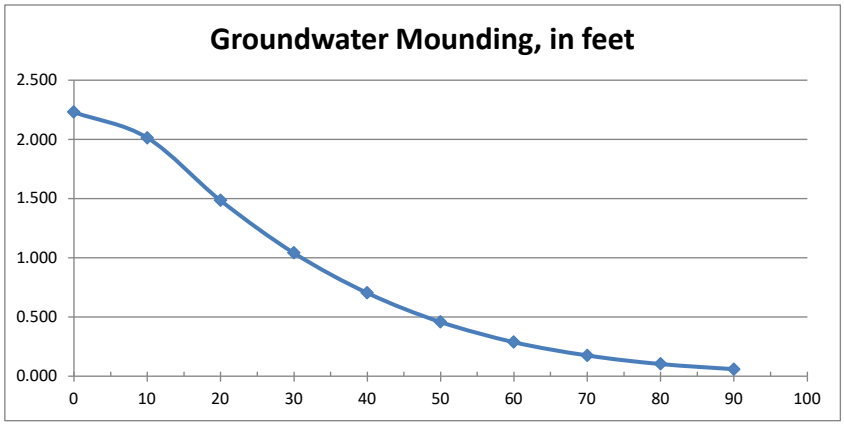
Input Values

0.77	*R*	Recharge rate (permeability rate) (in/hr)
0.150	Sy	Specific yield, Sy (dimensionless) default value is 0.15; max value is 0.2 provided that a lab test data is submitted
11.50	Kh	Horizontal hydraulic conductivity (in/hr) Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
12.900	x	1/2 length of basin (x direction, in feet)
50.500	y	1/2 width of basin (y direction, in feet)
15.65	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

12.231	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
2.231	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
2.231	0
2.013	10
1.485	20
1.041	30
0.703	40
0.457	50
0.287	60
0.174	70
0.102	80
0.058	90

Re-Calculate Now



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Basin R

Basin Bottom: 22.50 SHWT Elevation: 19.70

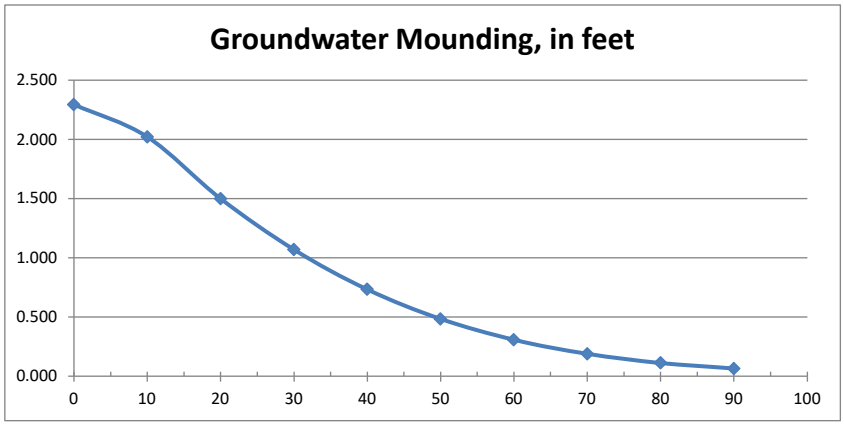
Input Values

0.19	*R*	Recharge rate (permeability rate) (in/hr)
0.150	Sy	Specific yield, Sy (dimensionless) default value is 0.15; max value is 0.2 provided that a lab test data is submitted
2.50	Kh	Horizontal hydraulic conductivity (in/hr) Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
10.250	x	1/2 length of basin (x direction, in feet)
135.000	y	1/2 width of basin (y direction, in feet)
72.00	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

12.294	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
2.294	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
2.294	0
2.022	10
1.499	20
1.069	30
0.733	40
0.483	50
0.306	60
0.187	70
0.111	80
0.063	90

Re-Calculate Now



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Basin R (Swapped X & Y)

Basin Bottom: 22.50 SHWT Elevation: 19.70

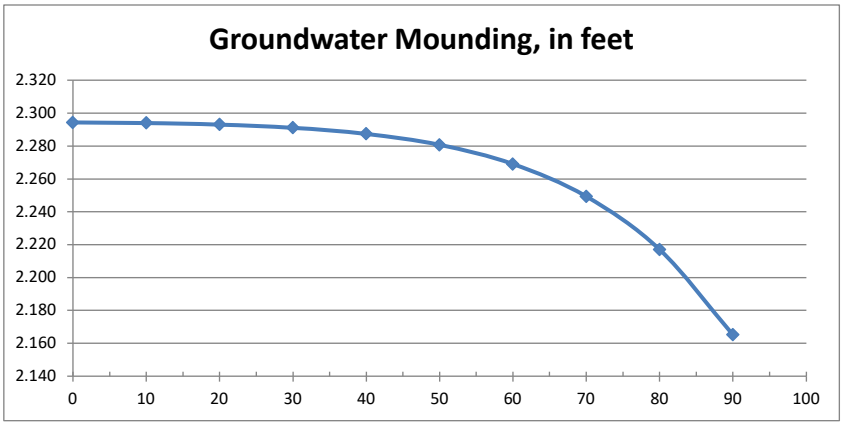
Input Values

0.19	*R*	Recharge rate (permeability rate) (in/hr)
0.150	Sy	Specific yield, Sy (dimensionless) default value is 0.15; max value is 0.2 provided that a lab test data is submitted
2.50	Kh	Horizontal hydraulic conductivity (in/hr) Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
135.000	x	1/2 length of basin (x direction, in feet)
10.250	y	1/2 width of basin (y direction, in feet)
72.00	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

12.294	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
2.294	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
2.294	0
2.294	10
2.293	20
2.291	30
2.287	40
2.281	50
2.269	60
2.249	70
2.217	80
2.165	90

Re-Calculate Now



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Basin S

Basin Bottom: 18.80 SHWT Elevation: 16.30

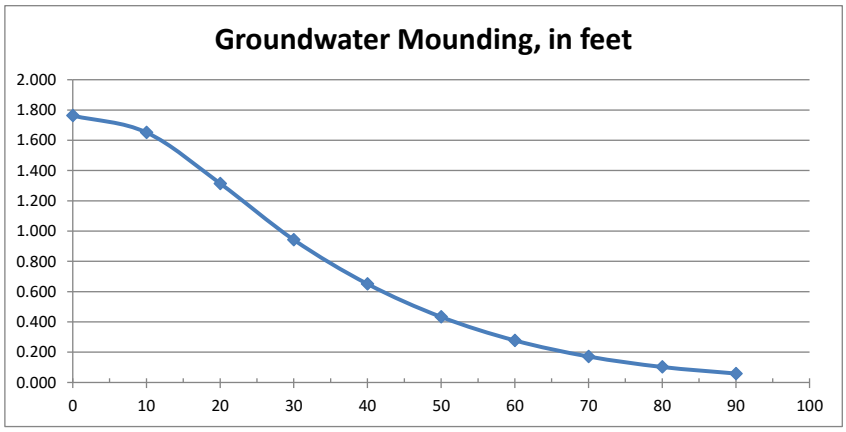
Input Values

0.09	*R*	Recharge rate (permeability rate) (in/hr)
		Specific yield, Sy (dimensionless)
0.150	Sy	default value is 0.15; max value is 0.2 provided that a lab test data is submitted
		Horizontal hydraulic conductivity (in/hr)
2.50	Kh	Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
18.500	x	1/2 length of basin (x direction, in feet)
101.300	y	1/2 width of basin (y direction, in feet)
72.00	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

11.763	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
1.763	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
1.763	0
1.652	10
1.315	20
0.942	30
0.651	40
0.433	50
0.278	60
0.172	70
0.102	80
0.059	90

Re-Calculate Now



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Basin S (Swapped X & Y)

Basin Bottom: 18.80 SHWT Elevation: 16.30

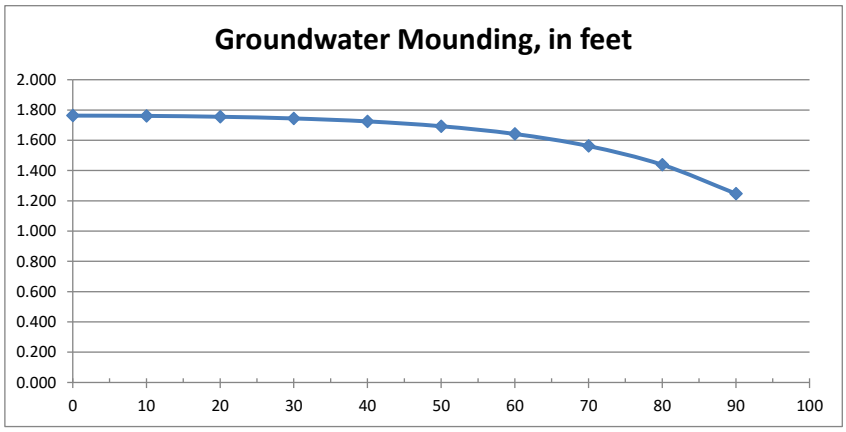
Input Values

0.09	*R*	Recharge rate (permeability rate) (in/hr)
0.150	Sy	Specific yield, Sy (dimensionless) default value is 0.15; max value is 0.2 provided that a lab test data is submitted
2.50	Kh	Horizontal hydraulic conductivity (in/hr) Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
101.300	x	1/2 length of basin (x direction, in feet)
18.500	y	1/2 width of basin (y direction, in feet)
72.00	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

11.763	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
1.763	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
1.763	0
1.761	10
1.755	20
1.744	30
1.725	40
1.693	50
1.642	60
1.562	70
1.438	80
1.247	90

Re-Calculate Now



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Basin T

Basin Bottom: 18.50 SHWT Elevation: 15.80

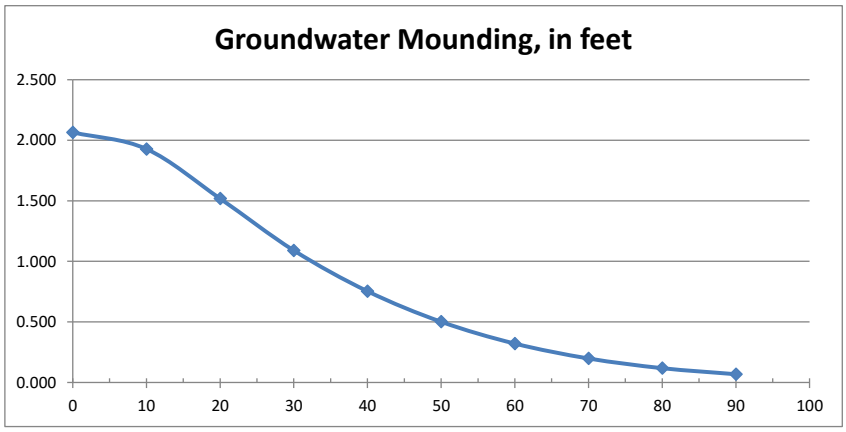
Input Values

0.11	*R*	Recharge rate (permeability rate) (in/hr)
		Specific yield, Sy (dimensionless)
0.150	Sy	default value is 0.15; max value is 0.2 provided that a lab test data is submitted
		Horizontal hydraulic conductivity (in/hr)
2.50	Kh	Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
17.500	x	1/2 length of basin (x direction, in feet)
169.800	y	1/2 width of basin (y direction, in feet)
72.00	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

12.065	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
2.065	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
2.065	0
1.928	10
1.518	20
1.090	30
0.753	40
0.501	50
0.321	60
0.198	70
0.118	80
0.068	90

Re-Calculate Now



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Basin T (Swapped X & Y)

Basin Bottom: 18.50 SHWT Elevation: 15.80

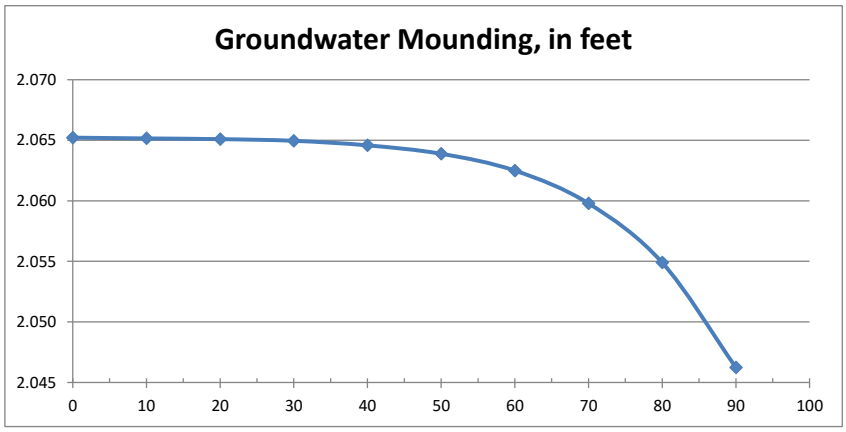
Input Values

0.11	*R*	Recharge rate (permeability rate) (in/hr)
0.150	Sy	Specific yield, Sy (dimensionless) default value is 0.15; max value is 0.2 provided that a lab test data is submitted
2.50	Kh	Horizontal hydraulic conductivity (in/hr) Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
169.800	x	1/2 length of basin (x direction, in feet)
17.500	y	1/2 width of basin (y direction, in feet)
72.00	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

12.065	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
2.065	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
2.065	0
2.065	10
2.065	20
2.065	30
2.065	40
2.064	50
2.062	60
2.060	70
2.055	80
2.046	90

Re-Calculate Now



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Basin U

Basin Bottom: 19.50 SHWT Elevation: 16.80

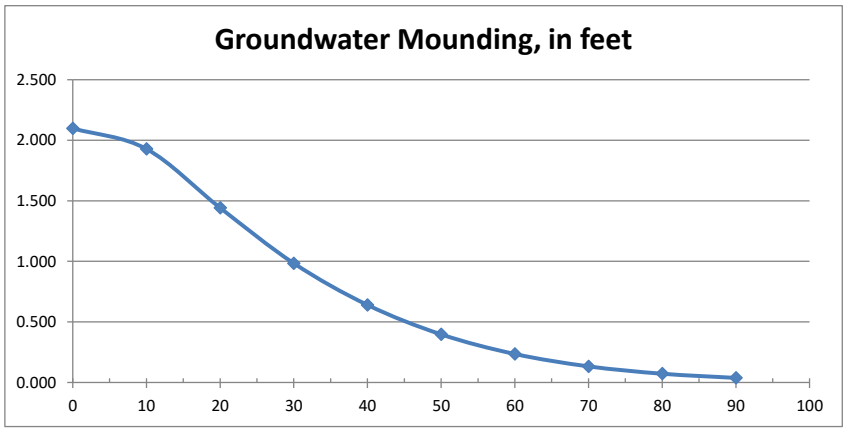
Input Values

0.11	*R*	Recharge rate (permeability rate) (in/hr)
0.150	Sy	Specific yield, Sy (dimensionless) default value is 0.15; max value is 0.2 provided that a lab test data is submitted
2.00	Kh	Horizontal hydraulic conductivity (in/hr) Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
16.000	x	1/2 length of basin (x direction, in feet)
133.300	y	1/2 width of basin (y direction, in feet)
72.00	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

12.098	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
2.098	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
2.098	0
1.928	10
1.442	20
0.984	30
0.640	40
0.397	50
0.235	60
0.133	70
0.072	80
0.038	90

Re-Calculate Now



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Basin U (Swapped X & Y)

Basin Bottom: 19.50 SHWT Elevation: 16.80

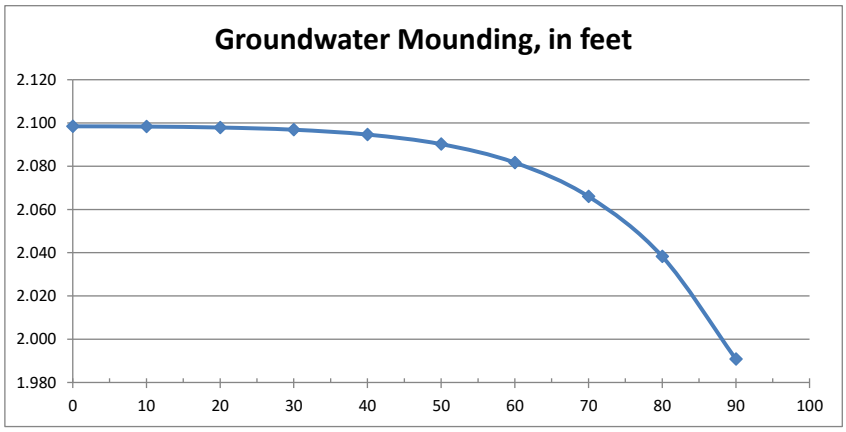
Input Values

0.11	*R*	Recharge rate (permeability rate) (in/hr)
0.150	Sy	Specific yield, Sy (dimensionless) default value is 0.15; max value is 0.2 provided that a lab test data is submitted
2.00	Kh	Horizontal hydraulic conductivity (in/hr) Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
133.300	x	1/2 length of basin (x direction, in feet)
16.000	y	1/2 width of basin (y direction, in feet)
72.00	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

12.098	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
2.098	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
2.098	0
2.098	10
2.098	20
2.097	30
2.095	40
2.090	50
2.082	60
2.066	70
2.038	80
1.991	90

Re-Calculate Now



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Basin V

Basin Bottom: 37.00 SHWT Elevation: 32.90

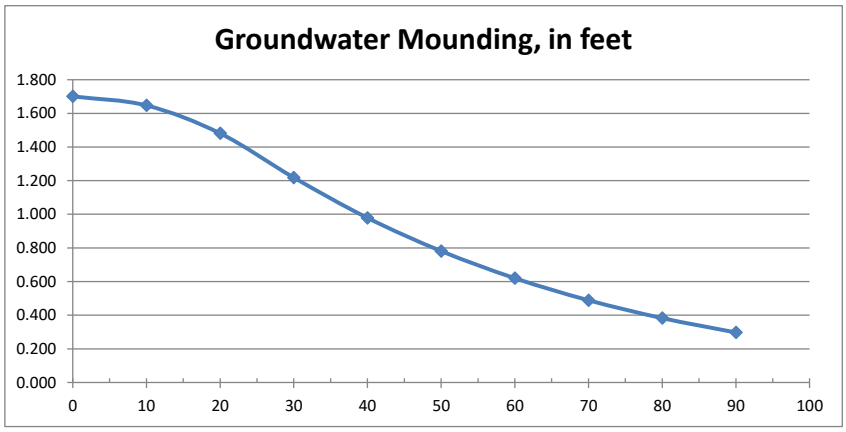
Input Values

0.63	*R*	Recharge rate (permeability rate) (in/hr)
0.150	Sy	Specific yield, Sy (dimensionless) default value is 0.15; max value is 0.2 provided that a lab test data is submitted
31.50	Kh	Horizontal hydraulic conductivity (in/hr) Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
25.000	x	1/2 length of basin (x direction, in feet)
41.900	y	1/2 width of basin (y direction, in feet)
19.14	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

11.701	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
1.701	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
1.701	0
1.647	10
1.481	20
1.218	30
0.979	40
0.781	50
0.620	60
0.489	70
0.383	80
0.297	90

Re-Calculate Now



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Basin V (Swapped X & Y)
Basin Bottom: 37.00 SHWT Elevation: 32.90

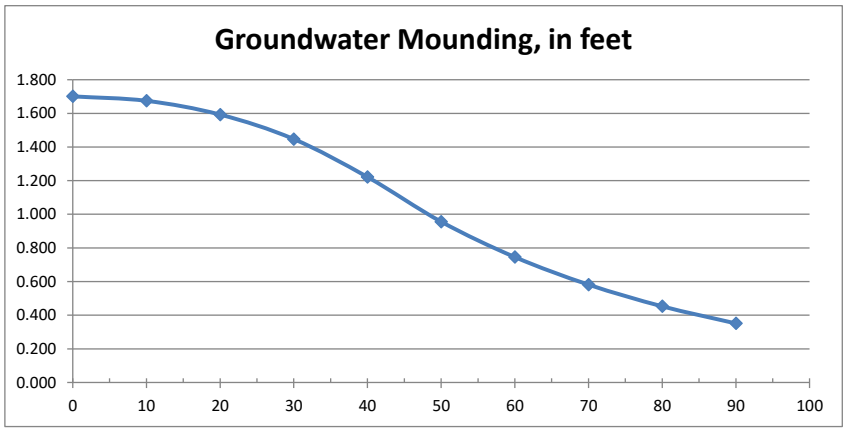
Input Values

0.63	*R*	Recharge rate (permeability rate) (in/hr)
0.150	Sy	Specific yield, Sy (dimensionless) default value is 0.15; max value is 0.2 provided that a lab test data is submitted
31.50	Kh	Horizontal hydraulic conductivity (in/hr) Kh = 5xRecharge Rate (R) in the costal plan; Kh=R outside the coastal plan
41.900	x	1/2 length of basin (x direction, in feet)
25.000	y	1/2 width of basin (y direction, in feet)
19.14	t	Duration of infiltration period (hours)
10.00	hi(0)	Initial thickness of saturated zone (feet)

11.701	h(max)	Maximum thickness of saturated zone (beneath center of basin at end of infiltration period)
1.701	Δh(max)	Maximum groundwater mounding (beneath center of basin at end of infiltration period)

Ground-water Mounding, in feet	Distance from center of basin in x direction, in feet
1.701	0
1.675	10
1.593	20
1.447	30
1.222	40
0.956	50
0.746	60
0.582	70
0.453	80
0.351	90

Re-Calculate Now



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BASIN DRAIN TIME CALCULATIONS

DYNAMIC ENGINEERING

Infiltration Basin Drain time Calculations

Project:	Surrey Equities, LLC - Proposed Residential Subdivision	Computed By:	KB
Job #:	3272-99-005	Checked By:	CC
Location:	Eatontown, Monmouth County, NJ	Date:	2/7/2025
		Revised:	

Basin Name: **Basin A**

Volume of Runoff to be Infiltrated =	6,969	cubic feet			
Surface Area of Infiltration Area =	8,361	square feet			
Effective Depth of Runoff to be Infiltrated = Volume of Runoff to be Infiltrated / Surface Area of Infiltration Area =	0.83	feet	=	10.00	inches
Field Tested Recharge Rate =	1.6	inches per hour			
Design Recharge Rate * =	0.80	inches per hour			

Effective Depth of Runoff to be Infiltrated / Design Recharge Rate = Time to Empty Basin = 12.50 hours**

**Note : Factor of Safety of 2 is applied to the Field Tested Recharge Rate to establish the Design Recharge Rate*

***Note : Time to Empty Basin must be less than 72 hours. Therefore;* Drain time is less than 72 Hours, therefore, design is acceptable

DYNAMIC ENGINEERING

Infiltration Basin Drain time Calculations

Project:	Surrey Equities, LLC - Proposed Residential Subdivision	Computed By:	KB
Job #:	3272-99-005	Checked By:	CC
Location:	Eatontown, Monmouth County, NJ	Date:	2/7/2025
		Revised:	

Basin Name: **Basin B**

Volume of Runoff to be Infiltrated =	2,830	cubic feet			
Surface Area of Infiltration Area =	2,148	square feet			
Effective Depth of Runoff to be Infiltrated = Volume of Runoff to be Infiltrated / Surface Area of Infiltration Area =	1.32	feet	=	15.81	inches
Field Tested Recharge Rate =	1	inches per hour			
Design Recharge Rate * =	0.5	inches per hour			

Effective Depth of Runoff to be Infiltrated / Design Recharge Rate = Time to Empty Basin = 31.62 hours**

**Note : Factor of Safety of 2 is applied to the Field Tested Recharge Rate to establish the Design Recharge Rate*

***Note : Time to Empty Basin must be less than 72 hours. Therefore;* Drain time is less than 72 Hours, therefore, design is acceptable

DYNAMIC ENGINEERING

Infiltration Basin Drain time Calculations

Project:	Surrey Equities, LLC - Proposed Residential Subdivision	Computed By:	KB
Job #:	3272-99-005	Checked By:	CC
Location:	Eatontown, Monmouth County, NJ	Date:	2/7/2025
		Revised:	

Basin Name: **Basin C**

Volume of Runoff to be Infiltrated =	1,888	cubic feet			
Surface Area of Infiltration Area =	1,423	square feet			
Effective Depth of Runoff to be Infiltrated = Volume of Runoff to be Infiltrated / Surface Area of Infiltration Area =	1.33	feet	=	15.92	inches
Field Tested Recharge Rate =	3.1	inches per hour			
Design Recharge Rate * =	1.55	inches per hour			

Effective Depth of Runoff to be Infiltrated / Design Recharge Rate = Time to Empty Basin = 10.27 hours**

**Note : Factor of Safety of 2 is applied to the Field Tested Recharge Rate to establish the Design Recharge Rate*

***Note : Time to Empty Basin must be less than 72 hours. Therefore;* Drain time is less than 72 Hours, therefore, design is acceptable

DYNAMIC ENGINEERING

Infiltration Basin Drain time Calculations

Project:	Surrey Equities, LLC - Proposed Residential Subdivision	Computed By:	KB
Job #:	3272-99-005	Checked By:	CC
Location:	Eatontown, Monmouth County, NJ	Date:	2/7/2025
		Revised:	

Basin Name: **Basin D**

Volume of Runoff to be Infiltrated =	8,232	cubic feet			
Surface Area of Infiltration Area =	3,264	square feet			
Effective Depth of Runoff to be Infiltrated = Volume of Runoff to be Infiltrated / Surface Area of Infiltration Area =	2.52	feet	=	30.26	inches
Field Tested Recharge Rate =	3	inches per hour			
Design Recharge Rate * =	1.5	inches per hour			

Effective Depth of Runoff to be Infiltrated / Design Recharge Rate = Time to Empty Basin = 20.18 hours**

**Note : Factor of Safety of 2 is applied to the Field Tested Recharge Rate to establish the Design Recharge Rate*

***Note : Time to Empty Basin must be less than 72 hours. Therefore;* Drain time is less than 72 Hours, therefore, design is acceptable

DYNAMIC ENGINEERING

Infiltration Basin Drain time Calculations

Project:	Surrey Equities, LLC - Proposed Residential Subdivision	Computed By:	KB
Job #:	3272-99-005	Checked By:	CC
Location:	Eatontown, Monmouth County, NJ	Date:	2/7/2025
		Revised:	

Basin Name: **Basin G**

Volume of Runoff to be Infiltrated =	2,917	cubic feet			
Surface Area of Infiltration Area =	2,214	square feet			
Effective Depth of Runoff to be Infiltrated = Volume of Runoff to be Infiltrated / Surface Area of Infiltration Area =	1.32	feet	=	15.81	inches
Field Tested Recharge Rate =	1	inches per hour			
Design Recharge Rate * =	0.5	inches per hour			

Effective Depth of Runoff to be Infiltrated / Design Recharge Rate = Time to Empty Basin = 31.62 hours**

**Note : Factor of Safety of 2 is applied to the Field Tested Recharge Rate to establish the Design Recharge Rate*

***Note : Time to Empty Basin must be less than 72 hours. Therefore;* Drain time is less than 72 Hours, therefore, design is acceptable

DYNAMIC ENGINEERING

Infiltration Basin Drain time Calculations

Project:	Surrey Equities, LLC - Proposed Residential Subdivision	Computed By:	KB
Job #:	3272-99-005	Checked By:	CC
Location:	Eatontown, Monmouth County, NJ	Date:	2/7/2025
		Revised:	

Basin Name: **Basin H**

Volume of Runoff to be Infiltrated =	3,878	cubic feet			
Surface Area of Infiltration Area =	9,409	square feet			
Effective Depth of Runoff to be Infiltrated = Volume of Runoff to be Infiltrated / Surface Area of Infiltration Area =	0.41	feet	=	4.95	inches
Field Tested Recharge Rate =	1	inches per hour			
Design Recharge Rate * =	0.5	inches per hour			

Effective Depth of Runoff to be Infiltrated / Design Recharge Rate = Time to Empty Basin = 9.89 hours**

**Note : Factor of Safety of 2 is applied to the Field Tested Recharge Rate to establish the Design Recharge Rate*

***Note : Time to Empty Basin must be less than 72 hours. Therefore;* Drain time is less than 72 Hours, therefore, design is acceptable

DYNAMIC ENGINEERING

Infiltration Basin Drain time Calculations

Project:	Surrey Equities, LLC - Proposed Residential Subdivision	Computed By:	KB
Job #:	3272-99-005	Checked By:	CC
Location:	Eatontown, Monmouth County, NJ	Date:	2/7/2025
		Revised:	

Basin Name: **Basin K**

Volume of Runoff to be Infiltrated =	2,797	cubic feet			
Surface Area of Infiltration Area =	5,317	square feet			
Effective Depth of Runoff to be Infiltrated = Volume of Runoff to be Infiltrated / Surface Area of Infiltration Area =	0.53	feet	=	6.31	inches
Field Tested Recharge Rate =	1.1	inches per hour			
Design Recharge Rate * =	0.55	inches per hour			

Effective Depth of Runoff to be Infiltrated / Design Recharge Rate = Time to Empty Basin = 11.48 hours**

**Note : Factor of Safety of 2 is applied to the Field Tested Recharge Rate to establish the Design Recharge Rate*

***Note : Time to Empty Basin must be less than 72 hours. Therefore;* Drain time is less than 72 Hours, therefore, design is acceptable

DYNAMIC ENGINEERING

Infiltration Basin Drain time Calculations

Project:	Surrey Equities, LLC - Proposed Residential Subdivision	Computed By:	KB
Job #:	3272-99-005	Checked By:	CC
Location:	Eatontown, Monmouth County, NJ	Date:	2/7/2025
		Revised:	

Basin Name: **Basin M**

Volume of Runoff to be Infiltrated =	2,614	cubic feet			
Surface Area of Infiltration Area =	2,614	square feet			
Effective Depth of Runoff to be Infiltrated = Volume of Runoff to be Infiltrated / Surface Area of Infiltration Area =	1.00	feet	=	12.00	inches
Field Tested Recharge Rate =	4.6	inches per hour			
Design Recharge Rate * =	2.3	inches per hour			

Effective Depth of Runoff to be Infiltrated / Design Recharge Rate = Time to Empty Basin = 5.22 hours**

**Note : Factor of Safety of 2 is applied to the Field Tested Recharge Rate to establish the Design Recharge Rate*

***Note : Time to Empty Basin must be less than 72 hours. Therefore;* Drain time is less than 72 Hours, therefore, design is acceptable

DYNAMIC ENGINEERING

Infiltration Basin Drain time Calculations

Project:	Surrey Equities, LLC - Proposed Residential Subdivision	Computed By:	KB
Job #:	3272-99-005	Checked By:	CC
Location:	Eatontown, Monmouth County, NJ	Date:	2/7/2025
		Revised:	

Basin Name: **Basin R**

Volume of Runoff to be Infiltrated =	6,403	cubic feet			
Surface Area of Infiltration Area =	5,537	square feet			
Effective Depth of Runoff to be Infiltrated = Volume of Runoff to be Infiltrated / Surface Area of Infiltration Area =	1.16	feet	=	13.88	inches
Field Tested Recharge Rate =	1	inches per hour			
Design Recharge Rate * =	0.50	inches per hour			

Effective Depth of Runoff to be Infiltrated / Design Recharge Rate = Time to Empty Basin = 27.75 hours**

**Note : Factor of Safety of 2 is applied to the Field Tested Recharge Rate to establish the Design Recharge Rate*

***Note : Time to Empty Basin must be less than 72 hours. Therefore;* Drain time is less than 72 Hours, therefore, design is acceptable

DYNAMIC ENGINEERING

Infiltration Basin Drain time Calculations

Project:	Surrey Equities, LLC - Proposed Residential Subdivision	Computed By:	KB
Job #:	3272-99-005	Checked By:	CC
Location:	Eatontown, Monmouth County, NJ	Date:	2/7/2025
		Revised:	

Basin Name: **Basin S**

Volume of Runoff to be Infiltrated =	4,400	cubic feet			
Surface Area of Infiltration Area =	8,276	square feet			
Effective Depth of Runoff to be Infiltrated = Volume of Runoff to be Infiltrated / Surface Area of Infiltration Area =	0.53	feet	=	6.38	inches
Field Tested Recharge Rate =	1	inches per hour			
Design Recharge Rate * =	0.50	inches per hour			

Effective Depth of Runoff to be Infiltrated / Design Recharge Rate = Time to Empty Basin = 12.76 hours**

**Note : Factor of Safety of 2 is applied to the Field Tested Recharge Rate to establish the Design Recharge Rate*

***Note : Time to Empty Basin must be less than 72 hours. Therefore;* Drain time is less than 72 Hours, therefore, design is acceptable

DYNAMIC ENGINEERING

Infiltration Basin Drain time Calculations

Project:	Surrey Equities, LLC - Proposed Residential Subdivision	Computed By:	KB
Job #:	3272-99-005	Checked By:	CC
Location:	Eatontown, Monmouth County, NJ	Date:	2/7/2025
		Revised:	

Basin Name: **Basin T**

Volume of Runoff to be Infiltrated =	4,748	cubic feet			
Surface Area of Infiltration Area =	7,405	square feet			
Effective Depth of Runoff to be Infiltrated = Volume of Runoff to be Infiltrated / Surface Area of Infiltration Area =	0.64	feet	=	7.69	inches
Field Tested Recharge Rate =	1	inches per hour			
Design Recharge Rate * =	0.50	inches per hour			

Effective Depth of Runoff to be Infiltrated / Design Recharge Rate = Time to Empty Basin = 15.39 hours**

**Note : Factor of Safety of 2 is applied to the Field Tested Recharge Rate to establish the Design Recharge Rate*

***Note : Time to Empty Basin must be less than 72 hours. Therefore;* Drain time is less than 72 Hours, therefore, design is acceptable

DYNAMIC ENGINEERING

Infiltration Basin Drain time Calculations

Project:	Surrey Equities, LLC - Proposed Residential Subdivision	Computed By:	KB
Job #:	3272-99-005	Checked By:	CC
Location:	Eatontown, Monmouth County, NJ	Date:	2/7/2025
		Revised:	

Basin Name: **Basin U**

Volume of Runoff to be Infiltrated =	5,009	cubic feet			
Surface Area of Infiltration Area =	7,841	square feet			
Effective Depth of Runoff to be Infiltrated = Volume of Runoff to be Infiltrated / Surface Area of Infiltration Area =	0.64	feet	=	7.67	inches
Field Tested Recharge Rate =	1	inches per hour			
Design Recharge Rate * =	0.50	inches per hour			

Effective Depth of Runoff to be Infiltrated / Design Recharge Rate = Time to Empty Basin = 15.33 hours**

**Note : Factor of Safety of 2 is applied to the Field Tested Recharge Rate to establish the Design Recharge Rate*

***Note : Time to Empty Basin must be less than 72 hours. Therefore;* Drain time is less than 72 Hours, therefore, design is acceptable

DYNAMIC ENGINEERING

Infiltration Basin Drain time Calculations

Project:	Surrey Equities, LLC - Proposed Residential Subdivision	Computed By:	KB
Job #:	3272-99-005	Checked By:	CC
Location:	Eatontown, Monmouth County, NJ	Date:	2/7/2025
		Revised:	

Basin Name: **Basin V**

Volume of Runoff to be Infiltrated =	4,208	cubic feet			
Surface Area of Infiltration Area =	4,187	square feet			
Effective Depth of Runoff to be Infiltrated = Volume of Runoff to be Infiltrated / Surface Area of Infiltration Area =	1.01	feet	=	12.06	inches
Field Tested Recharge Rate =	12.6	inches per hour			
Design Recharge Rate * =	6.3	inches per hour			

Effective Depth of Runoff to be Infiltrated / Design Recharge Rate = Time to Empty Basin = 1.91 hours**

**Note : Factor of Safety of 2 is applied to the Field Tested Recharge Rate to establish the Design Recharge Rate*

***Note : Time to Empty Basin must be less than 72 hours. Therefore;* Drain time is less than 72 Hours, therefore, design is acceptable

OVERFLOW SPILLWAY CALCULATIONS

DYNAMIC ENGINEERING

Overflow Spillway Calculations

Project:	**Surrey Equities, LLC - Proposed Residential Subdivision**
Job #:	3272-99-005
Location:	Eatontown, Monmouth County, NJ
Computed By:	KB
Checked By:	CC
Date:	2/6/2025

BASIN A

To Size Spillway:

- Assume complete blockage of the outlet control structure and no infiltration
- Route 2 & 10 year storm through basin assuming that the basin is filled with water up to the Emergency Spillway Elevation

	2 Year	10 Year
Spillway Width (ft.)	20.00	20.00
Spillway Elevation (ft.)	35.70	35.70
Flow through Spillway (Q) (cfs)	2.320	4.470
Water Surface Elevation (ft)	35.83	35.90
Depth of Flow (ft)	**0.13**	**0.20**
Area of Flow (A) (sf)*	**2.62**	**4.04**
Velocity (V) = Q / A (ft/sec)	**0.89**	**1.11**

⁂ V = < 2.0 FPS ⁂ Stability Achieved

DYNAMIC ENGINEERING

Overflow Spillway Calculations

Project:	**Surrey Equities, LLC - Proposed Residential Subdivision**
Job #:	3272-99-005
Location:	Eatontown, Monmouth County, NJ
Computed By:	KB
Checked By:	CC
Date:	2/6/2025

BASIN B

To Size Spillway:

- Assume complete blockage of the outlet control structure and no infiltration
- Route 2 & 10 year storm through basin assuming that the basin is filled with water up to the Emergency Spillway Elevation

	2 Year	10 Year
Spillway Width (ft.)	20.00	20.00
Spillway Elevation (ft.)	32.80	32.80
Flow through Spillway (Q) (cfs)	1.090	2.360
Water Surface Elevation (ft)	32.88	32.93
Depth of Flow (ft)	**0.08**	**0.13**
Area of Flow (A) (sf)*	**1.61**	**2.62**
Velocity (V) = Q / A (ft/sec)	**0.68**	**0.90**

⁂ V = < 2.0 FPS ⁂ Stability Achieved

DYNAMIC ENGINEERING

Overflow Spillway Calculations

Project:	**Surrey Equities, LLC - Proposed Residential Subdivision**
Job #:	3272-99-005
Location:	Eatontown, Monmouth County, NJ
Computed By:	KB
Checked By:	CC
Date:	2/6/2025

BASIN C

To Size Spillway:

- Assume complete blockage of the outlet control structure and no infiltration
- Route 2 & 10 year storm through basin assuming that the basin is filled with water up to the Emergency Spillway Elevation

	2 Year	10 Year
Spillway Width (ft.)	20.00	20.00
Spillway Elevation (ft.)	31.30	31.30
Flow through Spillway (Q) (cfs)	0.980	2.210
Water Surface Elevation (ft)	31.37	31.43
Depth of Flow (ft)	**0.07**	**0.13**
Area of Flow (A) (sf)*	**1.40**	**2.62**
Velocity (V) = Q / A (ft/sec)	**0.70**	**0.84**

⁂ V = < 2.0 FPS ⁂ Stability Achieved

DYNAMIC ENGINEERING

Overflow Spillway Calculations

Project:	**Surrey Equities, LLC - Proposed Residential Subdivision**
Job #:	3272-99-005
Location:	Eatontown, Monmouth County, NJ
Computed By:	KB
Checked By:	CC
Date:	2/6/2025

BASIN D

To Size Spillway:

- Assume complete blockage of the outlet control structure and no infiltration
- Route 2 & 10 year storm through basin assuming that the basin is filled with water up to the Emergency Spillway Elevation

	2 Year	10 Year
Spillway Width (ft.)	25.00	25.00
Spillway Elevation (ft.)	29.25	29.25
Flow through Spillway (Q) (cfs)	3.100	6.880
Water Surface Elevation (ft)	29.39	29.48
Depth of Flow (ft)	**0.14**	**0.23**
Area of Flow (A) (sf)*	**3.52**	**5.80**
Velocity (V) = Q / A (ft/sec)	**0.88**	**1.19**

⁂ V = < 2.0 FPS ⁂ Stability Achieved

DYNAMIC ENGINEERING

Overflow Spillway Calculations

Project:	**Surrey Equities, LLC - Proposed Residential Subdivision**
Job #:	3272-99-005
Location:	Eatontown, Monmouth County, NJ
Computed By:	KB
Checked By:	CC
Date:	2/6/2025

BASIN E

To Size Spillway:

- Assume complete blockage of the outlet control structure and no infiltration
- Route 2 & 10 year storm through basin assuming that the basin is filled with water up to the Emergency Spillway Elevation

	2 Year	10 Year
Spillway Width (ft.)	35.00	35.00
Spillway Elevation (ft.)	29.30	29.30
Flow through Spillway (Q) (cfs)	2.710	5.180
Water Surface Elevation (ft)	29.40	29.45
Depth of Flow (ft)	**0.10**	**0.15**
Area of Flow (A) (sf)*	**3.51**	**5.27**
Velocity (V) = Q / A (ft/sec)	**0.77**	**0.98**

⁂ V = < 2.0 FPS ⁂ Stability Achieved

DYNAMIC ENGINEERING

Overflow Spillway Calculations

Project:	**Surrey Equities, LLC - Proposed Residential Subdivision**
Job #:	3272-99-005
Location:	Eatontown, Monmouth County, NJ
Computed By:	KB
Checked By:	CC
Date:	2/6/2025

BASIN F

To Size Spillway:

- Assume complete blockage of the outlet control structure and no infiltration
- Route 2 & 10 year storm through basin assuming that the basin is filled with water up to the Emergency Spillway Elevation

	2 Year	10 Year
Spillway Width (ft.)	10.00	10.00
Spillway Elevation (ft.)	35.70	35.70
Flow through Spillway (Q) (cfs)	1.270	2.460
Water Surface Elevation (ft)	35.84	35.91
Depth of Flow (ft)	**0.14**	**0.21**
Area of Flow (A) (sf)*	**1.42**	**2.14**
Velocity (V) = Q / A (ft/sec)	**0.89**	**1.15**

⁂ V = < 2.0 FPS ⁂ Stability Achieved

DYNAMIC ENGINEERING

Overflow Spillway Calculations

Project:	**Surrey Equities, LLC - Proposed Residential Subdivision**
Job #:	3272-99-005
Location:	Eatontown, Monmouth County, NJ
Computed By:	KB
Checked By:	CC
Date:	2/6/2025

BASIN G

To Size Spillway:

- Assume complete blockage of the outlet control structure and no infiltration
- Route 2 & 10 year storm through basin assuming that the basin is filled with water up to the Emergency Spillway Elevation

	2 Year	10 Year
Spillway Width (ft.)	25.00	25.00
Spillway Elevation (ft.)	33.80	33.80
Flow through Spillway (Q) (cfs)	1.100	2.290
Water Surface Elevation (ft)	33.87	33.91
Depth of Flow (ft)	**0.07**	**0.11**
Area of Flow (A) (sf)*	**1.75**	**2.76**
Velocity (V) = Q / A (ft/sec)	**0.63**	**0.83**

⁂ V = < 2.0 FPS ⁂ Stability Achieved

DYNAMIC ENGINEERING

Overflow Spillway Calculations

Project:	**Surrey Equities, LLC - Proposed Residential Subdivision**
Job #:	3272-99-005
Location:	Eatontown, Monmouth County, NJ
Computed By:	KB
Checked By:	CC
Date:	2/6/2025

BASIN H

To Size Spillway:

- Assume complete blockage of the outlet control structure and no infiltration
- Route 2 & 10 year storm through basin assuming that the basin is filled with water up to the Emergency Spillway Elevation

	2 Year	10 Year
Spillway Width (ft.)	20.00	20.00
Spillway Elevation (ft.)	31.30	31.30
Flow through Spillway (Q) (cfs)	1.600	3.360
Water Surface Elevation (ft)	31.40	31.47
Depth of Flow (ft)	**0.10**	**0.17**
Area of Flow (A) (sf)*	**2.01**	**3.43**
Velocity (V) = Q / A (ft/sec)	**0.80**	**0.98**

⁂ V = < 2.0 FPS ⁂ Stability Achieved

DYNAMIC ENGINEERING

Overflow Spillway Calculations

Project:	**Surrey Equities, LLC - Proposed Residential Subdivision**
Job #:	3272-99-005
Location:	Eatontown, Monmouth County, NJ
Computed By:	KB
Checked By:	CC
Date:	2/6/2025

BASIN I

To Size Spillway:

- Assume complete blockage of the outlet control structure and no infiltration
- Route 2 & 10 year storm through basin assuming that the basin is filled with water up to the Emergency Spillway Elevation

	2 Year	10 Year
Spillway Width (ft.)	10.00	10.00
Spillway Elevation (ft.)	31.30	31.30
Flow through Spillway (Q) (cfs)	0.440	0.940
Water Surface Elevation (ft)	31.37	31.41
Depth of Flow (ft)	**0.07**	**0.11**
Area of Flow (A) (sf)*	**0.70**	**1.11**
Velocity (V) = Q / A (ft/sec)	**0.62**	**0.85**

⁂ V = < 2.0 FPS ⁂ Stability Achieved

DYNAMIC ENGINEERING

Overflow Spillway Calculations

Project:	**Surrey Equities, LLC - Proposed Residential Subdivision**
Job #:	3272-99-005
Location:	Eatontown, Monmouth County, NJ
Computed By:	KB
Checked By:	CC
Date:	2/6/2025

BASIN K

To Size Spillway:

- Assume complete blockage of the outlet control structure and no infiltration
- Route 2 & 10 year storm through basin assuming that the basin is filled with water up to the Emergency Spillway Elevation

	2 Year	10 Year
Spillway Width (ft.)	20.00	20.00
Spillway Elevation (ft.)	33.30	33.30
Flow through Spillway (Q) (cfs)	1.330	2.790
Water Surface Elevation (ft)	33.39	33.45
Depth of Flow (ft)	**0.09**	**0.15**
Area of Flow (A) (sf)*	**1.81**	**3.02**
Velocity (V) = Q / A (ft/sec)	**0.74**	**0.92**

⁂ V = < 2.0 FPS ⁂ Stability Achieved

DYNAMIC ENGINEERING

Overflow Spillway Calculations

Project:	**Surrey Equities, LLC - Proposed Residential Subdivision**
Job #:	3272-99-005
Location:	Eatontown, Monmouth County, NJ
Computed By:	KB
Checked By:	CC
Date:	4/22/2025

BASIN L

To Size Spillway:

- Assume complete blockage of the outlet control structure and no infiltration
- Route 2 & 10 year storm through basin assuming that the basin is filled with water up to the Emergency Spillway Elevation

	2 Year	10 Year
Spillway Width (ft.)	10.00	10.00
Spillway Elevation (ft.)	35.00	35.00
Flow through Spillway (Q) (cfs)	0.980	1.900
Water Surface Elevation (ft)	35.12	35.18
Depth of Flow (ft)	**0.12**	**0.18**
Area of Flow (A) (sf)*	**1.21**	**1.83**
Velocity (V) = Q / A (ft/sec)	**0.81**	**1.04**

⁂ V = < 2.0 FPS ⁂ Stability Achieved

DYNAMIC ENGINEERING

Overflow Spillway Calculations

Project:	**Surrey Equities, LLC - Proposed Residential Subdivision**
Job #:	3272-99-005
Location:	Eatontown, Monmouth County, NJ
Computed By:	KB
Checked By:	CC
Date:	4/22/2025

BASIN O

To Size Spillway:

- Assume complete blockage of the outlet control structure and no infiltration
- Route 2 & 10 year storm through basin assuming that the basin is filled with water up to the Emergency Spillway Elevation

	2 Year	10 Year
Spillway Width (ft.)	10.00	10.00
Spillway Elevation (ft.)	29.00	29.00
Flow through Spillway (Q) (cfs)	1.310	2.430
Water Surface Elevation (ft)	29.14	29.21
Depth of Flow (ft)	**0.14**	**0.21**
Area of Flow (A) (sf)*	**1.42**	**2.14**
Velocity (V) = Q / A (ft/sec)	**0.92**	**1.13**

⁂ V = < 2.0 FPS ⁂ Stability Achieved

DYNAMIC ENGINEERING

Overflow Spillway Calculations

Project:	**Surrey Equities, LLC - Proposed Residential Subdivision**
Job #:	3272-99-005
Location:	Eatontown, Monmouth County, NJ
Computed By:	KB
Checked By:	CC
Date:	4/22/2025

BASIN N

To Size Spillway:

- Assume complete blockage of the outlet control structure and no infiltration
- Route 2 & 10 year storm through basin assuming that the basin is filled with water up to the Emergency Spillway Elevation

	2 Year	10 Year
Spillway Width (ft.)	20.00	20.00
Spillway Elevation (ft.)	31.30	31.30
Flow through Spillway (Q) (cfs)	1.390	2.870
Water Surface Elevation (ft)	31.39	31.45
Depth of Flow (ft)	**0.09**	**0.15**
Area of Flow (A) (sf)*	**1.81**	**3.02**
Velocity (V) = Q / A (ft/sec)	**0.77**	**0.95**

⁂ V = < 2.0 FPS ⁂ Stability Achieved

DYNAMIC ENGINEERING

Overflow Spillway Calculations

Project:	**Surrey Equities, LLC - Proposed Residential Subdivision**
Job #:	3272-99-005
Location:	Eatontown, Monmouth County, NJ
Computed By:	KB
Checked By:	CC
Date:	2/6/2025

BASIN P

To Size Spillway:

- Assume complete blockage of the outlet control structure and no infiltration
- Route 2 & 10 year storm through basin assuming that the basin is filled with water up to the Emergency Spillway Elevation

	2 Year	10 Year
Spillway Width (ft.)	40.00	40.00
Spillway Elevation (ft.)	29.75	29.75
Flow through Spillway (Q) (cfs)	2.720	5.470
Water Surface Elevation (ft)	29.84	29.89
Depth of Flow (ft)	**0.09**	**0.14**
Area of Flow (A) (sf)*	**3.61**	**5.62**
Velocity (V) = Q / A (ft/sec)	**0.75**	**0.97**

⁂ V = < 2.0 FPS ⁂ Stability Achieved

DYNAMIC ENGINEERING

Overflow Spillway Calculations

Project:	**Surrey Equities, LLC - Proposed Residential Subdivision**
Job #:	3272-99-005
Location:	Eatontown, Monmouth County, NJ
Computed By:	KB
Checked By:	CC
Date:	2/6/2025

BASIN Q

To Size Spillway:

- Assume complete blockage of the outlet control structure and no infiltration
- Route 2 & 10 year storm through basin assuming that the basin is filled with water up to the Emergency Spillway Elevation

	2 Year	10 Year
Spillway Width (ft.)	25.00	25.00
Spillway Elevation (ft.)	28.80	28.80
Flow through Spillway (Q) (cfs)	2.200	3.960
Water Surface Elevation (ft)	28.91	28.96
Depth of Flow (ft)	**0.11**	**0.16**
Area of Flow (A) (sf)*	**2.76**	**4.03**
Velocity (V) = Q / A (ft/sec)	**0.80**	**0.98**

⁂ V = < 2.0 FPS ⁂ Stability Achieved

DYNAMIC ENGINEERING

Overflow Spillway Calculations

Project:	**Surrey Equities, LLC - Proposed Residential Subdivision**
Job #:	3272-99-005
Location:	Eatontown, Monmouth County, NJ
Computed By:	KB
Checked By:	CC
Date:	2/6/2025

BASIN R

To Size Spillway:

- Assume complete blockage of the outlet control structure and no infiltration
- Route 2 & 10 year storm through basin assuming that the basin is filled with water up to the Emergency Spillway Elevation

	2 Year	10 Year
Spillway Width (ft.)	25.00	25.00
Spillway Elevation (ft.)	25.25	25.25
Flow through Spillway (Q) (cfs)	2.260	4.280
Water Surface Elevation (ft)	25.36	25.42
Depth of Flow (ft)	**0.11**	**0.17**
Area of Flow (A) (sf)*	**2.76**	**4.28**
Velocity (V) = Q / A (ft/sec)	**0.82**	**1.00**

⁂ V = < 2.0 FPS ⁂ Stability Achieved

DYNAMIC ENGINEERING

Overflow Spillway Calculations

Project:	**Surrey Equities, LLC - Proposed Residential Subdivision**
Job #:	3272-99-005
Location:	Eatontown, Monmouth County, NJ
Computed By:	KB
Checked By:	CC
Date:	4/18/2025

BASIN S

To Size Spillway:

- Assume complete blockage of the outlet control structure and no infiltration
- Route 2 & 10 year storm through basin assuming that the basin is filled with water up to the Emergency Spillway Elevation

	2 Year	10 Year
Spillway Width (ft.)	25.00	25.00
Spillway Elevation (ft.)	21.60	21.60
Flow through Spillway (Q) (cfs)	1.570	3.060
Water Surface Elevation (ft)	21.69	21.73
Depth of Flow (ft)	**0.09**	**0.13**
Area of Flow (A) (sf)*	**2.26**	**3.27**
Velocity (V) = Q / A (ft/sec)	**0.70**	**0.94**

⁂ V = < 2.0 FPS ⁂ Stability Achieved

DYNAMIC ENGINEERING

Overflow Spillway Calculations

Project:	**Surrey Equities, LLC - Proposed Residential Subdivision**
Job #:	3272-99-005
Location:	Eatontown, Monmouth County, NJ
Computed By:	KB
Checked By:	CC
Date:	2/6/2025

BASIN T

To Size Spillway:

- Assume complete blockage of the outlet control structure and no infiltration
- Route 2 & 10 year storm through basin assuming that the basin is filled with water up to the Emergency Spillway Elevation

	2 Year	10 Year
Spillway Width (ft.)	10.00	10.00
Spillway Elevation (ft.)	21.00	21.00
Flow through Spillway (Q) (cfs)	0.350	0.900
Water Surface Elevation (ft)	21.06	21.11
Depth of Flow (ft)	**0.06**	**0.11**
Area of Flow (A) (sf)*	**0.60**	**1.11**
Velocity (V) = Q / A (ft/sec)	**0.58**	**0.81**

⁂ V = < 2.0 FPS ⁂ Stability Achieved

DYNAMIC ENGINEERING

Overflow Spillway Calculations

Project:	**Surrey Equities, LLC - Proposed Residential Subdivision**
Job #:	3272-99-005
Location:	Eatontown, Monmouth County, NJ
Computed By:	KB
Checked By:	CC
Date:	4/18/2025

BASIN U

To Size Spillway:

- Assume complete blockage of the outlet control structure and no infiltration
- Route 2 & 10 year storm through basin assuming that the basin is filled with water up to the Emergency Spillway Elevation

	2 Year	10 Year
Spillway Width (ft.)	10.00	10.00
Spillway Elevation (ft.)	22.00	22.00
Flow through Spillway (Q) (cfs)	0.700	1.580
Water Surface Elevation (ft)	22.09	22.16
Depth of Flow (ft)	**0.09**	**0.16**
Area of Flow (A) (sf)*	**0.91**	**1.63**
Velocity (V) = Q / A (ft/sec)	**0.77**	**0.97**

⁂ V = < 2.0 FPS ⁂ Stability Achieved

DYNAMIC ENGINEERING

Overflow Spillway Calculations

Project:	**Surrey Equities, LLC - Proposed Residential Subdivision**
Job #:	3272-99-005
Location:	Eatontown, Monmouth County, NJ
Computed By:	KB
Checked By:	CC
Date:	2/6/2025

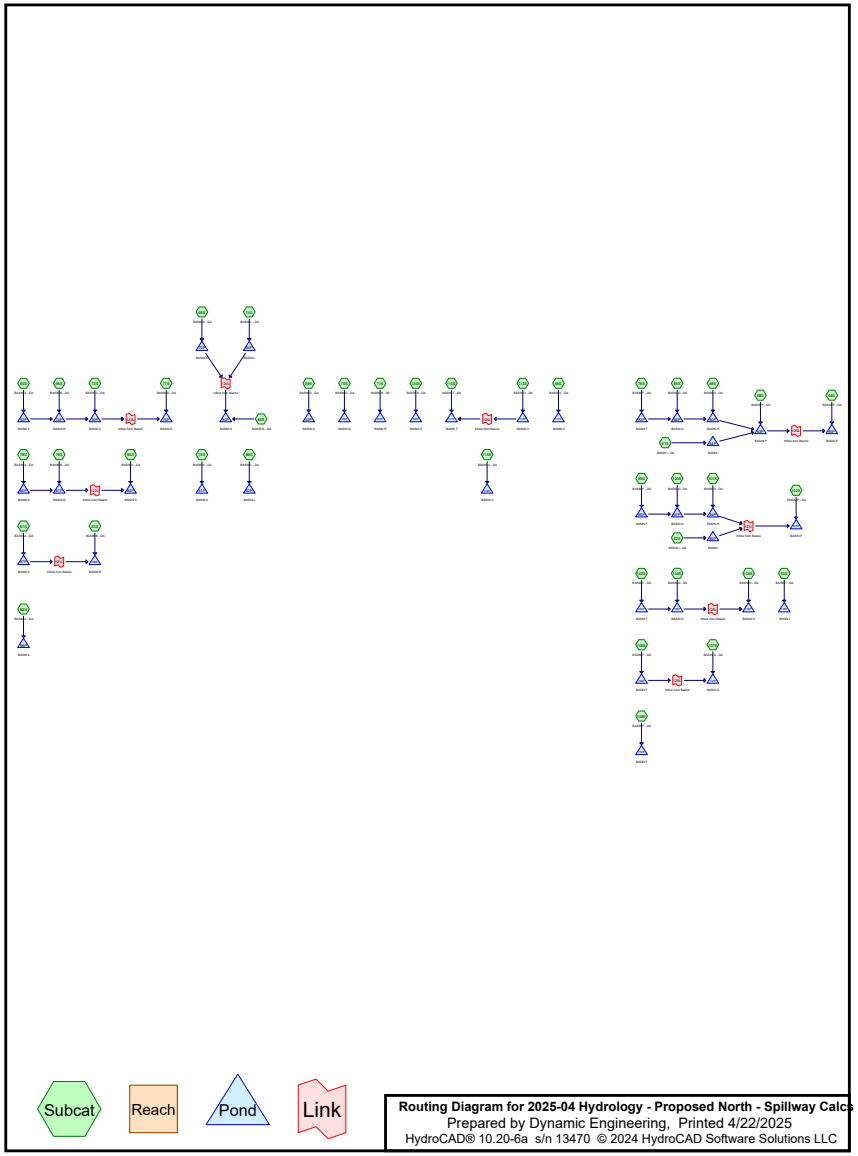
BASIN V

To Size Spillway:

- Assume complete blockage of the outlet control structure and no infiltration
- Route 2 & 10 year storm through basin assuming that the basin is filled with water up to the Emergency Spillway Elevation

	2 Year	10 Year
Spillway Width (ft.)	10.00	10.00
Spillway Elevation (ft.)	38.70	38.70
Flow through Spillway (Q) (cfs)	0.340	1.040
Water Surface Elevation (ft)	38.76	38.82
Depth of Flow (ft)	**0.06**	**0.12**
Area of Flow (A) (sf)*	**0.60**	**1.21**
Velocity (V) = Q / A (ft/sec)	**0.56**	**0.86**

⁂ V = < 2.0 FPS ⁂ Stability Achieved



Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year-Current	NOAA 24-hr	D	Default	24.00	1	3.38	2
2	10-Year-Current	NOAA 24-hr	D	Default	24.00	1	5.28	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.810	61	>75% Grass cover, Good, HSG B (71S)
0.210	80	>75% Grass cover, Good, HSG D (71S)
5.260	98	Driveway & Apron (60S, 64S, 69S, 70S, 71S, 74S, 76S, 77S, 78S, 81S, 82S, 84S, 85S, 86S, 88S, 98S, 99S, 100S, 101S, 102S, 103S, 104S, 105S, 106S, 107S, 108S, 130S)
32.640	61	Open Space (60S, 61S, 62S, 63S, 64S, 65S, 66S, 68S, 69S, 70S, 73S, 74S, 75S, 76S, 77S, 78S, 79S, 80S, 81S, 82S, 83S, 84S, 85S, 86S, 88S, 98S, 99S, 100S, 101S, 102S, 103S, 104S, 105S, 106S, 107S, 108S, 110S, 113S, 114S, 130S)
0.230	80	Open Space, HSG D (69S, 84S)
10.290	98	Road (60S, 64S, 69S, 70S, 71S, 74S, 76S, 77S, 78S, 81S, 82S, 84S, 85S, 86S, 88S, 98S, 99S, 100S, 101S, 102S, 103S, 104S, 105S, 106S, 107S, 108S, 110S, 113S, 114S, 130S)
11.360	98	Roof (60S, 61S, 62S, 63S, 64S, 65S, 66S, 68S, 69S, 70S, 71S, 73S, 74S, 75S, 76S, 77S, 78S, 79S, 80S, 81S, 82S, 83S, 84S, 85S, 86S, 88S, 98S, 99S, 100S, 101S, 102S, 103S, 104S, 105S, 106S, 107S, 108S, 130S)
2.490	98	Sidewalk (60S, 64S, 68S, 69S, 70S, 71S, 74S, 75S, 76S, 77S, 78S, 81S, 82S, 84S, 85S, 86S, 88S, 98S, 99S, 100S, 101S, 102S, 103S, 104S, 105S, 106S, 107S, 108S, 110S, 113S, 114S, 130S)
63.290	**78**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.810	HSG B	71S
0.000	HSG C	
0.440	HSG D	69S, 71S, 84S
62.040	Other	60S, 61S, 62S, 63S, 64S, 65S, 66S, 68S, 69S, 70S, 71S, 73S, 74S, 75S, 76S, 77S, 78S, 79S, 80S, 81S, 82S, 83S, 84S, 85S, 86S, 88S, 98S, 99S, 100S, 101S, 102S, 103S, 104S, 105S, 106S, 107S, 108S, 110S, 113S, 114S, 130S
63.290		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.810	0.000	0.210	0.000	1.020	>75% Grass cover, Good	71S
0.000	0.000	0.000	0.000	5.260	5.260	Driveway & Apron	60S, 64S, 69S, 70S, 71S, 74S, 76S, 77S, 78S, 81S, 82S, 84S, 85S, 86S, 88S, 98S, 99S, 100S, 101S, 102S, 103S, 104S, 105S, 106S, 107S, 108S, 130S
0.000	0.000	0.000	0.230	32.640	32.870	Open Space	60S, 61S, 62S, 63S, 64S, 65S, 66S, 68S, 69S, 70S, 73S, 74S, 75S, 76S, 77S, 78S, 79S, 80S,

Ground Covers (all nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.000	10.290	10.290	Road	60S, 64S, 69S, 70S, 71S, 74S, 76S, 77S, 78S, 81S, 82S, 84S, 85S, 86S, 88S, 98S, 99S, 100S, 101S, 102S, 103S, 104S, 105S, 106S, 107S, 108S, 110S, 113S, 114S, 130S
0.000	0.000	0.000	0.000	11.360	11.360	Roof	60S, 61S, 62S, 63S, 64S, 65S, 66S, 68S, 69S, 70S, 71S, 73S, 74S, 75S, 76S, 77S,

Ground Covers (all nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	0.000	2.490	2.490	Sidewalk	60S, 64S, 68S, 69S, 70S, 71S, 74S, 75S, 76S, 77S, 78S, 81S, 82S, 84S, 85S, 86S, 88S, 98S, 99S, 100S, 101S, 102S, 103S, 104S, 105S, 106S, 107S, 108S, 110S, 113S, 114S, 130S
0.000	**0.810**	**0.000**	**0.440**	**62.040**	**63.290**	**TOTAL AREA**	

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Sim-Route method - Pond routing by Sim-Route method

Subcatchment60S: BASIN A - DA Runoff Area=2.470 ac 53.85% Impervious Runoff Depth=1.93"
Flow Length=102' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=3.18 cfs 0.398 af

Subcatchment61S: BASIN I - DA Runoff Area=0.530 ac 33.96% Impervious Runoff Depth=1.41"
Flow Length=134' Slope=0.0200 '/' Tc=9.6 min CN=WQ Runoff=0.48 cfs 0.062 af

Subcatchment62S: BASIN I - DA Runoff Area=0.530 ac 33.96% Impervious Runoff Depth=1.41"
Flow Length=134' Slope=0.0200 '/' Tc=9.6 min CN=WQ Runoff=0.48 cfs 0.062 af

Subcatchment63S: BASIN I - DA Runoff Area=0.530 ac 33.96% Impervious Runoff Depth=1.41"
Flow Length=134' Slope=0.0200 '/' Tc=9.6 min CN=WQ Runoff=0.48 cfs 0.062 af

Subcatchment64S: BASIN E - DA Runoff Area=2.240 ac 50.89% Impervious Runoff Depth=1.86"
Flow Length=609' Tc=8.1 min CN=WQ Runoff=2.95 cfs 0.347 af

Subcatchment65S: BASIN V - DA Runoff Area=0.960 ac 12.50% Impervious Runoff Depth=0.85"
Flow Length=100' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=0.47 cfs 0.068 af

Subcatchment66S: BASIN B - DA Runoff Area=1.260 ac 38.10% Impervious Runoff Depth=1.52"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=1.24 cfs 0.160 af

Subcatchment68S: BASIN K - DA Runoff Area=1.640 ac 37.80% Impervious Runoff Depth=1.51"
Flow Length=136' Slope=0.0200 '/' Tc=9.7 min CN=WQ Runoff=1.58 cfs 0.207 af

Subcatchment69S: BASIN O - DA Runoff Area=1.100 ac 51.82% Impervious Runoff Depth=2.02"
Flow Length=113' Tc=9.4 min CN=WQ Runoff=1.51 cfs 0.185 af

Subcatchment70S: BASIN Q - DA Runoff Area=1.860 ac 59.68% Impervious Runoff Depth=2.09"
Flow Length=612' Tc=12.0 min CN=WQ Runoff=2.33 cfs 0.324 af

Subcatchment71S: BASIN R - DA Runoff Area=2.040 ac 50.00% Impervious Runoff Depth=1.94"
Flow Length=98' Tc=9.4 min CN=WQ Runoff=2.67 cfs 0.330 af

Subcatchment73S: BASIN C - DA Runoff Area=0.990 ac 42.42% Impervious Runoff Depth=1.63"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=1.06 cfs 0.135 af

Subcatchment74S: BASIN L - DA Runoff Area=0.970 ac 50.52% Impervious Runoff Depth=1.85"
Flow Length=96' Tc=9.2 min CN=WQ Runoff=1.20 cfs 0.149 af

Subcatchment75S: BASIN K - DA Runoff Area=1.640 ac 37.80% Impervious Runoff Depth=1.51"
Flow Length=136' Slope=0.0200 '/' Tc=9.7 min CN=WQ Runoff=1.58 cfs 0.207 af

Subcatchment76S: BASIN F - DA Runoff Area=1.500 ac 56.00% Impervious Runoff Depth=1.99"
Flow Length=447' Tc=8.7 min CN=WQ Runoff=2.06 cfs 0.249 af

Subcatchment77S: BASIN D - DA Runoff Area=2.670 ac 51.31% Impervious Runoff Depth=1.87"
Flow Length=795' Tc=9.0 min CN=WQ Runoff=3.39 cfs 0.416 af

Subcatchment78S: BASIN A - DA Runoff Area=2.470 ac 53.85% Impervious Runoff Depth=1.93"
Flow Length=102' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=3.18 cfs 0.398 af

Subcatchment79S: BASIN B - DA Runoff Area=1.260 ac 38.10% Impervious Runoff Depth=1.52"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=1.24 cfs 0.160 af

Subcatchment80S: BASIN C - DA Runoff Area=0.990 ac 42.42% Impervious Runoff Depth=1.63"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=1.06 cfs 0.135 af

Subcatchment81S: BASIN A - DA Runoff Area=2.470 ac 53.85% Impervious Runoff Depth=1.93"
Flow Length=102' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=3.18 cfs 0.398 af

Subcatchment82S: BASIN A - DA Runoff Area=2.470 ac 53.85% Impervious Runoff Depth=1.93"
Flow Length=102' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=3.18 cfs 0.398 af

Subcatchment83S: BASIN B - DA Runoff Area=1.260 ac 38.10% Impervious Runoff Depth=1.52"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=1.24 cfs 0.160 af

Subcatchment84S: BASIN N - DA Runoff Area=1.390 ac 46.04% Impervious Runoff Depth=1.79"
Flow Length=108' Tc=9.3 min CN=WQ Runoff=1.66 cfs 0.207 af

Subcatchment85S: BASIN G - DA Runoff Area=1.260 ac 37.30% Impervious Runoff Depth=1.50"
Flow Length=102' Tc=9.3 min CN=WQ Runoff=1.23 cfs 0.157 af

Subcatchment86S: BASIN L - DA Runoff Area=0.970 ac 50.52% Impervious Runoff Depth=1.85"
Flow Length=96' Tc=9.2 min CN=WQ Runoff=1.20 cfs 0.149 af

Subcatchment88S: BASIN H - DA Runoff Area=1.950 ac 43.08% Impervious Runoff Depth=1.65"
Flow Length=111' Slope=0.0200 '/' Tc=9.5 min CN=WQ Runoff=2.10 cfs 0.268 af

Subcatchment98S: BASIN P - DA Runoff Area=2.760 ac 47.10% Impervious Runoff Depth=1.76"
Flow Length=214' Slope=0.0200 '/' Tc=10.2 min CN=WQ Runoff=3.08 cfs 0.404 af

Subcatchment99S: BASIN F - DA Runoff Area=1.500 ac 56.00% Impervious Runoff Depth=1.99"
Flow Length=447' Tc=8.7 min CN=WQ Runoff=2.06 cfs 0.249 af

Subcatchment100S: BASIN G - DA Runoff Area=1.260 ac 37.30% Impervious Runoff Depth=1.50"
Flow Length=102' Tc=9.3 min CN=WQ Runoff=1.23 cfs 0.157 af

Subcatchment101S: BASIN H - DA Runoff Area=1.950 ac 43.08% Impervious Runoff Depth=1.65"
Flow Length=111' Slope=0.0200 '/' Tc=9.5 min CN=WQ Runoff=2.10 cfs 0.268 af

Subcatchment102S: BASIN P - DA Runoff Area=2.760 ac 47.10% Impervious Runoff Depth=1.76"
Flow Length=214' Slope=0.0200 '/' Tc=10.2 min CN=WQ Runoff=3.08 cfs 0.404 af

Subcatchment103S: BASIN F - DA Runoff Area=1.500 ac 56.00% Impervious Runoff Depth=1.99"
Flow Length=447' Tc=8.7 min CN=WQ Runoff=2.06 cfs 0.249 af

Subcatchment104S: BASIN G - DA Runoff Area=1.260 ac 37.30% Impervious Runoff Depth=1.50"
Flow Length=102' Tc=9.3 min CN=WQ Runoff=1.23 cfs 0.157 af

Subcatchment105S: BASIN H - DA Runoff Area=1.950 ac 43.08% Impervious Runoff Depth=1.65"
Flow Length=111' Slope=0.0200 '/' Tc=9.5 min CN=WQ Runoff=2.10 cfs 0.268 af

Subcatchment106S: BASIN F - DA Runoff Area=1.500 ac 56.00% Impervious Runoff Depth=1.99"
Flow Length=447' Tc=8.7 min CN=WQ Runoff=2.06 cfs 0.249 af

Subcatchment107S: BASIN G - DA Runoff Area=1.260 ac 37.30% Impervious Runoff Depth=1.50"
Flow Length=102' Tc=9.3 min CN=WQ Runoff=1.23 cfs 0.157 af

Subcatchment108S: BASIN F - DA Runoff Area=1.500 ac 56.00% Impervious Runoff Depth=1.99"
Flow Length=447' Tc=8.7 min CN=WQ Runoff=2.06 cfs 0.249 af

Subcatchment110S: BASIN T - DA Runoff Area=0.730 ac 26.03% Impervious Runoff Depth=1.20"
Flow Length=254' Slope=0.0100 '/' Tc=2.8 min CN=WQ Runoff=0.86 cfs 0.073 af

Subcatchment113S: BASIN U - DA Runoff Area=1.070 ac 37.38% Impervious Runoff Depth=1.50"
Flow Length=28' Slope=0.0350 '/' Tc=4.0 min CN=WQ Runoff=1.45 cfs 0.134 af

Subcatchment114S: BASIN U - DA Runoff Area=1.070 ac 37.38% Impervious Runoff Depth=1.50"
Flow Length=28' Slope=0.0350 '/' Tc=4.0 min CN=WQ Runoff=1.45 cfs 0.134 af

Subcatchment130S: BASIN S - DA Runoff Area=1.800 ac 48.89% Impervious Runoff Depth=1.80"
Flow Length=466' Tc=12.2 min CN=WQ Runoff=1.90 cfs 0.271 af

Pond 52P: BASIN A Peak Elev=33.33' Storage=0.305 af Inflow=3.18 cfs 0.398 af
Outflow=0.11 cfs 0.229 af

Pond 59P: BASIN C Peak Elev=29.72' Storage=0.056 af Inflow=1.06 cfs 0.455 af
Outflow=0.66 cfs 0.411 af

Pond 60P: BASIN H Peak Elev=29.54' Storage=0.241 af Inflow=2.10 cfs 0.402 af
Outflow=0.12 cfs 0.300 af

Pond 63P: BASIN P Peak Elev=27.96' Storage=0.325 af Inflow=3.08 cfs 0.743 af
Outflow=0.35 cfs 0.512 af

Pond 64P: BASIN I Peak Elev=29.76' Storage=0.034 af Inflow=0.48 cfs 0.062 af
Outflow=0.08 cfs 0.039 af

Pond 65P: BASIN E Peak Elev=29.40' Storage=0.402 af Inflow=2.95 cfs 0.858 af
Outflow=2.71 cfs 0.858 af

Pond 70P: BASIN K Peak Elev=31.52' Storage=0.138 af Inflow=1.58 cfs 0.207 af
Outflow=0.11 cfs 0.140 af

Pond 74P: BASIN B Peak Elev=31.56' Storage=0.115 af Inflow=1.24 cfs 0.389 af
Outflow=0.20 cfs 0.320 af

Pond 75P: BASIN D Peak Elev=29.39' Storage=0.693 af Inflow=3.51 cfs 0.827 af
Outflow=3.10 cfs 0.826 af

Pond 80P: BASIN A Peak Elev=33.33' Storage=0.305 af Inflow=3.18 cfs 0.398 af
Outflow=0.11 cfs 0.229 af

Pond 81P: BASIN B Peak Elev=31.56' Storage=0.115 af Inflow=1.24 cfs 0.389 af
Outflow=0.20 cfs 0.320 af

Pond 83P: BASIN F Peak Elev=33.15' Storage=0.232 af Inflow=2.06 cfs 0.249 af
Outflow=0.04 cfs 0.045 af

Pond 84P: BASIN L Peak Elev=33.63' Storage=0.095 af Inflow=1.20 cfs 0.149 af
Outflow=0.11 cfs 0.101 af

Pond 85P: BASIN C Peak Elev=31.37' Storage=0.185 af Inflow=1.06 cfs 0.455 af
Outflow=0.98 cfs 0.455 af

Pond 86P: BASIN G Peak Elev=32.41' Storage=0.104 af Inflow=1.23 cfs 0.203 af
Outflow=0.09 cfs 0.133 af

Pond 87P: BASIN A Peak Elev=33.33' Storage=0.305 af Inflow=3.18 cfs 0.398 af
Outflow=0.11 cfs 0.229 af

Pond 90P: BASIN N Peak Elev=31.39' Storage=0.418 af Inflow=1.68 cfs 0.448 af
Outflow=1.39 cfs 0.448 af

Pond 91P: BASIN K Peak Elev=33.39' Storage=0.462 af Inflow=1.58 cfs 0.207 af
Outflow=1.33 cfs 0.207 af

Pond 92P: BASIN L Peak Elev=35.12' Storage=0.258 af Inflow=1.20 cfs 0.149 af
Outflow=0.98 cfs 0.149 af

Pond 93P: BASIN O Peak Elev=29.14' Storage=0.201 af Inflow=1.51 cfs 0.185 af
Outflow=1.31 cfs 0.185 af

Pond 94P: BASIN H Peak Elev=29.54' Storage=0.241 af Inflow=2.10 cfs 0.402 af
Outflow=0.12 cfs 0.300 af

Pond 95P: BASIN I Peak Elev=29.76' Storage=0.034 af Inflow=0.48 cfs 0.062 af
Outflow=0.08 cfs 0.039 af

Pond 96P: BASIN F Peak Elev=33.15' Storage=0.232 af Inflow=2.06 cfs 0.249 af
Outflow=0.04 cfs 0.045 af

Pond 97P: BASIN G Peak Elev=32.41' Storage=0.104 af Inflow=1.23 cfs 0.203 af
Outflow=0.09 cfs 0.133 af

Pond 98P: BASIN A Peak Elev=35.83' Storage=1.161 af Inflow=3.18 cfs 0.398 af
Outflow=2.32 cfs 0.398 af

Pond 101P: BASIN F Peak Elev=33.15' Storage=0.232 af Inflow=2.06 cfs 0.249 af
Outflow=0.04 cfs 0.045 af

Pond 102P: BASIN Q Peak Elev=28.91' Storage=0.343 af Inflow=2.33 cfs 0.324 af
Outflow=2.20 cfs 0.324 af

Pond 103P: BASIN G Peak Elev=32.41' Storage=0.104 af Inflow=1.23 cfs 0.203 af
Outflow=0.09 cfs 0.133 af

Pond 104P: BASIN F Peak Elev=33.15' Storage=0.232 af Inflow=2.06 cfs 0.249 af
Outflow=0.04 cfs 0.045 af

Pond 105P: BASIN R Peak Elev=25.36' Storage=0.530 af Inflow=2.67 cfs 0.330 af
Outflow=2.26 cfs 0.330 af

Pond 106P: BASIN B Peak Elev=32.88' Storage=0.274 af Inflow=1.24 cfs 0.389 af
Outflow=1.09 cfs 0.389 af

Pond 108P: BASIN S Peak Elev=21.69' Storage=0.714 af Inflow=1.90 cfs 0.271 af
Outflow=1.57 cfs 0.271 af

Pond 110P: BASIN F Peak Elev=35.84' Storage=0.988 af Inflow=2.06 cfs 0.249 af
Outflow=1.27 cfs 0.249 af

Pond 111P: BASIN T Peak Elev=21.06' Storage=0.566 af Inflow=0.86 cfs 0.089 af
Outflow=0.35 cfs 0.088 af

Pond 113P: BASIN G Peak Elev=33.87' Storage=0.282 af Inflow=1.23 cfs 0.203 af
Outflow=1.10 cfs 0.203 af

Pond 114P: BASIN U Peak Elev=20.17' Storage=0.130 af Inflow=1.45 cfs 0.134 af
Outflow=0.01 cfs 0.015 af

Pond 115P: BASIN I Peak Elev=31.37' Storage=0.095 af Inflow=0.48 cfs 0.062 af
Outflow=0.44 cfs 0.062 af

Pond 116P: BASIN U Peak Elev=22.09' Storage=0.607 af Inflow=1.45 cfs 0.134 af
Outflow=0.70 cfs 0.134 af

Pond 117P: BASIN V Peak Elev=38.76' Storage=0.208 af Inflow=0.47 cfs 0.068 af
Outflow=0.34 cfs 0.068 af

Pond 118P: BASIN H Peak Elev=31.40' Storage=0.768 af Inflow=2.10 cfs 0.402 af
Outflow=1.60 cfs 0.401 af

Pond 120P: BASIN P Peak Elev=29.84' Storage=0.856 af Inflow=3.08 cfs 0.743 af
Outflow=2.72 cfs 0.742 af

Link 121L: Inflow from Basins Inflow=0.11 cfs 0.229 af
Primary=0.11 cfs 0.229 af

Link 122L: Inflow from Basins Inflow=0.20 cfs 0.320 af
Primary=0.20 cfs 0.320 af

Link 123L: Inflow from Basins Inflow=0.66 cfs 0.411 af
Primary=0.66 cfs 0.411 af

Link 124L: Inflow from Basins Inflow=0.21 cfs 0.241 af
Primary=0.21 cfs 0.241 af

Link 125L: Inflow from Basins Inflow=0.01 cfs 0.015 af
Primary=0.01 cfs 0.015 af

Link 126L: Inflow from Basins Inflow=0.35 cfs 0.512 af
Primary=0.35 cfs 0.512 af

Link 127L: Inflow from Basins Inflow=0.17 cfs 0.339 af
Primary=0.17 cfs 0.339 af

Link 128L: Inflow from Basins Inflow=0.09 cfs 0.133 af
Primary=0.09 cfs 0.133 af

Link 129L: Inflow from Basins Inflow=0.04 cfs 0.045 af
Primary=0.04 cfs 0.045 af

Total Runoff Area = 63.290 ac Runoff Volume = 9.215 af Average Runoff Depth = 1.75"
53.55% Pervious = 33.890 ac 46.45% Impervious = 29.400 ac

Summary for Subcatchment 60S: BASIN A - DA

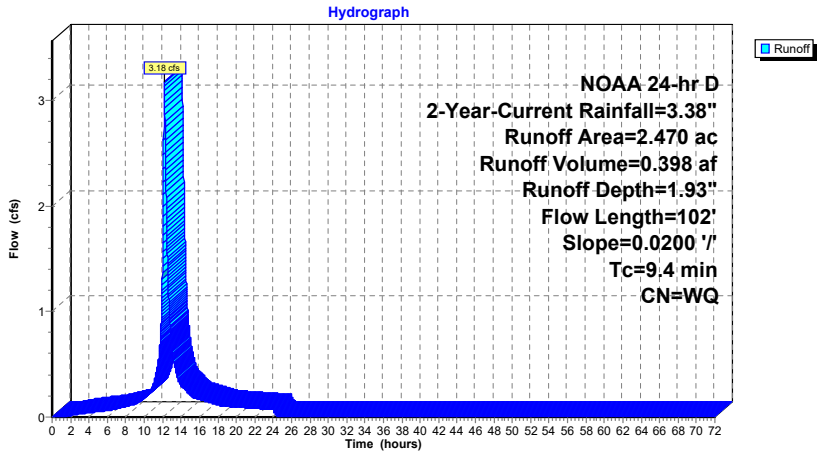
Runoff = 3.18 cfs @ 12.18 hrs, Volume= 0.398 af, Depth= 1.93"
Routed to Pond 52P : BASIN A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	1.140	61	Open Space
*	0.600	98	Road
*	0.130	98	Sidewalk
*	0.300	98	Roof
*	0.300	98	Driveway & Apron
	2.470		Weighted Average
	1.140		46.15% Pervious Area
	1.330		53.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	43	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	102	Total			

Subcatchment 60S: BASIN A - DA



Summary for Subcatchment 61S: BASIN I - DA

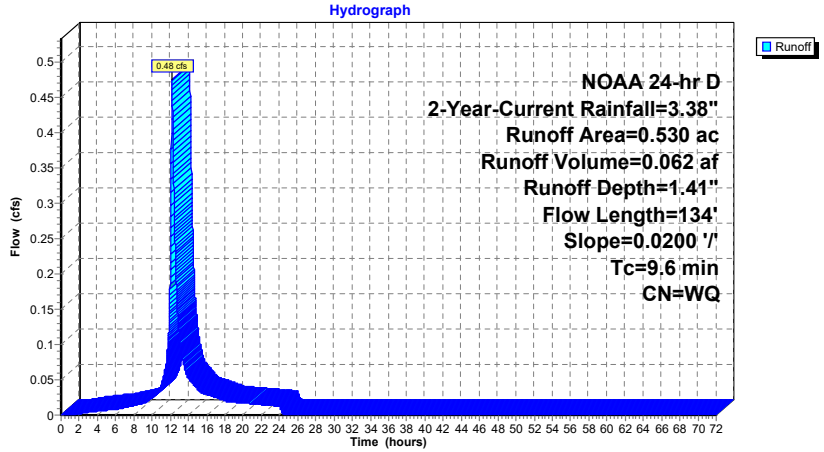
Runoff = 0.48 cfs @ 12.18 hrs, Volume= 0.062 af, Depth= 1.41"
Routed to Pond 64P : BASIN I

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.180	98	Roof
*	0.000	98	Driveway & Apron
	0.530		Weighted Average
	0.350		66.04% Pervious Area
	0.180		33.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.5	75	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.6	134	Total			

Subcatchment 61S: BASIN I - DA



Summary for Subcatchment 62S: BASIN I - DA

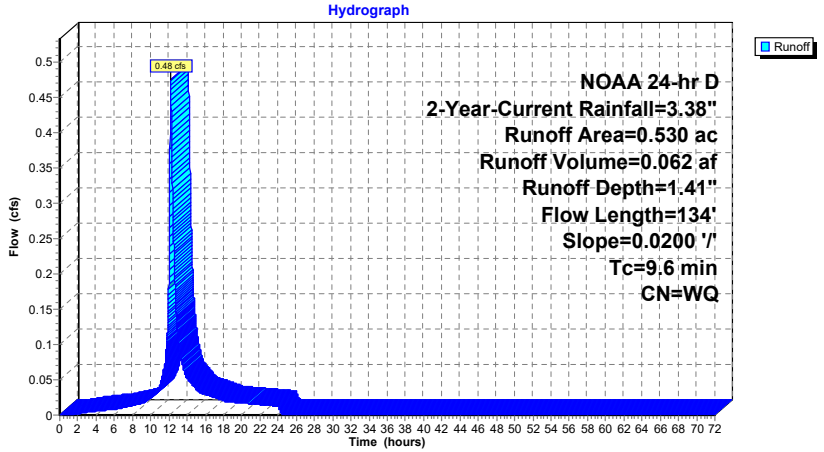
Runoff = 0.48 cfs @ 12.18 hrs, Volume= 0.062 af, Depth= 1.41"
Routed to Pond 95P : BASIN I

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.180	98	Roof
*	0.000	98	Driveway & Apron
	0.530		Weighted Average
	0.350		66.04% Pervious Area
	0.180		33.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.5	75	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.6	134	Total			

Subcatchment 62S: BASIN I - DA



Summary for Subcatchment 63S: BASIN I - DA

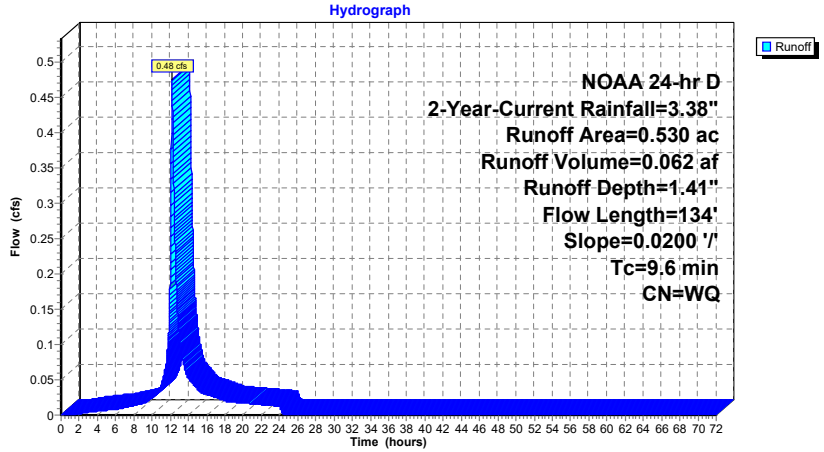
Runoff = 0.48 cfs @ 12.18 hrs, Volume= 0.062 af, Depth= 1.41"
Routed to Pond 115P : BASIN I

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.180	98	Roof
*	0.000	98	Driveway & Apron
	0.530		Weighted Average
	0.350		66.04% Pervious Area
	0.180		33.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.5	75	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.6	134	Total			

Subcatchment 63S: BASIN I - DA



Summary for Subcatchment 64S: BASIN E - DA

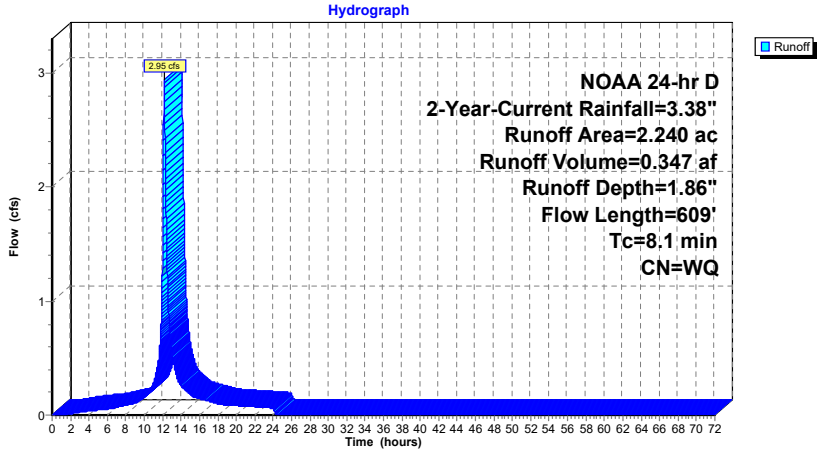
Runoff = 2.95 cfs @ 12.17 hrs, Volume= 0.347 af, Depth= 1.86"
Routed to Pond 65P : BASIN E

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	1.100	61	Open Space
*	0.450	98	Road
*	0.110	98	Sidewalk
*	0.240	98	Roof
*	0.340	98	Driveway & Apron
	2.240		Weighted Average
	1.100		49.11% Pervious Area
	1.140		50.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0500	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.5	300	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.9	279		2.50		**Direct Entry, Pipe**
8.1	609	Total			

Subcatchment 64S: BASIN E - DA



Summary for Subcatchment 65S: BASIN V - DA

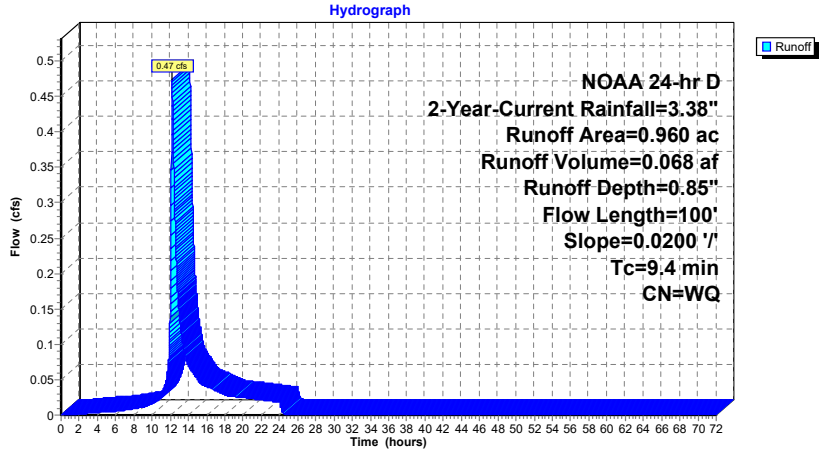
Runoff = 0.47 cfs @ 12.20 hrs, Volume= 0.068 af, Depth= 0.85"
Routed to Pond 117P : BASIN V

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.840	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.120	98	Roof
*	0.000	98	Driveway & Apron
	0.960		Weighted Average
	0.840		87.50% Pervious Area
	0.120		12.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	41	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	100	Total			

Subcatchment 65S: BASIN V - DA



Summary for Subcatchment 66S: BASIN B - DA

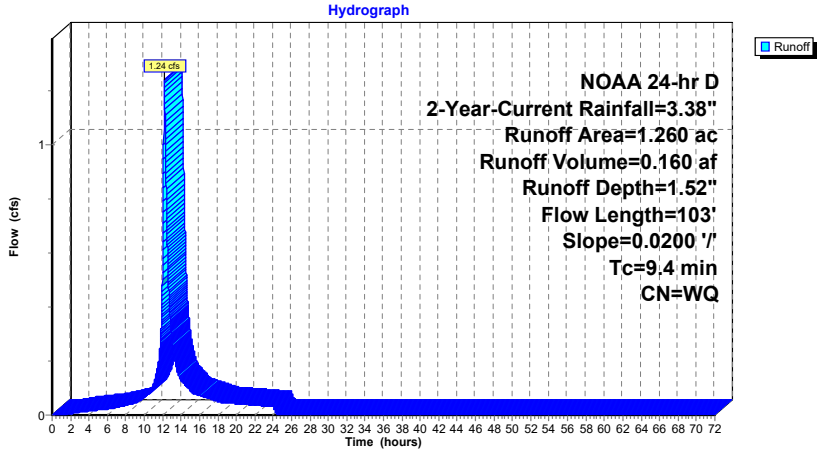
Runoff = 1.24 cfs @ 12.18 hrs, Volume= 0.160 af, Depth= 1.52"
Routed to Pond 74P : BASIN B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.780	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.480	98	Roof
*	0.000	98	Driveway
	1.260		Weighted Average
	0.780		61.90% Pervious Area
	0.480		38.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 66S: BASIN B - DA



Summary for Subcatchment 68S: BASIN K - DA

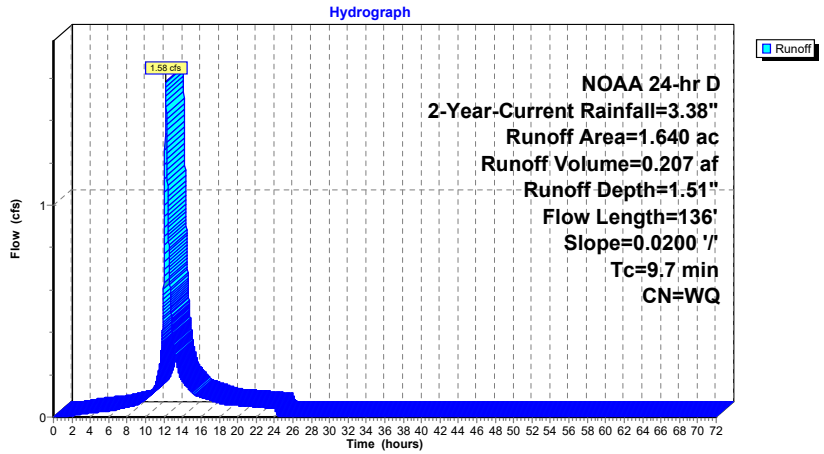
Runoff = 1.58 cfs @ 12.18 hrs, Volume= 0.207 af, Depth= 1.51"
Routed to Pond 70P : BASIN K

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	1.020	61	Open Space
*	0.000	98	Road
*	0.020	98	Sidewalk
*	0.600	98	Roof
*	0.000	98	Driveway & Apron
	1.640		Weighted Average
	1.020		62.20% Pervious Area
	0.620		37.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.6	77	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.7	136	Total			

Subcatchment 68S: BASIN K - DA



Summary for Subcatchment 69S: BASIN O - DA

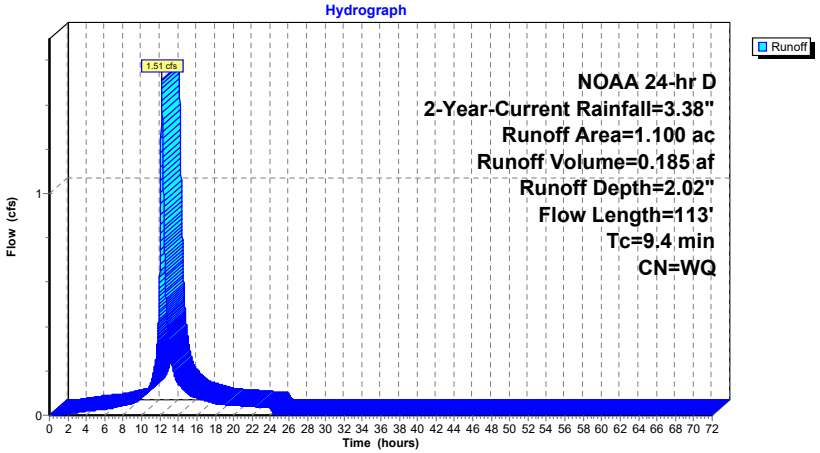
Runoff = 1.51 cfs @ 12.18 hrs, Volume= 0.185 af, Depth= 2.02"
Routed to Pond 93P : BASIN O

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.380	61	Open Space
*	0.150	80	Open Space, HSG D
*	0.150	98	Road
*	0.040	98	Sidewalk
*	0.240	98	Roof
*	0.140	98	Driveway & Apron
	1.100		Weighted Average
	0.530		48.18% Pervious Area
	0.570		51.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	54	0.0300	2.79		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	113	Total			

Subcatchment 69S: BASIN O - DA



Summary for Subcatchment 70S: BASIN Q - DA

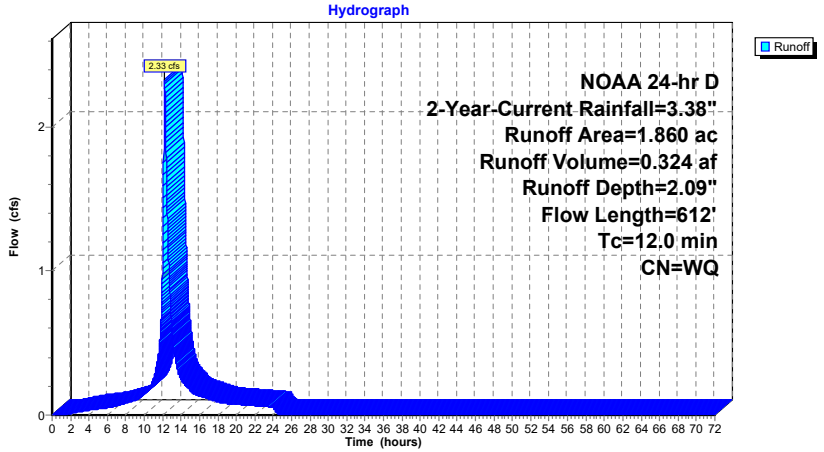
Runoff = 2.33 cfs @ 12.21 hrs, Volume= 0.324 af, Depth= 2.09"
Routed to Pond 102P : BASIN Q

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.750	61	Open Space
*	0.570	98	Road
*	0.140	98	Sidewalk
*	0.060	98	Roof
*	0.340	98	Driveway & Apron
	1.860		Weighted Average
	0.750		40.32% Pervious Area
	1.110		59.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	49	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.3	283	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.9	280		2.50		**Direct Entry, Pipe**
12.0	612	Total			

Subcatchment 70S: BASIN Q - DA



Summary for Subcatchment 71S: BASIN R - DA

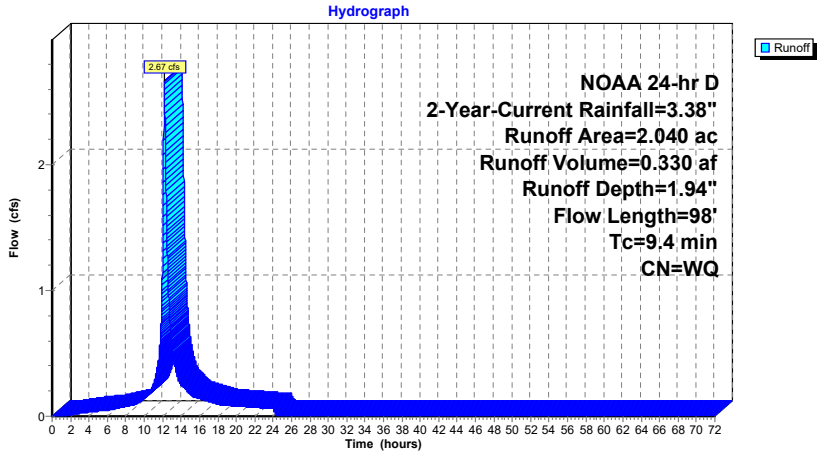
Runoff = 2.67 cfs @ 12.18 hrs, Volume= 0.330 af, Depth= 1.94"
Routed to Pond 105P : BASIN R

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
	0.810	61	>75% Grass cover, Good, HSG B
*	0.350	98	Road
*	0.090	98	Sidewalk
*	0.300	98	Roof
*	0.280	98	Driveway & Apron
	0.210	80	>75% Grass cover, Good, HSG D
	2.040		Weighted Average
	1.020		50.00% Pervious Area
	1.020		50.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	39	0.0250	2.55		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	98	Total			

Subcatchment 71S: BASIN R - DA



Summary for Subcatchment 73S: BASIN C - DA

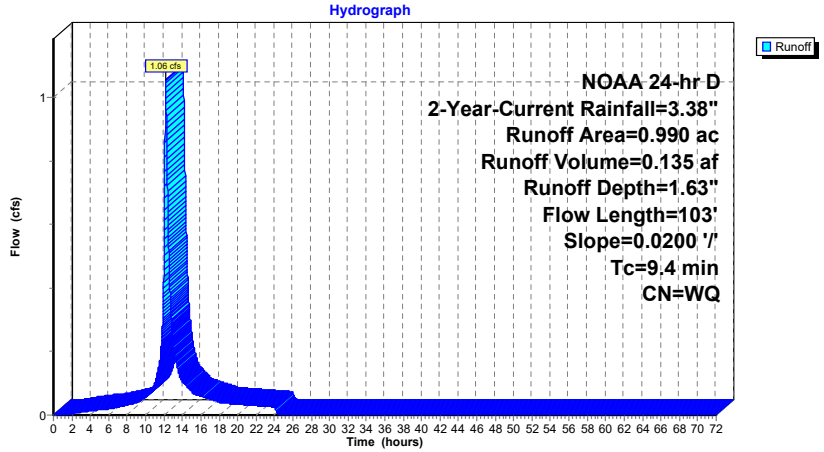
Runoff = 1.06 cfs @ 12.18 hrs, Volume= 0.135 af, Depth= 1.63"
Routed to Pond 59P : BASIN C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.570	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.420	98	Roof
*	0.000	98	Driveway
	0.990		Weighted Average
	0.570		57.58% Pervious Area
	0.420		42.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 73S: BASIN C - DA



Summary for Subcatchment 74S: BASIN L - DA

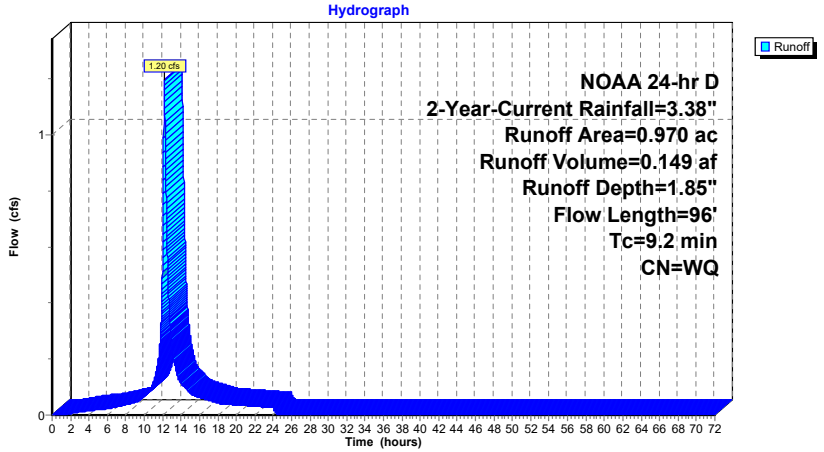
Runoff = 1.20 cfs @ 12.18 hrs, Volume= 0.149 af, Depth= 1.85"
Routed to Pond 84P : BASIN L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.480	61	Open Space
*	0.220	98	Road
*	0.050	98	Sidewalk
*	0.120	98	Roof
*	0.100	98	Driveway & Apron
	0.970		Weighted Average
	0.480		49.48% Pervious Area
	0.490		50.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	37	0.0800	4.55		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.2	96	Total			

Subcatchment 74S: BASIN L - DA



Summary for Subcatchment 75S: BASIN K - DA

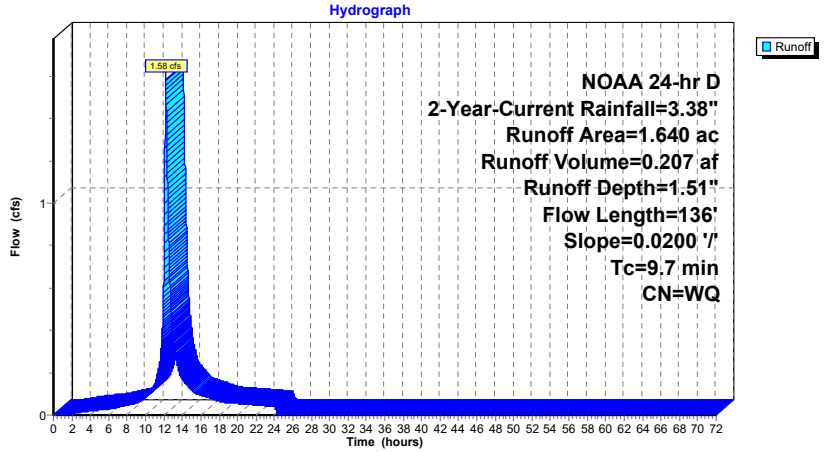
Runoff = 1.58 cfs @ 12.18 hrs, Volume= 0.207 af, Depth= 1.51"
Routed to Pond 91P : BASIN K

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	1.020	61	Open Space
*	0.000	98	Road
*	0.020	98	Sidewalk
*	0.600	98	Roof
*	0.000	98	Driveway & Apron
	1.640		Weighted Average
	1.020		62.20% Pervious Area
	0.620		37.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.6	77	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.7	136	Total			

Subcatchment 75S: BASIN K - DA



Summary for Subcatchment 76S: BASIN F - DA

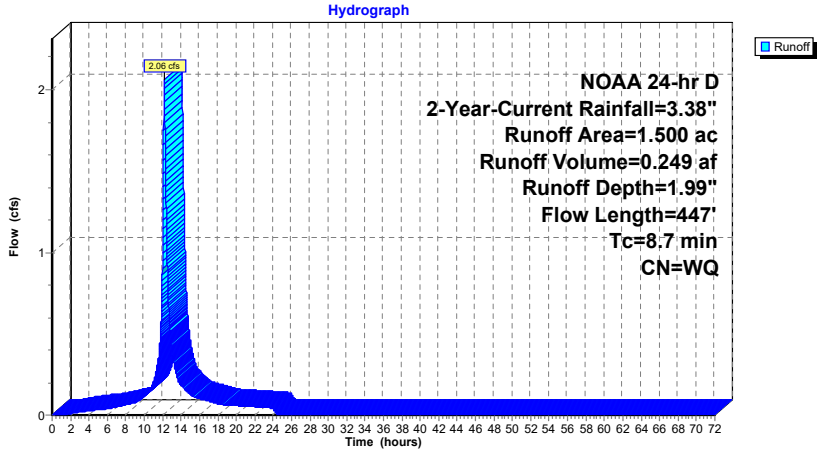
Runoff = 2.06 cfs @ 12.17 hrs, Volume= 0.249 af, Depth= 1.99"
Routed to Pond 83P : BASIN F

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.660	61	Open Space
*	0.440	98	Road
*	0.100	98	Sidewalk
*	0.120	98	Roof
*	0.180	98	Driveway & Apron
	1.500		Weighted Average
	0.660		44.00% Pervious Area
	0.840		56.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	33	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.3	158	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.7	256		2.50		**Direct Entry, Pipe**
8.7	447	Total			

Subcatchment 76S: BASIN F - DA



Summary for Subcatchment 77S: BASIN D - DA

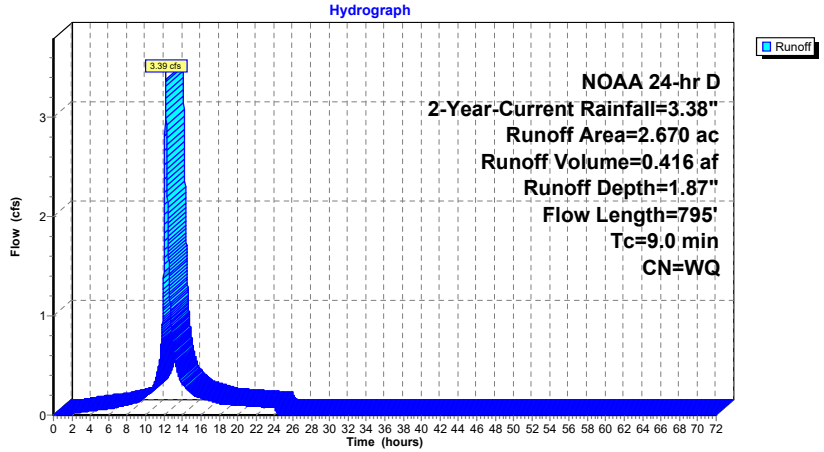
Runoff = 3.39 cfs @ 12.18 hrs, Volume= 0.416 af, Depth= 1.87"
Routed to Pond 75P : BASIN D

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	1.300	61	Open Space
*	0.430	98	Road
*	0.120	98	Sidewalk
*	0.420	98	Roof
*	0.400	98	Driveway & Apron
	2.670		Weighted Average
	1.300		48.69% Pervious Area
	1.370		51.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0500	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.2	300	0.0120	2.22		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
3.1	465		2.50		**Direct Entry, Pipe**
9.0	795	Total			

Subcatchment 77S: BASIN D - DA



Summary for Subcatchment 78S: BASIN A - DA

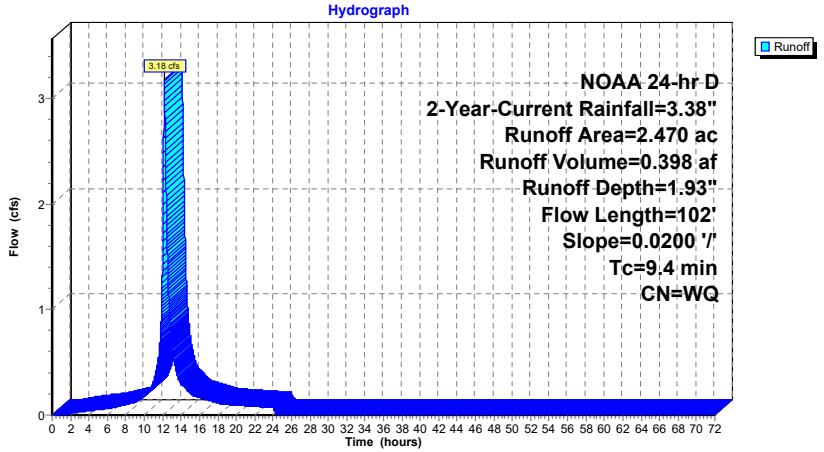
Runoff = 3.18 cfs @ 12.18 hrs, Volume= 0.398 af, Depth= 1.93"
Routed to Pond 80P : BASIN A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	1.140	61	Open Space
*	0.600	98	Road
*	0.130	98	Sidewalk
*	0.300	98	Roof
*	0.300	98	Driveway & Apron
	2.470		Weighted Average
	1.140		46.15% Pervious Area
	1.330		53.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	43	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	102	Total			

Subcatchment 78S: BASIN A - DA



Summary for Subcatchment 79S: BASIN B - DA

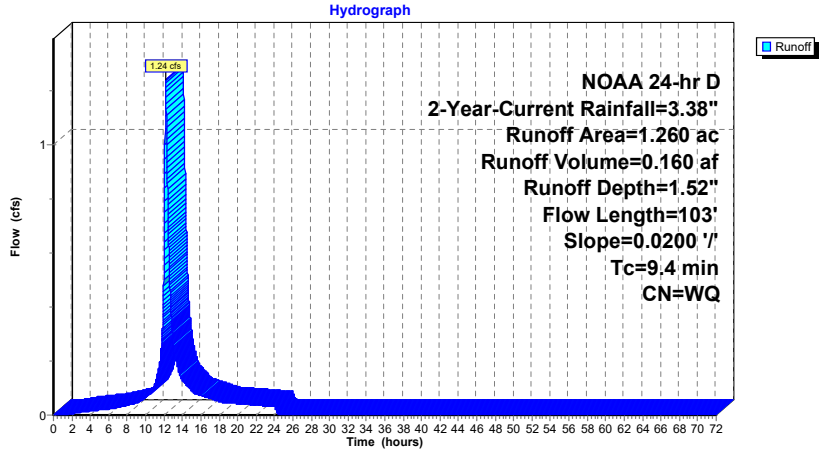
Runoff = 1.24 cfs @ 12.18 hrs, Volume= 0.160 af, Depth= 1.52"
Routed to Pond 81P : BASIN B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.780	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.480	98	Roof
*	0.000	98	Driveway
	1.260		Weighted Average
	0.780		61.90% Pervious Area
	0.480		38.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 79S: BASIN B - DA



Summary for Subcatchment 80S: BASIN C - DA

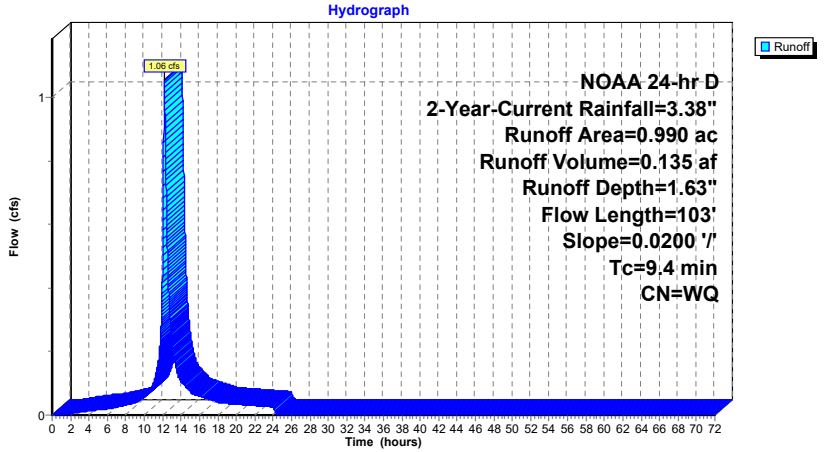
Runoff = 1.06 cfs @ 12.18 hrs, Volume= 0.135 af, Depth= 1.63"
Routed to Pond 85P : BASIN C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.570	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.420	98	Roof
*	0.000	98	Driveway
	0.990		Weighted Average
	0.570		57.58% Pervious Area
	0.420		42.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 80S: BASIN C - DA



Summary for Subcatchment 81S: BASIN A - DA

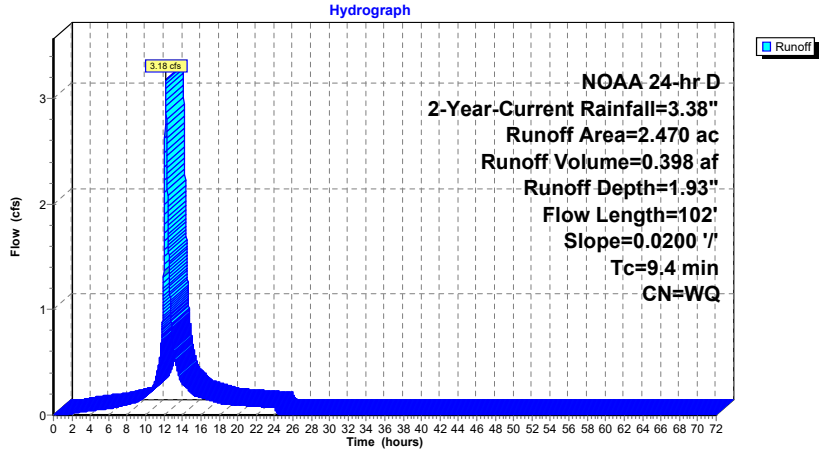
Runoff = 3.18 cfs @ 12.18 hrs, Volume= 0.398 af, Depth= 1.93"
Routed to Pond 87P : BASIN A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	1.140	61	Open Space
*	0.600	98	Road
*	0.130	98	Sidewalk
*	0.300	98	Roof
*	0.300	98	Driveway & Apron
	2.470		Weighted Average
	1.140		46.15% Pervious Area
	1.330		53.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	43	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	102	Total			

Subcatchment 81S: BASIN A - DA



Summary for Subcatchment 82S: BASIN A - DA

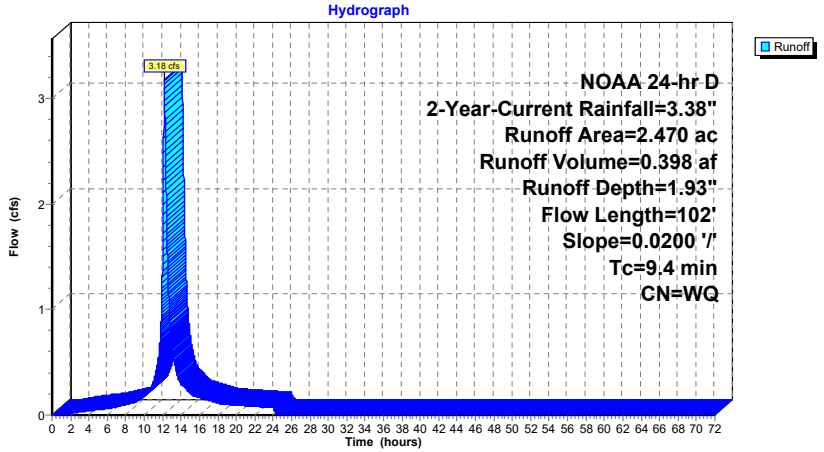
Runoff = 3.18 cfs @ 12.18 hrs, Volume= 0.398 af, Depth= 1.93"
Routed to Pond 98P : BASIN A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	1.140	61	Open Space
*	0.600	98	Road
*	0.130	98	Sidewalk
*	0.300	98	Roof
*	0.300	98	Driveway & Apron
	2.470		Weighted Average
	1.140		46.15% Pervious Area
	1.330		53.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	43	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	102	Total			

Subcatchment 82S: BASIN A - DA



Summary for Subcatchment 83S: BASIN B - DA

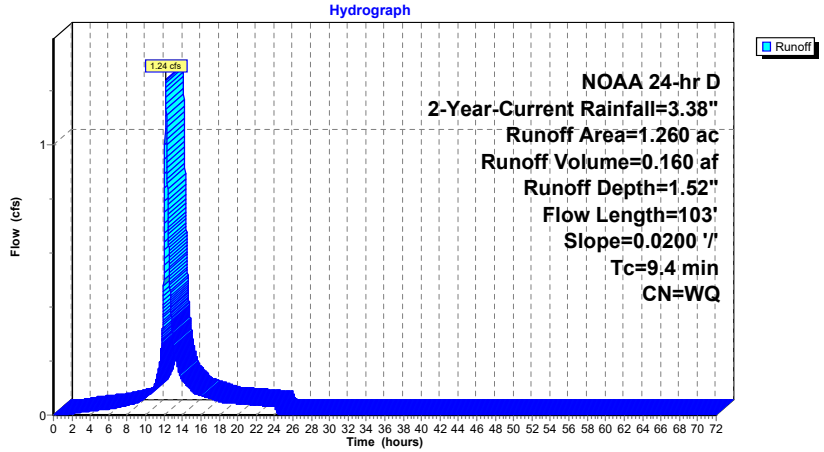
Runoff = 1.24 cfs @ 12.18 hrs, Volume= 0.160 af, Depth= 1.52"
Routed to Pond 106P : BASIN B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.780	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.480	98	Roof
*	0.000	98	Driveway
	1.260		Weighted Average
	0.780		61.90% Pervious Area
	0.480		38.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 83S: BASIN B - DA



Summary for Subcatchment 84S: BASIN N - DA

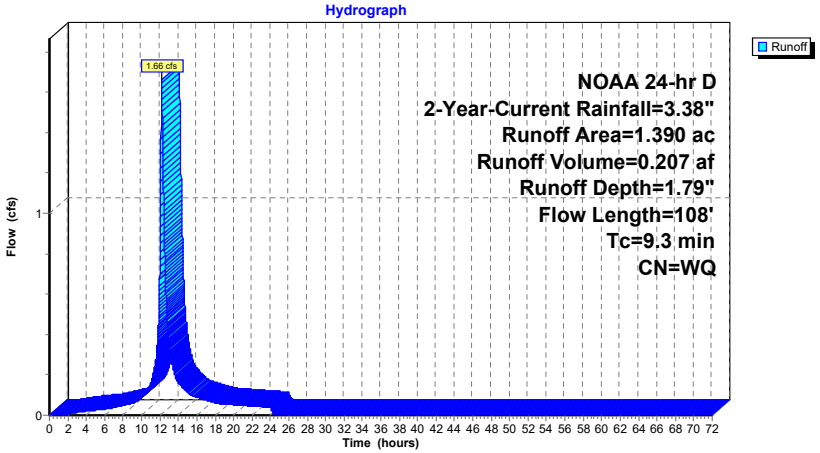
Runoff = 1.66 cfs @ 12.18 hrs, Volume= 0.207 af, Depth= 1.79"
Routed to Pond 90P : BASIN N

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.080	80	Open Space, HSG D
*	0.160	98	Road
*	0.040	98	Sidewalk
*	0.300	98	Roof
*	0.140	98	Driveway & Apron
	1.390		Weighted Average
	0.750		53.96% Pervious Area
	0.640		46.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.2	49	0.0600	3.94		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.3	108	Total			

Subcatchment 84S: BASIN N - DA



Summary for Subcatchment 85S: BASIN G - DA

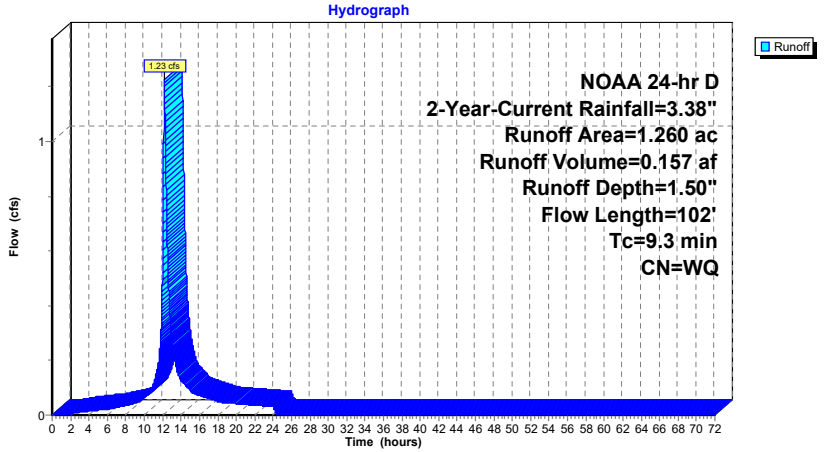
Runoff = 1.23 cfs @ 12.18 hrs, Volume= 0.157 af, Depth= 1.50"
Routed to Pond 86P : BASIN G

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.790	61	Open Space
*	0.060	98	Road
*	0.010	98	Sidewalk
*	0.360	98	Roof
*	0.040	98	Driveway & Apron
	1.260		Weighted Average
	0.790		62.70% Pervious Area
	0.470		37.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.2	43	0.0350	3.01		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.3	102	Total			

Subcatchment 85S: BASIN G - DA



Summary for Subcatchment 86S: BASIN L - DA

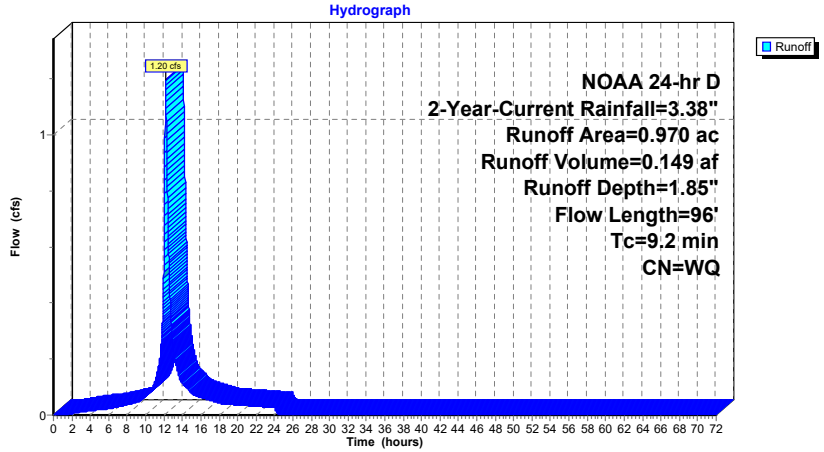
Runoff = 1.20 cfs @ 12.18 hrs, Volume= 0.149 af, Depth= 1.85"
Routed to Pond 92P : BASIN L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.480	61	Open Space
*	0.220	98	Road
*	0.050	98	Sidewalk
*	0.120	98	Roof
*	0.100	98	Driveway & Apron
	0.970		Weighted Average
	0.480		49.48% Pervious Area
	0.490		50.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	37	0.0800	4.55		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.2	96	Total			

Subcatchment 86S: BASIN L - DA



Summary for Subcatchment 88S: BASIN H - DA

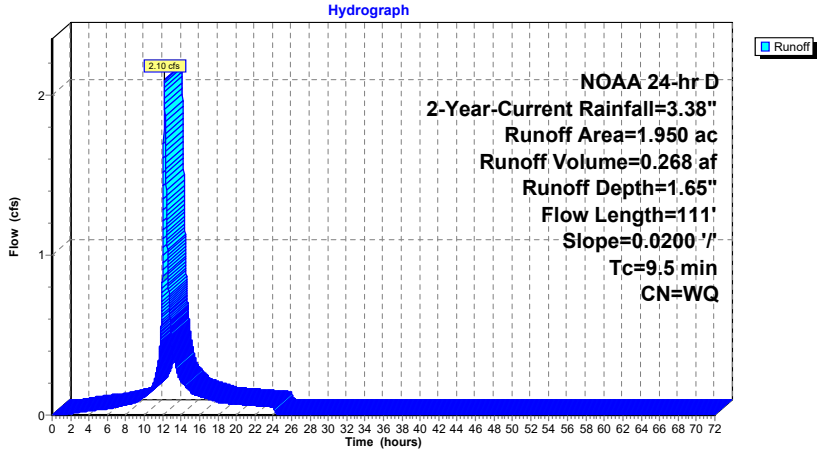
Runoff = 2.10 cfs @ 12.18 hrs, Volume= 0.268 af, Depth= 1.65"
Routed to Pond 60P : BASIN H

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	1.110	61	Open Space
*	0.230	98	Road
*	0.050	98	Sidewalk
*	0.420	98	Roof
*	0.140	98	Driveway & Apron
	1.950		Weighted Average
	1.110		56.92% Pervious Area
	0.840		43.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.4	52	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.5	111	Total			

Subcatchment 88S: BASIN H - DA



Summary for Subcatchment 98S: BASIN P - DA

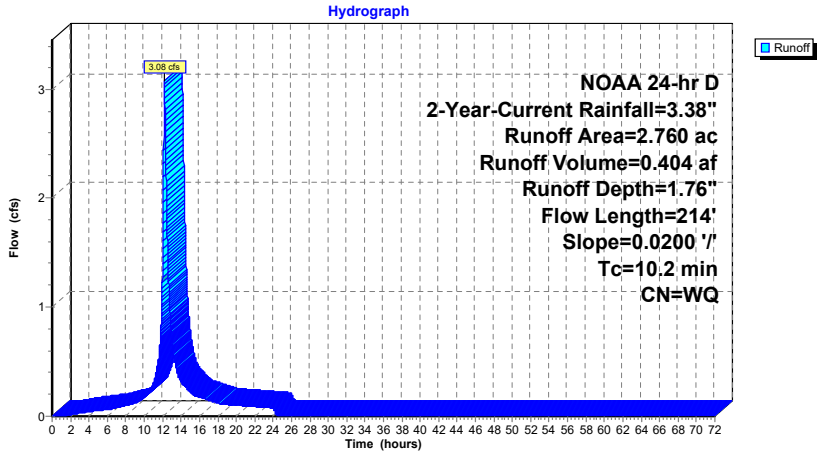
Runoff = 3.08 cfs @ 12.19 hrs, Volume= 0.404 af, Depth= 1.76"
Routed to Pond 63P : BASIN P

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	1.460	61	Open Space
*	0.410	98	Road
*	0.110	98	Sidewalk
*	0.420	98	Roof
*	0.360	98	Driveway & Apron
	2.760		Weighted Average
	1.460		52.90% Pervious Area
	1.300		47.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.7	99	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
0.4	56		2.50		**Direct Entry,**
10.2	214	Total			

Subcatchment 98S: BASIN P - DA



Summary for Subcatchment 99S: BASIN F - DA

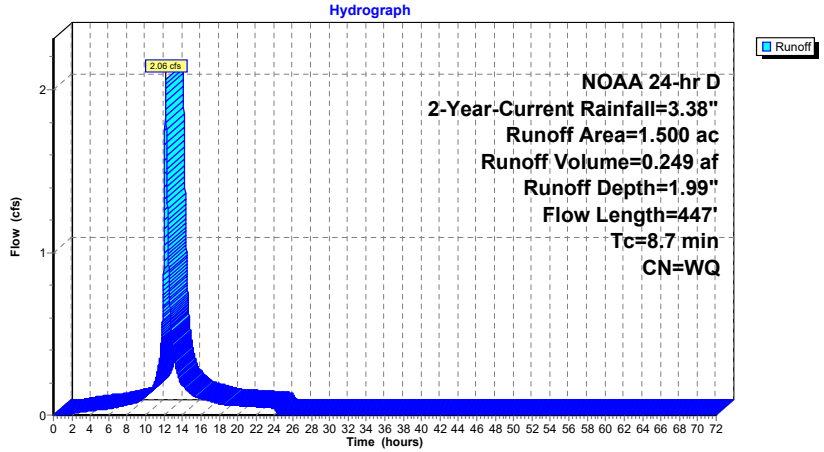
Runoff = 2.06 cfs @ 12.17 hrs, Volume= 0.249 af, Depth= 1.99"
Routed to Pond 96P : BASIN F

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.660	61	Open Space
*	0.440	98	Road
*	0.100	98	Sidewalk
*	0.120	98	Roof
*	0.180	98	Driveway & Apron
	1.500		Weighted Average
	0.660		44.00% Pervious Area
	0.840		56.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	33	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass**
					Grass: Dense n= 0.240 P2= 3.38"
1.3	158	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved**
					Paved Kv= 20.3 fps
1.7	256		2.50		**Direct Entry, Pipe**
8.7	447	Total			

Subcatchment 99S: BASIN F - DA



Summary for Subcatchment 100S: BASIN G - DA

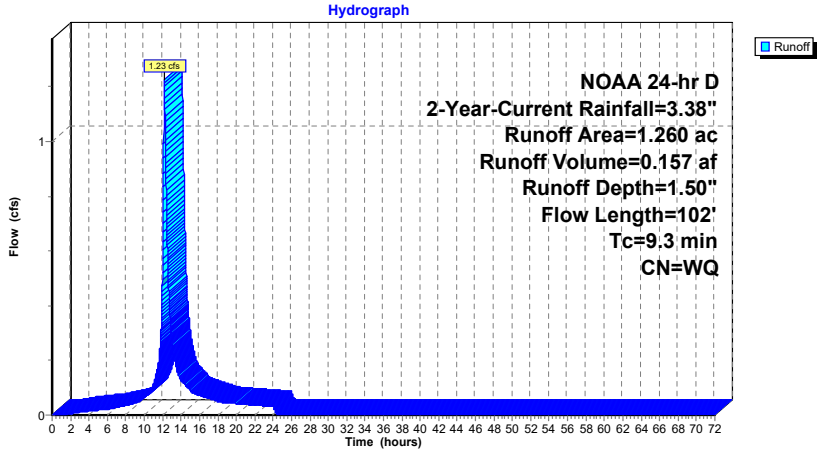
Runoff = 1.23 cfs @ 12.18 hrs, Volume= 0.157 af, Depth= 1.50"
Routed to Pond 97P : BASIN G

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.790	61	Open Space
*	0.060	98	Road
*	0.010	98	Sidewalk
*	0.360	98	Roof
*	0.040	98	Driveway & Apron
	1.260		Weighted Average
	0.790		62.70% Pervious Area
	0.470		37.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass**
					Grass: Dense n= 0.240 P2= 3.38"
					Using McCuen-Spiess flow length
0.2	43	0.0350	3.01		**Shallow Concentrated Flow, SCF - Unpaved**
					Unpaved Kv= 16.1 fps
9.3	102	Total			

Subcatchment 100S: BASIN G - DA



Summary for Subcatchment 101S: BASIN H - DA

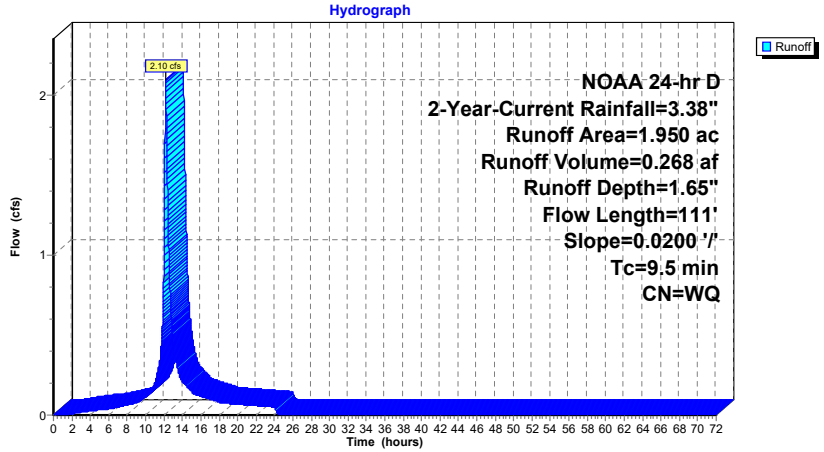
Runoff = 2.10 cfs @ 12.18 hrs, Volume= 0.268 af, Depth= 1.65"
Routed to Pond 94P : BASIN H

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	1.110	61	Open Space
*	0.230	98	Road
*	0.050	98	Sidewalk
*	0.420	98	Roof
*	0.140	98	Driveway & Apron
	1.950		Weighted Average
	1.110		56.92% Pervious Area
	0.840		43.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.4	52	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.5	111	Total			

Subcatchment 101S: BASIN H - DA



Summary for Subcatchment 102S: BASIN P - DA

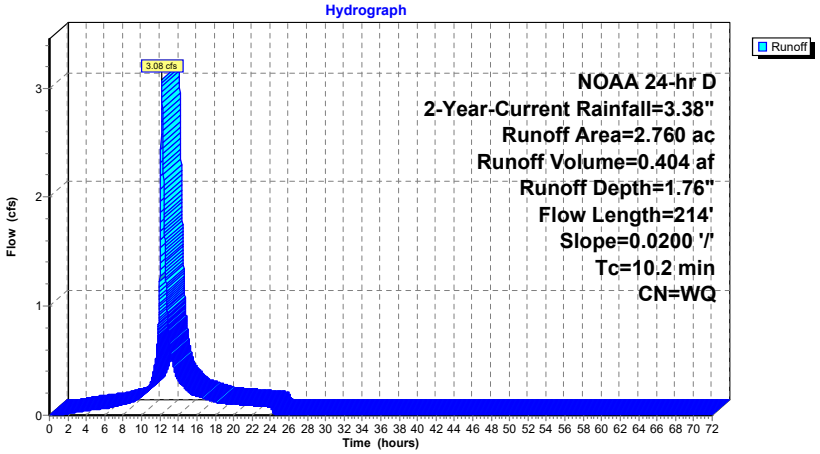
Runoff = 3.08 cfs @ 12.19 hrs, Volume= 0.404 af, Depth= 1.76"
Routed to Pond 120P : BASIN P

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	1.460	61	Open Space
*	0.410	98	Road
*	0.110	98	Sidewalk
*	0.420	98	Roof
*	0.360	98	Driveway & Apron
	2.760		Weighted Average
	1.460		52.90% Pervious Area
	1.300		47.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.7	99	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
0.4	56		2.50		**Direct Entry,**
10.2	214	Total			

Subcatchment 102S: BASIN P - DA



Summary for Subcatchment 103S: BASIN F - DA

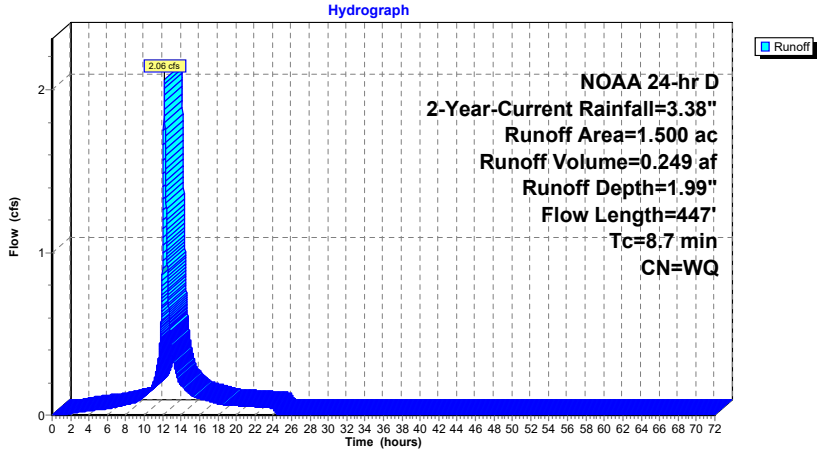
Runoff = 2.06 cfs @ 12.17 hrs, Volume= 0.249 af, Depth= 1.99"
Routed to Pond 101P : BASIN F

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.660	61	Open Space
*	0.440	98	Road
*	0.100	98	Sidewalk
*	0.120	98	Roof
*	0.180	98	Driveway & Apron
	1.500		Weighted Average
	0.660		44.00% Pervious Area
	0.840		56.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	33	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.3	158	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.7	256		2.50		**Direct Entry, Pipe**
8.7	447	Total			

Subcatchment 103S: BASIN F - DA



Summary for Subcatchment 104S: BASIN G - DA

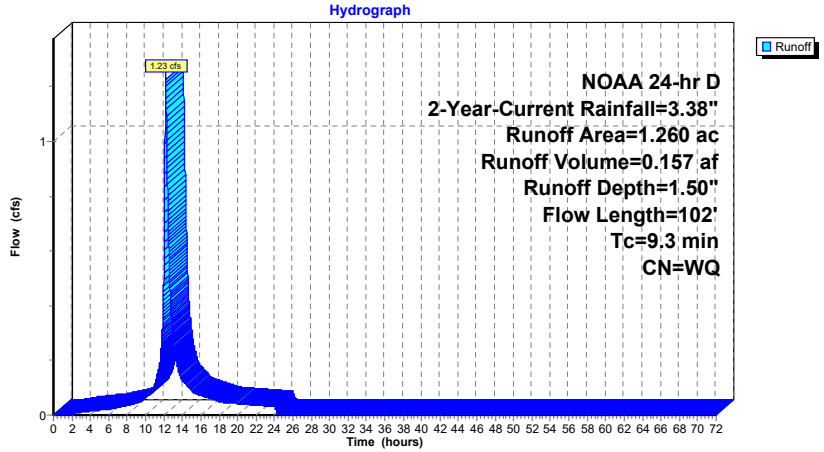
Runoff = 1.23 cfs @ 12.18 hrs, Volume= 0.157 af, Depth= 1.50"
Routed to Pond 103P : BASIN G

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.790	61	Open Space
*	0.060	98	Road
*	0.010	98	Sidewalk
*	0.360	98	Roof
*	0.040	98	Driveway & Apron
	1.260		Weighted Average
	0.790		62.70% Pervious Area
	0.470		37.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.2	43	0.0350	3.01		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.3	102	Total			

Subcatchment 104S: BASIN G - DA



Summary for Subcatchment 105S: BASIN H - DA

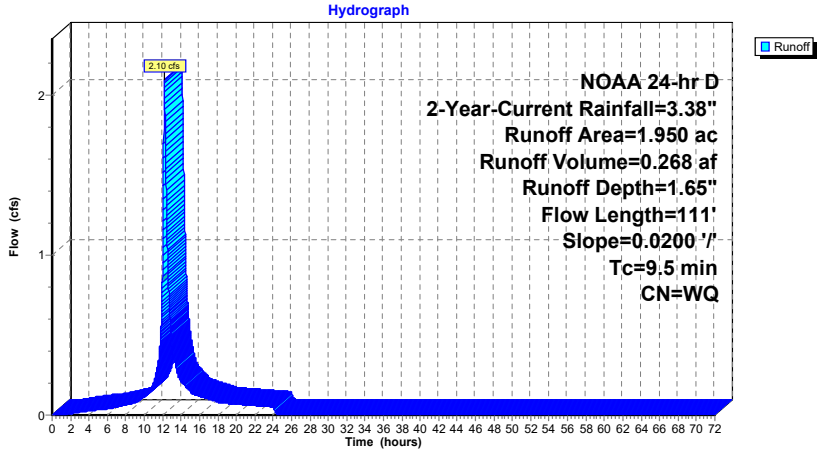
Runoff = 2.10 cfs @ 12.18 hrs, Volume= 0.268 af, Depth= 1.65"
Routed to Pond 118P : BASIN H

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	1.110	61	Open Space
*	0.230	98	Road
*	0.050	98	Sidewalk
*	0.420	98	Roof
*	0.140	98	Driveway & Apron
	1.950		Weighted Average
	1.110		56.92% Pervious Area
	0.840		43.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.4	52	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.5	111	Total			

Subcatchment 105S: BASIN H - DA



Summary for Subcatchment 106S: BASIN F - DA

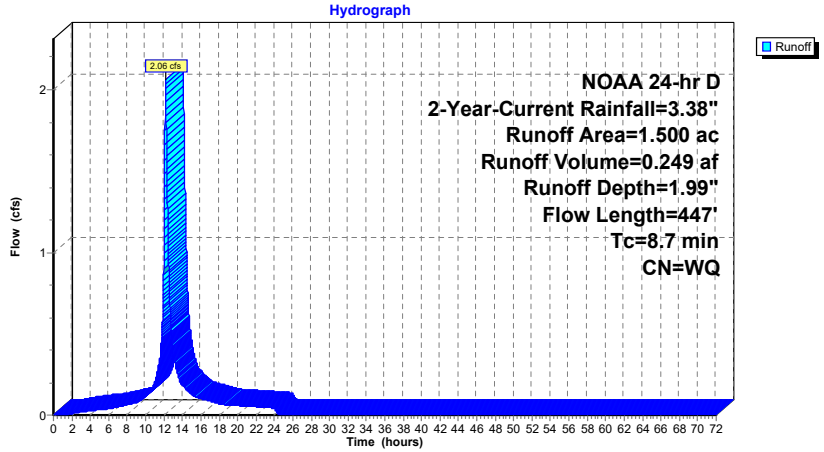
Runoff = 2.06 cfs @ 12.17 hrs, Volume= 0.249 af, Depth= 1.99"
Routed to Pond 104P : BASIN F

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.660	61	Open Space
*	0.440	98	Road
*	0.100	98	Sidewalk
*	0.120	98	Roof
*	0.180	98	Driveway & Apron
	1.500		Weighted Average
	0.660		44.00% Pervious Area
	0.840		56.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	33	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.3	158	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.7	256		2.50		**Direct Entry, Pipe**
8.7	447	Total			

Subcatchment 106S: BASIN F - DA



Summary for Subcatchment 107S: BASIN G - DA

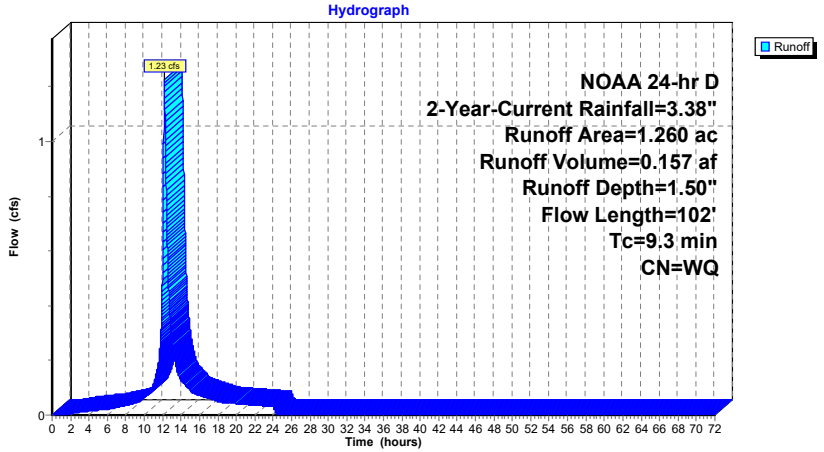
Runoff = 1.23 cfs @ 12.18 hrs, Volume= 0.157 af, Depth= 1.50"
Routed to Pond 113P : BASIN G

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.790	61	Open Space
*	0.060	98	Road
*	0.010	98	Sidewalk
*	0.360	98	Roof
*	0.040	98	Driveway & Apron
	1.260		Weighted Average
	0.790		62.70% Pervious Area
	0.470		37.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.2	43	0.0350	3.01		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.3	102	Total			

Subcatchment 107S: BASIN G - DA



Summary for Subcatchment 108S: BASIN F - DA

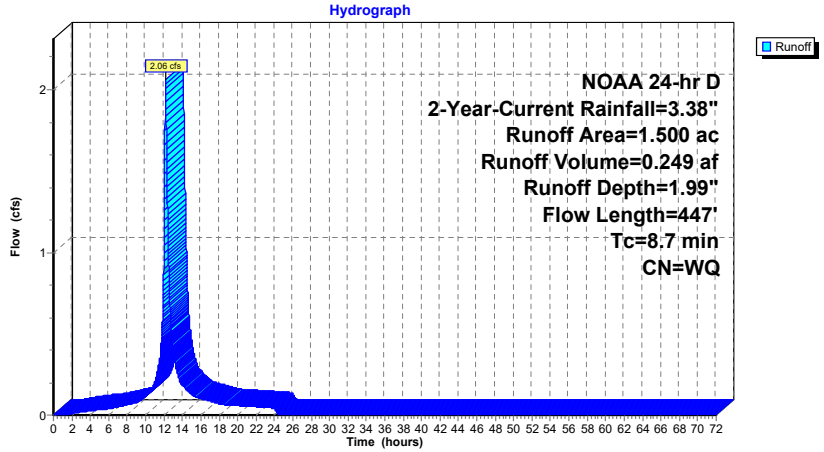
Runoff = 2.06 cfs @ 12.17 hrs, Volume= 0.249 af, Depth= 1.99"
Routed to Pond 110P : BASIN F

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.660	61	Open Space
*	0.440	98	Road
*	0.100	98	Sidewalk
*	0.120	98	Roof
*	0.180	98	Driveway & Apron
	1.500		Weighted Average
	0.660		44.00% Pervious Area
	0.840		56.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	33	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.3	158	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.7	256		2.50		**Direct Entry, Pipe**
8.7	447	Total			

Subcatchment 108S: BASIN F - DA



Summary for Subcatchment 110S: BASIN T - DA

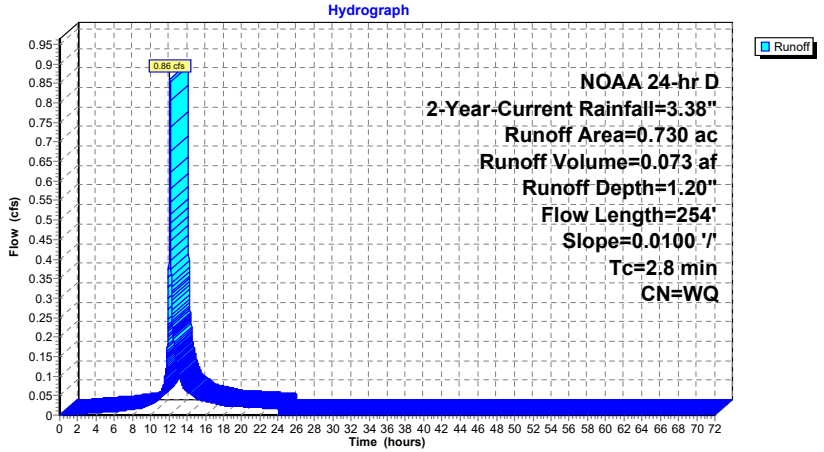
Runoff = 0.86 cfs @ 12.11 hrs, Volume= 0.073 af, Depth= 1.20"
Routed to Pond 111P : BASIN T

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.540	61	Open Space
*	0.140	98	Road
*	0.050	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	0.730		Weighted Average
	0.540		73.97% Pervious Area
	0.190		26.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.07		**Sheet Flow, Sheet Flow - Smooth Surfaces** Smooth surfaces n= 0.011 P2= 3.38"
0.8	93	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
0.4	61		2.50		**Direct Entry, Pipe**
2.8	254	Total			

Subcatchment 110S: BASIN T - DA



Summary for Subcatchment 113S: BASIN U - DA

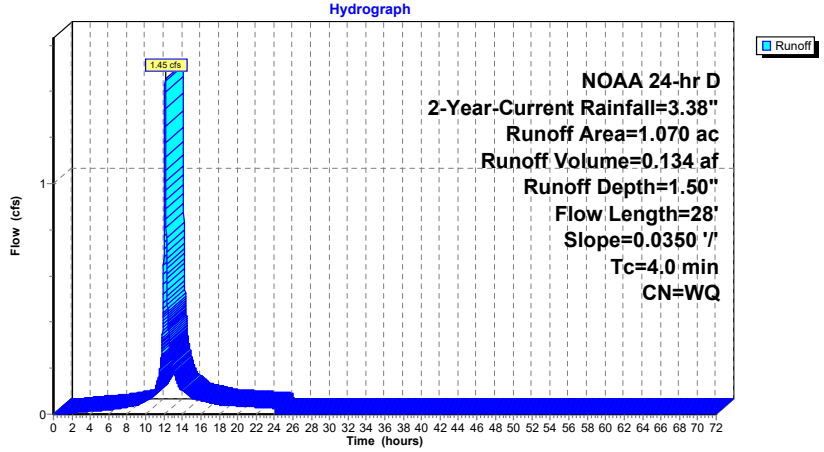
Runoff = 1.45 cfs @ 12.12 hrs, Volume= 0.134 af, Depth= 1.50"
Routed to Pond 114P : BASIN U

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.330	98	Road
*	0.070	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	1.070		Weighted Average
	0.670		62.62% Pervious Area
	0.400		37.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	28	0.0350	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"

Subcatchment 113S: BASIN U - DA



Summary for Subcatchment 114S: BASIN U - DA

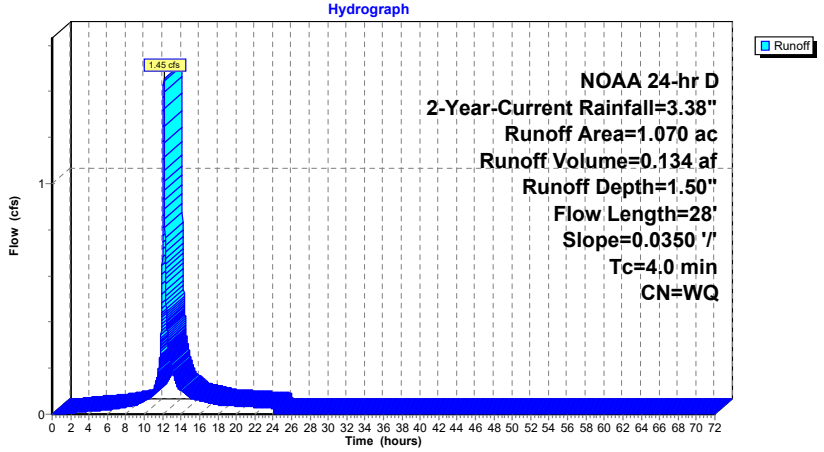
Runoff = 1.45 cfs @ 12.12 hrs, Volume= 0.134 af, Depth= 1.50"
Routed to Pond 116P : BASIN U

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.330	98	Road
*	0.070	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	1.070		Weighted Average
	0.670		62.62% Pervious Area
	0.400		37.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	28	0.0350	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"

Subcatchment 114S: BASIN U - DA



Summary for Subcatchment 130S: BASIN S - DA

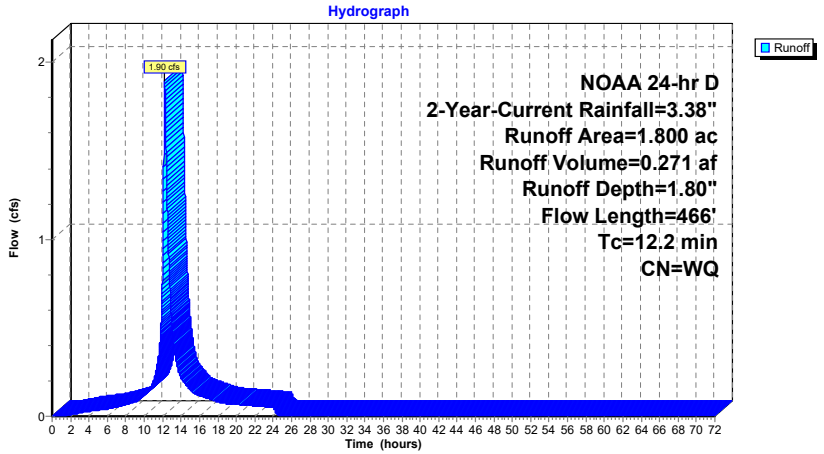
Runoff = 1.90 cfs @ 12.22 hrs, Volume= 0.271 af, Depth= 1.80"
Routed to Pond 108P : BASIN S

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.920	61	Open Space
*	0.590	98	Road
*	0.190	98	Sidewalk
*	0.080	98	Roof
*	0.020	98	Driveway & Apron
	1.800		Weighted Average
	0.920		51.11% Pervious Area
	0.880		48.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	6	0.0100	1.61		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
1.4	167	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.6	234		2.50		**Direct Entry, Pipe**
12.2	466	Total			

Subcatchment 130S: BASIN S - DA



Summary for Pond 52P: BASIN A

Inflow Area = 2.470 ac, 53.85% Impervious, Inflow Depth = 1.93" for 2-Year-Current event
Inflow = 3.18 cfs @ 12.18 hrs, Volume= 0.398 af
Outflow = 0.11 cfs @ 18.04 hrs, Volume= 0.229 af, Atten= 96%, Lag= 351.4 min
Primary = 0.11 cfs @ 18.04 hrs, Volume= 0.229 af
Routed to Pond 74P : BASIN B

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.33' @ 18.04 hrs Surf.Area= 0.268 ac Storage= 0.305 af

Plug-Flow detention time= 995.9 min calculated for 0.229 af (58% of inflow)
Center-of-Mass det. time= 863.8 min (1,650.6 - 786.9)

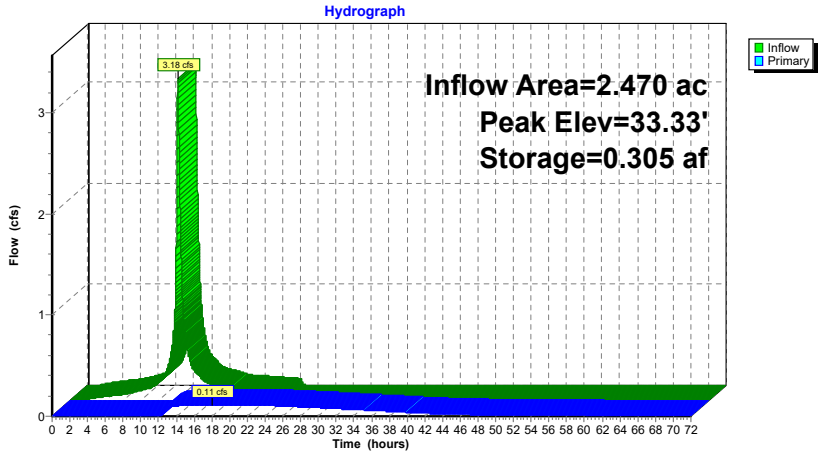
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.233 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.192	0.000	0.000
33.00	0.249	0.220	0.220
34.00	0.307	0.278	0.499
35.00	0.367	0.337	0.836
36.00	0.428	0.397	1.233

Device	Routing	Invert	Outlet Devices
#1	Primary	35.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.75'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.11 cfs @ 18.04 hrs HW=33.33' TW=31.54' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.11 cfs @ 3.31 fps)

Pond 52P: BASIN A



Summary for Pond 59P: BASIN C

Inflow Area = 4.720 ac, 47.25% Impervious, Inflow Depth > 1.16" for 2-Year-Current event
Inflow = 1.06 cfs @ 12.18 hrs, Volume= 0.455 af
Outflow = 0.66 cfs @ 12.44 hrs, Volume= 0.411 af, Atten= 37%, Lag= 15.6 min
Primary = 0.66 cfs @ 12.44 hrs, Volume= 0.411 af
Routed to Link 123L : Inflow from Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 29.72' @ 12.44 hrs Surf.Area= 0.059 ac Storage= 0.056 af

Plug-Flow detention time= 271.0 min calculated for 0.411 af (90% of inflow)
Center-of-Mass det. time= 105.7 min (1,512.7 - 1,407.0)

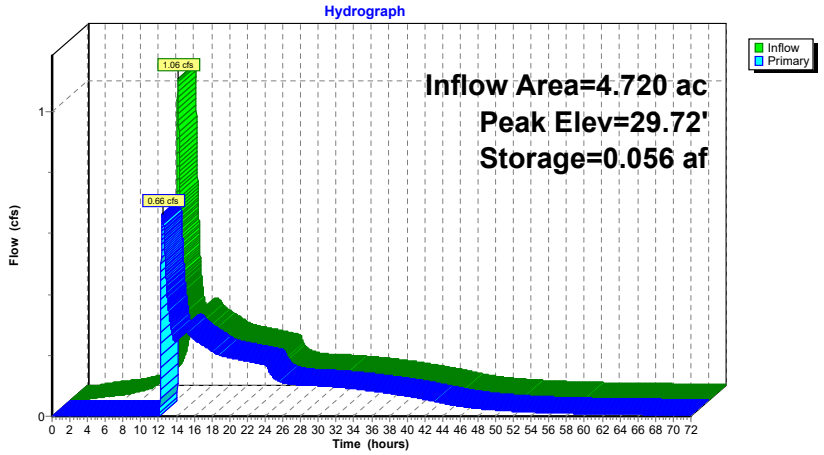
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.198 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.033	0.000	0.000
29.50	0.054	0.043	0.043
30.50	0.077	0.065	0.109
31.50	0.101	0.089	0.198

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	29.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.66 cfs @ 12.44 hrs HW=29.72' TW=0.00' (Dynamic Tailwater)
↑—**1=Grate** (Controls 0.00 cfs)
└—**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.66 cfs @ 1.54 fps)

Pond 59P: BASIN C



Summary for Pond 60P: BASIN H

Inflow Area = 4.710 ac, 45.65% Impervious, Inflow Depth > 1.02" for 2-Year-Current event
Inflow = 2.10 cfs @ 12.18 hrs, Volume= 0.402 af
Outflow = 0.12 cfs @ 24.09 hrs, Volume= 0.300 af, Atten= 94%, Lag= 714.5 min
Primary = 0.12 cfs @ 24.09 hrs, Volume= 0.300 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 29.54' @ 24.09 hrs Surf.Area= 0.250 ac Storage= 0.241 af

Plug-Flow detention time= 1,057.2 min calculated for 0.300 af (75% of inflow)
Center-of-Mass det. time= 825.7 min (1,849.0 - 1,023.2)

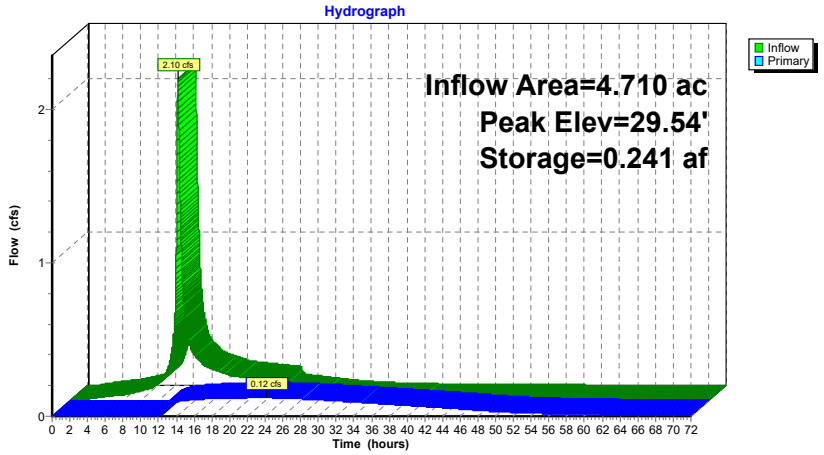
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.799 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.216	0.000	0.000
29.00	0.232	0.112	0.112
30.00	0.266	0.249	0.361
31.00	0.301	0.283	0.644
31.50	0.319	0.155	0.799

Device	Routing	Invert	Outlet Devices
#1	Primary	31.20'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.30'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	28.90'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.12 cfs @ 24.09 hrs HW=29.54' TW=27.93' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.12 cfs @ 3.51 fps)

Pond 60P: BASIN H



Summary for Pond 63P: BASIN P

Inflow Area = 8.000 ac, 45.38% Impervious, Inflow Depth > 1.11" for 2-Year-Current event
Inflow = 3.08 cfs @ 12.19 hrs, Volume= 0.743 af
Outflow = 0.35 cfs @ 15.59 hrs, Volume= 0.512 af, Atten= 89%, Lag= 203.6 min
Primary = 0.35 cfs @ 15.59 hrs, Volume= 0.512 af
Routed to Link 126L : Inflow from Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 27.96' @ 15.59 hrs Surf.Area= 0.249 ac Storage= 0.325 af

Plug-Flow detention time= 980.3 min calculated for 0.512 af (69% of inflow)
Center-of-Mass det. time= 581.5 min (1,813.4 - 1,231.9)

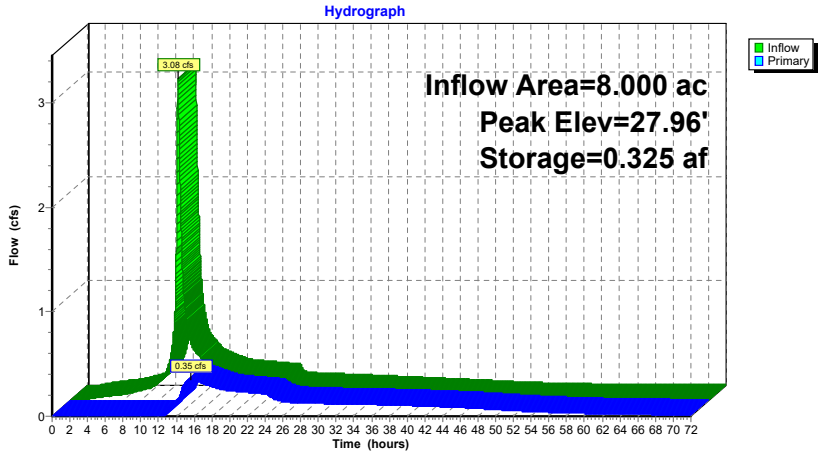
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.910 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.193	0.000	0.000
27.50	0.233	0.213	0.213
28.50	0.268	0.250	0.463
29.50	0.303	0.286	0.749
30.00	0.340	0.161	0.910

Device	Routing	Invert	Outlet Devices
#1	Primary	29.30'	**42.0" x 102.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**3.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.35 cfs @ 15.59 hrs HW=27.96' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.21 cfs @ 0.82 fps)
- **3=Orifice** (Orifice Controls 0.14 cfs @ 2.80 fps)

Pond 63P: BASIN P



Summary for Pond 64P: BASIN I

Inflow Area = 0.530 ac, 33.96% Impervious, Inflow Depth = 1.41" for 2-Year-Current event
Inflow = 0.48 cfs @ 12.18 hrs, Volume= 0.062 af
Outflow = 0.08 cfs @ 13.31 hrs, Volume= 0.039 af, Atten= 83%, Lag= 67.6 min
Primary = 0.08 cfs @ 13.31 hrs, Volume= 0.039 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 29.76' @ 13.31 hrs Surf.Area= 0.032 ac Storage= 0.034 af

Plug-Flow detention time= 351.2 min calculated for 0.039 af (62% of inflow)
Center-of-Mass det. time= 220.2 min (1,027.3 - 807.2)

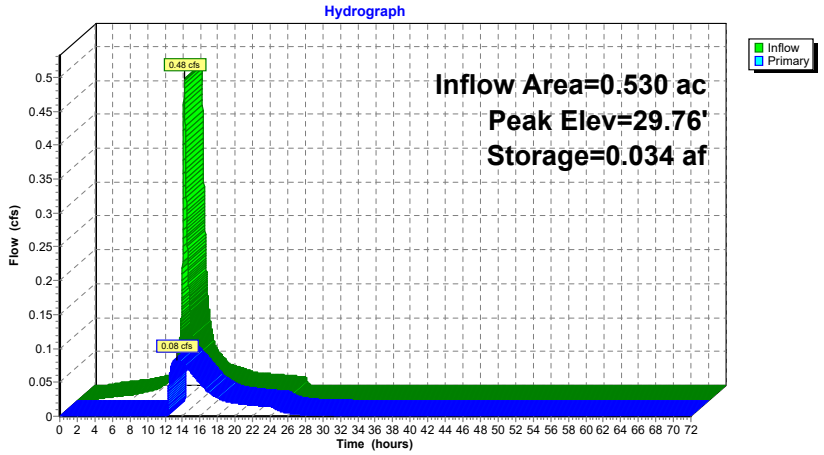
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.101 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.023	0.000	0.000
29.50	0.030	0.026	0.026
30.50	0.037	0.033	0.060
31.50	0.045	0.041	0.101

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.60'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	29.40'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.08 cfs @ 13.31 hrs HW=29.76' TW=27.78' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.08 cfs @ 2.43 fps)

Pond 64P: BASIN I



Summary for Pond 65P: BASIN E

Inflow Area = 10.240 ac, 46.58% Impervious, Inflow Depth > 1.01" for 2-Year-Current event
Inflow = 2.95 cfs @ 12.17 hrs, Volume= 0.858 af
Outflow = 2.71 cfs @ 12.22 hrs, Volume= 0.858 af, Atten= 8%, Lag= 3.3 min
Primary = 2.71 cfs @ 12.22 hrs, Volume= 0.858 af
Routed to nonexistent node 46L

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 29.30' Surf.Area= 0.186 ac Storage= 0.383 af
Peak Elev= 29.40' @ 12.22 hrs Surf.Area= 0.189 ac Storage= 0.402 af (0.019 af above start)

Plug-Flow detention time= 1,091.7 min calculated for 0.475 af (55% of inflow)
Center-of-Mass det. time= 9.7 min (1,408.9 - 1,399.2)

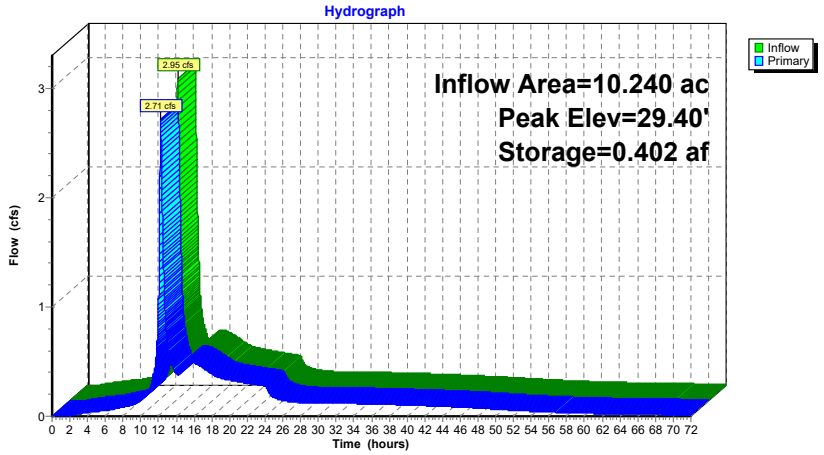
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.421 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.091	0.000	0.000
27.50	0.122	0.106	0.106
28.50	0.157	0.139	0.246
29.50	0.193	0.175	0.421

Device	Routing	Invert	Outlet Devices
#1	Primary	29.30'	**35.0' long x 10.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=2.71 cfs @ 12.22 hrs HW=29.40' (Free Discharge)
↳**1=Broad-Crested Rectangular Weir** (Weir Controls 2.71 cfs @ 0.78 fps)

Pond 65P: BASIN E



Summary for Pond 70P: BASIN K

Inflow Area = 1.640 ac, 37.80% Impervious, Inflow Depth = 1.51" for 2-Year-Current event
Inflow = 1.58 cfs @ 12.18 hrs, Volume= 0.207 af
Outflow = 0.11 cfs @ 15.30 hrs, Volume= 0.140 af, Atten= 93%, Lag= 186.7 min
Primary = 0.11 cfs @ 15.30 hrs, Volume= 0.140 af
Routed to Link 124L : Inflow from Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 31.52' @ 15.30 hrs Surf.Area= 0.148 ac Storage= 0.138 af

Plug-Flow detention time= 663.3 min calculated for 0.140 af (68% of inflow)
Center-of-Mass det. time= 544.5 min (1,346.9 - 802.4)

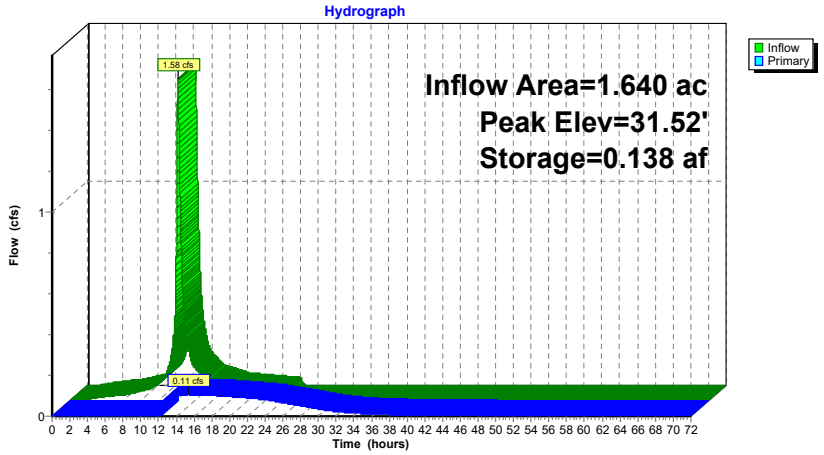
Volume	Invert	Avail.Storage	Storage Description
#1	30.50'	0.484 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.50	0.122	0.000	0.000
31.50	0.148	0.135	0.135
32.50	0.174	0.161	0.296
33.50	0.202	0.188	0.484

Device	Routing	Invert	Outlet Devices
#1	Primary	33.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.70'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.11 cfs @ 15.30 hrs HW=31.52' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.11 cfs @ 3.10 fps)

Pond 70P: BASIN K



Summary for Pond 74P: BASIN B

Inflow Area = 3.730 ac, 48.53% Impervious, Inflow Depth > 1.25" for 2-Year-Current event
Inflow = 1.24 cfs @ 12.18 hrs, Volume= 0.389 af
Outflow = 0.20 cfs @ 14.88 hrs, Volume= 0.320 af, Atten= 84%, Lag= 162.0 min
Primary = 0.20 cfs @ 14.88 hrs, Volume= 0.320 af
Routed to Pond 59P : BASIN C

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 31.56' @ 14.88 hrs Surf.Area= 0.099 ac Storage= 0.115 af

Plug-Flow detention time= 612.2 min calculated for 0.320 af (82% of inflow)
Center-of-Mass det. time= 361.7 min (1,663.8 - 1,302.1)

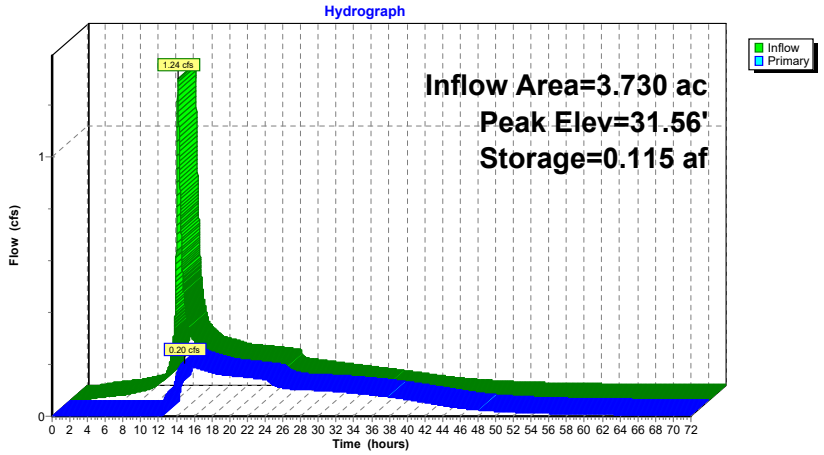
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	0.292 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.00	0.049	0.000	0.000
31.00	0.081	0.065	0.065
32.00	0.113	0.097	0.162
33.00	0.147	0.130	0.292

Device	Routing	Invert	Outlet Devices
#1	Primary	32.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.20 cfs @ 14.88 hrs HW=31.56' TW=29.62' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.09 cfs @ 0.79 fps)
- **3=Orifice** (Orifice Controls 0.11 cfs @ 3.25 fps)

Pond 74P: BASIN B



Summary for Pond 75P: BASIN D

Inflow Area = 7.390 ac, 48.71% Impervious, Inflow Depth > 1.34" for 2-Year-Current event
Inflow = 3.51 cfs @ 12.19 hrs, Volume= 0.827 af
Outflow = 3.10 cfs @ 12.32 hrs, Volume= 0.826 af, Atten= 12%, Lag= 7.9 min
Primary = 3.10 cfs @ 12.32 hrs, Volume= 0.826 af
Routed to nonexistent node 46L

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 29.25' Surf.Area= 0.280 ac Storage= 0.654 af
Peak Elev= 29.39' @ 12.32 hrs Surf.Area= 0.284 ac Storage= 0.693 af (0.038 af above start)

Plug-Flow detention time= 1,585.8 min calculated for 0.172 af (21% of inflow)
Center-of-Mass det. time= 18.1 min (1,166.9 - 1,148.8)

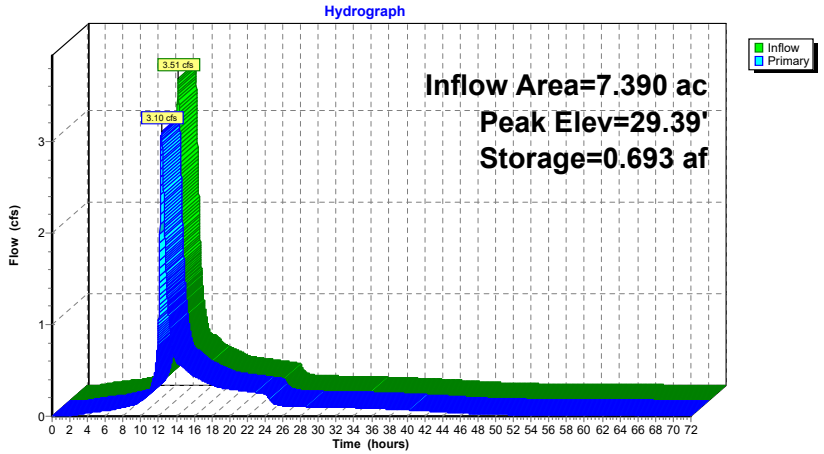
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.725 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.197	0.000	0.000
27.50	0.226	0.211	0.211
28.50	0.257	0.241	0.453
29.50	0.288	0.272	0.725

Device	Routing	Invert	Outlet Devices
#1	Primary	29.25'	**25.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=3.10 cfs @ 12.32 hrs HW=29.39' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 3.10 cfs @ 0.92 fps)

Pond 75P: BASIN D



Summary for Pond 80P: BASIN A

Inflow Area = 2.470 ac, 53.85% Impervious, Inflow Depth = 1.93" for 2-Year-Current event
Inflow = 3.18 cfs @ 12.18 hrs, Volume= 0.398 af
Outflow = 0.11 cfs @ 18.04 hrs, Volume= 0.229 af, Atten= 96%, Lag= 351.4 min
Primary = 0.11 cfs @ 18.04 hrs, Volume= 0.229 af
Routed to Pond 81P : BASIN B

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.33' @ 18.04 hrs Surf.Area= 0.268 ac Storage= 0.305 af

Plug-Flow detention time= 995.9 min calculated for 0.229 af (58% of inflow)
Center-of-Mass det. time= 863.8 min (1,650.6 - 786.9)

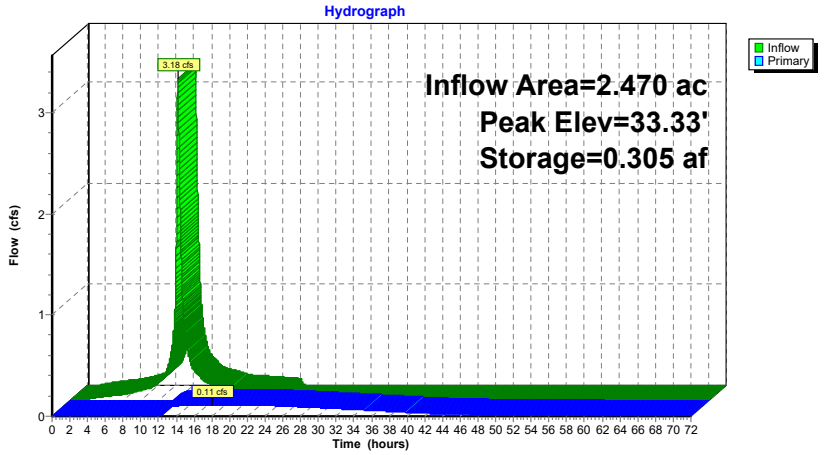
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.233 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.192	0.000	0.000
33.00	0.249	0.220	0.220
34.00	0.307	0.278	0.499
35.00	0.367	0.337	0.836
36.00	0.428	0.397	1.233

Device	Routing	Invert	Outlet Devices
#1	Primary	35.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.75'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.11 cfs @ 18.04 hrs HW=33.33' TW=31.54' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.11 cfs @ 3.31 fps)

Pond 80P: BASIN A



Summary for Pond 81P: BASIN B

Inflow Area = 3.730 ac, 48.53% Impervious, Inflow Depth > 1.25" for 2-Year-Current event
Inflow = 1.24 cfs @ 12.18 hrs, Volume= 0.389 af
Outflow = 0.20 cfs @ 14.88 hrs, Volume= 0.320 af, Atten= 84%, Lag= 162.0 min
Primary = 0.20 cfs @ 14.88 hrs, Volume= 0.320 af
Routed to Link 122L : Inflow from Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 31.56' @ 14.88 hrs Surf.Area= 0.099 ac Storage= 0.115 af

Plug-Flow detention time= 612.2 min calculated for 0.320 af (82% of inflow)
Center-of-Mass det. time= 361.7 min (1,663.8 - 1,302.1)

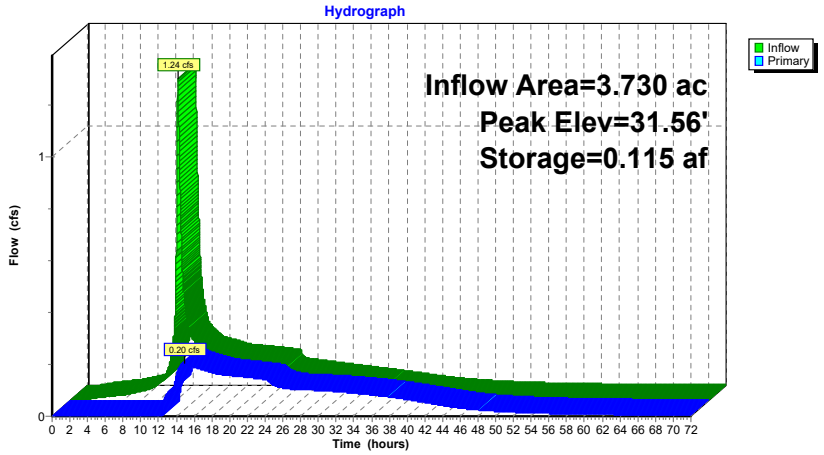
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	0.292 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.00	0.049	0.000	0.000
31.00	0.081	0.065	0.065
32.00	0.113	0.097	0.162
33.00	0.147	0.130	0.292

Device	Routing	Invert	Outlet Devices
#1	Primary	32.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.20 cfs @ 14.88 hrs HW=31.56' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.09 cfs @ 0.79 fps)
- **3=Orifice** (Orifice Controls 0.11 cfs @ 3.25 fps)

Pond 81P: BASIN B



Summary for Pond 83P: BASIN F

Inflow Area = 1.500 ac, 56.00% Impervious, Inflow Depth = 1.99" for 2-Year-Current event
Inflow = 2.06 cfs @ 12.17 hrs, Volume= 0.249 af
Outflow = 0.04 cfs @ 24.09 hrs, Volume= 0.045 af, Atten= 98%, Lag= 715.3 min
Primary = 0.04 cfs @ 24.09 hrs, Volume= 0.045 af
Routed to Pond 86p : BASIN G

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.15' @ 24.09 hrs Surf.Area= 0.224 ac Storage= 0.232 af

Plug-Flow detention time= 1,321.0 min calculated for 0.045 af (18% of inflow)
Center-of-Mass det. time= 1,034.0 min (1,818.3 - 784.2)

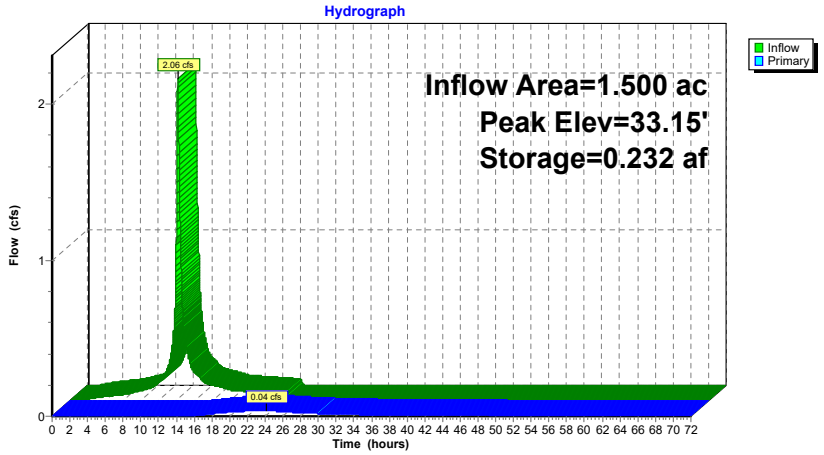
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.043 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.178	0.000	0.000
33.00	0.218	0.198	0.198
34.00	0.260	0.239	0.437
35.00	0.303	0.281	0.718
36.00	0.347	0.325	1.043

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.25'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.04 cfs @ 24.09 hrs HW=33.15' TW=32.31' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.04 cfs @ 1.34 fps)

Pond 83P: BASIN F



Summary for Pond 84P: BASIN L

Inflow Area = 0.970 ac, 50.52% Impervious, Inflow Depth = 1.85" for 2-Year-Current event
Inflow = 1.20 cfs @ 12.18 hrs, Volume= 0.149 af
Outflow = 0.11 cfs @ 14.17 hrs, Volume= 0.101 af, Atten= 91%, Lag= 119.3 min
Primary = 0.11 cfs @ 14.17 hrs, Volume= 0.101 af
Routed to Link 124L : Inflow from Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.63' @ 14.17 hrs Surf.Area= 0.095 ac Storage= 0.095 af

Plug-Flow detention time= 507.4 min calculated for 0.101 af (68% of inflow)
Center-of-Mass det. time= 392.0 min (1,181.1 - 789.1)

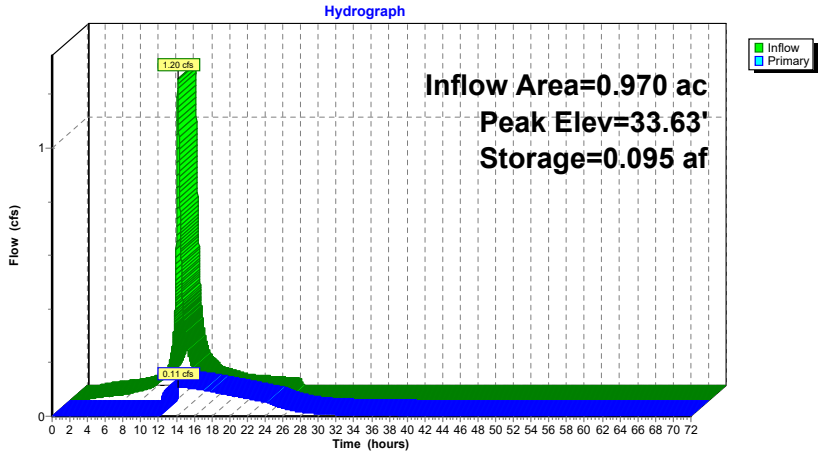
Volume	Invert	Avail.Storage	Storage Description
#1	32.50'	0.308 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.50	0.074	0.000	0.000
33.00	0.083	0.039	0.039
34.00	0.102	0.092	0.132
35.00	0.123	0.113	0.244
35.50	0.134	0.064	0.308

Device	Routing	Invert	Outlet Devices
#1	Primary	34.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	33.90'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.10'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.11 cfs @ 14.17 hrs HW=33.63' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.11 cfs @ 3.15 fps)

Pond 84P: BASIN L



Summary for Pond 85P: BASIN C

Inflow Area = 4.720 ac, 47.25% Impervious, Inflow Depth > 1.16" for 2-Year-Current event
Inflow = 1.06 cfs @ 12.18 hrs, Volume= 0.455 af
Outflow = 0.98 cfs @ 12.25 hrs, Volume= 0.455 af, Atten= 8%, Lag= 3.8 min
Primary = 0.98 cfs @ 12.25 hrs, Volume= 0.455 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 31.30' Surf.Area= 0.096 ac Storage= 0.178 af
Peak Elev= 31.37' @ 12.25 hrs Surf.Area= 0.098 ac Storage= 0.185 af (0.007 af above start)

Plug-Flow detention time= 873.8 min calculated for 0.277 af (61% of inflow)
Center-of-Mass det. time= 9.3 min (1,416.7 - 1,407.4)

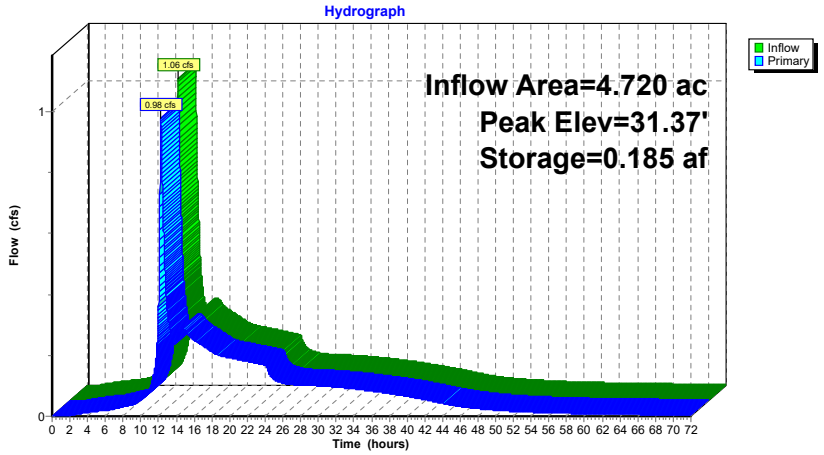
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.198 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.033	0.000	0.000
29.50	0.054	0.043	0.043
30.50	0.077	0.065	0.109
31.50	0.101	0.089	0.198

Device	Routing	Invert	Outlet Devices
#1	Primary	31.30'	**20.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.98 cfs @ 12.25 hrs HW=31.37' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 0.98 cfs @ 0.67 fps)

Pond 85P: BASIN C



Summary for Pond 86P: BASIN G

Inflow Area = 2.760 ac, 47.46% Impervious, Inflow Depth > 0.88" for 2-Year-Current event
Inflow = 1.23 cfs @ 12.18 hrs, Volume= 0.203 af
Outflow = 0.09 cfs @ 14.98 hrs, Volume= 0.133 af, Atten= 93%, Lag= 168.0 min
Primary = 0.09 cfs @ 14.98 hrs, Volume= 0.133 af
Routed to Pond 60P : BASIN H

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 32.41' @ 14.98 hrs Surf.Area= 0.097 ac Storage= 0.104 af

Plug-Flow detention time= 752.8 min calculated for 0.133 af (66% of inflow)
Center-of-Mass det. time= 449.8 min (1,479.8 - 1,029.9)

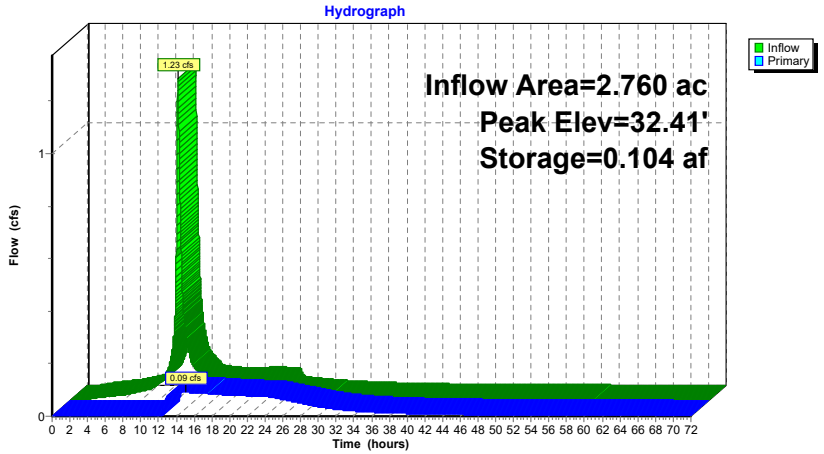
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	0.301 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.00	0.051	0.000	0.000
32.00	0.083	0.067	0.067
33.00	0.117	0.100	0.167
34.00	0.152	0.134	0.301

Device	Routing	Invert	Outlet Devices
#1	Primary	33.70'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	32.75'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.09 cfs @ 14.98 hrs HW=32.41' TW=29.39' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.09 cfs @ 2.66 fps)

Pond 86P: BASIN G



Summary for Pond 87P: BASIN A

Inflow Area = 2.470 ac, 53.85% Impervious, Inflow Depth = 1.93" for 2-Year-Current event
Inflow = 3.18 cfs @ 12.18 hrs, Volume= 0.398 af
Outflow = 0.11 cfs @ 18.04 hrs, Volume= 0.229 af, Atten= 96%, Lag= 351.4 min
Primary = 0.11 cfs @ 18.04 hrs, Volume= 0.229 af
Routed to Link 121L : Inflow from Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.33' @ 18.04 hrs Surf.Area= 0.268 ac Storage= 0.305 af

Plug-Flow detention time= 995.9 min calculated for 0.229 af (58% of inflow)
Center-of-Mass det. time= 863.8 min (1,650.6 - 786.9)

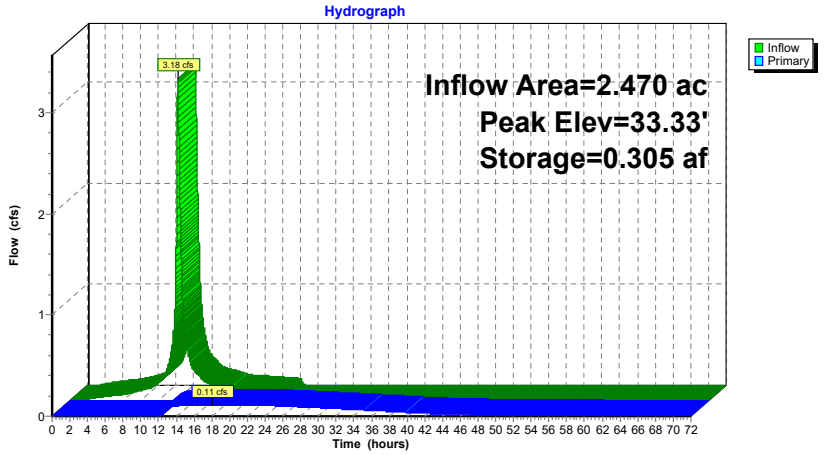
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.233 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.192	0.000	0.000
33.00	0.249	0.220	0.220
34.00	0.307	0.278	0.499
35.00	0.367	0.337	0.836
36.00	0.428	0.397	1.233

Device	Routing	Invert	Outlet Devices
#1	Primary	35.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.75'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.11 cfs @ 18.04 hrs HW=33.33' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.11 cfs @ 3.31 fps)

Pond 87P: BASIN A



Summary for Pond 90P: BASIN N

Inflow Area = 4.000 ac, 43.75% Impervious, Inflow Depth > 1.34" for 2-Year-Current event
Inflow = 1.68 cfs @ 12.19 hrs, Volume= 0.448 af
Outflow = 1.39 cfs @ 12.32 hrs, Volume= 0.448 af, Atten= 17%, Lag= 8.1 min
Primary = 1.39 cfs @ 12.32 hrs, Volume= 0.448 af
Routed to nonexistent node 46L

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 31.30' Surf.Area= 0.223 ac Storage= 0.397 af
Peak Elev= 31.39' @ 12.32 hrs Surf.Area= 0.230 ac Storage= 0.418 af (0.021 af above start)

Plug-Flow detention time= 1,424.5 min calculated for 0.051 af (11% of inflow)
Center-of-Mass det. time= 19.9 min (1,074.3 - 1,054.4)

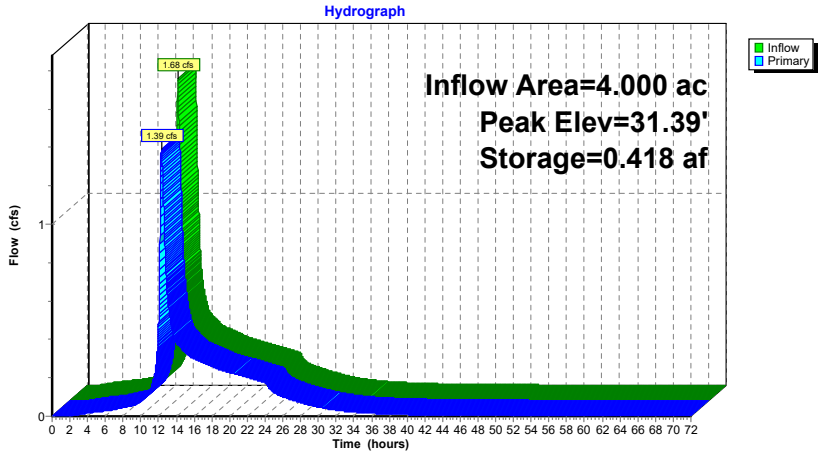
Volume	Invert	Avail.Storage	Storage Description
#1	29.00'	0.443 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
29.00	0.136	0.000	0.000
30.00	0.167	0.151	0.151
31.00	0.199	0.183	0.334
31.50	0.238	0.109	0.443

Device	Routing	Invert	Outlet Devices
#1	Primary	31.30'	**20.0' long x 10.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.39 cfs @ 12.32 hrs HW=31.39' (Free Discharge)
↳**1=Broad-Crested Rectangular Weir** (Weir Controls 1.39 cfs @ 0.76 fps)

Pond 90P: BASIN N



Summary for Pond 91P: BASIN K

Inflow Area = 1.640 ac, 37.80% Impervious, Inflow Depth = 1.51" for 2-Year-Current event
Inflow = 1.58 cfs @ 12.18 hrs, Volume= 0.207 af
Outflow = 1.33 cfs @ 12.30 hrs, Volume= 0.207 af, Atten= 16%, Lag= 7.1 min
Primary = 1.33 cfs @ 12.30 hrs, Volume= 0.207 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 33.30' Surf.Area= 0.197 ac Storage= 0.444 af
Peak Elev= 33.39' @ 12.30 hrs Surf.Area= 0.199 ac Storage= 0.462 af (0.018 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 19.2 min (821.6 - 802.4)

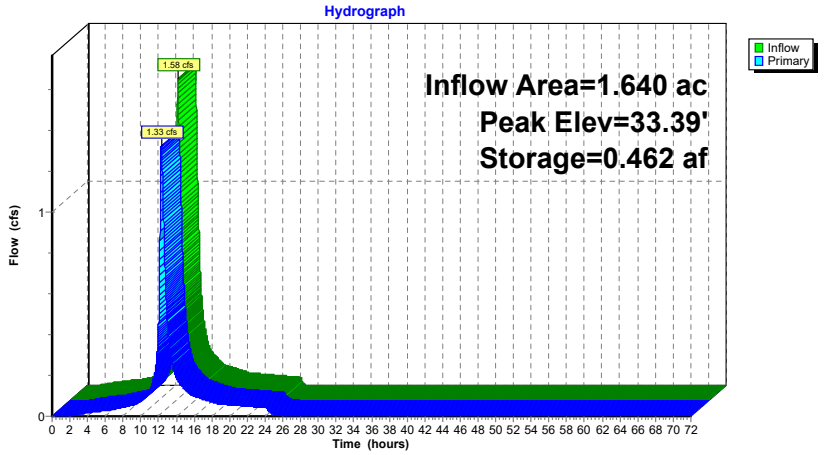
Volume	Invert	Avail.Storage	Storage Description
#1	30.50'	0.484 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.50	0.122	0.000	0.000
31.50	0.148	0.135	0.135
32.50	0.174	0.161	0.296
33.50	0.202	0.188	0.484

Device	Routing	Invert	Outlet Devices
#1	Primary	33.30'	**20.0' long x 10.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.33 cfs @ 12.30 hrs HW=33.39' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 1.33 cfs @ 0.74 fps)

Pond 91P: BASIN K



Summary for Pond 92P: BASIN L

Inflow Area = 0.970 ac, 50.52% Impervious, Inflow Depth = 1.85" for 2-Year-Current event
Inflow = 1.20 cfs @ 12.18 hrs, Volume= 0.149 af
Outflow = 0.98 cfs @ 12.30 hrs, Volume= 0.149 af, Atten= 18%, Lag= 7.1 min
Primary = 0.98 cfs @ 12.30 hrs, Volume= 0.149 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 35.00' Surf.Area= 0.123 ac Storage= 0.244 af
Peak Elev= 35.12' @ 12.30 hrs Surf.Area= 0.125 ac Storage= 0.258 af (0.014 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 21.2 min (810.3 - 789.1)

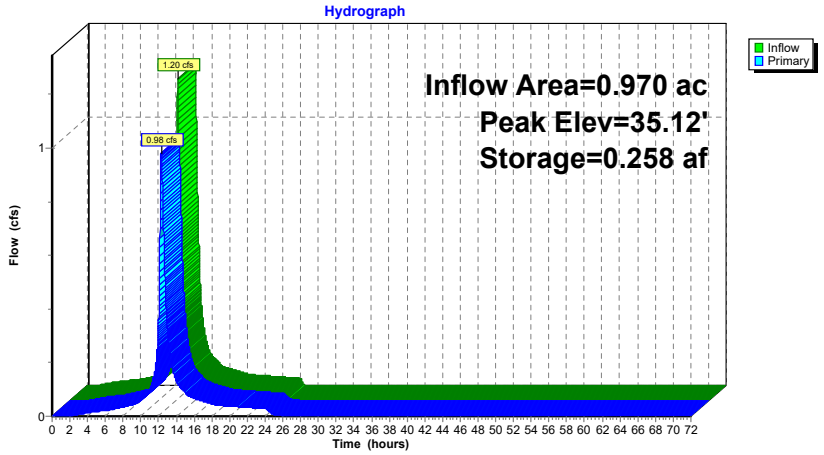
Volume	Invert	Avail.Storage	Storage Description
#1	32.50'	0.308 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.50	0.074	0.000	0.000
33.00	0.083	0.039	0.039
34.00	0.102	0.092	0.132
35.00	0.123	0.113	0.244
35.50	0.134	0.064	0.308

Device	Routing	Invert	Outlet Devices
#1	Primary	35.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.98 cfs @ 12.30 hrs HW=35.12' (Free Discharge)
↳**1=Broad-Crested Rectangular Weir** (Weir Controls 0.98 cfs @ 0.85 fps)

Pond 92P: BASIN L



Summary for Pond 93P: BASIN O

Inflow Area = 1.100 ac, 51.82% Impervious, Inflow Depth = 2.02" for 2-Year-Current event
Inflow = 1.51 cfs @ 12.18 hrs, Volume= 0.185 af
Outflow = 1.31 cfs @ 12.27 hrs, Volume= 0.185 af, Atten= 14%, Lag= 5.7 min
Primary = 1.31 cfs @ 12.27 hrs, Volume= 0.185 af
Routed to nonexistent node 46L

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 29.00' Surf.Area= 0.100 ac Storage= 0.186 af
Peak Elev= 29.14' @ 12.27 hrs Surf.Area= 0.108 ac Storage= 0.201 af (0.015 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 16.1 min (806.8 - 790.7)

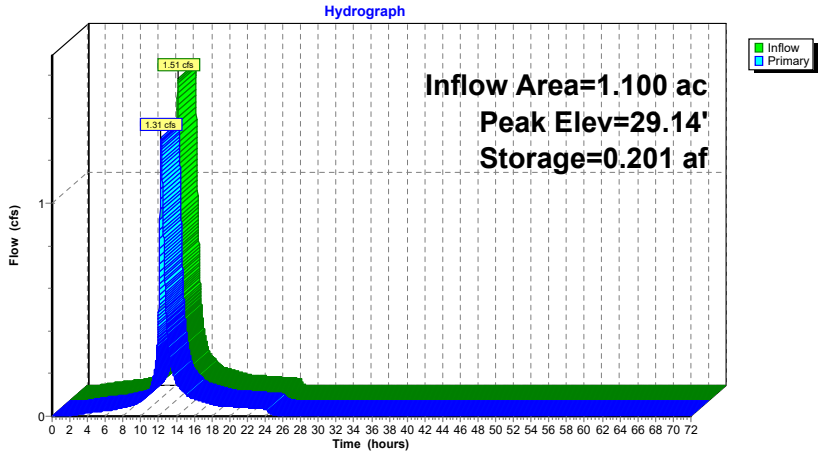
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.244 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.050	0.000	0.000
27.00	0.059	0.027	0.027
28.00	0.079	0.069	0.097
29.00	0.100	0.090	0.186
29.50	0.129	0.057	0.244

Device	Routing	Invert	Outlet Devices
#1	Primary	29.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.31 cfs @ 12.27 hrs HW=29.14' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 1.31 cfs @ 0.93 fps)

Pond 93P: BASIN O



Summary for Pond 94P: BASIN H

Inflow Area = 4.710 ac, 45.65% Impervious, Inflow Depth > 1.02" for 2-Year-Current event
Inflow = 2.10 cfs @ 12.18 hrs, Volume= 0.402 af
Outflow = 0.12 cfs @ 24.09 hrs, Volume= 0.300 af, Atten= 94%, Lag= 714.5 min
Primary = 0.12 cfs @ 24.09 hrs, Volume= 0.300 af
Routed to Link 127L : Inflow from Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 29.54' @ 24.09 hrs Surf.Area= 0.250 ac Storage= 0.241 af

Plug-Flow detention time= 1,057.2 min calculated for 0.300 af (75% of inflow)
Center-of-Mass det. time= 825.7 min (1,849.0 - 1,023.2)

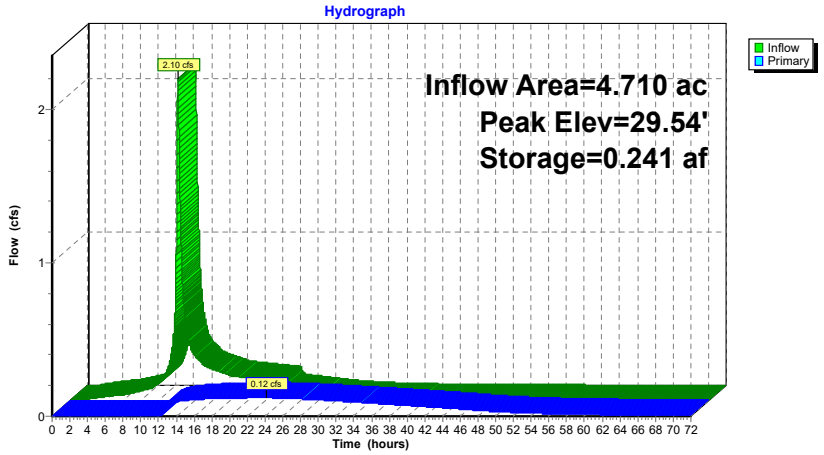
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.799 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.216	0.000	0.000
29.00	0.232	0.112	0.112
30.00	0.266	0.249	0.361
31.00	0.301	0.283	0.644
31.50	0.319	0.155	0.799

Device	Routing	Invert	Outlet Devices
#1	Primary	31.20'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.30'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	28.90'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.12 cfs @ 24.09 hrs HW=29.54' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.12 cfs @ 3.51 fps)

Pond 94P: BASIN H



Summary for Pond 95P: BASIN I

Inflow Area = 0.530 ac, 33.96% Impervious, Inflow Depth = 1.41" for 2-Year-Current event
Inflow = 0.48 cfs @ 12.18 hrs, Volume= 0.062 af
Outflow = 0.08 cfs @ 13.31 hrs, Volume= 0.039 af, Atten= 83%, Lag= 67.6 min
Primary = 0.08 cfs @ 13.31 hrs, Volume= 0.039 af
Routed to Link 127L : Inflow from Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 29.76' @ 13.31 hrs Surf.Area= 0.032 ac Storage= 0.034 af

Plug-Flow detention time= 351.2 min calculated for 0.039 af (62% of inflow)
Center-of-Mass det. time= 220.2 min (1,027.3 - 807.2)

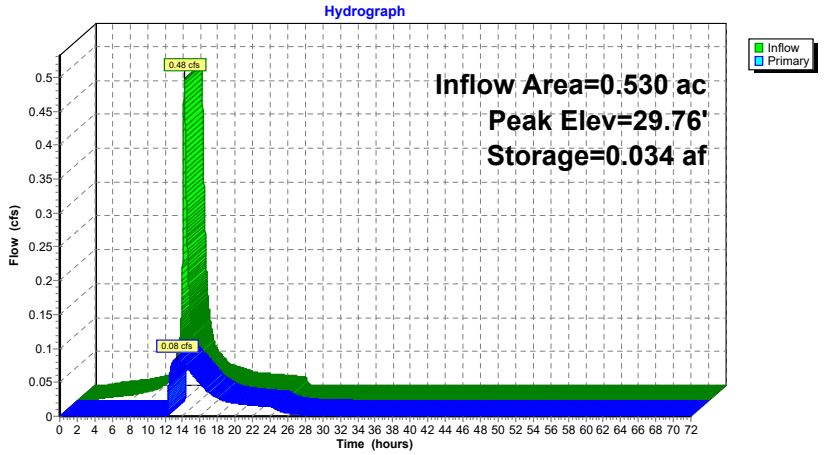
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.101 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.023	0.000	0.000
29.50	0.030	0.026	0.026
30.50	0.037	0.033	0.060
31.50	0.045	0.041	0.101

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.60'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	29.40'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.08 cfs @ 13.31 hrs HW=29.76' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.08 cfs @ 2.43 fps)

Pond 95P: BASIN I



Summary for Pond 96P: BASIN F

Inflow Area = 1.500 ac, 56.00% Impervious, Inflow Depth = 1.99" for 2-Year-Current event
Inflow = 2.06 cfs @ 12.17 hrs, Volume= 0.249 af
Outflow = 0.04 cfs @ 24.09 hrs, Volume= 0.045 af, Atten= 98%, Lag= 715.3 min
Primary = 0.04 cfs @ 24.09 hrs, Volume= 0.045 af
Routed to Pond 97P : BASIN G

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.15' @ 24.09 hrs Surf.Area= 0.224 ac Storage= 0.232 af

Plug-Flow detention time= 1,321.0 min calculated for 0.045 af (18% of inflow)
Center-of-Mass det. time= 1,034.0 min (1,818.3 - 784.2)

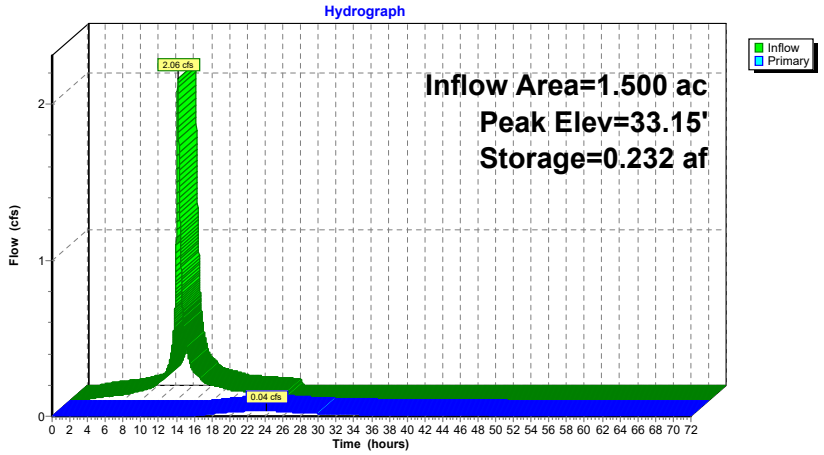
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.043 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.178	0.000	0.000
33.00	0.218	0.198	0.198
34.00	0.260	0.239	0.437
35.00	0.303	0.281	0.718
36.00	0.347	0.325	1.043

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.25'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.04 cfs @ 24.09 hrs HW=33.15' TW=32.31' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.04 cfs @ 1.34 fps)

Pond 96P: BASIN F



Summary for Pond 97P: BASIN G

Inflow Area = 2.760 ac, 47.46% Impervious, Inflow Depth > 0.88" for 2-Year-Current event
Inflow = 1.23 cfs @ 12.18 hrs, Volume= 0.203 af
Outflow = 0.09 cfs @ 14.98 hrs, Volume= 0.133 af, Atten= 93%, Lag= 168.0 min
Primary = 0.09 cfs @ 14.98 hrs, Volume= 0.133 af
Routed to Pond 94P : BASIN H

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 32.41' @ 14.98 hrs Surf.Area= 0.097 ac Storage= 0.104 af

Plug-Flow detention time= 752.8 min calculated for 0.133 af (66% of inflow)
Center-of-Mass det. time= 449.8 min (1,479.8 - 1,029.9)

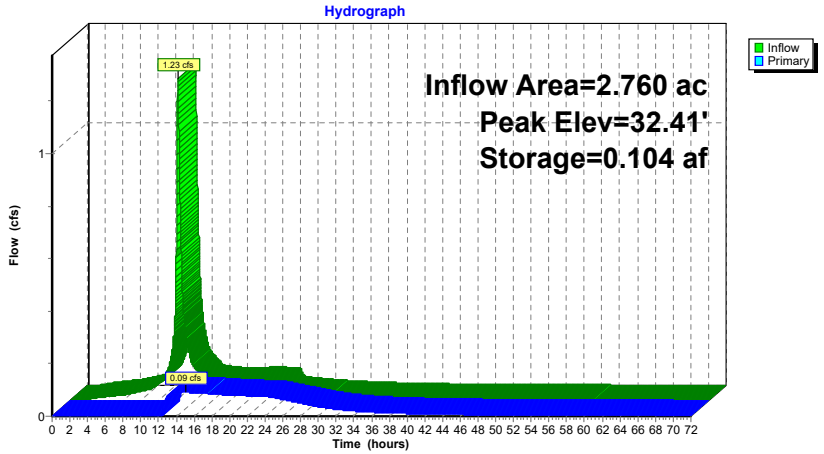
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	0.301 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.00	0.051	0.000	0.000
32.00	0.083	0.067	0.067
33.00	0.117	0.100	0.167
34.00	0.152	0.134	0.301

Device	Routing	Invert	Outlet Devices
#1	Primary	33.70'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	32.75'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.09 cfs @ 14.98 hrs HW=32.41' TW=29.39' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.09 cfs @ 2.66 fps)

Pond 97P: BASIN G



Summary for Pond 98P: BASIN A

Inflow Area = 2.470 ac, 53.85% Impervious, Inflow Depth = 1.93" for 2-Year-Current event
Inflow = 3.18 cfs @ 12.18 hrs, Volume= 0.398 af
Outflow = 2.32 cfs @ 12.35 hrs, Volume= 0.398 af, Atten= 27%, Lag= 10.1 min
Primary = 2.32 cfs @ 12.35 hrs, Volume= 0.398 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 35.70' Surf.Area= 0.409 ac Storage= 1.107 af
Peak Elev= 35.83' @ 12.35 hrs Surf.Area= 0.417 ac Storage= 1.161 af (0.054 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 32.4 min (819.2 - 786.9)

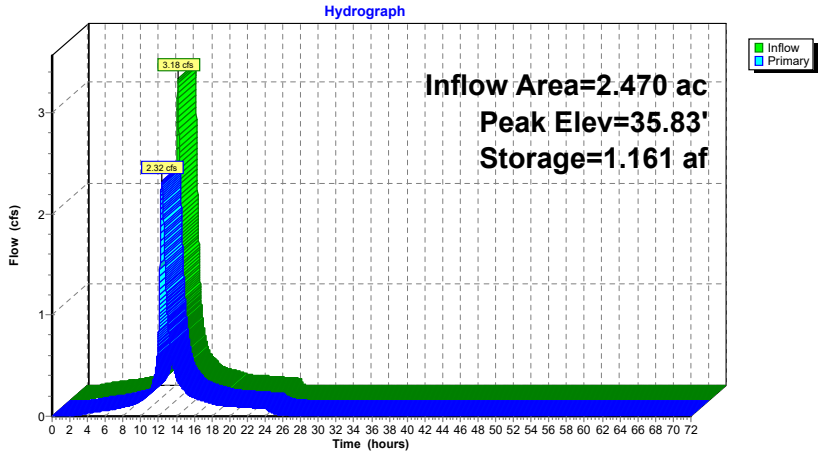
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.233 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.192	0.000	0.000
33.00	0.249	0.220	0.220
34.00	0.307	0.278	0.499
35.00	0.367	0.337	0.836
36.00	0.428	0.397	1.233

Device	Routing	Invert	Outlet Devices
#1	Primary	35.70'	**20.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=2.32 cfs @ 12.35 hrs HW=35.83' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 2.32 cfs @ 0.90 fps)

Pond 98P: BASIN A



Summary for Pond 101P: BASIN F

Inflow Area = 1.500 ac, 56.00% Impervious, Inflow Depth = 1.99" for 2-Year-Current event
Inflow = 2.06 cfs @ 12.17 hrs, Volume= 0.249 af
Outflow = 0.04 cfs @ 24.09 hrs, Volume= 0.045 af, Atten= 98%, Lag= 715.3 min
Primary = 0.04 cfs @ 24.09 hrs, Volume= 0.045 af
Routed to Pond 103P : BASIN G

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.15' @ 24.09 hrs Surf.Area= 0.224 ac Storage= 0.232 af

Plug-Flow detention time= 1,321.0 min calculated for 0.045 af (18% of inflow)
Center-of-Mass det. time= 1,034.0 min (1,818.3 - 784.2)

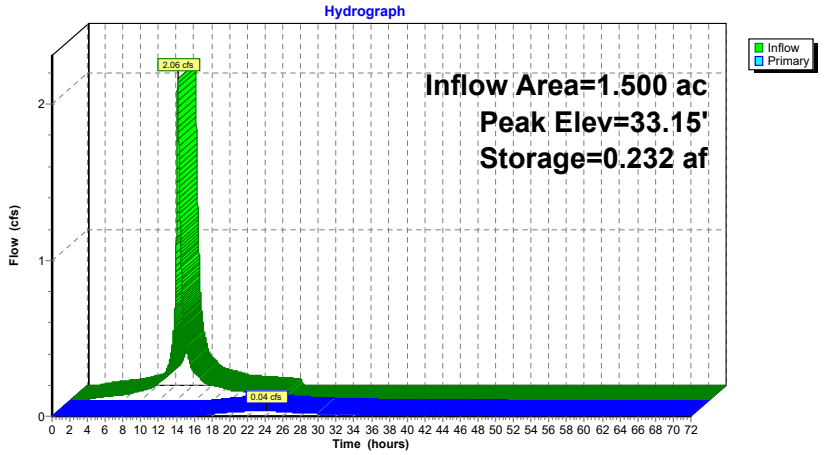
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.043 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.178	0.000	0.000
33.00	0.218	0.198	0.198
34.00	0.260	0.239	0.437
35.00	0.303	0.281	0.718
36.00	0.347	0.325	1.043

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.25'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.04 cfs @ 24.09 hrs HW=33.15' TW=32.31' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.04 cfs @ 1.34 fps)

Pond 101P: BASIN F



Summary for Pond 102P: BASIN Q

Inflow Area = 1.860 ac, 59.68% Impervious, Inflow Depth = 2.09" for 2-Year-Current event
Inflow = 2.33 cfs @ 12.21 hrs, Volume= 0.324 af
Outflow = 2.20 cfs @ 12.27 hrs, Volume= 0.324 af, Atten= 5%, Lag= 3.8 min
Primary = 2.20 cfs @ 12.27 hrs, Volume= 0.324 af
Routed to nonexistent node 46L

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 28.80' Surf.Area= 0.142 ac Storage= 0.327 af
Peak Elev= 28.91' @ 12.27 hrs Surf.Area= 0.144 ac Storage= 0.343 af (0.015 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 10.2 min (797.1 - 786.9)

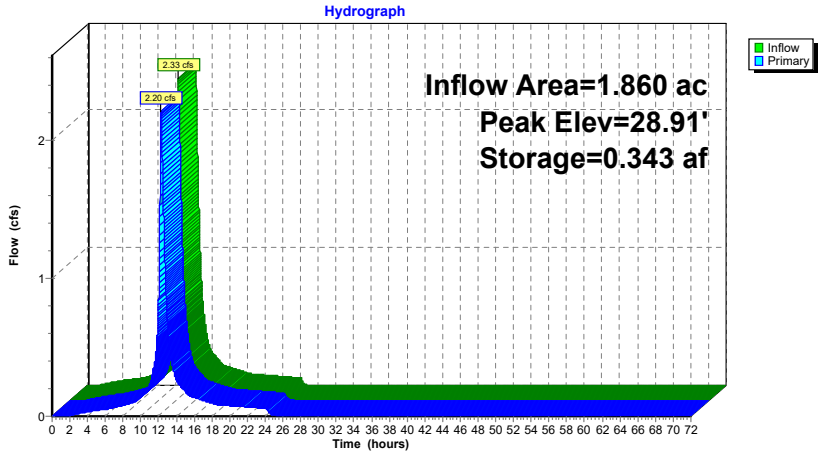
Volume	Invert	Avail.Storage	Storage Description
#1	26.00'	0.356 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.00	0.092	0.000	0.000
27.00	0.110	0.101	0.101
28.00	0.128	0.119	0.220
29.00	0.146	0.137	0.356

Device	Routing	Invert	Outlet Devices
#1	Primary	28.80'	**25.0' long x 10.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=2.20 cfs @ 12.27 hrs HW=28.91' (Free Discharge)
↳**1=Broad-Crested Rectangular Weir** (Weir Controls 2.20 cfs @ 0.82 fps)

Pond 102P: BASIN Q



Summary for Pond 103P: BASIN G

Inflow Area = 2.760 ac, 47.46% Impervious, Inflow Depth > 0.88" for 2-Year-Current event
Inflow = 1.23 cfs @ 12.18 hrs, Volume= 0.203 af
Outflow = 0.09 cfs @ 14.98 hrs, Volume= 0.133 af, Atten= 93%, Lag= 168.0 min
Primary = 0.09 cfs @ 14.98 hrs, Volume= 0.133 af
Routed to Link 128L : Inflow from Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 32.41' @ 14.98 hrs Surf.Area= 0.097 ac Storage= 0.104 af

Plug-Flow detention time= 752.8 min calculated for 0.133 af (66% of inflow)
Center-of-Mass det. time= 449.8 min (1,479.8 - 1,029.9)

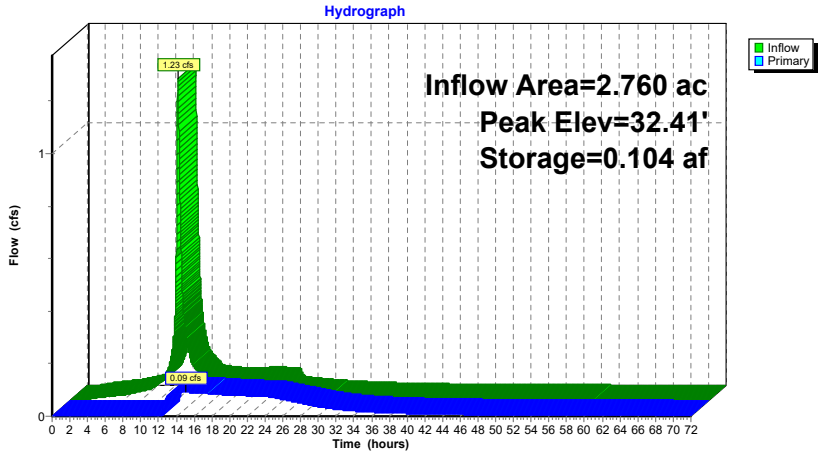
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	0.301 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.00	0.051	0.000	0.000
32.00	0.083	0.067	0.067
33.00	0.117	0.100	0.167
34.00	0.152	0.134	0.301

Device	Routing	Invert	Outlet Devices
#1	Primary	33.70'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	32.75'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.09 cfs @ 14.98 hrs HW=32.41' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.09 cfs @ 2.66 fps)

Pond 103P: BASIN G



Summary for Pond 104P: BASIN F

Inflow Area = 1.500 ac, 56.00% Impervious, Inflow Depth = 1.99" for 2-Year-Current event
Inflow = 2.06 cfs @ 12.17 hrs, Volume= 0.249 af
Outflow = 0.04 cfs @ 24.09 hrs, Volume= 0.045 af, Atten= 98%, Lag= 715.3 min
Primary = 0.04 cfs @ 24.09 hrs, Volume= 0.045 af
Routed to Link 129L : Inflow from Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.15' @ 24.09 hrs Surf.Area= 0.224 ac Storage= 0.232 af

Plug-Flow detention time= 1,321.0 min calculated for 0.045 af (18% of inflow)
Center-of-Mass det. time= 1,034.0 min (1,818.3 - 784.2)

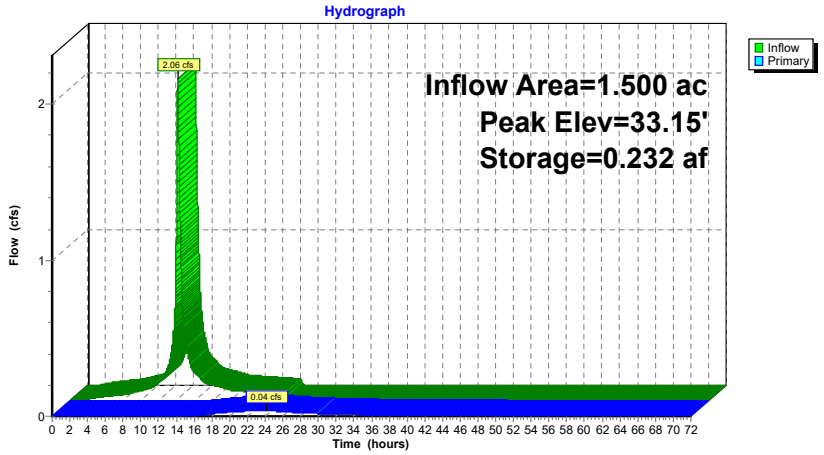
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.043 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.178	0.000	0.000
33.00	0.218	0.198	0.198
34.00	0.260	0.239	0.437
35.00	0.303	0.281	0.718
36.00	0.347	0.325	1.043

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.25'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.04 cfs @ 24.09 hrs HW=33.15' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.04 cfs @ 1.34 fps)

Pond 104P: BASIN F



Summary for Pond 105P: BASIN R

Inflow Area = 2.040 ac, 50.00% Impervious, Inflow Depth = 1.94" for 2-Year-Current event
Inflow = 2.67 cfs @ 12.18 hrs, Volume= 0.330 af
Outflow = 2.26 cfs @ 12.28 hrs, Volume= 0.330 af, Atten= 15%, Lag= 6.3 min
Primary = 2.26 cfs @ 12.28 hrs, Volume= 0.330 af
Routed to nonexistent node 46L

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 25.25' Surf.Area= 0.252 ac Storage= 0.502 af
Peak Elev= 25.36' @ 12.28 hrs Surf.Area= 0.263 ac Storage= 0.530 af (0.028 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 18.1 min (809.7 - 791.6)

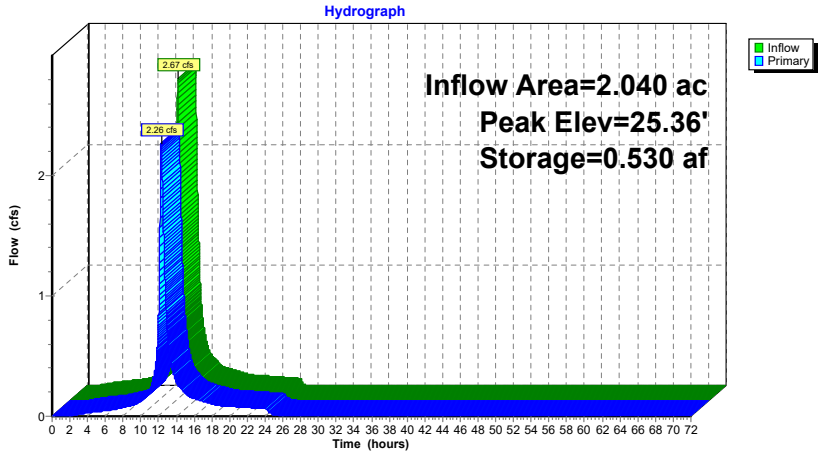
Volume	Invert	Avail.Storage	Storage Description
#1	22.50'	0.568 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
22.50	0.127	0.000	0.000
23.00	0.146	0.068	0.068
24.00	0.187	0.167	0.235
25.00	0.228	0.207	0.442
25.50	0.277	0.126	0.568

Device	Routing	Invert	Outlet Devices
#1	Primary	25.25'	**25.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=2.26 cfs @ 12.28 hrs HW=25.36' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 2.26 cfs @ 0.82 fps)

Pond 105P: BASIN R



Summary for Pond 106P: BASIN B

Inflow Area = 3.730 ac, 48.53% Impervious, Inflow Depth > 1.25" for 2-Year-Current event
Inflow = 1.24 cfs @ 12.18 hrs, Volume= 0.389 af
Outflow = 1.09 cfs @ 12.27 hrs, Volume= 0.389 af, Atten= 12%, Lag= 5.6 min
Primary = 1.09 cfs @ 12.27 hrs, Volume= 0.389 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 32.80' Surf.Area= 0.140 ac Storage= 0.263 af
Peak Elev= 32.88' @ 12.27 hrs Surf.Area= 0.143 ac Storage= 0.274 af (0.011 af above start)

Plug-Flow detention time= 1,420.5 min calculated for 0.125 af (32% of inflow)
Center-of-Mass det. time= 14.0 min (1,316.5 - 1,302.5)

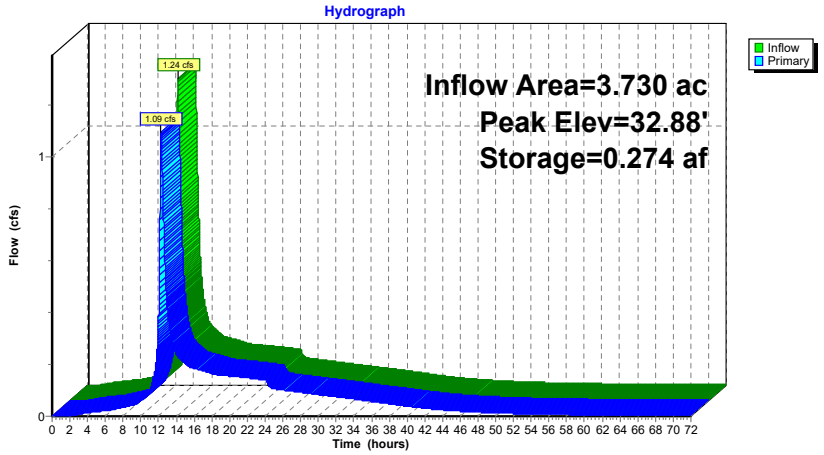
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	0.292 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.00	0.049	0.000	0.000
31.00	0.081	0.065	0.065
32.00	0.113	0.097	0.162
33.00	0.147	0.130	0.292

Device	Routing	Invert	Outlet Devices
#1	Primary	32.80'	**20.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.09 cfs @ 12.27 hrs HW=32.88' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 1.09 cfs @ 0.70 fps)

Pond 106P: BASIN B



Summary for Pond 108P: BASIN S

Inflow Area = 1.800 ac, 48.89% Impervious, Inflow Depth = 1.80" for 2-Year-Current event
Inflow = 1.90 cfs @ 12.22 hrs, Volume= 0.271 af
Outflow = 1.57 cfs @ 12.36 hrs, Volume= 0.271 af, Atten= 17%, Lag= 8.7 min
Primary = 1.57 cfs @ 12.36 hrs, Volume= 0.271 af
Routed to nonexistent node 46L

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 21.60' Surf.Area= 0.308 ac Storage= 0.687 af
Peak Elev= 21.69' @ 12.36 hrs Surf.Area= 0.313 ac Storage= 0.714 af (0.027 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 23.7 min (818.8 - 795.1)

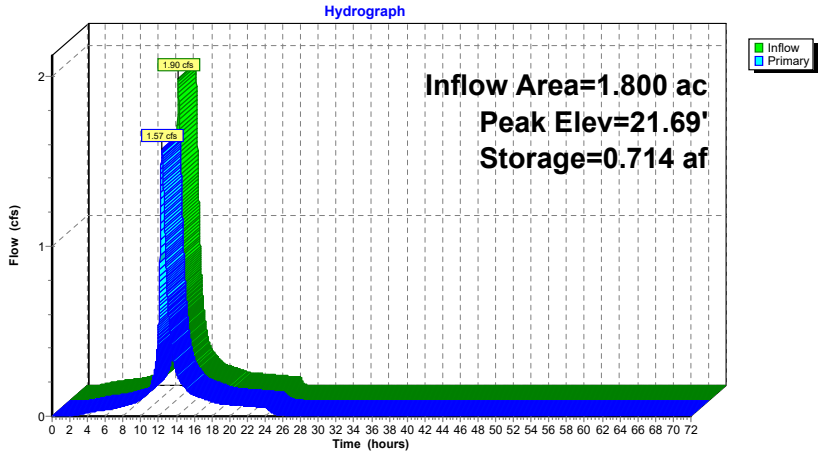
Volume	Invert	Avail.Storage	Storage Description
#1	18.80'	0.750 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
18.80	0.190	0.000	0.000
19.00	0.200	0.039	0.039
20.00	0.240	0.220	0.259
21.00	0.270	0.255	0.514
21.80	0.320	0.236	0.750

Device	Routing	Invert	Outlet Devices
#1	Primary	21.60'	**25.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.57 cfs @ 12.36 hrs HW=21.69' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 1.57 cfs @ 0.73 fps)

Pond 108P: BASIN S



Summary for Pond 110P: BASIN F

Inflow Area = 1.500 ac, 56.00% Impervious, Inflow Depth = 1.99" for 2-Year-Current event
Inflow = 2.06 cfs @ 12.17 hrs, Volume= 0.249 af
Outflow = 1.27 cfs @ 12.40 hrs, Volume= 0.249 af, Atten= 39%, Lag= 13.4 min
Primary = 1.27 cfs @ 12.40 hrs, Volume= 0.249 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 35.70' Surf.Area= 0.334 ac Storage= 0.941 af
Peak Elev= 35.84' @ 12.40 hrs Surf.Area= 0.340 ac Storage= 0.988 af (0.046 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 49.7 min (833.9 - 784.2)

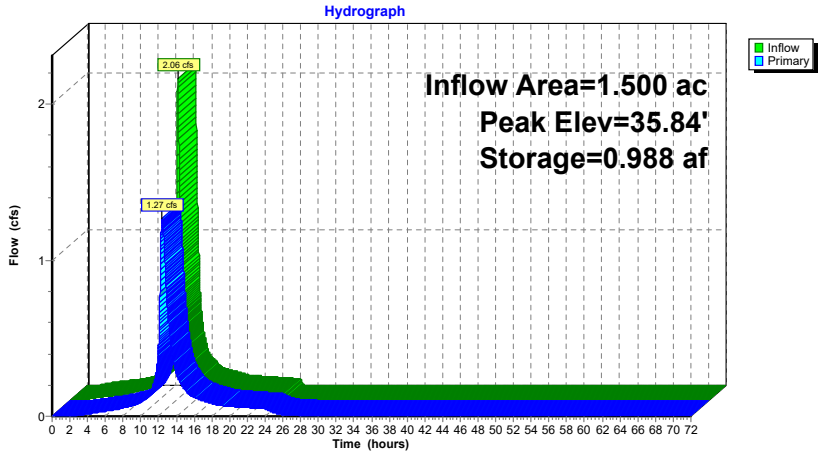
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.043 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.178	0.000	0.000
33.00	0.218	0.198	0.198
34.00	0.260	0.239	0.437
35.00	0.303	0.281	0.718
36.00	0.347	0.325	1.043

Device	Routing	Invert	Outlet Devices
#1	Primary	35.70'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.27 cfs @ 12.40 hrs HW=35.84' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 1.27 cfs @ 0.92 fps)

Pond 110P: BASIN F



Summary for Pond 111P: BASIN T

Inflow Area = 1.800 ac, 32.78% Impervious, Inflow Depth > 0.59" for 2-Year-Current event
Inflow = 0.86 cfs @ 12.11 hrs, Volume= 0.089 af
Outflow = 0.35 cfs @ 12.27 hrs, Volume= 0.088 af, Atten= 60%, Lag= 9.5 min
Primary = 0.35 cfs @ 12.27 hrs, Volume= 0.088 af
Routed to nonexistent node 46L

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 21.00' Surf.Area= 0.270 ac Storage= 0.550 af
Peak Elev= 21.06' @ 12.27 hrs Surf.Area= 0.276 ac Storage= 0.566 af (0.016 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 61.5 min (1,081.4 - 1,020.0)

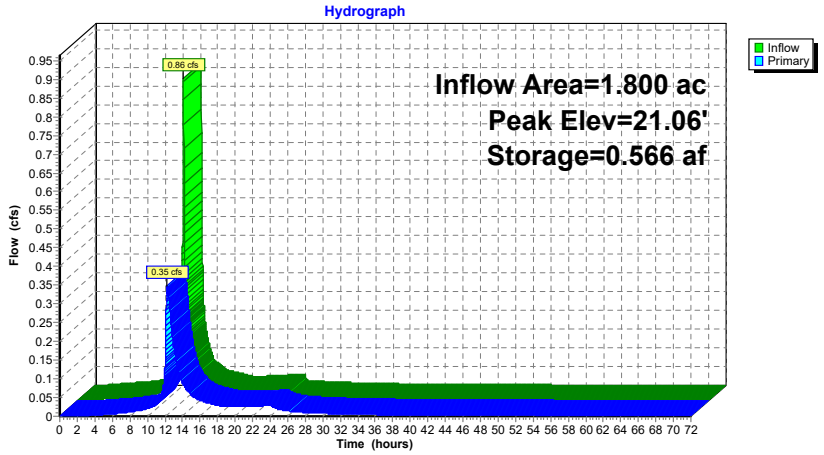
Volume	Invert	Avail.Storage	Storage Description
#1	18.50'	0.697 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
18.50	0.170	0.000	0.000
19.00	0.190	0.090	0.090
20.00	0.230	0.210	0.300
21.00	0.270	0.250	0.550
21.50	0.320	0.148	0.697

Device	Routing	Invert	Outlet Devices
#1	Primary	21.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.35 cfs @ 12.27 hrs HW=21.06' (Free Discharge)
1=Broad-Crested Rectangular Weir (Weir Controls 0.35 cfs @ 0.60 fps)

Pond 111P: BASIN T



Summary for Pond 113P: BASIN G

Inflow Area = 2.760 ac, 47.46% Impervious, Inflow Depth > 0.88" for 2-Year-Current event
Inflow = 1.23 cfs @ 12.18 hrs, Volume= 0.203 af
Outflow = 1.10 cfs @ 12.26 hrs, Volume= 0.203 af, Atten= 10%, Lag= 4.8 min
Primary = 1.10 cfs @ 12.26 hrs, Volume= 0.203 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 33.80' Surf.Area= 0.145 ac Storage= 0.272 af
Peak Elev= 33.87' @ 12.26 hrs Surf.Area= 0.147 ac Storage= 0.282 af (0.010 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 13.9 min (1,043.9 - 1,030.0)

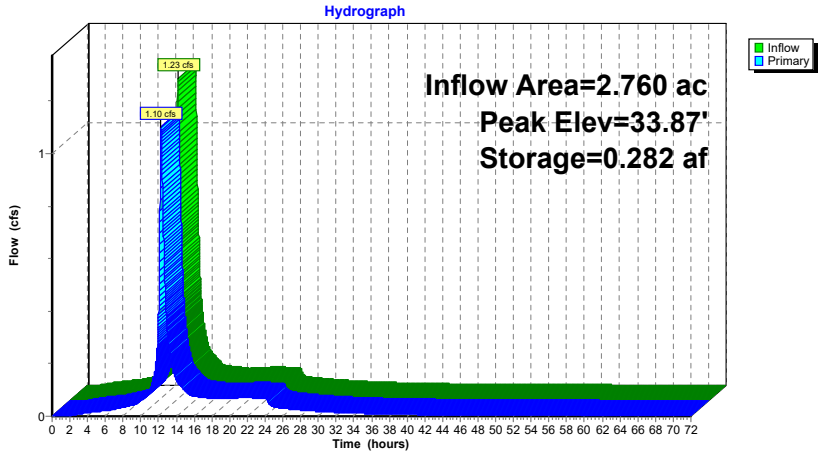
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	0.301 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.00	0.051	0.000	0.000
32.00	0.083	0.067	0.067
33.00	0.117	0.100	0.167
34.00	0.152	0.134	0.301

Device	Routing	Invert	Outlet Devices
#1	Primary	33.80'	**25.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.10 cfs @ 12.26 hrs HW=33.87' (Free Discharge)
↳**1=Broad-Crested Rectangular Weir** (Weir Controls 1.10 cfs @ 0.65 fps)

Pond 113P: BASIN G



Summary for Pond 114P: BASIN U

Inflow Area = 1.070 ac, 37.38% Impervious, Inflow Depth = 1.50" for 2-Year-Current event
Inflow = 1.45 cfs @ 12.12 hrs, Volume= 0.134 af
Outflow = 0.01 cfs @ 24.08 hrs, Volume= 0.015 af, Atten= 99%, Lag= 717.7 min
Primary = 0.01 cfs @ 24.08 hrs, Volume= 0.015 af
Routed to Link 125L : Inflow from Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 20.17' @ 24.08 hrs Surf.Area= 0.207 ac Storage= 0.130 af

Plug-Flow detention time= 1,584.9 min calculated for 0.015 af (12% of inflow)
Center-of-Mass det. time= 1,222.8 min (2,017.0 - 794.1)

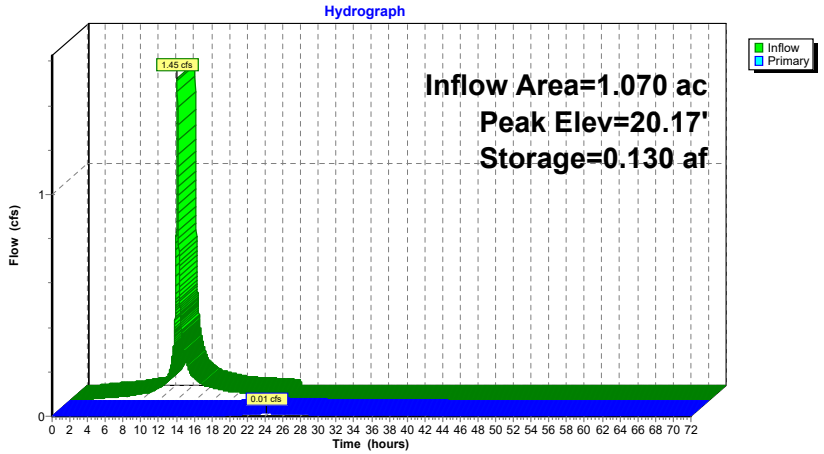
Volume	Invert	Avail.Storage	Storage Description
#1	19.50'	0.738 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
19.50	0.180	0.000	0.000
20.00	0.200	0.095	0.095
21.00	0.240	0.220	0.315
22.00	0.290	0.265	0.580
22.50	0.340	0.157	0.738

Device	Routing	Invert	Outlet Devices
#1	Primary	21.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.10'	**4.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.01 cfs @ 24.08 hrs HW=20.17' TW=0.00' (Dynamic Tailwater)
└─**1=Grate** (Controls 0.00 cfs)
└─**2=Orifice** (Orifice Controls 0.01 cfs @ 0.93 fps)

Pond 114P: BASIN U



Summary for Pond 115P: BASIN I

Inflow Area = 0.530 ac, 33.96% Impervious, Inflow Depth = 1.41" for 2-Year-Current event
Inflow = 0.48 cfs @ 12.18 hrs, Volume= 0.062 af
Outflow = 0.44 cfs @ 12.25 hrs, Volume= 0.062 af, Atten= 7%, Lag= 3.8 min
Primary = 0.44 cfs @ 12.25 hrs, Volume= 0.062 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 31.30' Surf.Area= 0.043 ac Storage= 0.092 af
Peak Elev= 31.37' @ 12.25 hrs Surf.Area= 0.044 ac Storage= 0.095 af (0.003 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 10.0 min (817.1 - 807.2)

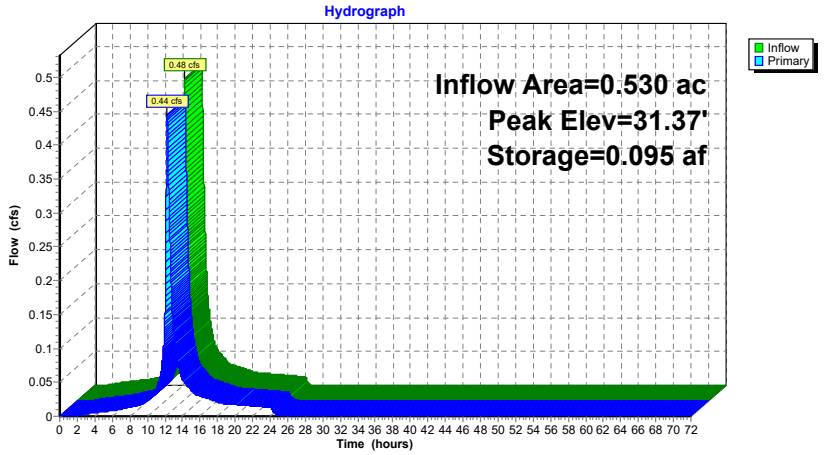
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.101 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.023	0.000	0.000
29.50	0.030	0.026	0.026
30.50	0.037	0.033	0.060
31.50	0.045	0.041	0.101

Device	Routing	Invert	Outlet Devices
#1	Primary	31.30'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.44 cfs @ 12.25 hrs HW=31.37' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 0.44 cfs @ 0.65 fps)

Pond 115P: BASIN I



Summary for Pond 116P: BASIN U

Inflow Area = 1.070 ac, 37.38% Impervious, Inflow Depth = 1.50" for 2-Year-Current event
Inflow = 1.45 cfs @ 12.12 hrs, Volume= 0.134 af
Outflow = 0.70 cfs @ 12.28 hrs, Volume= 0.134 af, Atten= 52%, Lag= 9.7 min
Primary = 0.70 cfs @ 12.28 hrs, Volume= 0.134 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 22.00' Surf.Area= 0.290 ac Storage= 0.580 af
Peak Elev= 22.09' @ 12.28 hrs Surf.Area= 0.299 ac Storage= 0.607 af (0.027 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 53.5 min (847.6 - 794.1)

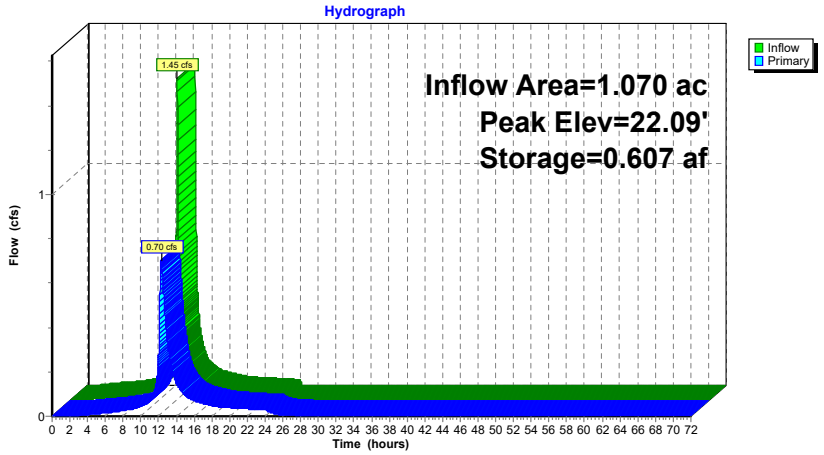
Volume	Invert	Avail.Storage	Storage Description
#1	19.50'	0.738 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
19.50	0.180	0.000	0.000
20.00	0.200	0.095	0.095
21.00	0.240	0.220	0.315
22.00	0.290	0.265	0.580
22.50	0.340	0.157	0.738

Device	Routing	Invert	Outlet Devices
#1	Primary	22.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.70 cfs @ 12.28 hrs HW=22.09' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 0.70 cfs @ 0.76 fps)

Pond 116P: BASIN U



Summary for Pond 117P: BASIN V

Inflow Area = 0.960 ac, 12.50% Impervious, Inflow Depth = 0.85" for 2-Year-Current event
Inflow = 0.47 cfs @ 12.20 hrs, Volume= 0.068 af
Outflow = 0.34 cfs @ 12.42 hrs, Volume= 0.068 af, Atten= 28%, Lag= 13.1 min
Primary = 0.34 cfs @ 12.42 hrs, Volume= 0.068 af
Routed to nonexistent node 46L

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 38.70' Surf.Area= 0.139 ac Storage= 0.200 af
Peak Elev= 38.76' @ 12.42 hrs Surf.Area= 0.141 ac Storage= 0.208 af (0.008 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 31.5 min (887.7 - 856.2)

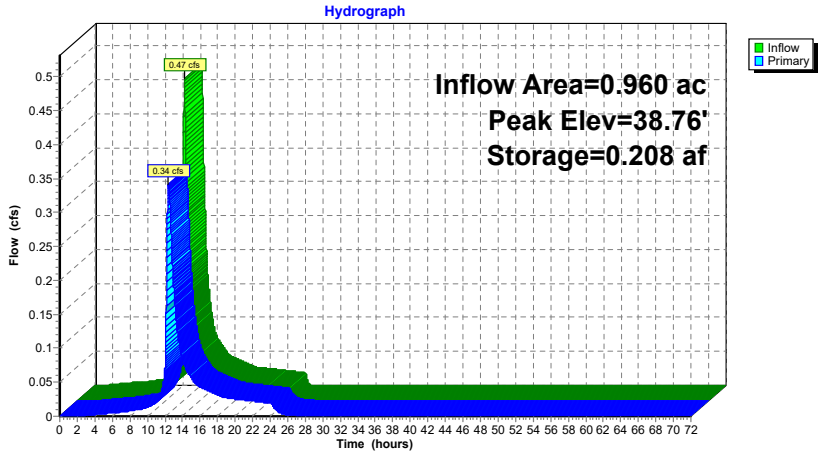
Volume	Invert	Avail.Storage	Storage Description
#1	37.00'	0.243 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
37.00	0.096	0.000	0.000
38.00	0.121	0.109	0.109
39.00	0.147	0.134	0.243

Device	Routing	Invert	Outlet Devices
#1	Primary	38.70'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.34 cfs @ 12.42 hrs HW=38.76' (Free Discharge)
↳**1=Broad-Crested Rectangular Weir** (Weir Controls 0.34 cfs @ 0.60 fps)

Pond 117P: BASIN V



Summary for Pond 118P: BASIN H

Inflow Area = 4.710 ac, 45.65% Impervious, Inflow Depth > 1.02" for 2-Year-Current event
Inflow = 2.10 cfs @ 12.18 hrs, Volume= 0.402 af
Outflow = 1.60 cfs @ 12.34 hrs, Volume= 0.401 af, Atten= 24%, Lag= 9.4 min
Primary = 1.60 cfs @ 12.34 hrs, Volume= 0.401 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 31.30' Surf.Area= 0.312 ac Storage= 0.736 af
Peak Elev= 31.40' @ 12.34 hrs Surf.Area= 0.315 ac Storage= 0.768 af (0.032 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 28.0 min (1,051.4 - 1,023.4)

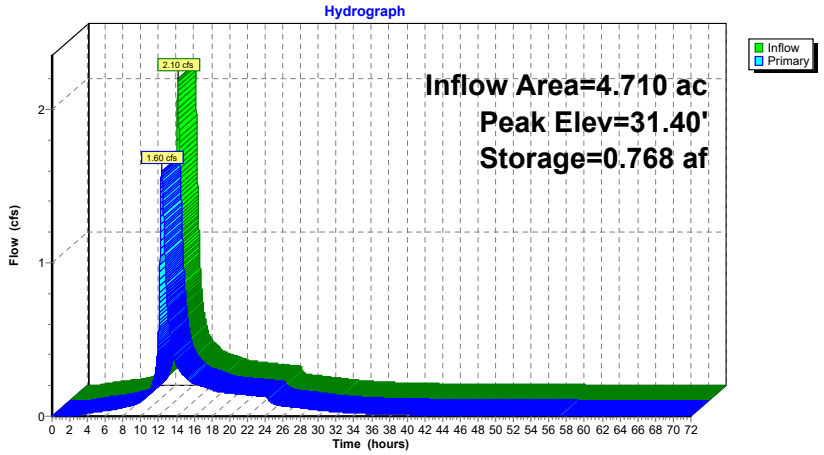
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.799 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.216	0.000	0.000
29.00	0.232	0.112	0.112
30.00	0.266	0.249	0.361
31.00	0.301	0.283	0.644
31.50	0.319	0.155	0.799

Device	Routing	Invert	Outlet Devices
#1	Primary	31.30'	**20.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.60 cfs @ 12.34 hrs HW=31.40' (Free Discharge)
↳**1=Broad-Crested Rectangular Weir** (Weir Controls 1.60 cfs @ 0.79 fps)

Pond 118P: BASIN H



Summary for Pond 120P: BASIN P

Inflow Area = 8.000 ac, 45.37% Impervious, Inflow Depth > 1.11" for 2-Year-Current event
Inflow = 3.08 cfs @ 12.19 hrs, Volume= 0.743 af
Outflow = 2.72 cfs @ 12.29 hrs, Volume= 0.742 af, Atten= 12%, Lag= 5.8 min
Primary = 2.72 cfs @ 12.29 hrs, Volume= 0.742 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 29.75' Surf.Area= 0.322 ac Storage= 0.827 af
Peak Elev= 29.84' @ 12.29 hrs Surf.Area= 0.328 ac Storage= 0.856 af (0.029 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 15.9 min (1,248.1 - 1,232.2)

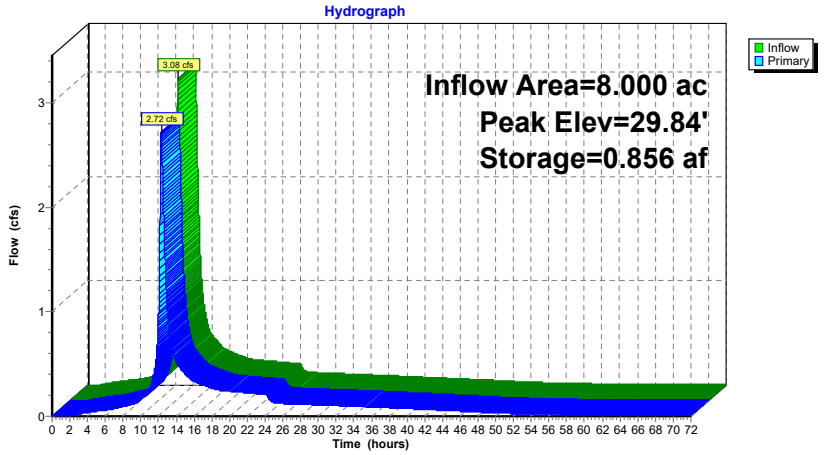
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.910 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.193	0.000	0.000
27.50	0.233	0.213	0.213
28.50	0.268	0.250	0.463
29.50	0.303	0.286	0.749
30.00	0.340	0.161	0.910

Device	Routing	Invert	Outlet Devices
#1	Primary	29.75'	**40.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=2.72 cfs @ 12.29 hrs HW=29.84' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 2.72 cfs @ 0.75 fps)

Pond 120P: BASIN P

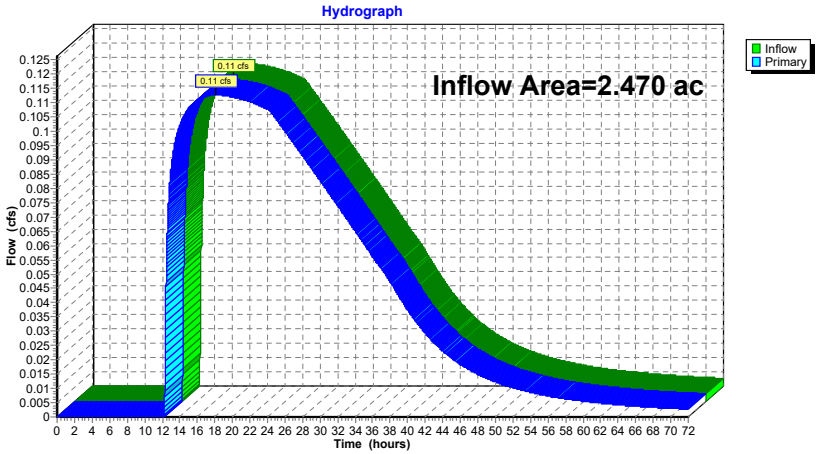


Summary for Link 121L: Inflow from Basins

Inflow Area = 2.470 ac, 53.85% Impervious, Inflow Depth > 1.11" for 2-Year-Current event
Inflow = 0.11 cfs @ 18.04 hrs, Volume= 0.229 af
Primary = 0.11 cfs @ 18.05 hrs, Volume= 0.229 af, Atten= 0%, Lag= 0.6 min
Routed to Pond 106P : BASIN B

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 121L: Inflow from Basins

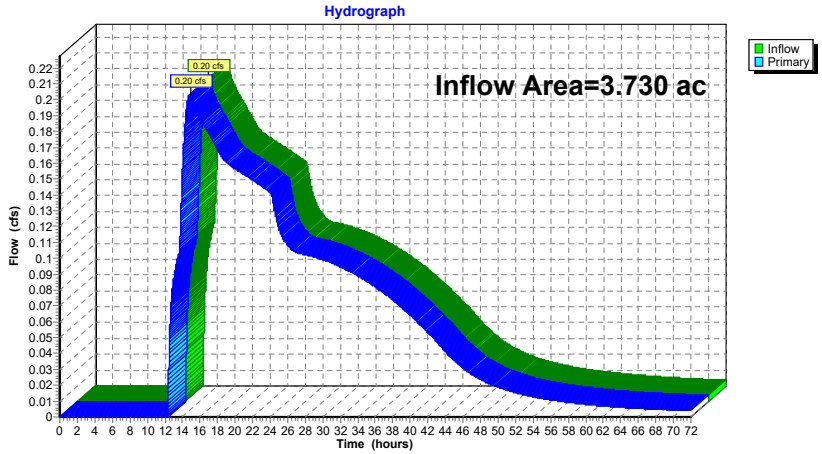


Summary for Link 122L: Inflow from Basins

Inflow Area = 3.730 ac, 48.53% Impervious, Inflow Depth > 1.03" for 2-Year-Current event
Inflow = 0.20 cfs @ 14.88 hrs, Volume= 0.320 af
Primary = 0.20 cfs @ 14.89 hrs, Volume= 0.320 af, Atten= 0%, Lag= 0.6 min
Routed to Pond 85P : BASIN C

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 122L: Inflow from Basins

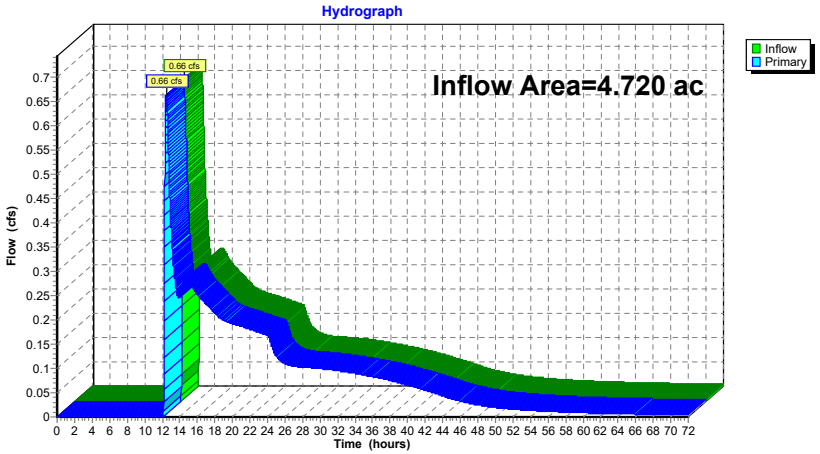


Summary for Link 123L: Inflow from Basins

Inflow Area = 4.720 ac, 47.25% Impervious, Inflow Depth > 1.05" for 2-Year-Current event
Inflow = 0.66 cfs @ 12.44 hrs, Volume= 0.411 af
Primary = 0.66 cfs @ 12.45 hrs, Volume= 0.411 af, Atten= 0%, Lag= 0.6 min
Routed to Pond 75P : BASIN D

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 123L: Inflow from Basins

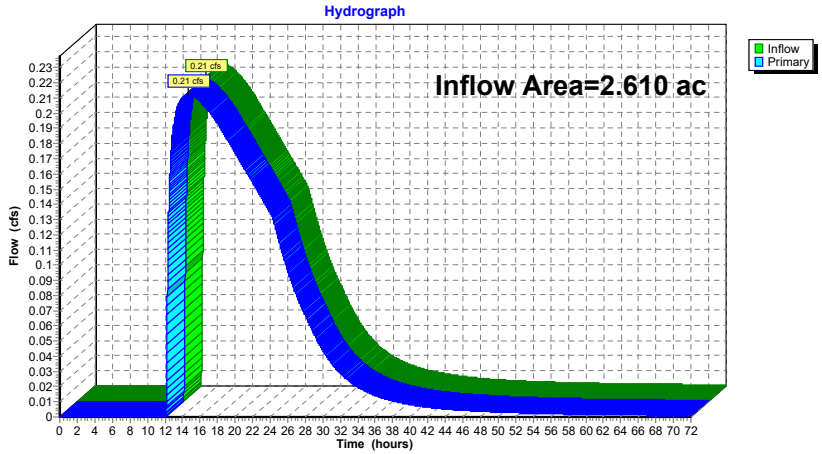


Summary for Link 124L: Inflow from Basins

Inflow Area = 2.610 ac, 42.53% Impervious, Inflow Depth > 1.11" for 2-Year-Current event
Inflow = 0.21 cfs @ 14.71 hrs, Volume= 0.241 af
Primary = 0.21 cfs @ 14.72 hrs, Volume= 0.241 af, Atten= 0%, Lag= 0.6 min
Routed to Pond 90P : BASIN N

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 124L: Inflow from Basins

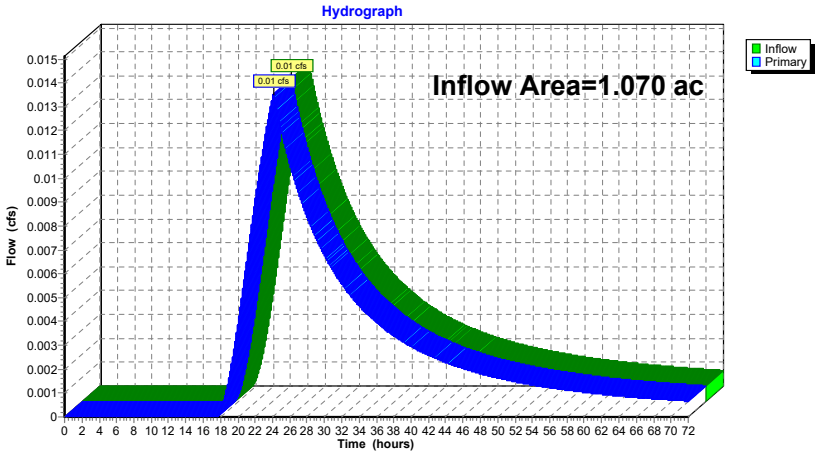


Summary for Link 125L: Inflow from Basins

Inflow Area = 1.070 ac, 37.38% Impervious, Inflow Depth > 0.17" for 2-Year-Current event
Inflow = 0.01 cfs @ 24.08 hrs, Volume= 0.015 af
Primary = 0.01 cfs @ 24.09 hrs, Volume= 0.015 af, Atten= 0%, Lag= 0.6 min
Routed to Pond 111P : BASIN T

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 125L: Inflow from Basins

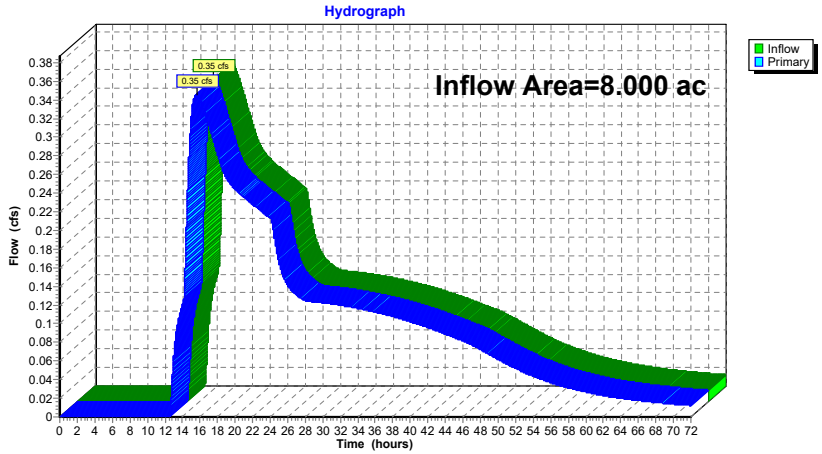


Summary for Link 126L: Inflow from Basins

Inflow Area = 8.000 ac, 45.38% Impervious, Inflow Depth > 0.77" for 2-Year-Current event
Inflow = 0.35 cfs @ 15.59 hrs, Volume= 0.512 af
Primary = 0.35 cfs @ 15.60 hrs, Volume= 0.512 af, Atten= 0%, Lag= 0.6 min
Routed to Pond 65P : BASIN E

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 126L: Inflow from Basins

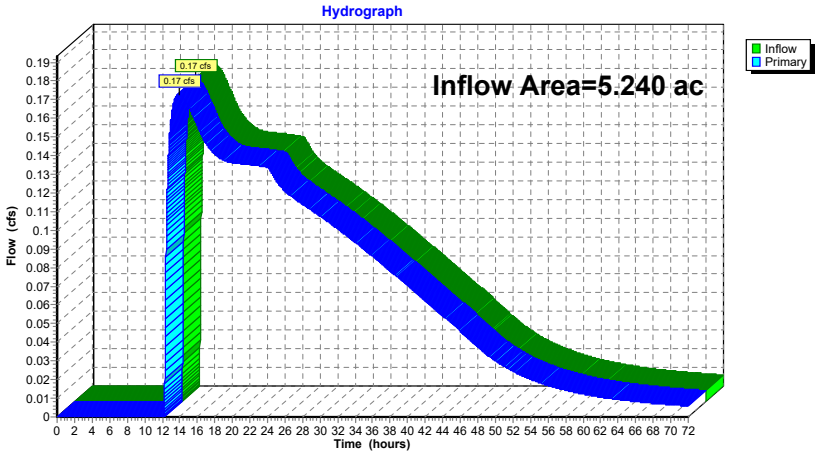


Summary for Link 127L: Inflow from Basins

Inflow Area = 5.240 ac, 44.47% Impervious, Inflow Depth > 0.78" for 2-Year-Current event
Inflow = 0.17 cfs @ 13.86 hrs, Volume= 0.339 af
Primary = 0.17 cfs @ 13.87 hrs, Volume= 0.339 af, Atten= 0%, Lag= 0.6 min
Routed to Pond 120P : BASIN P

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 127L: Inflow from Basins

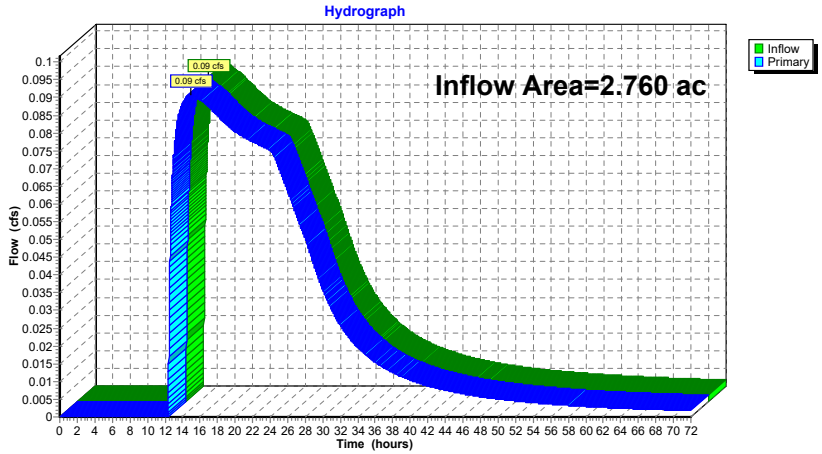


Summary for Link 128L: Inflow from Basins

Inflow Area = 2.760 ac, 47.46% Impervious, Inflow Depth > 0.58" for 2-Year-Current event
Inflow = 0.09 cfs @ 14.98 hrs, Volume= 0.133 af
Primary = 0.09 cfs @ 14.99 hrs, Volume= 0.133 af, Atten= 0%, Lag= 0.6 min
Routed to Pond 118P : BASIN H

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 128L: Inflow from Basins

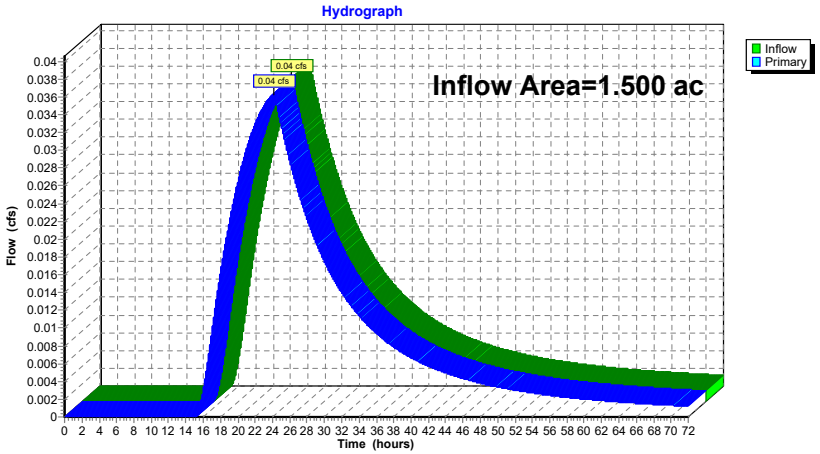


Summary for Link 129L: Inflow from Basins

Inflow Area = 1.500 ac, 56.00% Impervious, Inflow Depth > 0.36" for 2-Year-Current event
Inflow = 0.04 cfs @ 24.09 hrs, Volume= 0.045 af
Primary = 0.04 cfs @ 24.10 hrs, Volume= 0.045 af, Atten= 0%, Lag= 0.6 min
Routed to Pond 113P : BASIN G

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 129L: Inflow from Basins



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Sim-Route method - Pond routing by Sim-Route method

Subcatchment60S: BASIN A - DA Runoff Area=2.470 ac 53.85% Impervious Runoff Depth=3.43"
Flow Length=102' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=5.79 cfs 0.705 af

Subcatchment61S: BASIN I - DA Runoff Area=0.530 ac 33.96% Impervious Runoff Depth=2.73"
Flow Length=134' Slope=0.0200 '/' Tc=9.6 min CN=WQ Runoff=0.99 cfs 0.121 af

Subcatchment62S: BASIN I - DA Runoff Area=0.530 ac 33.96% Impervious Runoff Depth=2.73"
Flow Length=134' Slope=0.0200 '/' Tc=9.6 min CN=WQ Runoff=0.99 cfs 0.121 af

Subcatchment63S: BASIN I - DA Runoff Area=0.530 ac 33.96% Impervious Runoff Depth=2.73"
Flow Length=134' Slope=0.0200 '/' Tc=9.6 min CN=WQ Runoff=0.99 cfs 0.121 af

Subcatchment64S: BASIN E - DA Runoff Area=2.240 ac 50.89% Impervious Runoff Depth=3.32"
Flow Length=609' Tc=8.1 min CN=WQ Runoff=5.44 cfs 0.620 af

Subcatchment65S: BASIN V - DA Runoff Area=0.960 ac 12.50% Impervious Runoff Depth=1.98"
Flow Length=100' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=1.32 cfs 0.158 af

Subcatchment66S: BASIN B - DA Runoff Area=1.260 ac 38.10% Impervious Runoff Depth=2.87"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=2.49 cfs 0.302 af

Subcatchment68S: BASIN K - DA Runoff Area=1.640 ac 37.80% Impervious Runoff Depth=2.86"
Flow Length=136' Slope=0.0200 '/' Tc=9.7 min CN=WQ Runoff=3.18 cfs 0.391 af

Subcatchment69S: BASIN O - DA Runoff Area=1.100 ac 51.82% Impervious Runoff Depth=3.57"
Flow Length=113' Tc=9.4 min CN=WQ Runoff=2.73 cfs 0.328 af

Subcatchment70S: BASIN Q - DA Runoff Area=1.860 ac 59.68% Impervious Runoff Depth=3.63"
Flow Length=612' Tc=12.0 min CN=WQ Runoff=4.13 cfs 0.563 af

Subcatchment71S: BASIN R - DA Runoff Area=2.040 ac 50.00% Impervious Runoff Depth=3.46"
Flow Length=98' Tc=9.4 min CN=WQ Runoff=4.88 cfs 0.588 af

Subcatchment73S: BASIN C - DA Runoff Area=0.990 ac 42.42% Impervious Runoff Depth=3.03"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=2.06 cfs 0.250 af

Subcatchment74S: BASIN L - DA Runoff Area=0.970 ac 50.52% Impervious Runoff Depth=3.31"
Flow Length=96' Tc=9.2 min CN=WQ Runoff=2.22 cfs 0.268 af

Subcatchment75S: BASIN K - DA Runoff Area=1.640 ac 37.80% Impervious Runoff Depth=2.86"
Flow Length=136' Slope=0.0200 '/' Tc=9.7 min CN=WQ Runoff=3.18 cfs 0.391 af

Subcatchment76S: BASIN F - DA Runoff Area=1.500 ac 56.00% Impervious Runoff Depth=3.50"
Flow Length=447' Tc=8.7 min CN=WQ Runoff=3.72 cfs 0.438 af

Subcatchment77S: BASIN D - DA Runoff Area=2.670 ac 51.31% Impervious Runoff Depth=3.34"
Flow Length=795' Tc=9.0 min CN=WQ Runoff=6.24 cfs 0.743 af

Subcatchment78S: BASIN A - DA Runoff Area=2.470 ac 53.85% Impervious Runoff Depth=3.43"
Flow Length=102' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=5.79 cfs 0.705 af

Subcatchment79S: BASIN B - DA Runoff Area=1.260 ac 38.10% Impervious Runoff Depth=2.87"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=2.49 cfs 0.302 af

Subcatchment80S: BASIN C - DA Runoff Area=0.990 ac 42.42% Impervious Runoff Depth=3.03"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=2.06 cfs 0.250 af

Subcatchment81S: BASIN A - DA Runoff Area=2.470 ac 53.85% Impervious Runoff Depth=3.43"
Flow Length=102' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=5.79 cfs 0.705 af

Subcatchment82S: BASIN A - DA Runoff Area=2.470 ac 53.85% Impervious Runoff Depth=3.43"
Flow Length=102' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=5.79 cfs 0.705 af

Subcatchment83S: BASIN B - DA Runoff Area=1.260 ac 38.10% Impervious Runoff Depth=2.87"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=2.49 cfs 0.302 af

Subcatchment84S: BASIN N - DA Runoff Area=1.390 ac 46.04% Impervious Runoff Depth=3.24"
Flow Length=108' Tc=9.3 min CN=WQ Runoff=3.12 cfs 0.376 af

Subcatchment85S: BASIN G - DA Runoff Area=1.260 ac 37.30% Impervious Runoff Depth=2.85"
Flow Length=102' Tc=9.3 min CN=WQ Runoff=2.47 cfs 0.299 af

Subcatchment86S: BASIN L - DA Runoff Area=0.970 ac 50.52% Impervious Runoff Depth=3.31"
Flow Length=96' Tc=9.2 min CN=WQ Runoff=2.22 cfs 0.268 af

Subcatchment88S: BASIN H - DA Runoff Area=1.950 ac 43.08% Impervious Runoff Depth=3.05"
Flow Length=111' Slope=0.0200 '/' Tc=9.5 min CN=WQ Runoff=4.06 cfs 0.495 af

Subcatchment98S: BASIN P - DA Runoff Area=2.760 ac 47.10% Impervious Runoff Depth=3.19"
Flow Length=214' Slope=0.0200 '/' Tc=10.2 min CN=WQ Runoff=5.81 cfs 0.734 af

Subcatchment99S: BASIN F - DA Runoff Area=1.500 ac 56.00% Impervious Runoff Depth=3.50"
Flow Length=447' Tc=8.7 min CN=WQ Runoff=3.72 cfs 0.438 af

Subcatchment100S: BASIN G - DA Runoff Area=1.260 ac 37.30% Impervious Runoff Depth=2.85"
Flow Length=102' Tc=9.3 min CN=WQ Runoff=2.47 cfs 0.299 af

Subcatchment101S: BASIN H - DA Runoff Area=1.950 ac 43.08% Impervious Runoff Depth=3.05"
Flow Length=111' Slope=0.0200 '/' Tc=9.5 min CN=WQ Runoff=4.06 cfs 0.495 af

Subcatchment102S: BASIN P - DA Runoff Area=2.760 ac 47.10% Impervious Runoff Depth=3.19"
Flow Length=214' Slope=0.0200 '/' Tc=10.2 min CN=WQ Runoff=5.81 cfs 0.734 af

Subcatchment103S: BASIN F - DA Runoff Area=1.500 ac 56.00% Impervious Runoff Depth=3.50"
Flow Length=447' Tc=8.7 min CN=WQ Runoff=3.72 cfs 0.438 af

Subcatchment104S: BASIN G - DA Runoff Area=1.260 ac 37.30% Impervious Runoff Depth=2.85"
Flow Length=102' Tc=9.3 min CN=WQ Runoff=2.47 cfs 0.299 af

Subcatchment105S: BASIN H - DA Runoff Area=1.950 ac 43.08% Impervious Runoff Depth=3.05"
Flow Length=111' Slope=0.0200 '/' Tc=9.5 min CN=WQ Runoff=4.06 cfs 0.495 af

Subcatchment106S: BASIN F - DA Runoff Area=1.500 ac 56.00% Impervious Runoff Depth=3.50"
Flow Length=447' Tc=8.7 min CN=WQ Runoff=3.72 cfs 0.438 af

Subcatchment107S: BASIN G - DA Runoff Area=1.260 ac 37.30% Impervious Runoff Depth=2.85"
Flow Length=102' Tc=9.3 min CN=WQ Runoff=2.47 cfs 0.299 af

Subcatchment108S: BASIN F - DA Runoff Area=1.500 ac 56.00% Impervious Runoff Depth=3.50"
Flow Length=447' Tc=8.7 min CN=WQ Runoff=3.72 cfs 0.438 af

Subcatchment110S: BASIN T - DA Runoff Area=0.730 ac 26.03% Impervious Runoff Depth=2.45"
Flow Length=254' Slope=0.0100 '/' Tc=2.8 min CN=WQ Runoff=1.91 cfs 0.149 af

Subcatchment113S: BASIN U - DA Runoff Area=1.070 ac 37.38% Impervious Runoff Depth=2.85"
Flow Length=28' Slope=0.0350 '/' Tc=4.0 min CN=WQ Runoff=2.92 cfs 0.254 af

Subcatchment114S: BASIN U - DA Runoff Area=1.070 ac 37.38% Impervious Runoff Depth=2.85"
Flow Length=28' Slope=0.0350 '/' Tc=4.0 min CN=WQ Runoff=2.92 cfs 0.254 af

Subcatchment130S: BASIN S - DA Runoff Area=1.800 ac 48.89% Impervious Runoff Depth=3.25"
Flow Length=466' Tc=12.2 min CN=WQ Runoff=3.54 cfs 0.488 af

Pond 52P: BASIN A Peak Elev=34.13' Storage=0.540 af Inflow=5.79 cfs 0.705 af
Outflow=0.19 cfs 0.528 af

Pond 59P: BASIN C Peak Elev=29.99' Storage=0.073 af Inflow=2.26 cfs 1.007 af
Outflow=2.16 cfs 0.963 af

Pond 60P: BASIN H Peak Elev=30.37' Storage=0.463 af Inflow=4.15 cfs 0.956 af
Outflow=0.45 cfs 0.828 af

Pond 63P: BASIN P Peak Elev=28.20' Storage=0.385 af Inflow=6.00 cfs 1.659 af
Outflow=2.31 cfs 1.390 af

Pond 64P: BASIN I Peak Elev=30.56' Storage=0.062 af Inflow=0.99 cfs 0.121 af
Outflow=0.17 cfs 0.097 af

Pond 65P: BASIN E Peak Elev=29.45' Storage=0.412 af Inflow=5.49 cfs 2.010 af
Outflow=5.18 cfs 2.009 af

Pond 70P: BASIN K Peak Elev=32.00' Storage=0.212 af Inflow=3.18 cfs 0.391 af
Outflow=0.66 cfs 0.325 af

Pond 74P: BASIN B Peak Elev=31.80' Storage=0.140 af Inflow=2.58 cfs 0.830 af
Outflow=1.20 cfs 0.758 af

Pond 75P: BASIN D Peak Elev=29.48' Storage=0.720 af Inflow=7.56 cfs 1.705 af
Outflow=6.88 cfs 1.704 af

Pond 80P: BASIN A	Peak Elev=34.13' Storage=0.540 af	Inflow=5.79 cfs 0.705 af Outflow=0.19 cfs 0.528 af
Pond 81P: BASIN B	Peak Elev=31.80' Storage=0.140 af	Inflow=2.58 cfs 0.830 af Outflow=1.20 cfs 0.758 af
Pond 83P: BASIN F	Peak Elev=33.62' Storage=0.340 af	Inflow=3.72 cfs 0.438 af Outflow=0.12 cfs 0.232 af
Pond 84P: BASIN L	Peak Elev=34.09' Storage=0.140 af	Inflow=2.22 cfs 0.268 af Outflow=0.67 cfs 0.219 af
Pond 85P: BASIN C	Peak Elev=31.43' Storage=0.191 af	Inflow=2.22 cfs 1.007 af Outflow=2.21 cfs 1.007 af
Pond 86P: BASIN G	Peak Elev=32.94' Storage=0.160 af	Inflow=2.47 cfs 0.531 af Outflow=0.68 cfs 0.460 af
Pond 87P: BASIN A	Peak Elev=34.13' Storage=0.540 af	Inflow=5.79 cfs 0.705 af Outflow=0.19 cfs 0.528 af
Pond 90P: BASIN N	Peak Elev=31.45' Storage=0.431 af	Inflow=3.32 cfs 0.920 af Outflow=2.87 cfs 0.919 af
Pond 91P: BASIN K	Peak Elev=33.45' Storage=0.473 af	Inflow=3.18 cfs 0.391 af Outflow=2.79 cfs 0.391 af
Pond 92P: BASIN L	Peak Elev=35.18' Storage=0.267 af	Inflow=2.22 cfs 0.268 af Outflow=1.90 cfs 0.268 af
Pond 93P: BASIN O	Peak Elev=29.21' Storage=0.209 af	Inflow=2.73 cfs 0.328 af Outflow=2.43 cfs 0.328 af
Pond 94P: BASIN H	Peak Elev=30.37' Storage=0.463 af	Inflow=4.15 cfs 0.956 af Outflow=0.45 cfs 0.828 af
Pond 95P: BASIN I	Peak Elev=30.56' Storage=0.062 af	Inflow=0.99 cfs 0.121 af Outflow=0.17 cfs 0.097 af
Pond 96P: BASIN F	Peak Elev=33.62' Storage=0.340 af	Inflow=3.72 cfs 0.438 af Outflow=0.12 cfs 0.232 af
Pond 97P: BASIN G	Peak Elev=32.94' Storage=0.160 af	Inflow=2.47 cfs 0.531 af Outflow=0.68 cfs 0.460 af
Pond 98P: BASIN A	Peak Elev=35.90' Storage=1.191 af	Inflow=5.79 cfs 0.705 af Outflow=4.47 cfs 0.705 af
Pond 101P: BASIN F	Peak Elev=33.62' Storage=0.340 af	Inflow=3.72 cfs 0.438 af Outflow=0.12 cfs 0.232 af

Pond 102P: BASIN Q	Peak Elev=28.96' Storage=0.350 af	Inflow=4.13 cfs 0.563 af Outflow=3.96 cfs 0.563 af
Pond 103P: BASIN G	Peak Elev=32.94' Storage=0.160 af	Inflow=2.47 cfs 0.531 af Outflow=0.68 cfs 0.460 af
Pond 104P: BASIN F	Peak Elev=33.62' Storage=0.340 af	Inflow=3.72 cfs 0.438 af Outflow=0.12 cfs 0.232 af
Pond 105P: BASIN R	Peak Elev=25.42' Storage=0.546 af	Inflow=4.88 cfs 0.588 af Outflow=4.28 cfs 0.588 af
Pond 106P: BASIN B	Peak Elev=32.93' Storage=0.282 af	Inflow=2.58 cfs 0.830 af Outflow=2.36 cfs 0.830 af
Pond 108P: BASIN S	Peak Elev=21.73' Storage=0.729 af	Inflow=3.54 cfs 0.488 af Outflow=3.06 cfs 0.488 af
Pond 110P: BASIN F	Peak Elev=35.91' Storage=1.014 af	Inflow=3.72 cfs 0.438 af Outflow=2.46 cfs 0.438 af
Pond 111P: BASIN T	Peak Elev=21.11' Storage=0.580 af	Inflow=1.91 cfs 0.284 af Outflow=0.90 cfs 0.284 af
Pond 113P: BASIN G	Peak Elev=33.91' Storage=0.288 af	Inflow=2.47 cfs 0.531 af Outflow=2.29 cfs 0.531 af
Pond 114P: BASIN U	Peak Elev=20.38' Storage=0.174 af	Inflow=2.92 cfs 0.254 af Outflow=0.14 cfs 0.135 af
Pond 115P: BASIN I	Peak Elev=31.41' Storage=0.097 af	Inflow=0.99 cfs 0.121 af Outflow=0.94 cfs 0.121 af
Pond 116P: BASIN U	Peak Elev=22.16' Storage=0.627 af	Inflow=2.92 cfs 0.254 af Outflow=1.58 cfs 0.254 af
Pond 117P: BASIN V	Peak Elev=38.82' Storage=0.217 af	Inflow=1.32 cfs 0.158 af Outflow=1.04 cfs 0.158 af
Pond 118P: BASIN H	Peak Elev=31.47' Storage=0.789 af	Inflow=4.15 cfs 0.956 af Outflow=3.36 cfs 0.955 af
Pond 120P: BASIN P	Peak Elev=29.89' Storage=0.874 af	Inflow=6.00 cfs 1.659 af Outflow=5.47 cfs 1.657 af
Link 121L: Inflow from Basins		Inflow=0.19 cfs 0.528 af Primary=0.19 cfs 0.528 af
Link 122L: Inflow from Basins		Inflow=1.20 cfs 0.758 af Primary=1.20 cfs 0.758 af

Link 123L: Inflow from Basins Inflow=2.16 cfs 0.963 af
Primary=2.16 cfs 0.963 af

Link 124L: Inflow from Basins Inflow=1.28 cfs 0.544 af
Primary=1.28 cfs 0.544 af

Link 125L: Inflow from Basins Inflow=0.14 cfs 0.135 af
Primary=0.14 cfs 0.135 af

Link 126L: Inflow from Basins Inflow=2.31 cfs 1.390 af
Primary=2.31 cfs 1.390 af

Link 127L: Inflow from Basins Inflow=0.58 cfs 0.925 af
Primary=0.58 cfs 0.925 af

Link 128L: Inflow from Basins Inflow=0.68 cfs 0.460 af
Primary=0.68 cfs 0.460 af

Link 129L: Inflow from Basins Inflow=0.12 cfs 0.232 af
Primary=0.12 cfs 0.232 af

Total Runoff Area = 63.290 ac Runoff Volume = 16.763 af Average Runoff Depth = 3.18"
53.55% Pervious = 33.890 ac 46.45% Impervious = 29.400 ac

Summary for Subcatchment 60S: BASIN A - DA

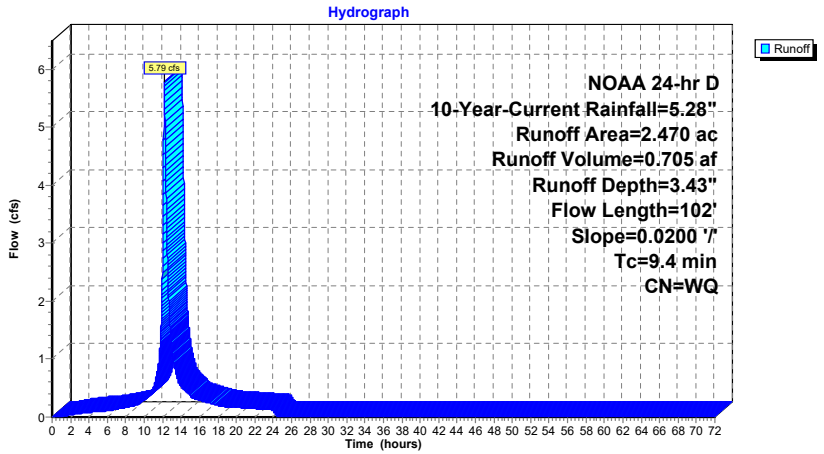
Runoff = 5.79 cfs @ 12.18 hrs, Volume= 0.705 af, Depth= 3.43"
Routed to Pond 52P : BASIN A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	1.140	61	Open Space
*	0.600	98	Road
*	0.130	98	Sidewalk
*	0.300	98	Roof
*	0.300	98	Driveway & Apron
	2.470		Weighted Average
	1.140		46.15% Pervious Area
	1.330		53.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	43	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	102	Total			

Subcatchment 60S: BASIN A - DA



Summary for Subcatchment 61S: BASIN I - DA

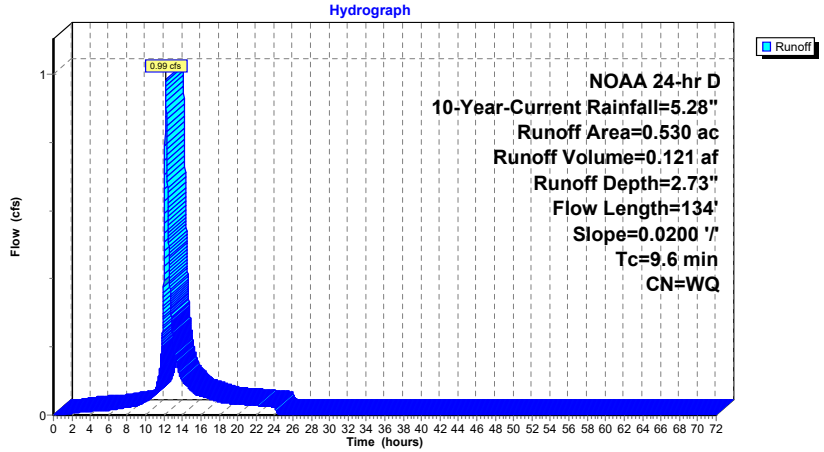
Runoff = 0.99 cfs @ 12.18 hrs, Volume= 0.121 af, Depth= 2.73"
Routed to Pond 64P : BASIN I

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.180	98	Roof
*	0.000	98	Driveway & Apron
	0.530		Weighted Average
	0.350		66.04% Pervious Area
	0.180		33.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.5	75	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.6	134	Total			

Subcatchment 61S: BASIN I - DA



Summary for Subcatchment 62S: BASIN I - DA

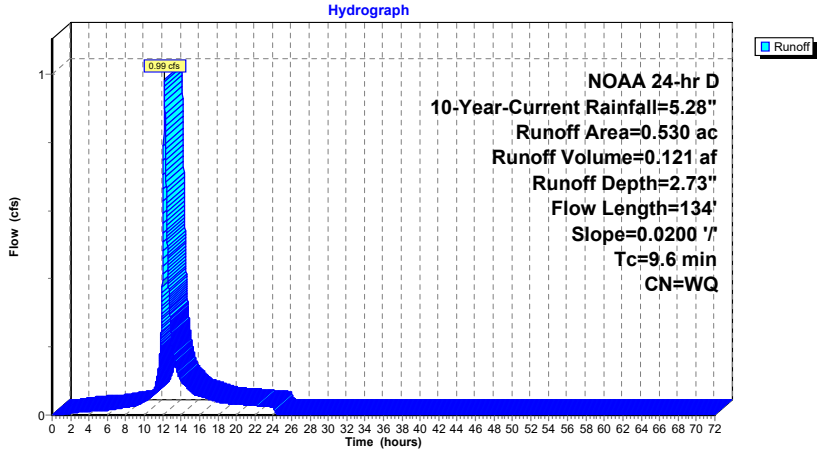
Runoff = 0.99 cfs @ 12.18 hrs, Volume= 0.121 af, Depth= 2.73"
Routed to Pond 95P : BASIN I

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.180	98	Roof
*	0.000	98	Driveway & Apron
	0.530		Weighted Average
	0.350		66.04% Pervious Area
	0.180		33.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.5	75	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.6	134	Total			

Subcatchment 62S: BASIN I - DA



Summary for Subcatchment 63S: BASIN I - DA

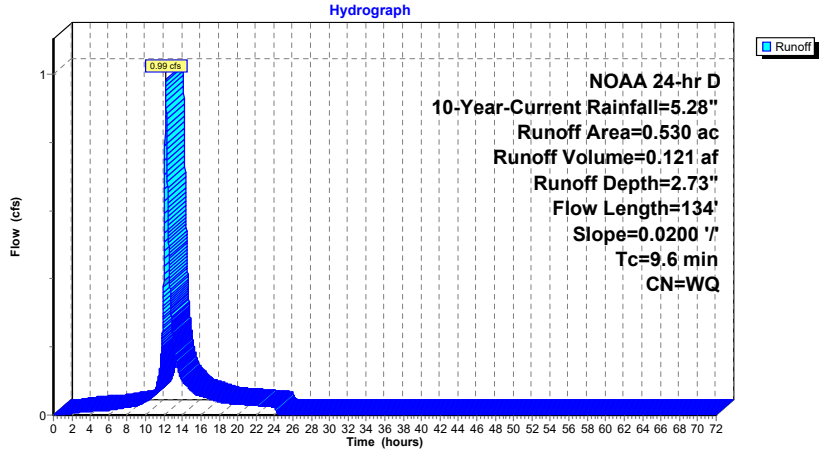
Runoff = 0.99 cfs @ 12.18 hrs, Volume= 0.121 af, Depth= 2.73"
Routed to Pond 115P : BASIN I

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.180	98	Roof
*	0.000	98	Driveway & Apron
	0.530		Weighted Average
	0.350		66.04% Pervious Area
	0.180		33.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.5	75	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.6	134	Total			

Subcatchment 63S: BASIN I - DA



Summary for Subcatchment 64S: BASIN E - DA

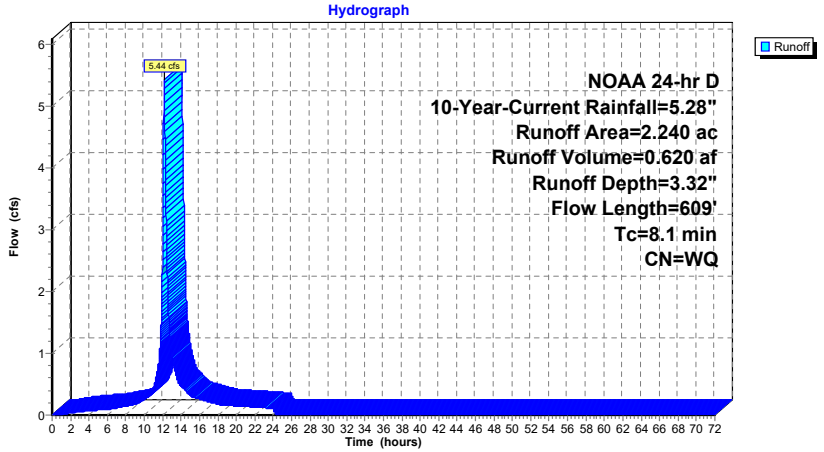
Runoff = 5.44 cfs @ 12.17 hrs, Volume= 0.620 af, Depth= 3.32"
Routed to Pond 65P : BASIN E

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	1.100	61	Open Space
*	0.450	98	Road
*	0.110	98	Sidewalk
*	0.240	98	Roof
*	0.340	98	Driveway & Apron
	2.240		Weighted Average
	1.100		49.11% Pervious Area
	1.140		50.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0500	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.5	300	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.9	279		2.50		**Direct Entry, Pipe**
8.1	609	Total			

Subcatchment 64S: BASIN E - DA



Summary for Subcatchment 65S: BASIN V - DA

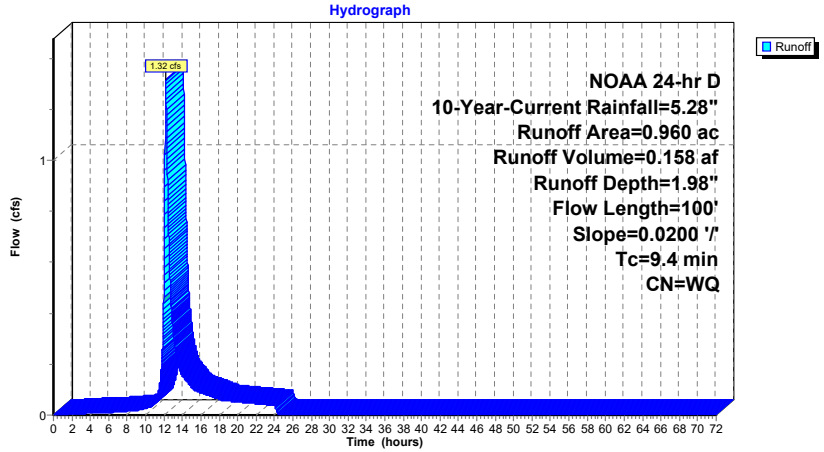
Runoff = 1.32 cfs @ 12.18 hrs, Volume= 0.158 af, Depth= 1.98"
Routed to Pond 117P : BASIN V

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.840	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.120	98	Roof
*	0.000	98	Driveway & Apron
	0.960		Weighted Average
	0.840		87.50% Pervious Area
	0.120		12.50% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	41	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	100	Total			

Subcatchment 65S: BASIN V - DA



Summary for Subcatchment 66S: BASIN B - DA

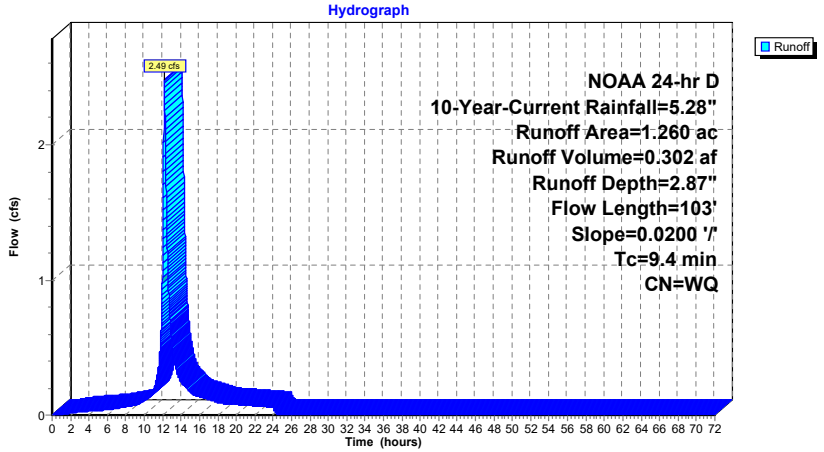
Runoff = 2.49 cfs @ 12.18 hrs, Volume= 0.302 af, Depth= 2.87"
Routed to Pond 74P : BASIN B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.780	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.480	98	Roof
*	0.000	98	Driveway
	1.260		Weighted Average
	0.780		61.90% Pervious Area
	0.480		38.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 66S: BASIN B - DA



Summary for Subcatchment 68S: BASIN K - DA

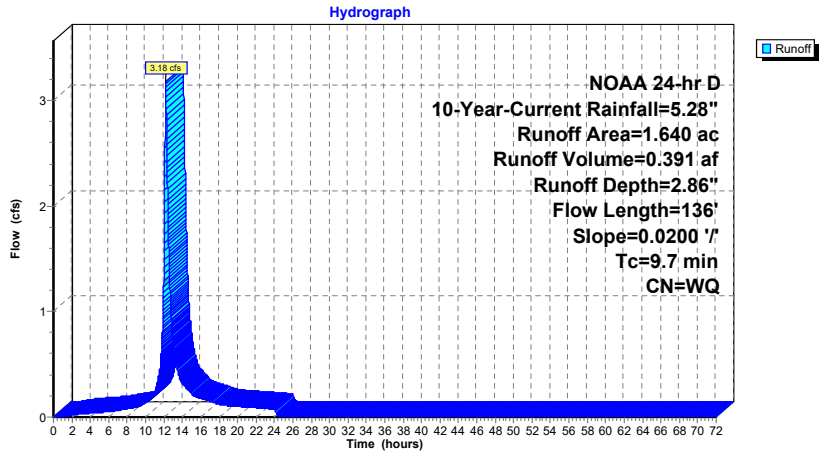
Runoff = 3.18 cfs @ 12.18 hrs, Volume= 0.391 af, Depth= 2.86"
Routed to Pond 70P : BASIN K

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	1.020	61	Open Space
*	0.000	98	Road
*	0.020	98	Sidewalk
*	0.600	98	Roof
*	0.000	98	Driveway & Apron
	1.640		Weighted Average
	1.020		62.20% Pervious Area
	0.620		37.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.6	77	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.7	136	Total			

Subcatchment 68S: BASIN K - DA



Summary for Subcatchment 69S: BASIN O - DA

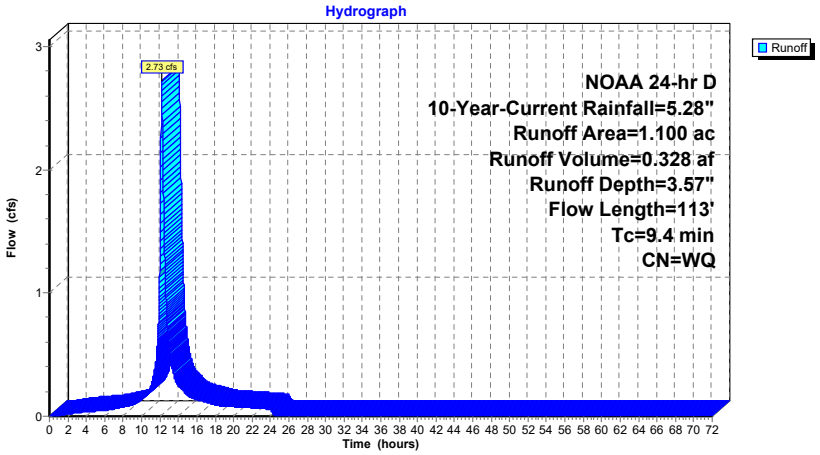
Runoff = 2.73 cfs @ 12.18 hrs, Volume= 0.328 af, Depth= 3.57"
Routed to Pond 93P : BASIN O

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.380	61	Open Space
*	0.150	80	Open Space, HSG D
*	0.150	98	Road
*	0.040	98	Sidewalk
*	0.240	98	Roof
*	0.140	98	Driveway & Apron
	1.100		Weighted Average
	0.530		48.18% Pervious Area
	0.570		51.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	54	0.0300	2.79		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	113	Total			

Subcatchment 69S: BASIN O - DA



Summary for Subcatchment 70S: BASIN Q - DA

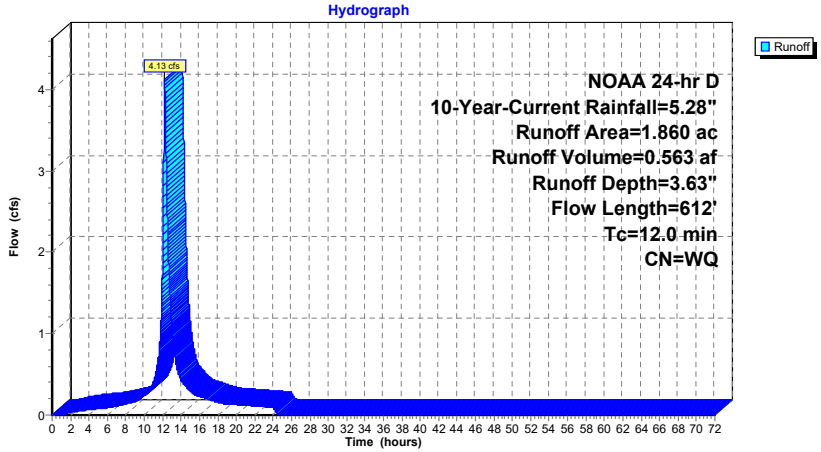
Runoff = 4.13 cfs @ 12.21 hrs, Volume= 0.563 af, Depth= 3.63"
Routed to Pond 102P : BASIN Q

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.750	61	Open Space
*	0.570	98	Road
*	0.140	98	Sidewalk
*	0.060	98	Roof
*	0.340	98	Driveway & Apron
	1.860		Weighted Average
	0.750		40.32% Pervious Area
	1.110		59.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	49	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.3	283	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.9	280		2.50		**Direct Entry, Pipe**
12.0	612	Total			

Subcatchment 70S: BASIN Q - DA



Summary for Subcatchment 71S: BASIN R - DA

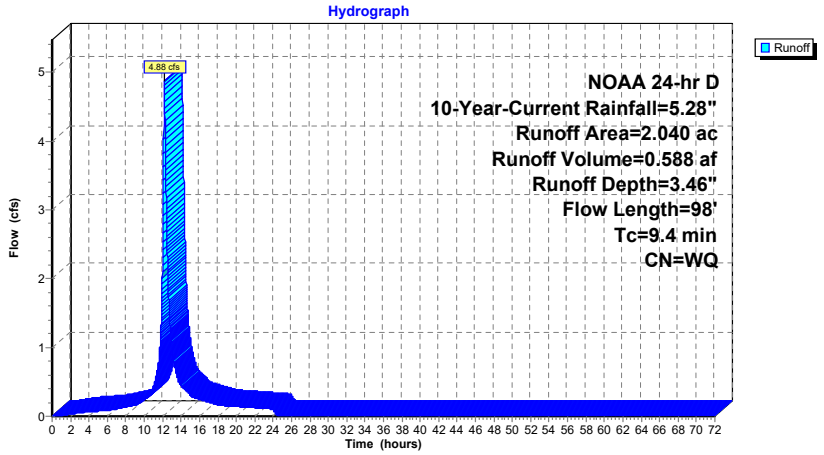
Runoff = 4.88 cfs @ 12.18 hrs, Volume= 0.588 af, Depth= 3.46"
Routed to Pond 105P : BASIN R

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
	0.810	61	>75% Grass cover, Good, HSG B
*	0.350	98	Road
*	0.090	98	Sidewalk
*	0.300	98	Roof
*	0.280	98	Driveway & Apron
	0.210	80	>75% Grass cover, Good, HSG D
	2.040		Weighted Average
	1.020		50.00% Pervious Area
	1.020		50.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	39	0.0250	2.55		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	98	Total			

Subcatchment 71S: BASIN R - DA



Summary for Subcatchment 73S: BASIN C - DA

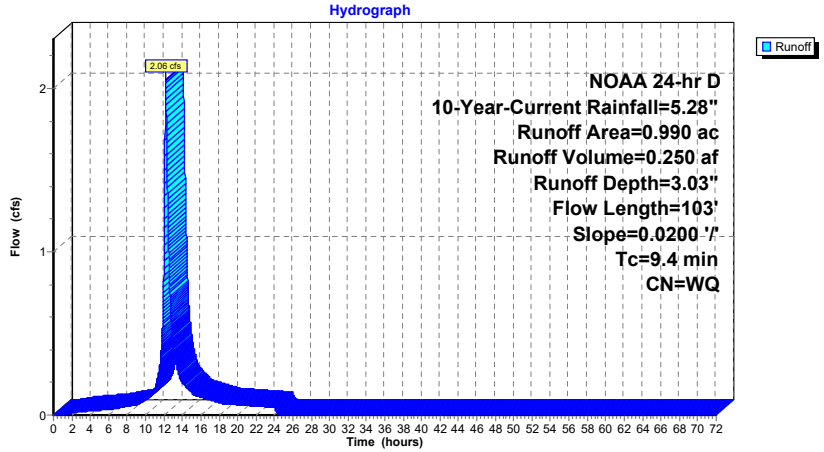
Runoff = 2.06 cfs @ 12.18 hrs, Volume= 0.250 af, Depth= 3.03"
Routed to Pond 59P : BASIN C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.570	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.420	98	Roof
*	0.000	98	Driveway
	0.990		Weighted Average
	0.570		57.58% Pervious Area
	0.420		42.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 73S: BASIN C - DA



Summary for Subcatchment 74S: BASIN L - DA

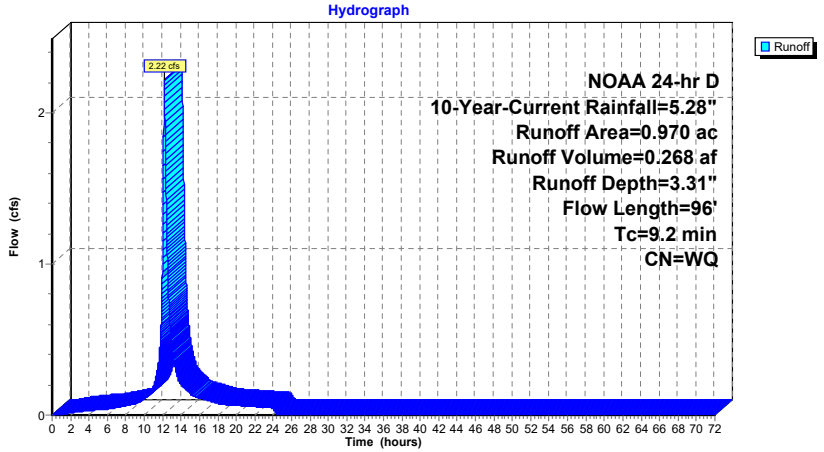
Runoff = 2.22 cfs @ 12.18 hrs, Volume= 0.268 af, Depth= 3.31"
Routed to Pond 84P : BASIN L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.480	61	Open Space
*	0.220	98	Road
*	0.050	98	Sidewalk
*	0.120	98	Roof
*	0.100	98	Driveway & Apron
	0.970		Weighted Average
	0.480		49.48% Pervious Area
	0.490		50.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	37	0.0800	4.55		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.2	96	Total			

Subcatchment 74S: BASIN L - DA



Summary for Subcatchment 75S: BASIN K - DA

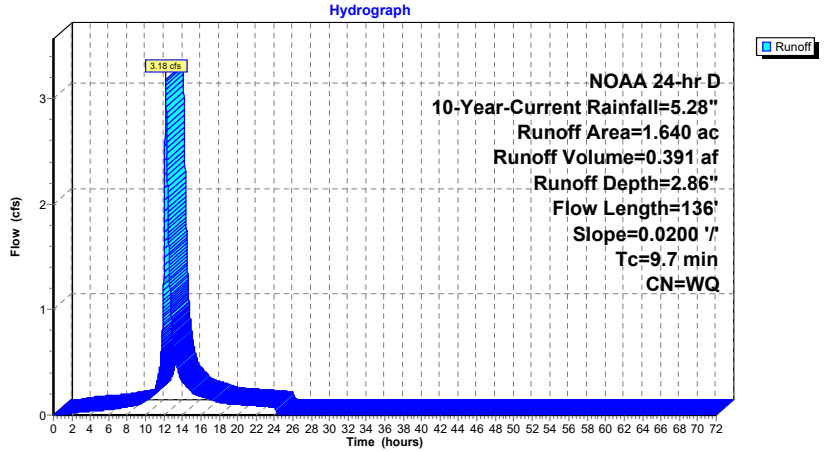
Runoff = 3.18 cfs @ 12.18 hrs, Volume= 0.391 af, Depth= 2.86"
Routed to Pond 91P : BASIN K

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	1.020	61	Open Space
*	0.000	98	Road
*	0.020	98	Sidewalk
*	0.600	98	Roof
*	0.000	98	Driveway & Apron
	1.640		Weighted Average
	1.020		62.20% Pervious Area
	0.620		37.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.6	77	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.7	136	Total			

Subcatchment 75S: BASIN K - DA



Summary for Subcatchment 76S: BASIN F - DA

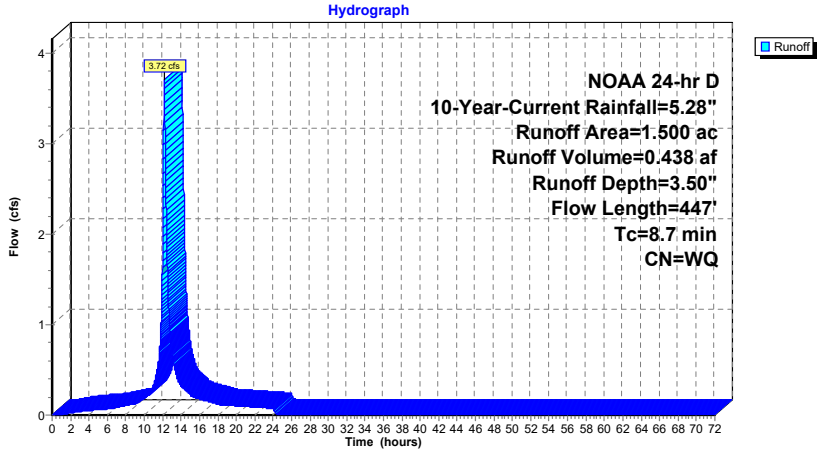
Runoff = 3.72 cfs @ 12.17 hrs, Volume= 0.438 af, Depth= 3.50"
Routed to Pond 83P : BASIN F

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.660	61	Open Space
*	0.440	98	Road
*	0.100	98	Sidewalk
*	0.120	98	Roof
*	0.180	98	Driveway & Apron
	1.500		Weighted Average
	0.660		44.00% Pervious Area
	0.840		56.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	33	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.3	158	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.7	256		2.50		**Direct Entry, Pipe**
8.7	447	Total			

Subcatchment 76S: BASIN F - DA



Summary for Subcatchment 77S: BASIN D - DA

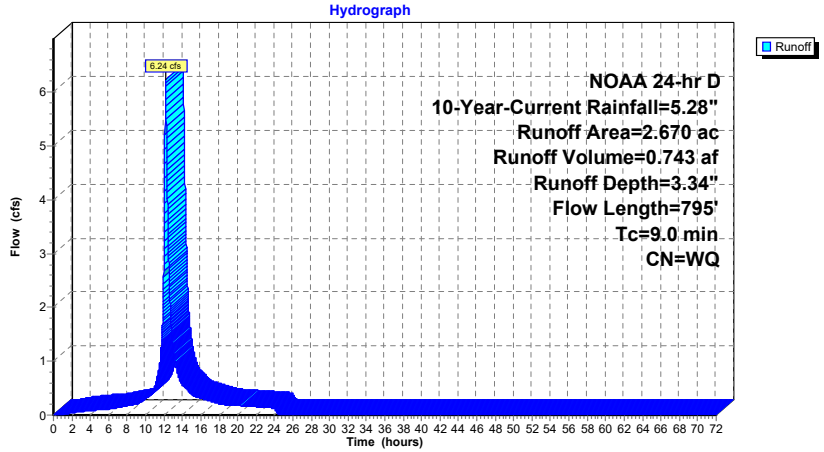
Runoff = 6.24 cfs @ 12.18 hrs, Volume= 0.743 af, Depth= 3.34"
Routed to Pond 75P : BASIN D

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	1.300	61	Open Space
*	0.430	98	Road
*	0.120	98	Sidewalk
*	0.420	98	Roof
*	0.400	98	Driveway & Apron
	2.670		Weighted Average
	1.300		48.69% Pervious Area
	1.370		51.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0500	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.2	300	0.0120	2.22		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
3.1	465		2.50		**Direct Entry, Pipe**
9.0	795	Total			

Subcatchment 77S: BASIN D - DA



Summary for Subcatchment 78S: BASIN A - DA

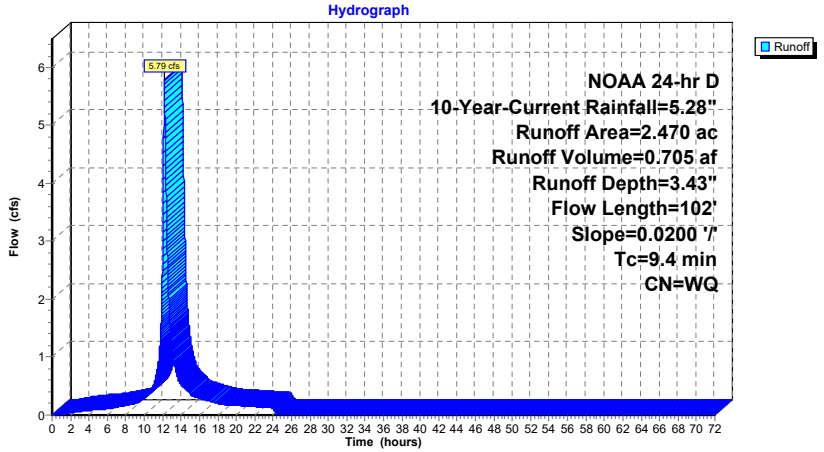
Runoff = 5.79 cfs @ 12.18 hrs, Volume= 0.705 af, Depth= 3.43"
Routed to Pond 80P : BASIN A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	1.140	61	Open Space
*	0.600	98	Road
*	0.130	98	Sidewalk
*	0.300	98	Roof
*	0.300	98	Driveway & Apron
	2.470		Weighted Average
	1.140		46.15% Pervious Area
	1.330		53.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	43	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	102	Total			

Subcatchment 78S: BASIN A - DA



Summary for Subcatchment 79S: BASIN B - DA

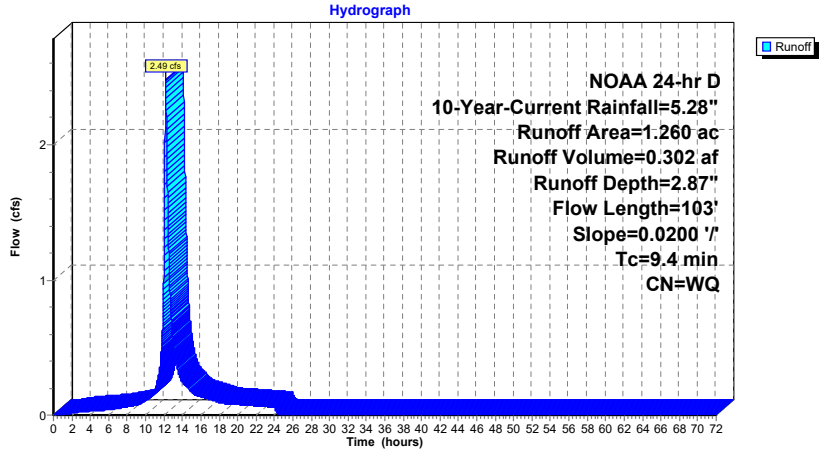
Runoff = 2.49 cfs @ 12.18 hrs, Volume= 0.302 af, Depth= 2.87"
Routed to Pond 81P : BASIN B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.780	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.480	98	Roof
*	0.000	98	Driveway
	1.260		Weighted Average
	0.780		61.90% Pervious Area
	0.480		38.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 79S: BASIN B - DA



Summary for Subcatchment 80S: BASIN C - DA

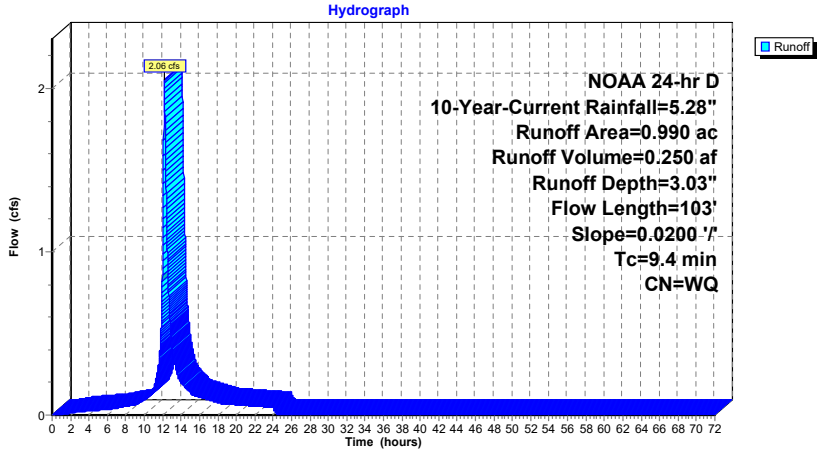
Runoff = 2.06 cfs @ 12.18 hrs, Volume= 0.250 af, Depth= 3.03"
Routed to Pond 85P : BASIN C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.570	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.420	98	Roof
*	0.000	98	Driveway
	0.990		Weighted Average
	0.570		57.58% Pervious Area
	0.420		42.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 80S: BASIN C - DA



Summary for Subcatchment 81S: BASIN A - DA

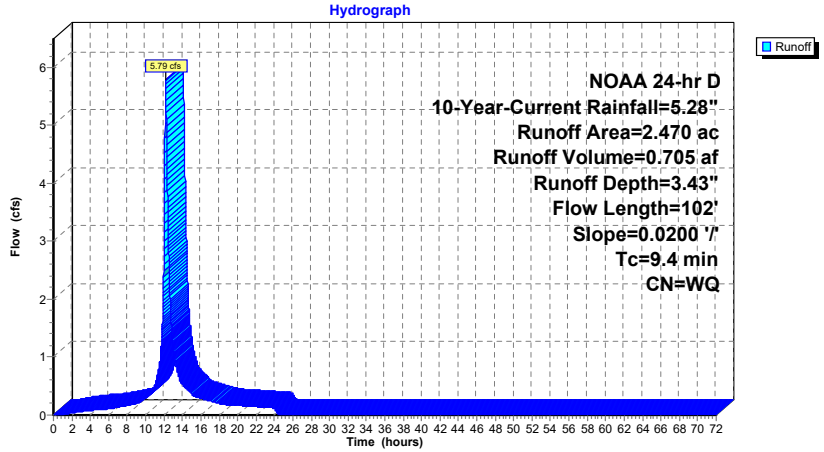
Runoff = 5.79 cfs @ 12.18 hrs, Volume= 0.705 af, Depth= 3.43"
Routed to Pond 87P : BASIN A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	1.140	61	Open Space
*	0.600	98	Road
*	0.130	98	Sidewalk
*	0.300	98	Roof
*	0.300	98	Driveway & Apron
	2.470		Weighted Average
	1.140		46.15% Pervious Area
	1.330		53.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	43	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	102	Total			

Subcatchment 81S: BASIN A - DA



Summary for Subcatchment 82S: BASIN A - DA

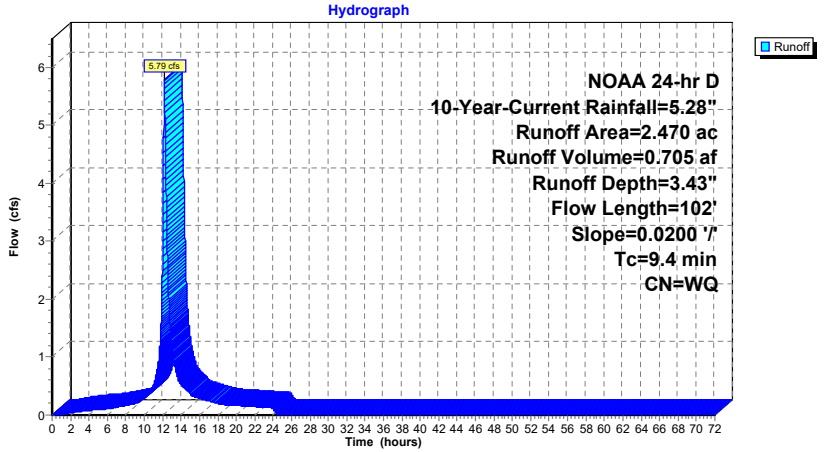
Runoff = 5.79 cfs @ 12.18 hrs, Volume= 0.705 af, Depth= 3.43"
Routed to Pond 98P : BASIN A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	1.140	61	Open Space
*	0.600	98	Road
*	0.130	98	Sidewalk
*	0.300	98	Roof
*	0.300	98	Driveway & Apron
	2.470		Weighted Average
	1.140		46.15% Pervious Area
	1.330		53.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	43	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	102	Total			

Subcatchment 82S: BASIN A - DA



Summary for Subcatchment 83S: BASIN B - DA

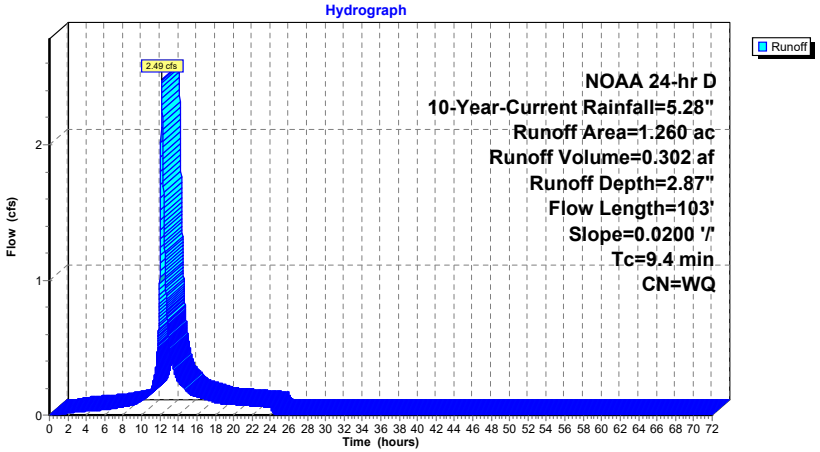
Runoff = 2.49 cfs @ 12.18 hrs, Volume= 0.302 af, Depth= 2.87"
Routed to Pond 106P : BASIN B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.780	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.480	98	Roof
*	0.000	98	Driveway
	1.260		Weighted Average
	0.780		61.90% Pervious Area
	0.480		38.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 83S: BASIN B - DA



Summary for Subcatchment 84S: BASIN N - DA

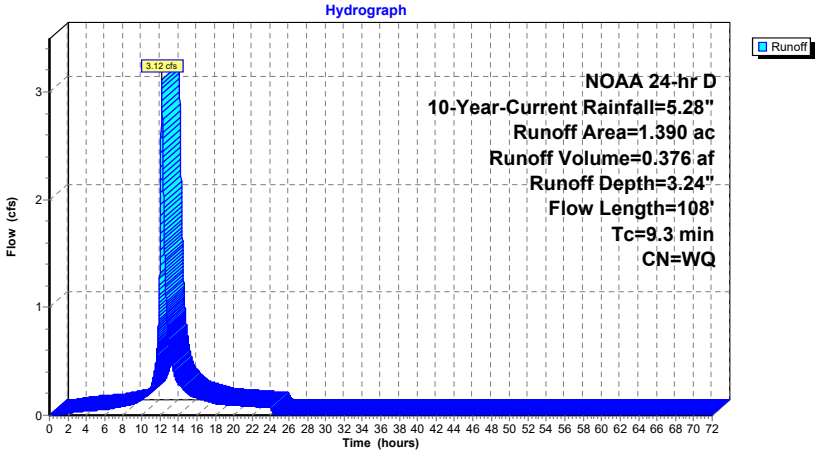
Runoff = 3.12 cfs @ 12.18 hrs, Volume= 0.376 af, Depth= 3.24"
Routed to Pond 90P : BASIN N

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.080	80	Open Space, HSG D
*	0.160	98	Road
*	0.040	98	Sidewalk
*	0.300	98	Roof
*	0.140	98	Driveway & Apron
	1.390		Weighted Average
	0.750		53.96% Pervious Area
	0.640		46.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.2	49	0.0600	3.94		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.3	108	Total			

Subcatchment 84S: BASIN N - DA



Summary for Subcatchment 85S: BASIN G - DA

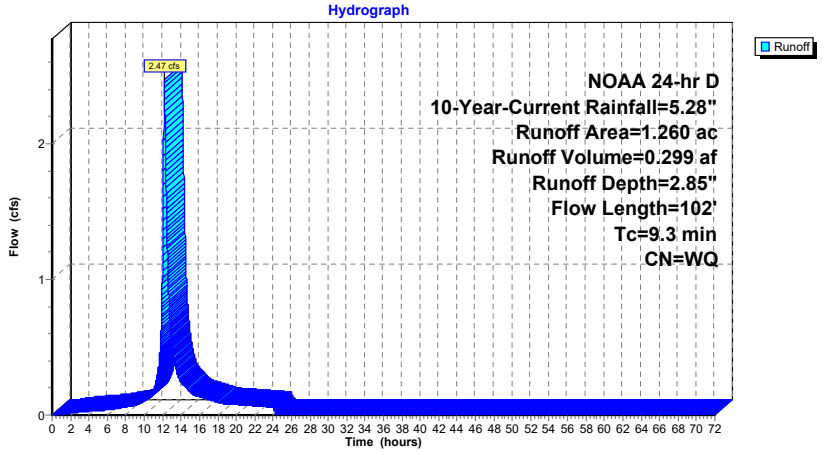
Runoff = 2.47 cfs @ 12.18 hrs, Volume= 0.299 af, Depth= 2.85"
Routed to Pond 86P : BASIN G

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.790	61	Open Space
*	0.060	98	Road
*	0.010	98	Sidewalk
*	0.360	98	Roof
*	0.040	98	Driveway & Apron
	1.260		Weighted Average
	0.790		62.70% Pervious Area
	0.470		37.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.2	43	0.0350	3.01		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.3	102	Total			

Subcatchment 85S: BASIN G - DA



Summary for Subcatchment 86S: BASIN L - DA

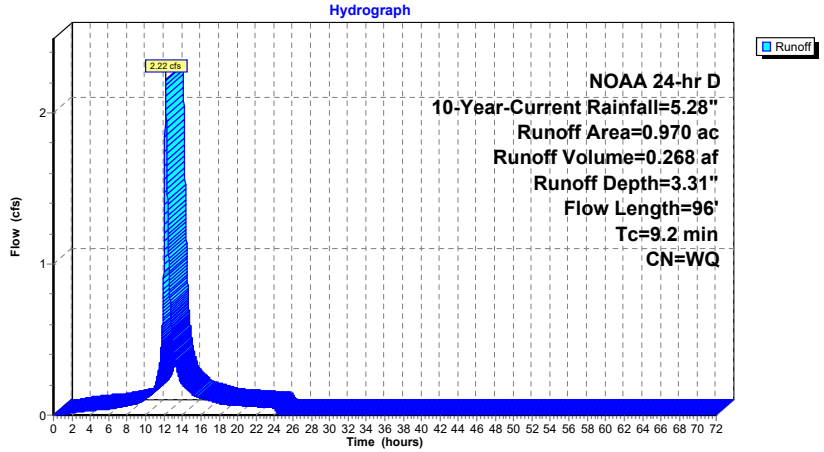
Runoff = 2.22 cfs @ 12.18 hrs, Volume= 0.268 af, Depth= 3.31"
Routed to Pond 92P : BASIN L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.480	61	Open Space
*	0.220	98	Road
*	0.050	98	Sidewalk
*	0.120	98	Roof
*	0.100	98	Driveway & Apron
	0.970		Weighted Average
	0.480		49.48% Pervious Area
	0.490		50.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	37	0.0800	4.55		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.2	96	Total			

Subcatchment 86S: BASIN L - DA



Summary for Subcatchment 88S: BASIN H - DA

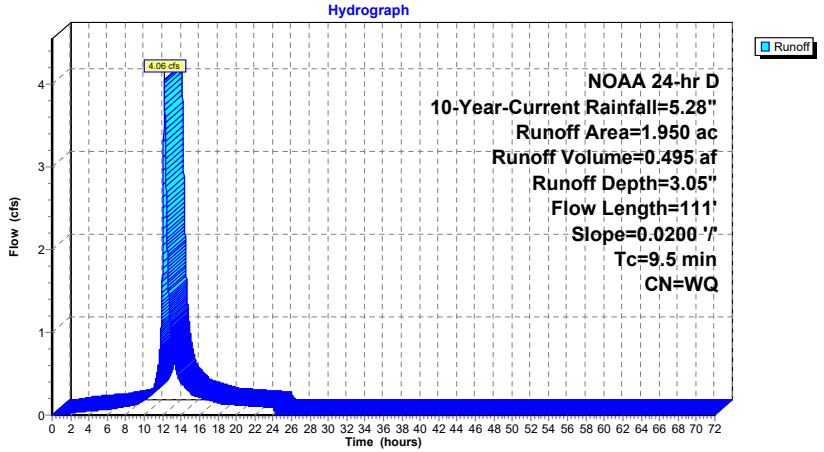
Runoff = 4.06 cfs @ 12.18 hrs, Volume= 0.495 af, Depth= 3.05"
Routed to Pond 60P : BASIN H

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	1.110	61	Open Space
*	0.230	98	Road
*	0.050	98	Sidewalk
*	0.420	98	Roof
*	0.140	98	Driveway & Apron
	1.950		Weighted Average
	1.110		56.92% Pervious Area
	0.840		43.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.4	52	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.5	111	Total			

Subcatchment 88S: BASIN H - DA



Summary for Subcatchment 98S: BASIN P - DA

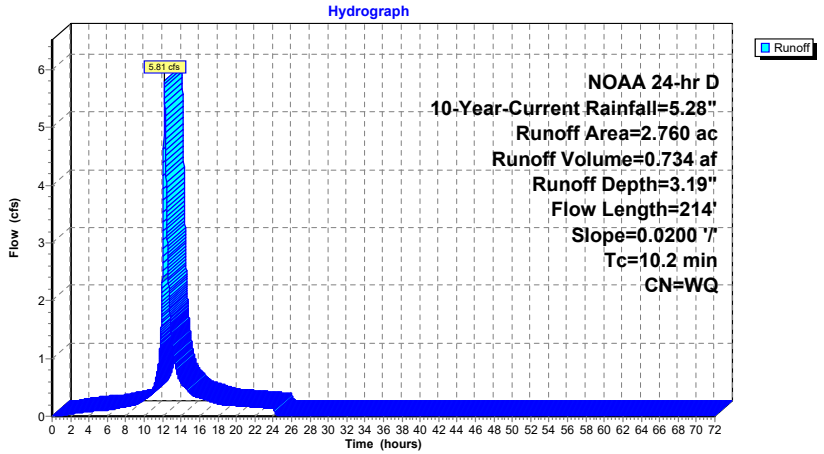
Runoff = 5.81 cfs @ 12.19 hrs, Volume= 0.734 af, Depth= 3.19"
Routed to Pond 63P : BASIN P

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	1.460	61	Open Space
*	0.410	98	Road
*	0.110	98	Sidewalk
*	0.420	98	Roof
*	0.360	98	Driveway & Apron
	2.760		Weighted Average
	1.460		52.90% Pervious Area
	1.300		47.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.7	99	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
0.4	56		2.50		**Direct Entry,**
10.2	214	Total			

Subcatchment 98S: BASIN P - DA



Summary for Subcatchment 99S: BASIN F - DA

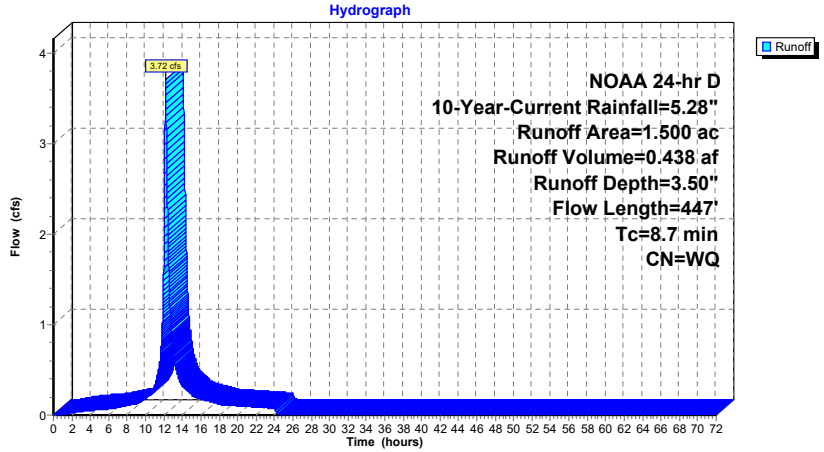
Runoff = 3.72 cfs @ 12.17 hrs, Volume= 0.438 af, Depth= 3.50"
Routed to Pond 96P : BASIN F

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.660	61	Open Space
*	0.440	98	Road
*	0.100	98	Sidewalk
*	0.120	98	Roof
*	0.180	98	Driveway & Apron
	1.500		Weighted Average
	0.660		44.00% Pervious Area
	0.840		56.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	33	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.3	158	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.7	256		2.50		**Direct Entry, Pipe**
8.7	447	Total			

Subcatchment 99S: BASIN F - DA



Summary for Subcatchment 100S: BASIN G - DA

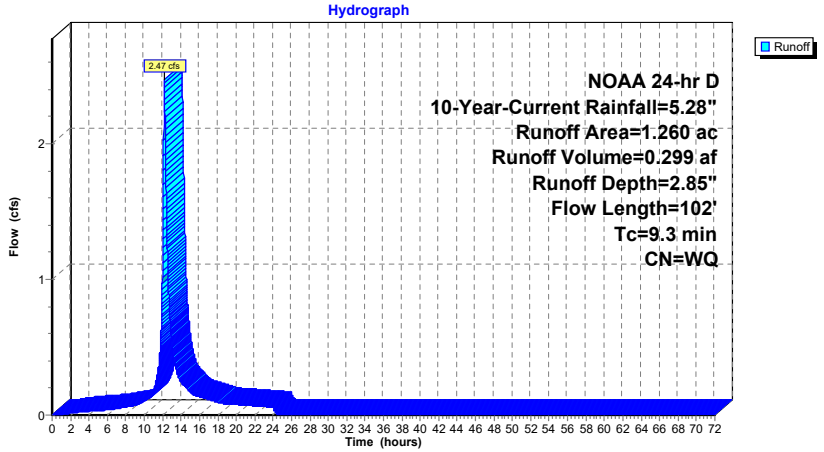
Runoff = 2.47 cfs @ 12.18 hrs, Volume= 0.299 af, Depth= 2.85"
Routed to Pond 97P : BASIN G

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.790	61	Open Space
*	0.060	98	Road
*	0.010	98	Sidewalk
*	0.360	98	Roof
*	0.040	98	Driveway & Apron
	1.260		Weighted Average
	0.790		62.70% Pervious Area
	0.470		37.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.2	43	0.0350	3.01		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.3	102	Total			

Subcatchment 100S: BASIN G - DA



Summary for Subcatchment 101S: BASIN H - DA

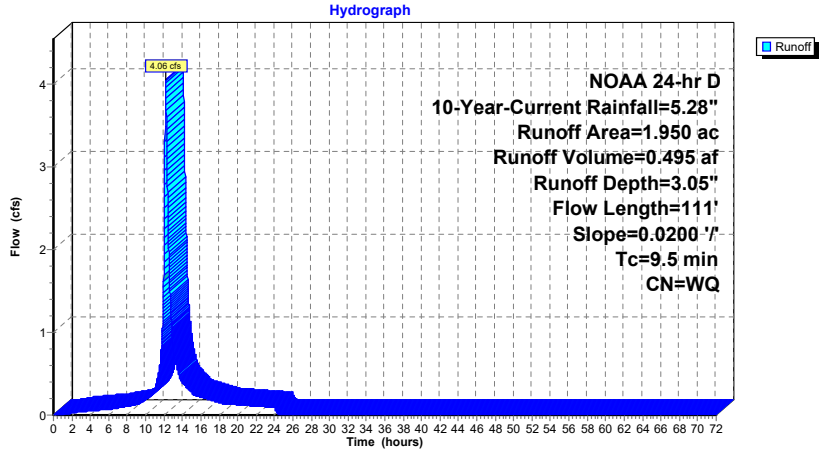
Runoff = 4.06 cfs @ 12.18 hrs, Volume= 0.495 af, Depth= 3.05"
Routed to Pond 94P : BASIN H

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	1.110	61	Open Space
*	0.230	98	Road
*	0.050	98	Sidewalk
*	0.420	98	Roof
*	0.140	98	Driveway & Apron
	1.950		Weighted Average
	1.110		56.92% Pervious Area
	0.840		43.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.4	52	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.5	111	Total			

Subcatchment 101S: BASIN H - DA



Summary for Subcatchment 102S: BASIN P - DA

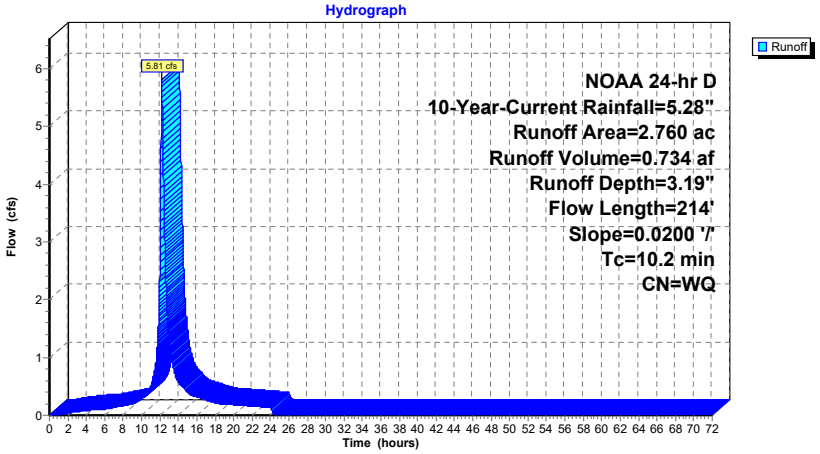
Runoff = 5.81 cfs @ 12.19 hrs, Volume= 0.734 af, Depth= 3.19"
Routed to Pond 120P : BASIN P

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	1.460	61	Open Space
*	0.410	98	Road
*	0.110	98	Sidewalk
*	0.420	98	Roof
*	0.360	98	Driveway & Apron
	2.760		Weighted Average
	1.460		52.90% Pervious Area
	1.300		47.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.7	99	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
0.4	56		2.50		**Direct Entry,**
10.2	214	Total			

Subcatchment 102S: BASIN P - DA



Summary for Subcatchment 103S: BASIN F - DA

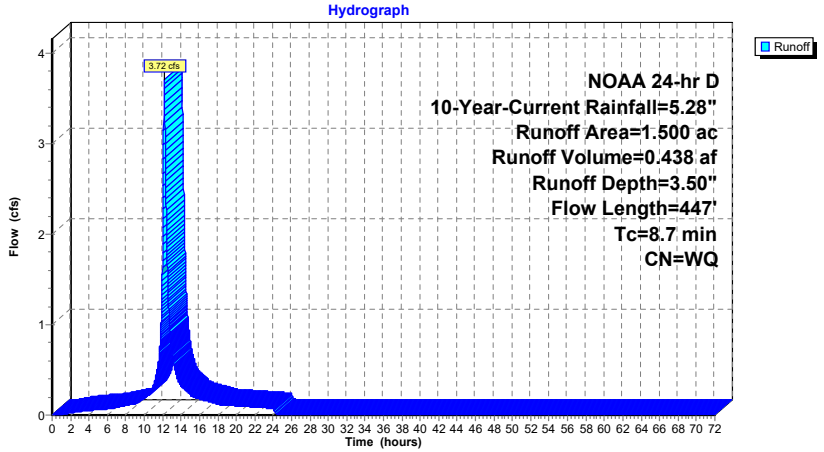
Runoff = 3.72 cfs @ 12.17 hrs, Volume= 0.438 af, Depth= 3.50"
Routed to Pond 101P : BASIN F

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.660	61	Open Space
*	0.440	98	Road
*	0.100	98	Sidewalk
*	0.120	98	Roof
*	0.180	98	Driveway & Apron
	1.500		Weighted Average
	0.660		44.00% Pervious Area
	0.840		56.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	33	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.3	158	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.7	256		2.50		**Direct Entry, Pipe**
8.7	447	Total			

Subcatchment 103S: BASIN F - DA



Summary for Subcatchment 104S: BASIN G - DA

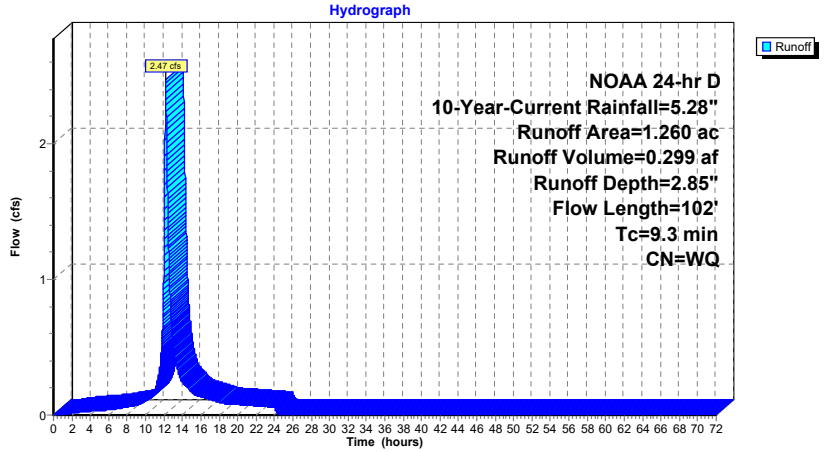
Runoff = 2.47 cfs @ 12.18 hrs, Volume= 0.299 af, Depth= 2.85"
Routed to Pond 103P : BASIN G

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.790	61	Open Space
*	0.060	98	Road
*	0.010	98	Sidewalk
*	0.360	98	Roof
*	0.040	98	Driveway & Apron
	1.260		Weighted Average
	0.790		62.70% Pervious Area
	0.470		37.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.2	43	0.0350	3.01		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.3	102	Total			

Subcatchment 104S: BASIN G - DA



Summary for Subcatchment 105S: BASIN H - DA

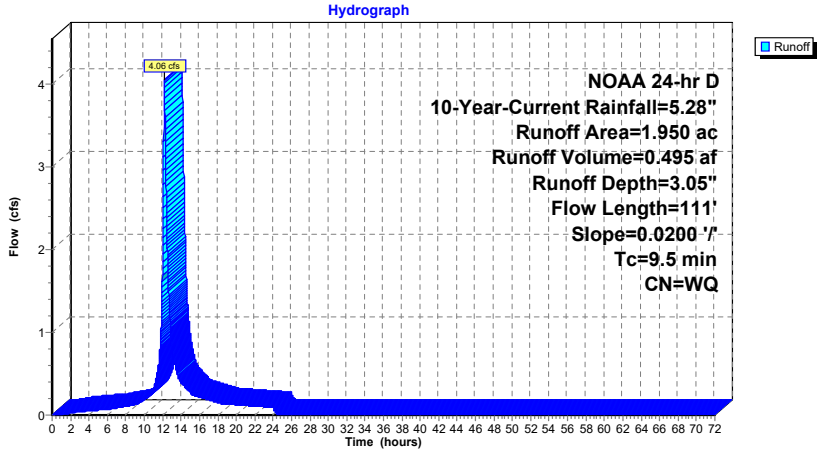
Runoff = 4.06 cfs @ 12.18 hrs, Volume= 0.495 af, Depth= 3.05"
Routed to Pond 118P : BASIN H

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	1.110	61	Open Space
*	0.230	98	Road
*	0.050	98	Sidewalk
*	0.420	98	Roof
*	0.140	98	Driveway & Apron
	1.950		Weighted Average
	1.110		56.92% Pervious Area
	0.840		43.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.4	52	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.5	111	Total			

Subcatchment 105S: BASIN H - DA



Summary for Subcatchment 106S: BASIN F - DA

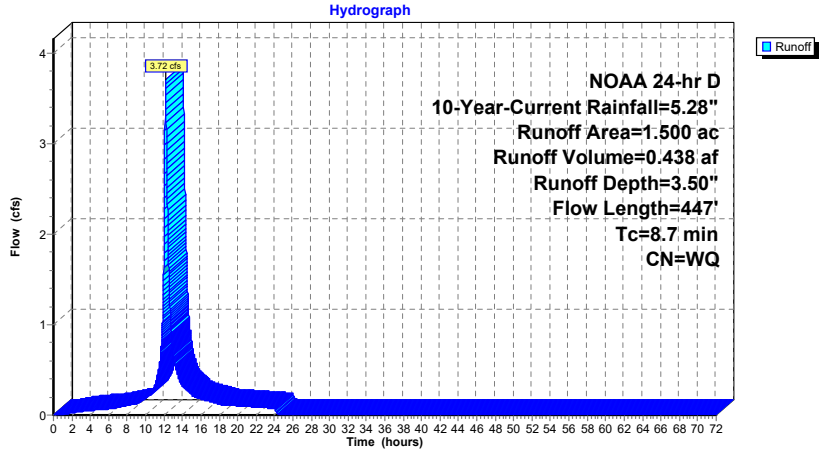
Runoff = 3.72 cfs @ 12.17 hrs, Volume= 0.438 af, Depth= 3.50"
Routed to Pond 104P : BASIN F

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.660	61	Open Space
*	0.440	98	Road
*	0.100	98	Sidewalk
*	0.120	98	Roof
*	0.180	98	Driveway & Apron
	1.500		Weighted Average
	0.660		44.00% Pervious Area
	0.840		56.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	33	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.3	158	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.7	256		2.50		**Direct Entry, Pipe**
8.7	447	Total			

Subcatchment 106S: BASIN F - DA



Summary for Subcatchment 107S: BASIN G - DA

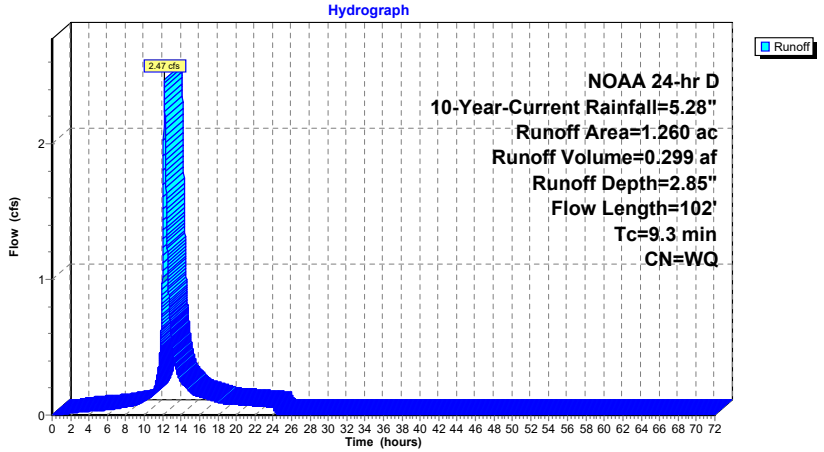
Runoff = 2.47 cfs @ 12.18 hrs, Volume= 0.299 af, Depth= 2.85"
Routed to Pond 113P : BASIN G

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.790	61	Open Space
*	0.060	98	Road
*	0.010	98	Sidewalk
*	0.360	98	Roof
*	0.040	98	Driveway & Apron
	1.260		Weighted Average
	0.790		62.70% Pervious Area
	0.470		37.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.2	43	0.0350	3.01		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.3	102	Total			

Subcatchment 107S: BASIN G - DA



Summary for Subcatchment 108S: BASIN F - DA

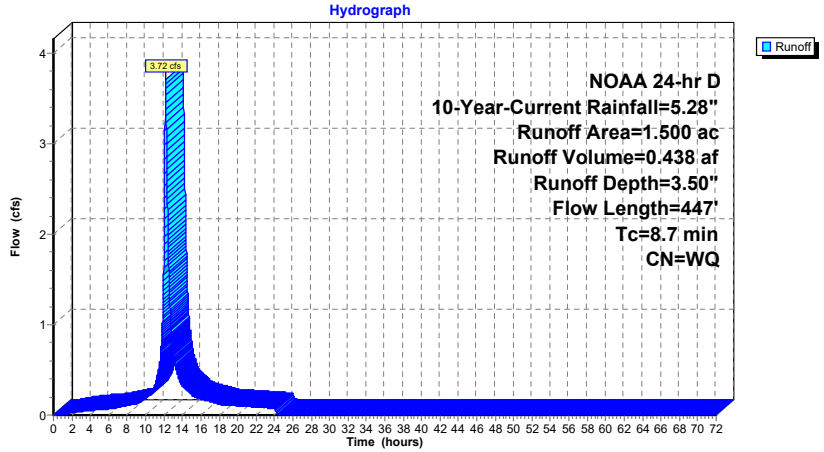
Runoff = 3.72 cfs @ 12.17 hrs, Volume= 0.438 af, Depth= 3.50"
Routed to Pond 110P : BASIN F

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.660	61	Open Space
*	0.440	98	Road
*	0.100	98	Sidewalk
*	0.120	98	Roof
*	0.180	98	Driveway & Apron
	1.500		Weighted Average
	0.660		44.00% Pervious Area
	0.840		56.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	33	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.3	158	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.7	256		2.50		**Direct Entry, Pipe**
8.7	447	Total			

Subcatchment 108S: BASIN F - DA



Summary for Subcatchment 110S: BASIN T - DA

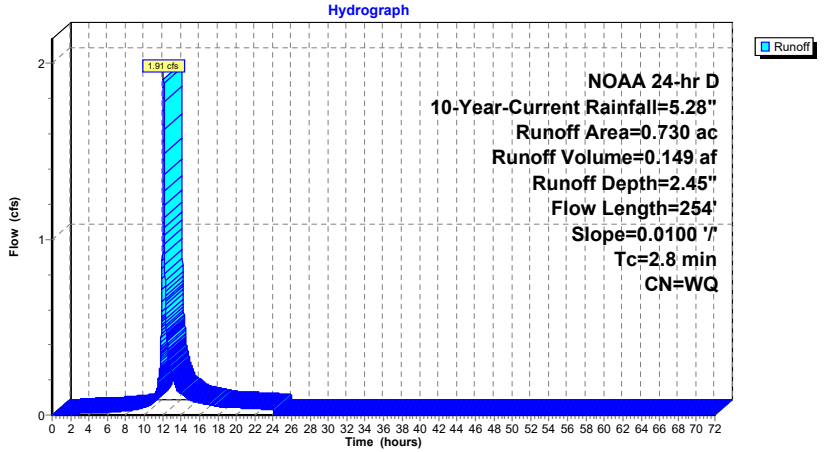
Runoff = 1.91 cfs @ 12.11 hrs, Volume= 0.149 af, Depth= 2.45"
Routed to Pond 111P : BASIN T

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.540	61	Open Space
*	0.140	98	Road
*	0.050	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	0.730		Weighted Average
	0.540		73.97% Pervious Area
	0.190		26.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.07		**Sheet Flow, Sheet Flow - Smooth Surfaces** Smooth surfaces n= 0.011 P2= 3.38"
0.8	93	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
0.4	61		2.50		**Direct Entry, Pipe**
2.8	254	Total			

Subcatchment 110S: BASIN T - DA



Summary for Subcatchment 113S: BASIN U - DA

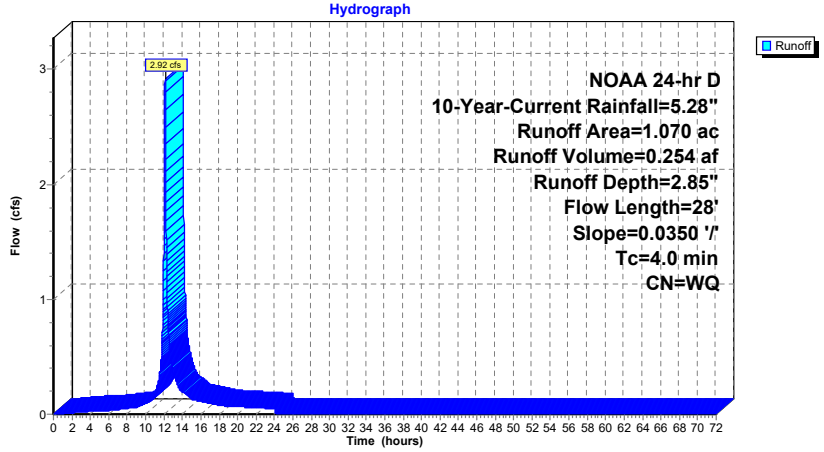
Runoff = 2.92 cfs @ 12.12 hrs, Volume= 0.254 af, Depth= 2.85"
Routed to Pond 114P : BASIN U

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.330	98	Road
*	0.070	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	1.070		Weighted Average
	0.670		62.62% Pervious Area
	0.400		37.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	28	0.0350	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"

Subcatchment 113S: BASIN U - DA



Summary for Subcatchment 114S: BASIN U - DA

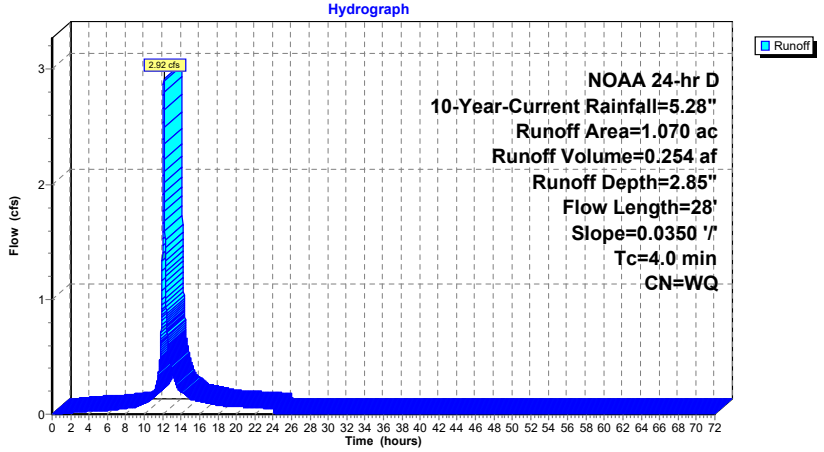
Runoff = 2.92 cfs @ 12.12 hrs, Volume= 0.254 af, Depth= 2.85"
Routed to Pond 116P : BASIN U

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.330	98	Road
*	0.070	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	1.070		Weighted Average
	0.670		62.62% Pervious Area
	0.400		37.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	28	0.0350	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"

Subcatchment 114S: BASIN U - DA



Summary for Subcatchment 130S: BASIN S - DA

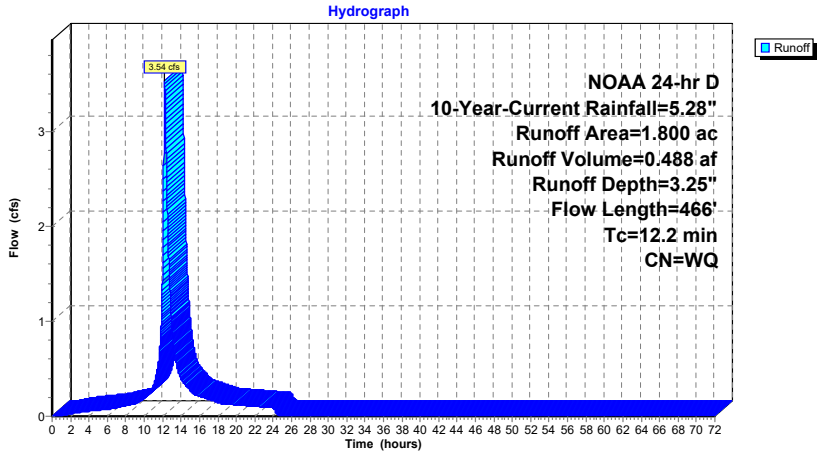
Runoff = 3.54 cfs @ 12.22 hrs, Volume= 0.488 af, Depth= 3.25"
Routed to Pond 108P : BASIN S

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.920	61	Open Space
*	0.590	98	Road
*	0.190	98	Sidewalk
*	0.080	98	Roof
*	0.020	98	Driveway & Apron
	1.800		Weighted Average
	0.920		51.11% Pervious Area
	0.880		48.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	6	0.0100	1.61		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
1.4	167	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.6	234		2.50		**Direct Entry, Pipe**
12.2	466	Total			

Subcatchment 130S: BASIN S - DA



Summary for Pond 52P: BASIN A

Inflow Area = 2.470 ac, 53.85% Impervious, Inflow Depth = 3.43" for 10-Year-Current event
Inflow = 5.79 cfs @ 12.18 hrs, Volume= 0.705 af
Outflow = 0.19 cfs @ 18.43 hrs, Volume= 0.528 af, Atten= 97%, Lag= 375.0 min
Primary = 0.19 cfs @ 18.43 hrs, Volume= 0.528 af
Routed to Pond 74P : BASIN B

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 34.13' @ 18.43 hrs Surf.Area= 0.315 ac Storage= 0.540 af

Plug-Flow detention time= 1,253.2 min calculated for 0.528 af (75% of inflow)
Center-of-Mass det. time= 1,153.0 min (1,938.0 - 785.0)

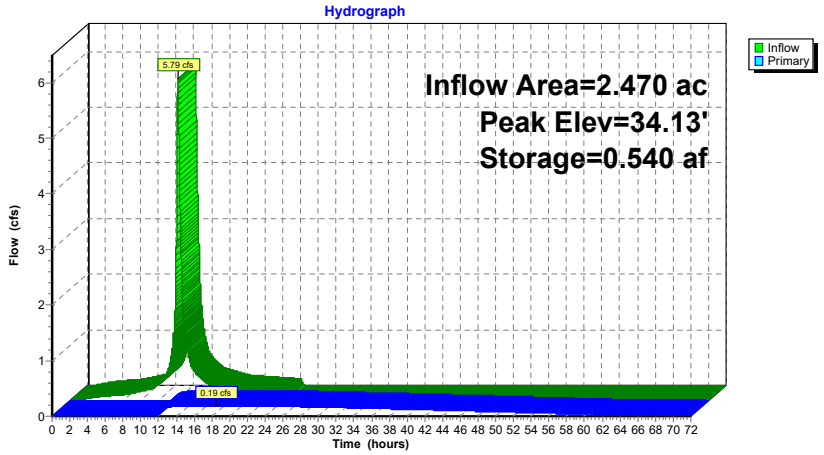
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.233 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.192	0.000	0.000
33.00	0.249	0.220	0.220
34.00	0.307	0.278	0.499
35.00	0.367	0.337	0.836
36.00	0.428	0.397	1.233

Device	Routing	Invert	Outlet Devices
#1	Primary	35.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.75'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.19 cfs @ 18.43 hrs HW=34.13' TW=31.59' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.19 cfs @ 5.45 fps)

Pond 52P: BASIN A



Summary for Pond 59P: BASIN C

Inflow Area = 4.720 ac, 47.25% Impervious, Inflow Depth > 2.56" for 10-Year-Current event
Inflow = 2.26 cfs @ 12.40 hrs, Volume= 1.007 af
Outflow = 2.16 cfs @ 12.54 hrs, Volume= 0.963 af, Atten= 4%, Lag= 8.6 min
Primary = 2.16 cfs @ 12.54 hrs, Volume= 0.963 af
Routed to Link 123L : Inflow from Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 29.99' @ 12.54 hrs Surf.Area= 0.065 ac Storage= 0.073 af

Plug-Flow detention time= 164.8 min calculated for 0.963 af (96% of inflow)
Center-of-Mass det. time= 61.5 min (1,586.5 - 1,524.9)

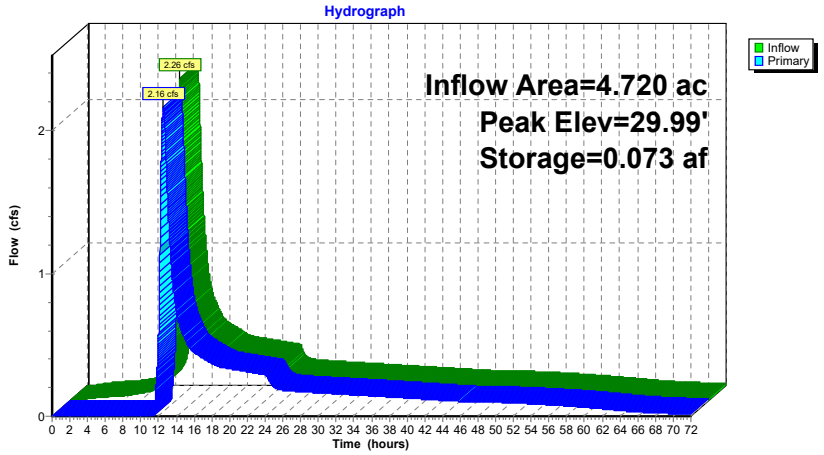
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.198 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.033	0.000	0.000
29.50	0.054	0.043	0.043
30.50	0.077	0.065	0.109
31.50	0.101	0.089	0.198

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	29.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=2.16 cfs @ 12.54 hrs HW=29.99' TW=0.00' (Dynamic Tailwater)
↑—**1=Grate** (Controls 0.00 cfs)
└—**2=Sharp-Crested Rectangular Weir** (Weir Controls 2.16 cfs @ 2.30 fps)

Pond 59P: BASIN C



Summary for Pond 60P: BASIN H

Inflow Area = 4.710 ac, 45.65% Impervious, Inflow Depth > 2.44" for 10-Year-Current event
Inflow = 4.15 cfs @ 12.18 hrs, Volume= 0.956 af
Outflow = 0.45 cfs @ 16.49 hrs, Volume= 0.828 af, Atten= 89%, Lag= 258.7 min
Primary = 0.45 cfs @ 16.49 hrs, Volume= 0.828 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 30.37' @ 16.49 hrs Surf.Area= 0.279 ac Storage= 0.463 af

Plug-Flow detention time= 1,109.6 min calculated for 0.828 af (87% of inflow)
Center-of-Mass det. time= 913.7 min (2,046.7 - 1,133.0)

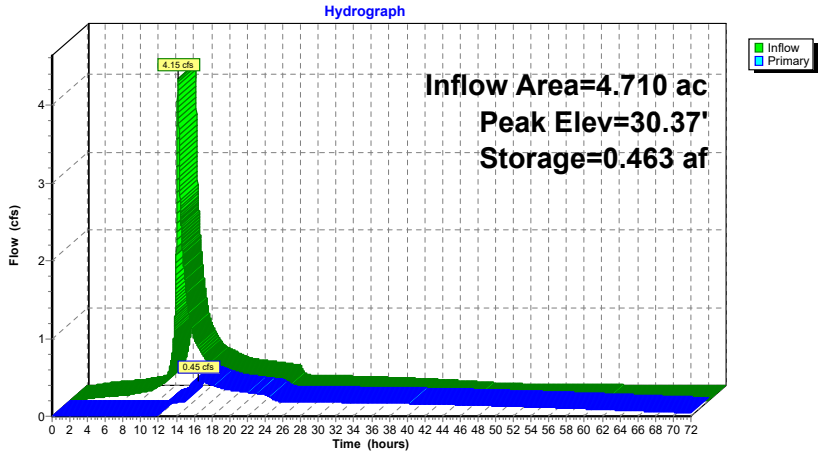
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.799 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.216	0.000	0.000
29.00	0.232	0.112	0.112
30.00	0.266	0.249	0.361
31.00	0.301	0.283	0.644
31.50	0.319	0.155	0.799

Device	Routing	Invert	Outlet Devices
#1	Primary	31.20'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.30'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	28.90'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.45 cfs @ 16.49 hrs HW=30.37' TW=28.05' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.26 cfs @ 0.89 fps)
- **3=Orifice** (Orifice Controls 0.19 cfs @ 5.63 fps)

Pond 60P: BASIN H



Summary for Pond 63P: BASIN P

Inflow Area = 8.000 ac, 45.38% Impervious, Inflow Depth > 2.49" for 10-Year-Current event
Inflow = 6.00 cfs @ 12.19 hrs, Volume= 1.659 af
Outflow = 2.31 cfs @ 12.73 hrs, Volume= 1.390 af, Atten= 61%, Lag= 32.3 min
Primary = 2.31 cfs @ 12.73 hrs, Volume= 1.390 af
Routed to Link 126L : Inflow from Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 28.20' @ 12.73 hrs Surf.Area= 0.258 ac Storage= 0.385 af

Plug-Flow detention time= 618.9 min calculated for 1.390 af (84% of inflow)
Center-of-Mass det. time= 274.1 min (1,705.2 - 1,431.1)

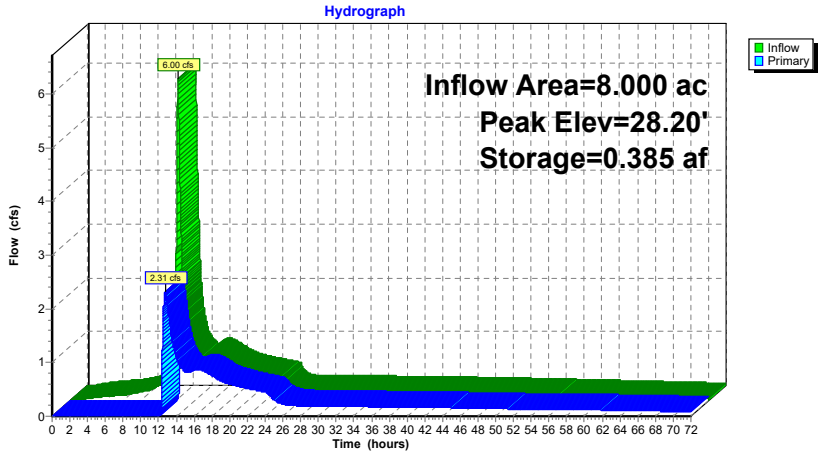
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.910 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.193	0.000	0.000
27.50	0.233	0.213	0.213
28.50	0.268	0.250	0.463
29.50	0.303	0.286	0.749
30.00	0.340	0.161	0.910

Device	Routing	Invert	Outlet Devices
#1	Primary	29.30'	**42.0" x 102.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**3.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.31 cfs @ 12.73 hrs HW=28.20' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 2.13 cfs @ 1.80 fps)
- **3=Orifice** (Orifice Controls 0.18 cfs @ 3.66 fps)

Pond 63P: BASIN P



Summary for Pond 64P: BASIN I

Inflow Area = 0.530 ac, 33.96% Impervious, Inflow Depth = 2.73" for 10-Year-Current event
Inflow = 0.99 cfs @ 12.18 hrs, Volume= 0.121 af
Outflow = 0.17 cfs @ 13.26 hrs, Volume= 0.097 af, Atten= 83%, Lag= 64.7 min
Primary = 0.17 cfs @ 13.26 hrs, Volume= 0.097 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 30.56' @ 13.26 hrs Surf.Area= 0.038 ac Storage= 0.062 af

Plug-Flow detention time= 285.0 min calculated for 0.097 af (80% of inflow)
Center-of-Mass det. time= 196.9 min (1,004.3 - 807.4)

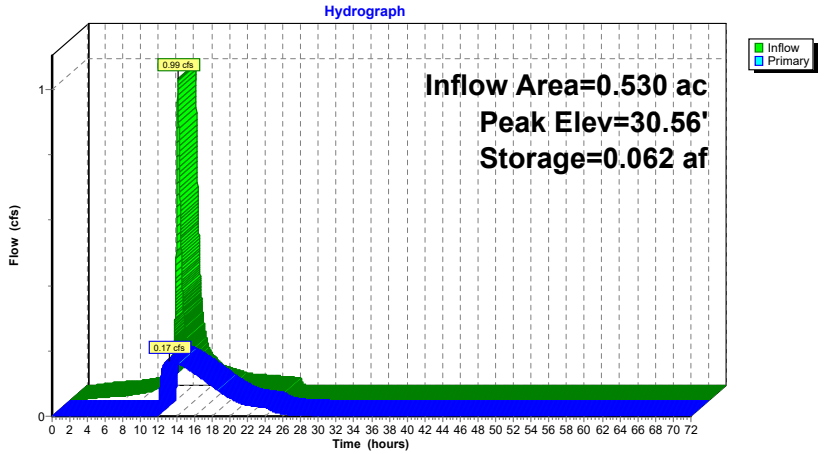
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.101 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.023	0.000	0.000
29.50	0.030	0.026	0.026
30.50	0.037	0.033	0.060
31.50	0.045	0.041	0.101

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.60'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	29.40'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.17 cfs @ 13.26 hrs HW=30.56' TW=28.14' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.17 cfs @ 4.96 fps)

Pond 64P: BASIN I



Summary for Pond 65P: BASIN E

Inflow Area = 10.240 ac, 46.58% Impervious, Inflow Depth > 2.36" for 10-Year-Current event
Inflow = 5.49 cfs @ 12.17 hrs, Volume= 2.010 af
Outflow = 5.18 cfs @ 12.21 hrs, Volume= 2.009 af, Atten= 6%, Lag= 2.7 min
Primary = 5.18 cfs @ 12.21 hrs, Volume= 2.009 af
Routed to nonexistent node 46L

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 29.30' Surf.Area= 0.186 ac Storage= 0.383 af
Peak Elev= 29.45' @ 12.21 hrs Surf.Area= 0.191 ac Storage= 0.412 af (0.029 af above start)

Plug-Flow detention time= 586.9 min calculated for 1.625 af (81% of inflow)
Center-of-Mass det. time= 6.0 min (1,427.8 - 1,421.7)

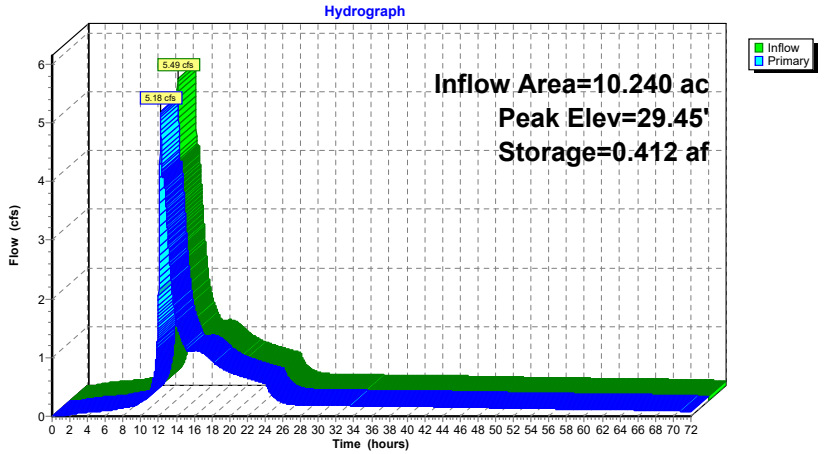
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.421 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.091	0.000	0.000
27.50	0.122	0.106	0.106
28.50	0.157	0.139	0.246
29.50	0.193	0.175	0.421

Device	Routing	Invert	Outlet Devices
#1	Primary	29.30'	**35.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=5.18 cfs @ 12.21 hrs HW=29.45' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 5.18 cfs @ 0.97 fps)

Pond 65P: BASIN E



Summary for Pond 70P: BASIN K

Inflow Area = 1.640 ac, 37.80% Impervious, Inflow Depth = 2.86" for 10-Year-Current event
Inflow = 3.18 cfs @ 12.18 hrs, Volume= 0.391 af
Outflow = 0.66 cfs @ 13.07 hrs, Volume= 0.325 af, Atten= 79%, Lag= 53.3 min
Primary = 0.66 cfs @ 13.07 hrs, Volume= 0.325 af
Routed to Link 124L : Inflow from Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 32.00' @ 13.07 hrs Surf.Area= 0.161 ac Storage= 0.212 af

Plug-Flow detention time= 502.9 min calculated for 0.324 af (83% of inflow)
Center-of-Mass det. time= 422.7 min (1,225.2 - 802.4)

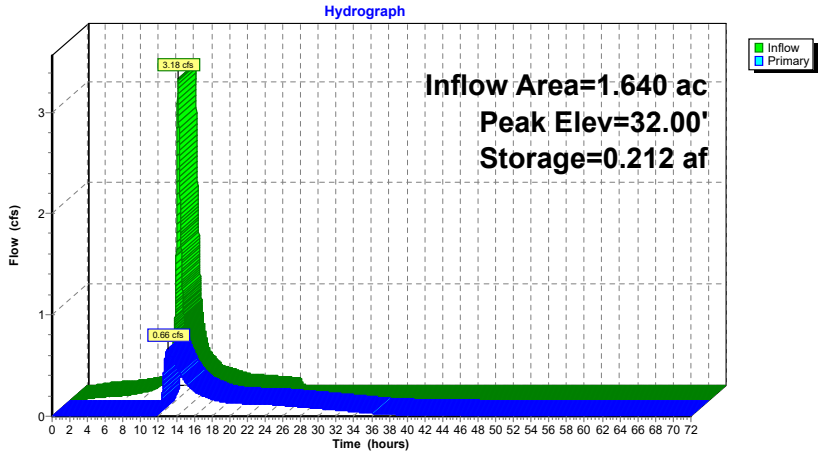
Volume	Invert	Avail.Storage	Storage Description
#1	30.50'	0.484 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.50	0.122	0.000	0.000
31.50	0.148	0.135	0.135
32.50	0.174	0.161	0.296
33.50	0.202	0.188	0.484

Device	Routing	Invert	Outlet Devices
#1	Primary	33.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.70'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.66 cfs @ 13.07 hrs HW=32.00' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.51 cfs @ 1.79 fps)
- **3=Orifice** (Orifice Controls 0.16 cfs @ 4.56 fps)

Pond 70P: BASIN K



Summary for Pond 74P: BASIN B

Inflow Area = 3.730 ac, 48.53% Impervious, Inflow Depth > 2.67" for 10-Year-Current event
Inflow = 2.58 cfs @ 12.18 hrs, Volume= 0.830 af
Outflow = 1.20 cfs @ 12.60 hrs, Volume= 0.758 af, Atten= 53%, Lag= 25.2 min
Primary = 1.20 cfs @ 12.60 hrs, Volume= 0.758 af
Routed to Pond 59P : BASIN C

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 31.80' @ 12.60 hrs Surf.Area= 0.107 ac Storage= 0.140 af

Plug-Flow detention time= 418.4 min calculated for 0.758 af (91% of inflow)
Center-of-Mass det. time= 240.3 min (1,765.0 - 1,524.7)

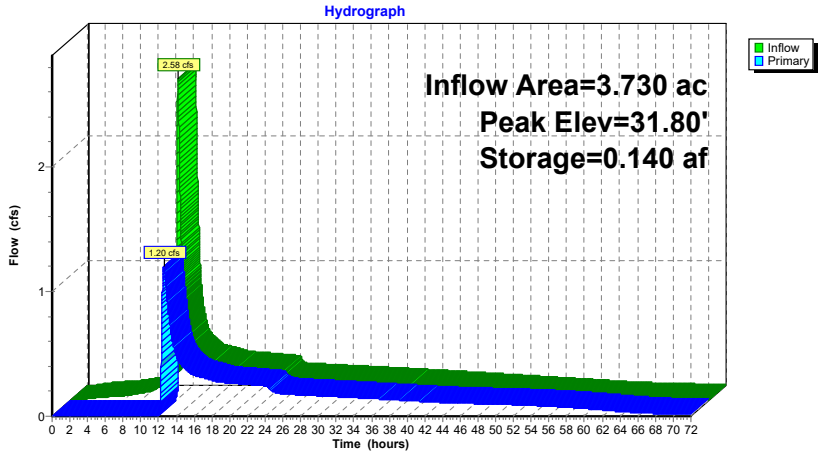
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	0.292 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.00	0.049	0.000	0.000
31.00	0.081	0.065	0.065
32.00	0.113	0.097	0.162
33.00	0.147	0.130	0.292

Device	Routing	Invert	Outlet Devices
#1	Primary	32.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.20 cfs @ 12.60 hrs HW=31.80' TW=29.99' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 1.06 cfs @ 1.80 fps)
- **3=Orifice** (Orifice Controls 0.14 cfs @ 4.03 fps)

Pond 74P: BASIN B



Summary for Pond 75P: BASIN D

Inflow Area = 7.390 ac, 48.71% Impervious, Inflow Depth > 2.77" for 10-Year-Current event
Inflow = 7.56 cfs @ 12.19 hrs, Volume= 1.705 af
Outflow = 6.88 cfs @ 12.29 hrs, Volume= 1.704 af, Atten= 9%, Lag= 6.0 min
Primary = 6.88 cfs @ 12.29 hrs, Volume= 1.704 af
Routed to nonexistent node 46L

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 29.25' Surf.Area= 0.280 ac Storage= 0.654 af
Peak Elev= 29.48' @ 12.29 hrs Surf.Area= 0.287 ac Storage= 0.720 af (0.065 af above start)

Plug-Flow detention time= 829.0 min calculated for 1.050 af (62% of inflow)
Center-of-Mass det. time= 14.0 min (1,252.6 - 1,238.5)

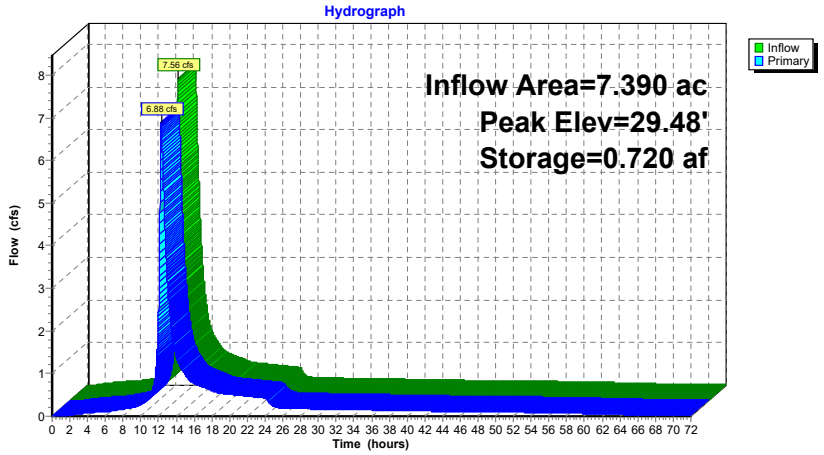
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.725 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.197	0.000	0.000
27.50	0.226	0.211	0.211
28.50	0.257	0.241	0.453
29.50	0.288	0.272	0.725

Device	Routing	Invert	Outlet Devices
#1	Primary	29.25'	**25.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=6.88 cfs @ 12.29 hrs HW=29.48' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 6.88 cfs @ 1.20 fps)

Pond 75P: BASIN D



Summary for Pond 80P: BASIN A

Inflow Area = 2.470 ac, 53.85% Impervious, Inflow Depth = 3.43" for 10-Year-Current event
Inflow = 5.79 cfs @ 12.18 hrs, Volume= 0.705 af
Outflow = 0.19 cfs @ 18.43 hrs, Volume= 0.528 af, Atten= 97%, Lag= 375.0 min
Primary = 0.19 cfs @ 18.43 hrs, Volume= 0.528 af
Routed to Pond 81P : BASIN B

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 34.13' @ 18.43 hrs Surf.Area= 0.315 ac Storage= 0.540 af

Plug-Flow detention time= 1,253.2 min calculated for 0.528 af (75% of inflow)
Center-of-Mass det. time= 1,153.0 min (1,938.0 - 785.0)

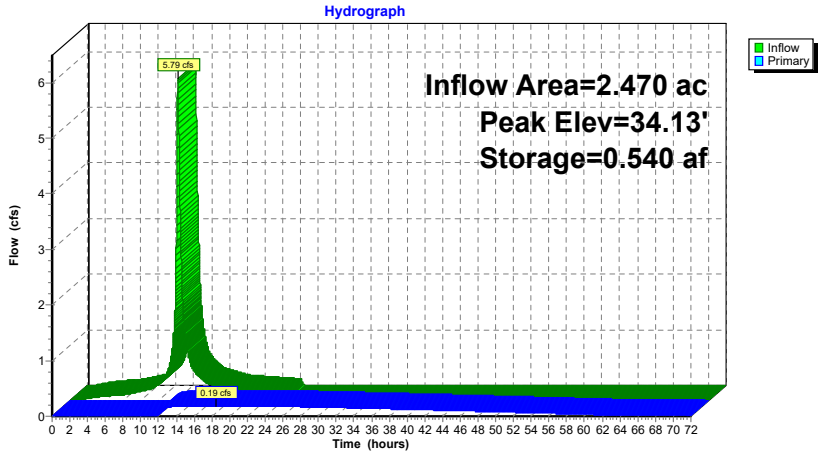
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.233 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.192	0.000	0.000
33.00	0.249	0.220	0.220
34.00	0.307	0.278	0.499
35.00	0.367	0.337	0.836
36.00	0.428	0.397	1.233

Device	Routing	Invert	Outlet Devices
#1	Primary	35.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.75'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.19 cfs @ 18.43 hrs HW=34.13' TW=31.59' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.19 cfs @ 5.45 fps)

Pond 80P: BASIN A



Summary for Pond 81P: BASIN B

Inflow Area = 3.730 ac, 48.53% Impervious, Inflow Depth > 2.67" for 10-Year-Current event
Inflow = 2.58 cfs @ 12.18 hrs, Volume= 0.830 af
Outflow = 1.20 cfs @ 12.60 hrs, Volume= 0.758 af, Atten= 53%, Lag= 25.2 min
Primary = 1.20 cfs @ 12.60 hrs, Volume= 0.758 af
Routed to Link 122L : Inflow from Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 31.80' @ 12.60 hrs Surf.Area= 0.107 ac Storage= 0.140 af

Plug-Flow detention time= 418.4 min calculated for 0.758 af (91% of inflow)
Center-of-Mass det. time= 240.3 min (1,765.0 - 1,524.7)

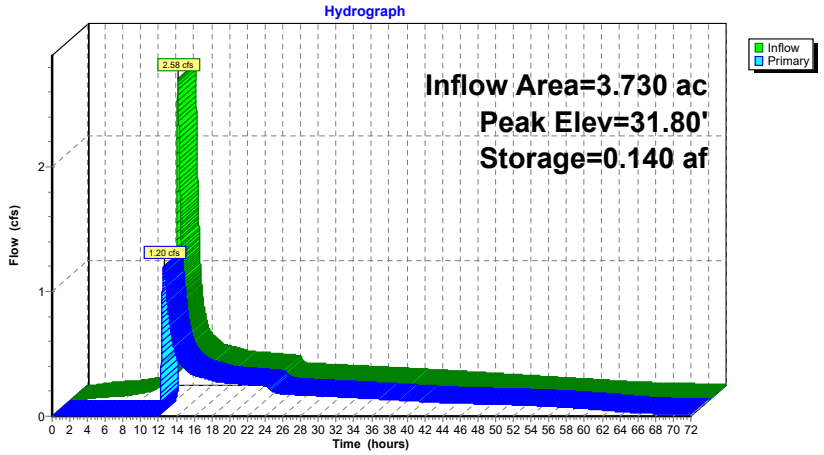
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	0.292 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.00	0.049	0.000	0.000
31.00	0.081	0.065	0.065
32.00	0.113	0.097	0.162
33.00	0.147	0.130	0.292

Device	Routing	Invert	Outlet Devices
#1	Primary	32.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.20 cfs @ 12.60 hrs HW=31.80' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 1.06 cfs @ 1.80 fps)
- **3=Orifice** (Orifice Controls 0.14 cfs @ 4.03 fps)

Pond 81P: BASIN B



Summary for Pond 83P: BASIN F

Inflow Area = 1.500 ac, 56.00% Impervious, Inflow Depth = 3.50" for 10-Year-Current event
Inflow = 3.72 cfs @ 12.17 hrs, Volume= 0.438 af
Outflow = 0.12 cfs @ 18.18 hrs, Volume= 0.232 af, Atten= 97%, Lag= 360.6 min
Primary = 0.12 cfs @ 18.18 hrs, Volume= 0.232 af
Routed to Pond 86p : BASIN G

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.62' @ 18.18 hrs Surf.Area= 0.244 ac Storage= 0.340 af

Plug-Flow detention time= 986.6 min calculated for 0.232 af (53% of inflow)
Center-of-Mass det. time= 845.6 min (1,627.6 - 782.0)

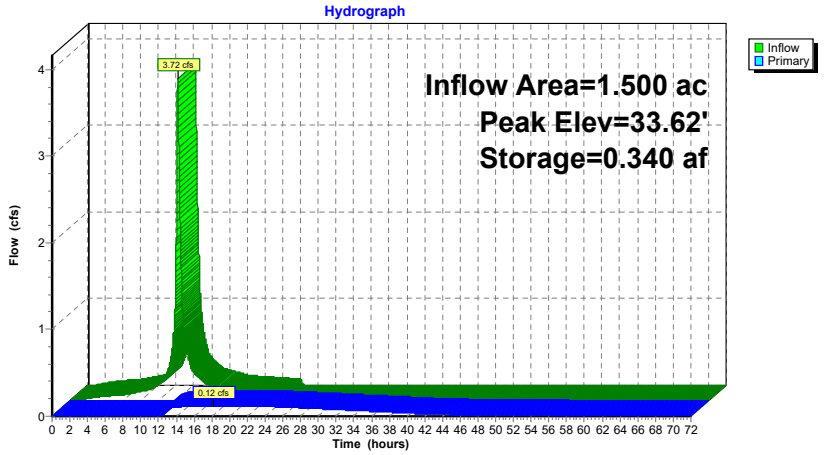
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.043 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.178	0.000	0.000
33.00	0.218	0.198	0.198
34.00	0.260	0.239	0.437
35.00	0.303	0.281	0.718
36.00	0.347	0.325	1.043

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.25'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.12 cfs @ 18.18 hrs HW=33.62' TW=32.80' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.12 cfs @ 3.44 fps)

Pond 83P: BASIN F



Summary for Pond 84P: BASIN L

Inflow Area = 0.970 ac, 50.52% Impervious, Inflow Depth = 3.31" for 10-Year-Current event
Inflow = 2.22 cfs @ 12.18 hrs, Volume= 0.268 af
Outflow = 0.67 cfs @ 12.74 hrs, Volume= 0.219 af, Atten= 70%, Lag= 33.5 min
Primary = 0.67 cfs @ 12.74 hrs, Volume= 0.219 af
Routed to Link 124L : Inflow from Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 34.09' @ 12.74 hrs Surf.Area= 0.104 ac Storage= 0.140 af

Plug-Flow detention time= 417.8 min calculated for 0.219 af (82% of inflow)
Center-of-Mass det. time= 334.7 min (1,122.4 - 787.7)

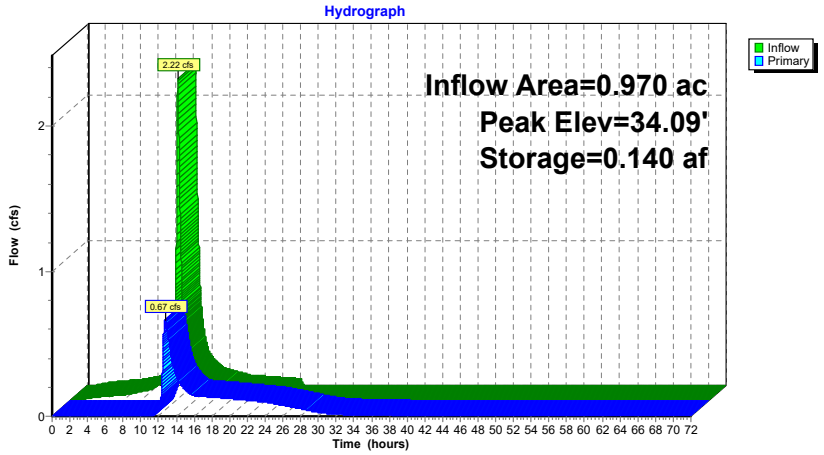
Volume	Invert	Avail.Storage	Storage Description
#1	32.50'	0.308 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.50	0.074	0.000	0.000
33.00	0.083	0.039	0.039
34.00	0.102	0.092	0.132
35.00	0.123	0.113	0.244
35.50	0.134	0.064	0.308

Device	Routing	Invert	Outlet Devices
#1	Primary	34.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	33.90'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.10'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.67 cfs @ 12.74 hrs HW=34.09' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.51 cfs @ 1.41 fps)
- **3=Orifice** (Orifice Controls 0.15 cfs @ 4.52 fps)

Pond 84P: BASIN L



Summary for Pond 85P: BASIN C

Inflow Area = 4.720 ac, 47.25% Impervious, Inflow Depth > 2.56" for 10-Year-Current event
Inflow = 2.22 cfs @ 12.41 hrs, Volume= 1.007 af
Outflow = 2.21 cfs @ 12.46 hrs, Volume= 1.007 af, Atten= 1%, Lag= 3.0 min
Primary = 2.21 cfs @ 12.46 hrs, Volume= 1.007 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 31.30' Surf.Area= 0.096 ac Storage= 0.178 af
Peak Elev= 31.43' @ 12.46 hrs Surf.Area= 0.099 ac Storage= 0.191 af (0.012 af above start)

Plug-Flow detention time= 535.1 min calculated for 0.829 af (82% of inflow)
Center-of-Mass det. time= 7.1 min (1,532.4 - 1,525.4)

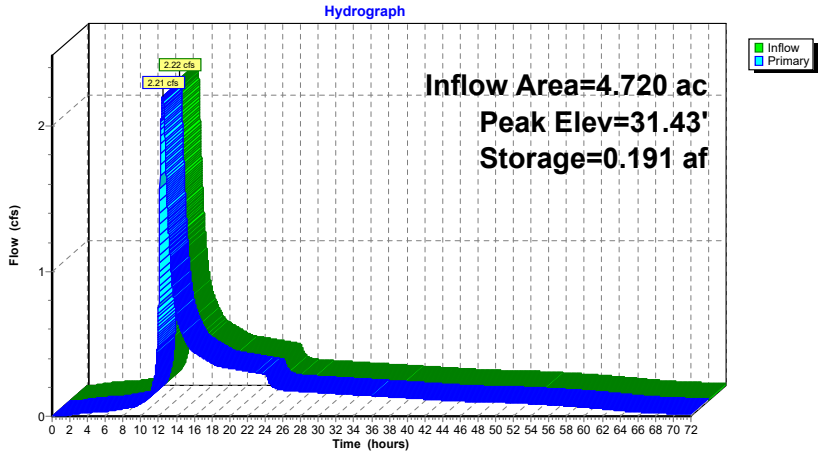
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.198 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.033	0.000	0.000
29.50	0.054	0.043	0.043
30.50	0.077	0.065	0.109
31.50	0.101	0.089	0.198

Device	Routing	Invert	Outlet Devices
#1	Primary	31.30'	**20.0' long x 10.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=2.21 cfs @ 12.46 hrs HW=31.43' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 2.21 cfs @ 0.88 fps)

Pond 85P: BASIN C



Summary for Pond 86P: BASIN G

Inflow Area = 2.760 ac, 47.46% Impervious, Inflow Depth > 2.31" for 10-Year-Current event
Inflow = 2.47 cfs @ 12.18 hrs, Volume= 0.531 af
Outflow = 0.68 cfs @ 12.92 hrs, Volume= 0.460 af, Atten= 73%, Lag= 44.1 min
Primary = 0.68 cfs @ 12.92 hrs, Volume= 0.460 af
Routed to Pond 60P : BASIN H

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 32.94' @ 12.92 hrs Surf.Area= 0.115 ac Storage= 0.160 af

Plug-Flow detention time= 523.9 min calculated for 0.460 af (87% of inflow)
Center-of-Mass det. time= 332.8 min (1,495.9 - 1,163.1)

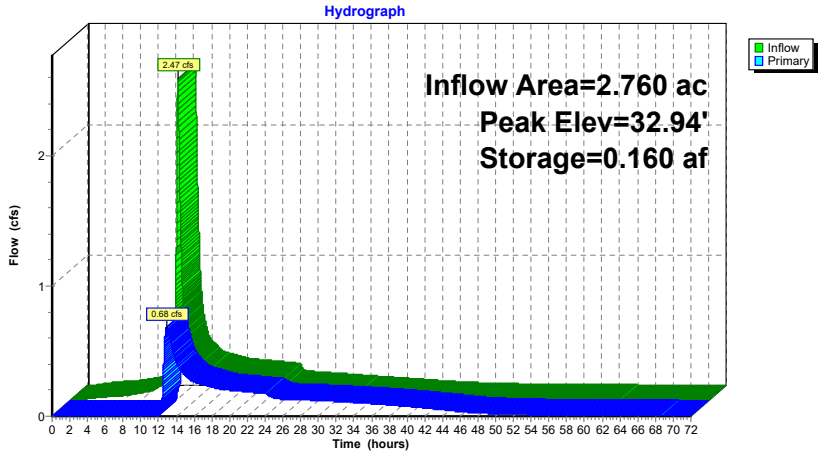
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	0.301 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.00	0.051	0.000	0.000
32.00	0.083	0.067	0.067
33.00	0.117	0.100	0.167
34.00	0.152	0.134	0.301

Device	Routing	Invert	Outlet Devices
#1	Primary	33.70'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	32.75'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.68 cfs @ 12.92 hrs HW=32.94' TW=29.84' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.53 cfs @ 1.42 fps)
- **3=Orifice** (Orifice Controls 0.15 cfs @ 4.40 fps)

Pond 86P: BASIN G



Summary for Pond 87P: BASIN A

Inflow Area = 2.470 ac, 53.85% Impervious, Inflow Depth = 3.43" for 10-Year-Current event
Inflow = 5.79 cfs @ 12.18 hrs, Volume= 0.705 af
Outflow = 0.19 cfs @ 18.43 hrs, Volume= 0.528 af, Atten= 97%, Lag= 375.0 min
Primary = 0.19 cfs @ 18.43 hrs, Volume= 0.528 af
Routed to Link 121L : Inflow from Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 34.13' @ 18.43 hrs Surf.Area= 0.315 ac Storage= 0.540 af

Plug-Flow detention time= 1,253.2 min calculated for 0.528 af (75% of inflow)
Center-of-Mass det. time= 1,153.0 min (1,938.0 - 785.0)

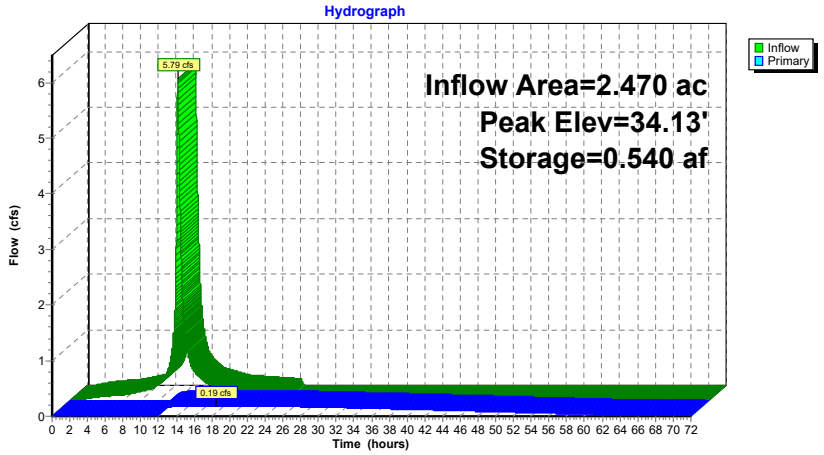
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.233 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.192	0.000	0.000
33.00	0.249	0.220	0.220
34.00	0.307	0.278	0.499
35.00	0.367	0.337	0.836
36.00	0.428	0.397	1.233

Device	Routing	Invert	Outlet Devices
#1	Primary	35.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.75'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.19 cfs @ 18.43 hrs HW=34.13' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.19 cfs @ 5.45 fps)

Pond 87P: BASIN A



Summary for Pond 90P: BASIN N

Inflow Area = 4.000 ac, 43.75% Impervious, Inflow Depth > 2.76" for 10-Year-Current event
Inflow = 3.32 cfs @ 12.18 hrs, Volume= 0.920 af
Outflow = 2.87 cfs @ 12.29 hrs, Volume= 0.919 af, Atten= 14%, Lag= 6.3 min
Primary = 2.87 cfs @ 12.29 hrs, Volume= 0.919 af
Routed to nonexistent node 46L

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 31.30' Surf.Area= 0.223 ac Storage= 0.397 af
Peak Elev= 31.45' @ 12.29 hrs Surf.Area= 0.234 ac Storage= 0.431 af (0.034 af above start)

Plug-Flow detention time= 523.5 min calculated for 0.522 af (57% of inflow)
Center-of-Mass det. time= 15.5 min (1,039.5 - 1,024.0)

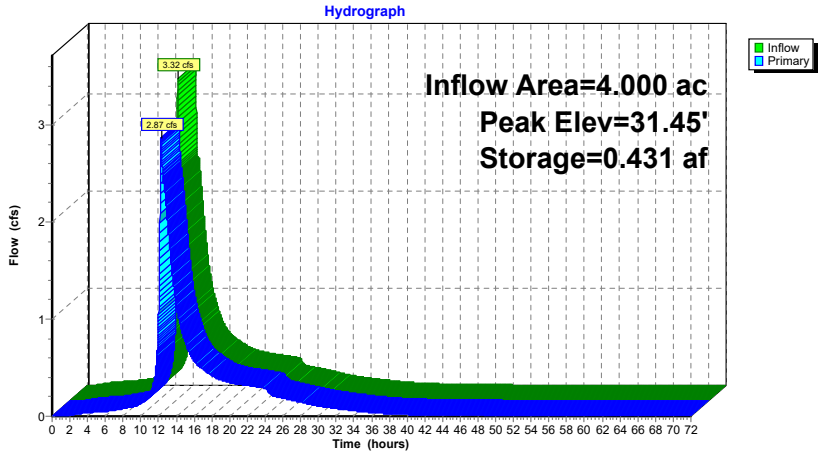
Volume	Invert	Avail.Storage	Storage Description
#1	29.00'	0.443 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
29.00	0.136	0.000	0.000
30.00	0.167	0.151	0.151
31.00	0.199	0.183	0.334
31.50	0.238	0.109	0.443

Device	Routing	Invert	Outlet Devices
#1	Primary	31.30'	**20.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=2.87 cfs @ 12.29 hrs HW=31.45' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 2.87 cfs @ 0.96 fps)

Pond 90P: BASIN N



Summary for Pond 91P: BASIN K

Inflow Area = 1.640 ac, 37.80% Impervious, Inflow Depth = 2.86" for 10-Year-Current event
Inflow = 3.18 cfs @ 12.18 hrs, Volume= 0.391 af
Outflow = 2.79 cfs @ 12.28 hrs, Volume= 0.391 af, Atten= 12%, Lag= 5.6 min
Primary = 2.79 cfs @ 12.28 hrs, Volume= 0.391 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 33.30' Surf.Area= 0.197 ac Storage= 0.444 af
Peak Elev= 33.45' @ 12.28 hrs Surf.Area= 0.201 ac Storage= 0.473 af (0.029 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 15.4 min (817.8 - 802.4)

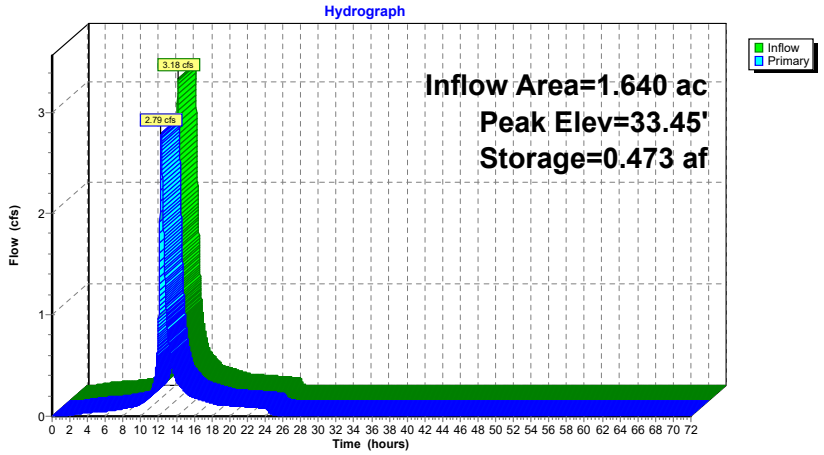
Volume	Invert	Avail.Storage	Storage Description
#1	30.50'	0.484 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.50	0.122	0.000	0.000
31.50	0.148	0.135	0.135
32.50	0.174	0.161	0.296
33.50	0.202	0.188	0.484

Device	Routing	Invert	Outlet Devices
#1	Primary	33.30'	**20.0' long x 10.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=2.79 cfs @ 12.28 hrs HW=33.45' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 2.79 cfs @ 0.95 fps)

Pond 91P: BASIN K



Summary for Pond 92P: BASIN L

Inflow Area = 0.970 ac, 50.52% Impervious, Inflow Depth = 3.31" for 10-Year-Current event
Inflow = 2.22 cfs @ 12.18 hrs, Volume= 0.268 af
Outflow = 1.90 cfs @ 12.28 hrs, Volume= 0.268 af, Atten= 15%, Lag= 5.9 min
Primary = 1.90 cfs @ 12.28 hrs, Volume= 0.268 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 35.00' Surf.Area= 0.123 ac Storage= 0.244 af
Peak Elev= 35.18' @ 12.28 hrs Surf.Area= 0.127 ac Storage= 0.267 af (0.022 af above start)

Plug-Flow detention time= 965.0 min calculated for 0.023 af (9% of inflow)
Center-of-Mass det. time= 17.4 min (805.2 - 787.7)

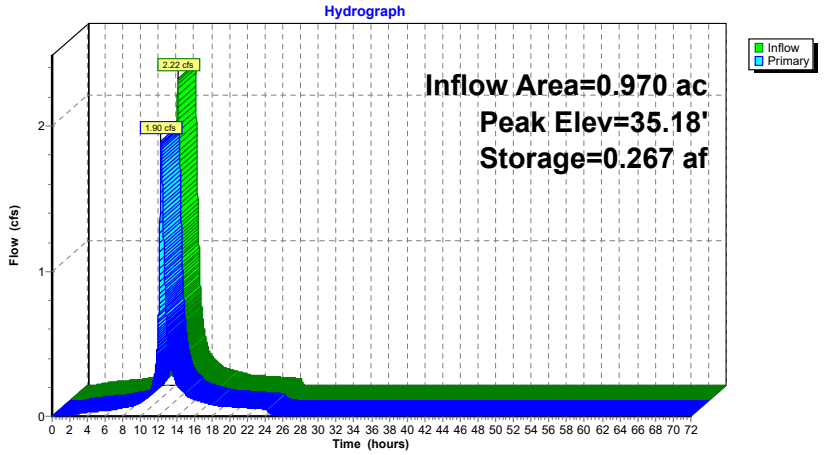
Volume	Invert	Avail.Storage	Storage Description
#1	32.50'	0.308 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.50	0.074	0.000	0.000
33.00	0.083	0.039	0.039
34.00	0.102	0.092	0.132
35.00	0.123	0.113	0.244
35.50	0.134	0.064	0.308

Device	Routing	Invert	Outlet Devices
#1	Primary	35.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.89 cfs @ 12.28 hrs HW=35.18' (Free Discharge)
↳**1=Broad-Crested Rectangular Weir** (Weir Controls 1.89 cfs @ 1.06 fps)

Pond 92P: BASIN L



Summary for Pond 93P: BASIN O

Inflow Area = 1.100 ac, 51.82% Impervious, Inflow Depth = 3.57" for 10-Year-Current event
Inflow = 2.73 cfs @ 12.18 hrs, Volume= 0.328 af
Outflow = 2.43 cfs @ 12.26 hrs, Volume= 0.328 af, Atten= 11%, Lag= 4.8 min
Primary = 2.43 cfs @ 12.26 hrs, Volume= 0.328 af
Routed to nonexistent node 46L

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 29.00' Surf.Area= 0.100 ac Storage= 0.186 af
Peak Elev= 29.21' @ 12.26 hrs Surf.Area= 0.112 ac Storage= 0.209 af (0.023 af above start)

Plug-Flow detention time= 350.2 min calculated for 0.141 af (43% of inflow)
Center-of-Mass det. time= 13.4 min (800.1 - 786.7)

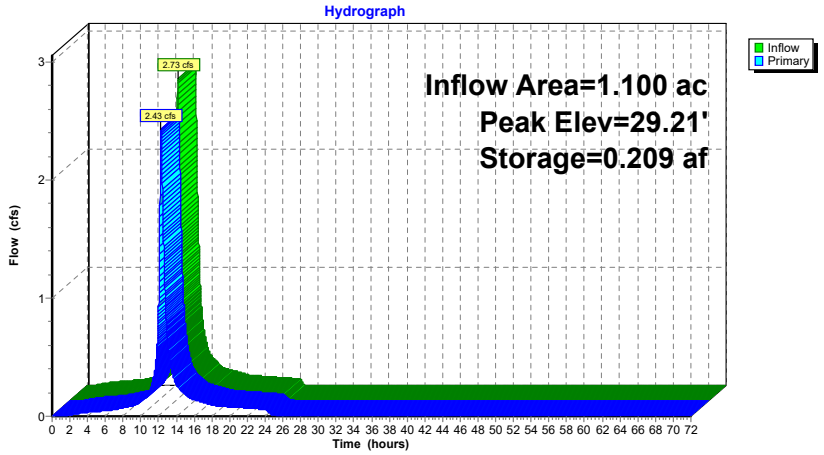
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.244 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.050	0.000	0.000
27.00	0.059	0.027	0.027
28.00	0.079	0.069	0.097
29.00	0.100	0.090	0.186
29.50	0.129	0.057	0.244

Device	Routing	Invert	Outlet Devices
#1	Primary	29.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=2.43 cfs @ 12.26 hrs HW=29.21' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 2.43 cfs @ 1.15 fps)

Pond 93P: BASIN O



Summary for Pond 94P: BASIN H

Inflow Area = 4.710 ac, 45.65% Impervious, Inflow Depth > 2.44" for 10-Year-Current event
Inflow = 4.15 cfs @ 12.18 hrs, Volume= 0.956 af
Outflow = 0.45 cfs @ 16.49 hrs, Volume= 0.828 af, Atten= 89%, Lag= 258.7 min
Primary = 0.45 cfs @ 16.49 hrs, Volume= 0.828 af
Routed to Link 127L : Inflow from Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 30.37' @ 16.49 hrs Surf.Area= 0.279 ac Storage= 0.463 af

Plug-Flow detention time= 1,109.6 min calculated for 0.828 af (87% of inflow)
Center-of-Mass det. time= 913.7 min (2,046.7 - 1,133.0)

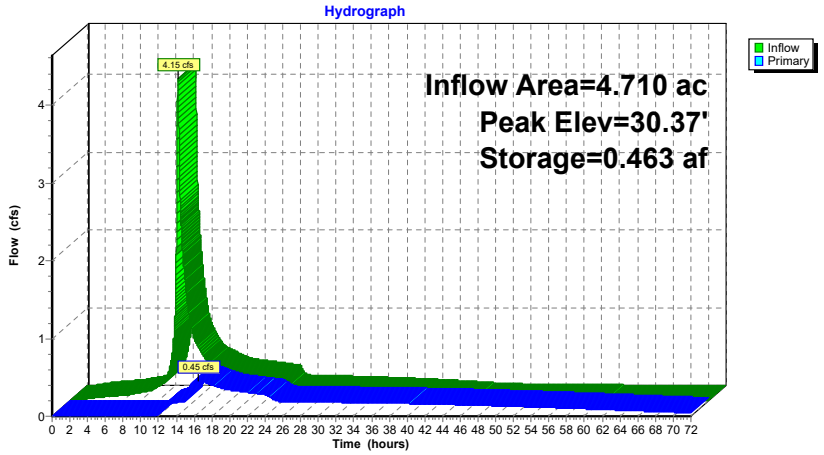
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.799 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.216	0.000	0.000
29.00	0.232	0.112	0.112
30.00	0.266	0.249	0.361
31.00	0.301	0.283	0.644
31.50	0.319	0.155	0.799

Device	Routing	Invert	Outlet Devices
#1	Primary	31.20'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.30'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	28.90'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.45 cfs @ 16.49 hrs HW=30.37' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.26 cfs @ 0.89 fps)
- **3=Orifice** (Orifice Controls 0.19 cfs @ 5.63 fps)

Pond 94P: BASIN H



Summary for Pond 95P: BASIN I

Inflow Area = 0.530 ac, 33.96% Impervious, Inflow Depth = 2.73" for 10-Year-Current event
Inflow = 0.99 cfs @ 12.18 hrs, Volume= 0.121 af
Outflow = 0.17 cfs @ 13.26 hrs, Volume= 0.097 af, Atten= 83%, Lag= 64.7 min
Primary = 0.17 cfs @ 13.26 hrs, Volume= 0.097 af
Routed to Link 127L : Inflow from Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 30.56' @ 13.26 hrs Surf.Area= 0.038 ac Storage= 0.062 af

Plug-Flow detention time= 285.0 min calculated for 0.097 af (80% of inflow)
Center-of-Mass det. time= 196.9 min (1,004.3 - 807.4)

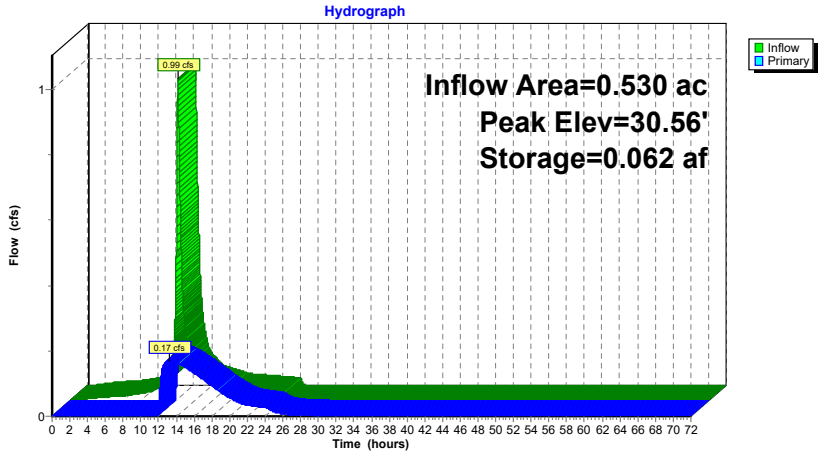
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.101 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.023	0.000	0.000
29.50	0.030	0.026	0.026
30.50	0.037	0.033	0.060
31.50	0.045	0.041	0.101

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.60'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	29.40'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.17 cfs @ 13.26 hrs HW=30.56' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.17 cfs @ 4.96 fps)

Pond 95P: BASIN I



Summary for Pond 96P: BASIN F

Inflow Area = 1.500 ac, 56.00% Impervious, Inflow Depth = 3.50" for 10-Year-Current event
Inflow = 3.72 cfs @ 12.17 hrs, Volume= 0.438 af
Outflow = 0.12 cfs @ 18.18 hrs, Volume= 0.232 af, Atten= 97%, Lag= 360.6 min
Primary = 0.12 cfs @ 18.18 hrs, Volume= 0.232 af
Routed to Pond 97P : BASIN G

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.62' @ 18.18 hrs Surf.Area= 0.244 ac Storage= 0.340 af

Plug-Flow detention time= 986.6 min calculated for 0.232 af (53% of inflow)
Center-of-Mass det. time= 845.6 min (1,627.6 - 782.0)

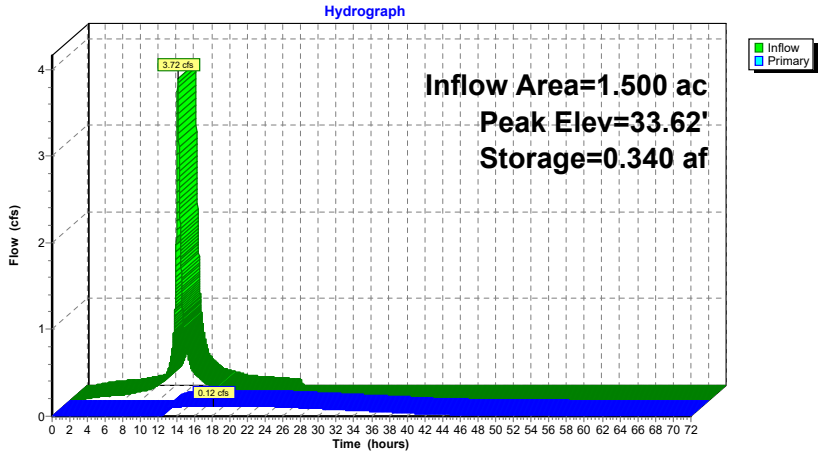
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.043 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.178	0.000	0.000
33.00	0.218	0.198	0.198
34.00	0.260	0.239	0.437
35.00	0.303	0.281	0.718
36.00	0.347	0.325	1.043

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.25'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.12 cfs @ 18.18 hrs HW=33.62' TW=32.80' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.12 cfs @ 3.44 fps)

Pond 96P: BASIN F



Summary for Pond 97P: BASIN G

Inflow Area = 2.760 ac, 47.46% Impervious, Inflow Depth > 2.31" for 10-Year-Current event
Inflow = 2.47 cfs @ 12.18 hrs, Volume= 0.531 af
Outflow = 0.68 cfs @ 12.92 hrs, Volume= 0.460 af, Atten= 73%, Lag= 44.1 min
Primary = 0.68 cfs @ 12.92 hrs, Volume= 0.460 af
Routed to Pond 94P : BASIN H

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 32.94' @ 12.92 hrs Surf.Area= 0.115 ac Storage= 0.160 af

Plug-Flow detention time= 523.9 min calculated for 0.460 af (87% of inflow)
Center-of-Mass det. time= 332.8 min (1,495.9 - 1,163.1)

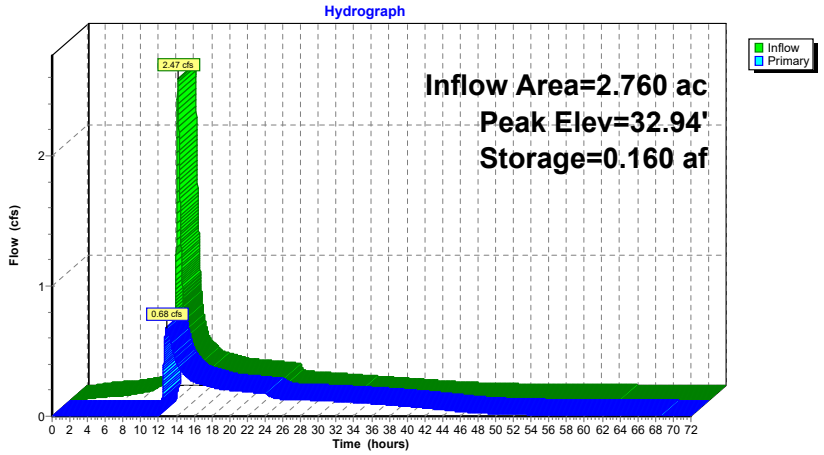
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	0.301 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.00	0.051	0.000	0.000
32.00	0.083	0.067	0.067
33.00	0.117	0.100	0.167
34.00	0.152	0.134	0.301

Device	Routing	Invert	Outlet Devices
#1	Primary	33.70'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	32.75'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.68 cfs @ 12.92 hrs HW=32.94' TW=29.84' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.53 cfs @ 1.42 fps)
- **3=Orifice** (Orifice Controls 0.15 cfs @ 4.40 fps)

Pond 97P: BASIN G



Summary for Pond 98P: BASIN A

Inflow Area = 2.470 ac, 53.85% Impervious, Inflow Depth = 3.43" for 10-Year-Current event
Inflow = 5.79 cfs @ 12.18 hrs, Volume= 0.705 af
Outflow = 4.47 cfs @ 12.32 hrs, Volume= 0.705 af, Atten= 23%, Lag= 8.6 min
Primary = 4.47 cfs @ 12.32 hrs, Volume= 0.705 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 35.70' Surf.Area= 0.409 ac Storage= 1.107 af
Peak Elev= 35.90' @ 12.32 hrs Surf.Area= 0.422 ac Storage= 1.191 af (0.083 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 26.7 min (811.7 - 785.0)

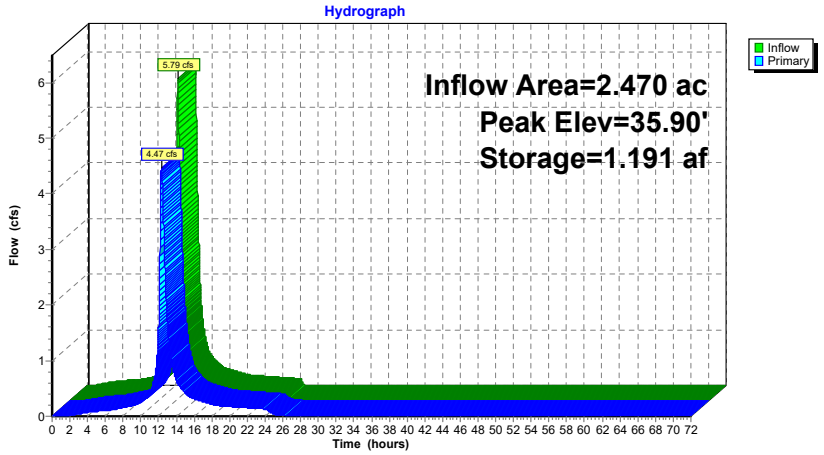
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.233 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.192	0.000	0.000
33.00	0.249	0.220	0.220
34.00	0.307	0.278	0.499
35.00	0.367	0.337	0.836
36.00	0.428	0.397	1.233

Device	Routing	Invert	Outlet Devices
#1	Primary	35.70'	**20.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=4.47 cfs @ 12.32 hrs HW=35.90' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 4.47 cfs @ 1.11 fps)

Pond 98P: BASIN A



Summary for Pond 101P: BASIN F

Inflow Area = 1.500 ac, 56.00% Impervious, Inflow Depth = 3.50" for 10-Year-Current event
Inflow = 3.72 cfs @ 12.17 hrs, Volume= 0.438 af
Outflow = 0.12 cfs @ 18.18 hrs, Volume= 0.232 af, Atten= 97%, Lag= 360.6 min
Primary = 0.12 cfs @ 18.18 hrs, Volume= 0.232 af
Routed to Pond 103P : BASIN G

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.62' @ 18.18 hrs Surf.Area= 0.244 ac Storage= 0.340 af

Plug-Flow detention time= 986.6 min calculated for 0.232 af (53% of inflow)
Center-of-Mass det. time= 845.6 min (1,627.6 - 782.0)

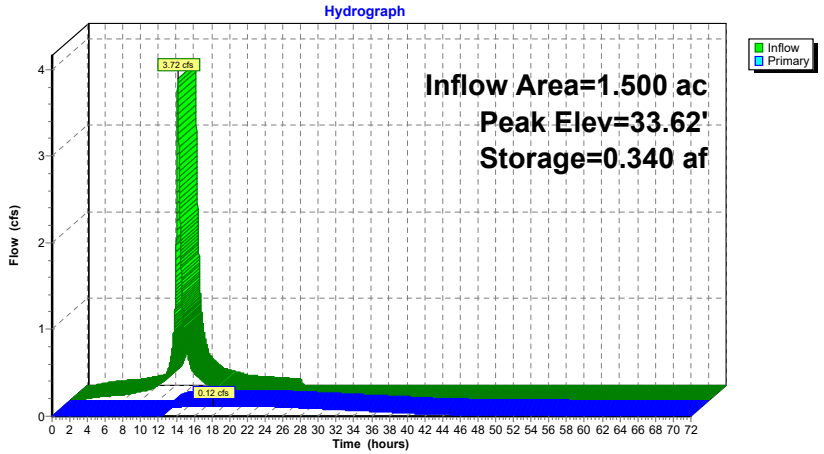
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.043 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.178	0.000	0.000
33.00	0.218	0.198	0.198
34.00	0.260	0.239	0.437
35.00	0.303	0.281	0.718
36.00	0.347	0.325	1.043

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.25'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.12 cfs @ 18.18 hrs HW=33.62' TW=32.80' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.12 cfs @ 3.44 fps)

Pond 101P: BASIN F



Summary for Pond 102P: BASIN Q

Inflow Area = 1.860 ac, 59.68% Impervious, Inflow Depth = 3.63" for 10-Year-Current event
Inflow = 4.13 cfs @ 12.21 hrs, Volume= 0.563 af
Outflow = 3.96 cfs @ 12.26 hrs, Volume= 0.563 af, Atten= 4%, Lag= 3.1 min
Primary = 3.96 cfs @ 12.26 hrs, Volume= 0.563 af
Routed to nonexistent node 46L

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 28.80' Surf.Area= 0.142 ac Storage= 0.327 af
Peak Elev= 28.96' @ 12.26 hrs Surf.Area= 0.145 ac Storage= 0.350 af (0.023 af above start)

Plug-Flow detention time= 361.0 min calculated for 0.235 af (42% of inflow)
Center-of-Mass det. time= 8.5 min (792.6 - 784.1)

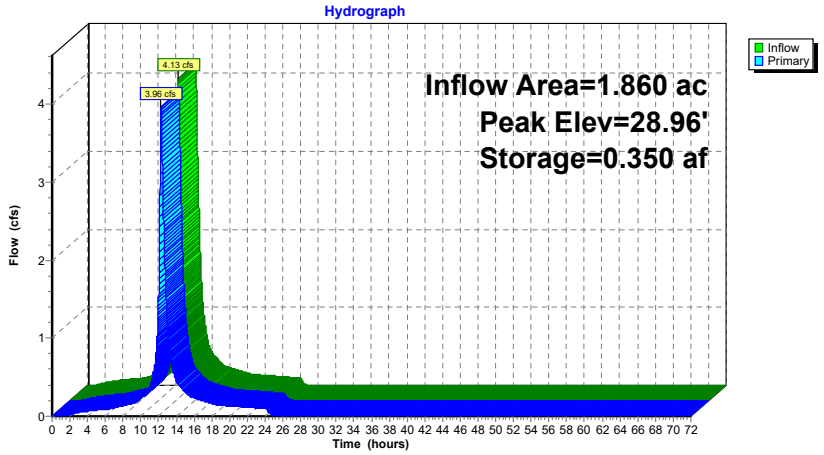
Volume	Invert	Avail.Storage	Storage Description
#1	26.00'	0.356 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.00	0.092	0.000	0.000
27.00	0.110	0.101	0.101
28.00	0.128	0.119	0.220
29.00	0.146	0.137	0.356

Device	Routing	Invert	Outlet Devices
#1	Primary	28.80'	**25.0' long x 10.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=3.96 cfs @ 12.26 hrs HW=28.96' (Free Discharge)
↳**1=Broad-Crested Rectangular Weir** (Weir Controls 3.96 cfs @ 0.99 fps)

Pond 102P: BASIN Q



Summary for Pond 103P: BASIN G

Inflow Area = 2.760 ac, 47.46% Impervious, Inflow Depth > 2.31" for 10-Year-Current event
Inflow = 2.47 cfs @ 12.18 hrs, Volume= 0.531 af
Outflow = 0.68 cfs @ 12.92 hrs, Volume= 0.460 af, Atten= 73%, Lag= 44.1 min
Primary = 0.68 cfs @ 12.92 hrs, Volume= 0.460 af
Routed to Link 128L : Inflow from Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 32.94' @ 12.92 hrs Surf.Area= 0.115 ac Storage= 0.160 af

Plug-Flow detention time= 523.9 min calculated for 0.460 af (87% of inflow)
Center-of-Mass det. time= 332.8 min (1,495.9 - 1,163.1)

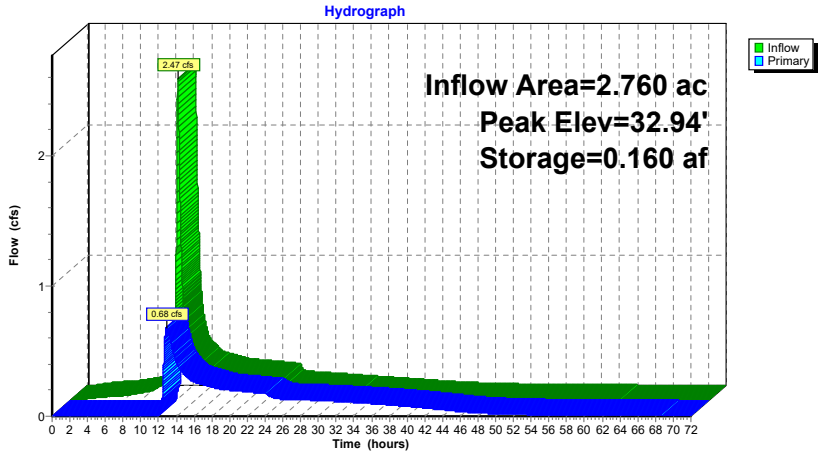
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	0.301 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.00	0.051	0.000	0.000
32.00	0.083	0.067	0.067
33.00	0.117	0.100	0.167
34.00	0.152	0.134	0.301

Device	Routing	Invert	Outlet Devices
#1	Primary	33.70'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	32.75'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.68 cfs @ 12.92 hrs HW=32.94' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.53 cfs @ 1.42 fps)
- **3=Orifice** (Orifice Controls 0.15 cfs @ 4.40 fps)

Pond 103P: BASIN G



Summary for Pond 104P: BASIN F

Inflow Area = 1.500 ac, 56.00% Impervious, Inflow Depth = 3.50" for 10-Year-Current event
Inflow = 3.72 cfs @ 12.17 hrs, Volume= 0.438 af
Outflow = 0.12 cfs @ 18.18 hrs, Volume= 0.232 af, Atten= 97%, Lag= 360.6 min
Primary = 0.12 cfs @ 18.18 hrs, Volume= 0.232 af
Routed to Link 129L : Inflow from Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 33.62' @ 18.18 hrs Surf.Area= 0.244 ac Storage= 0.340 af

Plug-Flow detention time= 986.6 min calculated for 0.232 af (53% of inflow)
Center-of-Mass det. time= 845.6 min (1,627.6 - 782.0)

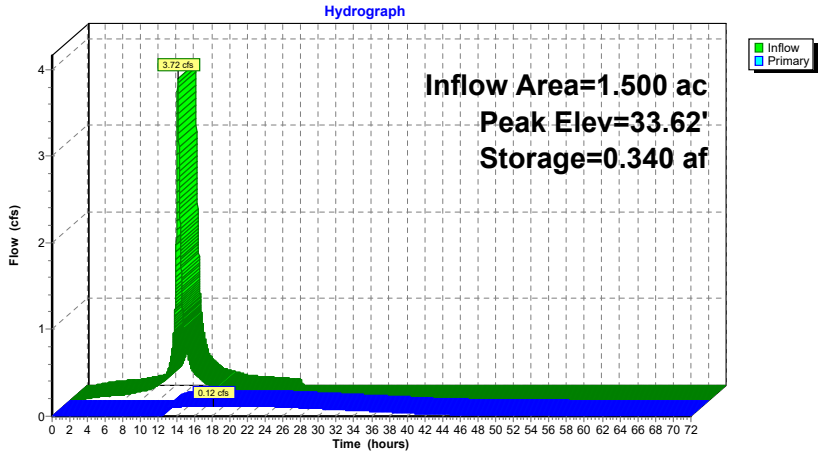
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.043 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.178	0.000	0.000
33.00	0.218	0.198	0.198
34.00	0.260	0.239	0.437
35.00	0.303	0.281	0.718
36.00	0.347	0.325	1.043

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.25'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.12 cfs @ 18.18 hrs HW=33.62' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.12 cfs @ 3.44 fps)

Pond 104P: BASIN F



Summary for Pond 105P: BASIN R

Inflow Area = 2.040 ac, 50.00% Impervious, Inflow Depth = 3.46" for 10-Year-Current event
Inflow = 4.88 cfs @ 12.18 hrs, Volume= 0.588 af
Outflow = 4.28 cfs @ 12.27 hrs, Volume= 0.588 af, Atten= 12%, Lag= 5.2 min
Primary = 4.28 cfs @ 12.27 hrs, Volume= 0.588 af
Routed to nonexistent node 46L

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 25.25' Surf.Area= 0.252 ac Storage= 0.502 af
Peak Elev= 25.42' @ 12.27 hrs Surf.Area= 0.269 ac Storage= 0.546 af (0.044 af above start)

Plug-Flow detention time= 769.0 min calculated for 0.086 af (15% of inflow)
Center-of-Mass det. time= 14.9 min (803.3 - 788.4)

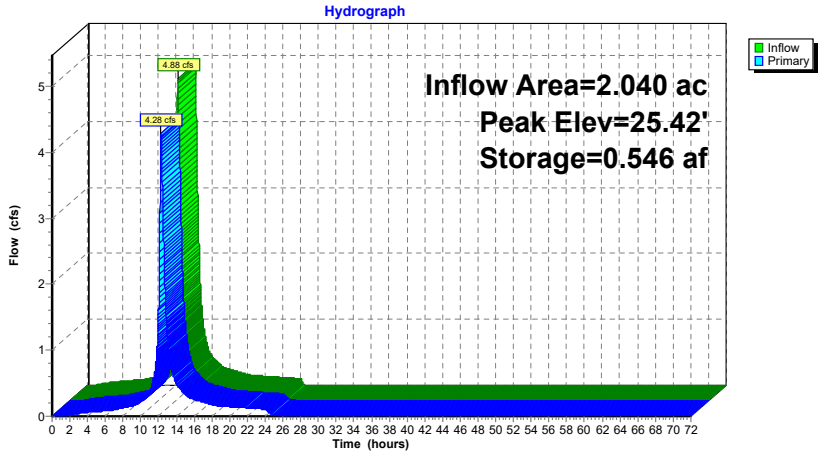
Volume	Invert	Avail.Storage	Storage Description
#1	22.50'	0.568 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
22.50	0.127	0.000	0.000
23.00	0.146	0.068	0.068
24.00	0.187	0.167	0.235
25.00	0.228	0.207	0.442
25.50	0.277	0.126	0.568

Device	Routing	Invert	Outlet Devices
#1	Primary	25.25'	**25.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=4.28 cfs @ 12.27 hrs HW=25.42' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 4.28 cfs @ 1.02 fps)

Pond 105P: BASIN R



Summary for Pond 106P: BASIN B

Inflow Area = 3.730 ac, 48.53% Impervious, Inflow Depth > 2.67" for 10-Year-Current event
Inflow = 2.58 cfs @ 12.18 hrs, Volume= 0.830 af
Outflow = 2.36 cfs @ 12.26 hrs, Volume= 0.830 af, Atten= 8%, Lag= 4.4 min
Primary = 2.36 cfs @ 12.26 hrs, Volume= 0.830 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 32.80' Surf.Area= 0.140 ac Storage= 0.263 af
Peak Elev= 32.93' @ 12.26 hrs Surf.Area= 0.145 ac Storage= 0.282 af (0.019 af above start)

Plug-Flow detention time= 894.9 min calculated for 0.566 af (68% of inflow)
Center-of-Mass det. time= 11.3 min (1,536.4 - 1,525.1)

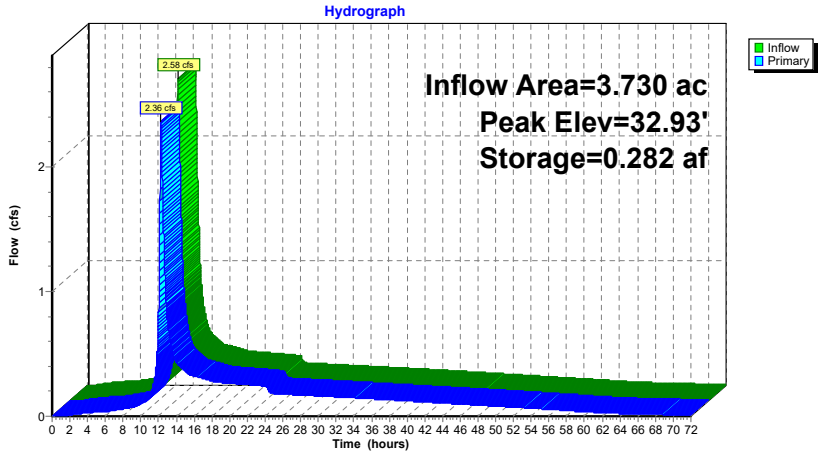
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	0.292 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.00	0.049	0.000	0.000
31.00	0.081	0.065	0.065
32.00	0.113	0.097	0.162
33.00	0.147	0.130	0.292

Device	Routing	Invert	Outlet Devices
#1	Primary	32.80'	**20.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=2.36 cfs @ 12.26 hrs HW=32.93' (Free Discharge)
↳**1=Broad-Crested Rectangular Weir** (Weir Controls 2.36 cfs @ 0.90 fps)

Pond 106P: BASIN B



Summary for Pond 108P: BASIN S

Inflow Area = 1.800 ac, 48.89% Impervious, Inflow Depth = 3.25" for 10-Year-Current event
Inflow = 3.54 cfs @ 12.22 hrs, Volume= 0.488 af
Outflow = 3.06 cfs @ 12.34 hrs, Volume= 0.488 af, Atten= 14%, Lag= 7.3 min
Primary = 3.06 cfs @ 12.34 hrs, Volume= 0.488 af
Routed to nonexistent node 46L

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 21.60' Surf.Area= 0.308 ac Storage= 0.687 af
Peak Elev= 21.73' @ 12.34 hrs Surf.Area= 0.316 ac Storage= 0.729 af (0.042 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 19.4 min (813.4 - 793.9)

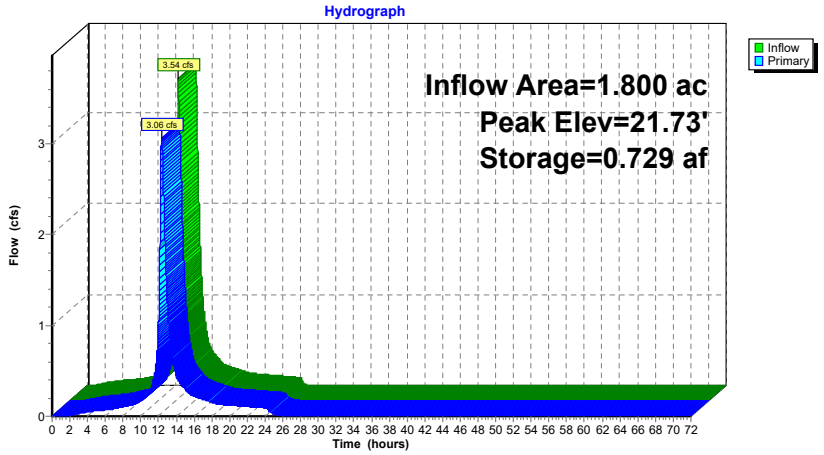
Volume	Invert	Avail.Storage	Storage Description
#1	18.80'	0.750 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
18.80	0.190	0.000	0.000
19.00	0.200	0.039	0.039
20.00	0.240	0.220	0.259
21.00	0.270	0.255	0.514
21.80	0.320	0.236	0.750

Device	Routing	Invert	Outlet Devices
#1	Primary	21.60'	**25.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=3.06 cfs @ 12.34 hrs HW=21.73' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 3.06 cfs @ 0.91 fps)

Pond 108P: BASIN S



Summary for Pond 110P: BASIN F

Inflow Area = 1.500 ac, 56.00% Impervious, Inflow Depth = 3.50" for 10-Year-Current event
Inflow = 3.72 cfs @ 12.17 hrs, Volume= 0.438 af
Outflow = 2.46 cfs @ 12.37 hrs, Volume= 0.438 af, Atten= 34%, Lag= 11.6 min
Primary = 2.46 cfs @ 12.37 hrs, Volume= 0.438 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 35.70' Surf.Area= 0.334 ac Storage= 0.941 af
Peak Elev= 35.91' @ 12.37 hrs Surf.Area= 0.343 ac Storage= 1.014 af (0.072 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 41.0 min (823.1 - 782.0)

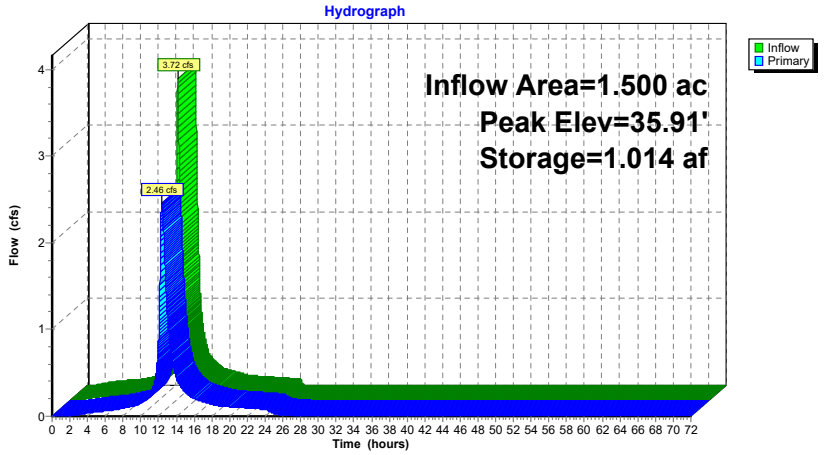
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.043 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.178	0.000	0.000
33.00	0.218	0.198	0.198
34.00	0.260	0.239	0.437
35.00	0.303	0.281	0.718
36.00	0.347	0.325	1.043

Device	Routing	Invert	Outlet Devices
#1	Primary	35.70'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=2.46 cfs @ 12.37 hrs HW=35.91' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 2.46 cfs @ 1.15 fps)

Pond 110P: BASIN F



Summary for Pond 111P: BASIN T

Inflow Area = 1.800 ac, 32.78% Impervious, Inflow Depth > 1.89" for 10-Year-Current event
Inflow = 1.91 cfs @ 12.11 hrs, Volume= 0.284 af
Outflow = 0.90 cfs @ 12.24 hrs, Volume= 0.284 af, Atten= 53%, Lag= 7.5 min
Primary = 0.90 cfs @ 12.24 hrs, Volume= 0.284 af
Routed to nonexistent node 46L

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 21.00' Surf.Area= 0.270 ac Storage= 0.550 af
Peak Elev= 21.11' @ 12.24 hrs Surf.Area= 0.281 ac Storage= 0.580 af (0.030 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 43.2 min (1,081.9 - 1,038.6)

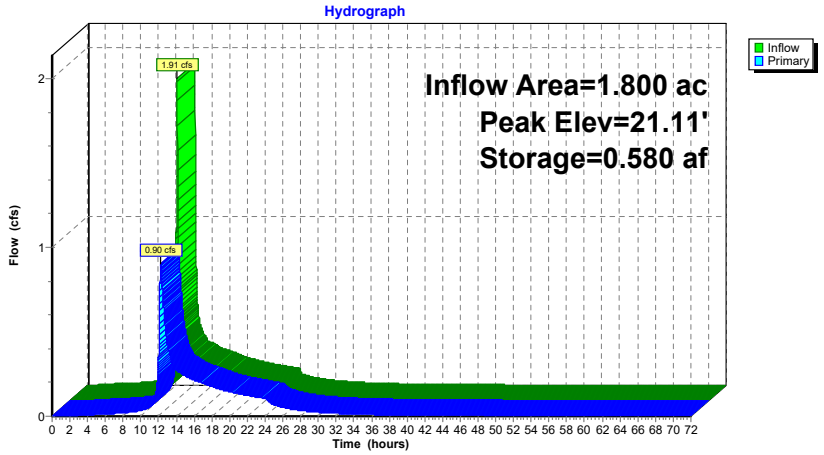
Volume	Invert	Avail.Storage	Storage Description
#1	18.50'	0.697 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
18.50	0.170	0.000	0.000
19.00	0.190	0.090	0.090
20.00	0.230	0.210	0.300
21.00	0.270	0.250	0.550
21.50	0.320	0.148	0.697

Device	Routing	Invert	Outlet Devices
#1	Primary	21.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.90 cfs @ 12.24 hrs HW=21.11' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 0.90 cfs @ 0.82 fps)

Pond 111P: BASIN T



Summary for Pond 113P: BASIN G

Inflow Area = 2.760 ac, 47.46% Impervious, Inflow Depth > 2.31" for 10-Year-Current event
Inflow = 2.47 cfs @ 12.18 hrs, Volume= 0.531 af
Outflow = 2.29 cfs @ 12.24 hrs, Volume= 0.531 af, Atten= 7%, Lag= 3.7 min
Primary = 2.29 cfs @ 12.24 hrs, Volume= 0.531 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 33.80' Surf.Area= 0.145 ac Storage= 0.272 af
Peak Elev= 33.91' @ 12.24 hrs Surf.Area= 0.149 ac Storage= 0.288 af (0.016 af above start)

Plug-Flow detention time= 907.7 min calculated for 0.259 af (49% of inflow)
Center-of-Mass det. time= 11.0 min (1,174.3 - 1,163.4)

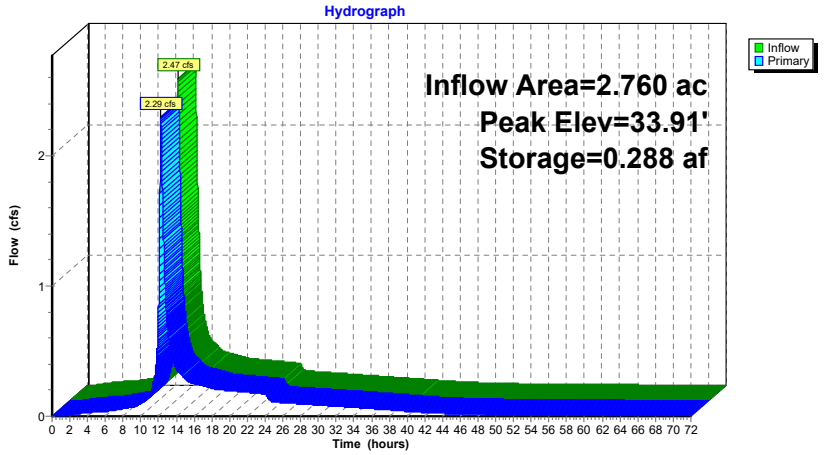
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	0.301 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.00	0.051	0.000	0.000
32.00	0.083	0.067	0.067
33.00	0.117	0.100	0.167
34.00	0.152	0.134	0.301

Device	Routing	Invert	Outlet Devices
#1	Primary	33.80'	**25.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=2.29 cfs @ 12.24 hrs HW=33.91' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 2.29 cfs @ 0.83 fps)

Pond 113P: BASIN G



Summary for Pond 114P: BASIN U

Inflow Area = 1.070 ac, 37.38% Impervious, Inflow Depth = 2.85" for 10-Year-Current event
Inflow = 2.92 cfs @ 12.12 hrs, Volume= 0.254 af
Outflow = 0.14 cfs @ 14.95 hrs, Volume= 0.135 af, Atten= 95%, Lag= 169.5 min
Primary = 0.14 cfs @ 14.95 hrs, Volume= 0.135 af
Routed to Link 125L : Inflow from Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Peak Elev= 20.38' @ 14.95 hrs Surf.Area= 0.215 ac Storage= 0.174 af

Plug-Flow detention time= 639.5 min calculated for 0.135 af (53% of inflow)
Center-of-Mass det. time= 497.1 min (1,291.3 - 794.2)

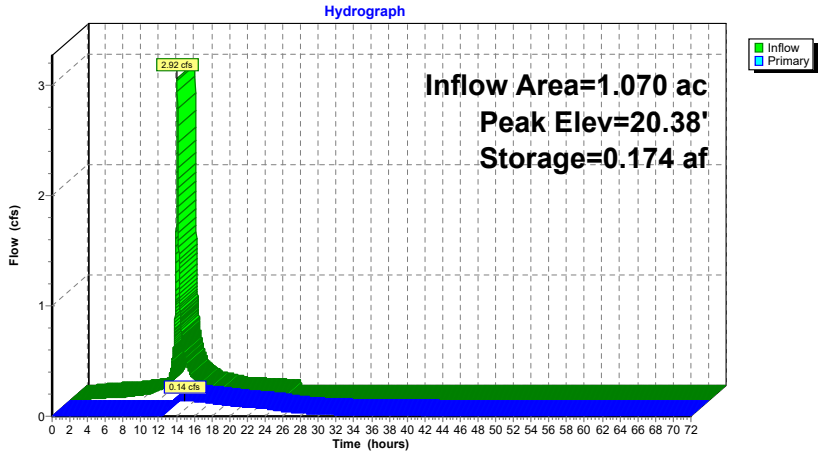
Volume	Invert	Avail.Storage	Storage Description
#1	19.50'	0.738 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
19.50	0.180	0.000	0.000
20.00	0.200	0.095	0.095
21.00	0.240	0.220	0.315
22.00	0.290	0.265	0.580
22.50	0.340	0.157	0.738

Device	Routing	Invert	Outlet Devices
#1	Primary	21.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.10'	**4.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.14 cfs @ 14.95 hrs HW=20.38' TW=0.00' (Dynamic Tailwater)
└─**1=Grate** (Controls 0.00 cfs)
└─**2=Orifice** (Orifice Controls 0.14 cfs @ 1.80 fps)

Pond 114P: BASIN U



Summary for Pond 115P: BASIN I

Inflow Area = 0.530 ac, 33.96% Impervious, Inflow Depth = 2.73" for 10-Year-Current event
Inflow = 0.99 cfs @ 12.18 hrs, Volume= 0.121 af
Outflow = 0.94 cfs @ 12.23 hrs, Volume= 0.121 af, Atten= 4%, Lag= 2.9 min
Primary = 0.94 cfs @ 12.23 hrs, Volume= 0.121 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 31.30' Surf.Area= 0.043 ac Storage= 0.092 af
Peak Elev= 31.41' @ 12.23 hrs Surf.Area= 0.044 ac Storage= 0.097 af (0.005 af above start)

Plug-Flow detention time= 568.3 min calculated for 0.028 af (24% of inflow)
Center-of-Mass det. time= 7.9 min (815.3 - 807.4)

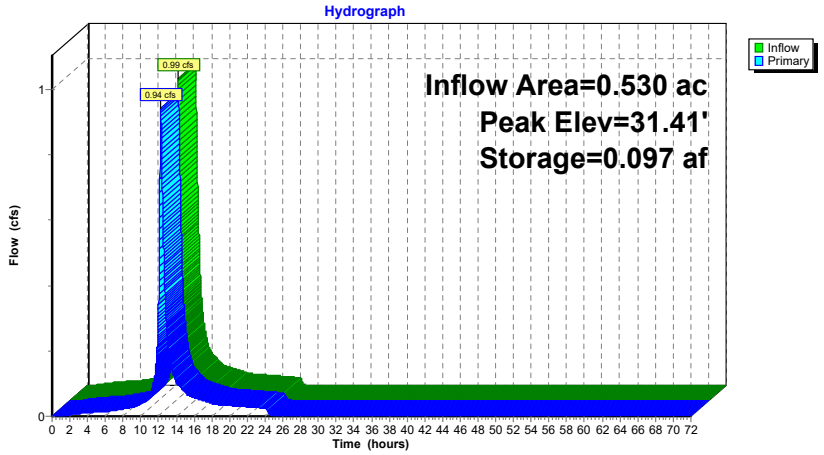
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.101 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.023	0.000	0.000
29.50	0.030	0.026	0.026
30.50	0.037	0.033	0.060
31.50	0.045	0.041	0.101

Device	Routing	Invert	Outlet Devices
#1	Primary	31.30'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=0.94 cfs @ 12.23 hrs HW=31.41' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 0.94 cfs @ 0.84 fps)

Pond 115P: BASIN I



Summary for Pond 116P: BASIN U

Inflow Area = 1.070 ac, 37.38% Impervious, Inflow Depth = 2.85" for 10-Year-Current event
Inflow = 2.92 cfs @ 12.12 hrs, Volume= 0.254 af
Outflow = 1.58 cfs @ 12.26 hrs, Volume= 0.254 af, Atten= 46%, Lag= 8.1 min
Primary = 1.58 cfs @ 12.26 hrs, Volume= 0.254 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 22.00' Surf.Area= 0.290 ac Storage= 0.580 af
Peak Elev= 22.16' @ 12.26 hrs Surf.Area= 0.306 ac Storage= 0.627 af (0.047 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 42.7 min (836.9 - 794.2)

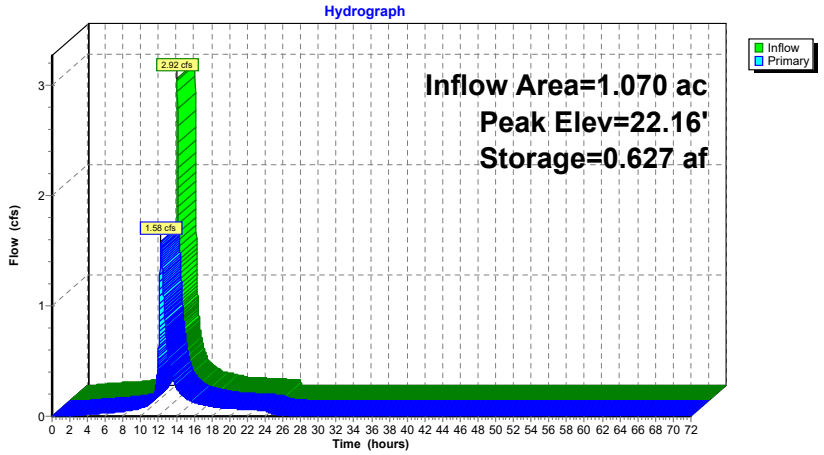
Volume	Invert	Avail.Storage	Storage Description
#1	19.50'	0.738 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
19.50	0.180	0.000	0.000
20.00	0.200	0.095	0.095
21.00	0.240	0.220	0.315
22.00	0.290	0.265	0.580
22.50	0.340	0.157	0.738

Device	Routing	Invert	Outlet Devices
#1	Primary	22.00'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir**
			Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60
			Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.58 cfs @ 12.26 hrs HW=22.16' (Free Discharge)
↳**1=Broad-Crested Rectangular Weir** (Weir Controls 1.58 cfs @ 0.99 fps)

Pond 116P: BASIN U



Summary for Pond 117P: BASIN V

Inflow Area = 0.960 ac, 12.50% Impervious, Inflow Depth = 1.98" for 10-Year-Current event
Inflow = 1.32 cfs @ 12.18 hrs, Volume= 0.158 af
Outflow = 1.04 cfs @ 12.34 hrs, Volume= 0.158 af, Atten= 21%, Lag= 9.2 min
Primary = 1.04 cfs @ 12.34 hrs, Volume= 0.158 af
Routed to nonexistent node 46L

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 38.70' Surf.Area= 0.139 ac Storage= 0.200 af
Peak Elev= 38.82' @ 12.34 hrs Surf.Area= 0.143 ac Storage= 0.217 af (0.017 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 22.9 min (871.3 - 848.4)

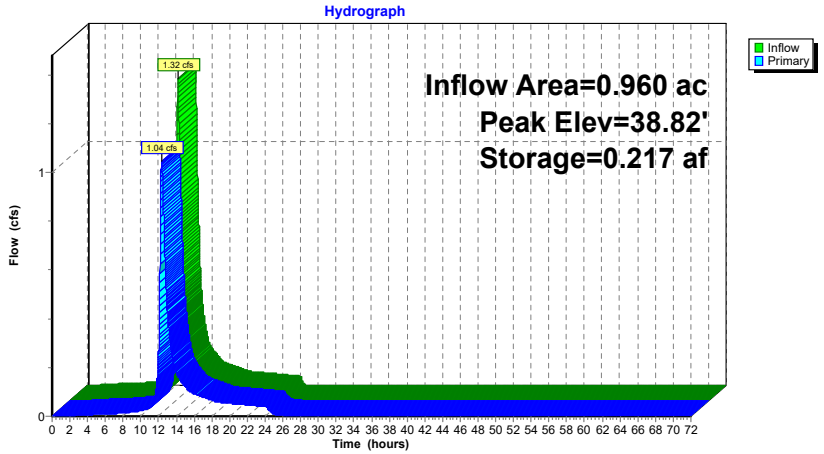
Volume	Invert	Avail.Storage	Storage Description
#1	37.00'	0.243 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
37.00	0.096	0.000	0.000
38.00	0.121	0.109	0.109
39.00	0.147	0.134	0.243

Device	Routing	Invert	Outlet Devices
#1	Primary	38.70'	**10.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=1.04 cfs @ 12.34 hrs HW=38.82' (Free Discharge)
└**1=Broad-Crested Rectangular Weir** (Weir Controls 1.04 cfs @ 0.86 fps)

Pond 117P: BASIN V



Summary for Pond 118P: BASIN H

Inflow Area = 4.710 ac, 45.65% Impervious, Inflow Depth > 2.44" for 10-Year-Current event
Inflow = 4.15 cfs @ 12.18 hrs, Volume= 0.956 af
Outflow = 3.36 cfs @ 12.31 hrs, Volume= 0.955 af, Atten= 19%, Lag= 7.9 min
Primary = 3.36 cfs @ 12.31 hrs, Volume= 0.955 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 31.30' Surf.Area= 0.312 ac Storage= 0.736 af
Peak Elev= 31.47' @ 12.31 hrs Surf.Area= 0.318 ac Storage= 0.789 af (0.052 af above start)

Plug-Flow detention time= 1,459.7 min calculated for 0.219 af (23% of inflow)
Center-of-Mass det. time= 22.4 min (1,155.7 - 1,133.3)

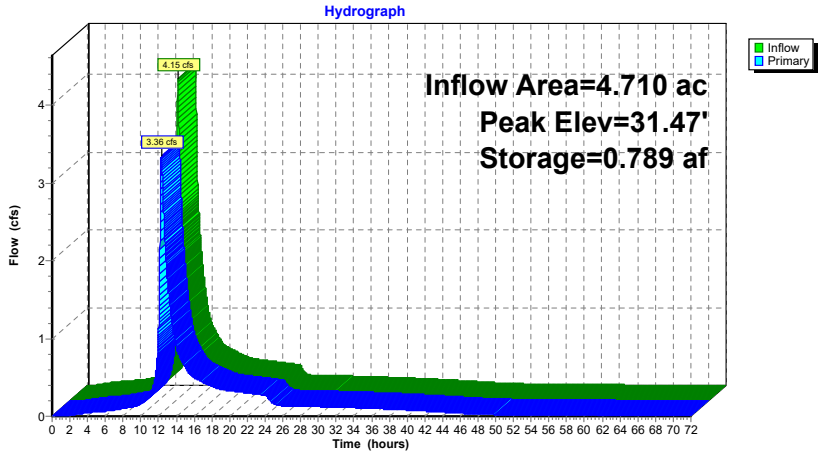
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.799 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.216	0.000	0.000
29.00	0.232	0.112	0.112
30.00	0.266	0.249	0.361
31.00	0.301	0.283	0.644
31.50	0.319	0.155	0.799

Device	Routing	Invert	Outlet Devices
#1	Primary	31.30'	**20.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=3.36 cfs @ 12.31 hrs HW=31.47' (Free Discharge)
↳**1=Broad-Crested Rectangular Weir** (Weir Controls 3.36 cfs @ 1.01 fps)

Pond 118P: BASIN H



Summary for Pond 120P: BASIN P

Inflow Area = 8.000 ac, 45.37% Impervious, Inflow Depth > 2.49" for 10-Year-Current event
Inflow = 6.00 cfs @ 12.19 hrs, Volume= 1.659 af
Outflow = 5.47 cfs @ 12.27 hrs, Volume= 1.657 af, Atten= 9%, Lag= 4.7 min
Primary = 5.47 cfs @ 12.27 hrs, Volume= 1.657 af

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 29.75' Surf.Area= 0.322 ac Storage= 0.827 af
Peak Elev= 29.89' @ 12.27 hrs Surf.Area= 0.332 ac Storage= 0.874 af (0.047 af above start)

Plug-Flow detention time= 1,334.0 min calculated for 0.830 af (50% of inflow)
Center-of-Mass det. time= 11.4 min (1,442.8 - 1,431.4)

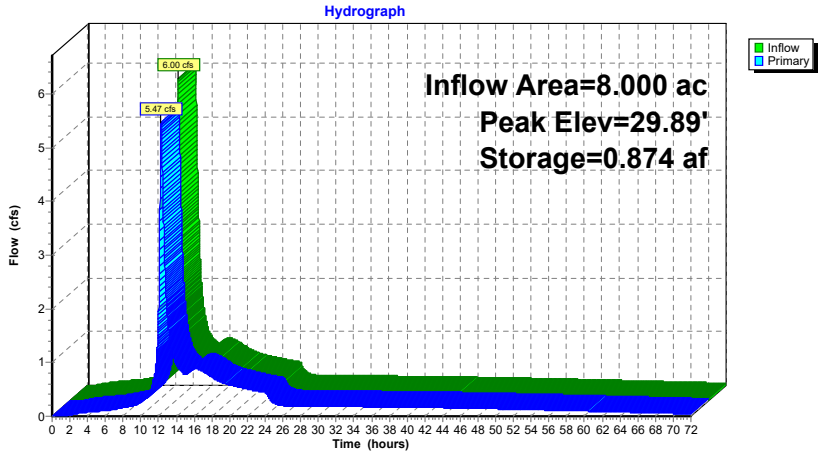
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.910 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.193	0.000	0.000
27.50	0.233	0.213	0.213
28.50	0.268	0.250	0.463
29.50	0.303	0.286	0.749
30.00	0.340	0.161	0.910

Device	Routing	Invert	Outlet Devices
#1	Primary	29.75'	**40.0' long x 10.0' breadth Broad-Crested Rectangular Weir** Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 Coef. (English) 2.49 2.56 2.70 2.69 2.68 2.69 2.67 2.64

Primary OutFlow Max=5.47 cfs @ 12.27 hrs HW=29.89' (Free Discharge)
↑—**1=Broad-Crested Rectangular Weir** (Weir Controls 5.47 cfs @ 0.95 fps)

Pond 120P: BASIN P

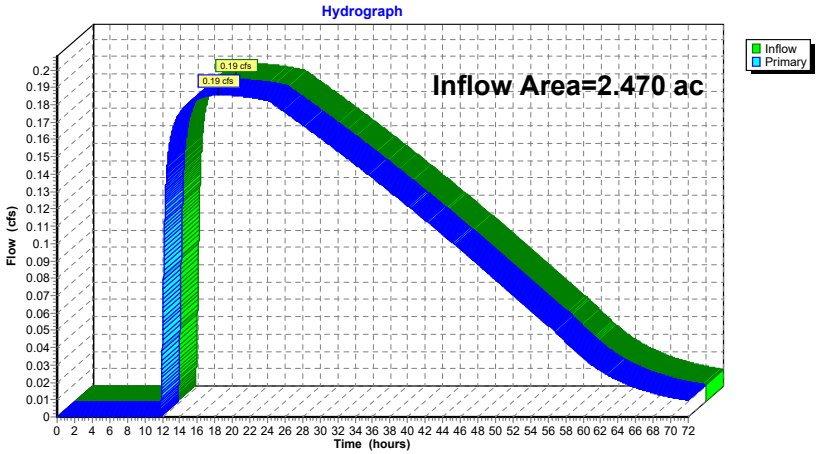


Summary for Link 121L: Inflow from Basins

Inflow Area = 2.470 ac, 53.85% Impervious, Inflow Depth > 2.57" for 10-Year-Current event
Inflow = 0.19 cfs @ 18.43 hrs, Volume= 0.528 af
Primary = 0.19 cfs @ 18.44 hrs, Volume= 0.528 af, Atten= 0%, Lag= 0.6 min
Routed to Pond 106P : BASIN B

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 121L: Inflow from Basins

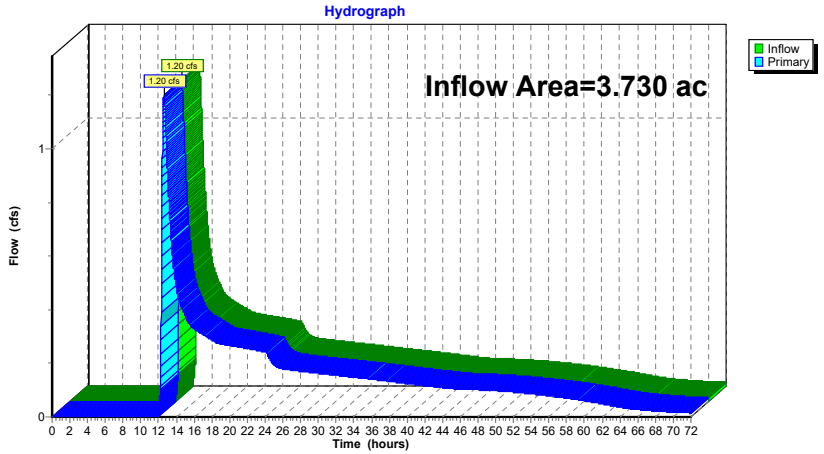


Summary for Link 122L: Inflow from Basins

Inflow Area = 3.730 ac, 48.53% Impervious, Inflow Depth > 2.44" for 10-Year-Current event
Inflow = 1.20 cfs @ 12.60 hrs, Volume= 0.758 af
Primary = 1.20 cfs @ 12.61 hrs, Volume= 0.758 af, Atten= 0%, Lag= 0.6 min
Routed to Pond 85P : BASIN C

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 122L: Inflow from Basins

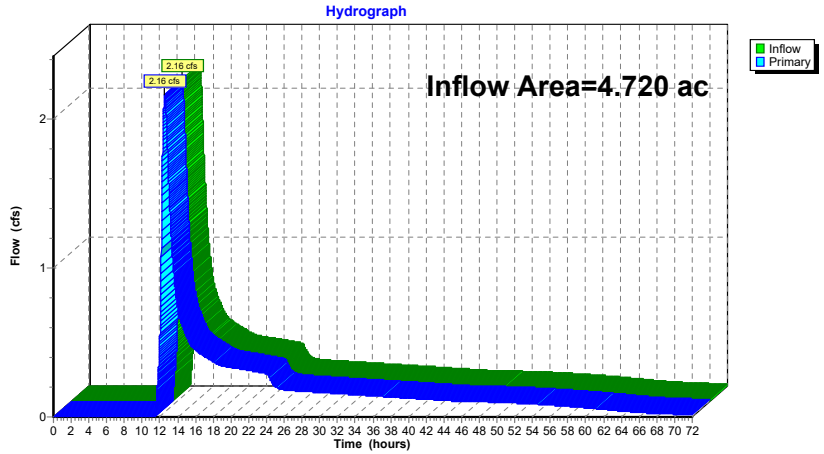


Summary for Link 123L: Inflow from Basins

Inflow Area = 4.720 ac, 47.25% Impervious, Inflow Depth > 2.45" for 10-Year-Current event
Inflow = 2.16 cfs @ 12.54 hrs, Volume= 0.963 af
Primary = 2.16 cfs @ 12.55 hrs, Volume= 0.963 af, Atten= 0%, Lag= 0.6 min
Routed to Pond 75P : BASIN D

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 123L: Inflow from Basins

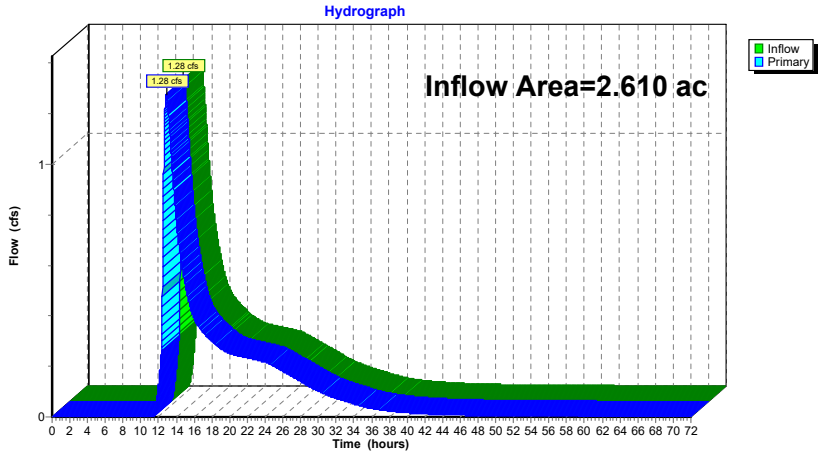


Summary for Link 124L: Inflow from Basins

Inflow Area = 2.610 ac, 42.53% Impervious, Inflow Depth > 2.50" for 10-Year-Current event
Inflow = 1.28 cfs @ 12.85 hrs, Volume= 0.544 af
Primary = 1.28 cfs @ 12.86 hrs, Volume= 0.544 af, Atten= 0%, Lag= 0.6 min
Routed to Pond 90P : BASIN N

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 124L: Inflow from Basins

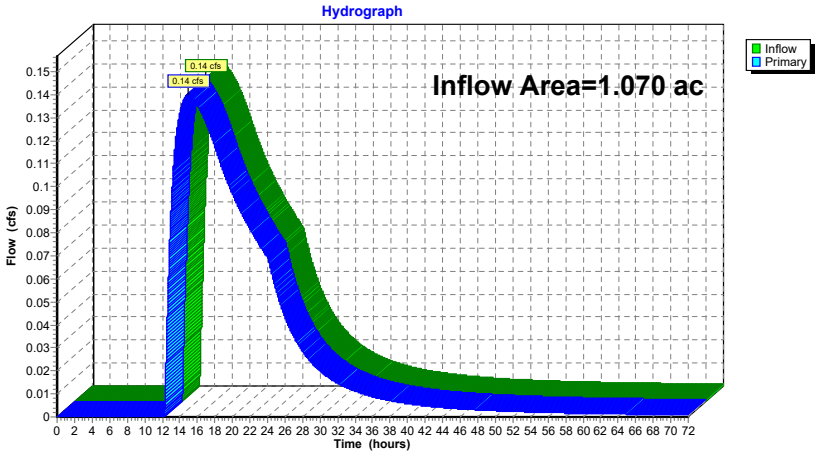


Summary for Link 125L: Inflow from Basins

Inflow Area = 1.070 ac, 37.38% Impervious, Inflow Depth > 1.51" for 10-Year-Current event
Inflow = 0.14 cfs @ 14.95 hrs, Volume= 0.135 af
Primary = 0.14 cfs @ 14.96 hrs, Volume= 0.135 af, Atten= 0%, Lag= 0.6 min
Routed to Pond 111P : BASIN T

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 125L: Inflow from Basins

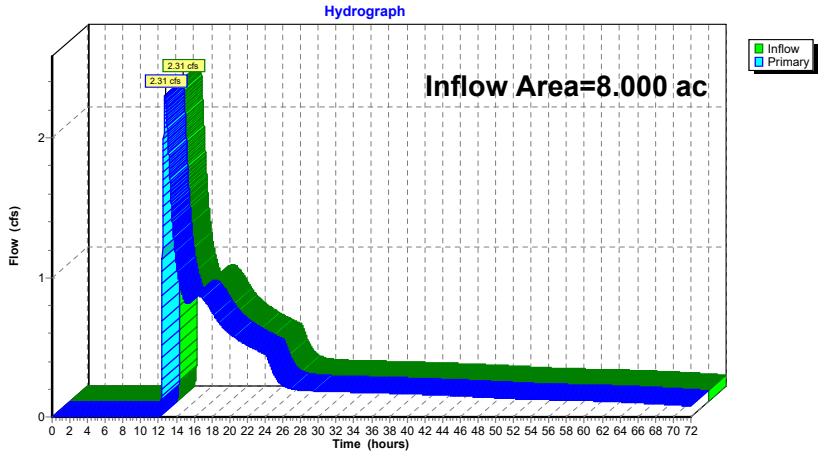


Summary for Link 126L: Inflow from Basins

Inflow Area = 8.000 ac, 45.38% Impervious, Inflow Depth > 2.09" for 10-Year-Current event
Inflow = 2.31 cfs @ 12.73 hrs, Volume= 1.390 af
Primary = 2.31 cfs @ 12.74 hrs, Volume= 1.390 af, Atten= 0%, Lag= 0.6 min
Routed to Pond 65P : BASIN E

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 126L: Inflow from Basins

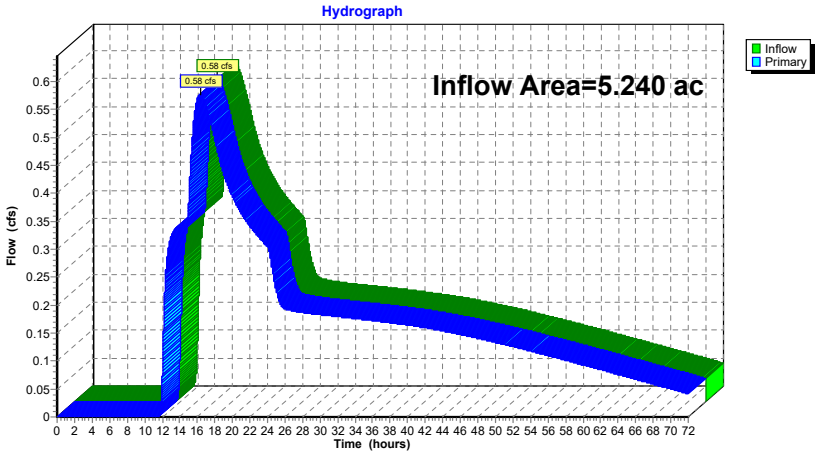


Summary for Link 127L: Inflow from Basins

Inflow Area = 5.240 ac, 44.47% Impervious, Inflow Depth > 2.12" for 10-Year-Current event
Inflow = 0.58 cfs @ 16.31 hrs, Volume= 0.925 af
Primary = 0.58 cfs @ 16.32 hrs, Volume= 0.925 af, Atten= 0%, Lag= 0.6 min
Routed to Pond 120P : BASIN P

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 127L: Inflow from Basins

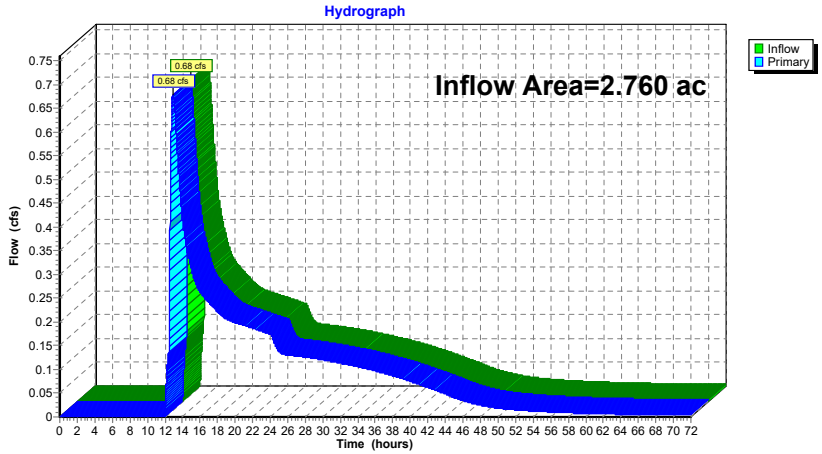


Summary for Link 128L: Inflow from Basins

Inflow Area = 2.760 ac, 47.46% Impervious, Inflow Depth > 2.00" for 10-Year-Current event
Inflow = 0.68 cfs @ 12.92 hrs, Volume= 0.460 af
Primary = 0.68 cfs @ 12.93 hrs, Volume= 0.460 af, Atten= 0%, Lag= 0.6 min
Routed to Pond 118P : BASIN H

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 128L: Inflow from Basins

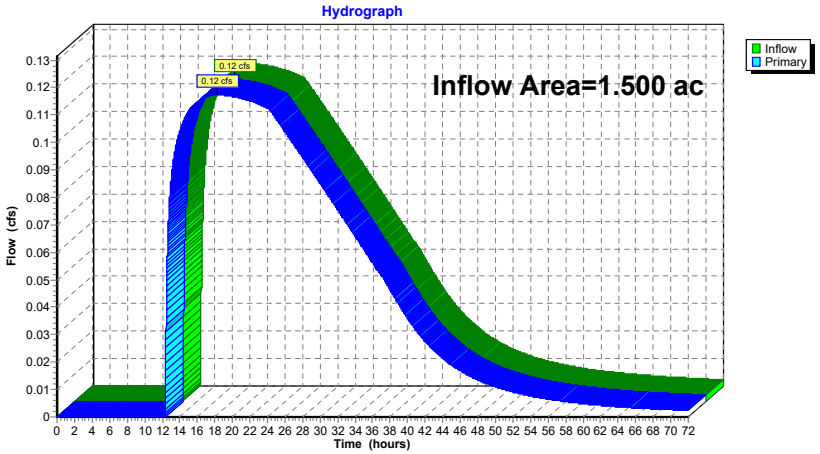


Summary for Link 129L: Inflow from Basins

Inflow Area = 1.500 ac, 56.00% Impervious, Inflow Depth > 1.86" for 10-Year-Current event
Inflow = 0.12 cfs @ 18.18 hrs, Volume= 0.232 af
Primary = 0.12 cfs @ 18.19 hrs, Volume= 0.232 af, Atten= 0%, Lag= 0.6 min
Routed to Pond 113P : BASIN G

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 129L: Inflow from Basins



Events for Subcatchment 60S: BASIN A - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	3.18	0.398	1.93
10-Year-Current	**5.28**	**5.79**	**0.705**	**3.43**

Events for Subcatchment 61S: BASIN I - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	0.48	0.062	1.41
10-Year-Current	**5.28**	**0.99**	**0.121**	**2.73**

Events for Subcatchment 62S: BASIN I - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	0.48	0.062	1.41
10-Year-Current	**5.28**	**0.99**	**0.121**	**2.73**

Events for Subcatchment 63S: BASIN I - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	0.48	0.062	1.41
10-Year-Current	**5.28**	**0.99**	**0.121**	**2.73**

Events for Subcatchment 64S: BASIN E - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	2.95	0.347	1.86
10-Year-Current	**5.28**	**5.44**	**0.620**	**3.32**

Events for Subcatchment 65S: BASIN V - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	0.47	0.068	0.85
10-Year-Current	**5.28**	**1.32**	**0.158**	**1.98**

Events for Subcatchment 66S: BASIN B - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	1.24	0.160	1.52
10-Year-Current	**5.28**	**2.49**	**0.302**	**2.87**

Events for Subcatchment 68S: BASIN K - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	1.58	0.207	1.51
10-Year-Current	**5.28**	**3.18**	**0.391**	**2.86**

Events for Subcatchment 69S: BASIN O - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	1.51	0.185	2.02
10-Year-Current	**5.28**	**2.73**	**0.328**	**3.57**

Events for Subcatchment 70S: BASIN Q - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	2.33	0.324	2.09
10-Year-Current	**5.28**	**4.13**	**0.563**	**3.63**

Events for Subcatchment 71S: BASIN R - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	2.67	0.330	1.94
10-Year-Current	**5.28**	**4.88**	**0.588**	**3.46**

Events for Subcatchment 73S: BASIN C - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	1.06	0.135	1.63
10-Year-Current	**5.28**	**2.06**	**0.250**	**3.03**

Events for Subcatchment 74S: BASIN L - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	1.20	0.149	1.85
10-Year-Current	**5.28**	**2.22**	**0.268**	**3.31**

Events for Subcatchment 75S: BASIN K - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	1.58	0.207	1.51
10-Year-Current	**5.28**	**3.18**	**0.391**	**2.86**

Events for Subcatchment 76S: BASIN F - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	2.06	0.249	1.99
10-Year-Current	**5.28**	**3.72**	**0.438**	**3.50**

Events for Subcatchment 77S: BASIN D - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	3.39	0.416	1.87
10-Year-Current	**5.28**	**6.24**	**0.743**	**3.34**

Events for Subcatchment 78S: BASIN A - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	3.18	0.398	1.93
10-Year-Current	**5.28**	**5.79**	**0.705**	**3.43**

Events for Subcatchment 79S: BASIN B - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	1.24	0.160	1.52
10-Year-Current	**5.28**	**2.49**	**0.302**	**2.87**

Events for Subcatchment 80S: BASIN C - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	1.06	0.135	1.63
10-Year-Current	**5.28**	**2.06**	**0.250**	**3.03**

Events for Subcatchment 81S: BASIN A - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	3.18	0.398	1.93
10-Year-Current	**5.28**	**5.79**	**0.705**	**3.43**

Events for Subcatchment 82S: BASIN A - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	3.18	0.398	1.93
10-Year-Current	**5.28**	**5.79**	**0.705**	**3.43**

Events for Subcatchment 83S: BASIN B - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	1.24	0.160	1.52
10-Year-Current	**5.28**	**2.49**	**0.302**	**2.87**

Events for Subcatchment 84S: BASIN N - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	1.66	0.207	1.79
10-Year-Current	**5.28**	**3.12**	**0.376**	**3.24**

Events for Subcatchment 85S: BASIN G - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	1.23	0.157	1.50
10-Year-Current	**5.28**	**2.47**	**0.299**	**2.85**

Events for Subcatchment 86S: BASIN L - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	1.20	0.149	1.85
10-Year-Current	**5.28**	**2.22**	**0.268**	**3.31**

Events for Subcatchment 88S: BASIN H - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	2.10	0.268	1.65
10-Year-Current	**5.28**	**4.06**	**0.495**	**3.05**

Events for Subcatchment 98S: BASIN P - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	3.08	0.404	1.76
10-Year-Current	**5.28**	**5.81**	**0.734**	**3.19**

Events for Subcatchment 99S: BASIN F - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	2.06	0.249	1.99
10-Year-Current	**5.28**	**3.72**	**0.438**	**3.50**

Events for Subcatchment 100S: BASIN G - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	1.23	0.157	1.50
10-Year-Current	**5.28**	**2.47**	**0.299**	**2.85**

Events for Subcatchment 101S: BASIN H - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	2.10	0.268	1.65
10-Year-Current	**5.28**	**4.06**	**0.495**	**3.05**

Events for Subcatchment 102S: BASIN P - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	3.08	0.404	1.76
10-Year-Current	**5.28**	**5.81**	**0.734**	**3.19**

Events for Subcatchment 103S: BASIN F - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	2.06	0.249	1.99
10-Year-Current	**5.28**	**3.72**	**0.438**	**3.50**

Events for Subcatchment 104S: BASIN G - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	1.23	0.157	1.50
10-Year-Current	**5.28**	**2.47**	**0.299**	**2.85**

Events for Subcatchment 105S: BASIN H - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	2.10	0.268	1.65
10-Year-Current	**5.28**	**4.06**	**0.495**	**3.05**

Events for Subcatchment 106S: BASIN F - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	2.06	0.249	1.99
10-Year-Current	**5.28**	**3.72**	**0.438**	**3.50**

Events for Subcatchment 107S: BASIN G - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	1.23	0.157	1.50
10-Year-Current	**5.28**	**2.47**	**0.299**	**2.85**

Events for Subcatchment 108S: BASIN F - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	2.06	0.249	1.99
10-Year-Current	**5.28**	**3.72**	**0.438**	**3.50**

Events for Subcatchment 110S: BASIN T - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	0.86	0.073	1.20
10-Year-Current	**5.28**	**1.91**	**0.149**	**2.45**

Events for Subcatchment 113S: BASIN U - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	1.45	0.134	1.50
10-Year-Current	**5.28**	**2.92**	**0.254**	**2.85**

Events for Subcatchment 114S: BASIN U - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	1.45	0.134	1.50
10-Year-Current	**5.28**	**2.92**	**0.254**	**2.85**

Events for Subcatchment 130S: BASIN S - DA

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
2-Year-Current	3.38	1.90	0.271	1.80
10-Year-Current	**5.28**	**3.54**	**0.488**	**3.25**

Events for Pond 52P: BASIN A

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	3.18	0.11	33.33	0.305
10-Year-Current	**5.79**	**0.19**	**34.13**	**0.540**

Events for Pond 59P: BASIN C

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	1.06	0.66	29.72	0.056
10-Year-Current	**2.26**	**2.16**	**29.99**	**0.073**

Events for Pond 60P: BASIN H

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	2.10	0.12	29.54	0.241
10-Year-Current	**4.15**	**0.45**	**30.37**	**0.463**

Events for Pond 63P: BASIN P

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	3.08	0.35	27.96	0.325
10-Year-Current	**6.00**	**2.31**	**28.20**	**0.385**

Events for Pond 64P: BASIN I

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	0.48	0.08	29.76	0.034
10-Year-Current	**0.99**	**0.17**	**30.56**	**0.062**

Events for Pond 65P: BASIN E

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	2.95	2.71	29.40	0.402
10-Year-Current	**5.49**	**5.18**	**29.45**	**0.412**

Events for Pond 70P: BASIN K

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	1.58	0.11	31.52	0.138
10-Year-Current	**3.18**	**0.66**	**32.00**	**0.212**

Events for Pond 74P: BASIN B

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	1.24	0.20	31.56	0.115
10-Year-Current	**2.58**	**1.20**	**31.80**	**0.140**

Events for Pond 75P: BASIN D

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	3.51	3.10	29.39	0.693
10-Year-Current	**7.56**	**6.88**	**29.48**	**0.720**

Events for Pond 80P: BASIN A

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	3.18	0.11	33.33	0.305
10-Year-Current	**5.79**	**0.19**	**34.13**	**0.540**

Events for Pond 81P: BASIN B

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	1.24	0.20	31.56	0.115
10-Year-Current	**2.58**	**1.20**	**31.80**	**0.140**

Events for Pond 83P: BASIN F

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	2.06	0.04	33.15	0.232
10-Year-Current	**3.72**	**0.12**	**33.62**	**0.340**

Events for Pond 84P: BASIN L

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	1.20	0.11	33.63	0.095
10-Year-Current	**2.22**	**0.67**	**34.09**	**0.140**

Events for Pond 85P: BASIN C

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	1.06	0.98	31.37	0.185
10-Year-Current	**2.22**	**2.21**	**31.43**	**0.191**

Events for Pond 86P: BASIN G

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	1.23	0.09	32.41	0.104
10-Year-Current	**2.47**	**0.68**	**32.94**	**0.160**

Events for Pond 87P: BASIN A

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	3.18	0.11	33.33	0.305
10-Year-Current	**5.79**	**0.19**	**34.13**	**0.540**

Events for Pond 90P: BASIN N

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	1.68	1.39	31.39	0.418
10-Year-Current	**3.32**	**2.87**	**31.45**	**0.431**

Events for Pond 91P: BASIN K

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	1.58	1.33	33.39	0.462
10-Year-Current	**3.18**	**2.79**	**33.45**	**0.473**

Events for Pond 92P: BASIN L

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	1.20	0.98	35.12	0.258
10-Year-Current	**2.22**	**1.90**	**35.18**	**0.267**

Events for Pond 93P: BASIN O

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	1.51	1.31	29.14	0.201
10-Year-Current	**2.73**	**2.43**	**29.21**	**0.209**

Events for Pond 94P: BASIN H

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	2.10	0.12	29.54	0.241
10-Year-Current	**4.15**	**0.45**	**30.37**	**0.463**

Events for Pond 95P: BASIN I

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	0.48	0.08	29.76	0.034
10-Year-Current	**0.99**	**0.17**	**30.56**	**0.062**

Events for Pond 96P: BASIN F

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	2.06	0.04	33.15	0.232
10-Year-Current	**3.72**	**0.12**	**33.62**	**0.340**

Events for Pond 97P: BASIN G

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	1.23	0.09	32.41	0.104
10-Year-Current	**2.47**	**0.68**	**32.94**	**0.160**

Events for Pond 98P: BASIN A

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	3.18	2.32	35.83	1.161
10-Year-Current	**5.79**	**4.47**	**35.90**	**1.191**

Events for Pond 101P: BASIN F

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	2.06	0.04	33.15	0.232
10-Year-Current	**3.72**	**0.12**	**33.62**	**0.340**

Events for Pond 102P: BASIN Q

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	2.33	2.20	28.91	0.343
10-Year-Current	**4.13**	**3.96**	**28.96**	**0.350**

Events for Pond 103P: BASIN G

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	1.23	0.09	32.41	0.104
10-Year-Current	**2.47**	**0.68**	**32.94**	**0.160**

Events for Pond 104P: BASIN F

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	2.06	0.04	33.15	0.232
10-Year-Current	**3.72**	**0.12**	**33.62**	**0.340**

Events for Pond 105P: BASIN R

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	2.67	2.26	25.36	0.530
10-Year-Current	**4.88**	**4.28**	**25.42**	**0.546**

Events for Pond 106P: BASIN B

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	1.24	1.09	32.88	0.274
10-Year-Current	**2.58**	**2.36**	**32.93**	**0.282**

Events for Pond 108P: BASIN S

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	1.90	1.57	21.69	0.714
10-Year-Current	**3.54**	**3.06**	**21.73**	**0.729**

Events for Pond 110P: BASIN F

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	2.06	1.27	35.84	0.988
10-Year-Current	**3.72**	**2.46**	**35.91**	**1.014**

Events for Pond 111P: BASIN T

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	0.86	0.35	21.06	0.566
10-Year-Current	**1.91**	**0.90**	**21.11**	**0.580**

Events for Pond 113P: BASIN G

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	1.23	1.10	33.87	0.282
10-Year-Current	**2.47**	**2.29**	**33.91**	**0.288**

Events for Pond 114P: BASIN U

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	1.45	0.01	20.17	0.130
10-Year-Current	**2.92**	**0.14**	**20.38**	**0.174**

Events for Pond 115P: BASIN I

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	0.48	0.44	31.37	0.095
10-Year-Current	**0.99**	**0.94**	**31.41**	**0.097**

Events for Pond 116P: BASIN U

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	1.45	0.70	22.09	0.607
10-Year-Current	**2.92**	**1.58**	**22.16**	**0.627**

Events for Pond 117P: BASIN V

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	0.47	0.34	38.76	0.208
10-Year-Current	**1.32**	**1.04**	**38.82**	**0.217**

Events for Pond 118P: BASIN H

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	2.10	1.60	31.40	0.768
10-Year-Current	**4.15**	**3.36**	**31.47**	**0.789**

Events for Pond 120P: BASIN P

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
2-Year-Current	3.08	2.72	29.84	0.856
10-Year-Current	**6.00**	**5.47**	**29.89**	**0.874**

Events for Link 121L: Inflow from Basins

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
2-Year-Current	0.11	0.11	**0.00**
10-Year-Current	**0.19**	**0.19**	0.00

Events for Link 122L: Inflow from Basins

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
2-Year-Current	0.20	0.20	**0.00**
10-Year-Current	**1.20**	**1.20**	0.00

Events for Link 123L: Inflow from Basins

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
2-Year-Current	0.66	0.66	**0.00**
10-Year-Current	**2.16**	**2.16**	0.00

Events for Link 124L: Inflow from Basins

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
2-Year-Current	0.21	0.21	**0.00**
10-Year-Current	**1.28**	**1.28**	0.00

Events for Link 125L: Inflow from Basins

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
2-Year-Current	0.01	0.01	**0.00**
10-Year-Current	**0.14**	**0.14**	0.00

Events for Link 126L: Inflow from Basins

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
2-Year-Current	0.35	0.35	**0.00**
10-Year-Current	**2.31**	**2.31**	0.00

Events for Link 127L: Inflow from Basins

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
2-Year-Current	0.17	0.17	**0.00**
10-Year-Current	**0.58**	**0.58**	0.00

Events for Link 128L: Inflow from Basins

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
2-Year-Current	0.09	0.09	**0.00**
10-Year-Current	**0.68**	**0.68**	0.00

Events for Link 129L: Inflow from Basins

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
2-Year-Current	0.04	0.04	**0.00**
10-Year-Current	**0.12**	**0.12**	0.00

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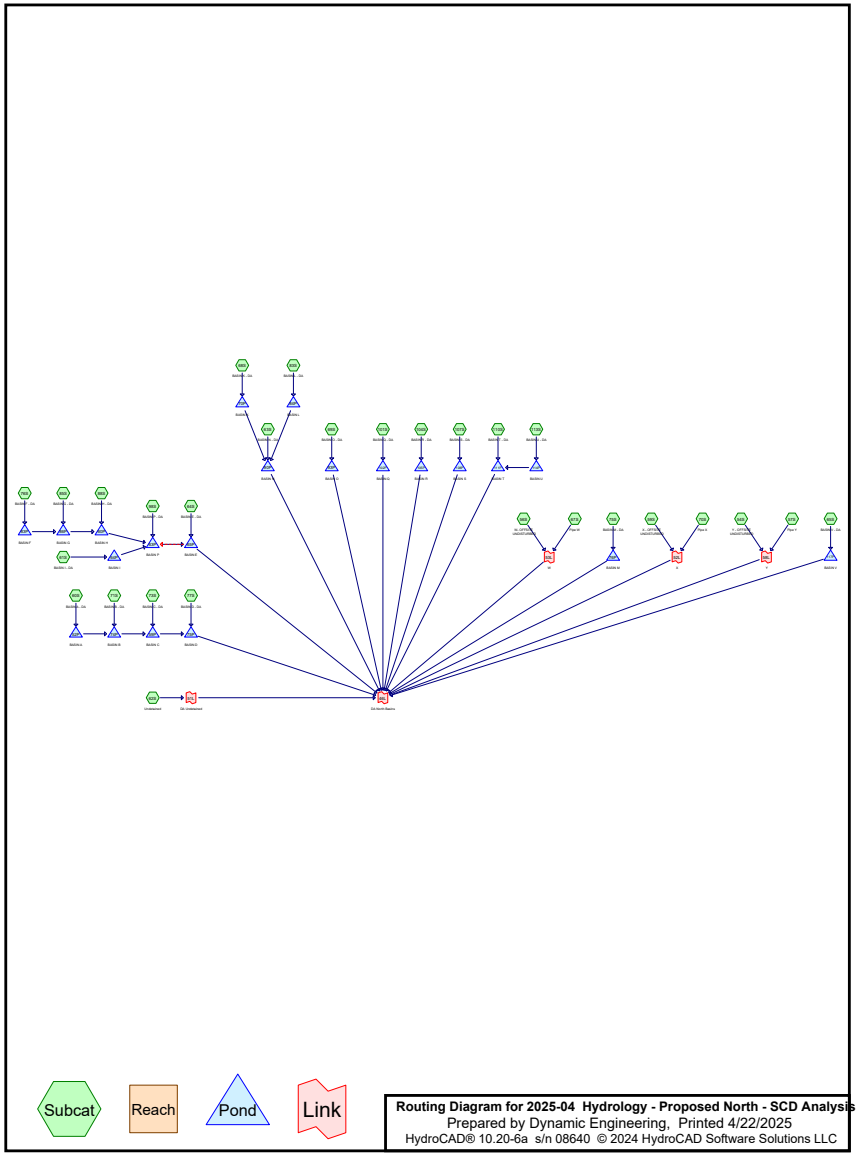
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386 Link 129L: Inflow from Basins

HYDROGRAPH SUMMARY REPORTS – SOIL CONSERVATION DISTRICT ANALYSIS 2, 10 YR



Project Notes

Rainfall events imported from "NJ-Rain.txt" for 6612 NJ Monmouth-D

Rainfall Events Listing

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2-Year-Current	NOAA 24-hr	D	Default	24.00	1	3.38	2
2	10-Year-Current	NOAA 24-hr	D	Default	24.00	1	5.28	2

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
26.000	75	1/4 acre lots, 38% imp, HSG B (54S, 56S, 59S)
9.320	61	>75% Grass cover, Good, HSG B (62S, 67S, 104S)
8.360	80	>75% Grass cover, Good, HSG D (62S, 104S)
2.900	98	Driveway & Apron (60S, 63S, 64S, 69S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 104S, 107S)
23.010	61	Open Space (57S, 60S, 61S, 63S, 64S, 65S, 68S, 69S, 70S, 71S, 73S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 107S, 110S, 113S)
0.230	80	Open Space, HSG D (63S, 69S)
0.130	98	Paved parking, HSG B (62S)
5.410	98	Road (60S, 63S, 64S, 69S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 104S, 107S, 110S, 113S)
6.440	98	Roof (57S, 60S, 61S, 63S, 64S, 65S, 68S, 69S, 70S, 71S, 73S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 104S, 107S)
1.820	98	Roofs, HSG B (62S, 67S)
0.570	98	Roofs, HSG D (62S)
1.370	98	Sidewalk (60S, 63S, 64S, 68S, 69S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 104S, 107S, 110S, 113S)
0.120	98	Unconnected pavement, HSG B (62S)
0.730	98	Water Surface, HSG D (62S)
0.870	55	Woods, Good, HSG B (62S)
0.200	77	Woods, Good, HSG D (62S)
87.480	**75**	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
38.260	HSG B	54S, 56S, 59S, 62S, 67S, 104S
0.000	HSG C	
10.090	HSG D	62S, 63S, 69S, 104S
39.130	Other	57S, 60S, 61S, 63S, 64S, 65S, 68S, 69S, 70S, 71S, 73S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 104S, 107S, 110S, 113S
87.480		**TOTAL AREA**

Ground Covers (all nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	26.000	0.000	0.000	0.000	26.000	1/4 acre lots, 38% imp	54S, 56S, 59S
0.000	9.320	0.000	8.360	0.000	17.680	>75% Grass cover, Good	62S, 67S, 104S
0.000	0.000	0.000	0.000	2.900	2.900	Driveway & Apron	60S, 63S, 64S, 69S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 104S, 107S
0.000	0.000	0.000	0.230	23.010	23.240	Open Space	57S, 60S, 61S, 63S, 64S, 65S, 68S, 69S, 70S, 71S, 73S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 107S, 110S, 113S

Ground Covers (all nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.130	0.000	0.000	0.000	0.130	Paved parking	62S
0.000	0.000	0.000	0.000	5.410	5.410	Road	60S, 63S, 64S, 69S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 104S, 107S, 110S, 113S
0.000	0.000	0.000	0.000	6.440	6.440	Roof	57S, 60S, 61S, 63S, 64S, 65S, 68S, 69S, 70S, 71S, 73S, 75S, 76S, 77S, 83S, 85S, 88S, 98S, 101S, 104S, 107S
0.000	1.820	0.000	0.570	0.000	2.390	Roofs	62S, 67S
0.000	0.000	0.000	0.000	1.370	1.370	Sidewalk	60S, 63S, 64S, 68S, 69S, 75S,

Ground Covers (all nodes) (continued)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.120	0.000	0.000	0.000	0.120	Unconnected pavement	62S
0.000	0.000	0.000	0.730	0.000	0.730	Water Surface	62S
0.000	0.870	0.000	0.200	0.000	1.070	Woods, Good	62S
0.000	**38.260**	**0.000**	**10.090**	**39.130**	**87.480**	**TOTAL AREA**	

Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Sim-Route method - Pond routing by Sim-Route method

Subcatchment54S: Y - OFFSITE Runoff Area=12.620 ac 38.00% Impervious Runoff Depth=1.22"
Flow Length=760' Tc=15.1 min CN=75 Runoff=8.89 cfs 1.280 af

Subcatchment56S: W- OFFSITE Runoff Area=8.210 ac 38.00% Impervious Runoff Depth=1.22"
Flow Length=373' Tc=18.9 min CN=75 Runoff=5.12 cfs 0.833 af

Subcatchment57S: Pipe Y Runoff Area=3.450 ac 3.48% Impervious Runoff Depth=0.61"
Flow Length=1,229' Slope=0.0200 '/' Tc=16.9 min CN=WQ Runoff=0.82 cfs 0.176 af

Subcatchment59S: X - OFFSITE Runoff Area=5.170 ac 38.00% Impervious Runoff Depth=1.22"
Flow Length=880' Tc=18.5 min CN=75 Runoff=3.26 cfs 0.525 af

Subcatchment60S: BASIN A - DA Runoff Area=2.470 ac 53.85% Impervious Runoff Depth=1.93"
Flow Length=102' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=3.18 cfs 0.398 af

Subcatchment61S: BASIN I - DA Runoff Area=0.530 ac 33.96% Impervious Runoff Depth=1.41"
Flow Length=134' Slope=0.0200 '/' Tc=9.6 min CN=WQ Runoff=0.48 cfs 0.062 af

Subcatchment62S: Undetained Runoff Area=14.680 ac 15.60% Impervious Runoff Depth=1.50"
Flow Length=3,276' Tc=30.2 min CN=WQ Runoff=8.45 cfs 1.829 af

Subcatchment63S: BASIN N - DA Runoff Area=1.390 ac 46.04% Impervious Runoff Depth=1.79"
Flow Length=108' Tc=9.3 min CN=WQ Runoff=1.66 cfs 0.207 af

Subcatchment64S: BASIN E - DA Runoff Area=2.240 ac 50.89% Impervious Runoff Depth=1.86"
Flow Length=609' Tc=8.1 min CN=WQ Runoff=2.95 cfs 0.347 af

Subcatchment65S: BASIN V - DA Runoff Area=0.850 ac 14.12% Impervious Runoff Depth=0.89"
Flow Length=100' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=0.45 cfs 0.063 af

Subcatchment67S: Pipe W Runoff Area=6.420 ac 16.82% Impervious Runoff Depth=0.96"
Flow Length=5,045' Tc=42.5 min CN=WQ Runoff=1.65 cfs 0.515 af

Subcatchment68S: BASIN K - DA Runoff Area=1.640 ac 37.80% Impervious Runoff Depth=1.51"
Flow Length=136' Slope=0.0200 '/' Tc=9.7 min CN=WQ Runoff=1.58 cfs 0.207 af

Subcatchment69S: BASIN O - DA Runoff Area=1.100 ac 51.82% Impervious Runoff Depth=2.02"
Flow Length=113' Tc=9.4 min CN=WQ Runoff=1.51 cfs 0.185 af

Subcatchment70S: Pipe X Runoff Area=4.990 ac 21.64% Impervious Runoff Depth=1.09"
Flow Length=2,554' Tc=25.8 min CN=WQ Runoff=1.98 cfs 0.453 af

Subcatchment71S: BASIN B - DA Runoff Area=1.260 ac 38.10% Impervious Runoff Depth=1.52"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=1.24 cfs 0.160 af

Subcatchment73S: BASIN C - DA Runoff Area=0.990 ac 42.42% Impervious Runoff Depth=1.63"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=1.06 cfs 0.135 af

Subcatchment75S: BASIN M - DA Runoff Area=0.860 ac 59.30% Impervious Runoff Depth=2.08"
Flow Length=225' Slope=0.0200 '/' Tc=9.3 min CN=WQ Runoff=1.20 cfs 0.149 af

Subcatchment76S: BASIN F - DA Runoff Area=1.500 ac 56.00% Impervious Runoff Depth=1.99"
Flow Length=447' Tc=8.7 min CN=WQ Runoff=2.06 cfs 0.249 af

Subcatchment77S: BASIN D - DA Runoff Area=2.670 ac 51.31% Impervious Runoff Depth=1.87"
Flow Length=795' Tc=9.0 min CN=WQ Runoff=3.39 cfs 0.416 af

Subcatchment83S: BASIN L - DA Runoff Area=0.970 ac 50.52% Impervious Runoff Depth=1.85"
Flow Length=96' Tc=9.2 min CN=WQ Runoff=1.20 cfs 0.149 af

Subcatchment85S: BASIN G - DA Runoff Area=1.260 ac 37.30% Impervious Runoff Depth=1.50"
Flow Length=102' Tc=9.3 min CN=WQ Runoff=1.23 cfs 0.157 af

Subcatchment88S: BASIN H - DA Runoff Area=1.950 ac 43.08% Impervious Runoff Depth=1.65"
Flow Length=111' Slope=0.0200 '/' Tc=9.5 min CN=WQ Runoff=2.10 cfs 0.268 af

Subcatchment98S: BASIN P - DA Runoff Area=2.760 ac 47.10% Impervious Runoff Depth=1.76"
Flow Length=214' Slope=0.0200 '/' Tc=10.2 min CN=WQ Runoff=3.08 cfs 0.404 af

Subcatchment101S: BASIN Q - DA Runoff Area=1.860 ac 59.68% Impervious Runoff Depth=2.09"
Flow Length=612' Tc=12.0 min CN=WQ Runoff=2.33 cfs 0.324 af

Subcatchment104S: BASIN R - DA Runoff Area=2.040 ac 50.00% Impervious Runoff Depth=1.94"
Flow Length=98' Tc=9.4 min CN=WQ Runoff=2.67 cfs 0.330 af

Subcatchment107S: BASIN S - DA Runoff Area=1.800 ac 48.89% Impervious Runoff Depth=1.80"
Flow Length=466' Tc=12.2 min CN=WQ Runoff=1.90 cfs 0.271 af

Subcatchment110S: BASIN T - DA Runoff Area=0.730 ac 26.03% Impervious Runoff Depth=1.20"
Flow Length=254' Slope=0.0100 '/' Tc=2.8 min CN=WQ Runoff=0.86 cfs 0.073 af

Subcatchment113S: BASIN U - DA Runoff Area=1.070 ac 37.38% Impervious Runoff Depth=1.50"
Flow Length=28' Slope=0.0350 '/' Tc=4.0 min CN=WQ Runoff=1.45 cfs 0.134 af

Pond 52P: BASIN A Peak Elev=33.75' Storage=0.424 af Inflow=3.18 cfs 0.398 af
Outflow=0.16 cfs 0.387 af

Pond 59P: BASIN C Peak Elev=29.85' Storage=0.064 af Inflow=1.43 cfs 0.676 af
Outflow=1.32 cfs 0.676 af

Pond 60P: BASIN H Peak Elev=30.13' Storage=0.396 af Inflow=2.21 cfs 0.664 af
Outflow=0.17 cfs 0.634 af

Pond 63P: BASIN P Peak Elev=28.38' Storage=0.431 af Inflow=3.94 cfs 1.120 af
Outflow=1.70 cfs 1.025 af

Pond 64P: BASIN I Peak Elev=30.05' Storage=0.044 af Inflow=0.48 cfs 0.062 af
Outflow=0.12 cfs 0.062 af

Pond 65P: BASIN E Peak Elev=28.35' Storage=0.223 af Inflow=3.65 cfs 1.371 af
Primary=2.81 cfs 1.307 af Secondary=0.70 cfs 0.020 af Outflow=2.81 cfs 1.327 af

Pond 70P: BASIN K Peak Elev=31.77' Storage=0.175 af Inflow=1.58 cfs 0.207 af
Outflow=0.19 cfs 0.204 af

Pond 74P: BASIN B Peak Elev=31.71' Storage=0.131 af Inflow=1.35 cfs 0.546 af
Outflow=0.75 cfs 0.541 af

Pond 75P: BASIN D Peak Elev=28.26' Storage=0.392 af Inflow=4.17 cfs 1.091 af
Outflow=2.90 cfs 1.063 af

Pond 76P: BASIN M Peak Elev=33.61' Storage=0.129 af Inflow=1.20 cfs 0.149 af
Outflow=0.16 cfs 0.148 af

Pond 83P: BASIN F Peak Elev=33.68' Storage=0.356 af Inflow=2.06 cfs 0.249 af
Outflow=0.12 cfs 0.241 af

Pond 84P: BASIN L Peak Elev=33.91' Storage=0.122 af Inflow=1.20 cfs 0.149 af
Outflow=0.14 cfs 0.148 af

Pond 86P: BASIN G Peak Elev=32.86' Storage=0.150 af Inflow=1.31 cfs 0.399 af
Outflow=0.36 cfs 0.395 af

Pond 90P: BASIN N Peak Elev=30.36' Storage=0.213 af Inflow=1.85 cfs 0.560 af
Outflow=0.94 cfs 0.554 af

Pond 93P: BASIN O Peak Elev=28.21' Storage=0.113 af Inflow=1.51 cfs 0.185 af
Outflow=1.04 cfs 0.185 af

Pond 102P: BASIN Q Peak Elev=27.97' Storage=0.216 af Inflow=2.33 cfs 0.324 af
Outflow=1.83 cfs 0.242 af

Pond 105P: BASIN R Peak Elev=24.19' Storage=0.270 af Inflow=2.67 cfs 0.330 af
Outflow=1.35 cfs 0.326 af

Pond 108P: BASIN S Peak Elev=20.20' Storage=0.308 af Inflow=1.90 cfs 0.271 af
Outflow=0.11 cfs 0.088 af

Pond 111P: BASIN T Peak Elev=19.56' Storage=0.203 af Inflow=0.95 cfs 0.203 af
Outflow=0.10 cfs 0.196 af

Pond 114P: BASIN U Peak Elev=20.42' Storage=0.183 af Inflow=1.45 cfs 0.134 af
Outflow=0.17 cfs 0.130 af

Pond 117P: BASIN V Peak Elev=37.98' Storage=0.106 af Inflow=0.45 cfs 0.063 af
Outflow=0.29 cfs 0.063 af

Link 46L: DA North Basins Inflow=39.28 cfs 9.782 af
Primary=39.28 cfs 9.782 af

Link 51L: DA Undetained Inflow=8.45 cfs 1.829 af
Primary=8.45 cfs 1.829 af

Link 52L: X Inflow=5.16 cfs 0.977 af
Primary=5.16 cfs 0.977 af

Link 53L: W Inflow=6.22 cfs 1.348 af
Primary=6.22 cfs 1.348 af

Link 58L: Y Inflow=9.68 cfs 1.456 af
Primary=9.68 cfs 1.456 af

Total Runoff Area = 87.480 ac Runoff Volume = 10.298 af Average Runoff Depth = 1.41"
66.43% Pervious = 58.110 ac 33.57% Impervious = 29.370 ac

Summary for Subcatchment 54S: Y - OFFSITE UNDISTURBED

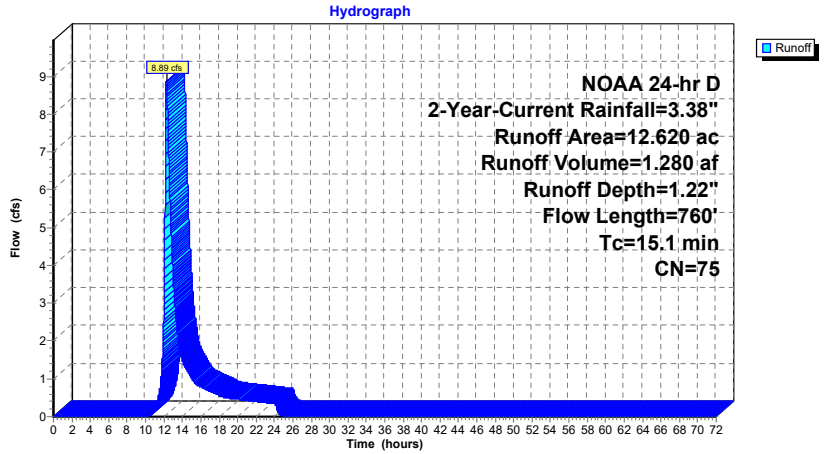
Runoff = 8.89 cfs @ 12.28 hrs, Volume= 1.280 af, Depth= 1.22"
Routed to Link 58L : Y

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

Area (ac)	CN	Description
12.620	75	1/4 acre lots, 38% imp, HSG B
7.824		62.00% Pervious Area
4.796		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.1	100	0.0350	0.15		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.5	280	0.0370	3.10		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.5	380	0.0240	2.49		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
15.1	760	Total			

Subcatchment 54S: Y - OFFSITE UNDISTURBED



Summary for Subcatchment 56S: W- OFFSITE UNDISTURBED

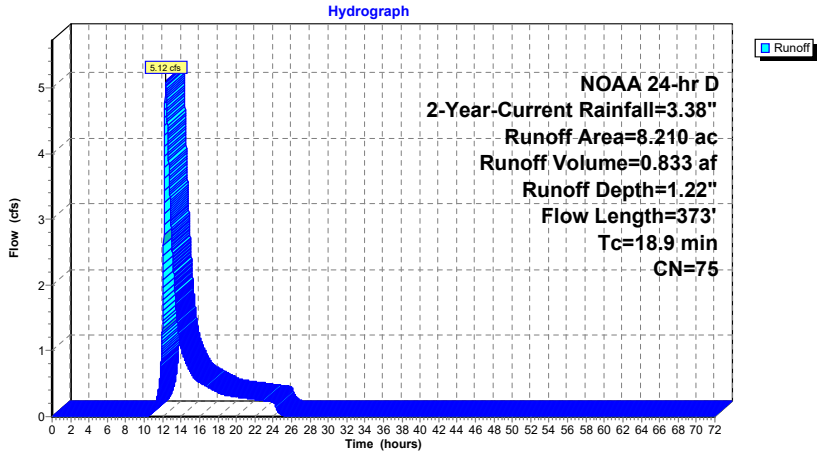
Runoff = 5.12 cfs @ 12.31 hrs, Volume= 0.833 af, Depth= 1.22"
Routed to Link 53L : W

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

Area (ac)	CN	Description
8.210	75	1/4 acre lots, 38% imp, HSG B
5.090		62.00% Pervious Area
3.120		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	100	0.0120	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.38"
0.9	179	0.0410	3.26		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.0	94	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.9	373	Total			

Subcatchment 56S: W- OFFSITE UNDISTURBED



Summary for Subcatchment 57S: Pipe Y

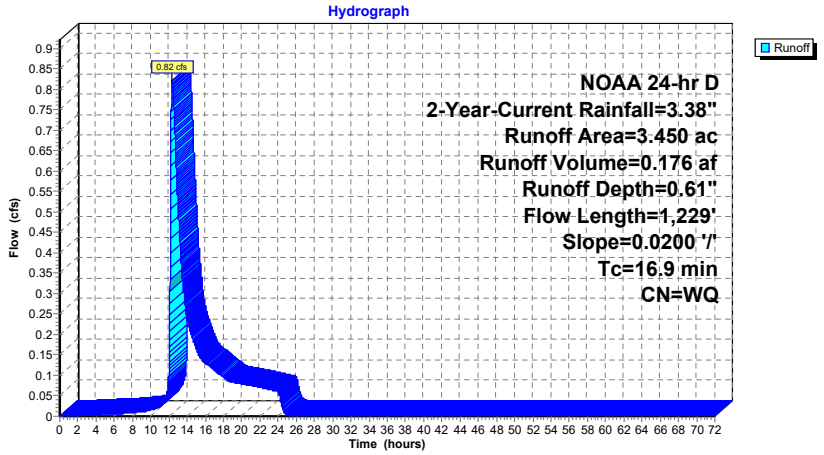
Runoff = 0.82 cfs @ 12.36 hrs, Volume= 0.176 af, Depth= 0.61"
Routed to Link 58L : Y

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	3.330	61	Open Space
*	0.000	98	Road/Sidewalk
*	0.120	98	Roof
*	0.000	98	Driveway
	3.450		Weighted Average
	3.330		96.52% Pervious Area
	0.120		3.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass**
					Grass: Dense n= 0.240 P2= 3.38"
					Using McCuen-Spiess flow length
1.2	170	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved**
					Unpaved Kv= 16.1 fps
6.2	936		2.50		**Direct Entry,**
0.4	64		2.50		**Direct Entry,**
16.9	1,229	Total			

Subcatchment 57S: Pipe Y



Summary for Subcatchment 59S: X - OFFSITE UNDISTURBED

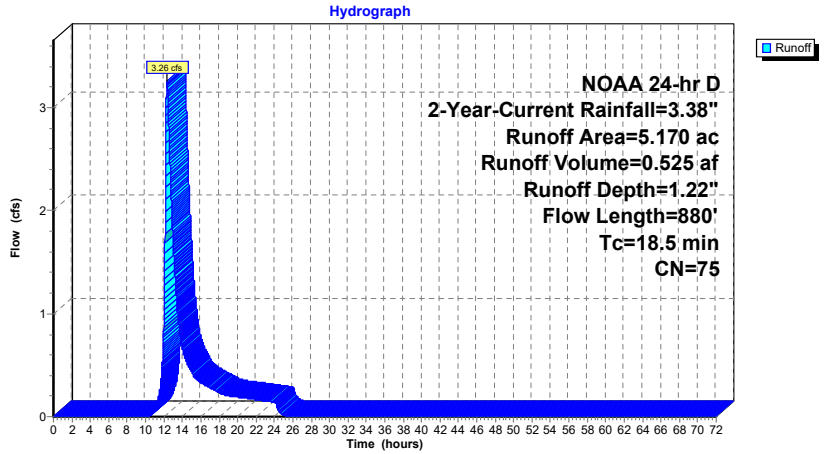
Runoff = 3.26 cfs @ 12.33 hrs, Volume= 0.525 af, Depth= 1.22"
Routed to Link 52L : X

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

Area (ac)	CN	Description
5.170	75	1/4 acre lots, 38% imp, HSG B
3.205		62.00% Pervious Area
1.965		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	100	0.0200	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.4	408	0.0320	2.88		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.2	372	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.5	880	Total			

Subcatchment 59S: X - OFFSITE UNDISTURBED



Summary for Subcatchment 60S: BASIN A - DA

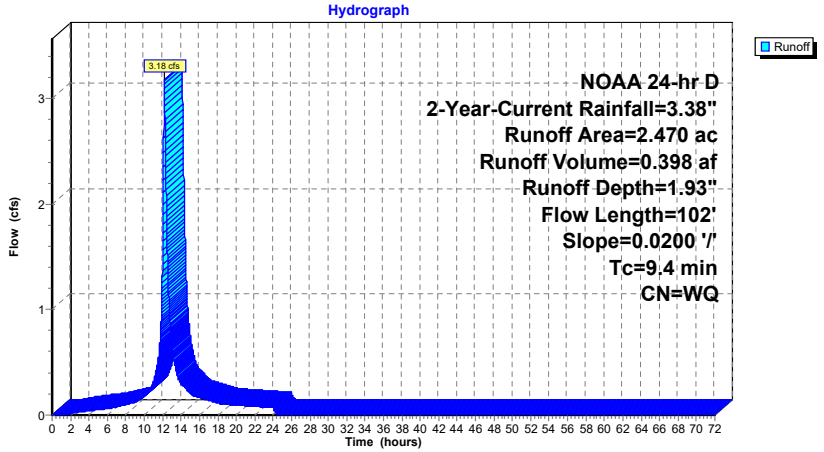
Runoff = 3.18 cfs @ 12.18 hrs, Volume= 0.398 af, Depth= 1.93"
Routed to Pond 52P : BASIN A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	1.140	61	Open Space
*	0.600	98	Road
*	0.130	98	Sidewalk
*	0.300	98	Roof
*	0.300	98	Driveway & Apron
	2.470		Weighted Average
	1.140		46.15% Pervious Area
	1.330		53.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	43	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	102	Total			

Subcatchment 60S: BASIN A - DA



Summary for Subcatchment 61S: BASIN I - DA

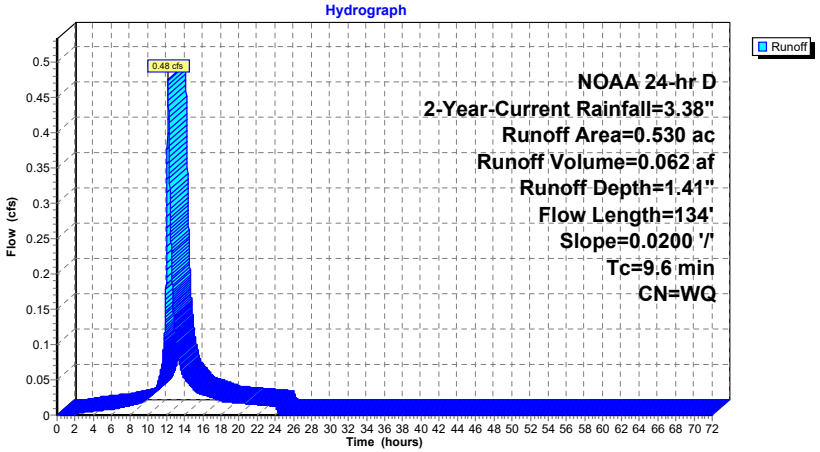
Runoff = 0.48 cfs @ 12.18 hrs, Volume= 0.062 af, Depth= 1.41"
Routed to Pond 64P : BASIN I

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.180	98	Roof
*	0.000	98	Driveway & Apron
	0.530		Weighted Average
	0.350		66.04% Pervious Area
	0.180		33.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.5	75	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.6	134	Total			

Subcatchment 61S: BASIN I - DA



Summary for Subcatchment 62S: Undetained

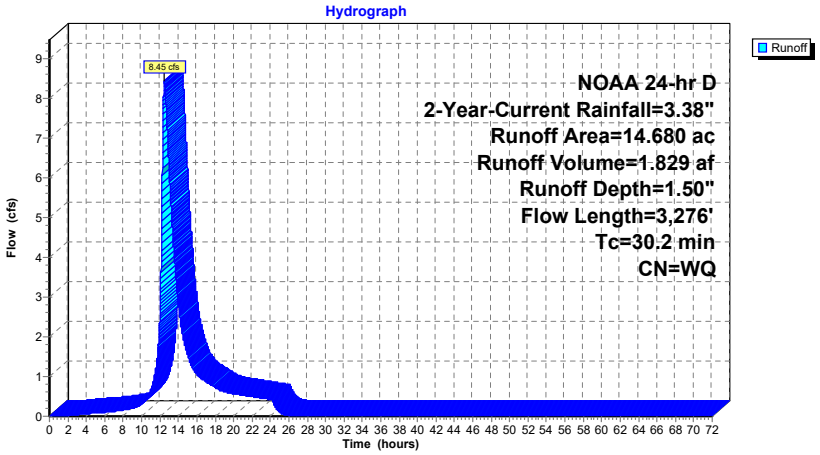
Runoff = 8.45 cfs @ 12.48 hrs, Volume= 1.829 af, Depth= 1.50"
Routed to Link 51L : DA Undetained

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
	3.170	61	>75% Grass cover, Good, HSG B
	0.870	55	Woods, Good, HSG B
	8.150	80	>75% Grass cover, Good, HSG D
	0.200	77	Woods, Good, HSG D
*	0.730	98	Water Surface, HSG D
*	0.740	98	Roofs, HSG B
*	0.570	98	Roofs, HSG D
	0.130	98	Paved parking, HSG B
	0.120	98	Unconnected pavement, HSG B
	14.680		Weighted Average
	12.390		84.40% Pervious Area
	2.290		15.60% Impervious Area
	0.120		5.24% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	88	0.0450	0.16		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.3	216	0.0300	2.79		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
19.8	2,972		2.50		**Direct Entry,**
30.2	3,276	Total			

Subcatchment 62S: Undetained



Summary for Subcatchment 63S: BASIN N - DA

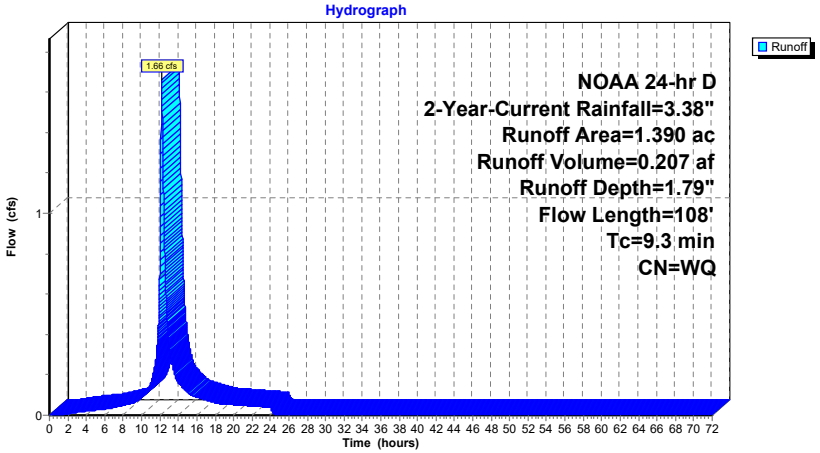
Runoff = 1.66 cfs @ 12.18 hrs, Volume= 0.207 af, Depth= 1.79"
Routed to Pond 90P : BASIN N

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.080	80	Open Space, HSG D
*	0.160	98	Road
*	0.040	98	Sidewalk
*	0.300	98	Roof
*	0.140	98	Driveway & Apron
	1.390		Weighted Average
	0.750		53.96% Pervious Area
	0.640		46.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.2	49	0.0600	3.94		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.3	108	Total			

Subcatchment 63S: BASIN N - DA



Summary for Subcatchment 64S: BASIN E - DA

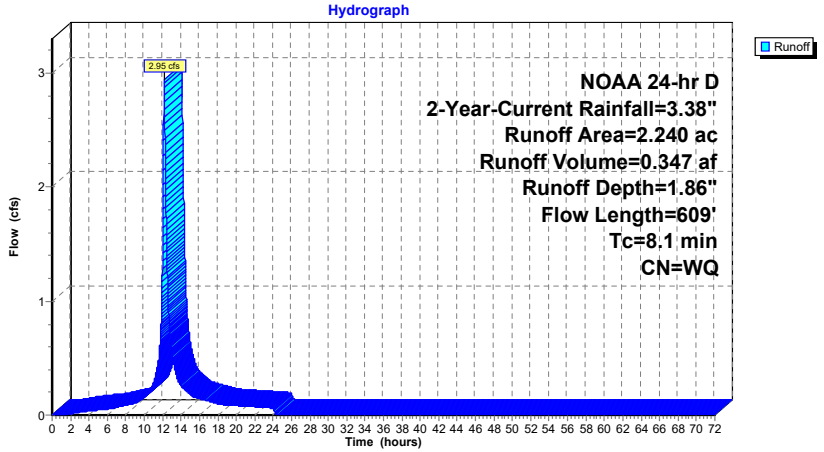
Runoff = 2.95 cfs @ 12.17 hrs, Volume= 0.347 af, Depth= 1.86"
Routed to Pond 65P : BASIN E

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	1.100	61	Open Space
*	0.450	98	Road
*	0.110	98	Sidewalk
*	0.240	98	Roof
*	0.340	98	Driveway & Apron
	2.240		Weighted Average
	1.100		49.11% Pervious Area
	1.140		50.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0500	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.5	300	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.9	279		2.50		**Direct Entry, Pipe**
8.1	609	Total			

Subcatchment 64S: BASIN E - DA



Summary for Subcatchment 65S: BASIN V - DA

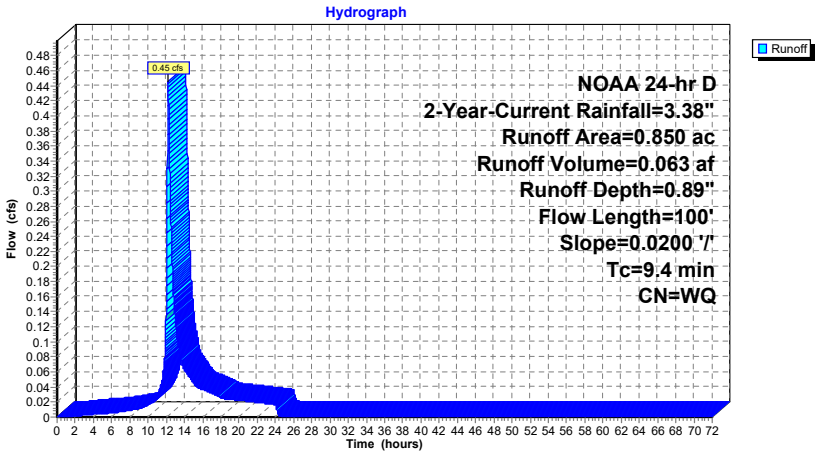
Runoff = 0.45 cfs @ 12.20 hrs, Volume= 0.063 af, Depth= 0.89"
Routed to Pond 117P : BASIN V

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.730	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.120	98	Roof
*	0.000	98	Driveway & Apron
	0.850		Weighted Average
	0.730		85.88% Pervious Area
	0.120		14.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	41	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	100	Total			

Subcatchment 65S: BASIN V - DA



Summary for Subcatchment 67S: Pipe W

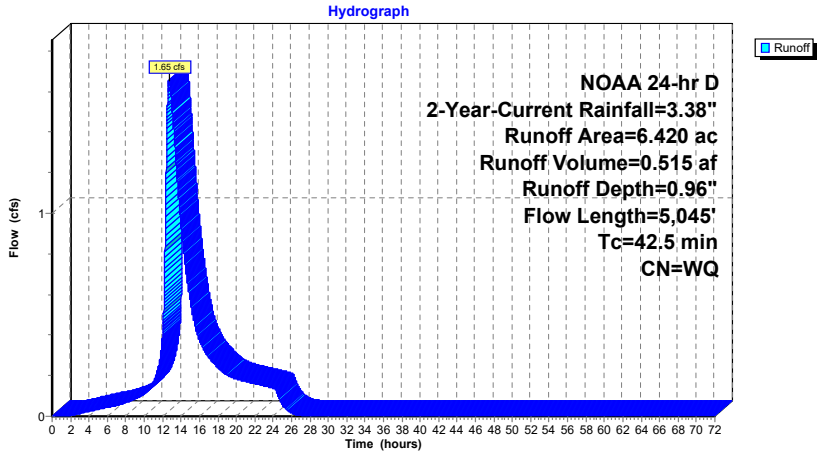
Runoff = 1.65 cfs @ 12.66 hrs, Volume= 0.515 af, Depth= 0.96"
Routed to Link 53L : W

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

Area (ac)	CN	Description
5.340	61	>75% Grass cover, Good, HSG B
1.080	98	Roofs, HSG B
6.420		Weighted Average
5.340		83.18% Pervious Area
1.080		16.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	66	0.0250	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.1	144	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
12.2	1,824		2.50		**Direct Entry,**
20.1	3,011		2.50		**Direct Entry,**
42.5	5,045	Total			

Subcatchment 67S: Pipe W



Summary for Subcatchment 68S: BASIN K - DA

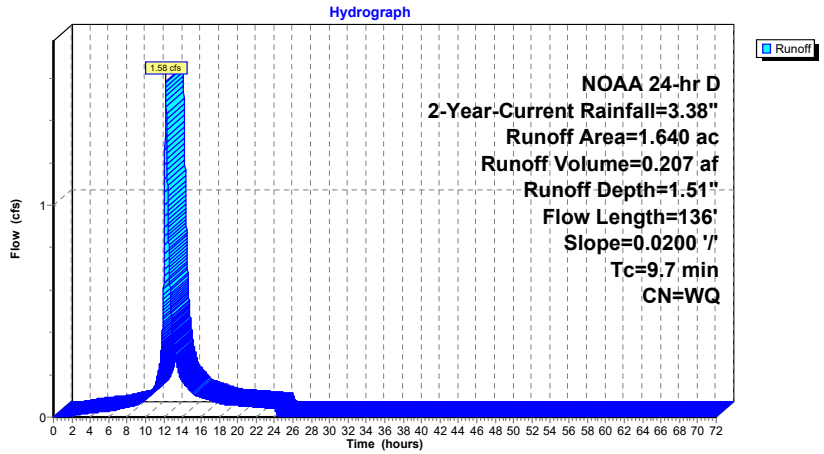
Runoff = 1.58 cfs @ 12.18 hrs, Volume= 0.207 af, Depth= 1.51"
Routed to Pond 70P : BASIN K

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	1.020	61	Open Space
*	0.000	98	Road
*	0.020	98	Sidewalk
*	0.600	98	Roof
*	0.000	98	Driveway & Apron
	1.640		Weighted Average
	1.020		62.20% Pervious Area
	0.620		37.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.6	77	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.7	136	Total			

Subcatchment 68S: BASIN K - DA



Summary for Subcatchment 69S: BASIN O - DA

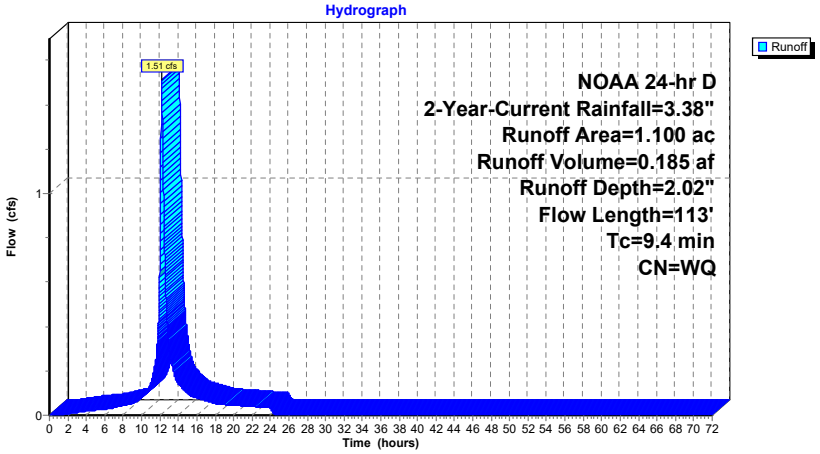
Runoff = 1.51 cfs @ 12.18 hrs, Volume= 0.185 af, Depth= 2.02"
Routed to Pond 93P : BASIN O

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.380	61	Open Space
*	0.150	80	Open Space, HSG D
*	0.150	98	Road
*	0.040	98	Sidewalk
*	0.240	98	Roof
*	0.140	98	Driveway & Apron
	1.100		Weighted Average
	0.530		48.18% Pervious Area
	0.570		51.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	54	0.0300	2.79		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	113	Total			

Subcatchment 69S: BASIN O - DA



Summary for Subcatchment 70S: Pipe X

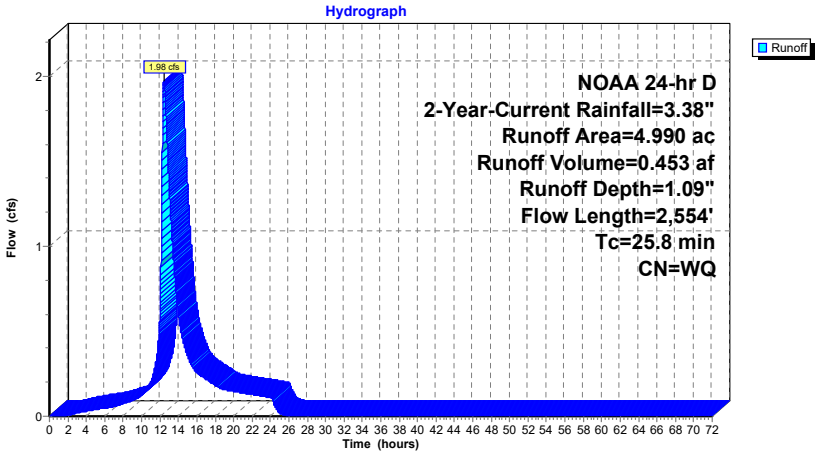
Runoff = 1.98 cfs @ 12.44 hrs, Volume= 0.453 af, Depth= 1.09"
Routed to Link 52L : X

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	3.910	61	Open Space
*	0.000	98	Road/Sidewalk
*	1.080	98	Roof
*	0.000	98	Driveway
	4.990		Weighted Average
	3.910		78.36% Pervious Area
	1.080		21.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.2	168	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
7.4	1,103		2.50		**Direct Entry,**
0.8	123	0.0250	2.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.3	1,101		2.50		**Direct Entry,**
25.8	2,554	Total			

Subcatchment 70S: Pipe X



Summary for Subcatchment 71S: BASIN B - DA

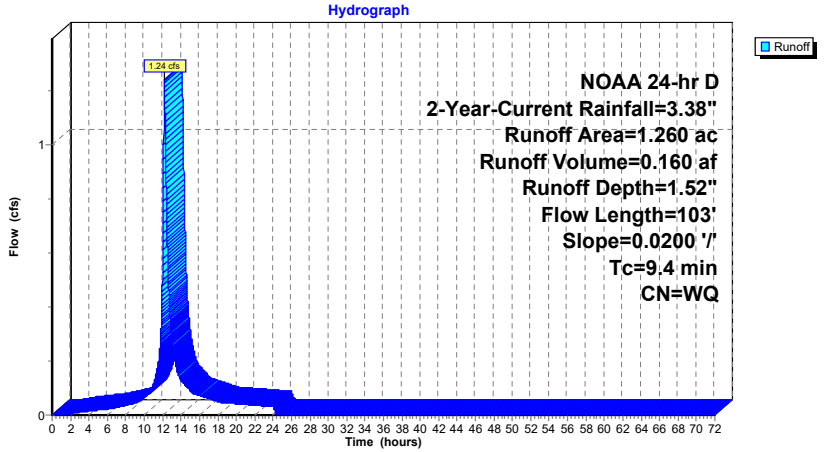
Runoff = 1.24 cfs @ 12.18 hrs, Volume= 0.160 af, Depth= 1.52"
Routed to Pond 74P : BASIN B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.780	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.480	98	Roof
*	0.000	98	Driveway
	1.260		Weighted Average
	0.780		61.90% Pervious Area
	0.480		38.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 71S: BASIN B - DA



Summary for Subcatchment 73S: BASIN C - DA

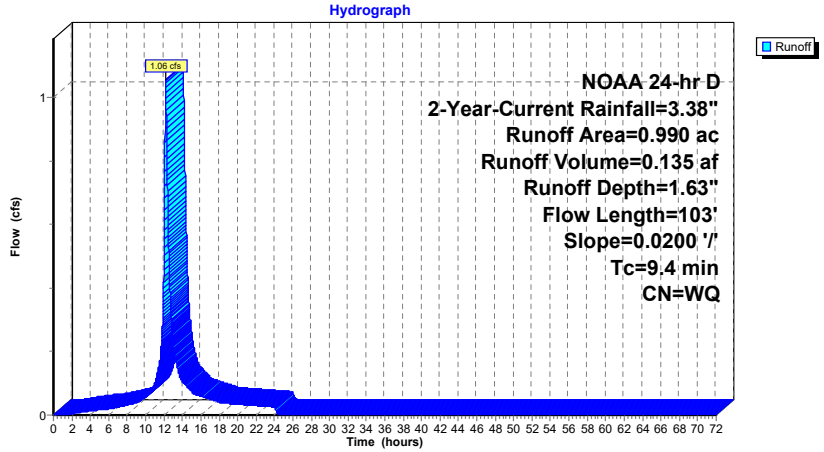
Runoff = 1.06 cfs @ 12.18 hrs, Volume= 0.135 af, Depth= 1.63"
Routed to Pond 59P : BASIN C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.570	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.420	98	Roof
*	0.000	98	Driveway
	0.990		Weighted Average
	0.570		57.58% Pervious Area
	0.420		42.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 73S: BASIN C - DA



Summary for Subcatchment 75S: BASIN M - DA

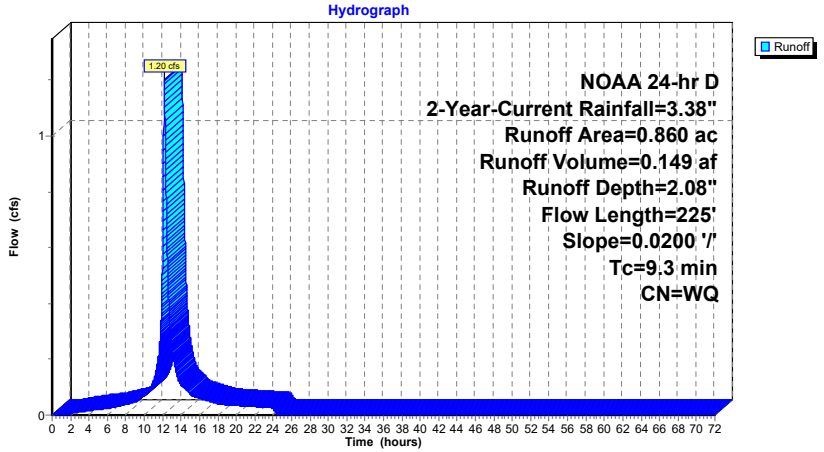
Runoff = 1.20 cfs @ 12.18 hrs, Volume= 0.149 af, Depth= 2.08"
Routed to Pond 76P : BASIN M

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.280	98	Road
*	0.050	98	Sidewalk
*	0.060	98	Roof
*	0.120	98	Driveway & Apron
	0.860		Weighted Average
	0.350		40.70% Pervious Area
	0.510		59.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	52	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
0.5	87	0.0200	2.87		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
0.6	86		2.50		**Direct Entry, Pipe**
9.3	225	Total			

Subcatchment 75S: BASIN M - DA



Summary for Subcatchment 76S: BASIN F - DA

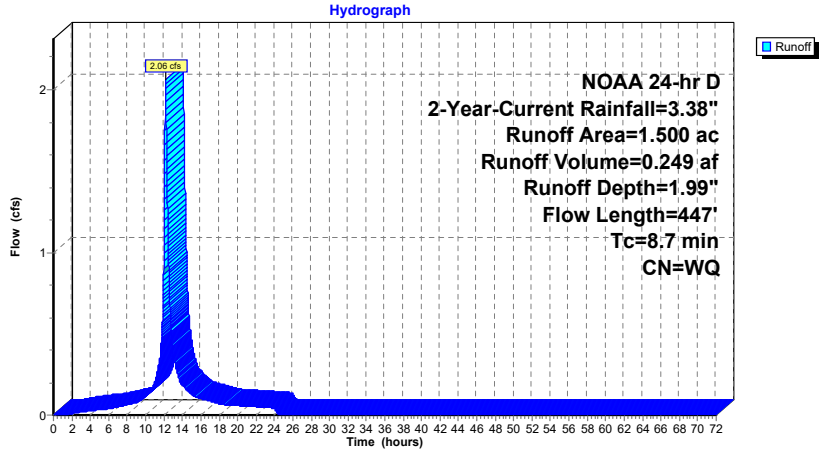
Runoff = 2.06 cfs @ 12.17 hrs, Volume= 0.249 af, Depth= 1.99"
Routed to Pond 83P : BASIN F

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.660	61	Open Space
*	0.440	98	Road
*	0.100	98	Sidewalk
*	0.120	98	Roof
*	0.180	98	Driveway & Apron
	1.500		Weighted Average
	0.660		44.00% Pervious Area
	0.840		56.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	33	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.3	158	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.7	256		2.50		**Direct Entry, Pipe**
8.7	447	Total			

Subcatchment 76S: BASIN F - DA



Summary for Subcatchment 77S: BASIN D - DA

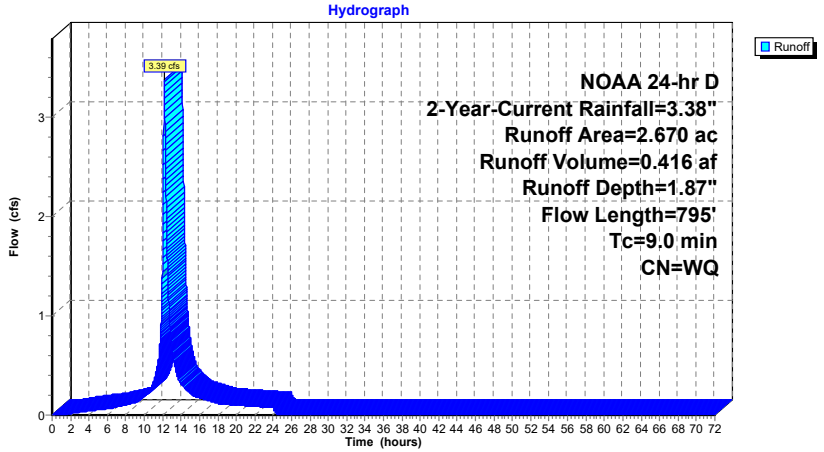
Runoff = 3.39 cfs @ 12.18 hrs, Volume= 0.416 af, Depth= 1.87"
Routed to Pond 75P : BASIN D

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	1.300	61	Open Space
*	0.430	98	Road
*	0.120	98	Sidewalk
*	0.420	98	Roof
*	0.400	98	Driveway & Apron
	2.670		Weighted Average
	1.300		48.69% Pervious Area
	1.370		51.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0500	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.2	300	0.0120	2.22		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
3.1	465		2.50		**Direct Entry, Pipe**
9.0	795	Total			

Subcatchment 77S: BASIN D - DA



Summary for Subcatchment 83S: BASIN L - DA

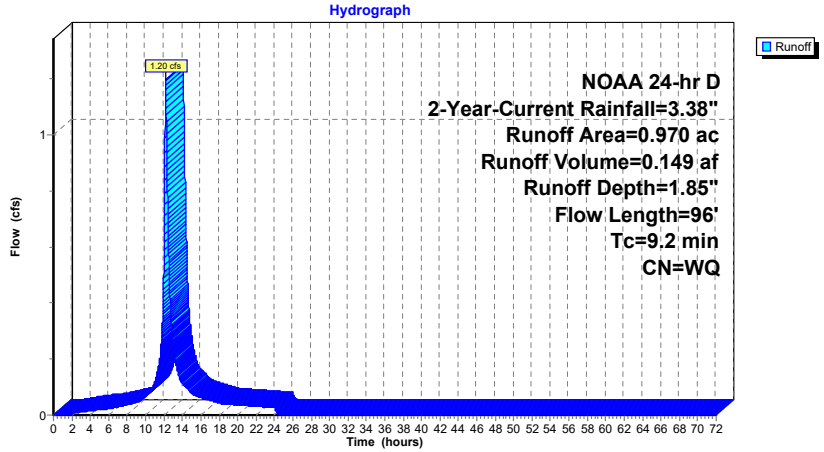
Runoff = 1.20 cfs @ 12.18 hrs, Volume= 0.149 af, Depth= 1.85"
Routed to Pond 84P : BASIN L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.480	61	Open Space
*	0.220	98	Road
*	0.050	98	Sidewalk
*	0.120	98	Roof
*	0.100	98	Driveway & Apron
	0.970		Weighted Average
	0.480		49.48% Pervious Area
	0.490		50.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	37	0.0800	4.55		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.2	96	Total			

Subcatchment 83S: BASIN L - DA



Summary for Subcatchment 85S: BASIN G - DA

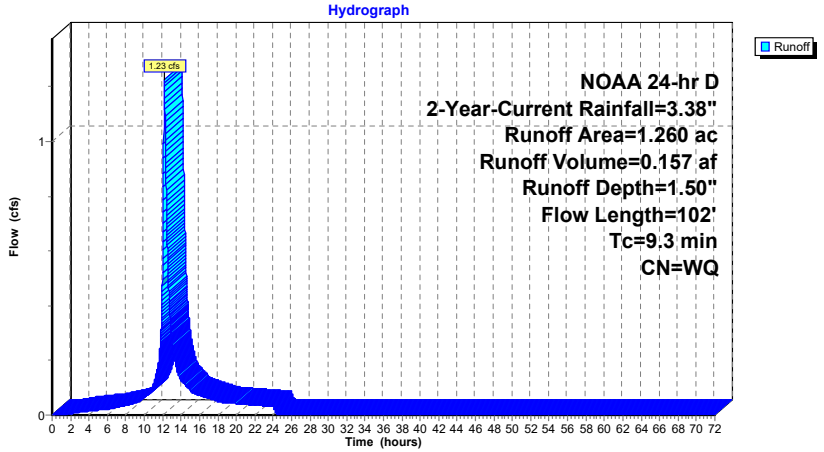
Runoff = 1.23 cfs @ 12.18 hrs, Volume= 0.157 af, Depth= 1.50"
Routed to Pond 86P : BASIN G

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.790	61	Open Space
*	0.060	98	Road
*	0.010	98	Sidewalk
*	0.360	98	Roof
*	0.040	98	Driveway & Apron
	1.260		Weighted Average
	0.790		62.70% Pervious Area
	0.470		37.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.2	43	0.0350	3.01		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.3	102	Total			

Subcatchment 85S: BASIN G - DA



Summary for Subcatchment 88S: BASIN H - DA

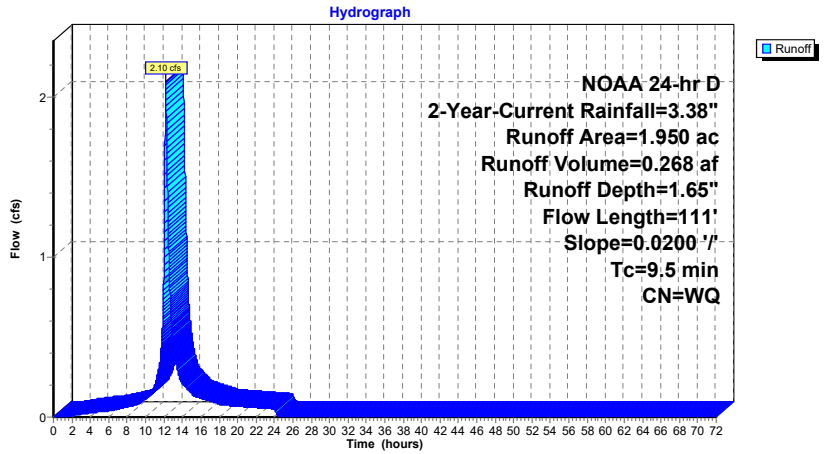
Runoff = 2.10 cfs @ 12.18 hrs, Volume= 0.268 af, Depth= 1.65"
Routed to Pond 60P : BASIN H

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	1.110	61	Open Space
*	0.230	98	Road
*	0.050	98	Sidewalk
*	0.420	98	Roof
*	0.140	98	Driveway & Apron
	1.950		Weighted Average
	1.110		56.92% Pervious Area
	0.840		43.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.4	52	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.5	111	Total			

Subcatchment 88S: BASIN H - DA



Summary for Subcatchment 98S: BASIN P - DA

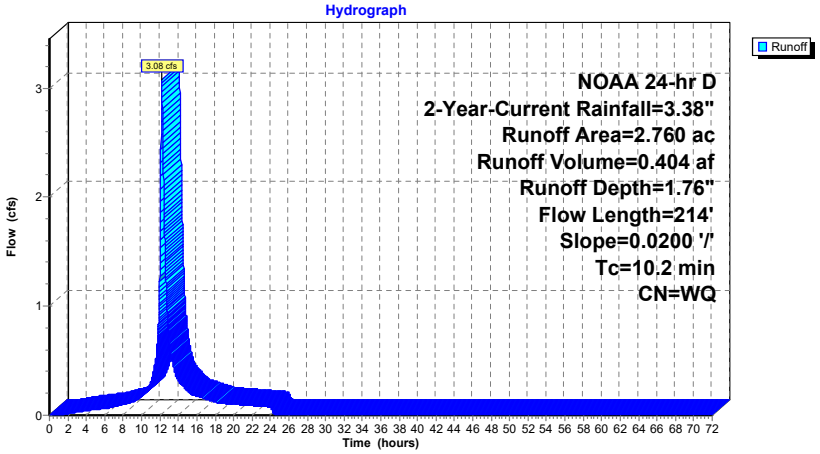
Runoff = 3.08 cfs @ 12.19 hrs, Volume= 0.404 af, Depth= 1.76"
Routed to Pond 63P : BASIN P

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	1.460	61	Open Space
*	0.410	98	Road
*	0.110	98	Sidewalk
*	0.420	98	Roof
*	0.360	98	Driveway & Apron
	2.760		Weighted Average
	1.460		52.90% Pervious Area
	1.300		47.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.7	99	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
0.4	56		2.50		**Direct Entry,**
10.2	214	Total			

Subcatchment 98S: BASIN P - DA



Summary for Subcatchment 101S: BASIN Q - DA

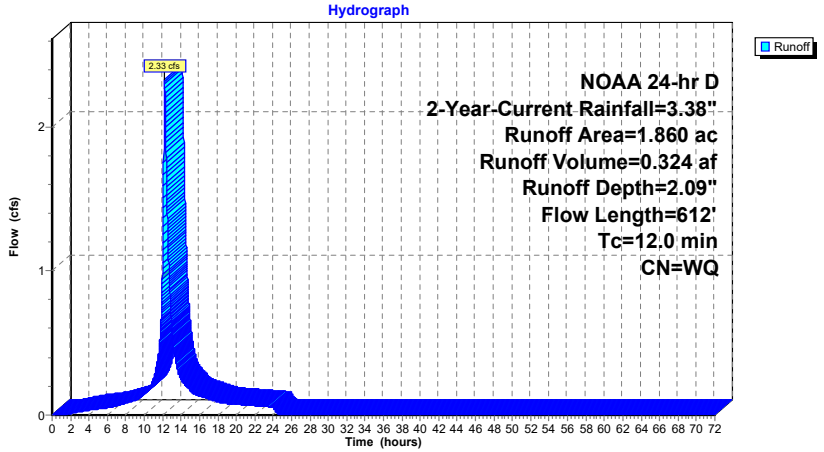
Runoff = 2.33 cfs @ 12.21 hrs, Volume= 0.324 af, Depth= 2.09"
Routed to Pond 102P : BASIN Q

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.750	61	Open Space
*	0.570	98	Road
*	0.140	98	Sidewalk
*	0.060	98	Roof
*	0.340	98	Driveway & Apron
	1.860		Weighted Average
	0.750		40.32% Pervious Area
	1.110		59.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	49	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.3	283	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.9	280		2.50		**Direct Entry, Pipe**
12.0	612	Total			

Subcatchment 101S: BASIN Q - DA



Summary for Subcatchment 104S: BASIN R - DA

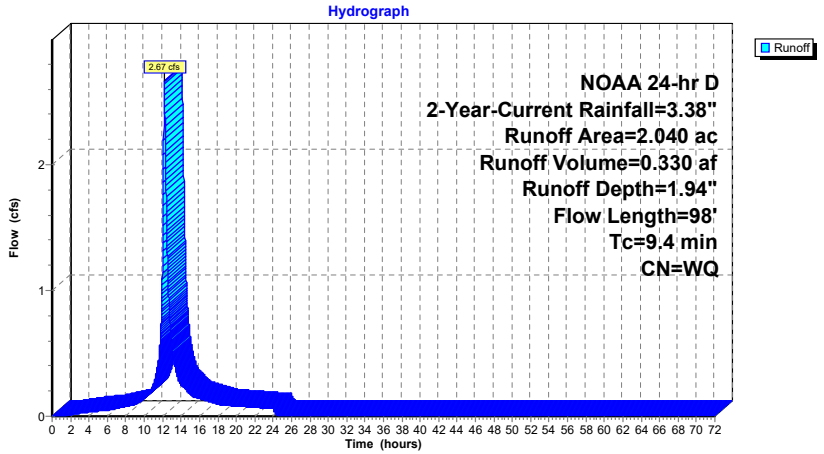
Runoff = 2.67 cfs @ 12.18 hrs, Volume= 0.330 af, Depth= 1.94"
Routed to Pond 105P : BASIN R

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
	0.810	61	>75% Grass cover, Good, HSG B
*	0.350	98	Road
*	0.090	98	Sidewalk
*	0.300	98	Roof
*	0.280	98	Driveway & Apron
	0.210	80	>75% Grass cover, Good, HSG D
	2.040		Weighted Average
	1.020		50.00% Pervious Area
	1.020		50.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	39	0.0250	2.55		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	98	Total			

Subcatchment 104S: BASIN R - DA



Summary for Subcatchment 107S: BASIN S - DA

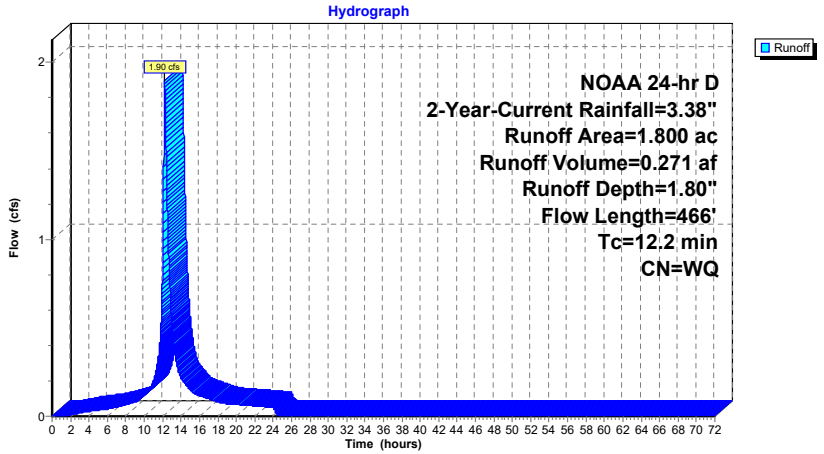
Runoff = 1.90 cfs @ 12.22 hrs, Volume= 0.271 af, Depth= 1.80"
Routed to Pond 108P : BASIN S

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.920	61	Open Space
*	0.590	98	Road
*	0.190	98	Sidewalk
*	0.080	98	Roof
*	0.020	98	Driveway & Apron
	1.800		Weighted Average
	0.920		51.11% Pervious Area
	0.880		48.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	6	0.0100	1.61		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
1.4	167	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.6	234		2.50		**Direct Entry, Pipe**
12.2	466	Total			

Subcatchment 107S: BASIN S - DA



Summary for Subcatchment 110S: BASIN T - DA

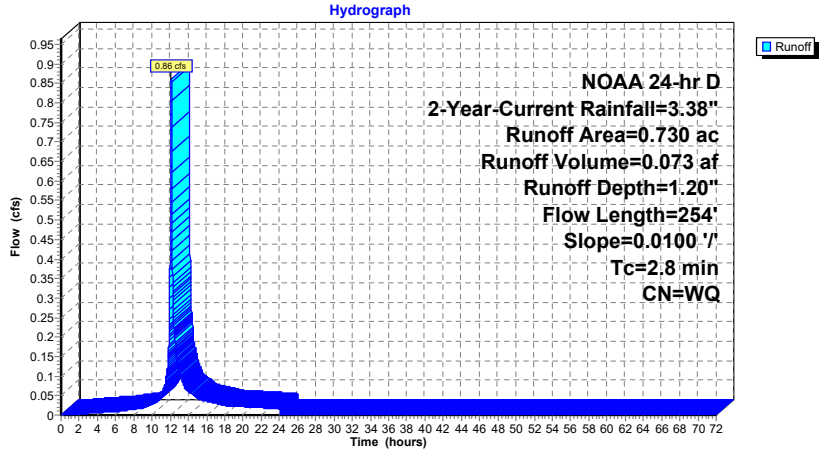
Runoff = 0.86 cfs @ 12.11 hrs, Volume= 0.073 af, Depth= 1.20"
Routed to Pond 111P : BASIN T

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.540	61	Open Space
*	0.140	98	Road
*	0.050	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	0.730		Weighted Average
	0.540		73.97% Pervious Area
	0.190		26.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.07		**Sheet Flow, Sheet Flow - Smooth Surfaces** Smooth surfaces n= 0.011 P2= 3.38"
0.8	93	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
0.4	61		2.50		**Direct Entry, Pipe**
2.8	254	Total			

Subcatchment 110S: BASIN T - DA



Summary for Subcatchment 113S: BASIN U - DA

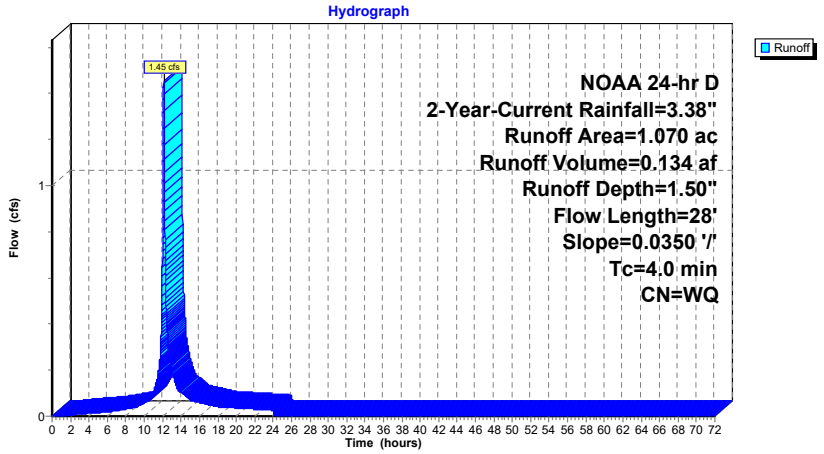
Runoff = 1.45 cfs @ 12.12 hrs, Volume= 0.134 af, Depth= 1.50"
Routed to Pond 114P : BASIN U

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 2-Year-Current Rainfall=3.38"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.330	98	Road
*	0.070	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	1.070		Weighted Average
	0.670		62.62% Pervious Area
	0.400		37.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	28	0.0350	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"

Subcatchment 113S: BASIN U - DA



Summary for Pond 52P: BASIN A

Inflow Area = 2.470 ac, 53.85% Impervious, Inflow Depth = 1.93" for 2-Year-Current event
Inflow = 3.18 cfs @ 12.18 hrs, Volume= 0.398 af
Outflow = 0.16 cfs @ 16.37 hrs, Volume= 0.387 af, Atten= 95%, Lag= 251.6 min
Primary = 0.16 cfs @ 16.37 hrs, Volume= 0.387 af
Routed to Pond 74P : BASIN B

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 32.75' Surf.Area= 0.235 ac Storage= 0.160 af
Peak Elev= 33.75' @ 16.37 hrs Surf.Area= 0.293 ac Storage= 0.424 af (0.264 af above start)

Plug-Flow detention time= 1,536.8 min calculated for 0.227 af (57% of inflow)
Center-of-Mass det. time= 917.8 min (1,704.6 - 786.9)

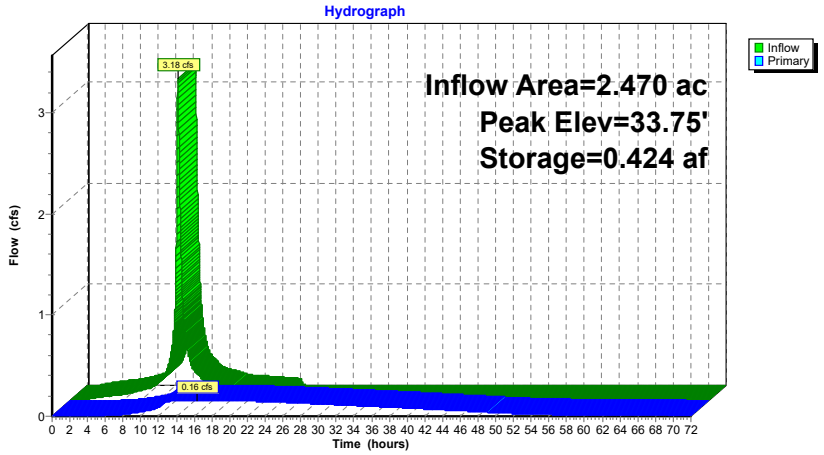
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.233 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.192	0.000	0.000
33.00	0.249	0.220	0.220
34.00	0.307	0.278	0.499
35.00	0.367	0.337	0.836
36.00	0.428	0.397	1.233

Device	Routing	Invert	Outlet Devices
#1	Primary	35.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.75'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.16 cfs @ 16.37 hrs HW=33.75' TW=31.57' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.16 cfs @ 4.56 fps)

Pond 52P: BASIN A



Summary for Pond 59P: BASIN C

Inflow Area = 4.720 ac, 47.25% Impervious, Inflow Depth > 1.72" for 2-Year-Current event
Inflow = 1.43 cfs @ 12.30 hrs, Volume= 0.676 af
Outflow = 1.32 cfs @ 12.49 hrs, Volume= 0.676 af, Atten= 8%, Lag= 11.2 min
Primary = 1.32 cfs @ 12.49 hrs, Volume= 0.676 af
Routed to Pond 75P : BASIN D

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 29.50' Surf.Area= 0.054 ac Storage= 0.043 af
Peak Elev= 29.85' @ 12.49 hrs Surf.Area= 0.062 ac Storage= 0.064 af (0.020 af above start)

Plug-Flow detention time= 213.5 min calculated for 0.632 af (93% of inflow)
Center-of-Mass det. time= 18.4 min (1,483.2 - 1,464.8)

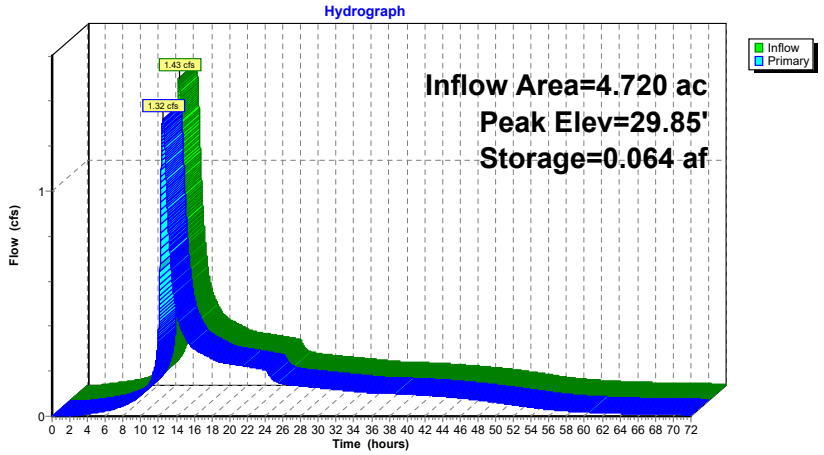
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.198 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.033	0.000	0.000
29.50	0.054	0.043	0.043
30.50	0.077	0.065	0.109
31.50	0.101	0.089	0.198

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	29.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=1.32 cfs @ 12.49 hrs HW=29.85' TW=28.26' (Dynamic Tailwater)
└─**1=Grate** (Controls 0.00 cfs)
└─**2=Sharp-Crested Rectangular Weir** (Weir Controls 1.32 cfs @ 1.94 fps)

Pond 59P: BASIN C



Summary for Pond 60P: BASIN H

Inflow Area = 4.710 ac, 45.65% Impervious, Inflow Depth > 1.69" for 2-Year-Current event
Inflow = 2.21 cfs @ 12.18 hrs, Volume= 0.664 af
Outflow = 0.17 cfs @ 24.16 hrs, Volume= 0.634 af, Atten= 92%, Lag= 718.4 min
Primary = 0.17 cfs @ 24.16 hrs, Volume= 0.634 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 28.90' Surf.Area= 0.229 ac Storage= 0.089 af
Peak Elev= 30.13' @ 24.16 hrs Surf.Area= 0.271 ac Storage= 0.396 af (0.307 af above start)

Plug-Flow detention time= 1,389.1 min calculated for 0.545 af (82% of inflow)
Center-of-Mass det. time= 928.3 min (2,155.8 - 1,227.5)

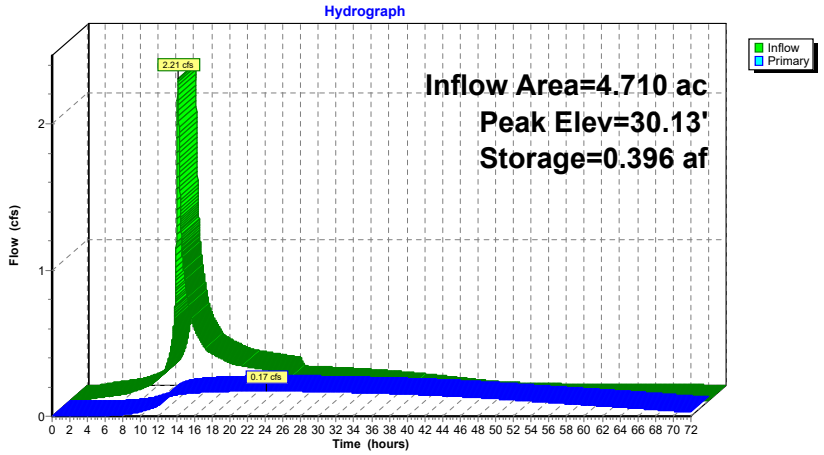
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.799 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.216	0.000	0.000
29.00	0.232	0.112	0.112
30.00	0.266	0.249	0.361
31.00	0.301	0.283	0.644
31.50	0.319	0.155	0.799

Device	Routing	Invert	Outlet Devices
#1	Primary	31.20'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.30'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	28.90'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.17 cfs @ 24.16 hrs HW=30.13' TW=28.07' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.17 cfs @ 5.11 fps)

Pond 60P: BASIN H



Summary for Pond 63P: BASIN P

Inflow = 3.94 cfs @ 12.18 hrs, Volume= 1.120 af
Outflow = 1.70 cfs @ 12.66 hrs, Volume= 1.025 af, Atten= 57%, Lag= 29.0 min
Primary = 1.70 cfs @ 12.66 hrs, Volume= 1.025 af
Routed to Pond 65P : BASIN E

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 27.50' Surf.Area= 0.233 ac Storage= 0.213 af
Peak Elev= 28.38' @ 12.59 hrs Surf.Area= 0.264 ac Storage= 0.431 af (0.218 af above start)

Plug-Flow detention time= 1,003.7 min calculated for 0.812 af (72% of inflow)
Center-of-Mass det. time= 213.1 min (1,782.6 - 1,569.5)

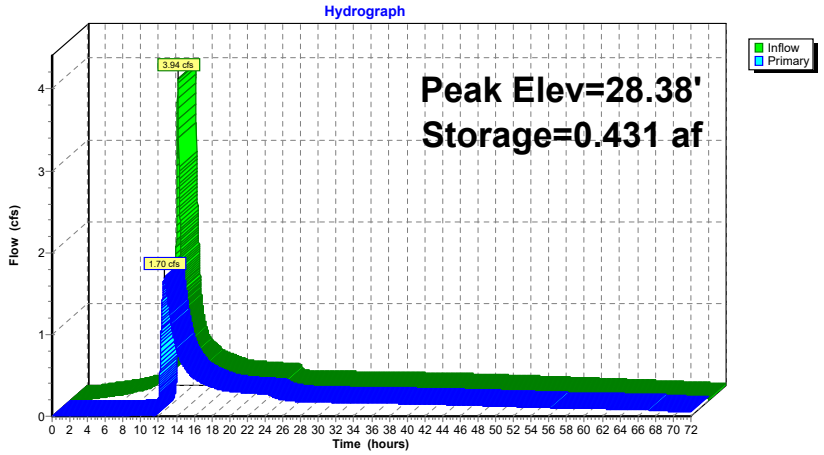
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.910 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.193	0.000	0.000
27.50	0.233	0.213	0.213
28.50	0.268	0.250	0.463
29.50	0.303	0.286	0.749
30.00	0.340	0.161	0.910

Device	Routing	Invert	Outlet Devices
#1	Primary	29.30'	**42.0" x 102.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**3.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.71 cfs @ 12.66 hrs HW=28.38' TW=28.35' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 1.67 cfs @ 0.90 fps)
- **3=Orifice** (Orifice Controls 0.04 cfs @ 0.83 fps)

Pond 63P: BASIN P



Summary for Pond 64P: BASIN I

Inflow Area = 0.530 ac, 33.96% Impervious, Inflow Depth = 1.41" for 2-Year-Current event
Inflow = 0.48 cfs @ 12.18 hrs, Volume= 0.062 af
Outflow = 0.12 cfs @ 12.95 hrs, Volume= 0.062 af, Atten= 75%, Lag= 45.7 min
Primary = 0.12 cfs @ 12.95 hrs, Volume= 0.062 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 29.40' Surf.Area= 0.029 ac Storage= 0.024 af
Peak Elev= 30.05' @ 12.95 hrs Surf.Area= 0.034 ac Storage= 0.044 af (0.020 af above start)

Plug-Flow detention time= 382.2 min calculated for 0.039 af (62% of inflow)
Center-of-Mass det. time= 117.7 min (924.9 - 807.2)

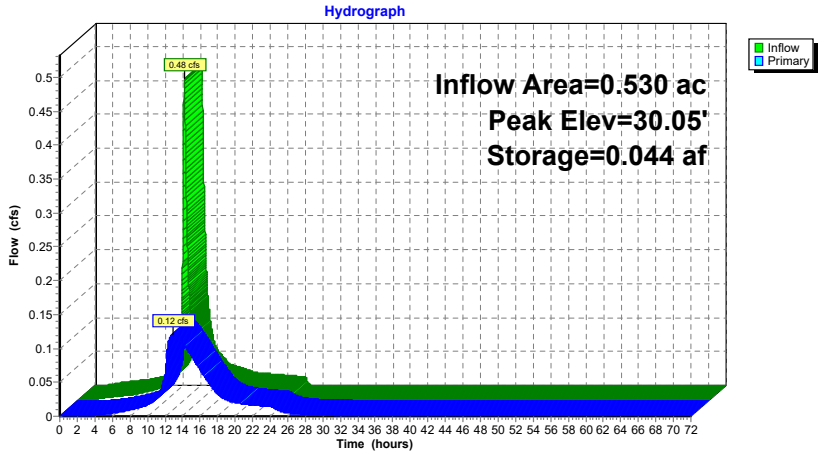
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.101 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.023	0.000	0.000
29.50	0.030	0.026	0.026
30.50	0.037	0.033	0.060
31.50	0.045	0.041	0.101

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.60'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	29.40'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.12 cfs @ 12.95 hrs HW=30.05' TW=28.34' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.12 cfs @ 3.54 fps)

Pond 64P: BASIN I



Summary for Pond 65P: BASIN E

Inflow = 3.65 cfs @ 12.19 hrs, Volume= 1.371 af
Outflow = 2.81 cfs @ 12.56 hrs, Volume= 1.327 af, Atten= 23%, Lag= 22.0 min
Primary = 2.81 cfs @ 12.56 hrs, Volume= 1.307 af
Routed to Link 46L : DA North Basins
Secondary = 0.70 cfs @ 12.17 hrs, Volume= 0.020 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 27.50' Surf.Area= 0.122 ac Storage= 0.106 af
Peak Elev= 28.35' @ 12.56 hrs Surf.Area= 0.152 ac Storage= 0.223 af (0.116 af above start)

Plug-Flow detention time= 441.5 min calculated for 1.220 af (89% of inflow)
Center-of-Mass det. time= 101.0 min (1,631.9 - 1,530.9)

Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.421 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

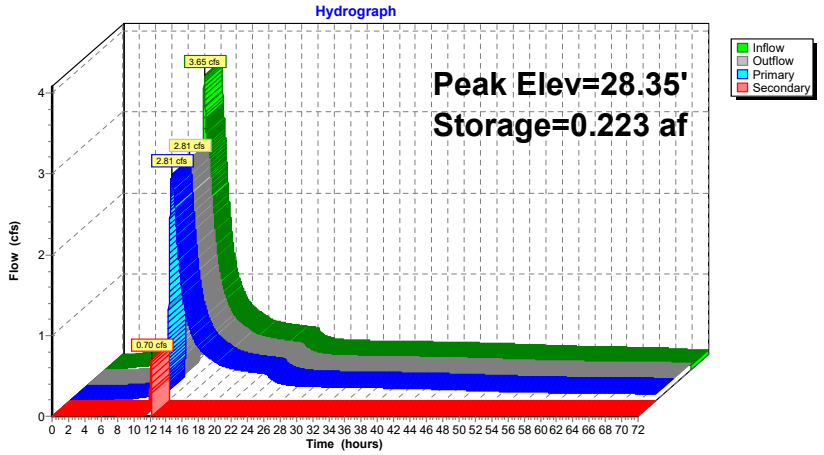
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.091	0.000	0.000
27.50	0.122	0.106	0.106
28.50	0.157	0.139	0.246
29.50	0.193	0.175	0.421

Device	Routing	Invert	Outlet Devices
#1	Primary	28.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#4	Secondary	27.50'	**3.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#5	Secondary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#6	Secondary	29.30'	**42.0" x 102.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.81 cfs @ 12.56 hrs HW=28.35' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 2.66 cfs @ 1.94 fps)
- **3=Orifice** (Orifice Controls 0.14 cfs @ 4.16 fps)

Secondary OutFlow Max=0.24 cfs @ 12.17 hrs HW=28.19' TW=28.19' (Dynamic Tailwater)
- **4=Orifice** (Orifice Controls 0.01 cfs @ 0.13 fps)
- **5=Sharp-Crested Rectangular Weir** (Weir Controls 0.24 cfs @ 0.20 fps)
- **6=Grate** (Controls 0.00 cfs)

Pond 65P: BASIN E



Summary for Pond 70P: BASIN K

Inflow Area = 1.640 ac, 37.80% Impervious, Inflow Depth = 1.51" for 2-Year-Current event
Inflow = 1.58 cfs @ 12.18 hrs, Volume= 0.207 af
Outflow = 0.19 cfs @ 13.76 hrs, Volume= 0.204 af, Atten= 88%, Lag= 94.3 min
Primary = 0.19 cfs @ 13.76 hrs, Volume= 0.204 af
Routed to Pond 90P : BASIN N

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 31.00' Surf.Area= 0.135 ac Storage= 0.064 af
Peak Elev= 31.77' @ 13.76 hrs Surf.Area= 0.155 ac Storage= 0.175 af (0.111 af above start)

Plug-Flow detention time= 818.2 min calculated for 0.140 af (68% of inflow)
Center-of-Mass det. time= 479.0 min (1,281.4 - 802.4)

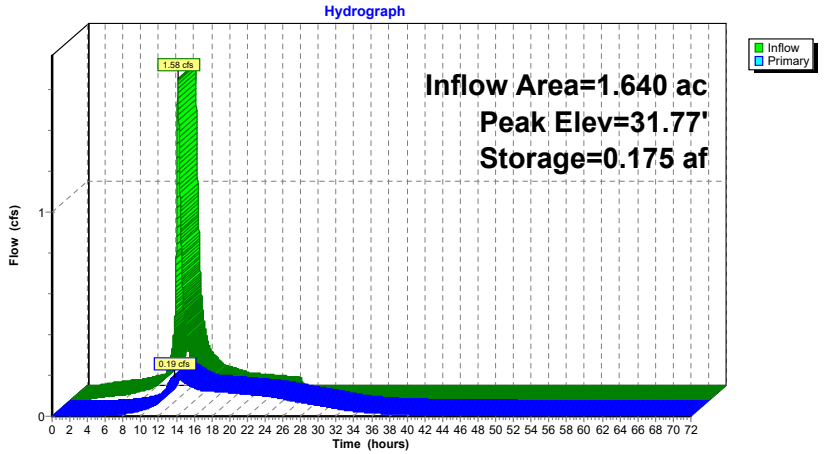
Volume	Invert	Avail.Storage	Storage Description
#1	30.50'	0.484 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.50	0.122	0.000	0.000
31.50	0.148	0.135	0.135
32.50	0.174	0.161	0.296
33.50	0.202	0.188	0.484

Device	Routing	Invert	Outlet Devices
#1	Primary	33.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.70'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.19 cfs @ 13.76 hrs HW=31.77' TW=30.31' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.06 cfs @ 0.84 fps)
- **3=Orifice** (Orifice Controls 0.13 cfs @ 3.92 fps)

Pond 70P: BASIN K



Summary for Pond 74P: BASIN B

Inflow Area = 3.730 ac, 48.53% Impervious, Inflow Depth > 1.76" for 2-Year-Current event
Inflow = 1.35 cfs @ 12.18 hrs, Volume= 0.546 af
Outflow = 0.75 cfs @ 12.53 hrs, Volume= 0.541 af, Atten= 44%, Lag= 21.0 min
Primary = 0.75 cfs @ 12.53 hrs, Volume= 0.541 af
Routed to Pond 59P : BASIN C

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 31.00' Surf.Area= 0.081 ac Storage= 0.065 af
Peak Elev= 31.71' @ 12.53 hrs Surf.Area= 0.104 ac Storage= 0.131 af (0.066 af above start)

Plug-Flow detention time= 535.2 min calculated for 0.476 af (87% of inflow)
Center-of-Mass det. time= 190.5 min (1,631.2 - 1,440.7)

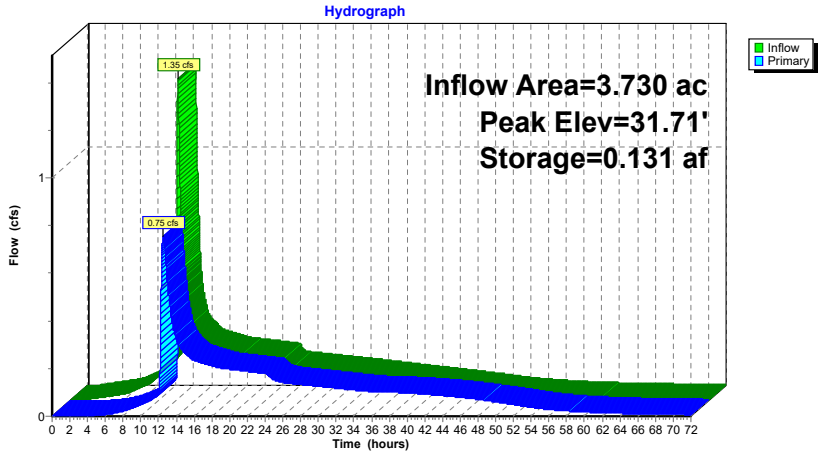
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	0.292 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.00	0.049	0.000	0.000
31.00	0.081	0.065	0.065
32.00	0.113	0.097	0.162
33.00	0.147	0.130	0.292

Device	Routing	Invert	Outlet Devices
#1	Primary	32.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.75 cfs @ 12.53 hrs HW=31.71' TW=29.85' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.63 cfs @ 1.51 fps)
- **3=Orifice** (Orifice Controls 0.13 cfs @ 3.75 fps)

Pond 74P: BASIN B



Summary for Pond 75P: BASIN D

Inflow Area = 7.390 ac, 48.71% Impervious, Inflow Depth > 1.77" for 2-Year-Current event
Inflow = 4.17 cfs @ 12.19 hrs, Volume= 1.091 af
Outflow = 2.90 cfs @ 12.52 hrs, Volume= 1.063 af, Atten= 30%, Lag= 20.0 min
Primary = 2.90 cfs @ 12.52 hrs, Volume= 1.063 af
Routed to Link 46L : DA North Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 27.40' Surf.Area= 0.223 ac Storage= 0.189 af
Peak Elev= 28.26' @ 12.52 hrs Surf.Area= 0.250 ac Storage= 0.392 af (0.203 af above start)

Plug-Flow detention time= 761.8 min calculated for 0.874 af (80% of inflow)
Center-of-Mass det. time= 278.4 min (1,496.9 - 1,218.5)

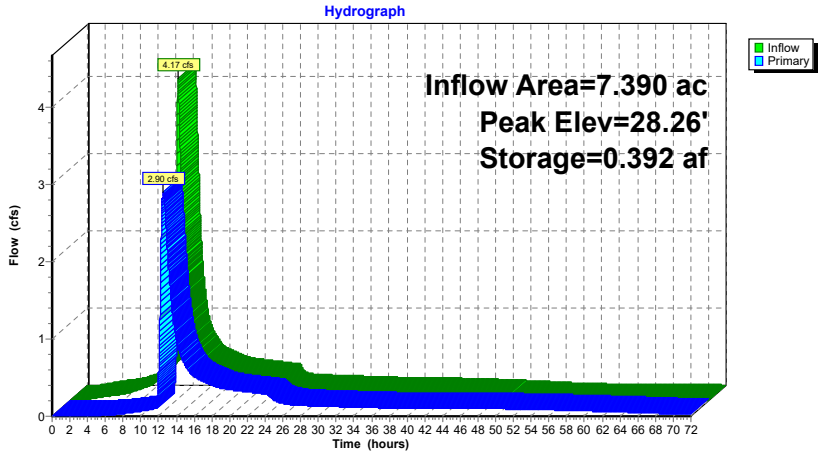
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.725 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.197	0.000	0.000
27.50	0.226	0.211	0.211
28.50	0.257	0.241	0.453
29.50	0.288	0.272	0.725

Device	Routing	Invert	Outlet Devices
#1	Primary	28.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.40'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.90 cfs @ 12.52 hrs HW=28.26' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 2.76 cfs @ 1.96 fps)
- **3=Orifice** (Orifice Controls 0.14 cfs @ 4.18 fps)

Pond 75P: BASIN D



Summary for Pond 76P: BASIN M

Inflow Area = 0.860 ac, 59.30% Impervious, Inflow Depth = 2.08" for 2-Year-Current event
Inflow = 1.20 cfs @ 12.18 hrs, Volume= 0.149 af
Outflow = 0.16 cfs @ 13.40 hrs, Volume= 0.148 af, Atten= 86%, Lag= 73.3 min
Primary = 0.16 cfs @ 13.40 hrs, Volume= 0.148 af
Routed to Link 46L : DA North Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 32.50' Surf.Area= 0.060 ac Storage= 0.060 af
Peak Elev= 33.61' @ 13.40 hrs Surf.Area= 0.066 ac Storage= 0.129 af (0.069 af above start)

Plug-Flow detention time= 563.7 min calculated for 0.088 af (59% of inflow)
Center-of-Mass det. time= 244.9 min (1,027.9 - 783.0)

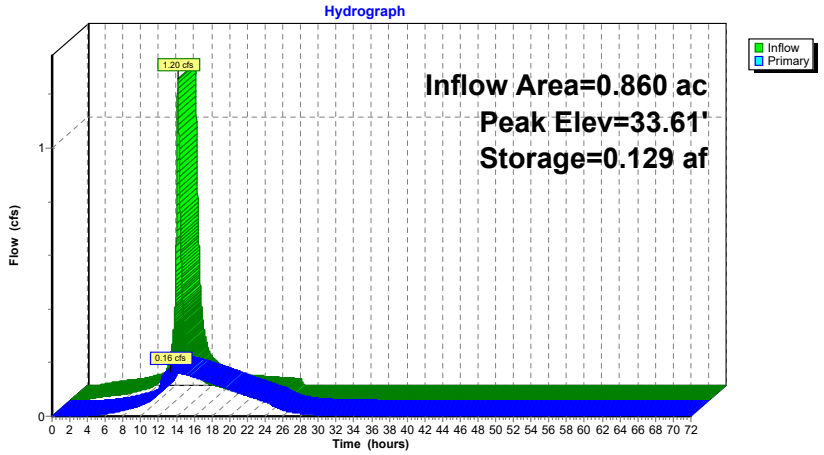
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	0.260 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.50	0.060	0.000	0.000
32.00	0.060	0.030	0.030
33.00	0.060	0.060	0.090
34.00	0.070	0.065	0.155
35.00	0.070	0.070	0.225
35.50	0.070	0.035	0.260

Device	Routing	Invert	Outlet Devices
#1	Primary	35.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	33.75'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.16 cfs @ 13.40 hrs HW=33.61' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.16 cfs @ 4.83 fps)

Pond 76P: BASIN M



Summary for Pond 83P: BASIN F

Inflow Area = 1.500 ac, 56.00% Impervious, Inflow Depth = 1.99" for 2-Year-Current event
Inflow = 2.06 cfs @ 12.17 hrs, Volume= 0.249 af
Outflow = 0.12 cfs @ 15.07 hrs, Volume= 0.241 af, Atten= 94%, Lag= 173.8 min
Primary = 0.12 cfs @ 15.07 hrs, Volume= 0.241 af
Routed to Pond 86p : BASIN G

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 33.00' Surf.Area= 0.218 ac Storage= 0.198 af
Peak Elev= 33.68' @ 15.07 hrs Surf.Area= 0.247 ac Storage= 0.356 af (0.158 af above start)

Plug-Flow detention time= 2,121.5 min calculated for 0.043 af (17% of inflow)
Center-of-Mass det. time= 736.6 min (1,520.8 - 784.2)

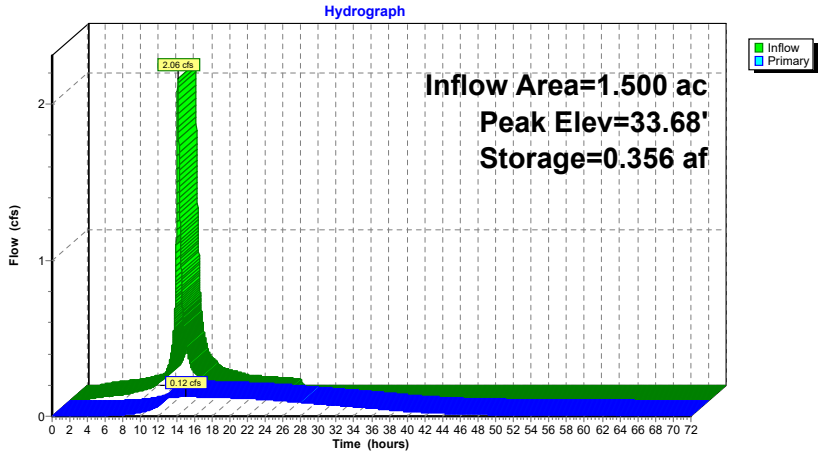
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.043 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.178	0.000	0.000
33.00	0.218	0.198	0.198
34.00	0.260	0.239	0.437
35.00	0.303	0.281	0.718
36.00	0.347	0.325	1.043

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.25'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.12 cfs @ 15.07 hrs HW=33.68' TW=32.81' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.12 cfs @ 3.65 fps)

Pond 83P: BASIN F



Summary for Pond 84P: BASIN L

Inflow Area = 0.970 ac, 50.52% Impervious, Inflow Depth = 1.85" for 2-Year-Current event
Inflow = 1.20 cfs @ 12.18 hrs, Volume= 0.149 af
Outflow = 0.14 cfs @ 13.60 hrs, Volume= 0.148 af, Atten= 88%, Lag= 85.4 min
Primary = 0.14 cfs @ 13.60 hrs, Volume= 0.148 af
Routed to Pond 90P : BASIN N

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 33.10' Surf.Area= 0.085 ac Storage= 0.047 af
Peak Elev= 33.91' @ 13.60 hrs Surf.Area= 0.100 ac Storage= 0.122 af (0.075 af above start)

Plug-Flow detention time= 622.2 min calculated for 0.101 af (68% of inflow)
Center-of-Mass det. time= 332.5 min (1,121.6 - 789.1)

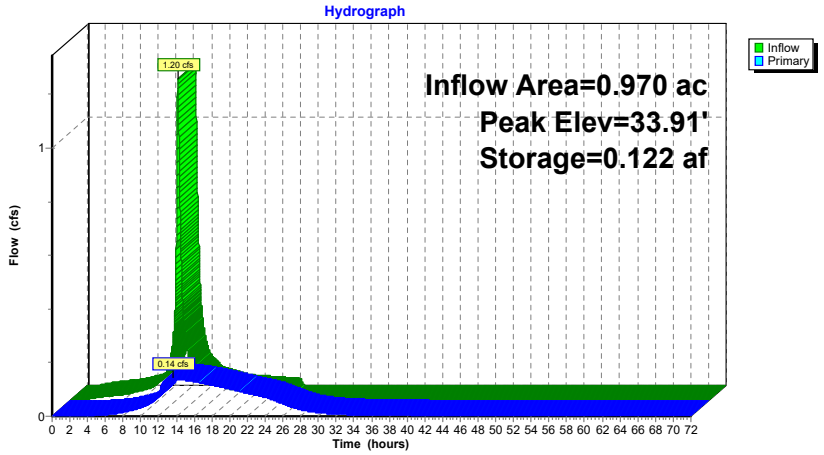
Volume	Invert	Avail.Storage	Storage Description
#1	32.50'	0.308 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.50	0.074	0.000	0.000
33.00	0.083	0.039	0.039
34.00	0.102	0.092	0.132
35.00	0.123	0.113	0.244
35.50	0.134	0.064	0.308

Device	Routing	Invert	Outlet Devices
#1	Primary	34.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	33.90'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.10'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.14 cfs @ 13.60 hrs HW=33.91' TW=30.31' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.01 cfs @ 0.30 fps)
- **3=Orifice** (Orifice Controls 0.14 cfs @ 4.04 fps)

Pond 84P: BASIN L



Summary for Pond 86P: BASIN G

Inflow Area = 2.760 ac, 47.46% Impervious, Inflow Depth > 1.73" for 2-Year-Current event
Inflow = 1.31 cfs @ 12.18 hrs, Volume= 0.399 af
Outflow = 0.36 cfs @ 13.11 hrs, Volume= 0.395 af, Atten= 72%, Lag= 55.6 min
Primary = 0.36 cfs @ 13.11 hrs, Volume= 0.395 af
Routed to Pond 60P : BASIN H

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 32.00' Surf.Area= 0.083 ac Storage= 0.067 af
Peak Elev= 32.86' @ 13.11 hrs Surf.Area= 0.112 ac Storage= 0.150 af (0.083 af above start)

Plug-Flow detention time= 677.6 min calculated for 0.328 af (82% of inflow)
Center-of-Mass det. time= 283.0 min (1,520.2 - 1,237.2)

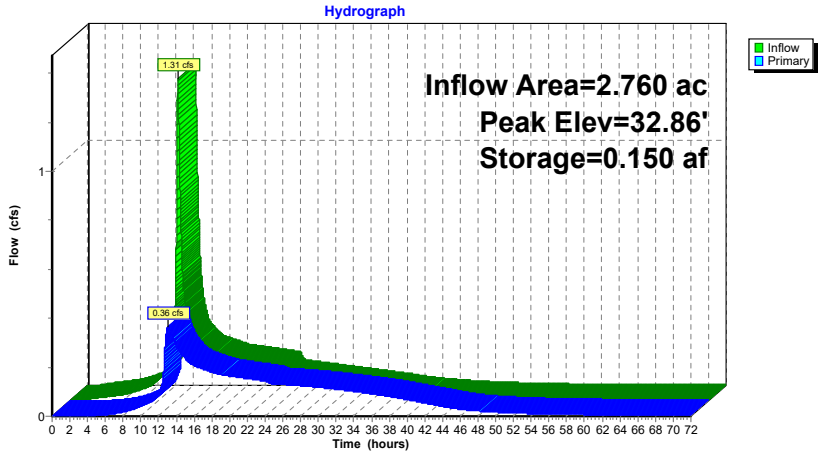
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	0.301 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.00	0.051	0.000	0.000
32.00	0.083	0.067	0.067
33.00	0.117	0.100	0.167
34.00	0.152	0.134	0.301

Device	Routing	Invert	Outlet Devices
#1	Primary	33.70'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	32.75'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.36 cfs @ 13.11 hrs HW=32.86' TW=29.67' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.22 cfs @ 1.06 fps)
- **3=Orifice** (Orifice Controls 0.14 cfs @ 4.17 fps)

Pond 86P: BASIN G



Summary for Pond 90P: BASIN N

Inflow Area = 4.000 ac, 43.75% Impervious, Inflow Depth > 1.68" for 2-Year-Current event
Inflow = 1.85 cfs @ 12.18 hrs, Volume= 0.560 af
Outflow = 0.94 cfs @ 12.60 hrs, Volume= 0.554 af, Atten= 49%, Lag= 25.2 min
Primary = 0.94 cfs @ 12.60 hrs, Volume= 0.554 af
Routed to Link 46L : DA North Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 29.70' Surf.Area= 0.157 ac Storage= 0.103 af
Peak Elev= 30.36' @ 12.60 hrs Surf.Area= 0.178 ac Storage= 0.213 af (0.110 af above start)

Plug-Flow detention time= 571.2 min calculated for 0.451 af (81% of inflow)
Center-of-Mass det. time= 269.4 min (1,328.1 - 1,058.7)

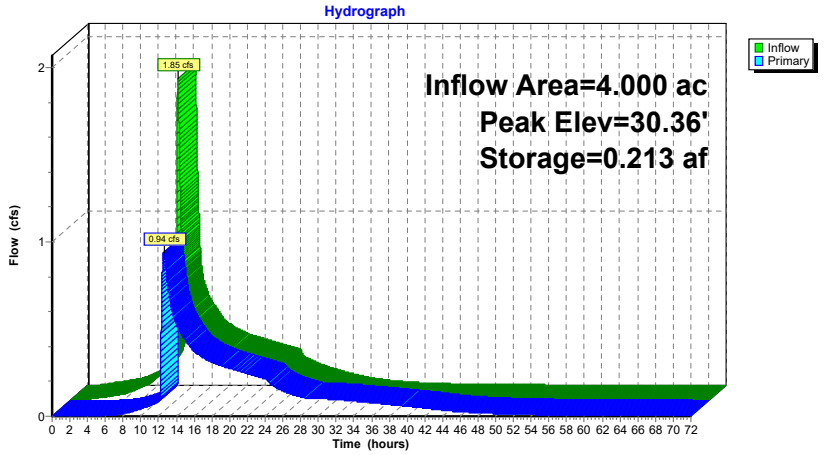
Volume	Invert	Avail.Storage	Storage Description
#1	29.00'	0.443 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
29.00	0.136	0.000	0.000
30.00	0.167	0.151	0.151
31.00	0.199	0.183	0.334
31.50	0.238	0.109	0.443

Device	Routing	Invert	Outlet Devices
#1	Primary	30.90'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.20'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	29.70'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.94 cfs @ 12.60 hrs HW=30.36' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.82 cfs @ 1.30 fps)
- **3=Orifice** (Orifice Controls 0.12 cfs @ 3.58 fps)

Pond 90P: BASIN N



Summary for Pond 93P: BASIN O

Inflow Area = 1.100 ac, 51.82% Impervious, Inflow Depth = 2.02" for 2-Year-Current event
Inflow = 1.51 cfs @ 12.18 hrs, Volume= 0.185 af
Outflow = 1.04 cfs @ 12.37 hrs, Volume= 0.185 af, Atten= 31%, Lag= 11.7 min
Primary = 1.04 cfs @ 12.37 hrs, Volume= 0.185 af
Routed to Link 46L : DA North Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 27.50' Surf.Area= 0.069 ac Storage= 0.060 af
Peak Elev= 28.21' @ 12.37 hrs Surf.Area= 0.084 ac Storage= 0.113 af (0.054 af above start)

Plug-Flow detention time= 409.1 min calculated for 0.125 af (68% of inflow)
Center-of-Mass det. time= 168.8 min (959.5 - 790.7)

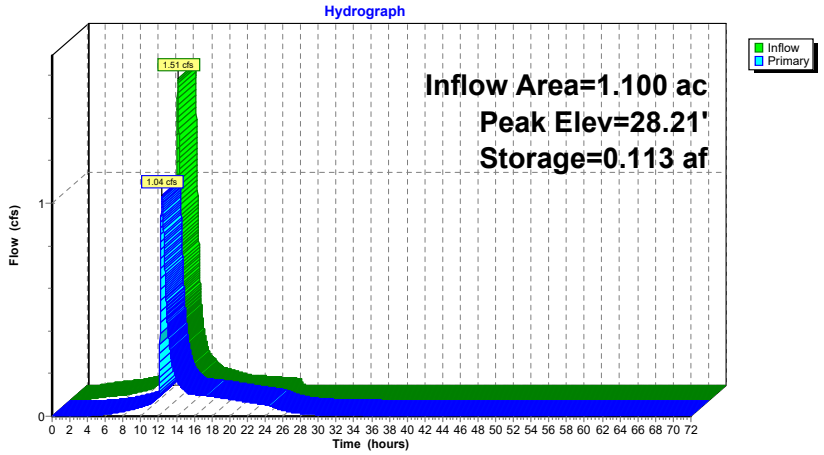
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.244 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.050	0.000	0.000
27.00	0.059	0.027	0.027
28.00	0.079	0.069	0.097
29.00	0.100	0.090	0.186
29.50	0.129	0.057	0.244

Device	Routing	Invert	Outlet Devices
#1	Primary	28.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.00'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.04 cfs @ 12.37 hrs HW=28.21' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.91 cfs @ 1.49 fps)
- **3=Orifice** (Orifice Controls 0.13 cfs @ 3.74 fps)

Pond 93P: BASIN O



Summary for Pond 102P: BASIN Q

Inflow Area = 1.860 ac, 59.68% Impervious, Inflow Depth = 2.09" for 2-Year-Current event
Inflow = 2.33 cfs @ 12.21 hrs, Volume= 0.324 af
Outflow = 1.83 cfs @ 12.38 hrs, Volume= 0.242 af, Atten= 22%, Lag= 10.3 min
Primary = 1.83 cfs @ 12.38 hrs, Volume= 0.242 af
Routed to Link 46L : DA North Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 27.00' Surf.Area= 0.110 ac Storage= 0.101 af
Peak Elev= 27.97' @ 12.38 hrs Surf.Area= 0.127 ac Storage= 0.216 af (0.115 af above start)

Plug-Flow detention time= 364.0 min calculated for 0.141 af (44% of inflow)
Center-of-Mass det. time= 102.4 min (889.3 - 786.9)

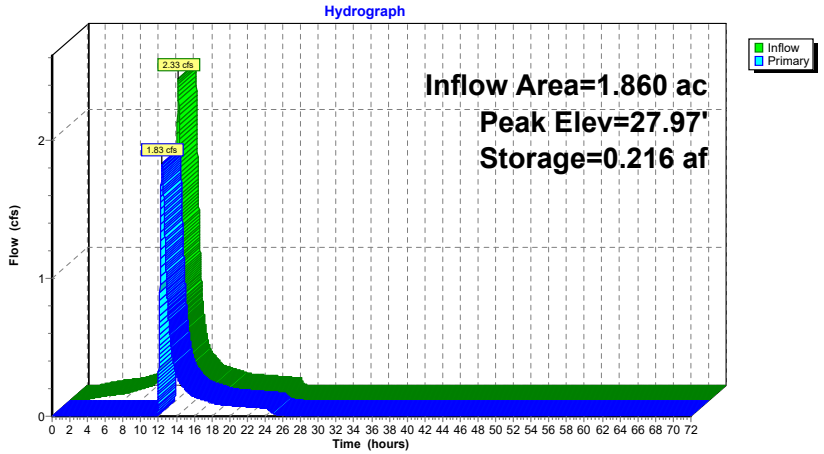
Volume	Invert	Avail.Storage	Storage Description
#1	26.00'	0.356 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.00	0.092	0.000	0.000
27.00	0.110	0.101	0.101
28.00	0.128	0.119	0.220
29.00	0.146	0.137	0.356

Device	Routing	Invert	Outlet Devices
#1	Primary	28.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.70'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.00'	**2.5" Vert. Orifice X 0.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.83 cfs @ 12.38 hrs HW=27.97' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 1.83 cfs @ 1.70 fps)
- **3=Orifice** (Controls 0.00 cfs)

Pond 102P: BASIN Q



Summary for Pond 105P: BASIN R

Inflow Area = 2.040 ac, 50.00% Impervious, Inflow Depth = 1.94" for 2-Year-Current event
Inflow = 2.67 cfs @ 12.18 hrs, Volume= 0.330 af
Outflow = 1.35 cfs @ 12.51 hrs, Volume= 0.326 af, Atten= 50%, Lag= 19.7 min
Primary = 1.35 cfs @ 12.51 hrs, Volume= 0.326 af
Routed to Link 46L : DA North Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 23.50' Surf.Area= 0.167 ac Storage= 0.147 af
Peak Elev= 24.19' @ 12.51 hrs Surf.Area= 0.194 ac Storage= 0.270 af (0.124 af above start)

Plug-Flow detention time= 706.8 min calculated for 0.179 af (54% of inflow)
Center-of-Mass det. time= 294.3 min (1,085.9 - 791.6)

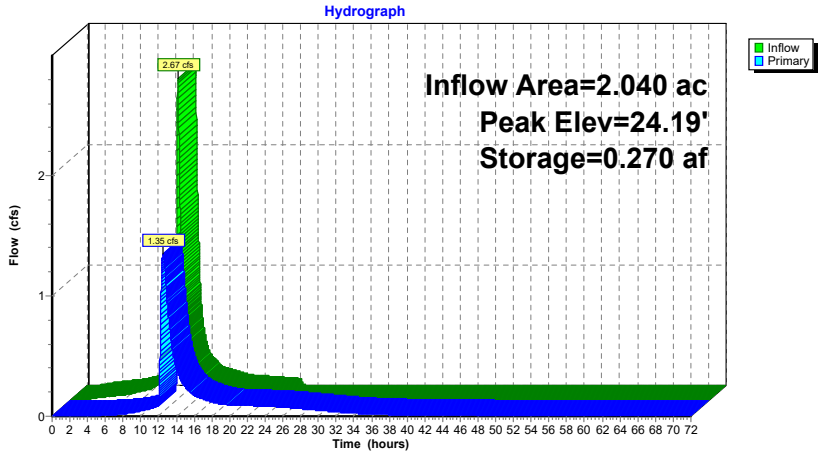
Volume	Invert	Avail.Storage	Storage Description
#1	22.50'	0.568 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
22.50	0.127	0.000	0.000
23.00	0.146	0.068	0.068
24.00	0.187	0.167	0.235
25.00	0.228	0.207	0.442
25.50	0.277	0.126	0.568

Device	Routing	Invert	Outlet Devices
#1	Primary	25.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	23.90'	**2.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	23.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.34 cfs @ 12.51 hrs HW=24.19' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 1.22 cfs @ 1.75 fps)
- **3=Orifice** (Orifice Controls 0.13 cfs @ 3.67 fps)

Pond 105P: BASIN R



Summary for Pond 108P: BASIN S

Inflow Area = 1.800 ac, 48.89% Impervious, Inflow Depth = 1.80" for 2-Year-Current event
Inflow = 1.90 cfs @ 12.22 hrs, Volume= 0.271 af
Outflow = 0.11 cfs @ 16.58 hrs, Volume= 0.088 af, Atten= 94%, Lag= 261.4 min
Primary = 0.11 cfs @ 16.58 hrs, Volume= 0.088 af
Routed to Link 46L : DA North Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 19.30' Surf.Area= 0.212 ac Storage= 0.101 af
Peak Elev= 20.20' @ 16.58 hrs Surf.Area= 0.246 ac Storage= 0.308 af (0.208 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 452.7 min (1,247.7 - 795.1)

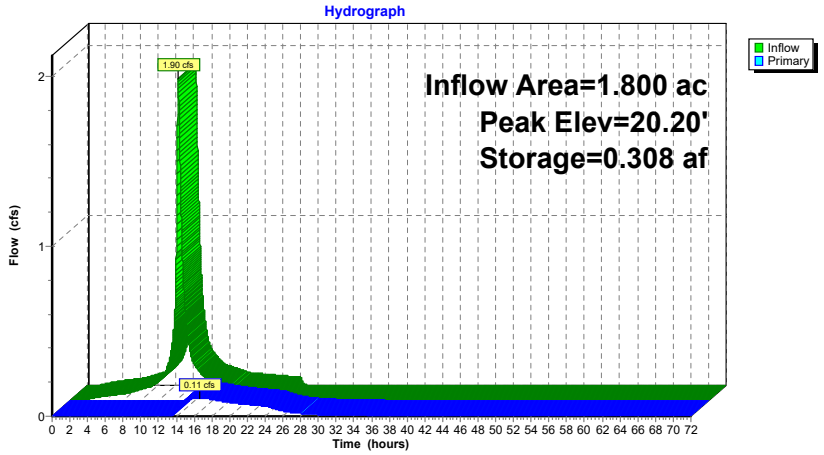
Volume	Invert	Avail.Storage	Storage Description
#1	18.80'	0.750 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
18.80	0.190	0.000	0.000
19.00	0.200	0.039	0.039
20.00	0.240	0.220	0.259
21.00	0.270	0.255	0.514
21.80	0.320	0.236	0.750

Device	Routing	Invert	Outlet Devices
#1	Primary	21.20'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.10'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	19.30'	**2.5" Vert. Orifice X 0.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.11 cfs @ 16.58 hrs HW=20.20' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.11 cfs @ 1.05 fps)
- **3=Orifice** (Controls 0.00 cfs)

Pond 108P: BASIN S



Summary for Pond 111P: BASIN T

Inflow Area = 1.800 ac, 32.78% Impervious, Inflow Depth > 1.36" for 2-Year-Current event
Inflow = 0.95 cfs @ 12.11 hrs, Volume= 0.203 af
Outflow = 0.10 cfs @ 19.36 hrs, Volume= 0.196 af, Atten= 90%, Lag= 434.7 min
Primary = 0.10 cfs @ 19.36 hrs, Volume= 0.196 af
Routed to Link 46L : DA North Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 19.10' Surf.Area= 0.194 ac Storage= 0.109 af
Peak Elev= 19.56' @ 19.36 hrs Surf.Area= 0.213 ac Storage= 0.203 af (0.094 af above start)

Plug-Flow detention time= 1,492.3 min calculated for 0.087 af (43% of inflow)
Center-of-Mass det. time= 577.9 min (1,628.7 - 1,050.8)

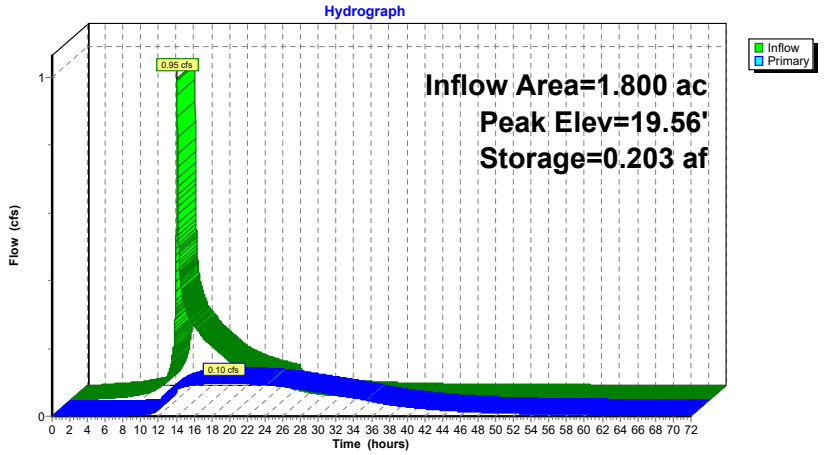
Volume	Invert	Avail.Storage	Storage Description
#1	18.50'	0.697 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
18.50	0.170	0.000	0.000
19.00	0.190	0.090	0.090
20.00	0.230	0.210	0.300
21.00	0.270	0.250	0.550
21.50	0.320	0.148	0.697

Device	Routing	Invert	Outlet Devices
#1	Primary	20.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.20'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	19.10'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.10 cfs @ 19.36 hrs HW=19.56' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.10 cfs @ 2.89 fps)

Pond 111P: BASIN T



Summary for Pond 114P: BASIN U

Inflow Area = 1.070 ac, 37.38% Impervious, Inflow Depth = 1.50" for 2-Year-Current event
Inflow = 1.45 cfs @ 12.12 hrs, Volume= 0.134 af
Outflow = 0.17 cfs @ 13.19 hrs, Volume= 0.130 af, Atten= 88%, Lag= 64.1 min
Primary = 0.17 cfs @ 13.19 hrs, Volume= 0.130 af
Routed to Pond 111P : BASIN T

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 20.10' Surf.Area= 0.204 ac Storage= 0.115 af
Peak Elev= 20.42' @ 13.19 hrs Surf.Area= 0.217 ac Storage= 0.183 af (0.068 af above start)

Plug-Flow detention time= 1,940.0 min calculated for 0.015 af (11% of inflow)
Center-of-Mass det. time= 392.2 min (1,186.4 - 794.1)

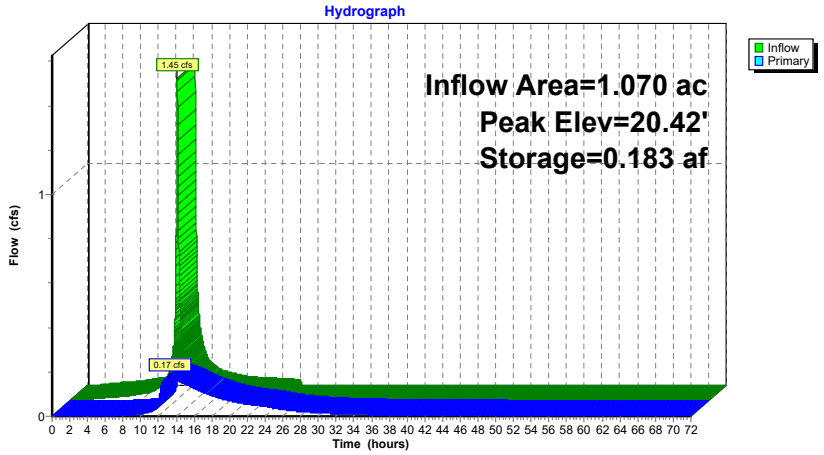
Volume	Invert	Avail.Storage	Storage Description
#1	19.50'	0.738 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
19.50	0.180	0.000	0.000
20.00	0.200	0.095	0.095
21.00	0.240	0.220	0.315
22.00	0.290	0.265	0.580
22.50	0.340	0.157	0.738

Device	Routing	Invert	Outlet Devices
#1	Primary	21.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.10'	**4.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.17 cfs @ 13.19 hrs HW=20.42' TW=19.39' (Dynamic Tailwater)
└─**1=Grate** (Controls 0.00 cfs)
└─**2=Orifice** (Orifice Controls 0.17 cfs @ 1.94 fps)

Pond 114P: BASIN U



Summary for Pond 117P: BASIN V

Inflow Area = 0.850 ac, 14.12% Impervious, Inflow Depth = 0.89" for 2-Year-Current event
Inflow = 0.45 cfs @ 12.20 hrs, Volume= 0.063 af
Outflow = 0.29 cfs @ 12.47 hrs, Volume= 0.063 af, Atten= 36%, Lag= 16.4 min
Primary = 0.29 cfs @ 12.47 hrs, Volume= 0.063 af
Routed to Link 46L : DA North Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 37.90' Surf.Area= 0.119 ac Storage= 0.097 af
Peak Elev= 37.98' @ 12.47 hrs Surf.Area= 0.121 ac Storage= 0.106 af (0.009 af above start)

Plug-Flow detention time= (not calculated: initial storage exceeds outflow)
Center-of-Mass det. time= 42.8 min (893.0 - 850.3)

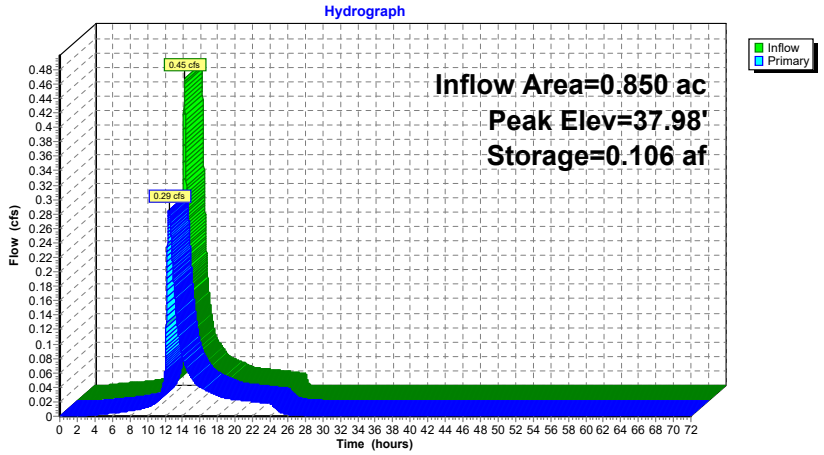
Volume	Invert	Avail.Storage	Storage Description
#1	37.00'	0.243 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
37.00	0.096	0.000	0.000
38.00	0.121	0.109	0.109
39.00	0.147	0.134	0.243

Device	Routing	Invert	Outlet Devices
#1	Primary	38.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	37.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.29 cfs @ 12.47 hrs HW=37.98' TW=0.00' (Dynamic Tailwater)
1=Grate (Controls 0.00 cfs)
2=Sharp-Crested Rectangular Weir (Weir Controls 0.29 cfs @ 0.92 fps)

Pond 117P: BASIN V

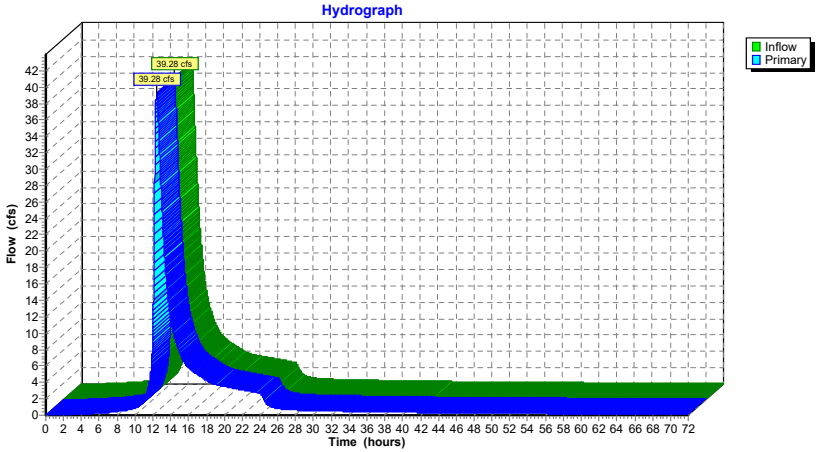


Summary for Link 46L: DA North Basins

Inflow = 39.28 cfs @ 12.42 hrs, Volume= 9.782 af
Primary = 39.28 cfs @ 12.43 hrs, Volume= 9.782 af, Atten= 0%, Lag= 0.6 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 46L: DA North Basins

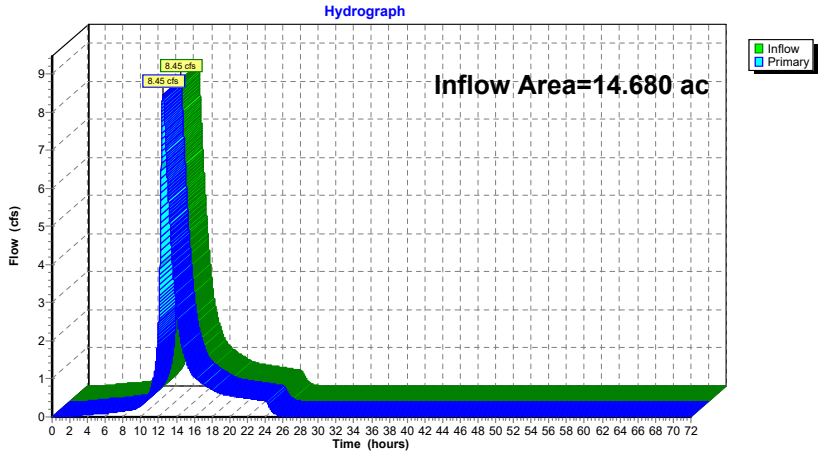


Summary for Link 51L: DA Undetained

Inflow Area = 14.680 ac, 15.60% Impervious, Inflow Depth = 1.50" for 2-Year-Current event
Inflow = 8.45 cfs @ 12.48 hrs, Volume= 1.829 af
Primary = 8.45 cfs @ 12.49 hrs, Volume= 1.829 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North Basins

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 51L: DA Undetained

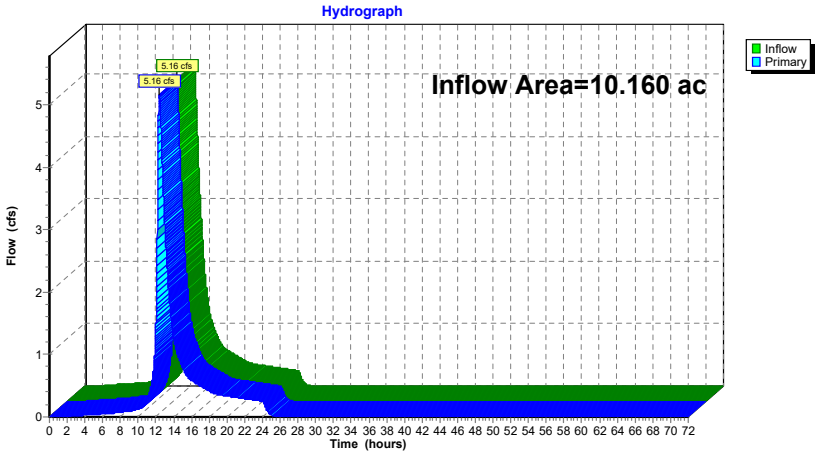


Summary for Link 52L: X

Inflow Area = 10.160 ac, 29.97% Impervious, Inflow Depth = 1.15" for 2-Year-Current event
Inflow = 5.16 cfs @ 12.37 hrs, Volume= 0.977 af
Primary = 5.16 cfs @ 12.38 hrs, Volume= 0.977 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North Basins

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 52L: X

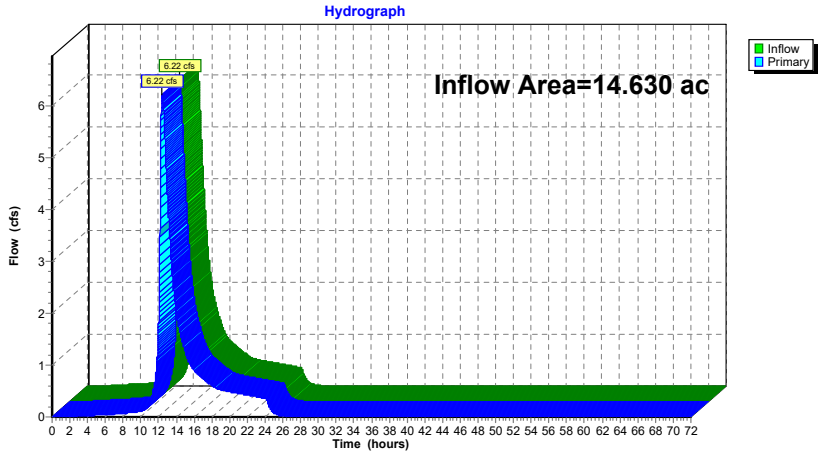


Summary for Link 53L: W

Inflow Area = 14.630 ac, 28.71% Impervious, Inflow Depth = 1.11" for 2-Year-Current event
Inflow = 6.22 cfs @ 12.39 hrs, Volume= 1.348 af
Primary = 6.22 cfs @ 12.40 hrs, Volume= 1.348 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North Basins

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 53L: W

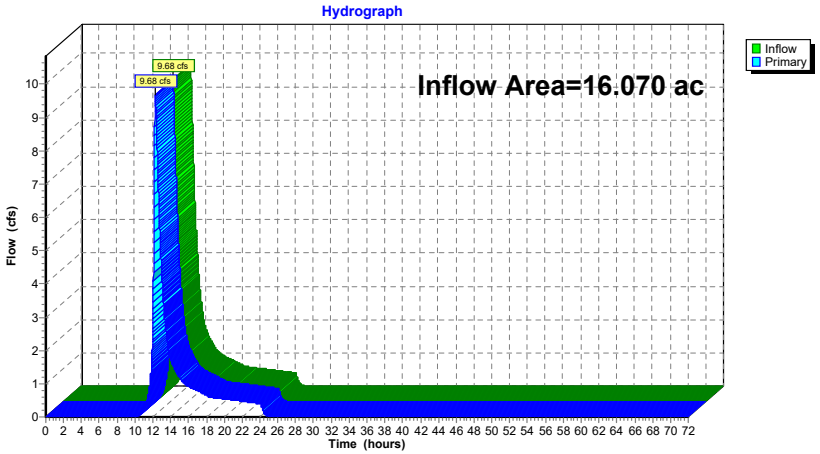


Summary for Link 58L: Y

Inflow Area = 16.070 ac, 30.59% Impervious, Inflow Depth = 1.09" for 2-Year-Current event
Inflow = 9.68 cfs @ 12.28 hrs, Volume= 1.456 af
Primary = 9.68 cfs @ 12.29 hrs, Volume= 1.456 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North Basins

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 58L: Y



Time span=0.00-72.00 hrs, dt=0.01 hrs, 7201 points
Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q
Reach routing by Sim-Route method - Pond routing by Sim-Route method

Subcatchment54S: Y - OFFSITE Runoff Area=12.620 ac 38.00% Impervious Runoff Depth=2.68"
Flow Length=760' Tc=15.1 min CN=75 Runoff=20.54 cfs 2.817 af

Subcatchment56S: W- OFFSITE Runoff Area=8.210 ac 38.00% Impervious Runoff Depth=2.68"
Flow Length=373' Tc=18.9 min CN=75 Runoff=11.87 cfs 1.832 af

Subcatchment57S: Pipe Y Runoff Area=3.450 ac 3.48% Impervious Runoff Depth=1.66"
Flow Length=1,229' Slope=0.0200 '/' Tc=16.9 min CN=WQ Runoff=2.95 cfs 0.478 af

Subcatchment59S: X - OFFSITE Runoff Area=5.170 ac 38.00% Impervious Runoff Depth=2.68"
Flow Length=880' Tc=18.5 min CN=75 Runoff=7.55 cfs 1.154 af

Subcatchment60S: BASIN A - DA Runoff Area=2.470 ac 53.85% Impervious Runoff Depth=3.43"
Flow Length=102' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=5.79 cfs 0.705 af

Subcatchment61S: BASIN I - DA Runoff Area=0.530 ac 33.96% Impervious Runoff Depth=2.73"
Flow Length=134' Slope=0.0200 '/' Tc=9.6 min CN=WQ Runoff=0.99 cfs 0.121 af

Subcatchment62S: Undetained Runoff Area=14.680 ac 15.60% Impervious Runoff Depth=2.97"
Flow Length=3,276' Tc=30.2 min CN=WQ Runoff=17.38 cfs 3.630 af

Subcatchment63S: BASIN N - DA Runoff Area=1.390 ac 46.04% Impervious Runoff Depth=3.24"
Flow Length=108' Tc=9.3 min CN=WQ Runoff=3.12 cfs 0.376 af

Subcatchment64S: BASIN E - DA Runoff Area=2.240 ac 50.89% Impervious Runoff Depth=3.32"
Flow Length=609' Tc=8.1 min CN=WQ Runoff=5.44 cfs 0.620 af

Subcatchment65S: BASIN V - DA Runoff Area=0.850 ac 14.12% Impervious Runoff Depth=2.03"
Flow Length=100' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=1.20 cfs 0.144 af

Subcatchment67S: Pipe W Runoff Area=6.420 ac 16.82% Impervious Runoff Depth=2.13"
Flow Length=5,045' Tc=42.5 min CN=WQ Runoff=4.13 cfs 1.139 af

Subcatchment68S: BASIN K - DA Runoff Area=1.640 ac 37.80% Impervious Runoff Depth=2.86"
Flow Length=136' Slope=0.0200 '/' Tc=9.7 min CN=WQ Runoff=3.18 cfs 0.391 af

Subcatchment69S: BASIN O - DA Runoff Area=1.100 ac 51.82% Impervious Runoff Depth=3.57"
Flow Length=113' Tc=9.4 min CN=WQ Runoff=2.73 cfs 0.328 af

Subcatchment70S: Pipe X Runoff Area=4.990 ac 21.64% Impervious Runoff Depth=2.30"
Flow Length=2,554' Tc=25.8 min CN=WQ Runoff=4.66 cfs 0.956 af

Subcatchment71S: BASIN B - DA Runoff Area=1.260 ac 38.10% Impervious Runoff Depth=2.87"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=2.49 cfs 0.302 af

Subcatchment73S: BASIN C - DA Runoff Area=0.990 ac 42.42% Impervious Runoff Depth=3.03"
Flow Length=103' Slope=0.0200 '/' Tc=9.4 min CN=WQ Runoff=2.06 cfs 0.250 af

Subcatchment75S: BASIN M - DA Runoff Area=0.860 ac 59.30% Impervious Runoff Depth=3.62"
Flow Length=225' Slope=0.0200 '/' Tc=9.3 min CN=WQ Runoff=2.13 cfs 0.259 af

Subcatchment76S: BASIN F - DA Runoff Area=1.500 ac 56.00% Impervious Runoff Depth=3.50"
Flow Length=447' Tc=8.7 min CN=WQ Runoff=3.72 cfs 0.438 af

Subcatchment77S: BASIN D - DA Runoff Area=2.670 ac 51.31% Impervious Runoff Depth=3.34"
Flow Length=795' Tc=9.0 min CN=WQ Runoff=6.24 cfs 0.743 af

Subcatchment83S: BASIN L - DA Runoff Area=0.970 ac 50.52% Impervious Runoff Depth=3.31"
Flow Length=96' Tc=9.2 min CN=WQ Runoff=2.22 cfs 0.268 af

Subcatchment85S: BASIN G - DA Runoff Area=1.260 ac 37.30% Impervious Runoff Depth=2.85"
Flow Length=102' Tc=9.3 min CN=WQ Runoff=2.47 cfs 0.299 af

Subcatchment88S: BASIN H - DA Runoff Area=1.950 ac 43.08% Impervious Runoff Depth=3.05"
Flow Length=111' Slope=0.0200 '/' Tc=9.5 min CN=WQ Runoff=4.06 cfs 0.495 af

Subcatchment98S: BASIN P - DA Runoff Area=2.760 ac 47.10% Impervious Runoff Depth=3.19"
Flow Length=214' Slope=0.0200 '/' Tc=10.2 min CN=WQ Runoff=5.81 cfs 0.734 af

Subcatchment101S: BASIN Q - DA Runoff Area=1.860 ac 59.68% Impervious Runoff Depth=3.63"
Flow Length=612' Tc=12.0 min CN=WQ Runoff=4.13 cfs 0.563 af

Subcatchment104S: BASIN R - DA Runoff Area=2.040 ac 50.00% Impervious Runoff Depth=3.46"
Flow Length=98' Tc=9.4 min CN=WQ Runoff=4.88 cfs 0.588 af

Subcatchment107S: BASIN S - DA Runoff Area=1.800 ac 48.89% Impervious Runoff Depth=3.25"
Flow Length=466' Tc=12.2 min CN=WQ Runoff=3.54 cfs 0.488 af

Subcatchment110S: BASIN T - DA Runoff Area=0.730 ac 26.03% Impervious Runoff Depth=2.45"
Flow Length=254' Slope=0.0100 '/' Tc=2.8 min CN=WQ Runoff=1.91 cfs 0.149 af

Subcatchment113S: BASIN U - DA Runoff Area=1.070 ac 37.38% Impervious Runoff Depth=2.85"
Flow Length=28' Slope=0.0350 '/' Tc=4.0 min CN=WQ Runoff=2.92 cfs 0.254 af

Pond 52P: BASIN A Peak Elev=34.49' Storage=0.655 af Inflow=5.79 cfs 0.705 af
Outflow=0.21 cfs 0.681 af

Pond 59P: BASIN C Peak Elev=30.15' Storage=0.083 af Inflow=3.50 cfs 1.222 af
Outflow=3.20 cfs 1.220 af

Pond 60P: BASIN H Peak Elev=30.48' Storage=0.492 af Inflow=4.70 cfs 1.217 af
Outflow=1.18 cfs 1.140 af

Pond 63P: BASIN P Peak Elev=28.68' Storage=0.512 af Inflow=6.64 cfs 2.014 af
Outflow=3.80 cfs 1.896 af

Pond 64P: BASIN I Peak Elev=30.65' Storage=0.066 af Inflow=0.99 cfs 0.121 af
Outflow=0.29 cfs 0.120 af

Pond 65P: BASIN E Peak Elev=28.62' Storage=0.265 af Inflow=7.50 cfs 2.516 af
Primary=6.55 cfs 2.432 af Secondary=0.82 cfs 0.021 af Outflow=6.55 cfs 2.453 af

Pond 70P: BASIN K Peak Elev=32.11' Storage=0.231 af Inflow=3.18 cfs 0.391 af
Outflow=0.97 cfs 0.389 af

Pond 74P: BASIN B Peak Elev=31.92' Storage=0.153 af Inflow=2.63 cfs 0.983 af
Outflow=1.86 cfs 0.972 af

Pond 75P: BASIN D Peak Elev=28.54' Storage=0.463 af Inflow=8.51 cfs 1.963 af
Outflow=6.63 cfs 1.882 af

Pond 76P: BASIN M Peak Elev=34.08' Storage=0.160 af Inflow=2.13 cfs 0.259 af
Outflow=0.77 cfs 0.259 af

Pond 83P: BASIN F Peak Elev=34.19' Storage=0.487 af Inflow=3.72 cfs 0.438 af
Outflow=0.17 cfs 0.427 af

Pond 84P: BASIN L Peak Elev=34.16' Storage=0.148 af Inflow=2.22 cfs 0.268 af
Outflow=0.99 cfs 0.267 af

Pond 86P: BASIN G Peak Elev=33.10' Storage=0.179 af Inflow=2.59 cfs 0.726 af
Outflow=1.46 cfs 0.721 af

Pond 90P: BASIN N Peak Elev=30.58' Storage=0.254 af Inflow=3.51 cfs 1.031 af
Outflow=3.19 cfs 1.025 af

Pond 93P: BASIN O Peak Elev=28.36' Storage=0.127 af Inflow=2.73 cfs 0.328 af
Outflow=2.23 cfs 0.327 af

Pond 102P: BASIN Q Peak Elev=28.12' Storage=0.235 af Inflow=4.13 cfs 0.563 af
Outflow=3.46 cfs 0.482 af

Pond 105P: BASIN R Peak Elev=24.41' Storage=0.316 af Inflow=4.88 cfs 0.588 af
Outflow=3.04 cfs 0.584 af

Pond 108P: BASIN S Peak Elev=20.49' Storage=0.381 af Inflow=3.54 cfs 0.488 af
Outflow=0.74 cfs 0.305 af

Pond 111P: BASIN T Peak Elev=20.10' Storage=0.324 af Inflow=2.10 cfs 0.399 af
Outflow=0.16 cfs 0.390 af

Pond 114P: BASIN U Peak Elev=20.70' Storage=0.245 af Inflow=2.92 cfs 0.254 af
Outflow=0.28 cfs 0.250 af

Pond 117P: BASIN V Peak Elev=38.06' Storage=0.116 af Inflow=1.20 cfs 0.144 af
Outflow=0.86 cfs 0.144 af

Link 46L: DA North Basins Inflow=90.60 cfs 19.834 af
Primary=90.60 cfs 19.834 af

Link 51L: DA Undetained Inflow=17.38 cfs 3.630 af
Primary=17.38 cfs 3.630 af

Link 52L: X Inflow=11.98 cfs 2.110 af
Primary=11.98 cfs 2.110 af

Link 53L: W Inflow=14.56 cfs 2.972 af
Primary=14.56 cfs 2.972 af

Link 58L: Y Inflow=23.39 cfs 3.294 af
Primary=23.39 cfs 3.294 af

Total Runoff Area = 87.480 ac Runoff Volume = 20.518 af Average Runoff Depth = 2.81"
66.43% Pervious = 58.110 ac 33.57% Impervious = 29.370 ac

Summary for Subcatchment 54S: Y - OFFSITE UNDISTURBED

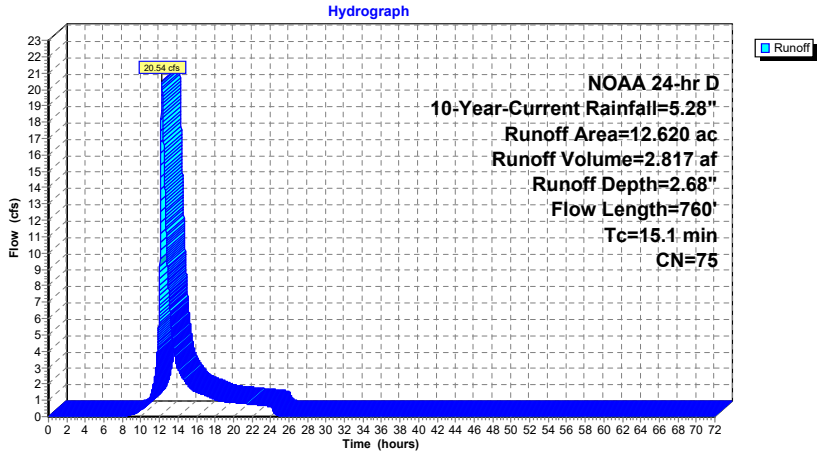
Runoff = 20.54 cfs @ 12.25 hrs, Volume= 2.817 af, Depth= 2.68"
Routed to Link 58L : Y

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

Area (ac)	CN	Description
12.620	75	1/4 acre lots, 38% imp, HSG B
7.824		62.00% Pervious Area
4.796		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.1	100	0.0350	0.15		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.5	280	0.0370	3.10		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.5	380	0.0240	2.49		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
15.1	760	Total			

Subcatchment 54S: Y - OFFSITE UNDISTURBED



Summary for Subcatchment 56S: W- OFFSITE UNDISTURBED

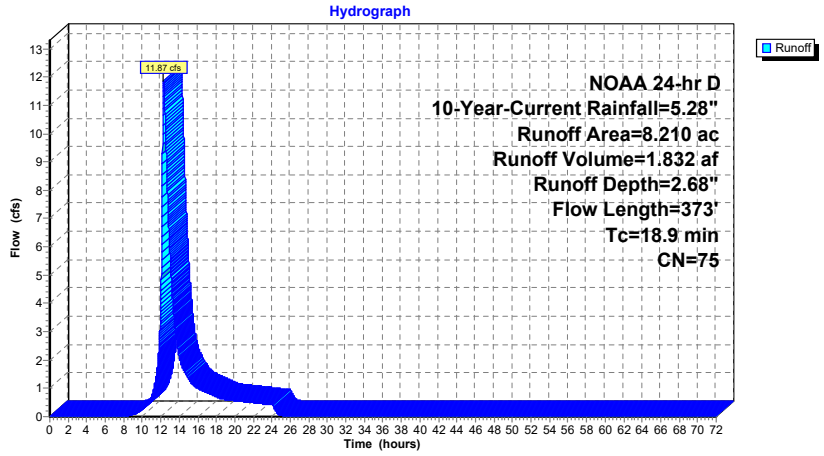
Runoff = 11.87 cfs @ 12.31 hrs, Volume= 1.832 af, Depth= 2.68"
Routed to Link 53L : W

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

Area (ac)	CN	Description
8.210	75	1/4 acre lots, 38% imp, HSG B
5.090		62.00% Pervious Area
3.120		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.0	100	0.0120	0.10		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.38"
0.9	179	0.0410	3.26		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
1.0	94	0.0100	1.61		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.9	373	Total			

Subcatchment 56S: W- OFFSITE UNDISTURBED



Summary for Subcatchment 57S: Pipe Y

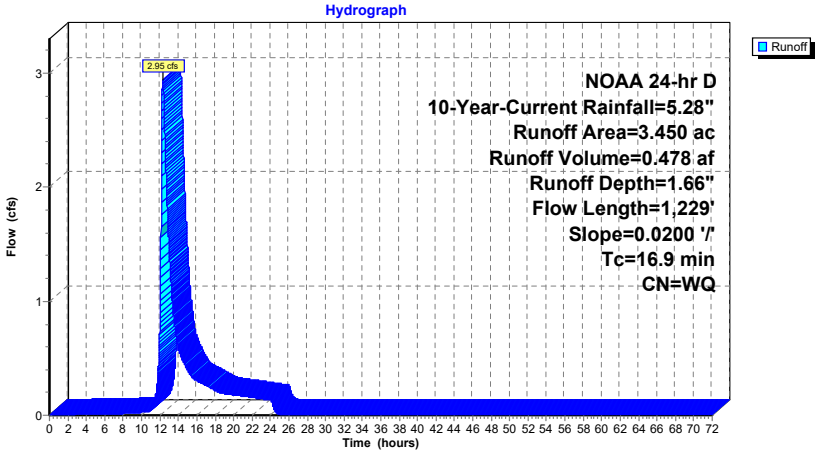
Runoff = 2.95 cfs @ 12.29 hrs, Volume= 0.478 af, Depth= 1.66"
Routed to Link 58L : Y

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	3.330	61	Open Space
*	0.000	98	Road/Sidewalk
*	0.120	98	Roof
*	0.000	98	Driveway
	3.450		Weighted Average
	3.330		96.52% Pervious Area
	0.120		3.48% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.2	170	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
6.2	936		2.50		**Direct Entry,**
0.4	64		2.50		**Direct Entry,**
16.9	1,229	Total			

Subcatchment 57S: Pipe Y



Summary for Subcatchment 59S: X - OFFSITE UNDISTURBED

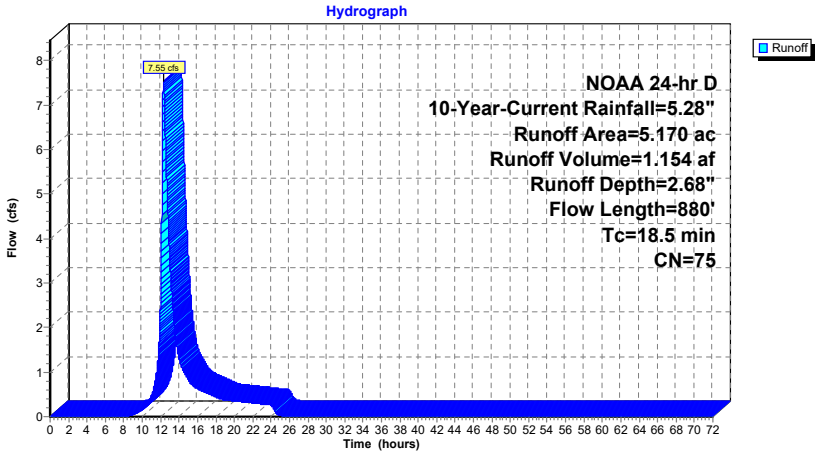
Runoff = 7.55 cfs @ 12.30 hrs, Volume= 1.154 af, Depth= 2.68"
Routed to Link 52L : X

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

Area (ac)	CN	Description
5.170	75	1/4 acre lots, 38% imp, HSG B
3.205		62.00% Pervious Area
1.965		38.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
13.9	100	0.0200	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.4	408	0.0320	2.88		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
2.2	372	0.0300	2.79		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
18.5	880	Total			

Subcatchment 59S: X - OFFSITE UNDISTURBED



Summary for Subcatchment 60S: BASIN A - DA

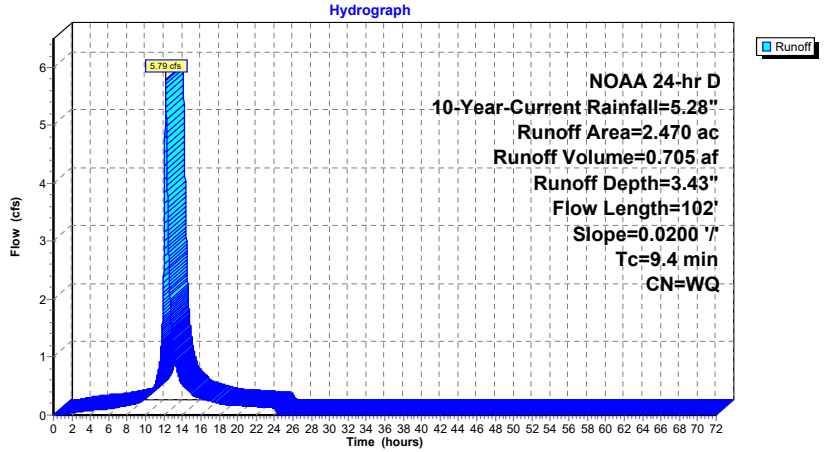
Runoff = 5.79 cfs @ 12.18 hrs, Volume= 0.705 af, Depth= 3.43"
Routed to Pond 52P : BASIN A

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	1.140	61	Open Space
*	0.600	98	Road
*	0.130	98	Sidewalk
*	0.300	98	Roof
*	0.300	98	Driveway & Apron
	2.470		Weighted Average
	1.140		46.15% Pervious Area
	1.330		53.85% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	43	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	102	Total			

Subcatchment 60S: BASIN A - DA



Summary for Subcatchment 61S: BASIN I - DA

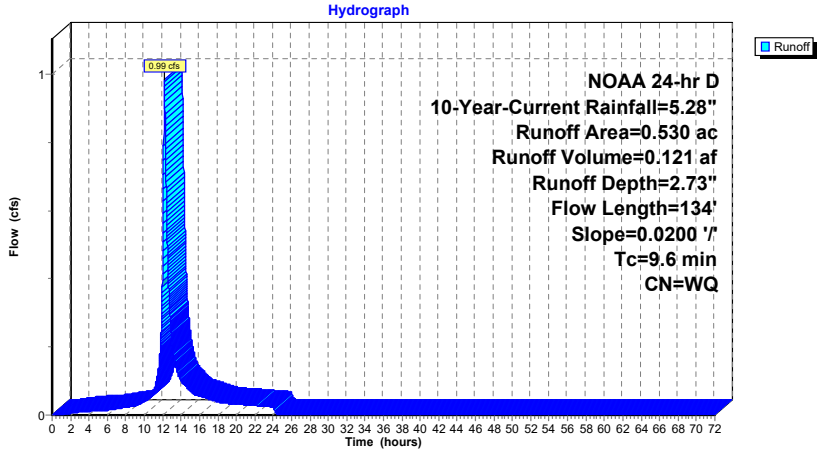
Runoff = 0.99 cfs @ 12.18 hrs, Volume= 0.121 af, Depth= 2.73"
Routed to Pond 64P : BASIN I

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.180	98	Roof
*	0.000	98	Driveway & Apron
	0.530		Weighted Average
	0.350		66.04% Pervious Area
	0.180		33.96% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.5	75	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.6	134	Total			

Subcatchment 61S: BASIN I - DA



Summary for Subcatchment 62S: Undetained

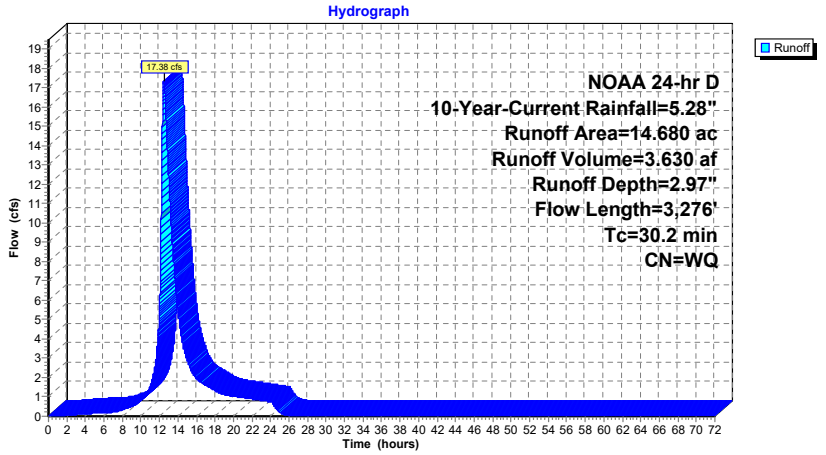
Runoff = 17.38 cfs @ 12.48 hrs, Volume= 3.630 af, Depth= 2.97"
Routed to Link 51L : DA Undetained

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
	3.170	61	>75% Grass cover, Good, HSG B
	0.870	55	Woods, Good, HSG B
	8.150	80	>75% Grass cover, Good, HSG D
	0.200	77	Woods, Good, HSG D
*	0.730	98	Water Surface, HSG D
*	0.740	98	Roofs, HSG B
*	0.570	98	Roofs, HSG D
	0.130	98	Paved parking, HSG B
	0.120	98	Unconnected pavement, HSG B
	14.680		Weighted Average
	12.390		84.40% Pervious Area
	2.290		15.60% Impervious Area
	0.120		5.24% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	88	0.0450	0.16		**Sheet Flow, Sheet Flow - Grass**
					Grass: Dense n= 0.240 P2= 3.38"
					Using McCuen-Spiess flow length
1.3	216	0.0300	2.79		**Shallow Concentrated Flow, SCF - Unpaved**
					Unpaved Kv= 16.1 fps
19.8	2,972		2.50		**Direct Entry,**
30.2	3,276	Total			

Subcatchment 62S: Undetained



Summary for Subcatchment 63S: BASIN N - DA

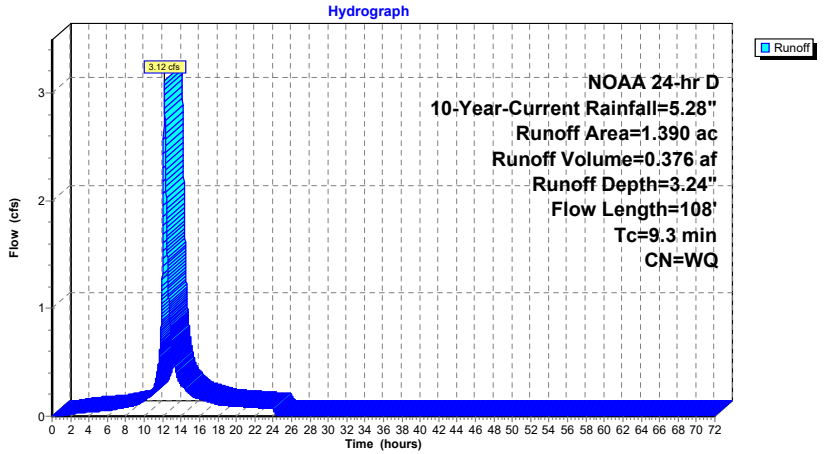
Runoff = 3.12 cfs @ 12.18 hrs, Volume= 0.376 af, Depth= 3.24"
Routed to Pond 90P : BASIN N

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.080	80	Open Space, HSG D
*	0.160	98	Road
*	0.040	98	Sidewalk
*	0.300	98	Roof
*	0.140	98	Driveway & Apron
	1.390		Weighted Average
	0.750		53.96% Pervious Area
	0.640		46.04% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass**
					Grass: Dense n= 0.240 P2= 3.38"
					Using McCuen-Spiess flow length
0.2	49	0.0600	3.94		**Shallow Concentrated Flow, SCF - Unpaved**
					Unpaved Kv= 16.1 fps
9.3	108	Total			

Subcatchment 63S: BASIN N - DA



Summary for Subcatchment 64S: BASIN E - DA

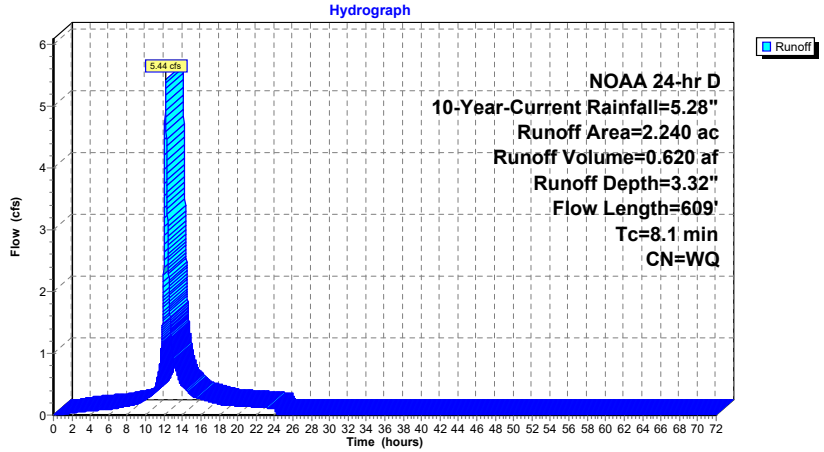
Runoff = 5.44 cfs @ 12.17 hrs, Volume= 0.620 af, Depth= 3.32"
Routed to Pond 65P : BASIN E

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	1.100	61	Open Space
*	0.450	98	Road
*	0.110	98	Sidewalk
*	0.240	98	Roof
*	0.340	98	Driveway & Apron
	2.240		Weighted Average
	1.100		49.11% Pervious Area
	1.140		50.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0500	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.5	300	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.9	279		2.50		**Direct Entry, Pipe**
8.1	609	Total			

Subcatchment 64S: BASIN E - DA



Summary for Subcatchment 65S: BASIN V - DA

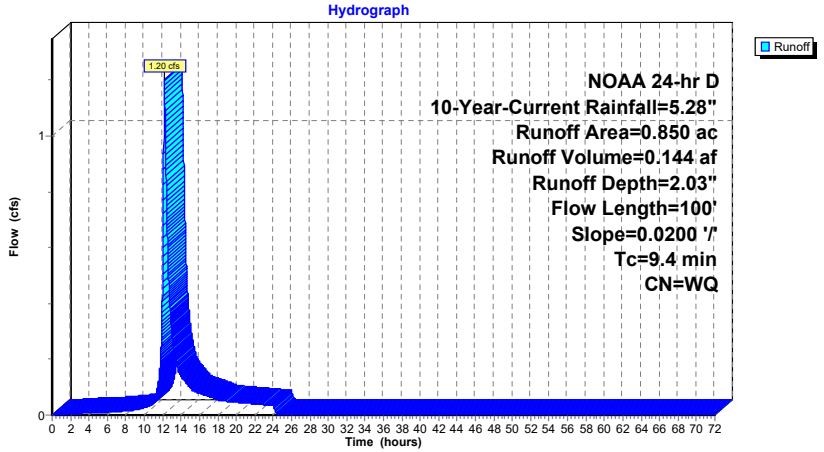
Runoff = 1.20 cfs @ 12.18 hrs, Volume= 0.144 af, Depth= 2.03"
Routed to Pond 117P : BASIN V

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.730	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.120	98	Roof
*	0.000	98	Driveway & Apron
	0.850		Weighted Average
	0.730		85.88% Pervious Area
	0.120		14.12% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	41	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	100	Total			

Subcatchment 65S: BASIN V - DA



Summary for Subcatchment 67S: Pipe W

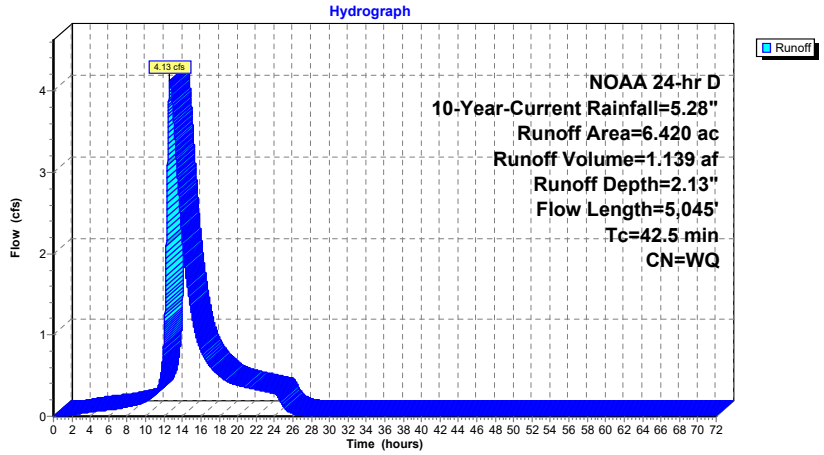
Runoff = 4.13 cfs @ 12.66 hrs, Volume= 1.139 af, Depth= 2.13"
Routed to Link 53L : W

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

Area (ac)	CN	Description
5.340	61	>75% Grass cover, Good, HSG B
1.080	98	Roofs, HSG B
6.420		Weighted Average
5.340		83.18% Pervious Area
1.080		16.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	66	0.0250	0.12		**Sheet Flow,** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.1	144	0.0200	2.28		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
12.2	1,824		2.50		**Direct Entry,**
20.1	3,011		2.50		**Direct Entry,**
42.5	5,045	Total			

Subcatchment 67S: Pipe W



Summary for Subcatchment 68S: BASIN K - DA

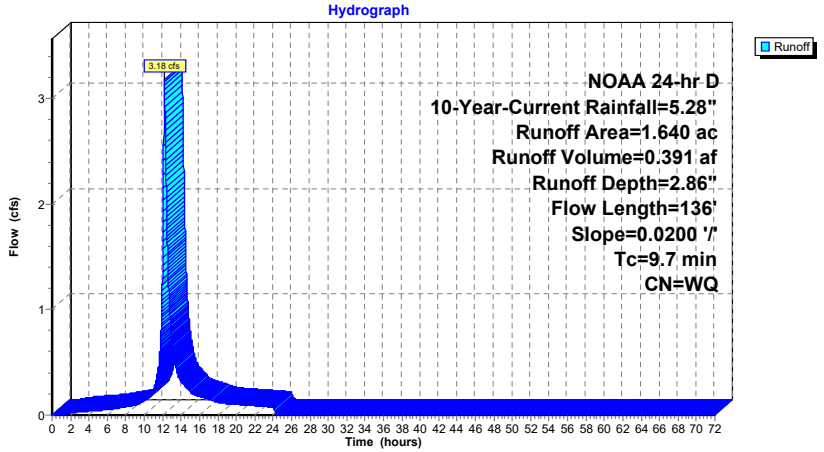
Runoff = 3.18 cfs @ 12.18 hrs, Volume= 0.391 af, Depth= 2.86"
Routed to Pond 70P : BASIN K

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	1.020	61	Open Space
*	0.000	98	Road
*	0.020	98	Sidewalk
*	0.600	98	Roof
*	0.000	98	Driveway & Apron
	1.640		Weighted Average
	1.020		62.20% Pervious Area
	0.620		37.80% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.6	77	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.7	136	Total			

Subcatchment 68S: BASIN K - DA



Summary for Subcatchment 69S: BASIN O - DA

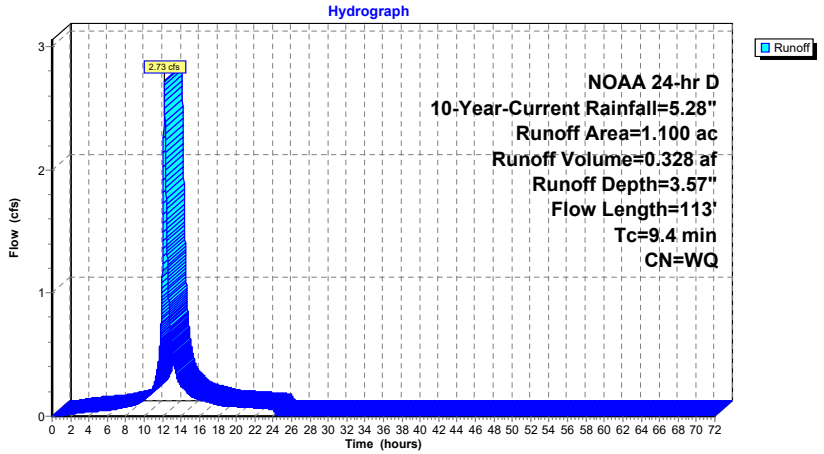
Runoff = 2.73 cfs @ 12.18 hrs, Volume= 0.328 af, Depth= 3.57"
Routed to Pond 93P : BASIN O

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.380	61	Open Space
*	0.150	80	Open Space, HSG D
*	0.150	98	Road
*	0.040	98	Sidewalk
*	0.240	98	Roof
*	0.140	98	Driveway & Apron
	1.100		Weighted Average
	0.530		48.18% Pervious Area
	0.570		51.82% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass**
					Grass: Dense n= 0.240 P2= 3.38"
					Using McCuen-Spiess flow length
0.3	54	0.0300	2.79		**Shallow Concentrated Flow, SCF - Unpaved**
					Unpaved Kv= 16.1 fps
9.4	113	Total			

Subcatchment 69S: BASIN O - DA



Summary for Subcatchment 70S: Pipe X

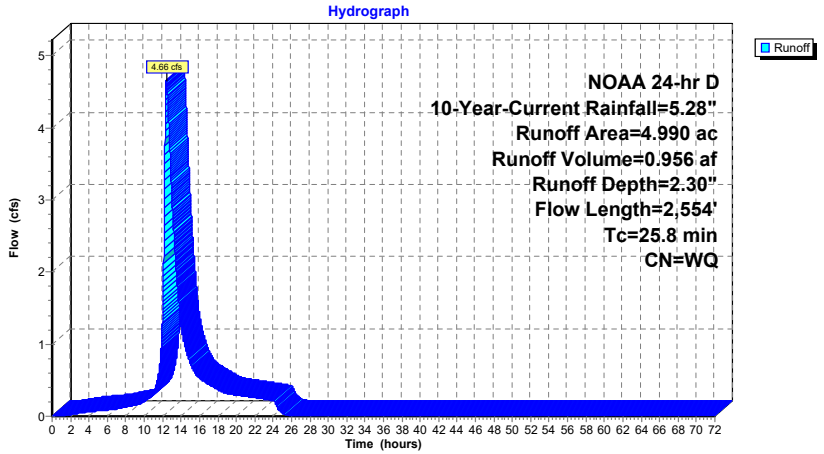
Runoff = 4.66 cfs @ 12.39 hrs, Volume= 0.956 af, Depth= 2.30"
Routed to Link 52L : X

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	3.910	61	Open Space
*	0.000	98	Road/Sidewalk
*	1.080	98	Roof
*	0.000	98	Driveway
	4.990		Weighted Average
	3.910		78.36% Pervious Area
	1.080		21.64% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
1.2	168	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
7.4	1,103		2.50		**Direct Entry,**
0.8	123	0.0250	2.55		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
7.3	1,101		2.50		**Direct Entry,**
25.8	2,554	Total			

Subcatchment 70S: Pipe X



Summary for Subcatchment 71S: BASIN B - DA

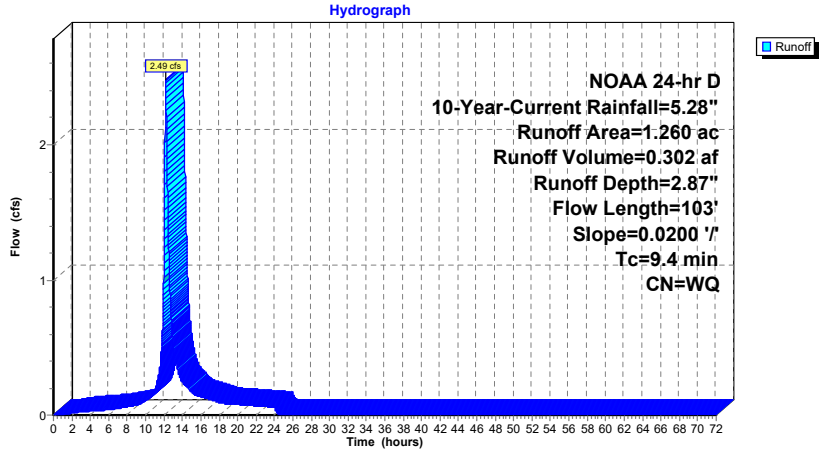
Runoff = 2.49 cfs @ 12.18 hrs, Volume= 0.302 af, Depth= 2.87"
Routed to Pond 74P : BASIN B

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.780	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.480	98	Roof
*	0.000	98	Driveway
	1.260		Weighted Average
	0.780		61.90% Pervious Area
	0.480		38.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 71S: BASIN B - DA



Summary for Subcatchment 73S: BASIN C - DA

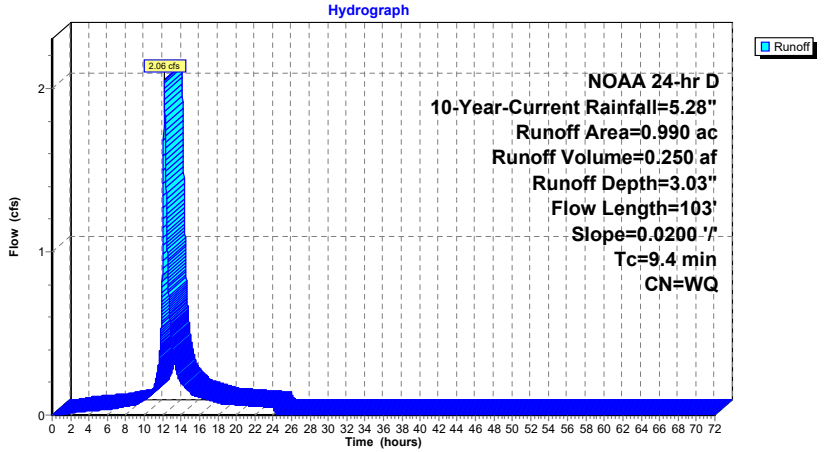
Runoff = 2.06 cfs @ 12.18 hrs, Volume= 0.250 af, Depth= 3.03"
Routed to Pond 59P : BASIN C

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.570	61	Open Space
*	0.000	98	Road
*	0.000	98	Sidewalk
*	0.420	98	Roof
*	0.000	98	Driveway
	0.990		Weighted Average
	0.570		57.58% Pervious Area
	0.420		42.42% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	44	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	103	Total			

Subcatchment 73S: BASIN C - DA



Summary for Subcatchment 75S: BASIN M - DA

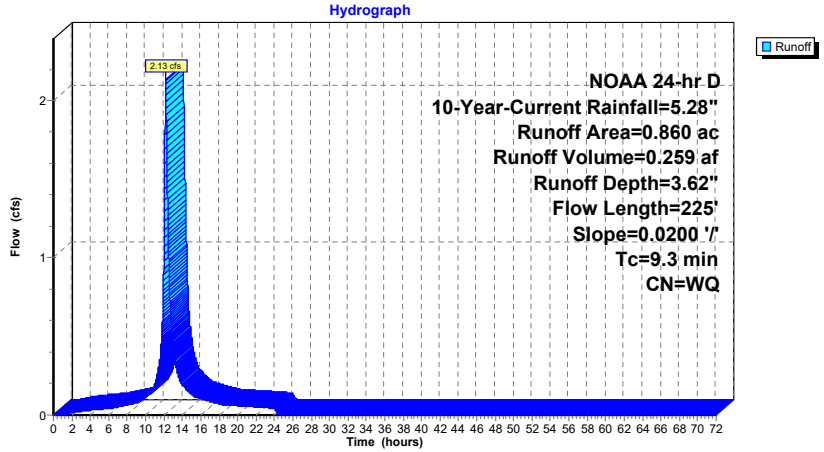
Runoff = 2.13 cfs @ 12.18 hrs, Volume= 0.259 af, Depth= 3.62"
Routed to Pond 76P : BASIN M

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.350	61	Open Space
*	0.280	98	Road
*	0.050	98	Sidewalk
*	0.060	98	Roof
*	0.120	98	Driveway & Apron
	0.860		Weighted Average
	0.350		40.70% Pervious Area
	0.510		59.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.2	52	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
0.5	87	0.0200	2.87		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
0.6	86		2.50		**Direct Entry, Pipe**
9.3	225	Total			

Subcatchment 75S: BASIN M - DA



Summary for Subcatchment 76S: BASIN F - DA

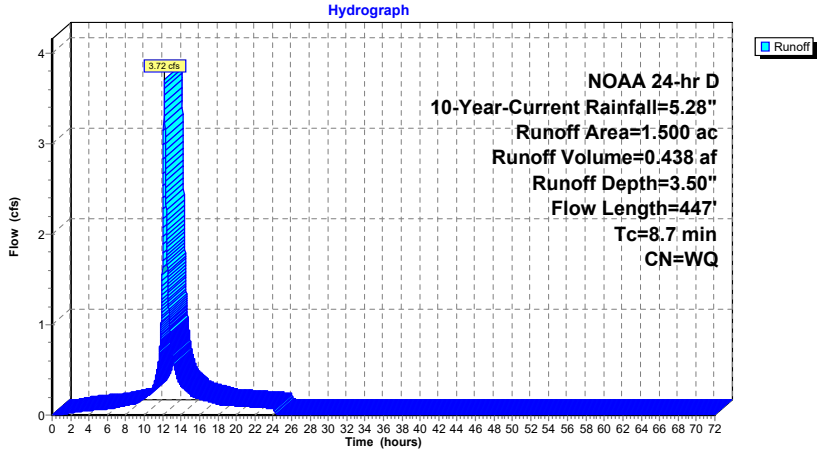
Runoff = 3.72 cfs @ 12.17 hrs, Volume= 0.438 af, Depth= 3.50"
Routed to Pond 83P : BASIN F

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.660	61	Open Space
*	0.440	98	Road
*	0.100	98	Sidewalk
*	0.120	98	Roof
*	0.180	98	Driveway & Apron
	1.500		Weighted Average
	0.660		44.00% Pervious Area
	0.840		56.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	33	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
1.3	158	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.7	256		2.50		**Direct Entry, Pipe**
8.7	447	Total			

Subcatchment 76S: BASIN F - DA



Summary for Subcatchment 77S: BASIN D - DA

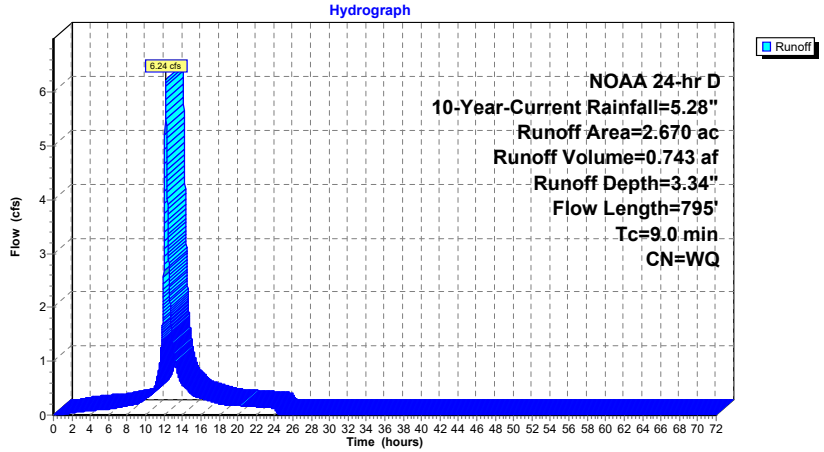
Runoff = 6.24 cfs @ 12.18 hrs, Volume= 0.743 af, Depth= 3.34"
Routed to Pond 75P : BASIN D

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	1.300	61	Open Space
*	0.430	98	Road
*	0.120	98	Sidewalk
*	0.420	98	Roof
*	0.400	98	Driveway & Apron
	2.670		Weighted Average
	1.300		48.69% Pervious Area
	1.370		51.31% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.7	30	0.0500	0.14		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.2	300	0.0120	2.22		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
3.1	465		2.50		**Direct Entry, Pipe**
9.0	795	Total			

Subcatchment 77S: BASIN D - DA



Summary for Subcatchment 83S: BASIN L - DA

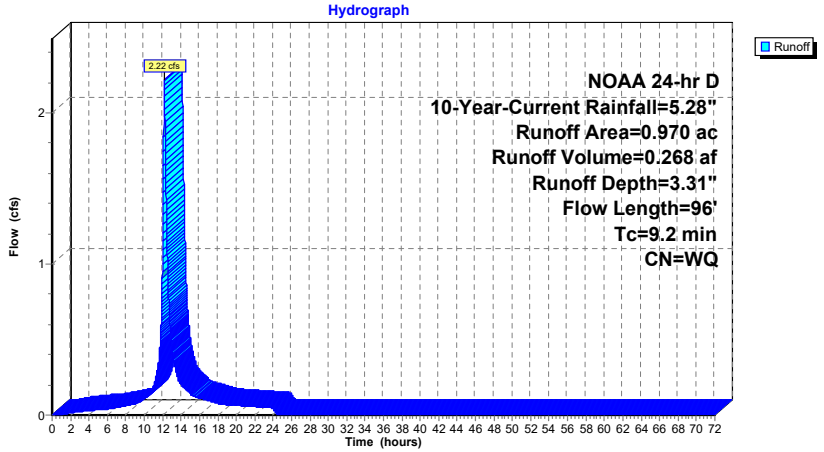
Runoff = 2.22 cfs @ 12.18 hrs, Volume= 0.268 af, Depth= 3.31"
Routed to Pond 84P : BASIN L

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.480	61	Open Space
*	0.220	98	Road
*	0.050	98	Sidewalk
*	0.120	98	Roof
*	0.100	98	Driveway & Apron
	0.970		Weighted Average
	0.480		49.48% Pervious Area
	0.490		50.52% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	37	0.0800	4.55		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.2	96	Total			

Subcatchment 83S: BASIN L - DA



Summary for Subcatchment 85S: BASIN G - DA

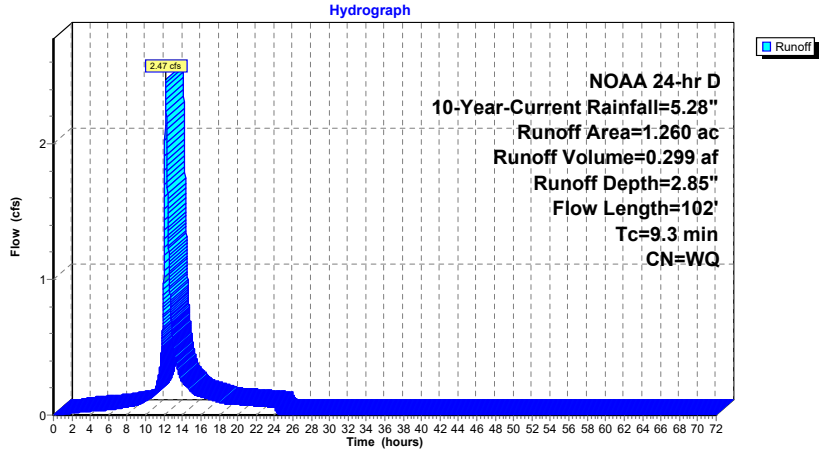
Runoff = 2.47 cfs @ 12.18 hrs, Volume= 0.299 af, Depth= 2.85"
Routed to Pond 86P : BASIN G

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.790	61	Open Space
*	0.060	98	Road
*	0.010	98	Sidewalk
*	0.360	98	Roof
*	0.040	98	Driveway & Apron
	1.260		Weighted Average
	0.790		62.70% Pervious Area
	0.470		37.30% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.2	43	0.0350	3.01		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.3	102	Total			

Subcatchment 85S: BASIN G - DA



Summary for Subcatchment 88S: BASIN H - DA

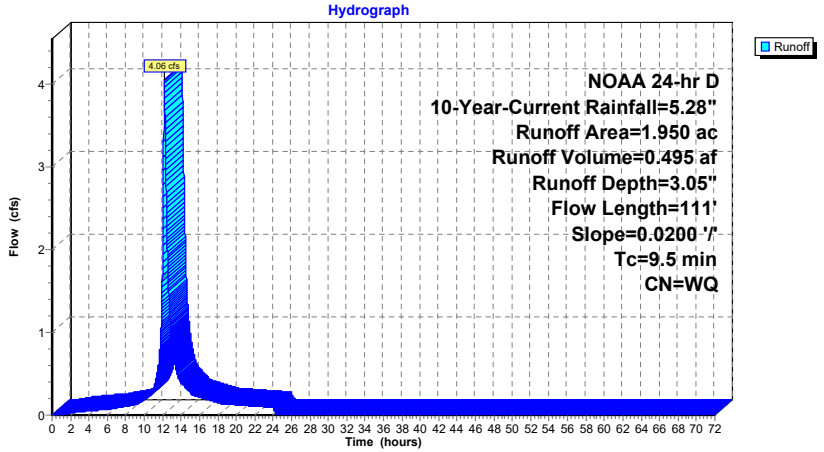
Runoff = 4.06 cfs @ 12.18 hrs, Volume= 0.495 af, Depth= 3.05"
Routed to Pond 60P : BASIN H

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	1.110	61	Open Space
*	0.230	98	Road
*	0.050	98	Sidewalk
*	0.420	98	Roof
*	0.140	98	Driveway & Apron
	1.950		Weighted Average
	1.110		56.92% Pervious Area
	0.840		43.08% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.4	52	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.5	111	Total			

Subcatchment 88S: BASIN H - DA



Summary for Subcatchment 98S: BASIN P - DA

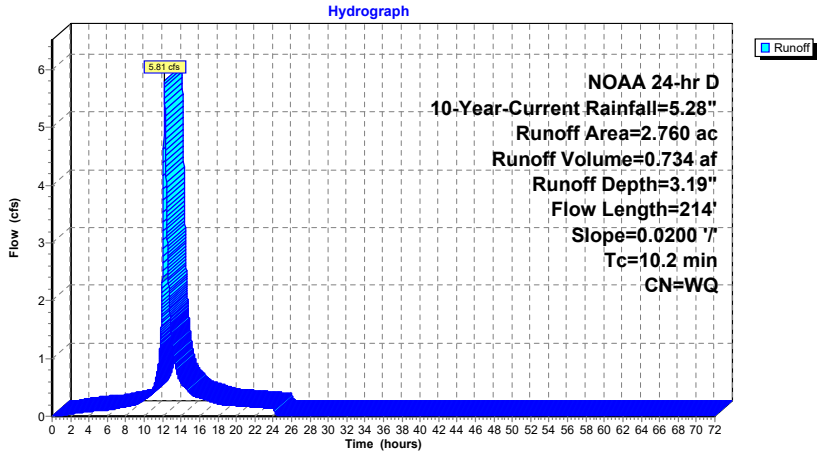
Runoff = 5.81 cfs @ 12.19 hrs, Volume= 0.734 af, Depth= 3.19"
Routed to Pond 63P : BASIN P

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	1.460	61	Open Space
*	0.410	98	Road
*	0.110	98	Sidewalk
*	0.420	98	Roof
*	0.360	98	Driveway & Apron
	2.760		Weighted Average
	1.460		52.90% Pervious Area
	1.300		47.10% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.7	99	0.0200	2.28		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
0.4	56		2.50		**Direct Entry,**
10.2	214	Total			

Subcatchment 98S: BASIN P - DA



Summary for Subcatchment 101S: BASIN Q - DA

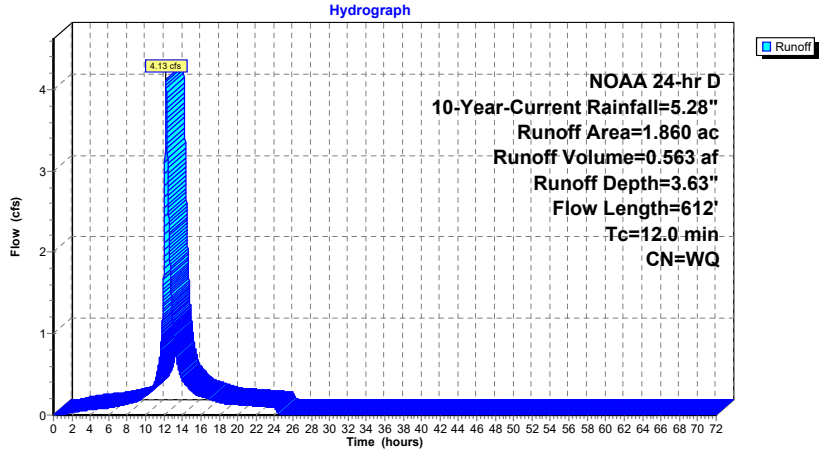
Runoff = 4.13 cfs @ 12.21 hrs, Volume= 0.563 af, Depth= 3.63"
Routed to Pond 102P : BASIN Q

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.750	61	Open Space
*	0.570	98	Road
*	0.140	98	Sidewalk
*	0.060	98	Roof
*	0.340	98	Driveway & Apron
	1.860		Weighted Average
	0.750		40.32% Pervious Area
	1.110		59.68% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	49	0.0200	0.10		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"
2.3	283	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.9	280		2.50		**Direct Entry, Pipe**
12.0	612	Total			

Subcatchment 101S: BASIN Q - DA



Summary for Subcatchment 104S: BASIN R - DA

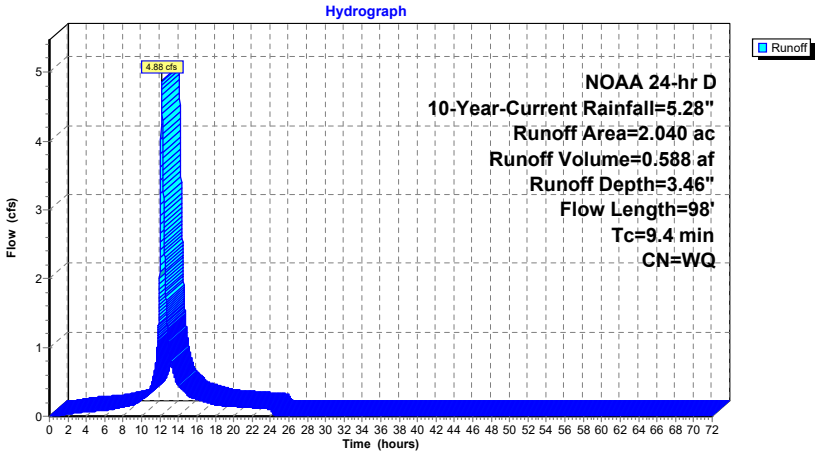
Runoff = 4.88 cfs @ 12.18 hrs, Volume= 0.588 af, Depth= 3.46"
Routed to Pond 105P : BASIN R

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
	0.810	61	>75% Grass cover, Good, HSG B
*	0.350	98	Road
*	0.090	98	Sidewalk
*	0.300	98	Roof
*	0.280	98	Driveway & Apron
	0.210	80	>75% Grass cover, Good, HSG D
	2.040		Weighted Average
	1.020		50.00% Pervious Area
	1.020		50.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.3	39	0.0250	2.55		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
9.4	98	Total			

Subcatchment 104S: BASIN R - DA



Summary for Subcatchment 107S: BASIN S - DA

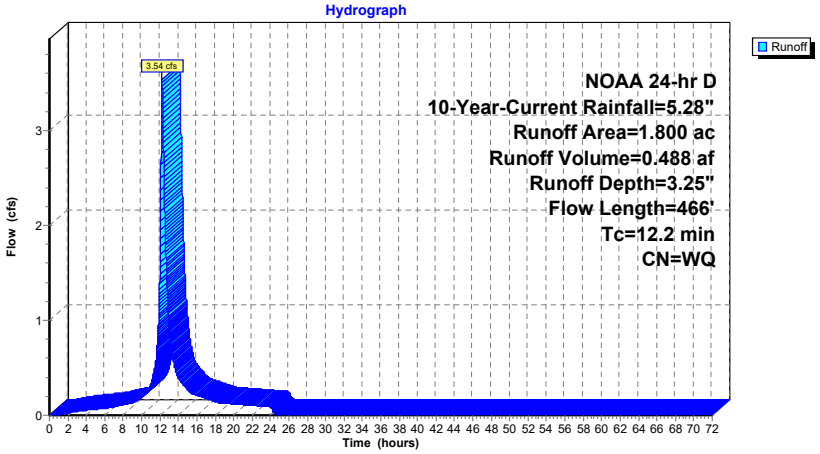
Runoff = 3.54 cfs @ 12.22 hrs, Volume= 0.488 af, Depth= 3.25"
Routed to Pond 108P : BASIN S

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.920	61	Open Space
*	0.590	98	Road
*	0.190	98	Sidewalk
*	0.080	98	Roof
*	0.020	98	Driveway & Apron
	1.800		Weighted Average
	0.920		51.11% Pervious Area
	0.880		48.89% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.1	59	0.0200	0.11		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38" Using McCuen-Spiess flow length
0.1	6	0.0100	1.61		**Shallow Concentrated Flow, SCF - Unpaved** Unpaved Kv= 16.1 fps
1.4	167	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
1.6	234		2.50		**Direct Entry, Pipe**
12.2	466	Total			

Subcatchment 107S: BASIN S - DA



Summary for Subcatchment 110S: BASIN T - DA

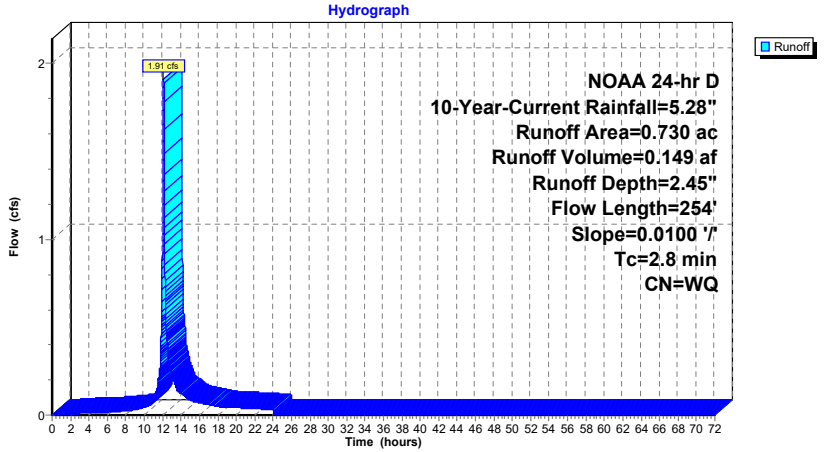
Runoff = 1.91 cfs @ 12.11 hrs, Volume= 0.149 af, Depth= 2.45"
Routed to Pond 111P : BASIN T

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.540	61	Open Space
*	0.140	98	Road
*	0.050	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	0.730		Weighted Average
	0.540		73.97% Pervious Area
	0.190		26.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
1.6	100	0.0100	1.07		**Sheet Flow, Sheet Flow - Smooth Surfaces** Smooth surfaces n= 0.011 P2= 3.38"
0.8	93	0.0100	2.03		**Shallow Concentrated Flow, SCF - Paved** Paved Kv= 20.3 fps
0.4	61		2.50		**Direct Entry, Pipe**
2.8	254	Total			

Subcatchment 110S: BASIN T - DA



Summary for Subcatchment 113S: BASIN U - DA

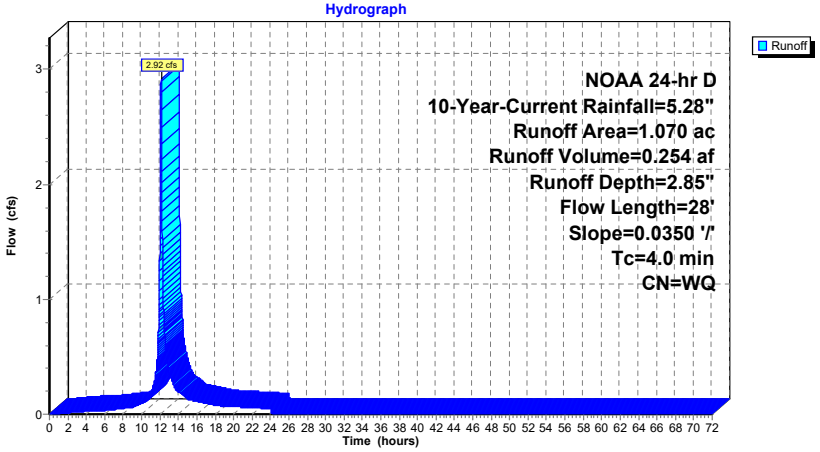
Runoff = 2.92 cfs @ 12.12 hrs, Volume= 0.254 af, Depth= 2.85"
Routed to Pond 114P : BASIN U

Runoff by SCS TR-20 method, UH=Delmarva, Weighted-Q, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
NOAA 24-hr D 10-Year-Current Rainfall=5.28"

	Area (ac)	CN	Description
*	0.670	61	Open Space
*	0.330	98	Road
*	0.070	98	Sidewalk
*	0.000	98	Roof
*	0.000	98	Driveway & Apron
	1.070		Weighted Average
	0.670		62.62% Pervious Area
	0.400		37.38% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.0	28	0.0350	0.12		**Sheet Flow, Sheet Flow - Grass** Grass: Dense n= 0.240 P2= 3.38"

Subcatchment 113S: BASIN U - DA



Summary for Pond 52P: BASIN A

Inflow Area = 2.470 ac, 53.85% Impervious, Inflow Depth = 3.43" for 10-Year-Current event
Inflow = 5.79 cfs @ 12.18 hrs, Volume= 0.705 af
Outflow = 0.21 cfs @ 17.79 hrs, Volume= 0.681 af, Atten= 96%, Lag= 336.6 min
Primary = 0.21 cfs @ 17.79 hrs, Volume= 0.681 af
Routed to Pond 74P : BASIN B

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 32.75' Surf.Area= 0.235 ac Storage= 0.160 af
Peak Elev= 34.49' @ 17.79 hrs Surf.Area= 0.336 ac Storage= 0.655 af (0.495 af above start)

Plug-Flow detention time= 1,618.3 min calculated for 0.521 af (74% of inflow)
Center-of-Mass det. time= 1,181.9 min (1,966.9 - 785.0)

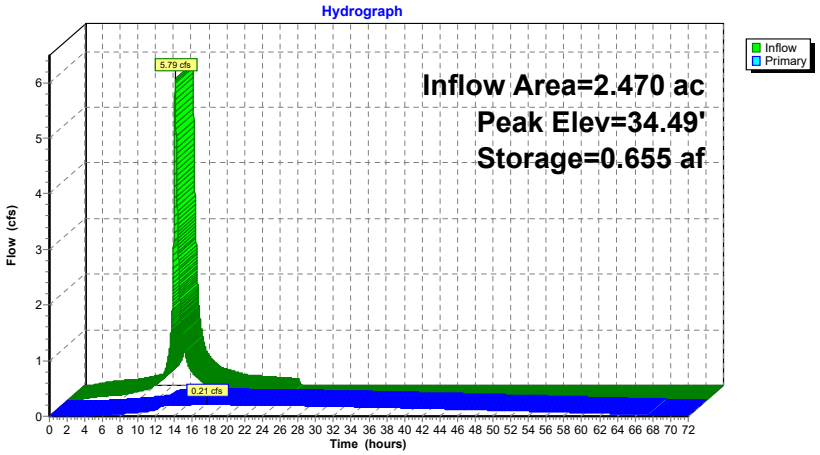
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.233 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.192	0.000	0.000
33.00	0.249	0.220	0.220
34.00	0.307	0.278	0.499
35.00	0.367	0.337	0.836
36.00	0.428	0.397	1.233

Device	Routing	Invert	Outlet Devices
#1	Primary	35.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.00'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.75'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.21 cfs @ 17.79 hrs HW=34.49' TW=31.60' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.21 cfs @ 6.15 fps)

Pond 52P: BASIN A



Summary for Pond 59P: BASIN C

Inflow Area = 4.720 ac, 47.25% Impervious, Inflow Depth > 3.11" for 10-Year-Current event
Inflow = 3.50 cfs @ 12.24 hrs, Volume= 1.222 af
Outflow = 3.20 cfs @ 12.40 hrs, Volume= 1.220 af, Atten= 9%, Lag= 9.3 min
Primary = 3.20 cfs @ 12.40 hrs, Volume= 1.220 af
Routed to Pond 75P : BASIN D

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 29.50' Surf.Area= 0.054 ac Storage= 0.043 af
Peak Elev= 30.15' @ 12.40 hrs Surf.Area= 0.069 ac Storage= 0.083 af (0.040 af above start)

Plug-Flow detention time= 148.0 min calculated for 1.176 af (96% of inflow)
Center-of-Mass det. time= 14.2 min (1,568.9 - 1,554.7)

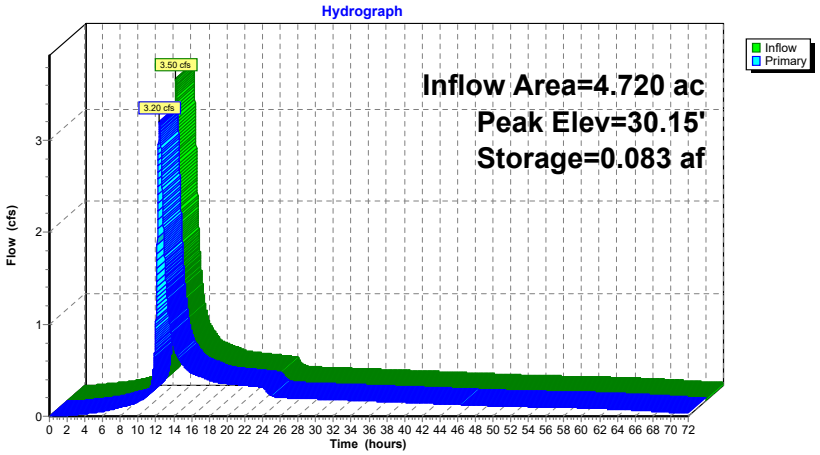
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.198 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.033	0.000	0.000
29.50	0.054	0.043	0.043
30.50	0.077	0.065	0.109
31.50	0.101	0.089	0.198

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	29.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=3.20 cfs @ 12.40 hrs HW=30.15' TW=28.53' (Dynamic Tailwater)
└─**1=Grate** (Controls 0.00 cfs)
└─**2=Sharp-Crested Rectangular Weir** (Weir Controls 3.20 cfs @ 2.64 fps)

Pond 59P: BASIN C



Summary for Pond 60P: BASIN H

Inflow Area = 4.710 ac, 45.65% Impervious, Inflow Depth > 3.10" for 10-Year-Current event
Inflow = 4.70 cfs @ 12.21 hrs, Volume= 1.217 af
Outflow = 1.18 cfs @ 13.51 hrs, Volume= 1.140 af, Atten= 75%, Lag= 78.1 min
Primary = 1.18 cfs @ 13.51 hrs, Volume= 1.140 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 28.90' Surf.Area= 0.229 ac Storage= 0.089 af
Peak Elev= 30.48' @ 13.51 hrs Surf.Area= 0.283 ac Storage= 0.492 af (0.403 af above start)

Plug-Flow detention time= 1,002.1 min calculated for 1.051 af (86% of inflow)
Center-of-Mass det. time= 656.4 min (1,900.3 - 1,243.8)

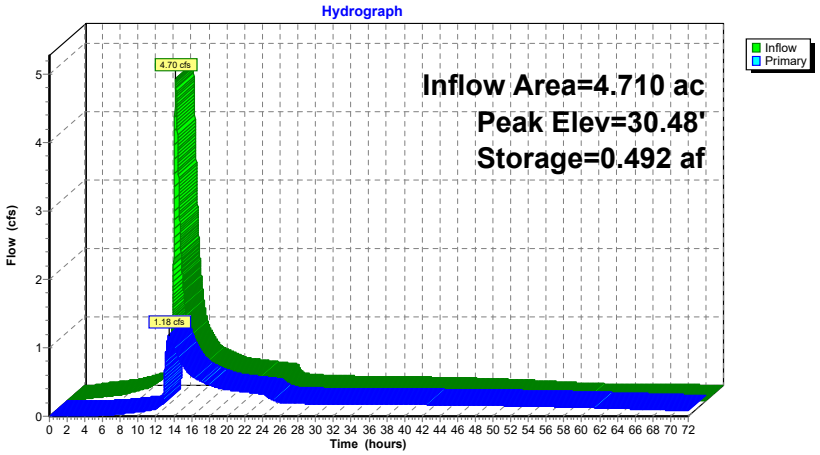
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.799 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.216	0.000	0.000
29.00	0.232	0.112	0.112
30.00	0.266	0.249	0.361
31.00	0.301	0.283	0.644
31.50	0.319	0.155	0.799

Device	Routing	Invert	Outlet Devices
#1	Primary	31.20'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.30'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	28.90'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.18 cfs @ 13.51 hrs HW=30.48' TW=28.46' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.98 cfs @ 1.38 fps)
- **3=Orifice** (Orifice Controls 0.20 cfs @ 5.85 fps)

Pond 60P: BASIN H



Summary for Pond 63P: BASIN P

Inflow = 6.64 cfs @ 12.17 hrs, Volume= 2.014 af
Outflow = 3.80 cfs @ 12.51 hrs, Volume= 1.896 af, Atten= 43%, Lag= 20.8 min
Primary = 3.80 cfs @ 12.51 hrs, Volume= 1.896 af
Routed to Pond 65P : BASIN E

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 27.50' Surf.Area= 0.233 ac Storage= 0.213 af
Peak Elev= 28.68' @ 12.47 hrs Surf.Area= 0.274 ac Storage= 0.512 af (0.299 af above start)

Plug-Flow detention time= 573.5 min calculated for 1.683 af (84% of inflow)
Center-of-Mass det. time= 102.5 min (1,528.7 - 1,426.2)

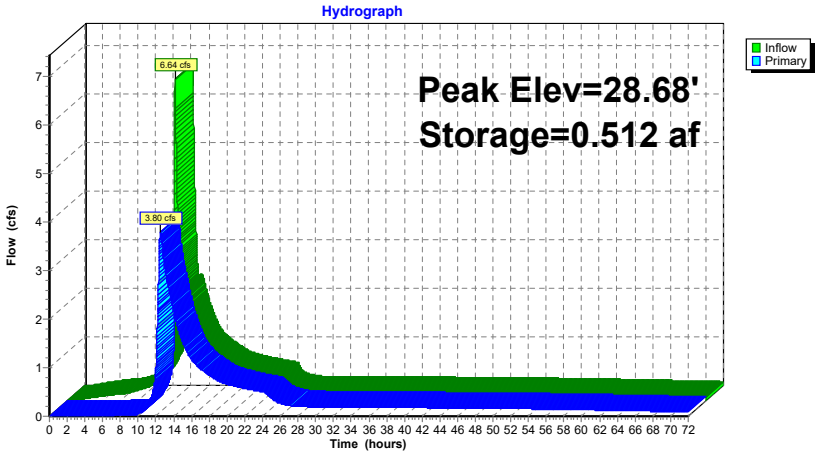
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.910 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.193	0.000	0.000
27.50	0.233	0.213	0.213
28.50	0.268	0.250	0.463
29.50	0.303	0.286	0.749
30.00	0.340	0.161	0.910

Device	Routing	Invert	Outlet Devices
#1	Primary	29.30'	**42.0" x 102.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**3.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.83 cfs @ 12.51 hrs HW=28.68' TW=28.62' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 3.77 cfs @ 1.26 fps)
- **3=Orifice** (Orifice Controls 0.06 cfs @ 1.20 fps)

Pond 63P: BASIN P



Summary for Pond 64P: BASIN I

Inflow Area = 0.530 ac, 33.96% Impervious, Inflow Depth = 2.73" for 10-Year-Current event
Inflow = 0.99 cfs @ 12.18 hrs, Volume= 0.121 af
Outflow = 0.29 cfs @ 12.80 hrs, Volume= 0.120 af, Atten= 70%, Lag= 36.9 min
Primary = 0.29 cfs @ 12.80 hrs, Volume= 0.120 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 29.40' Surf.Area= 0.029 ac Storage= 0.024 af
Peak Elev= 30.65' @ 12.80 hrs Surf.Area= 0.038 ac Storage= 0.066 af (0.042 af above start)

Plug-Flow detention time= 292.3 min calculated for 0.097 af (80% of inflow)
Center-of-Mass det. time= 128.3 min (935.7 - 807.4)

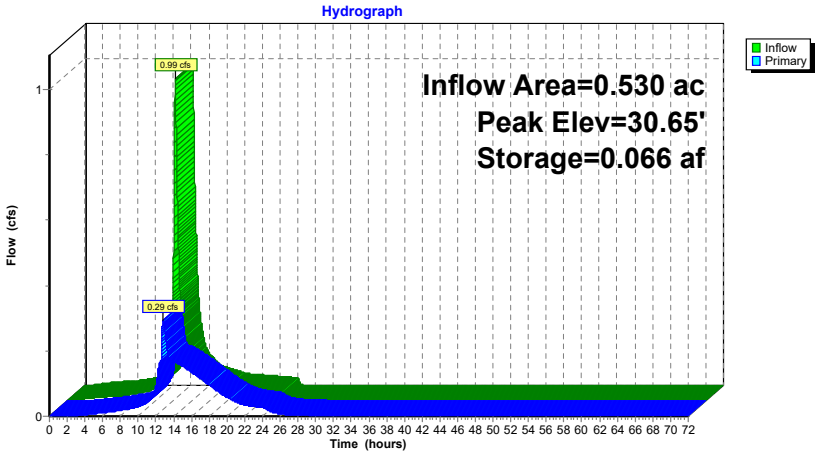
Volume	Invert	Avail.Storage	Storage Description
#1	28.50'	0.101 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
28.50	0.023	0.000	0.000
29.50	0.030	0.026	0.026
30.50	0.037	0.033	0.060
31.50	0.045	0.041	0.101

Device	Routing	Invert	Outlet Devices
#1	Primary	31.10'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.60'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	29.40'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.29 cfs @ 12.80 hrs HW=30.65' TW=28.60' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.12 cfs @ 0.75 fps)
- **3=Orifice** (Orifice Controls 0.18 cfs @ 5.16 fps)

Pond 64P: BASIN I



Summary for Pond 65P: BASIN E

[86] Warning: Oscillations may require smaller dt (severity=10)

Inflow = 7.50 cfs @ 12.18 hrs, Volume= 2.516 af
Outflow = 6.55 cfs @ 12.42 hrs, Volume= 2.453 af, Atten= 13%, Lag= 14.8 min
Primary = 6.55 cfs @ 12.42 hrs, Volume= 2.432 af
Routed to Link 46L : DA North Basins
Secondary = 0.82 cfs @ 12.14 hrs, Volume= 0.021 af
Routed to Pond 63P : BASIN P

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 27.50' Surf.Area= 0.122 ac Storage= 0.106 af
Peak Elev= 28.62' @ 12.42 hrs Surf.Area= 0.161 ac Storage= 0.265 af (0.159 af above start)

Plug-Flow detention time= 249.9 min calculated for 2.346 af (93% of inflow)
Center-of-Mass det. time= 40.3 min (1,385.8 - 1,345.5)

Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.421 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

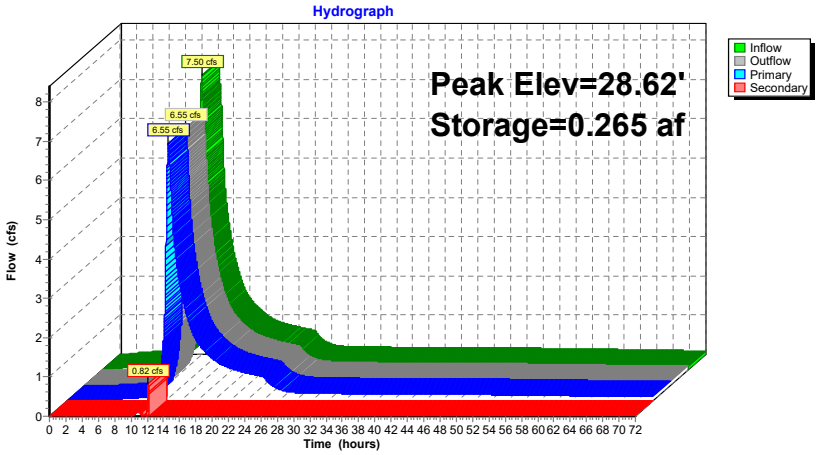
Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.091	0.000	0.000
27.50	0.122	0.106	0.106
28.50	0.157	0.139	0.246
29.50	0.193	0.175	0.421

Device	Routing	Invert	Outlet Devices
#1	Primary	28.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.00'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#4	Secondary	27.50'	**3.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads
#5	Secondary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#6	Secondary	29.30'	**42.0" x 102.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=6.55 cfs @ 12.42 hrs HW=28.62' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Weir Controls 0.16 cfs @ 0.49 fps)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 6.22 cfs @ 2.58 fps)
- **3=Orifice** (Orifice Controls 0.17 cfs @ 4.86 fps)

Secondary OutFlow Max=0.00 cfs @ 12.14 hrs HW=28.43' TW=28.44' (Dynamic Tailwater)
- **4=Orifice** (Controls 0.00 cfs)
- **5=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **6=Grate** (Controls 0.00 cfs)

Pond 65P: BASIN E



Summary for Pond 70P: BASIN K

Inflow Area = 1.640 ac, 37.80% Impervious, Inflow Depth = 2.86" for 10-Year-Current event
Inflow = 3.18 cfs @ 12.18 hrs, Volume= 0.391 af
Outflow = 0.97 cfs @ 12.78 hrs, Volume= 0.389 af, Atten= 70%, Lag= 36.0 min
Primary = 0.97 cfs @ 12.78 hrs, Volume= 0.389 af
Routed to Pond 90P : BASIN N

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 31.00' Surf.Area= 0.135 ac Storage= 0.064 af
Peak Elev= 32.11' @ 12.78 hrs Surf.Area= 0.164 ac Storage= 0.231 af (0.166 af above start)

Plug-Flow detention time= 507.6 min calculated for 0.325 af (83% of inflow)
Center-of-Mass det. time= 337.4 min (1,139.9 - 802.4)

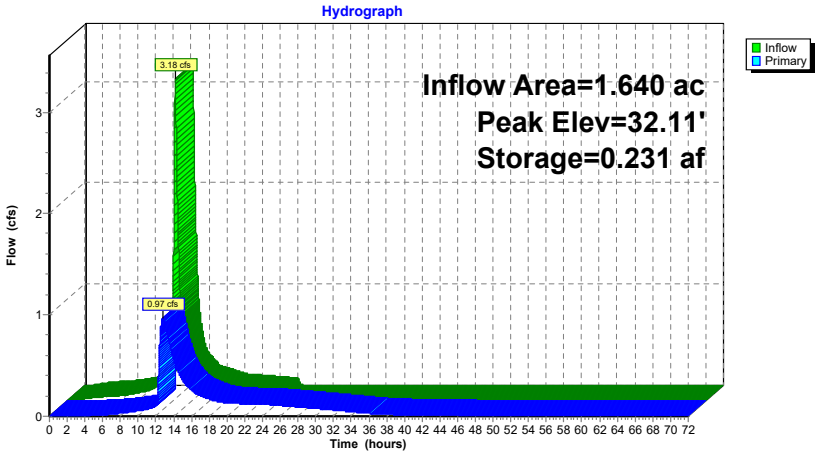
Volume	Invert	Avail.Storage	Storage Description
#1	30.50'	0.484 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.50	0.122	0.000	0.000
31.50	0.148	0.135	0.135
32.50	0.174	0.161	0.296
33.50	0.202	0.188	0.484

Device	Routing	Invert	Outlet Devices
#1	Primary	33.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.70'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.97 cfs @ 12.78 hrs HW=32.11' TW=30.57' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.80 cfs @ 2.11 fps)
- **3=Orifice** (Orifice Controls 0.17 cfs @ 4.84 fps)

Pond 70P: BASIN K



Summary for Pond 74P: BASIN B

Inflow Area = 3.730 ac, 48.53% Impervious, Inflow Depth > 3.16" for 10-Year-Current event
Inflow = 2.63 cfs @ 12.18 hrs, Volume= 0.983 af
Outflow = 1.86 cfs @ 12.39 hrs, Volume= 0.972 af, Atten= 29%, Lag= 12.2 min
Primary = 1.86 cfs @ 12.39 hrs, Volume= 0.972 af
Routed to Pond 59P : BASIN C

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 31.00' Surf.Area= 0.081 ac Storage= 0.065 af
Peak Elev= 31.92' @ 12.39 hrs Surf.Area= 0.111 ac Storage= 0.153 af (0.088 af above start)

Plug-Flow detention time= 391.0 min calculated for 0.907 af (92% of inflow)
Center-of-Mass det. time= 140.5 min (1,749.6 - 1,609.1)

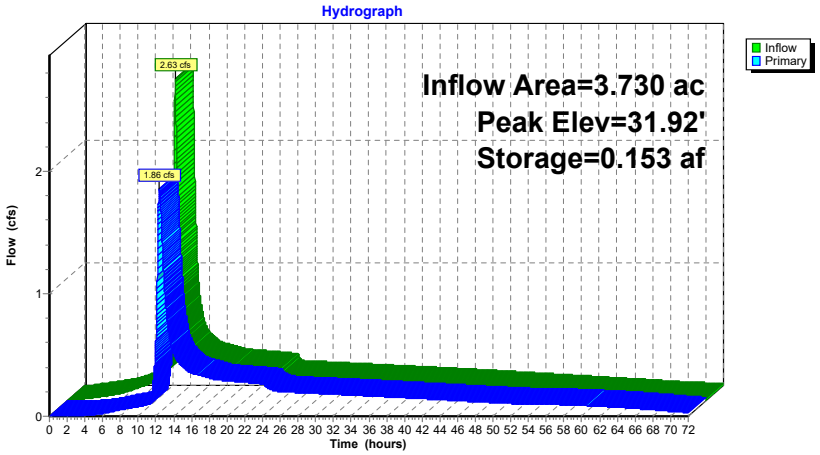
Volume	Invert	Avail.Storage	Storage Description
#1	30.00'	0.292 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
30.00	0.049	0.000	0.000
31.00	0.081	0.065	0.065
32.00	0.113	0.097	0.162
33.00	0.147	0.130	0.292

Device	Routing	Invert	Outlet Devices
#1	Primary	32.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	31.50'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	31.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.86 cfs @ 12.39 hrs HW=31.92' TW=30.15' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 1.71 cfs @ 2.12 fps)
- **3=Orifice** (Orifice Controls 0.15 cfs @ 4.35 fps)

Pond 74P: BASIN B



Summary for Pond 75P: BASIN D

Inflow Area = 7.390 ac, 48.71% Impervious, Inflow Depth > 3.19" for 10-Year-Current event
Inflow = 8.51 cfs @ 12.20 hrs, Volume= 1.963 af
Outflow = 6.63 cfs @ 12.45 hrs, Volume= 1.882 af, Atten= 22%, Lag= 14.9 min
Primary = 6.63 cfs @ 12.45 hrs, Volume= 1.882 af
Routed to Link 46L : DA North Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 27.40' Surf.Area= 0.223 ac Storage= 0.189 af
Peak Elev= 28.54' @ 12.45 hrs Surf.Area= 0.258 ac Storage= 0.463 af (0.274 af above start)

Plug-Flow detention time= 501.4 min calculated for 1.693 af (86% of inflow)
Center-of-Mass det. time= 124.8 min (1,397.7 - 1,272.9)

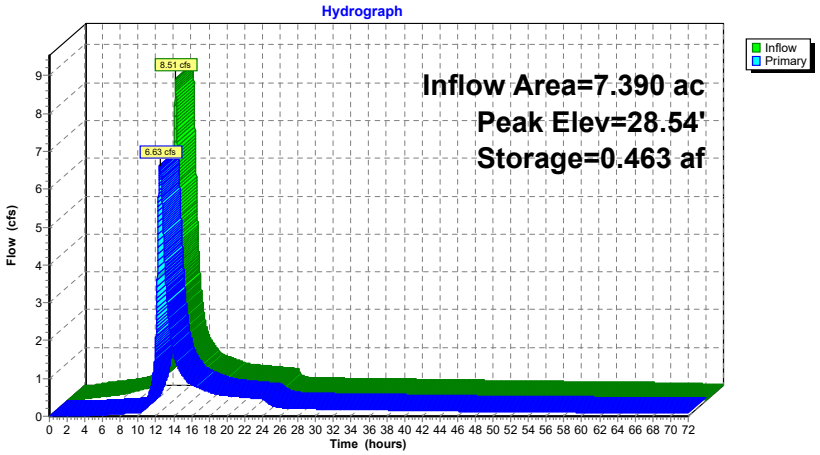
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.725 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.197	0.000	0.000
27.50	0.226	0.211	0.211
28.50	0.257	0.241	0.453
29.50	0.288	0.272	0.725

Device	Routing	Invert	Outlet Devices
#1	Primary	28.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.40'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=6.62 cfs @ 12.45 hrs HW=28.54' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 6.46 cfs @ 2.61 fps)
- **3=Orifice** (Orifice Controls 0.17 cfs @ 4.90 fps)

Pond 75P: BASIN D



Summary for Pond 76P: BASIN M

Inflow Area = 0.860 ac, 59.30% Impervious, Inflow Depth = 3.62" for 10-Year-Current event
Inflow = 2.13 cfs @ 12.18 hrs, Volume= 0.259 af
Outflow = 0.77 cfs @ 12.64 hrs, Volume= 0.259 af, Atten= 64%, Lag= 28.1 min
Primary = 0.77 cfs @ 12.64 hrs, Volume= 0.259 af
Routed to Link 46L : DA North Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 32.50' Surf.Area= 0.060 ac Storage= 0.060 af
Peak Elev= 34.08' @ 12.64 hrs Surf.Area= 0.070 ac Storage= 0.160 af (0.100 af above start)

Plug-Flow detention time= 417.8 min calculated for 0.199 af (77% of inflow)
Center-of-Mass det. time= 215.8 min (996.1 - 780.3)

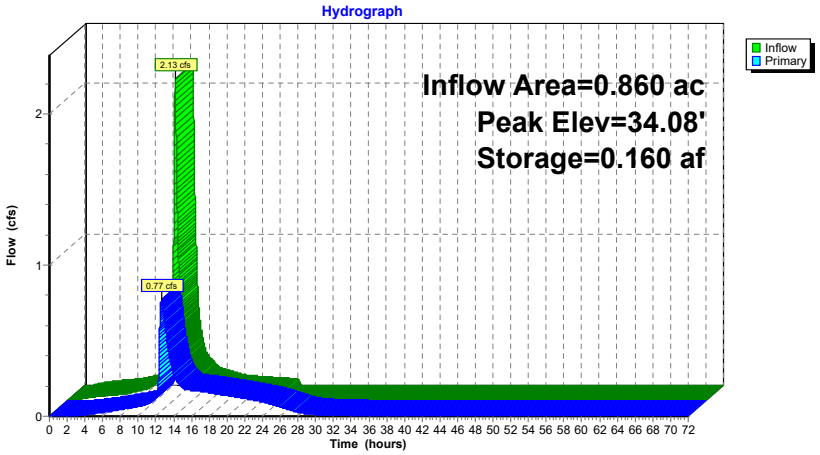
Volume	Invert	Avail.Storage	Storage Description
#1	31.50'	0.260 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.50	0.060	0.000	0.000
32.00	0.060	0.030	0.030
33.00	0.060	0.060	0.090
34.00	0.070	0.065	0.155
35.00	0.070	0.070	0.225
35.50	0.070	0.035	0.260

Device	Routing	Invert	Outlet Devices
#1	Primary	35.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	33.75'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.77 cfs @ 12.64 hrs HW=34.08' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.57 cfs @ 1.87 fps)
- **3=Orifice** (Orifice Controls 0.20 cfs @ 5.85 fps)

Pond 76P: BASIN M



Summary for Pond 83P: BASIN F

Inflow Area = 1.500 ac, 56.00% Impervious, Inflow Depth = 3.50" for 10-Year-Current event
Inflow = 3.72 cfs @ 12.17 hrs, Volume= 0.438 af
Outflow = 0.17 cfs @ 16.26 hrs, Volume= 0.427 af, Atten= 95%, Lag= 245.4 min
Primary = 0.17 cfs @ 16.26 hrs, Volume= 0.427 af
Routed to Pond 86p : BASIN G

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 33.00' Surf.Area= 0.218 ac Storage= 0.198 af
Peak Elev= 34.19' @ 16.26 hrs Surf.Area= 0.268 ac Storage= 0.487 af (0.289 af above start)

Plug-Flow detention time= 1,606.7 min calculated for 0.229 af (52% of inflow)
Center-of-Mass det. time= 911.0 min (1,693.1 - 782.0)

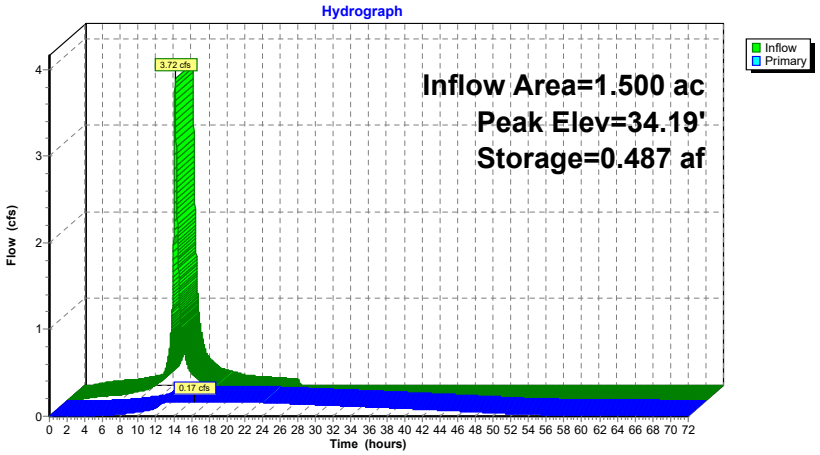
Volume	Invert	Avail.Storage	Storage Description
#1	32.00'	1.043 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.00	0.178	0.000	0.000
33.00	0.218	0.198	0.198
34.00	0.260	0.239	0.437
35.00	0.303	0.281	0.718
36.00	0.347	0.325	1.043

Device	Routing	Invert	Outlet Devices
#1	Primary	35.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	35.25'	**0.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.17 cfs @ 16.26 hrs HW=34.19' TW=32.84' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.17 cfs @ 5.02 fps)

Pond 83P: BASIN F



Summary for Pond 84P: BASIN L

Inflow Area = 0.970 ac, 50.52% Impervious, Inflow Depth = 3.31" for 10-Year-Current event
Inflow = 2.22 cfs @ 12.18 hrs, Volume= 0.268 af
Outflow = 0.99 cfs @ 12.56 hrs, Volume= 0.267 af, Atten= 56%, Lag= 22.9 min
Primary = 0.99 cfs @ 12.56 hrs, Volume= 0.267 af
Routed to Pond 90P : BASIN N

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 33.10' Surf.Area= 0.085 ac Storage= 0.047 af
Peak Elev= 34.16' @ 12.56 hrs Surf.Area= 0.105 ac Storage= 0.148 af (0.100 af above start)

Plug-Flow detention time= 419.0 min calculated for 0.219 af (82% of inflow)
Center-of-Mass det. time= 251.4 min (1,039.1 - 787.7)

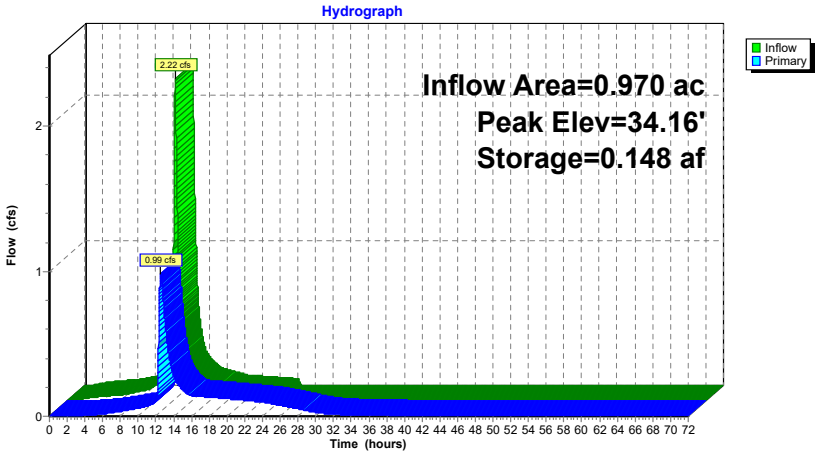
Volume	Invert	Avail.Storage	Storage Description
#1	32.50'	0.308 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
32.50	0.074	0.000	0.000
33.00	0.083	0.039	0.039
34.00	0.102	0.092	0.132
35.00	0.123	0.113	0.244
35.50	0.134	0.064	0.308

Device	Routing	Invert	Outlet Devices
#1	Primary	34.60'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	33.90'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	33.10'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.99 cfs @ 12.56 hrs HW=34.16' TW=30.58' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.83 cfs @ 1.65 fps)
- **3=Orifice** (Orifice Controls 0.16 cfs @ 4.70 fps)

Pond 84P: BASIN L



Summary for Pond 86P: BASIN G

Inflow Area = 2.760 ac, 47.46% Impervious, Inflow Depth > 3.16" for 10-Year-Current event
Inflow = 2.59 cfs @ 12.18 hrs, Volume= 0.726 af
Outflow = 1.46 cfs @ 12.49 hrs, Volume= 0.721 af, Atten= 44%, Lag= 18.3 min
Primary = 1.46 cfs @ 12.49 hrs, Volume= 0.721 af
Routed to Pond 60P : BASIN H

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 32.00' Surf.Area= 0.083 ac Storage= 0.067 af
Peak Elev= 33.10' @ 12.49 hrs Surf.Area= 0.120 ac Storage= 0.179 af (0.112 af above start)

Plug-Flow detention time= 494.8 min calculated for 0.654 af (90% of inflow)
Center-of-Mass det. time= 225.2 min (1,551.6 - 1,326.4)

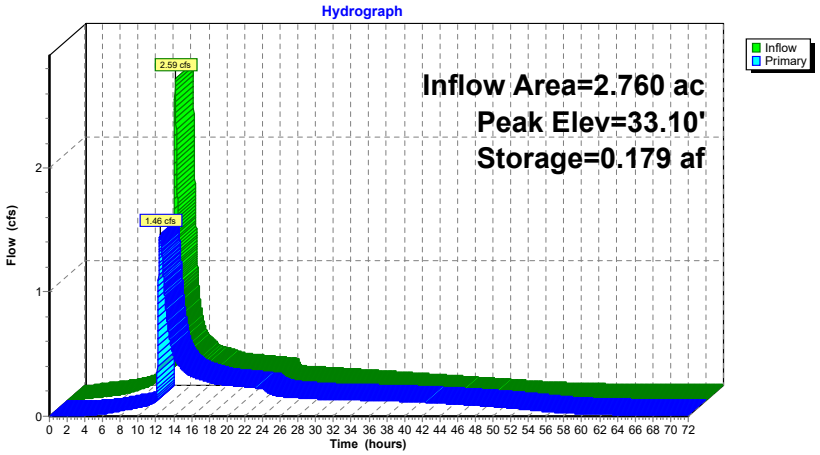
Volume	Invert	Avail.Storage	Storage Description
#1	31.00'	0.301 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
31.00	0.051	0.000	0.000
32.00	0.083	0.067	0.067
33.00	0.117	0.100	0.167
34.00	0.152	0.134	0.301

Device	Routing	Invert	Outlet Devices
#1	Primary	33.70'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	32.75'	**2.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	32.00'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=1.46 cfs @ 12.49 hrs HW=33.10' TW=30.05' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 1.30 cfs @ 1.93 fps)
- **3=Orifice** (Orifice Controls 0.16 cfs @ 4.80 fps)

Pond 86P: BASIN G



Summary for Pond 90P: BASIN N

Inflow Area = 4.000 ac, 43.75% Impervious, Inflow Depth > 3.09" for 10-Year-Current event
Inflow = 3.51 cfs @ 12.35 hrs, Volume= 1.031 af
Outflow = 3.19 cfs @ 12.60 hrs, Volume= 1.025 af, Atten= 9%, Lag= 14.6 min
Primary = 3.19 cfs @ 12.60 hrs, Volume= 1.025 af
Routed to Link 46L : DA North Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 29.70' Surf.Area= 0.157 ac Storage= 0.103 af
Peak Elev= 30.58' @ 12.60 hrs Surf.Area= 0.185 ac Storage= 0.254 af (0.151 af above start)

Plug-Flow detention time= 333.4 min calculated for 0.922 af (89% of inflow)
Center-of-Mass det. time= 171.2 min (1,158.3 - 987.1)

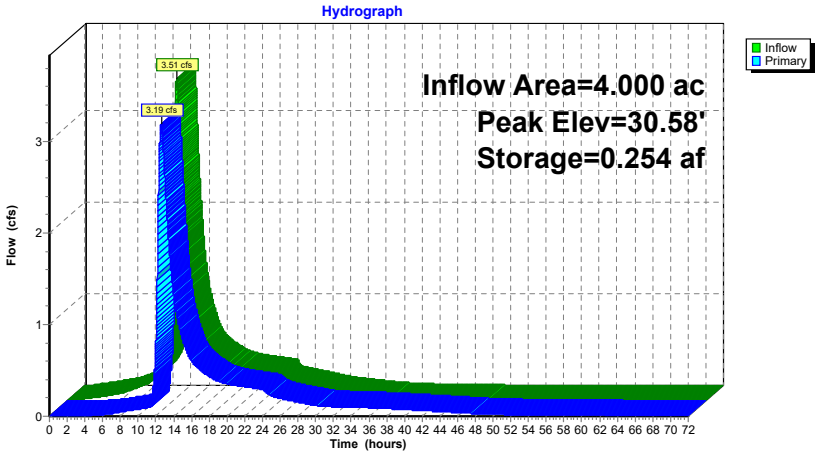
Volume	Invert	Avail.Storage	Storage Description
#1	29.00'	0.443 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
29.00	0.136	0.000	0.000
30.00	0.167	0.151	0.151
31.00	0.199	0.183	0.334
31.50	0.238	0.109	0.443

Device	Routing	Invert	Outlet Devices
#1	Primary	30.90'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	30.20'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	29.70'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.19 cfs @ 12.60 hrs HW=30.58' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 3.04 cfs @ 2.02 fps)
- **3=Orifice** (Orifice Controls 0.14 cfs @ 4.25 fps)

Pond 90P: BASIN N



Summary for Pond 93P: BASIN O

Inflow Area = 1.100 ac, 51.82% Impervious, Inflow Depth = 3.57" for 10-Year-Current event
Inflow = 2.73 cfs @ 12.18 hrs, Volume= 0.328 af
Outflow = 2.23 cfs @ 12.30 hrs, Volume= 0.327 af, Atten= 18%, Lag= 7.1 min
Primary = 2.23 cfs @ 12.30 hrs, Volume= 0.327 af
Routed to Link 46L : DA North Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 27.50' Surf.Area= 0.069 ac Storage= 0.060 af
Peak Elev= 28.36' @ 12.30 hrs Surf.Area= 0.087 ac Storage= 0.127 af (0.067 af above start)

Plug-Flow detention time= 274.8 min calculated for 0.267 af (82% of inflow)
Center-of-Mass det. time= 128.2 min (914.9 - 786.7)

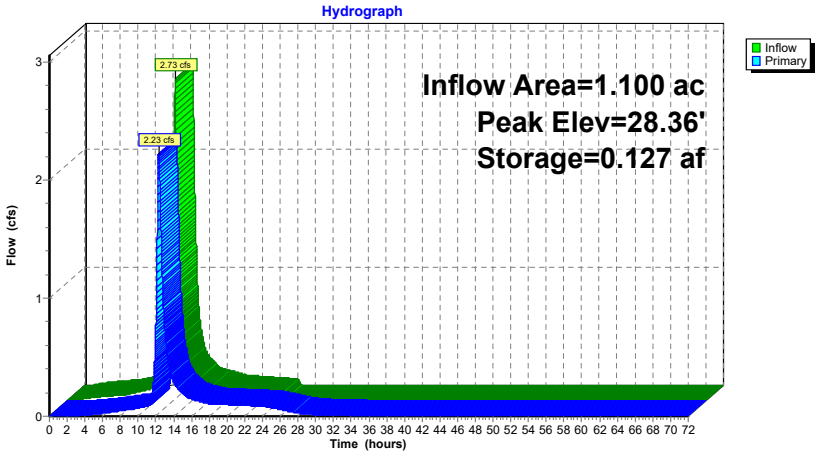
Volume	Invert	Avail.Storage	Storage Description
#1	26.50'	0.244 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.50	0.050	0.000	0.000
27.00	0.059	0.027	0.027
28.00	0.079	0.069	0.097
29.00	0.100	0.090	0.186
29.50	0.129	0.057	0.244

Device	Routing	Invert	Outlet Devices
#1	Primary	28.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	28.00'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=2.23 cfs @ 12.30 hrs HW=28.36' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 2.08 cfs @ 1.97 fps)
- **3=Orifice** (Orifice Controls 0.14 cfs @ 4.19 fps)

Pond 93P: BASIN O



Summary for Pond 102P: BASIN Q

Inflow Area = 1.860 ac, 59.68% Impervious, Inflow Depth = 3.63" for 10-Year-Current event
Inflow = 4.13 cfs @ 12.21 hrs, Volume= 0.563 af
Outflow = 3.46 cfs @ 12.35 hrs, Volume= 0.482 af, Atten= 16%, Lag= 8.0 min
Primary = 3.46 cfs @ 12.35 hrs, Volume= 0.482 af
Routed to Link 46L : DA North Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 27.00' Surf.Area= 0.110 ac Storage= 0.101 af
Peak Elev= 28.12' @ 12.35 hrs Surf.Area= 0.130 ac Storage= 0.235 af (0.134 af above start)

Plug-Flow detention time= 231.5 min calculated for 0.381 af (68% of inflow)
Center-of-Mass det. time= 77.0 min (861.1 - 784.1)

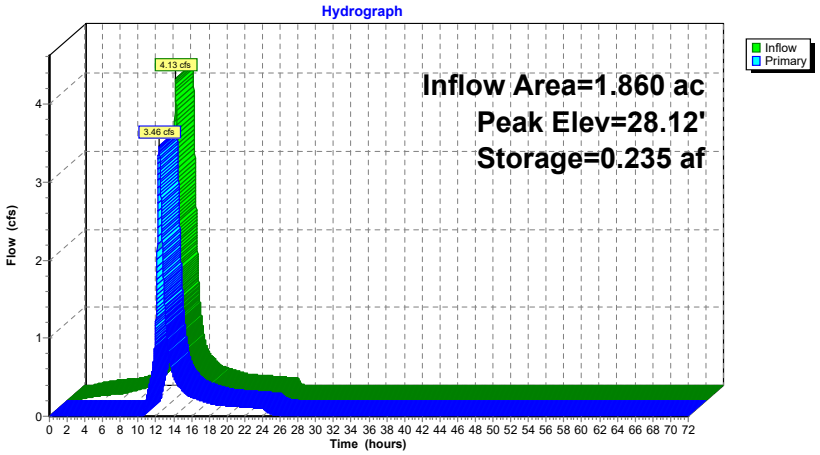
Volume	Invert	Avail.Storage	Storage Description
#1	26.00'	0.356 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
26.00	0.092	0.000	0.000
27.00	0.110	0.101	0.101
28.00	0.128	0.119	0.220
29.00	0.146	0.137	0.356

Device	Routing	Invert	Outlet Devices
#1	Primary	28.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	27.70'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	27.00'	**2.5" Vert. Orifice X 0.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.46 cfs @ 12.35 hrs HW=28.12' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 3.46 cfs @ 2.11 fps)
- **3=Orifice** (Controls 0.00 cfs)

Pond 102P: BASIN Q



Summary for Pond 105P: BASIN R

Inflow Area = 2.040 ac, 50.00% Impervious, Inflow Depth = 3.46" for 10-Year-Current event
Inflow = 4.88 cfs @ 12.18 hrs, Volume= 0.588 af
Outflow = 3.04 cfs @ 12.41 hrs, Volume= 0.584 af, Atten= 38%, Lag= 13.9 min
Primary = 3.04 cfs @ 12.41 hrs, Volume= 0.584 af
Routed to Link 46L : DA North Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 23.50' Surf.Area= 0.167 ac Storage= 0.147 af
Peak Elev= 24.41' @ 12.41 hrs Surf.Area= 0.204 ac Storage= 0.316 af (0.169 af above start)

Plug-Flow detention time= 397.0 min calculated for 0.437 af (74% of inflow)
Center-of-Mass det. time= 197.7 min (986.1 - 788.4)

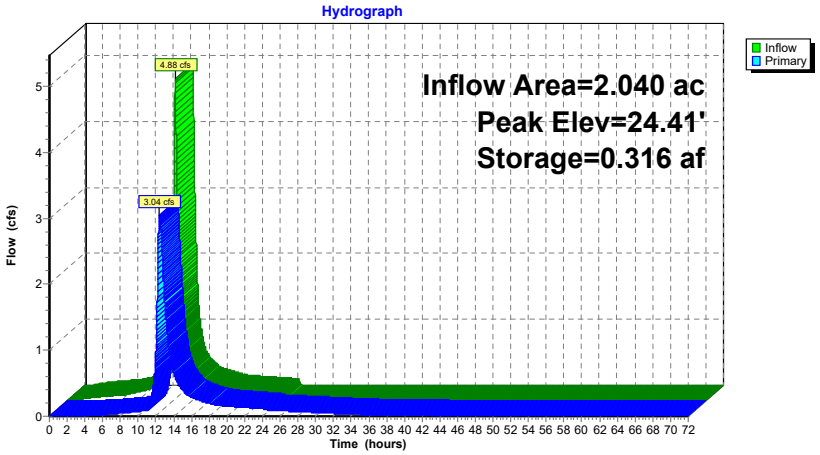
Volume	Invert	Avail.Storage	Storage Description
#1	22.50'	0.568 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
22.50	0.127	0.000	0.000
23.00	0.146	0.068	0.068
24.00	0.187	0.167	0.235
25.00	0.228	0.207	0.442
25.50	0.277	0.126	0.568

Device	Routing	Invert	Outlet Devices
#1	Primary	25.00'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	23.90'	**2.5' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	23.50'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=3.04 cfs @ 12.41 hrs HW=24.41' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 2.89 cfs @ 2.35 fps)
- **3=Orifice** (Orifice Controls 0.15 cfs @ 4.33 fps)

Pond 105P: BASIN R



Summary for Pond 108P: BASIN S

Inflow Area = 1.800 ac, 48.89% Impervious, Inflow Depth = 3.25" for 10-Year-Current event
Inflow = 3.54 cfs @ 12.22 hrs, Volume= 0.488 af
Outflow = 0.74 cfs @ 13.22 hrs, Volume= 0.305 af, Atten= 79%, Lag= 60.0 min
Primary = 0.74 cfs @ 13.22 hrs, Volume= 0.305 af
Routed to Link 46L : DA North Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 19.30' Surf.Area= 0.212 ac Storage= 0.101 af
Peak Elev= 20.49' @ 13.22 hrs Surf.Area= 0.255 ac Storage= 0.381 af (0.280 af above start)

Plug-Flow detention time= 523.9 min calculated for 0.204 af (42% of inflow)
Center-of-Mass det. time= 241.8 min (1,035.7 - 793.9)

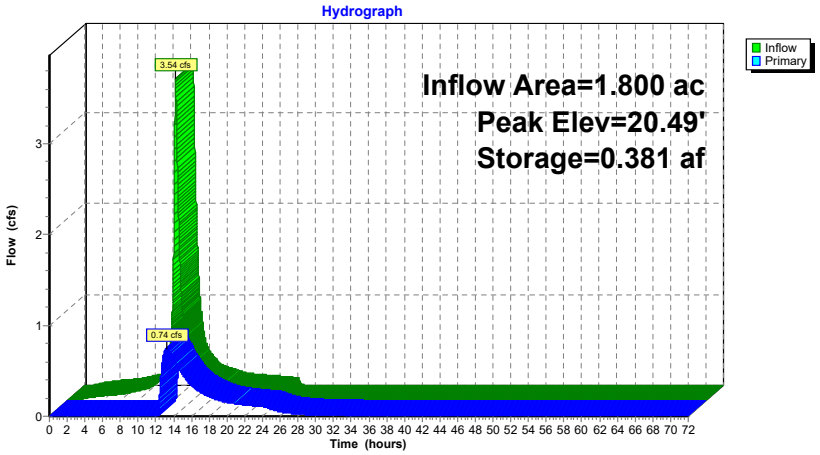
Volume	Invert	Avail.Storage	Storage Description
#1	18.80'	0.750 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
18.80	0.190	0.000	0.000
19.00	0.200	0.039	0.039
20.00	0.240	0.220	0.259
21.00	0.270	0.255	0.514
21.80	0.320	0.236	0.750

Device	Routing	Invert	Outlet Devices
#1	Primary	21.20'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.10'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	19.30'	**2.5" Vert. Orifice X 0.00** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.74 cfs @ 13.22 hrs HW=20.49' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Weir Controls 0.74 cfs @ 2.05 fps)
- **3=Orifice** (Controls 0.00 cfs)

Pond 108P: BASIN S



Summary for Pond 111P: BASIN T

Inflow Area = 1.800 ac, 32.78% Impervious, Inflow Depth > 2.66" for 10-Year-Current event
Inflow = 2.10 cfs @ 12.11 hrs, Volume= 0.399 af
Outflow = 0.16 cfs @ 22.23 hrs, Volume= 0.390 af, Atten= 93%, Lag= 606.9 min
Primary = 0.16 cfs @ 22.23 hrs, Volume= 0.390 af
Routed to Link 46L : DA North Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 19.10' Surf.Area= 0.194 ac Storage= 0.109 af
Peak Elev= 20.10' @ 22.23 hrs Surf.Area= 0.234 ac Storage= 0.324 af (0.215 af above start)

Plug-Flow detention time= 1,275.9 min calculated for 0.281 af (70% of inflow)
Center-of-Mass det. time= 767.3 min (1,788.0 - 1,020.7)

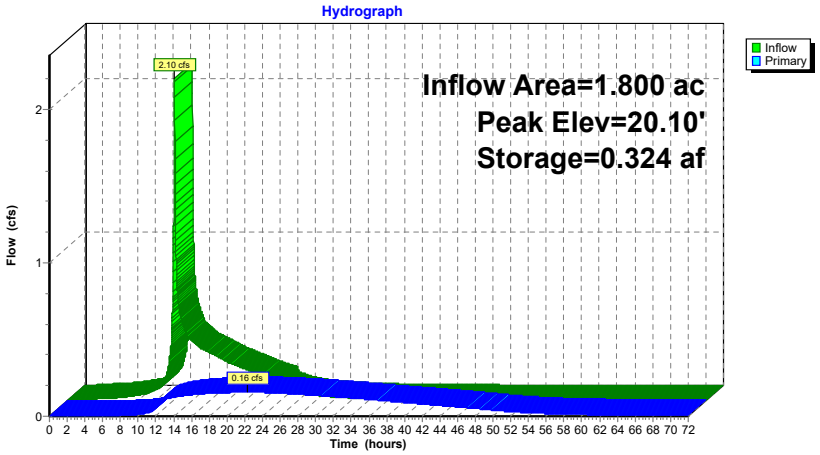
Volume	Invert	Avail.Storage	Storage Description
#1	18.50'	0.697 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
18.50	0.170	0.000	0.000
19.00	0.190	0.090	0.090
20.00	0.230	0.210	0.300
21.00	0.270	0.250	0.550
21.50	0.320	0.148	0.697

Device	Routing	Invert	Outlet Devices
#1	Primary	20.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.20'	**1.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)
#3	Primary	19.10'	**2.5" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.16 cfs @ 22.23 hrs HW=20.10' TW=0.00' (Dynamic Tailwater)
- **1=Grate** (Controls 0.00 cfs)
- **2=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)
- **3=Orifice** (Orifice Controls 0.16 cfs @ 4.57 fps)

Pond 111P: BASIN T



Summary for Pond 114P: BASIN U

Inflow Area = 1.070 ac, 37.38% Impervious, Inflow Depth = 2.85" for 10-Year-Current event
Inflow = 2.92 cfs @ 12.12 hrs, Volume= 0.254 af
Outflow = 0.28 cfs @ 13.39 hrs, Volume= 0.250 af, Atten= 91%, Lag= 75.9 min
Primary = 0.28 cfs @ 13.39 hrs, Volume= 0.250 af
Routed to Pond 111P : BASIN T

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 20.10' Surf.Area= 0.204 ac Storage= 0.115 af
Peak Elev= 20.70' @ 13.39 hrs Surf.Area= 0.228 ac Storage= 0.245 af (0.129 af above start)

Plug-Flow detention time= 762.9 min calculated for 0.135 af (53% of inflow)
Center-of-Mass det. time= 352.6 min (1,146.8 - 794.2)

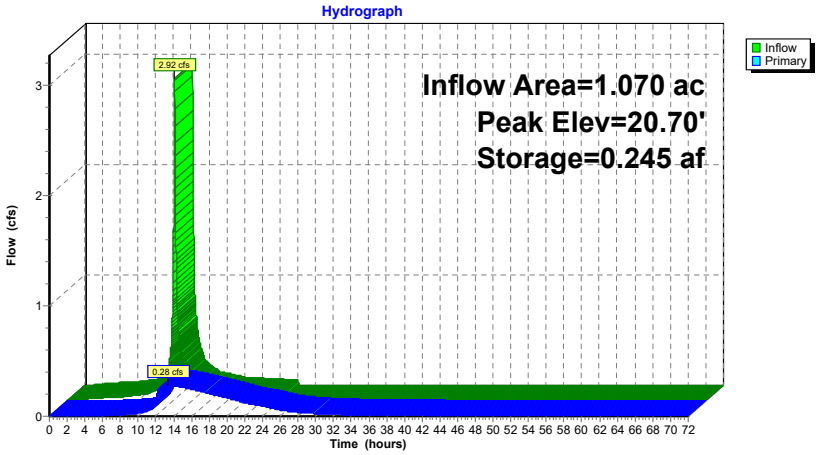
Volume	Invert	Avail.Storage	Storage Description
#1	19.50'	0.738 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
19.50	0.180	0.000	0.000
20.00	0.200	0.095	0.095
21.00	0.240	0.220	0.315
22.00	0.290	0.265	0.580
22.50	0.340	0.157	0.738

Device	Routing	Invert	Outlet Devices
#1	Primary	21.75'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	20.10'	**4.0" Vert. Orifice** C= 0.600 Limited to weir flow at low heads

Primary OutFlow Max=0.28 cfs @ 13.39 hrs HW=20.70' TW=19.70' (Dynamic Tailwater)
└─**1=Grate** (Controls 0.00 cfs)
└─**2=Orifice** (Orifice Controls 0.28 cfs @ 3.17 fps)

Pond 114P: BASIN U



Summary for Pond 117P: BASIN V

Inflow Area = 0.850 ac, 14.12% Impervious, Inflow Depth = 2.03" for 10-Year-Current event
Inflow = 1.20 cfs @ 12.18 hrs, Volume= 0.144 af
Outflow = 0.86 cfs @ 12.38 hrs, Volume= 0.144 af, Atten= 29%, Lag= 12.0 min
Primary = 0.86 cfs @ 12.38 hrs, Volume= 0.144 af
Routed to Link 46L : DA North Basins

Routing by Sim-Route method, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs
Starting Elev= 37.90' Surf.Area= 0.119 ac Storage= 0.097 af
Peak Elev= 38.06' @ 12.38 hrs Surf.Area= 0.123 ac Storage= 0.116 af (0.020 af above start)

Plug-Flow detention time= 470.8 min calculated for 0.048 af (33% of inflow)
Center-of-Mass det. time= 31.3 min (875.6 - 844.2)

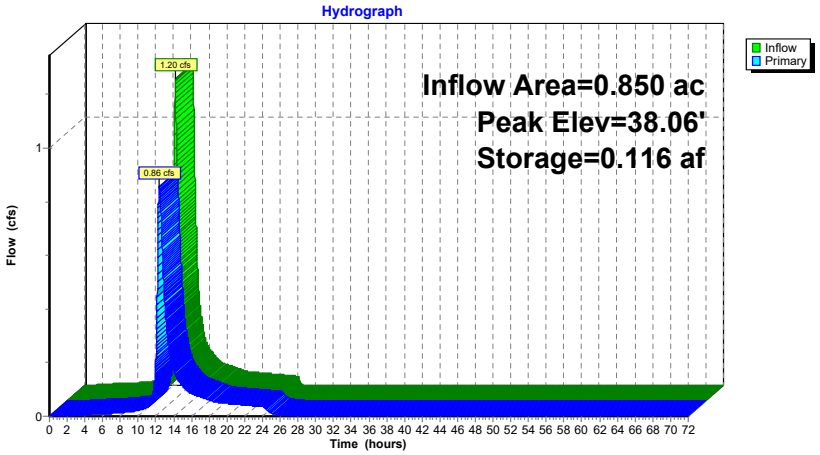
Volume	Invert	Avail.Storage	Storage Description
#1	37.00'	0.243 af	**Custom Stage Data (Prismatic)** Listed below (Recalc)

Elevation (feet)	Surf.Area (acres)	Inc.Store (acre-feet)	Cum.Store (acre-feet)
37.00	0.096	0.000	0.000
38.00	0.121	0.109	0.109
39.00	0.147	0.134	0.243

Device	Routing	Invert	Outlet Devices
#1	Primary	38.50'	**42.0" x 48.0" Horiz. Grate** C= 0.600 Limited to weir flow at low heads
#2	Primary	37.90'	**4.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.86 cfs @ 12.38 hrs HW=38.06' TW=0.00' (Dynamic Tailwater)
└─**1=Grate** (Controls 0.00 cfs)
└─**2=Sharp-Crested Rectangular Weir** (Weir Controls 0.86 cfs @ 1.32 fps)

Pond 117P: BASIN V

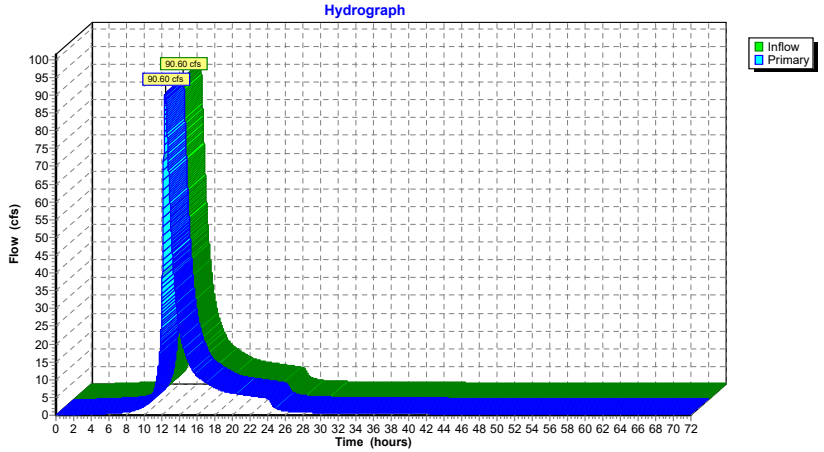


Summary for Link 46L: DA North Basins

Inflow = 90.60 cfs @ 12.38 hrs, Volume= 19.834 af
Primary = 90.60 cfs @ 12.39 hrs, Volume= 19.834 af, Atten= 0%, Lag= 0.6 min

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 46L: DA North Basins

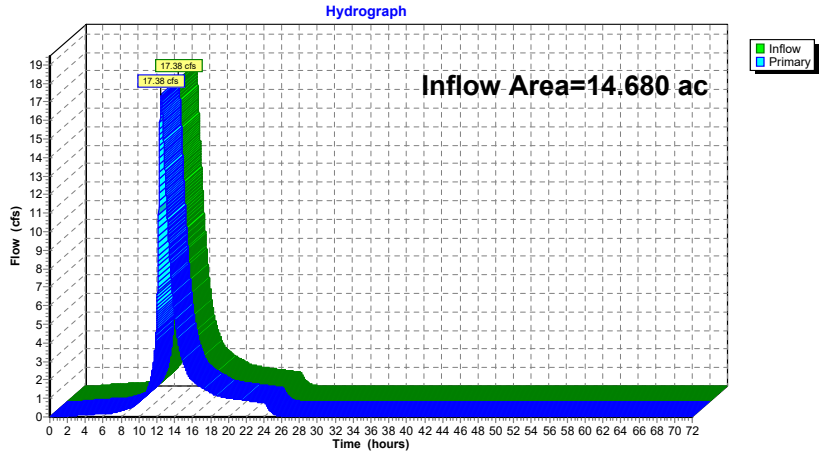


Summary for Link 51L: DA Undetained

Inflow Area = 14.680 ac, 15.60% Impervious, Inflow Depth = 2.97" for 10-Year-Current event
Inflow = 17.38 cfs @ 12.48 hrs, Volume= 3.630 af
Primary = 17.38 cfs @ 12.49 hrs, Volume= 3.630 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North Basins

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 51L: DA Undetained

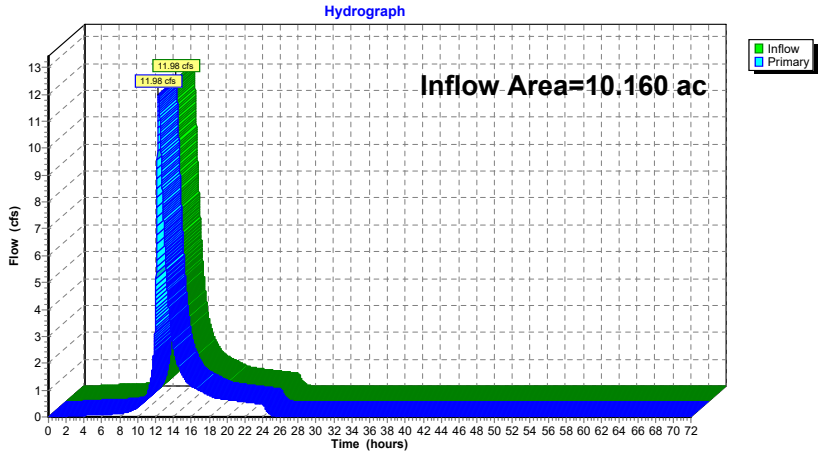


Summary for Link 52L: X

Inflow Area = 10.160 ac, 29.97% Impervious, Inflow Depth = 2.49" for 10-Year-Current event
Inflow = 11.98 cfs @ 12.34 hrs, Volume= 2.110 af
Primary = 11.98 cfs @ 12.35 hrs, Volume= 2.110 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North Basins

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 52L: X

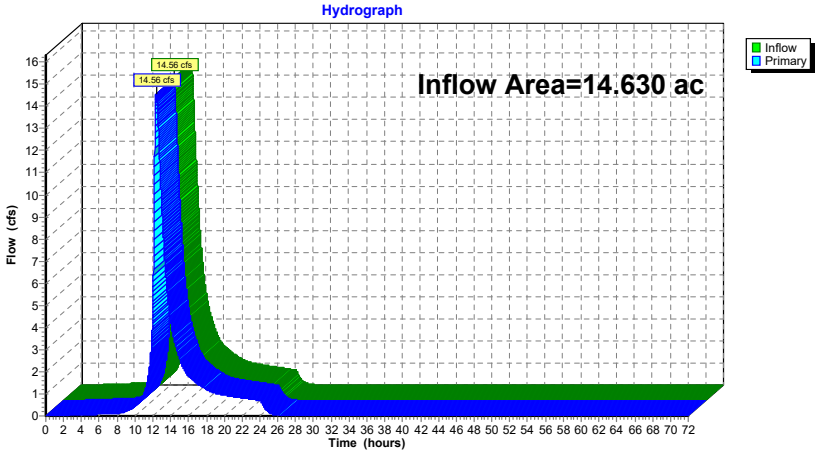


Summary for Link 53L: W

Inflow Area = 14.630 ac, 28.71% Impervious, Inflow Depth = 2.44" for 10-Year-Current event
Inflow = 14.56 cfs @ 12.36 hrs, Volume= 2.972 af
Primary = 14.56 cfs @ 12.37 hrs, Volume= 2.972 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North Basins

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 53L: W

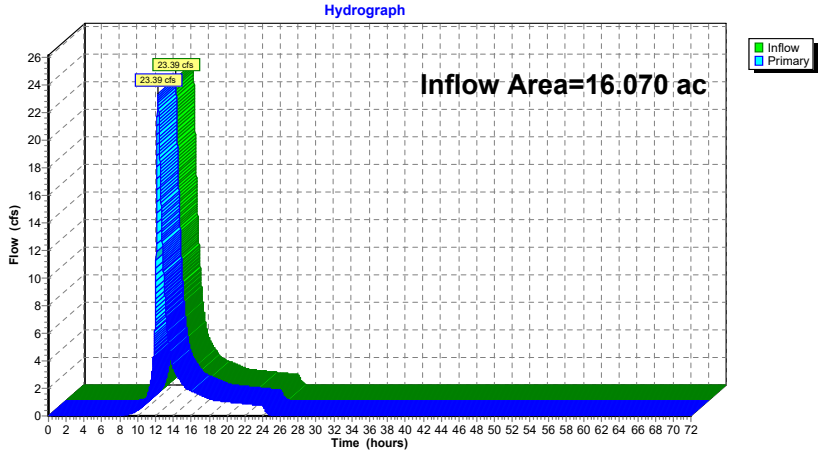


Summary for Link 58L: Y

Inflow Area = 16.070 ac, 30.59% Impervious, Inflow Depth = 2.46" for 10-Year-Current event
Inflow = 23.39 cfs @ 12.26 hrs, Volume= 3.294 af
Primary = 23.39 cfs @ 12.27 hrs, Volume= 3.294 af, Atten= 0%, Lag= 0.6 min
Routed to Link 46L : DA North Basins

Primary outflow = Inflow, Time Span= 0.00-72.00 hrs, dt= 0.01 hrs

Link 58L: Y



DRAINAGE AREA MAPS

THIS PLAN TO BE UTILIZED FOR STORMWATER/DRAINAGE ANALYSIS PURPOSES ONLY

STUDY AREA NORTH UNDISTURBED X AREA: 5.17 WEIGHTED CN: 75

STUDY AREA NORTH UNDISTURBED W AREA: 8.21 WEIGHTED CN: 75

STUDY AREA NORTH UNDISTURBED Y AREA: 12.62 WEIGHTED CN: 75

STUDY AREA NORTH UNDISTURBED Y

STUDY AREA NORTH AREA: 61.48 AC. WEIGHTED CN: 67

STUDY AREA SOUTH AREA: 49.16 AC WEIGHTED CN: 44

STUDY AREA NORTH UNDISTURBED AREA: 8.02 WEIGHTED CN: 89

STUDY AREA WETLANDS (POA 1) AREA: 10.22 WEIGHTED CN: 45

REYNOLDS DRIVE (VARIABLE WIDTH ROW PER TAX MAP)

NEW JERSEY STATE HIGHWAY ROUTE 71

NEW JERSEY STATE HIGHWAY ROUTE 36

BOROUGH OF EATONTOWN

BOROUGH OF WEST LONG BRANCH

POA 2 TURTLE MILL BROOK

SHEET FLOW (GRASS, DENSE) 100 LF @ 1.2%

SHALLOW CONCENTRATED FLOW (UNPAVED) 179 LF @ 4.1%

SHEET FLOW (GRASS, DENSE) 79 LF @ 3.6%

SHEET FLOW (SMOOTH SURFACES) 20 LF @ 2.5%

SHALLOW CONCENTRATED FLOW (UNPAVED) 94 LF @ 1.0%

SHALLOW CONCENTRATED FLOW (UNPAVED) 923 LF @ 2.6%

SHALLOW CONCENTRATED FLOW (UNPAVED) 950 LF @ 2.9%

SHEET FLOW (GRASS, DENSE) 100 LF @ 2.0%

SHEET FLOW (GRASS, DENSE) 100 LF @ 3.5%

SHALLOW CONCENTRATED FLOW (UNPAVED) 408 LF @ 3.2%

SHALLOW CONCENTRATED FLOW (UNPAVED) 280 LF @ 3.7%

SHALLOW CONCENTRATED FLOW (UNPAVED) 380 LF @ 2.4%

SHALLOW CONCENTRATED FLOW (UNPAVED) 372 LF @ 3.0%

EXISTING PERIMETER FENCING ON GOLF COURSE PROPERTY TO BE REMOVED (TYP.)

SHALLOW CONCENTRATED FLOW (UNPAVED) 272 LF @ 1.0%

SHALLOW CONCENTRATED FLOW (UNPAVED) 192 LF @ 2.7%

SHALLOW CONCENTRATED FLOW (UNPAVED) 1,142 LF @ 2.1%

SHEET FLOW (SMOOTH SURFACE) 12 LF @ 3.0%

SHALLOW CONCENTRATED FLOW (UNPAVED) 1,080 LF @ 2.4%

SHEET FLOW (WOODS) 25 LF @ 1.0%

SHEET FLOW (SMOOTH SURFACE) 28 LF @ 3.6%

SHALLOW CONCENTRATED FLOW (UNPAVED) 366 LF @ 3.6%

SHEET FLOW (GRASS, DENSE) 72 LF @ 3.0%

SHALLOW CONCENTRATED FLOW (UNPAVED) 344 LF @ 1.8%

SHALLOW CONCENTRATED FLOW (UNPAVED) 337 LF @ 2.9%

Ex. Electrical Utility (TO REMAIN)

Ex. Sanitary Sewer Easement per DB. 3782, pg. 174 (TO BE RELOCATED)

Ex. Sanitary Sewer Force Main (TO REMAIN)

Access Easement per DB. OR-9525, PG. 8910 (TO BE RELOCATED)

FrrC HSG B

FrrC B

FrkB B

FrkC HSG B

HumAt HSG A/d

DocC HSG A

DocB HSG A

EveC HSG A

EveB HSG A

DocC B

Frk B

Fap A

WATER

GRAPHIC SCALE

-120 0 60 120 240 480

(IN FEET)

1 INCH = 120 FT.

FINAL FOR SEWER DESIGN

DYNAMIC ENGINEERING

LAND DEVELOPMENT CONSULTING • PERMITTING • GEOTECHNICAL • ENVIRONMENTAL • SURVEY • PLANNING & ZONING

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TITLE: EXISTING DRAINAGE AREA MAP

PROJECT: SURREY EQUITIES, LLC
PROPOSED RESIDENTIAL DEVELOPMENT
BLOCK 2701, (APPROVED LOTS 69.05 & 69.06)
MONMOUTH ROAD & NJSH ROUTE 36
BOROUGH OF EATONTOWN, MONMOUTH COUNTY, NEW JERSEY

JOB No: 3272-99-005
DRAWN BY: CAM
DESIGNED BY: RDM
CHECKED BY: RPF
CHECKED BY: _
DATE: 08/31/2023
SCALE: (H) 1"=120' (V)
SHEET No: 1 OF 3
Rev. # 7

ROBERT P. FREUD
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 41938

RYAN MCDERMOTT
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 56559

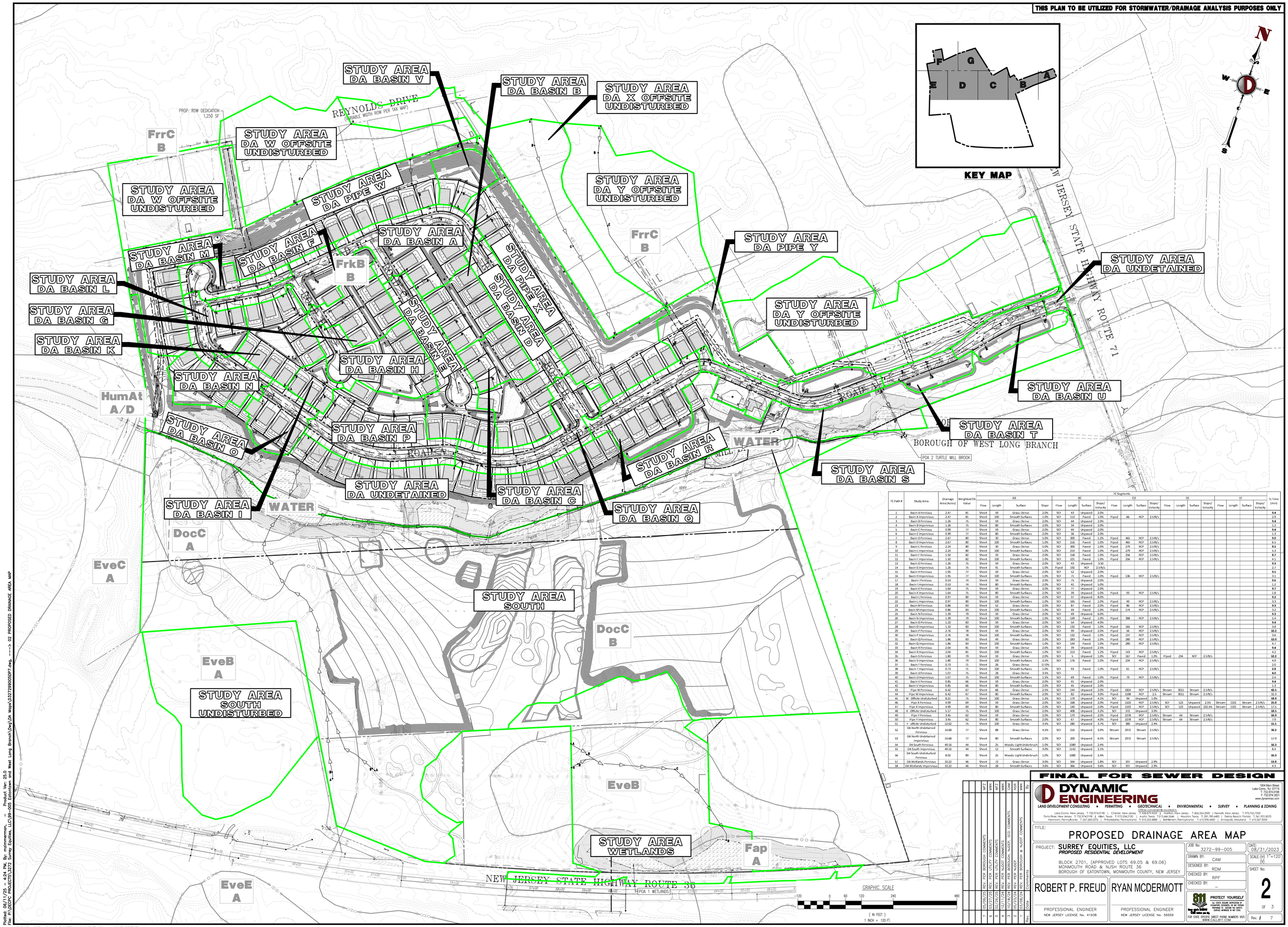
PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATION, DEMOLITION, OR ANY PLAN, AREA OR DESIGN TO ENSURE THE SAFETY OF PUBLIC UTILITIES BEFORE ANY WORK IS DONE
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

Rev.	Date	Comments	By
7	05/09/25	REV. PER BOROUGH COMMENTS	MFZ
6	03/19/25	REV. PER NJDOT COMMENTS	MFZ
5	02/26/25	REV. PER UTILITY COMMENTS	MFZ
4	12/11/24	REV. PER NJDOT COMMENTS	MRK
3	10/18/24	REV. PER BOROUGH, NJDEP, SCD COMMENTS	CAM
2	05/23/24	REV. PER NJDEP	NSR
1	03/08/24	REV. PER BOROUGH & NJDOT COMMENTS	MRK

Plotted: 09/11/25 - 4:24 PM By: mdrmmermon, - Product Ver: 25.0
File: K:\2024\3272-99-005 Surrey Equities, LLC\99-005 Eatontown NJ West Long Branch\Dwg\04 Maps\03272990005E7.dwg, ----> 01 EXISTING DRAINAGE AREA MAP

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THIS PLAN TO BE UTILIZED FOR STORMWATER/DRAINAGE ANALYSIS PURPOSES ONLY



TC Path #	Study Area	Drainage Area (Acres)	Weighted CN Value	AB Flow	AB Length	AB Surface	AB Slope	BC Flow	BC Length	BC Surface	BC Slope/ Velocity	CD Flow	CD Length	CD Surface	CD Slope/ Velocity	DE Flow	DE Length	DE Surface	DE Slope/ Velocity	EF Flow	EF Length	EF Surface	EF Slope/ Velocity	Tc Time (min)
1	Basin A Pervious	2.47	81	Sheet	59	Grass: Dense	2.0%	SCI	43	Unpaved	2.0%													**9.4**
2	Basin A Impervious	2.47	81	Sheet	100	Smooth Surfaces	1.0%	SCI	113	Paved	1.0%	Piped	66	RCP	2.5 ft/s									**2.0**
3	Basin B Pervious	1.26	75	Sheet	59	Grass: Dense	2.0%	SCI	44	Unpaved	2.0%													**9.4**
4	Basin B Impervious	1.26	75	Sheet	80	Smooth Surfaces	2.0%	SCI	34	Unpaved	2.0%													**1.2**
5	Basin C Pervious	0.99	77	Sheet	59	Grass: Dense	2.0%	SCI	44	Unpaved	2.0%													**9.4**
6	Basin C Impervious	0.99	77	Sheet	80	Smooth Surfaces	2.0%	SCI	36	Unpaved	2.0%													**1.3**
7	Basin D Pervious	2.67	80	Sheet	30	Grass: Dense	5.0%	SCI	300	Paved	1.2%	Piped	465	RCP	2.5 ft/s									**9.0**
8	Basin D Impervious	2.67	80	Sheet	100	Smooth Surfaces	1.0%	SCI	216	Paved	1.0%	Piped	465	RCP	2.5 ft/s									**6.5**
9	Basin E Pervious	2.24	80	Sheet	30	Grass: Dense	5.0%	SCI	300	Paved	1.0%	Piped	279	RCP	2.5 ft/s									**8.1**
10	Basin E Impervious	2.24	80	Sheet	100	Smooth Surfaces	1.0%	SCI	214	Paved	1.0%	Piped	279	RCP	2.5 ft/s									**5.3**
11	Basin F Pervious	1.50	82	Sheet	33	Grass: Dense	2.0%	SCI	158	Paved	1.0%	Piped	256	RCP	2.5 ft/s									**8.7**
12	Basin F Impervious	1.50	82	Sheet	100	Smooth Surfaces	1.0%	SCI	101	Paved	1.0%	Piped	256	RCP	2.5 ft/s									**4.1**
13	Basin G Pervious	1.26	75	Sheet	59	Grass: Dense	2.0%	SCI	43	Unpaved	3.50													**9.3**
14	Basin G Impervious	1.26	75	Sheet	91	Smooth Surfaces	1.0%	Piped	192	RCP	2.5 ft/s													**2.7**
15	Basin H Pervious	1.95	77	Sheet	59	Grass: Dense	2.0%	SCI	52	Unpaved	2.0%													**9.5**
16	Basin H Impervious	1.95	77	Sheet	100	Smooth Surfaces	1.0%	SCI	71	Paved	1.0%	Piped	136	RCP	2.5 ft/s									**3.1**
17	Basin I Pervious	0.53	74	Sheet	59	Grass: Dense	2.0%	SCI	75	Unpaved	2.0%													**9.6**
18	Basin I Impervious	0.53	74	Sheet	80	Smooth Surfaces	2.0%	SCI	42	Unpaved	5.0%													**1.2**
19	Basin K Pervious	1.64	75	Sheet	59	Grass: Dense	2.0%	SCI	77	Unpaved	2.0%													**9.7**
20	Basin K Impervious	1.64	75	Sheet	80	Smooth Surfaces	2.0%	SCI	39	Unpaved	5.0%	Piped	93	RCP	2.5 ft/s									**1.8**
21	Basin L Pervious	0.97	80	Sheet	59	Grass: Dense	2.0%	SCI	37	Unpaved	8.0%													**9.2**
22	Basin L Impervious	0.97	80	Sheet	100	Smooth Surfaces	1.0%	SCI	165	Paved	1.0%	Piped	49	RCP	2.5 ft/s									**3.3**
23	Basin M Pervious	0.86	83	Sheet	52	Grass: Dense	2.0%	SCI	87	Paved	2.0%	Piped	86	RCP	2.5 ft/s									**9.3**
24	Basin M Impervious	0.86	83	Sheet	100	Smooth Surfaces	1.0%	SCI	44	Paved	1.0%	Piped	124	RCP	2.5 ft/s									**1.2**
25	Basin N Pervious	1.39	79	Sheet	59	Grass: Dense	2.0%	SCI	49	Unpaved	6.0%													**9.3**
26	Basin N Impervious	1.39	79	Sheet	100	Smooth Surfaces	1.0%	SCI	149	Paved	1.0%	Piped	388	RCP	2.5 ft/s									**5.4**
27	Basin O Pervious	1.10	83	Sheet	59	Grass: Dense	2.0%	SCI	54	Unpaved	4.0%													**9.4**
28	Basin O Impervious	1.10	83	Sheet	100	Smooth Surfaces	1.0%	SCI	132	Paved	1.0%	Piped	165	RCP	2.5 ft/s									**3.8**
29	Basin P Pervious	2.76	78	Sheet	59	Grass: Dense	2.0%	SCI	99	Unpaved	2.0%	Piped	56	RCP	2.5 ft/s									**10.2**
30	Basin P Impervious	2.76	78	Sheet	100	Smooth Surfaces	1.0%	SCI	132	Paved	1.0%	Piped	137	RCP	2.5 ft/s									**3.6**
31	Basin Q Pervious	1.86	83	Sheet	49	Grass: Dense	2.0%	SCI	283	Paved	1.0%	Piped	280	RCP	2.5 ft/s									**12.0**
32	Basin Q Impervious	1.86	83	Sheet	100	Smooth Surfaces	1.0%	SCI	144	Paved	1.0%	Piped	280	RCP	2.5 ft/s									**4.7**
33	Basin R Pervious	2.04	81	Sheet	59	Grass: Dense	2.0%	SCI	39	Unpaved	2.5%													**9.4**
34	Basin R Impervious	2.04	81	Sheet	100	Smooth Surfaces	1.0%	SCI	213	Paved	1.2%	Piped	143	RCP	2.5 ft/s									**4.2**
35	Basin S Pervious	1.80	79	Sheet	59	Grass: Dense	2.0%	SCI	5	Unpaved	1.0%	SCI	167	Paved	1.0%	Piped	234	RCP	2.5 ft/s					**12.2**
36	Basin S Impervious	1.80	79	Sheet	100	Smooth Surfaces	2.5%	SCI	176	Paved	1.0%	Piped	234	RCP	2.5 ft/s									**4.9**
37	Basin T Pervious	0.73	71	Sheet	26	Grass: Dense	17.0%																	**2.0**
38	Basin T Impervious	0.73	71	Sheet	100	Smooth Surfaces	1.0%	SCI	93	Paved	1.0%	Piped	61	RCP	2.5 ft/s									**2.0**
39	Basin U Pervious	1.07	75	Sheet	28	Grass: Dense	3.5%	SCI																**4.0**
40	Basin U Impervious	1.07	75	Sheet	100	Smooth Surfaces	1.5%	SCI	69	Paved	1.0%	Piped	79	RCP	2.5 ft/s									**2.4**
41	Basin V Pervious	0.85	66	Sheet	59	Grass: Dense	2.0%	SCI	41	Unpaved	2.0%													**9.4**
42	Basin V Impervious	0.85	66	Sheet	80	Smooth Surfaces	2.0%	SCI	45	Unpaved	2.0%													**1.3**
43	Pipe W Pervious	6.42	67	Sheet	66	Grass: Dense	2.5%	SCI	144	Unpaved	2.0%	Piped	1824	RCP	2.5 ft/s	Stream	3011	Stream	2.5 ft/s					**42.5**
44	Pipe W Impervious	6.42	67	Sheet	80	Smooth Surfaces	2.0%	SCI	82	Unpaved	3.0%	Piped	1598	RCP	2.5	Stream	3011	Stream	2.5 ft/s					**32.3**
45	W - Offsite Undisturbed	8.21	75	Sheet	100	Grass: Dense	1.2%	SCI	74	Unpaved	1.0%	SCI	94	Unpaved	1.0%									**33.1**
46	Pipe X Pervious	4.99	69	Sheet	59	Grass: Dense	2.0%	SCI	168	Unpaved	2.0%	Piped	1103	RCP	2.5 ft/s	SCI	123	Unpaved	2.5%	Stream	1101	Stream	2.5 ft/s	**25.8**
47	Pipe X Impervious	4.99	69	Sheet	80	Smooth Surfaces	2.0%	SCI	140	Unpaved	2.0%	Piped	1103	RCP	2.5 ft/s	SCI	123	Unpaved	102.5%	Stream	1101	Stream	2.5 ft/s	**17.5**
48	X - Offsite Undisturbed	5.17	75	Sheet	100	Grass: Dense	2.0%	SCI	408	Unpaved	3.2%	SCI	372	Unpaved	3.0%									**35.5**
49	Pipe Y Pervious	3.45	62	Sheet	59	Grass: Dense	2.0%	SCI	170	Unpaved	2.0%	Piped	1078	RCP	2.5 ft/s	Stream	64	Stream	2.5 ft/s					**16.9**
50	Pipe Y Impervious	3.45	62	Sheet	80	Smooth Surfaces	2.0%	SCI	67	Unpaved	4.0%	Piped	1078	RCP	2.5 ft/s	Stream	64	Stream	2.5 ft/s					**7.0**
51	Y - offsite Undisturbed	12.62	75	Sheet	100	Grass: Dense	3.5%	SCI	280	Unpaved	3.7%	SCI	380	Unpaved	2.4%									**15.1**
52	DA North Undetained Pervious	14.68	77	Sheet	88	Grass: Dense	4.5%	SCI	216	Unpaved	3.0%	Stream	2972	Stream	2.5 ft/s									**30.2**
53	DA North Undetained Impervious	14.68	77	Sheet	80	Smooth Surfaces	2.0%	SCI	200	Unpaved	6.5%	Stream	2972	Stream	2.5 ft/s									**17.9**
54	DA South Pervious	49.16	44	Sheet	25	Woods: Light Underbrush	1.0%	SCI	1080	Unpaved	2.4%													**16.3**
55	DA South Impervious	49.16	44	Sheet	12	Smooth Surfaces	3.0%	SCI	1142	Unpaved	2.1%													**8.4**
56	DA South Undisturbed Pervious	8.02	89	Sheet	25	Woods: Light Underbrush	1.0%	SCI	1080	Unpaved	2.4%													**16.3**
57	DA Wetlands Pervious	10.22	46	Sheet	72	Grass: Dense	3.0%	SCI	344	Unpaved	1.8%	SCI	337	Unpaved	2.9%									**13.0**
58	DA Wetlands Impervious	10.22	46	Sheet	28	Smooth Surfaces	3.4%	SCI	366	Unpaved	3.6%	SCI	337	Unpaved	2.9%									**4.3**

Rev.	Date	Comments	By
7	05/09/25	REV. PER BOROUGH COMMENTS	MPZ
6	03/26/25	REV. PER BOROUGH COMMENTS	MPZ
5	02/26/25	REV. PER UTILITY COMMENTS	MPZ
4	12/11/24	REV. PER NJDOT COMMENTS	MMK
3	10/18/24	REV. PER BOROUGH, NJDEP, SCD COMMENTS	CAM
2	05/23/24	REV. PER NJDEP	NSR
1	03/08/24	REV. PER BOROUGH & NJDOT COMMENTS	MMK
0	08/31/23	FOR SEWER DESIGN	RPF

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TITLE: PROPOSED DRAINAGE AREA MAP

PROJECT: SURREY EQUITIES, LLC
PROPOSED RESIDENTIAL DEVELOPMENT
BLOCK 2701, (APPROVED LOTS 69.05 & 69.06)
MONMOUTH ROAD & NJSH ROUTE 36
BOROUGH OF EATONTOWN, MONMOUTH COUNTY, NEW JERSEY

JOB No: 3272-99-005
DATE: 08/31/2023
DRAWN BY: CAM
SCALE:(H) 1"=120' (V)
DESIGNED BY: RDM
CHECKED BY: RPF
CHECKED BY: —
SHEET No: 2 OF 3
Rev. # 7

ROBERT P. FREUD
PROFESSIONAL ENGINEER
NEW JERSEY LICENSE No. 41938

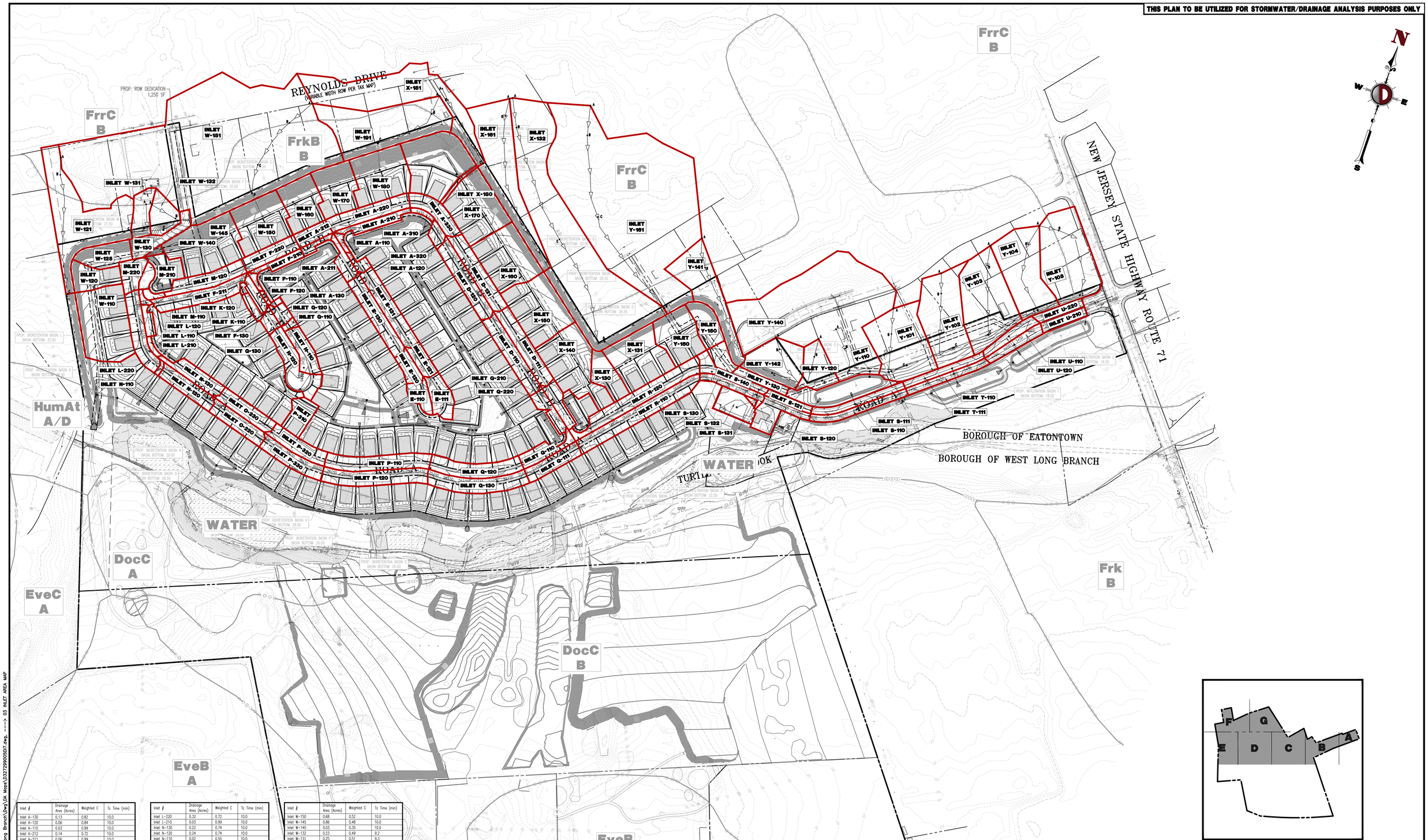
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File: P:\SURVEY PROJECTS\2022 Survey Updates, LLC\SY-030 Eatontown and West Long Branch\Dwg\DA Maps\DA032799005DP7.dwg, ----> 02 PROPOSED DRAINAGE AREA MAP

THIS PLAN TO BE UTILIZED FOR STORMWATER/DRAINAGE ANALYSIS PURPOSES ONLY



KEY MAP

Inlet #	Drainage Area (Acres)	Weighted C	Tc Time (min)
Inlet A–130	0.13	0.82	10.0
Inlet A–120	0.06	0.84	10.0
Inlet A–110	0.03	0.99	10.0
Inlet A–212	0.14	0.72	10.0
Inlet A–211	0.06	0.99	10.0
Inlet A–220	0.34	0.72	10.0
Inlet A–210	0.16	0.99	10.0
Inlet A–330	0.23	0.74	10.0
Inlet A–320	0.08	0.72	10.0
Inlet A–310	0.03	0.99	10.0
Inlet D–121	0.35	0.73	10.0
Inlet D–120	0.34	0.73	10.0
Inlet D–111	0.34	0.72	10.0
Inlet D–110	0.34	0.72	10.0
Inlet F–130	0.10	0.98	10.0
Inlet F–120	0.04	0.95	10.0
Inlet F–110	0.03	0.99	10.0
Inlet F–211	0.36	0.73	10.0
Inlet F–220	0.22	0.73	10.0
Inlet F–210	0.12	0.99	10.0
Inlet G–130	0.08	0.74	10.0
Inlet G–120	0.08	0.73	10.0
Inlet G–110	0.03	0.57	10.0
Inlet H–120	0.36	0.80	10.0
Inlet H–110	0.20	0.74	10.0
Inlet I–131	0.34	0.72	10.0
Inlet I–130	0.34	0.74	10.0
Inlet I–121	0.13	0.72	10.0
Inlet I–120	0.15	0.74	10.0
Inlet I–111	0.23	0.77	10.0
Inlet I–110	0.11	0.79	10.0
Inlet K–120	0.01	0.52	10.0
Inlet K–110	0.08	0.50	10.0
Inlet K–220	0.18	0.77	10.0
Inlet M–210	0.08	0.99	10.0
Inlet M–120	0.30	0.73	10.0
Inlet M–110	0.04	0.99	10.0
Inlet L–120	0.03	0.99	10.0

Inlet #	Drainage Area (Acres)	Weighted C	Tc Time (min)
Inlet L–220	0.32	0.72	10.0
Inlet L–210	0.03	0.99	10.0
Inlet N–130	0.22	0.74	10.0
Inlet N–120	0.24	0.74	10.0
Inlet N–110	0.02	0.55	10.0
Inlet O–230	0.24	0.75	10.0
Inlet O–220	0.24	0.71	10.0
Inlet P–330	0.27	0.72	10.0
Inlet P–320	0.24	0.71	10.0
Inlet P–310	0.22	0.53	10.0
Inlet P–120	0.41	0.73	10.0
Inlet P–110	0.41	0.70	10.0
Inlet Q–130	0.40	0.70	10.0
Inlet Q–120	0.37	0.70	10.0
Inlet Q–111	0.23	0.71	10.0
Inlet Q–110	0.17	0.80	10.0
Inlet Q–220	0.15	0.86	10.0
Inlet Q–210	0.16	0.84	10.0
Inlet R–120	0.53	0.74	10.0
Inlet R–110	0.53	0.73	10.0
Inlet S–140	0.17	0.75	10.0
Inlet S–132	0.26	0.92	10.0
Inlet S–131	0.01	0.99	10.0
Inlet S–130	0.12	0.83	10.0
Inlet S–121	0.11	0.71	10.0
Inlet S–120	0.27	0.74	10.0
Inlet S–111	0.19	0.71	10.0
Inlet S–110	0.20	0.73	10.0
Inlet T–120	0.16	0.71	10.0
Inlet T–110	0.17	0.72	10.0
Inlet U–220	0.13	0.80	10.0
Inlet U–210	0.12	0.81	10.0
Inlet U–120	0.15	0.78	10.0
Inlet U–110	0.16	0.80	10.0
Inlet W–191	1.31	0.51	10.2
Inlet W–180	0.72	0.51	10.0
Inlet W–170	0.51	0.5	10.0
Inlet W–160	0.43	0.53	10.0

Inlet #	Drainage Area (Acres)	Weighted C	Tc Time (min)
Inlet W–150	0.68	0.52	10.0
Inlet W–145	0.86	0.48	10.0
Inlet W–140	0.03	0.35	10.0
Inlet W–132	0.23	0.49	9.2
Inlet W–131	0.25	0.51	9.3
Inlet W–130	0.24	0.35	10.0
Inlet W–125	0.29	0.27	10.0
Inlet W–121	1.31	0.51	11.5
Inlet W–120	0.29	0.48	10.0
Inlet W–110	0.89	0.52	10.0
Inlet X–181	1.43	0.53	11.0
Inlet X–180	0.08	0.35	10.0
Inlet X–170	0.77	0.50	12.3
Inlet X–161	1.23	0.50	10.0
Inlet X–160	0.74	0.51	10.0
Inlet X–150	0.80	0.54	10.0
Inlet X–140	0.82	0.54	10.0
Inlet X–131	3.33	0.53	18.1
Inlet X–130A	0.69	0.52	10.0
Inlet X–130	0.26	0.50	10.0
Inlet Y–161	5.11	0.55	15.1
Inlet Y–160	0.54	0.49	10.0
Inlet Y–150	0.26	0.35	10.0
Inlet Y–142	0.56	0.39	10.9
Inlet Y–141	0.76	0.45	10.7
Inlet Y–140	0.14	0.35	10.0
Inlet Y–130	0.13	0.35	10.0
Inlet Y–120	0.35	0.49	10.2
Inlet Y–110	3.14	0.54	9.9
Inlet Y–105	1.06	0.54	11.0
Inlet Y–104	0.97	0.54	10.9
Inlet Y–103	1.23	0.50	10.6
Inlet Y–102	0.89	0.47	11.2
Inlet Y–101	0.94	0.46	10.5

TC Path #	Study Area	TC Segments AB Flow	AB Length	AB Surface	AB Slope	BC Flow	BC Length	BC Surface	BC Slope/ Velocity	CD Flow	CD Length	CD Surface	CD Slope/ Velocity	Tc Time (min)
1	Inlet W-191	Sheet	66	Grass: Dense	2.5%	SCF	168	Unpaved	2.5%					**10.2**
2	Inlet W-151	Sheet	100	Grass: Dense	1.2%	SCF	233	Unpaved	4.1%	SCF	98	Unpaved	2.5%	**18.5**
3	Inlet W-132	Sheet	100	Grass: Dense	6.0%	SCF	76	Unpaved	7.0%					**9.2**
4	Inlet W-131	Sheet	100	Grass: Dense	6.0%	SCF	55	Unpaved	2.0%					**9.3**
5	Inlet W-121	Sheet	59	Grass: Dense	2.0%	SCF	408	Unpaved	3.2%					**11.5**
6	Inlet X-181	Sheet	42	Grass: Dense	1.0%	SCF	246	Unpaved	2.0%					**11.0**
7	Inlet X-161	Sheet	59	Grass: Dense	2.0%	SCF	554	Unpaved	3.2%					**12.3**
8	Inlet X-131	Sheet	100	Grass: Dense	2.0%	SCF	408	Unpaved	3.20	SCF	386	Unpaved	4.8%	**18.1**
9	Inlet Y-161	Sheet	100	Grass: Dense	3.5%	SCF	280	Unpaved	3.7%	SCF	380	Unpaved	2.4%	**15.1**
10	Inlet Y-142	Sheet	59	Grass: Dense	2.0%	SCF	211	Unpaved	1.5%					**10.9**
11	Inlet Y-141	Sheet	100	Grass: Dense	7.0%	SCF	347	Unpaved	2.5%					**10.7**
12	Inlet Y-120	Sheet	59	Grass: Dense	2.0%	SCF	151	Unpaved	2.0%					**10.2**
13	Inlet Y-110	Sheet	72	Grass: Dense	3.0%	SCF	144	Unpaved	3.6%					**9.9**
14	Inlet Y-105	Sheet	66	Grass: Dense	2.5%	SCF	256	Unpaved	2.0%					**11.0**
15	Inlet Y-104	Sheet	72	Grass: Dense	3.0%	SCF	246	Unpaved	2.0%					**10.9**
16	Inlet Y-103	Sheet	59	Grass: Dense	2.0%	SCF	235	Unpaved	2.5%					**10.6**
17	Inlet Y-102	Sheet	66	Grass: Dense	2.5%	SCF	292	Unpaved	2.0%					**11.2**
18	Inlet Y-101	Sheet	83	Grass: Dense	4.0%	SCF	193	Unpaved	2.0%					**10.5**

Rev.	Date	Comments	By
7	05/09/25	REV. PER BOROUGH COMMENTS	MFZ
6	03/26/25	REV. PER NJDOT COMMENTS	MFZ
5	02/26/25	REV. PER UTILITY COMMENTS	MFZ
4	12/11/24	REV. PER NJDOT COMMENTS	MRK
3	10/18/24	REV. PER BOROUGH, NJDEP, SCD COMMENTS	CAM
2	05/23/24	REV. PER NJDEP	NSR
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TITLE: INLET AREA MAP

PROJECT: **SURREY EQUITIES, LLC**
PROPOSED RESIDENTIAL DEVELOPMENT
BLOCK 2701, (APPROVED LOTS 69.05 & 69.06)
MONMOUTH ROAD & NJSH ROUTE 36
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JOB No: 3272–99–005
DATE: 08/31/2023
DRAWN BY: CAM
SCALE (H) 1"=120 (V)
DESIGNED BY: RDM
SHEET No: 3 OF 3
CHECKED BY: RPF
CHECKED BY: —

ROBERT P. FREUD
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Plotted: 06/11/25 – 4:25 PM, By: mzimmerman, — Product Ver: 25.0
File: K:\DGN\3272-99-005\3272-99-005 Survey Equities, LC\39-005 Sheets\West Long Branch\Dwg\DA Maps\D3272990050507.dwg, ---> 03 INLET AREA MAP

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