

Storm Water Design Report

Project: Florence Dialysis Project
Date: July 25, 2011
Designer: S. Morris
Type of Project: Commercial
Tax Lot: 18-12-22-42 T.L 1200 (see attached vicinity map)
Address: No Address Assigned Yet

Project Overview

This project involves the construction of an approximate 6175 square foot building with associated parking sidewalks in Florence, Oregon. The existing condition of the site is vegetated with underbrush and trees, and is sloped primarily to the north.

All calculations in this report are using the Santa Barbara Unit Hydrograph method, utilizing a 24 hour, Type 1A storm distribution. The analysis includes calculations for 2 year, 10 year, 25 year, and water quality events as outlined in the Florence Stormwater Management Manual (FSMM).

Proposed Destination

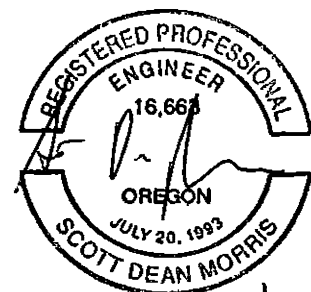
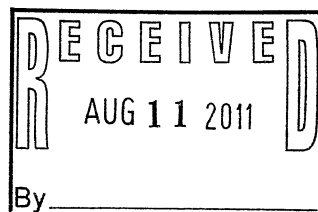
There are no existing drainage pipes or channels abutting the property. There is an existing drainage channel on the north side of tax lot 1100 (north of property), which is currently owned by the City of Florence.

The proposal is to construct infiltration rain gardens at 6 locations on the site, making the destination of the storm water back into the groundwater. After consulting with K & A Engineering Inc., (Project Geotechnical Engineer), they have estimated that the infiltration rate is over 10 inches per hour above the water table, which was found at elevations between 92 and 93 feet.

There are no planned facilities to convey water off site, which meets the goal of the FSMM to limit the post development flow leaving the site.

Proposed Pollution Control Facilities

The impervious surfaces proposed are divided into 6 drainage areas that flow to individual pollution control facilities, which are outlined below (see attached map outlining individual drainage areas):



Expires 12/2012

Building Roof, Front Canopy, and Entry Drive Rain Garden

The site plan shows the roof area of the building and a roof canopy over the drop off area on the west side of the building. This area plus the western portion of the entry drive totals approximately 13,999 square feet and is directed to the rain garden located on the northwest end of the site. This rain garden is designed to be 3 feet in depth and have 3:1 side slopes.

N1 Rain Garden

This rain garden will serve a portion of the entry drive and north parking area as shown on the attached basin map. The service area for this rain garden is approximately 1,982 square feet. The rain garden is designed to be 1 foot in depth and have 3:1 side slopes.

N2 Rain Garden

This rain garden will serve the remainder of the northern parking area and sidewalks as shown on the attached basin map. The service area for this rain garden is approximately 7,155 square feet. The rain garden is designed to be 1 foot in depth and have 3:1 side slopes.

E1 Rain Garden

This rain garden will serve the north portion of the eastern parking area as shown on the attached basin map. The service area for this rain garden is approximately 2,874 square feet. The rain garden is designed to be 2 feet in depth and have 3:1 side slopes.

E2 Rain Garden

This rain garden will serve the south portion of the eastern parking area as shown on the attached basin map. The service area for this rain garden is approximately 2,874 square feet. The rain garden is designed to be 2 feet in depth and have 3:1 side slopes.

Loading Dock Area Rain Garden

This rain garden will serve the loading area south of the building as shown on the attached basin map. The service area for this rain garden is approximately 2,204 square feet. The rain garden is designed to be 1 foot in depth and have 3:1 side slopes.

All rain gardens shall meet the specifications shown on the FSMM Standard Drawing SW-140 (attached) and shall be landscaped as per specified on the Landscape Plan prepared by the Architect to insure the pollution control standards are achieved.

Peak Flow Calculations

The site is graded to create 6 drainage basins on the site that are directed to 6 corresponding rain gardens. The rain gardens are designed as infiltration facilities only and have no piped outlets.

The system was modeled during a 2 year, 10 year, 25 year, and a water quality storm event per the Florence Stormwater Management Manual at the rates shown below (24 hour totals):

- 2 Year Storm Event = 3.46 Inches
- 10 Year Storm Event = 4.48 Inches
- 25 Year Storm Event = 5.06 Inches
- Water Quality Event = 0.83 Inches

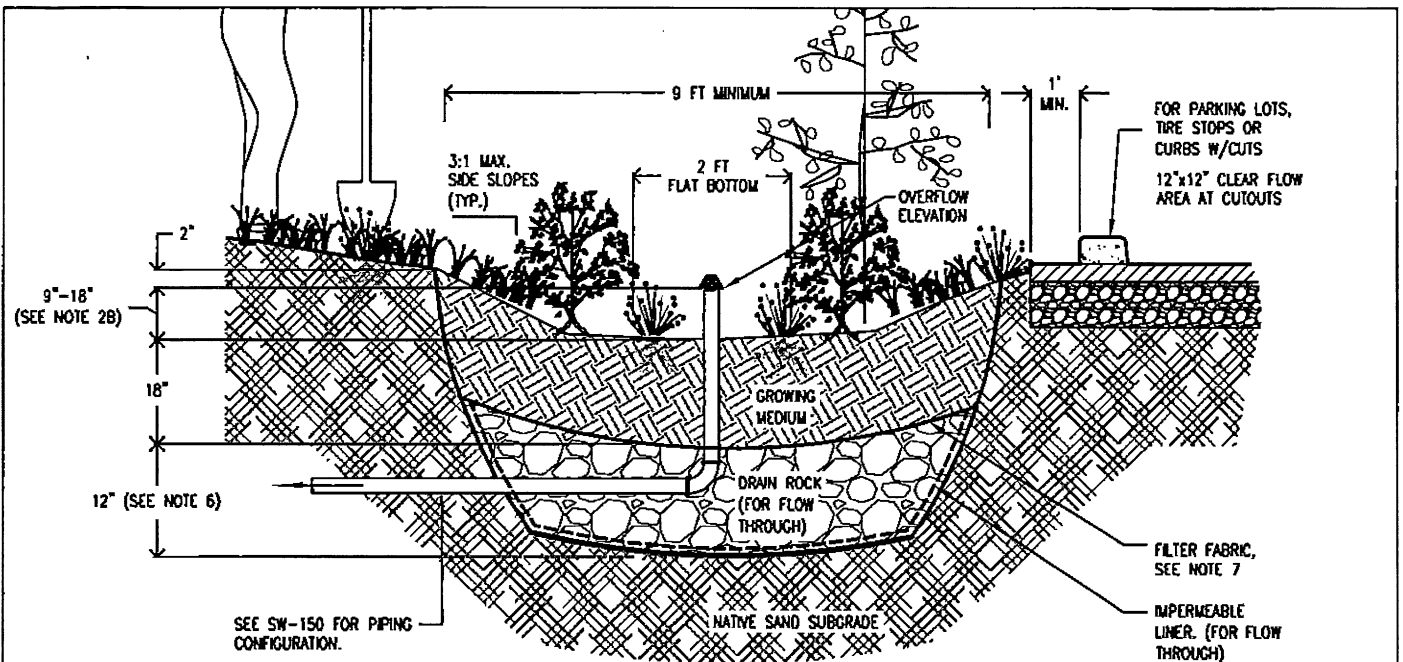
K & A Engineering, Inc. performed the geotechnical investigation of the site and estimated the percolation rate of the site to be greater than 10 inches per hour at elevations above 93. Per the FSMM, the calculations were based on an infiltration rate of 4 inches per hour to provide a factor of safety into the design of the rain gardens.

The HydroCAD calculation sheets are attached for each rain garden, with a summary of information below:

Facility ID	Drainage Area (S.F.)	Flow Line Elevation	Flood Elevation	Water Quality Elevation	2 year Elevation	10 year Elevation	25 year Elevation
Building & Entry Rain Garden	13999	96.00	99.00	96.69	98.28	98.70	98.91
N1 Rain Garden	1982	97.75	98.75	97.76	98.01	98.13	98.21
N2 Rain Garden	7155	97.00	98.20	97.03	97.51	97.68	97.77
E1 Rain Garden	2874	97.00	99.00	97.39	98.47	98.74	98.87
E2 Rain Garden	2874	97.00	99.00	97.06	97.79	98.06	98.19
Loading Dock Rain Garden	2204	98.00	99.00	98.01	98.35	98.51	98.59

Operations and Maintenance

The operation and maintenance of the storm water facilities is the responsibility of the property owner. Documents outlining the operation and maintenance tasks as well as the responsible party will be prepared and submitted prior to issuance of building permit. Draft documents are attached to this report.



1. Provide protection from all vehicle traffic, equipment staging, and foot traffic in proposed infiltration areas prior to, during, and after construction.

2. Dimensions:

- a. Width of basin: 9' minimum.
- b. Depth of basin (from top of growing medium to overflow elevation); Simplified: 12", Presumptive: 9"-18".
- c. Flat bottom width: 2' min.
- d. Side slopes of basin: 3:1 maximum.

3. Setbacks (from midpoint of facility):

- a. Infiltration basins must be 10' from foundations and 5' from property lines.
- b. Flow-through swales must be lined with connection to approved discharge point according to SWDM Section 2.1.

4. Overflow:

- a. Overflow required for Simplified Approach.
- b. Inlet elevation must allow for 2" of freeboard, minimum.
- c. Protect from debris and sediment with strainer or grate.

5. Piping: shall be ABS Sch.40, cast Iron, or PVC Sch.40. 3" pipe required for up to 1,500 sq ft of Impervious area, otherwise 4" min. Piping must have 1% grade and follow the Uniform Plumbing Code.

6. Drain rock:

- a. None required for infiltration basin
- b. Size for flow-through basin: ¾" washed

7. Separation between drain rock and growing medium:

Use filter fabric (see SWDM Exhibit 2-5).

8. Growing medium:

- a. 18" minimum
- b. See Appendix B for specification.

9. Vegetation: Follow landscape plans otherwise refer to plant list in SWDM Appendix G. Minimum container size is 1 gallon. # of plantings per 100sf of facility area;

- a. Zone A (wet): 115 herbaceous plants OR 100 herbaceous plants and 4 shrubs
- b. Zone B (moderate to dry): 1 tree AND 3 large shrubs AND 4 medium to small shrubs.

The delineation between Zone A and B shall be either at the outlet elevation or the check dam elevation, whichever is lowest.

10. Install washed pea gravel or river rock to transition from inlets and splash pad to growing medium.

11. Inspections: Call City of Florence Public Works (541) 997-4106 to schedule appropriate inspections.

- DRAWING NOT TO SCALE -

STORMWATER MANAGEMENT MANUAL TYPICAL DETAILS



CITY OF FLORENCE
PUBLIC WORKS DEPARTMENT
989 Spruce Street
Florence, OR 97439
Phone: 541-997-4106

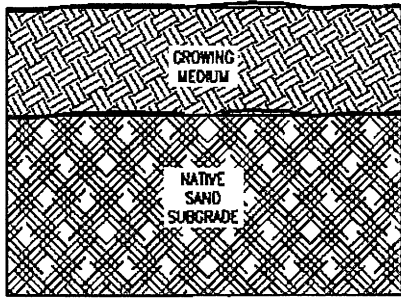
- Simplified / Presumptive Design Approach -

Rain Garden

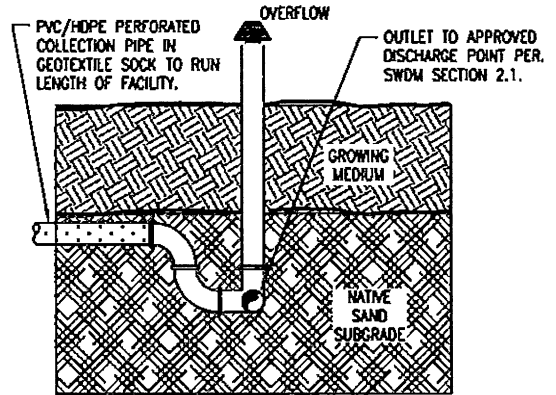
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SW-140

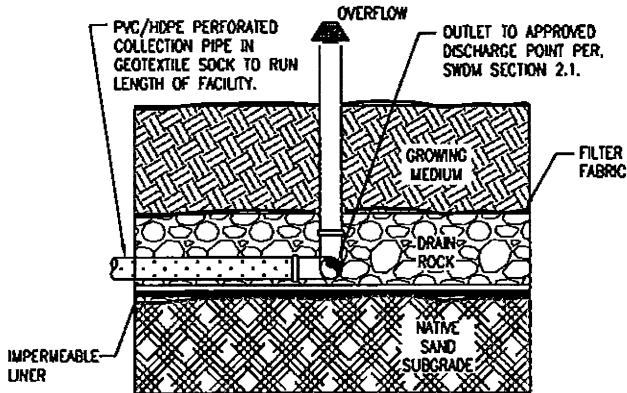
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INFILTRATION

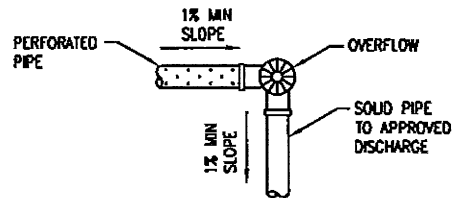


PARTIAL INFILTRATION
OVERFLOW AND UNDERDRAIN REQUIRED.
SET UNDERDRAIN WITHIN DRAIN ROCK



NOTE: FLOW MUST BE USED WITHIN.

FLOW-THROUGH
STORMWATER HIERARCHY CATEGORY 3 or 4
OVERFLOW AND UNDERDRAIN REQUIRED.
SET UNDERDRAIN AT BASE OF DRAIN ROCK LINER.



PLAN VIEW
PIPE W/ UNDERDRAIN & DISCHARGE POINT

- DRAWING NOT TO SCALE -

STORMWATER MANAGEMENT MANUAL TYPICAL DETAILS



CITY OF FLORENCE
PUBLIC WORKS DEPARTMENT
889 Spruce Street
Florence, OR 97439
Phone: 541-997-4106

- Simplified / Presumptive Design Approach -

**Facility Overflow
Configurations**

NUMBER

SW-150

DATE: 11-30-10

Florence Dialysis

Type IA 24-hr Water Quality Design Rainfall=0.83"

Prepared by {enter your company name here}

Printed 7/25/2011

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Page 7

Summary for Pond 13P: Rain Garden at Northwest Corner

Inflow Area = 0.321 ac, 100.00% Impervious, Inflow Depth > 0.63" for Water Quality Design event
 Inflow = 0.05 cfs @ 7.84 hrs, Volume= 0.017 af
 Outflow = 0.02 cfs @ 9.07 hrs, Volume= 0.016 af, Atten= 70%, Lag= 73.8 min
 Discarded = 0.02 cfs @ 9.07 hrs, Volume= 0.016 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 96.69' @ 9.07 hrs Surf.Area= 329 sf Storage= 168 cf
 Flood Elev= 99.00' Surf.Area= 1,165 sf Storage= 1,825 cf

Plug-Flow detention time= 153.8 min calculated for 0.016 af (93% of inflow)
 Center-of-Mass det. time= 106.3 min (826.1 - 719.8)

Volume	Invert	Avail.Storage	Storage Description
#1	96.00'	1,825 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

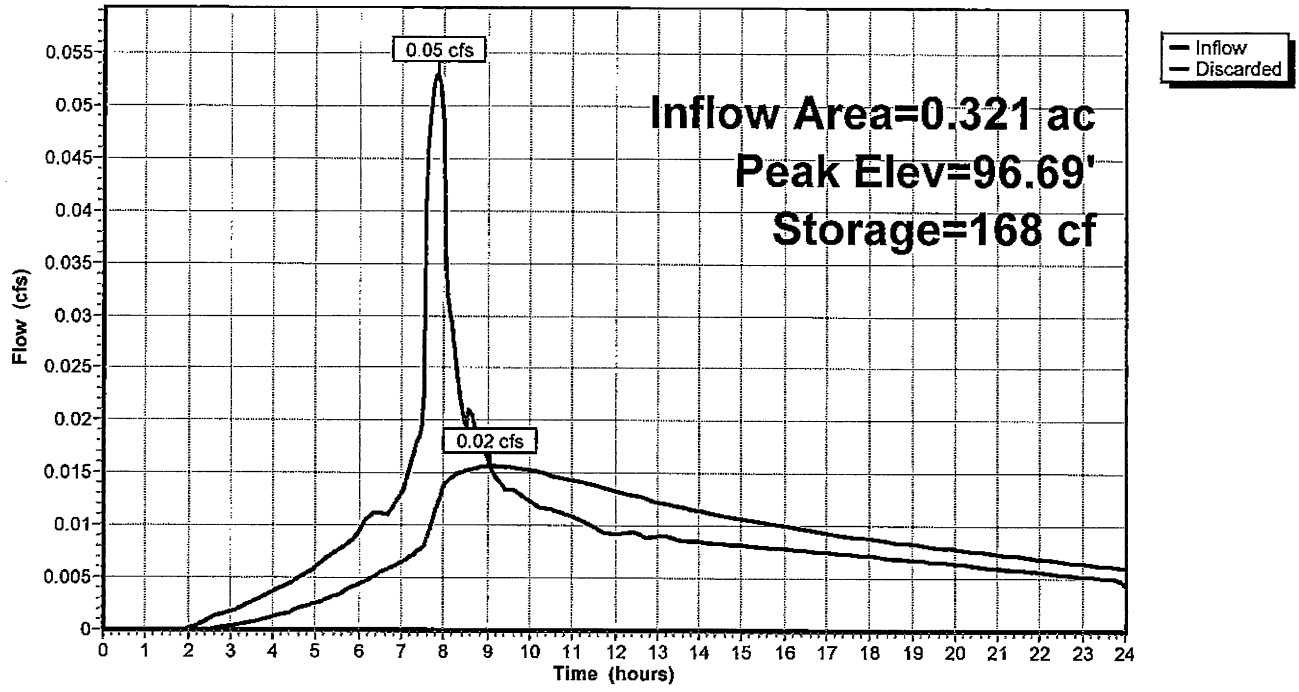
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
96.00	160	0	0
97.00	406	283	283
98.00	756	581	864
99.00	1,165	961	1,825

Device	Routing	Invert	Outlet Devices
#1	Discarded	96.00'	4.000 in/hr Exfiltration over Surface area above 96.00' Excluded Surface area = 160 sf

Discarded OutFlow Max=0.02 cfs @ 9.07 hrs HW=96.69' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.02 cfs)

Pond 13P: Rain Garden at Northwest Corner

Hydrograph



Florence Dialysis

Type IA 24-hr 2 Year Design Rainfall=3.46"

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Page 1

Summary for Pond 13P: Rain Garden at Northwest Corner

Inflow Area = 0.321 ac, 100.00% Impervious, Inflow Depth > 3.23" for 2 Year Design event
 Inflow = 0.27 cfs @ 7.81 hrs, Volume= 0.086 af
 Outflow = 0.07 cfs @ 9.28 hrs, Volume= 0.077 af, Atten= 75%, Lag= 88.7 min
 Discarded = 0.07 cfs @ 9.28 hrs, Volume= 0.077 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 98.28' @ 9.28 hrs Surf.Area= 870 sf Storage= 1,091 cf
 Flood Elev= 99.00' Surf.Area= 1,165 sf Storage= 1,825 cf

Plug-Flow detention time= 229.4 min calculated for 0.077 af (90% of inflow)
 Center-of-Mass det. time= 155.2 min (814.5 - 659.3)

Volume	Invert	Avail.Storage	Storage Description
#1	96.00'	1,825 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

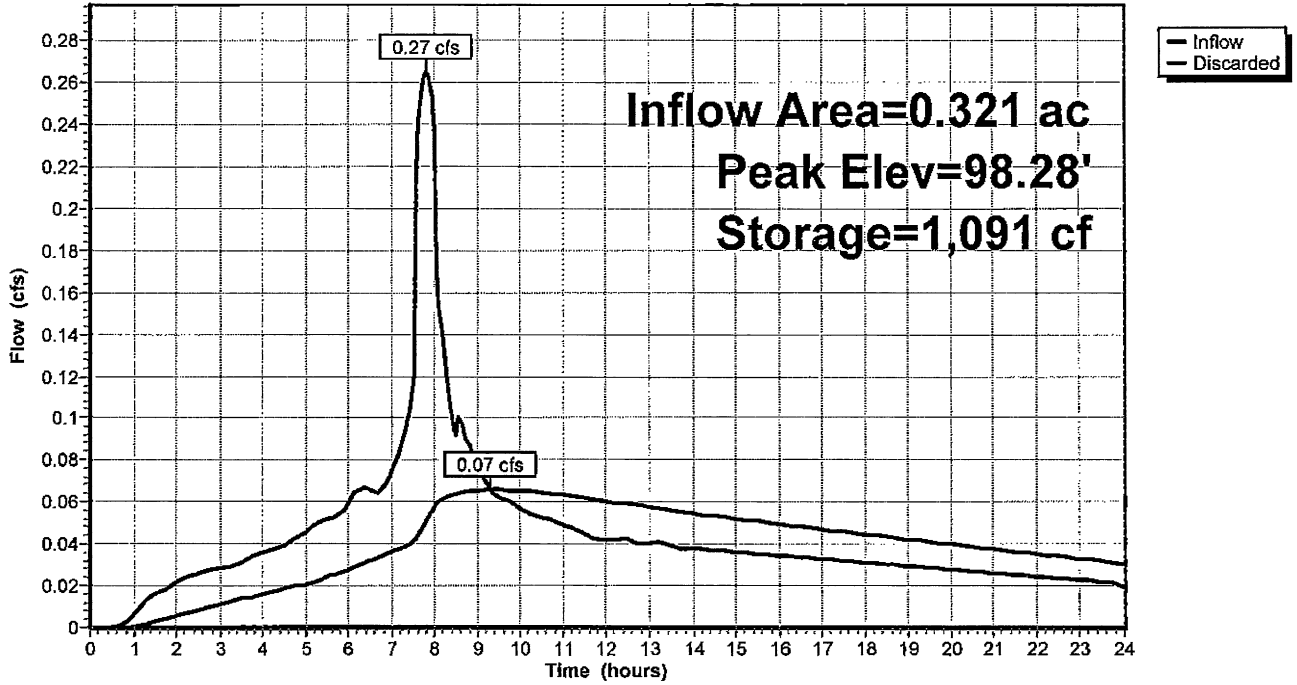
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
96.00	160	0	0
97.00	406	283	283
98.00	756	581	864
99.00	1,165	961	1,825

Device	Routing	Invert	Outlet Devices
#1	Discarded	96.00'	4.000 in/hr Exfiltration over Surface area above 96.00' Excluded Surface area = 160 sf

Discarded OutFlow Max=0.07 cfs @ 9.28 hrs HW=98.28' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.07 cfs)

Pond 13P: Rain Garden at Northwest Corner

Hydrograph



Florence Dialysis

Type IA 24-hr 10 Year Design Rainfall=4.48"

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Page 3

Summary for Pond 13P: Rain Garden at Northwest Corner

Inflow Area = 0.321 ac, 100.00% Impervious, Inflow Depth > 4.24" for 10 Year Design event
 Inflow = 0.35 cfs @ 7.80 hrs, Volume= 0.114 af
 Outflow = 0.08 cfs @ 9.41 hrs, Volume= 0.100 af, Atten= 76%, Lag= 96.3 min
 Discarded = 0.08 cfs @ 9.41 hrs, Volume= 0.100 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 98.70' @ 9.41 hrs Surf.Area= 1,040 sf Storage= 1,489 cf
 Flood Elev= 99.00' Surf.Area= 1,165 sf Storage= 1,825 cf

Plug-Flow detention time= 248.7 min calculated for 0.100 af (88% of inflow)
 Center-of-Mass det. time= 165.0 min (818.1 - 653.2)

Volume	Invert	Avail.Storage	Storage Description
#1	96.00'	1,825 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
96.00	160	0	0
97.00	406	283	283
98.00	756	581	864
99.00	1,165	961	1,825

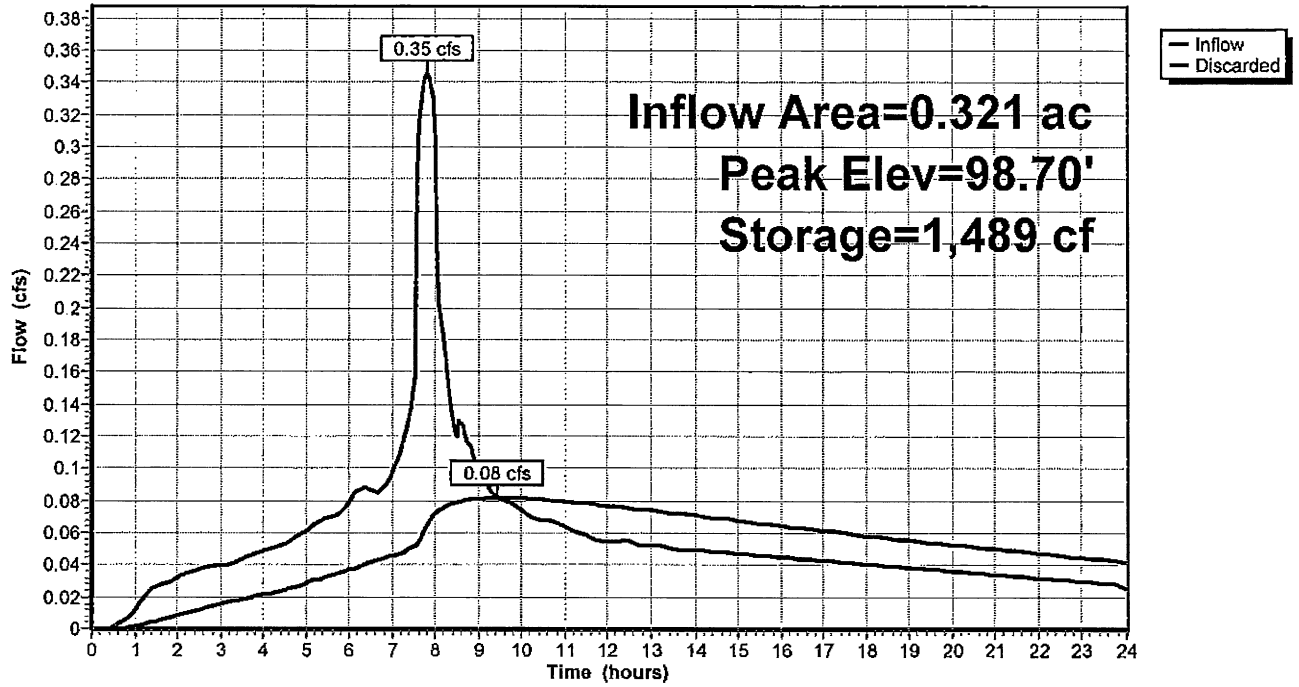
Device	Routing	Invert	Outlet Devices
#1	Discarded	96.00'	4.000 in/hr Exfiltration over Surface area above 96.00' Excluded Surface area = 160 sf

Discarded OutFlow Max=0.08 cfs @ 9.41 hrs HW=98.70' (Free Discharge)

↑1=Exfiltration (Exfiltration Controls 0.08 cfs)

Pond 13P: Rain Garden at Northwest Corner

Hydrograph



Florence Dialysis

Type IA 24-hr 25 Year Design Rainfall=5.06"

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Page 5

Summary for Pond 13P: Rain Garden at Northwest Corner

Inflow Area = 0.321 ac, 100.00% Impervious, Inflow Depth > 4.82" for 25 Year Design event
 Inflow = 0.39 cfs @ 7.80 hrs, Volume= 0.129 af
 Outflow = 0.09 cfs @ 9.69 hrs, Volume= 0.113 af, Atten= 77%, Lag= 113.4 min
 Discarded = 0.09 cfs @ 9.69 hrs, Volume= 0.113 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 98.91' @ 9.69 hrs Surf.Area= 1,129 sf Storage= 1,725 cf
 Flood Elev= 99.00' Surf.Area= 1,165 sf Storage= 1,825 cf

Plug-Flow detention time= 258.9 min calculated for 0.113 af (88% of inflow)
 Center-of-Mass det. time= 169.8 min (820.4 - 650.7)

Volume	Invert	Avail.Storage	Storage Description
#1	96.00'	1,825 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
96.00	160	0	0
97.00	406	283	283
98.00	756	581	864
99.00	1,165	961	1,825

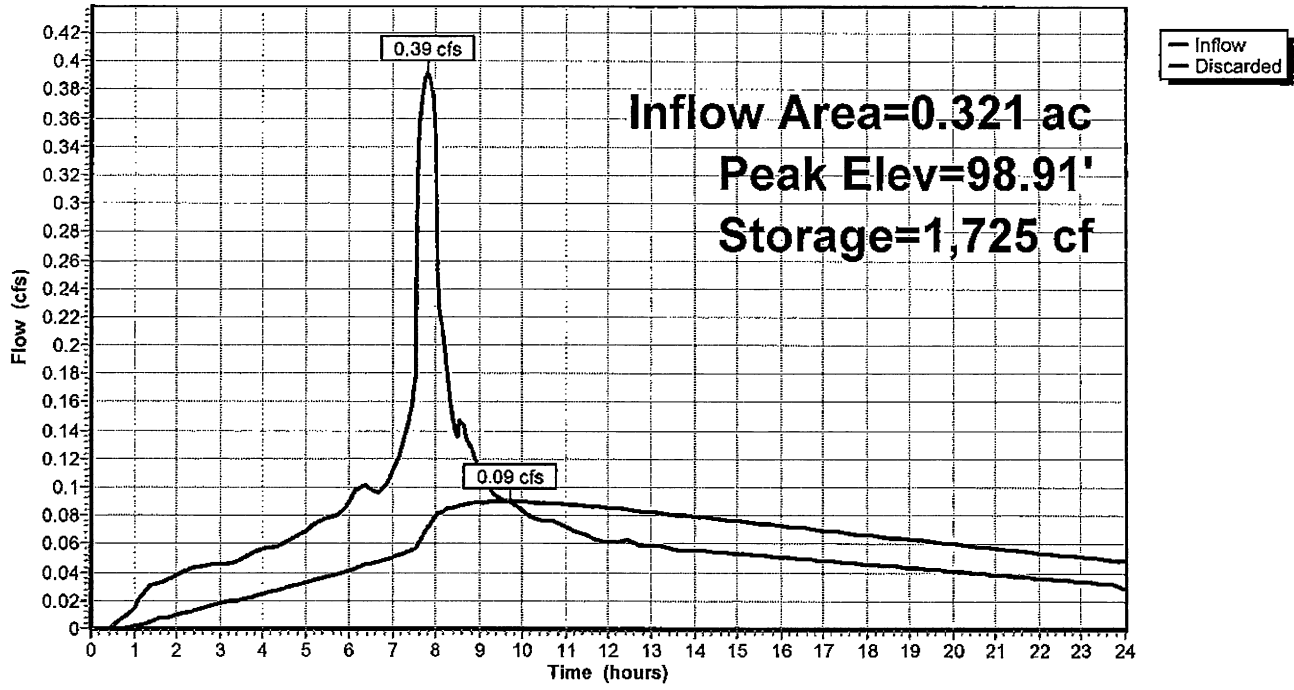
Device	Routing	Invert	Outlet Devices
#1	Discarded	96.00'	4.000 in/hr Exfiltration over Surface area above 96.00' Excluded Surface area = 160 sf

Discarded OutFlow Max=0.09 cfs @ 9.69 hrs HW=98.91' (Free Discharge)

↑-1=Exfiltration (Exfiltration Controls 0.09 cfs)

Pond 13P: Rain Garden at Northwest Corner

Hydrograph



Florence Dialysis

Type IA 24-hr Water Quality Design Rainfall=0.83"

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Page 7

Summary for Pond 17P: Rain Garden - E1 drainage area

Inflow Area = 0.066 ac, 100.00% Impervious, Inflow Depth > 0.63" for Water Quality Design event
 Inflow = 0.01 cfs @ 7.85 hrs, Volume= 0.003 af
 Outflow = 0.01 cfs @ 8.24 hrs, Volume= 0.003 af, Atten= 51%, Lag= 23.7 min
 Primary = 0.01 cfs @ 8.24 hrs, Volume= 0.003 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 97.39' @ 8.24 hrs Surf.Area= 58 sf Storage= 15 cf
 Flood Elev= 99.00' Surf.Area= 301 sf Storage= 280 cf

Plug-Flow detention time= 16.1 min calculated for 0.003 af (100% of inflow)
 Center-of-Mass det. time= 15.2 min (735.2 - 720.1)

Volume	Invert	Avail.Storage	Storage Description
#1	97.00'	280 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

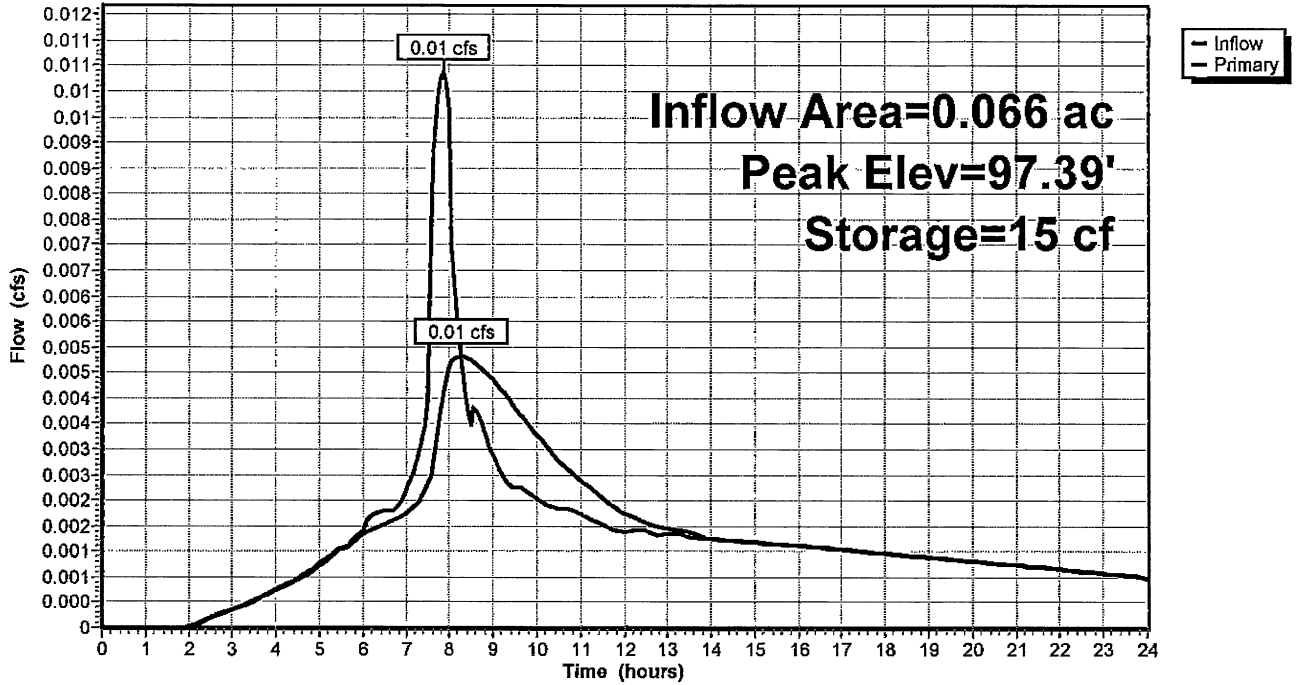
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
97.00	18	0	0
98.00	120	69	69
99.00	301	211	280

Device	Routing	Invert	Outlet Devices
#1	Primary	97.00'	4.000 in/hr Exfiltration over Surface area

Primary OutFlow Max=0.01 cfs @ 8.24 hrs HW=97.39' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.01 cfs)

Pond 17P: Rain Garden - E1 drainage area

Hydrograph



Florence Dialysis

Type IA 24-hr 2 Year Design Rainfall=3.46"

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Page 1

Summary for Pond 17P: Rain Garden - E1 drainage area

Inflow Area = 0.066 ac, 100.00% Impervious, Inflow Depth > 3.23" for 2 Year Design event
 Inflow = 0.05 cfs @ 7.81 hrs, Volume= 0.018 af
 Outflow = 0.02 cfs @ 8.70 hrs, Volume= 0.017 af, Atten= 65%, Lag= 53.4 min
 Primary = 0.02 cfs @ 8.70 hrs, Volume= 0.017 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 98.47' @ 8.70 hrs Surf.Area= 206 sf Storage= 146 cf
 Flood Elev= 99.00' Surf.Area= 301 sf Storage= 280 cf

Plug-Flow detention time= 89.8 min calculated for 0.017 af (98% of inflow)
 Center-of-Mass det. time= 77.3 min (736.8 - 659.6)

Volume	Invert	Avail.Storage	Storage Description
#1	97.00'	280 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

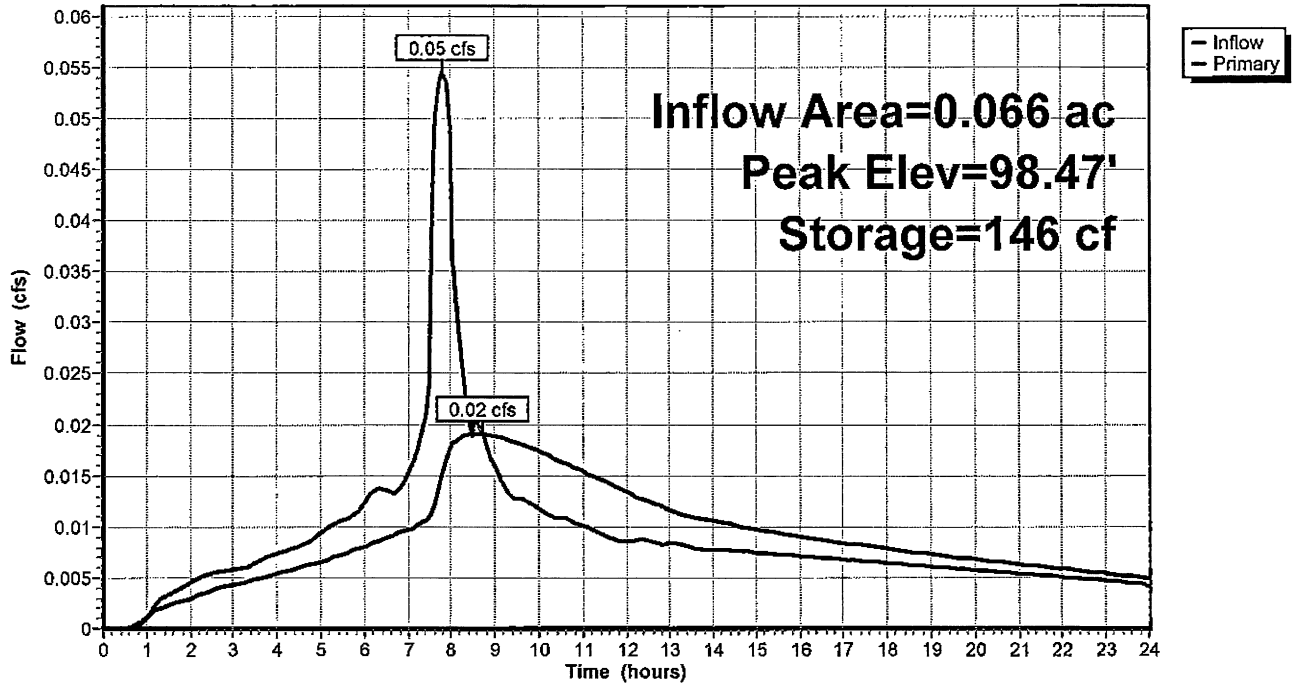
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
97.00	18	0	0
98.00	120	69	69
99.00	301	211	280

Device	Routing	Invert	Outlet Devices
#1	Primary	97.00'	4.000 in/hr Exfiltration over Surface area

Primary OutFlow Max=0.02 cfs @ 8.70 hrs HW=98.47' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.02 cfs)

Pond 17P: Rain Garden - E1 drainage area

Hydrograph



Florence Dialysis

Type IA 24-hr 10 Year Design Rainfall=4.48"

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Page 3

Summary for Pond 17P: Rain Garden - E1 drainage area

Inflow Area = 0.066 ac, 100.00% Impervious, Inflow Depth > 4.24" for 10 Year Design event
 Inflow = 0.07 cfs @ 7.81 hrs, Volume= 0.023 af
 Outflow = 0.02 cfs @ 8.78 hrs, Volume= 0.023 af, Atten= 67%, Lag= 58.6 min
 Primary = 0.02 cfs @ 8.78 hrs, Volume= 0.023 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 98.74' @ 8.78 hrs Surf.Area= 254 sf Storage= 207 cf
 Flood Elev= 99.00' Surf.Area= 301 sf Storage= 280 cf

Plug-Flow detention time= 106.9 min calculated for 0.023 af (97% of inflow)
 Center-of-Mass det. time= 88.1 min (741.5 - 653.4)

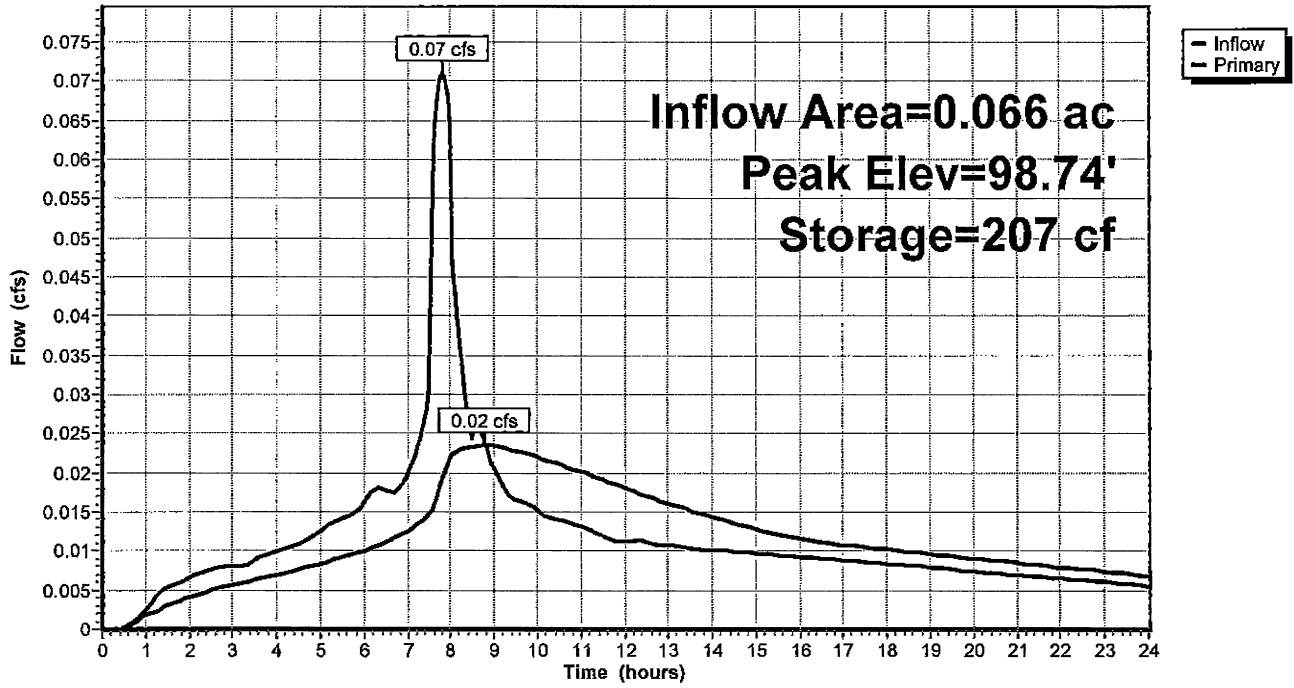
Volume	Invert	Avail.Storage	Storage Description
#1	97.00'	280 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
97.00	18	0	0
98.00	120	69	69
99.00	301	211	280

Device	Routing	Invert	Outlet Devices
#1	Primary	97.00'	4.000 in/hr Exfiltration over Surface area

Primary OutFlow Max=0.02 cfs @ 8.78 hrs HW=98.74' (Free Discharge)
 ↑-1=Exfiltration (Exfiltration Controls 0.02 cfs)

Pond 17P: Rain Garden - E1 drainage area

Hydrograph



Florence Dialysis

Type IA 24-hr 25 Year Design Rainfall=5.06"

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Page 5

Summary for Pond 17P: Rain Garden - E1 drainage area

Inflow Area = 0.066 ac, 100.00% Impervious, Inflow Depth > 4.82" for 25 Year Design event
 Inflow = 0.08 cfs @ 7.81 hrs, Volume= 0.027 af
 Outflow = 0.03 cfs @ 8.83 hrs, Volume= 0.026 af, Atten= 68%, Lag= 61.6 min
 Primary = 0.03 cfs @ 8.83 hrs, Volume= 0.026 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 98.87' @ 8.83 hrs Surf.Area= 278 sf Storage= 243 cf
 Flood Elev= 99.00' Surf.Area= 301 sf Storage= 280 cf

Plug-Flow detention time= 115.1 min calculated for 0.026 af (97% of inflow)
 Center-of-Mass det. time= 92.9 min (743.8 - 650.9)

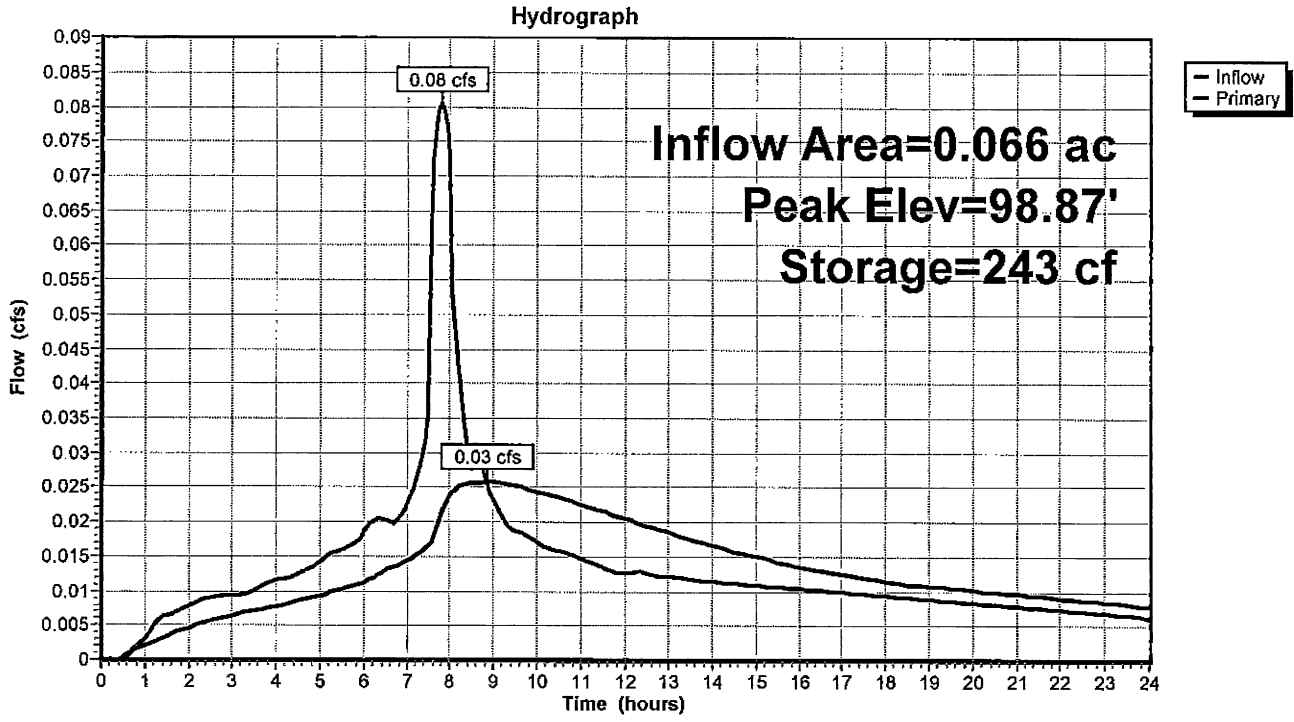
Volume	Invert	Avail.Storage	Storage Description
#1	97.00'	280 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
97.00	18	0	0
98.00	120	69	69
99.00	301	211	280

Device	Routing	Invert	Outlet Devices
#1	Primary	97.00'	4.000 in/hr Exfiltration over Surface area

Primary OutFlow Max=0.03 cfs @ 8.83 hrs HW=98.87' (Free Discharge)
 ↳1=Exfiltration (Exfiltration Controls 0.03 cfs)

Pond 17P: Rain Garden - E1 drainage area



Florence Dialysis

Type IA 24-hr Water Quality Design Rainfall=0.83"

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Page 7

Summary for Pond 19P: Rain Garden - E2 drainage area

Inflow Area = 0.066 ac, 100.00% Impervious, Inflow Depth > 0.63" for Water Quality Design event
 Inflow = 0.01 cfs @ 7.85 hrs, Volume= 0.003 af
 Outflow = 0.01 cfs @ 8.04 hrs, Volume= 0.003 af, Atten= 23%, Lag= 11.4 min
 Primary = 0.01 cfs @ 8.04 hrs, Volume= 0.003 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 97.06' @ 8.04 hrs Surf.Area= 91 sf Storage= 5 cf
 Flood Elev= 99.00' Surf.Area= 451 sf Storage= 504 cf

Plug-Flow detention time= 4.1 min calculated for 0.003 af (100% of inflow)
 Center-of-Mass det. time= 3.1 min (723.2 - 720.1)

Volume	Invert	Avail.Storage	Storage Description
#1	97.00'	504 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

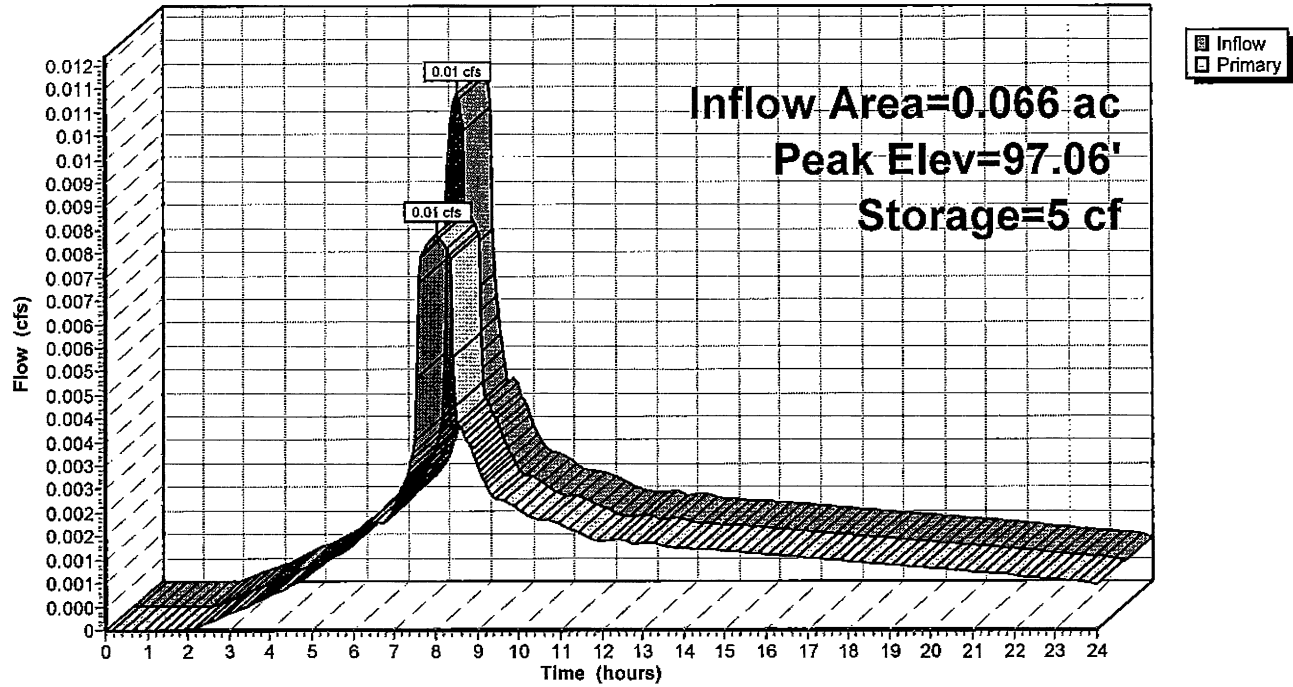
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
97.00	82	0	0
98.00	237	160	160
99.00	451	344	504

Device	Routing	Invert	Outlet Devices
#1	Primary	97.00'	4.000 in/hr Exfiltration over Surface area

Primary OutFlow Max=0.01 cfs @ 8.04 hrs HW=97.06' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.01 cfs)

Pond 19P: Rain Garden - E2 drainage area

Hydrograph



Florence Dialysis

Type IA 24-hr 2 Year Design Rainfall=3.46"

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Page 1

Summary for Pond 19P: Rain Garden - E2 drainage area

Inflow Area = 0.066 ac, 100.00% Impervious, Inflow Depth > 3.23" for 2 Year Design event
 Inflow = 0.05 cfs @ 7.81 hrs, Volume= 0.018 af
 Outflow = 0.02 cfs @ 8.71 hrs, Volume= 0.018 af, Atten= 65%, Lag= 53.9 min
 Primary = 0.02 cfs @ 8.71 hrs, Volume= 0.018 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 97.79' @ 8.71 hrs Surf.Area= 205 sf Storage= 114 cf
 Flood Elev= 99.00' Surf.Area= 451 sf Storage= 504 cf

Plug-Flow detention time= 42.4 min calculated for 0.018 af (100% of inflow)
 Center-of-Mass det. time= 41.5 min (701.0 - 659.6)

Volume	Invert	Avail.Storage	Storage Description
#1	97.00'	504 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

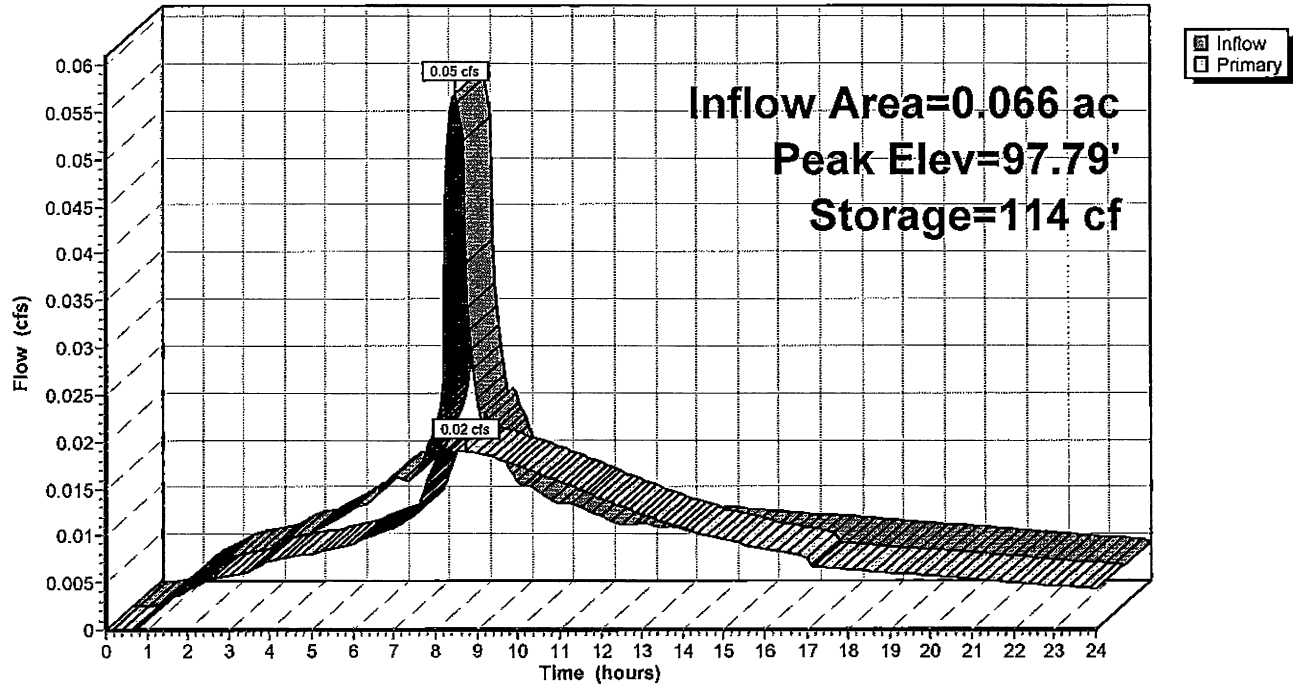
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
97.00	82	0	0
98.00	237	160	160
99.00	451	344	504

Device	Routing	Invert	Outlet Devices
#1	Primary	97.00'	4.000 in/hr Exfiltration over Surface area

Primary OutFlow Max=0.02 cfs @ 8.71 hrs HW=97.79' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.02 cfs)

Pond 19P: Rain Garden - E2 drainage area

Hydrograph



Florence Dialysis

Type IA 24-hr 10 Year Design Rainfall=4.48"

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Page 3

Summary for Pond 19P: Rain Garden - E2 drainage area

Inflow Area = 0.066 ac, 100.00% Impervious, Inflow Depth > 4.24" for 10 Year Design event
 Inflow = 0.07 cfs @ 7.81 hrs, Volume= 0.023 af
 Outflow = 0.02 cfs @ 8.81 hrs, Volume= 0.023 af, Atten= 67%, Lag= 60.3 min
 Primary = 0.02 cfs @ 8.81 hrs, Volume= 0.023 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 98.06' @ 8.81 hrs Surf.Area= 249 sf Storage= 174 cf
 Flood Elev= 99.00' Surf.Area= 451 sf Storage= 504 cf

Plug-Flow detention time= 63.6 min calculated for 0.023 af (100% of inflow)
 Center-of-Mass det. time= 62.6 min (716.0 - 653.4)

Volume	Invert	Avail.Storage	Storage Description
#1	97.00'	504 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

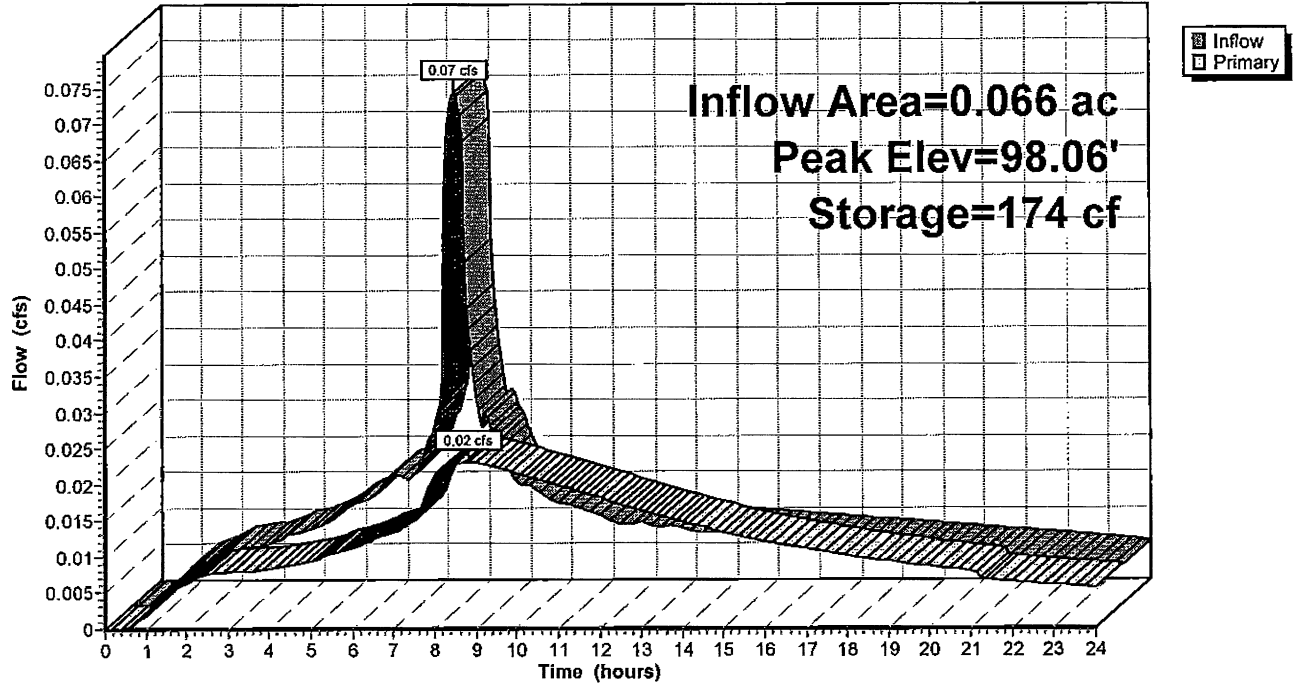
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
97.00	82	0	0
98.00	237	160	160
99.00	451	344	504

Device	Routing	Invert	Outlet Devices
#1	Primary	97.00'	4.000 in/hr Exfiltration over Surface area

Primary OutFlow Max=0.02 cfs @ 8.81 hrs HW=98.06' (Free Discharge)
 ↖1=Exfiltration (Exfiltration Controls 0.02 cfs)

Pond 19P: Rain Garden - E2 drainage area

Hydrograph



Summary for Pond 19P: Rain Garden - E2 drainage area

Inflow Area = 0.066 ac, 100.00% Impervious, Inflow Depth > 4.82" for 25 Year Design event
 Inflow = 0.08 cfs @ 7.81 hrs, Volume= 0.027 af
 Outflow = 0.03 cfs @ 8.84 hrs, Volume= 0.026 af, Atten= 68%, Lag= 61.8 min
 Primary = 0.03 cfs @ 8.84 hrs, Volume= 0.026 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 98.19' @ 8.84 hrs Surf.Area= 278 sf Storage= 209 cf
 Flood Elev= 99.00' Surf.Area= 451 sf Storage= 504 cf

Plug-Flow detention time= 74.8 min calculated for 0.026 af (100% of inflow)
 Center-of-Mass det. time= 73.9 min (724.8 - 650.9)

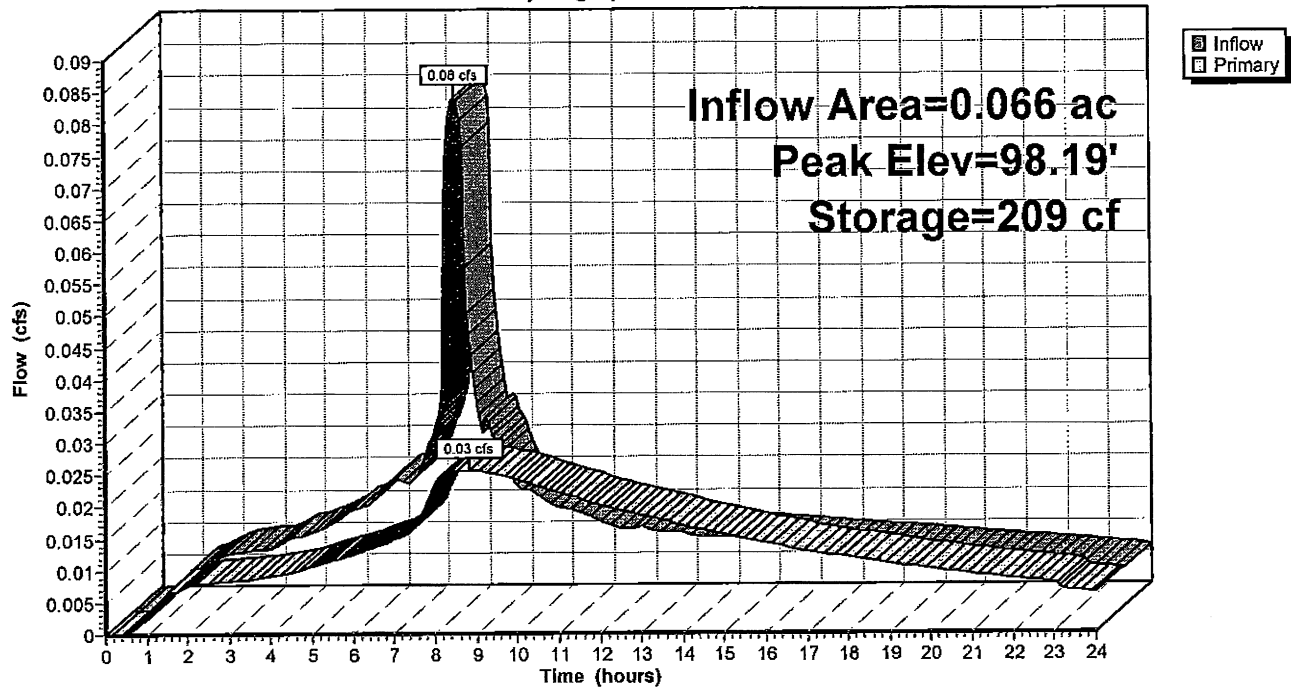
Volume	Invert	Avail.Storage	Storage Description
#1	97.00'	504 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
97.00	82	0	0
98.00	237	160	160
99.00	451	344	504

Device	Routing	Invert	Outlet Devices
#1	Primary	97.00'	4.000 in/hr Exfiltration over Surface area

Primary OutFlow Max=0.03 cfs @ 8.84 hrs HW=98.19' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.03 cfs)

Pond 19P: Rain Garden - E2 drainage area

Hydrograph



Summary for Pond 15P: Rain Garden - Loading Dock Area

Inflow Area = 0.051 ac, 100.00% Impervious, Inflow Depth > 0.63" for Water Quality Design event
 Inflow = 0.01 cfs @ 7.85 hrs, Volume= 0.003 af
 Outflow = 0.01 cfs @ 7.88 hrs, Volume= 0.003 af, Atten= 0%, Lag= 1.8 min
 Primary = 0.01 cfs @ 7.88 hrs, Volume= 0.003 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 98.01' @ 7.88 hrs Surf.Area= 0.003 ac Storage= 0.000 af
 Flood Elev= 99.00' Surf.Area= 0.008 ac Storage= 0.005 af

Plug-Flow detention time= 1.8 min calculated for 0.003 af (100% of inflow)
 Center-of-Mass det. time= 1.3 min (721.4 - 720.1)

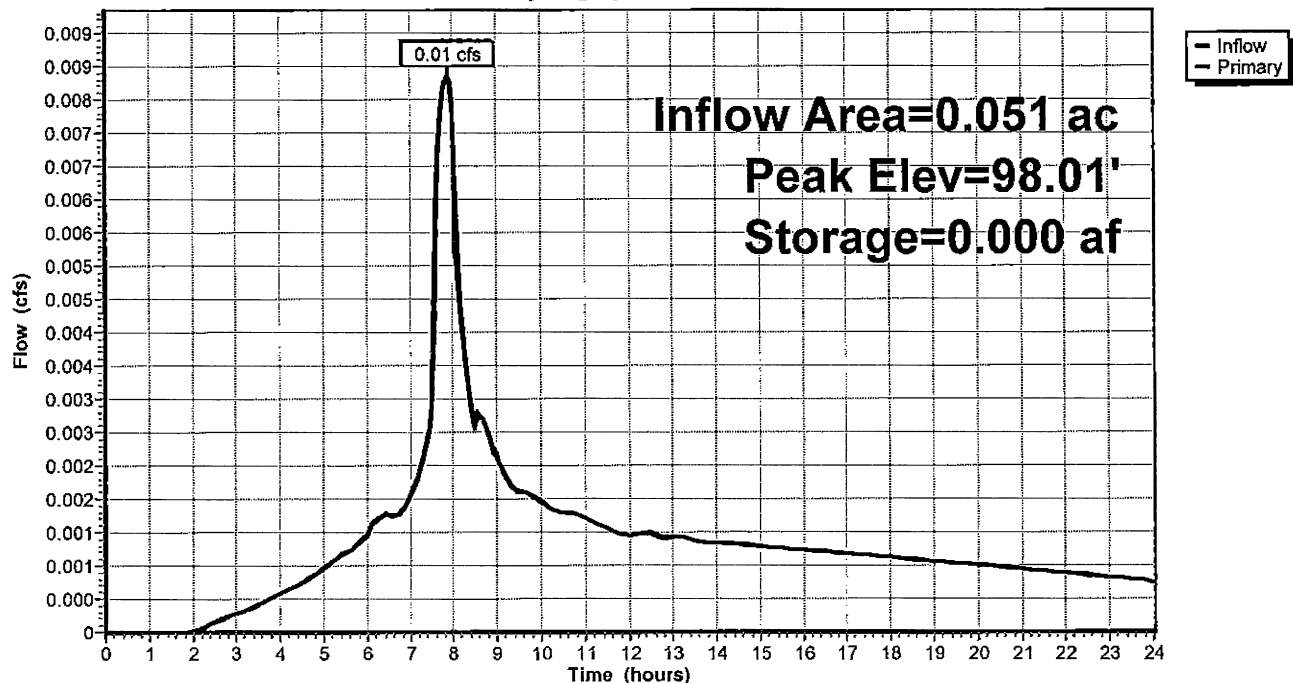
Volume	Invert	Avail.Storage	Storage Description
#1	98.00'	0.005 af	4.00'W x 30.00'L x 1.00'H Prismatic Z=3.0

Device	Routing	Invert	Outlet Devices
#1	Primary	98.00'	4.000 in/hr Exfiltration over Surface area

Primary OutFlow Max=0.01 cfs @ 7.88 hrs HW=98.01' (Free Discharge)
 ←1=Exfiltration (Exfiltration Controls 0.01 cfs)

Pond 15P: Rain Garden - Loading Dock Area

Hydrograph



Summary for Pond 15P: Rain Garden - Loading Dock Area

Inflow Area = 0.051 ac, 100.00% Impervious, Inflow Depth > 3.23" for 2 Year Design event
 Inflow = 0.04 cfs @ 7.81 hrs, Volume= 0.014 af
 Outflow = 0.02 cfs @ 8.30 hrs, Volume= 0.014 af, Atten= 57%, Lag= 29.3 min
 Primary = 0.02 cfs @ 8.30 hrs, Volume= 0.014 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 98.35' @ 8.30 hrs Surf.Area= 0.004 ac Storage= 0.001 af
 Flood Elev= 99.00' Surf.Area= 0.008 ac Storage= 0.005 af

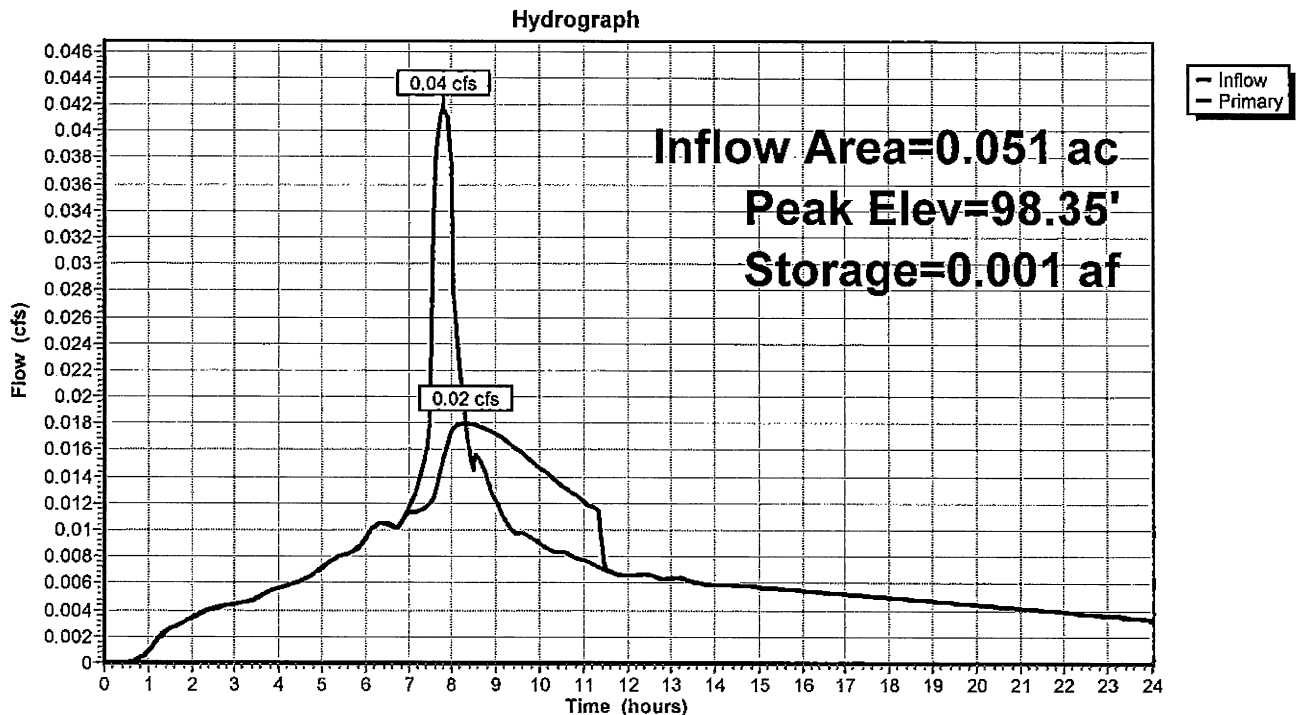
Plug-Flow detention time= 13.3 min calculated for 0.014 af (100% of inflow)
 Center-of-Mass det. time= 12.8 min (672.4 - 659.6)

Volume	Invert	Avail.Storage	Storage Description
#1	98.00'	0.005 af	4.00'W x 30.00'L x 1.00'H Prismatic Z=3.0

Device	Routing	Invert	Outlet Devices
#1	Primary	98.00'	4.000 in/hr Exfiltration over Surface area

Primary OutFlow Max=0.02 cfs @ 8.30 hrs HW=98.35' (Free Discharge)
 ↳1=Exfiltration (Exfiltration Controls 0.02 cfs)

Pond 15P: Rain Garden - Loading Dock Area



Florence Dialysis

Type IA 24-hr 10 Year Design Rainfall=4.48"

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Page 2

Summary for Pond 15P: Rain Garden - Loading Dock Area

Inflow Area = 0.051 ac, 100.00% Impervious, Inflow Depth > 4.24" for 10 Year Design event
 Inflow = 0.05 cfs @ 7.81 hrs, Volume= 0.018 af
 Outflow = 0.02 cfs @ 8.37 hrs, Volume= 0.018 af, Atten= 60%, Lag= 33.5 min
 Primary = 0.02 cfs @ 8.37 hrs, Volume= 0.018 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 98.51' @ 8.37 hrs Surf.Area= 0.005 ac Storage= 0.002 af
 Flood Elev= 99.00' Surf.Area= 0.008 ac Storage= 0.005 af

Plug-Flow detention time= 21.7 min calculated for 0.018 af (100% of inflow)
 Center-of-Mass det. time= 21.2 min (674.6 - 653.4)

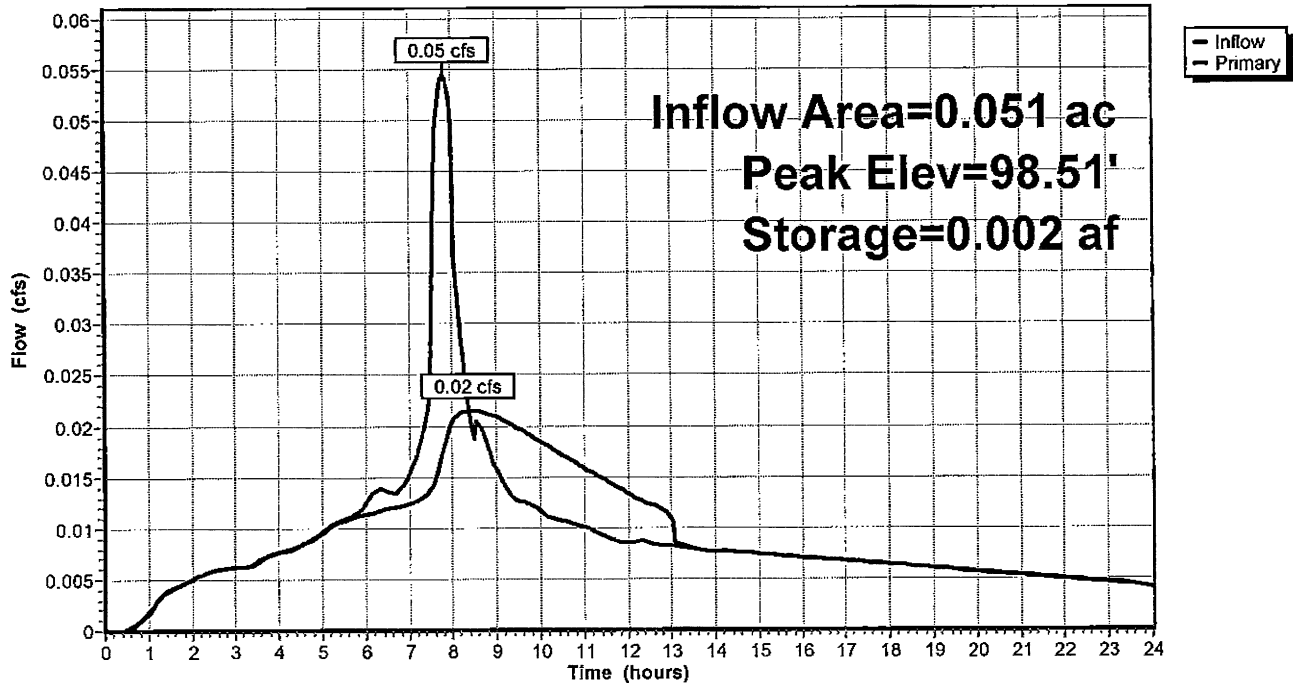
Volume	Invert	Avail.Storage	Storage Description
#1	98.00'	0.005 af	4.00'W x 30.00'L x 1.00'H Prismatoid Z=3.0

Device	Routing	Invert	Outlet Devices
#1	Primary	98.00'	4.000 in/hr Exfiltration over Surface area

Primary OutFlow Max=0.02 cfs @ 8.37 hrs HW=98.51' (Free Discharge)
 ↑=Exfiltration (Exfiltration Controls 0.02 cfs)

Pond 15P: Rain Garden - Loading Dock Area

Hydrograph



Florence Dialysis

Type IA 24-hr 25 Year Design Rainfall=5.06"

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Page 3

Summary for Pond 15P: Rain Garden - Loading Dock Area

Inflow Area = 0.051 ac, 100.00% Impervious, Inflow Depth > 4.82" for 25 Year Design event
 Inflow = 0.06 cfs @ 7.81 hrs, Volume= 0.020 af
 Outflow = 0.02 cfs @ 8.40 hrs, Volume= 0.020 af, Atten= 62%, Lag= 35.3 min
 Primary = 0.02 cfs @ 8.40 hrs, Volume= 0.020 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 98.59' @ 8.40 hrs Surf.Area= 0.006 ac Storage= 0.003 af
 Flood Elev= 99.00' Surf.Area= 0.008 ac Storage= 0.005 af

Plug-Flow detention time= 27.1 min calculated for 0.020 af (100% of inflow)
 Center-of-Mass det. time= 26.6 min (677.5 - 650.9)

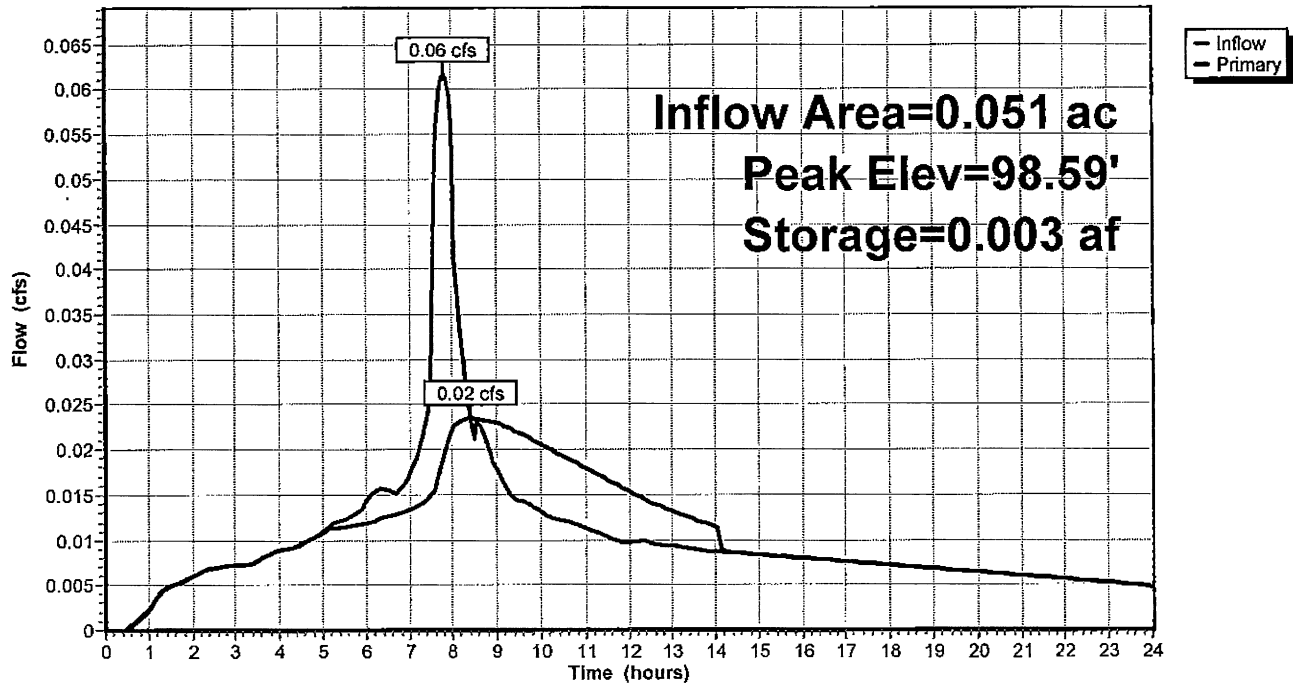
Volume	Invert	Avail.Storage	Storage Description
#1	98.00'	0.005 af	4.00'W x 30.00'L x 1.00'H Prismatic Z=3.0

Device	Routing	Invert	Outlet Devices
#1	Primary	98.00'	4.000 in/hr Exfiltration over Surface area

Primary OutFlow Max=0.02 cfs @ 8.40 hrs HW=98.59' (Free Discharge)
 ←1=Exfiltration (Exfiltration Controls 0.02 cfs)

Pond 15P: Rain Garden - Loading Dock Area

Hydrograph



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Type IA 24-hr Water Quality Design Rainfall=0.83"

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Page 7

Summary for Pond 21P: Rain Garden - N1 drainage area

Inflow Area = 0.046 ac, 100.00% Impervious, Inflow Depth > 0.63" for Water Quality Design event
 Inflow = 0.01 cfs @ 7.85 hrs, Volume= 0.002 af
 Outflow = 0.01 cfs @ 7.88 hrs, Volume= 0.002 af, Atten= 0%, Lag= 1.8 min
 Primary = 0.01 cfs @ 7.88 hrs, Volume= 0.002 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 97.76' @ 7.88 hrs Surf.Area= 135 sf Storage= 1 cf
 Flood Elev= 98.75' Surf.Area= 357 sf Storage= 246 cf

Plug-Flow detention time= 1.8 min calculated for 0.002 af (100% of inflow)
 Center-of-Mass det. time= 1.3 min (721.4 - 720.1)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	246 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

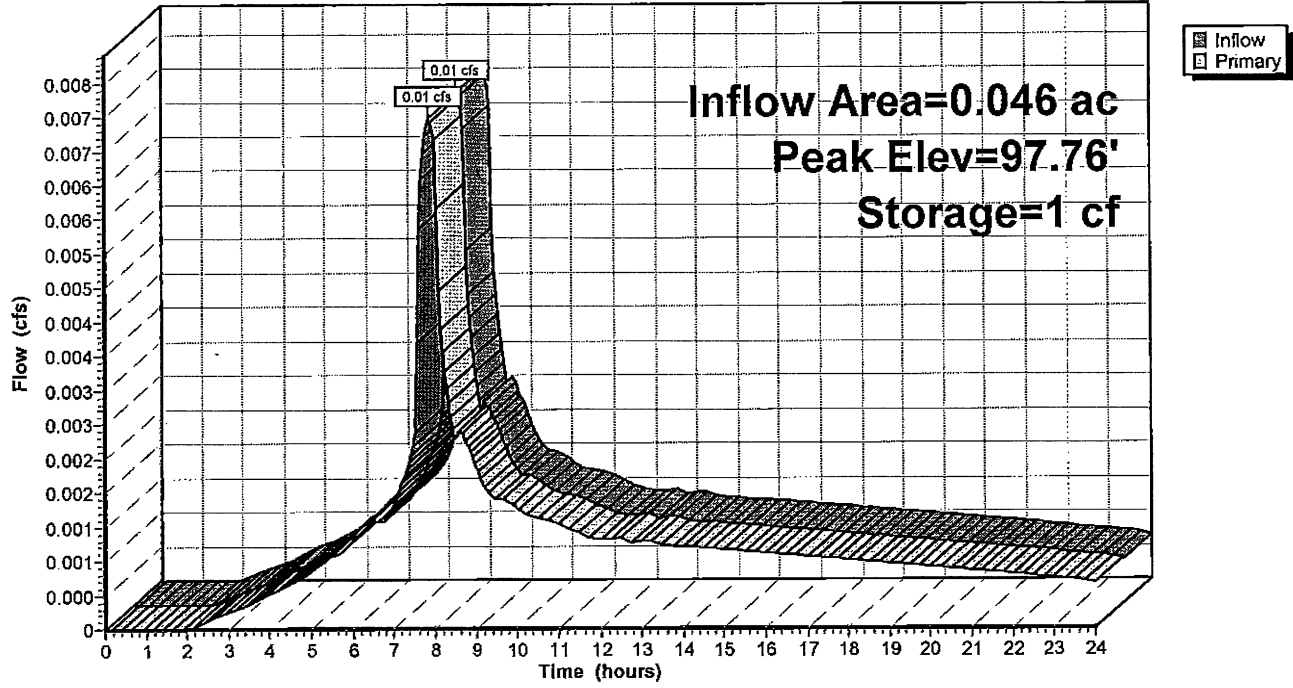
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
97.75	134	0	0
98.75	357	246	246

Device	Routing	Invert	Outlet Devices
#1	Primary	97.75'	4.000 in/hr Exfiltration over Surface area

Primary OutFlow Max=0.01 cfs @ 7.88 hrs HW=97.76' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.01 cfs)

Pond 21P: Rain Garden - N1 drainage area

Hydrograph



Florence Dialysis

Type IA 24-hr 2 Year Design Rainfall=3.46"

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Page 1

Summary for Pond 21P: Rain Garden - N1 drainage area

Inflow Area = 0.046 ac, 100.00% Impervious, Inflow Depth > 3.23" for 2 Year Design event
 Inflow = 0.04 cfs @ 7.81 hrs, Volume= 0.012 af
 Outflow = 0.02 cfs @ 8.24 hrs, Volume= 0.012 af, Atten= 53%, Lag= 25.7 min
 Primary = 0.02 cfs @ 8.24 hrs, Volume= 0.012 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 98.01' @ 8.24 hrs Surf.Area= 191 sf Storage= 42 cf
 Flood Elev= 98.75' Surf.Area= 357 sf Storage= 246 cf

Plug-Flow detention time= 9.2 min calculated for 0.012 af (100% of inflow)
 Center-of-Mass det. time= 8.7 min (668.3 - 659.6)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	246 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

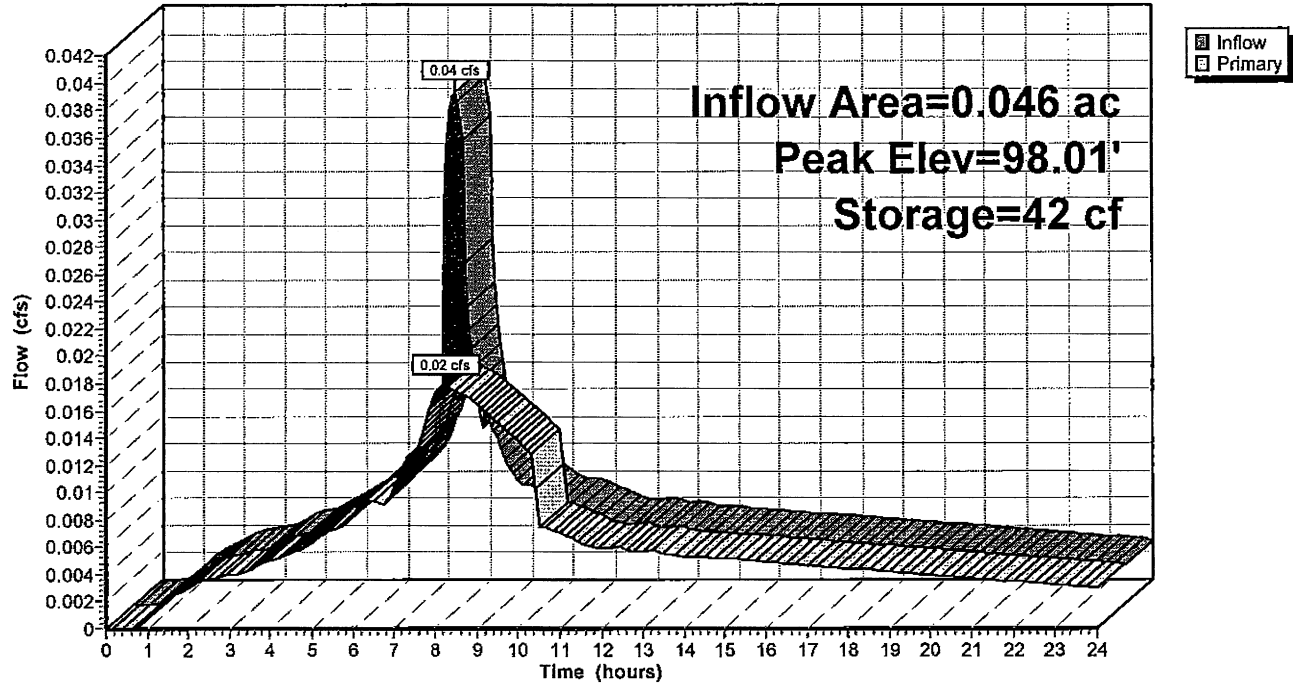
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
97.75	134	0	0
98.75	357	246	246

Device	Routing	Invert	Outlet Devices
#1	Primary	97.75'	4.000 in/hr Exfiltration over Surface area

Primary OutFlow Max=0.02 cfs @ 8.24 hrs HW=98.01' (Free Discharge)
 ↳1=Exfiltration (Exfiltration Controls 0.02 cfs)

Pond 21P: Rain Garden - N1 drainage area

Hydrograph



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Type IA 24-hr 10 Year Design Rainfall=4.48"

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Page 3

Summary for Pond 21P: Rain Garden - N1 drainage area

Inflow Area = 0.046 ac, 100.00% Impervious, Inflow Depth > 4.24" for 10 Year Design event
 Inflow = 0.05 cfs @ 7.81 hrs, Volume= 0.016 af
 Outflow = 0.02 cfs @ 8.33 hrs, Volume= 0.016 af, Atten= 59%, Lag= 31.2 min
 Primary = 0.02 cfs @ 8.33 hrs, Volume= 0.016 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 98.13' @ 8.33 hrs Surf.Area= 219 sf Storage= 68 cf
 Flood Elev= 98.75' Surf.Area= 357 sf Storage= 246 cf

Plug-Flow detention time= 15.0 min calculated for 0.016 af (100% of inflow)
 Center-of-Mass det. time= 14.5 min (667.9 - 653.4)

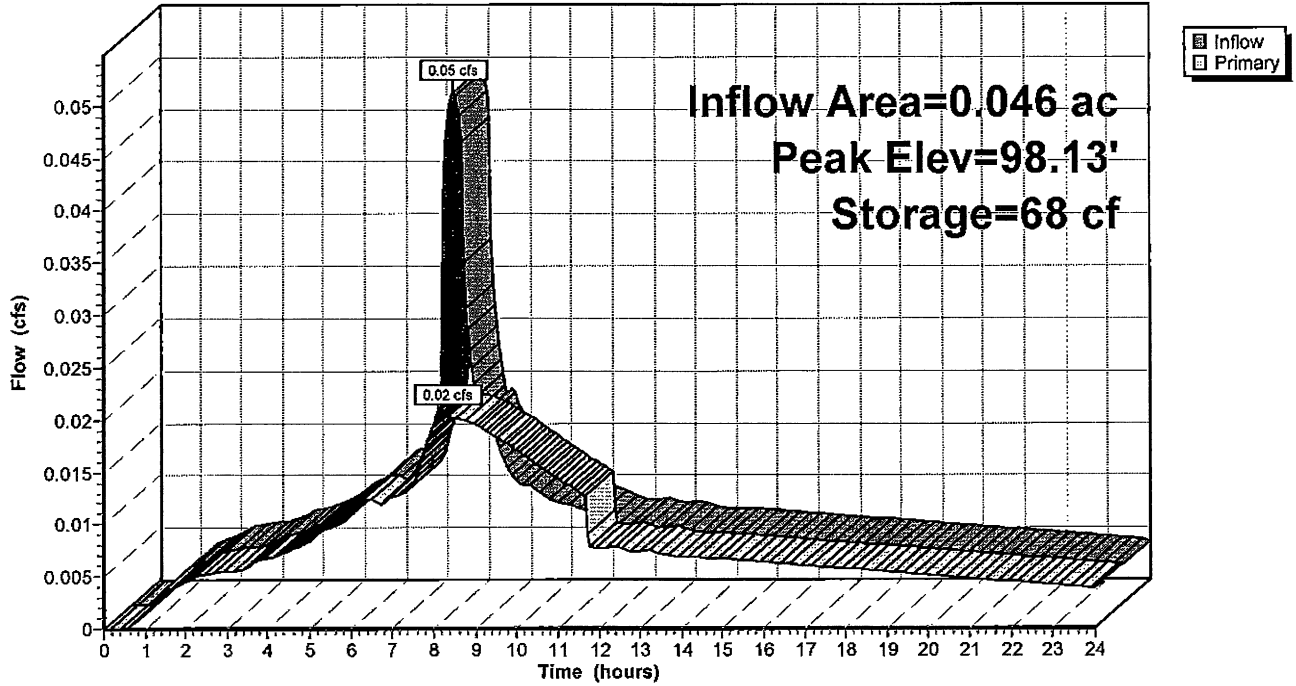
Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	246 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
97.75	134	0	0
98.75	357	246	246

Device	Routing	Invert	Outlet Devices
#1	Primary	97.75'	4.000 in/hr Exfiltration over Surface area

Primary OutFlow Max=0.02 cfs @ 8.33 hrs HW=98.13' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.02 cfs)

Pond 21P: Rain Garden - N1 drainage area

Hydrograph



Florence Dialysis

Type IA 24-hr 25 Year Design Rainfall=5.06"

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Page 5

Summary for Pond 21P: Rain Garden - N1 drainage area

Inflow Area = 0.046 ac, 100.00% Impervious, Inflow Depth > 4.82" for 25 Year Design event
 Inflow = 0.06 cfs @ 7.81 hrs, Volume= 0.018 af
 Outflow = 0.02 cfs @ 8.37 hrs, Volume= 0.018 af, Atten= 60%, Lag= 33.5 min
 Primary = 0.02 cfs @ 8.37 hrs, Volume= 0.018 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 98.21' @ 8.37 hrs Surf.Area= 237 sf Storage= 85 cf
 Flood Elev= 98.75' Surf.Area= 357 sf Storage= 246 cf

Plug-Flow detention time= 19.2 min calculated for 0.018 af (100% of inflow)
 Center-of-Mass det. time= 18.7 min (669.6 - 650.9)

Volume	Invert	Avail.Storage	Storage Description
#1	97.75'	246 cf	Custom Stage Data (Prismatic) Listed below (Recalc)

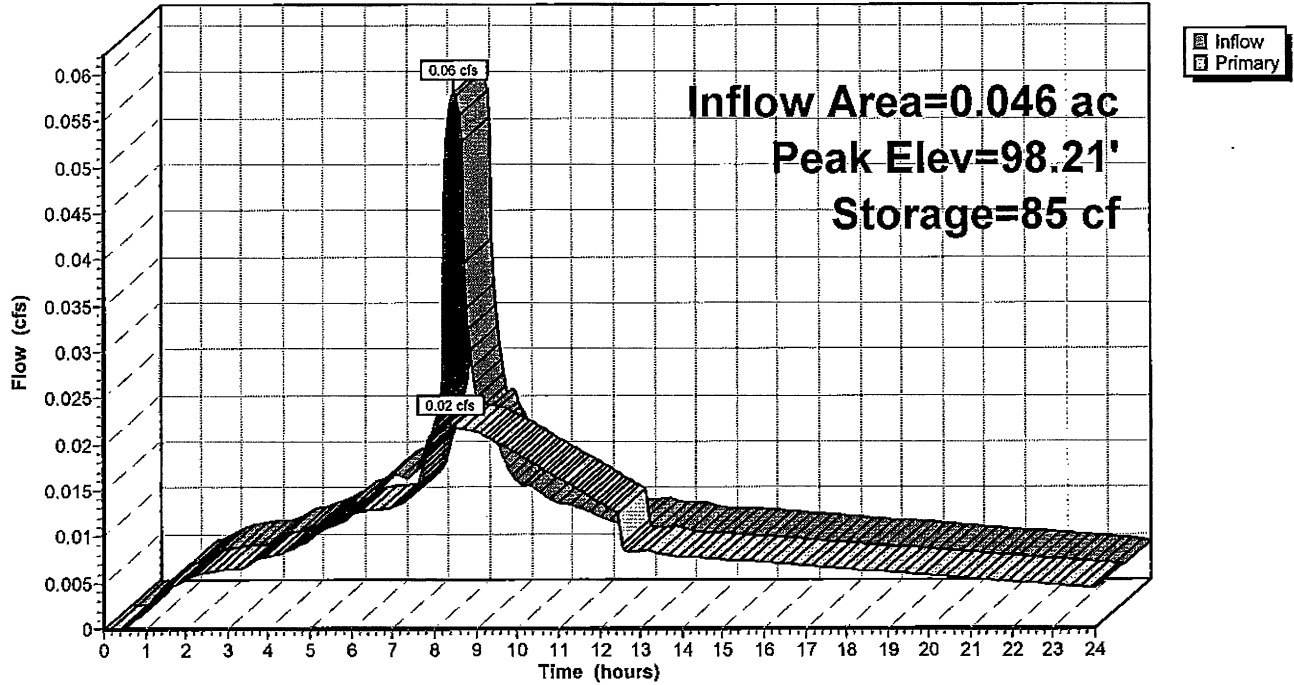
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
97.75	134	0	0
98.75	357	246	246

Device	Routing	Invert	Outlet Devices
#1	Primary	97.75'	4.000 in/hr Exfiltration over Surface area

Primary OutFlow Max=0.02 cfs @ 8.37 hrs HW=98.21' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.02 cfs)

Pond 21P: Rain Garden - N1 drainage area

Hydrograph



Summary for Pond 7P: Rain Garden - N2 drainage area

Inflow Area = 0.164 ac, 100.00% Impervious, Inflow Depth > 0.63" for Water Quality Design event
 Inflow = 0.03 cfs @ 7.89 hrs, Volume= 0.009 af
 Outflow = 0.02 cfs @ 8.04 hrs, Volume= 0.009 af, Atten= 11%, Lag= 8.8 min
 Primary = 0.02 cfs @ 8.04 hrs, Volume= 0.009 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 97.03' @ 8.04 hrs Surf.Area= 259 sf Storage= 6 cf
 Flood Elev= 98.20' Surf.Area= 1,008 sf Storage= 618 cf

Plug-Flow detention time= 2.3 min calculated for 0.009 af (100% of inflow)
 Center-of-Mass det. time= 1.7 min (723.8 - 722.1)

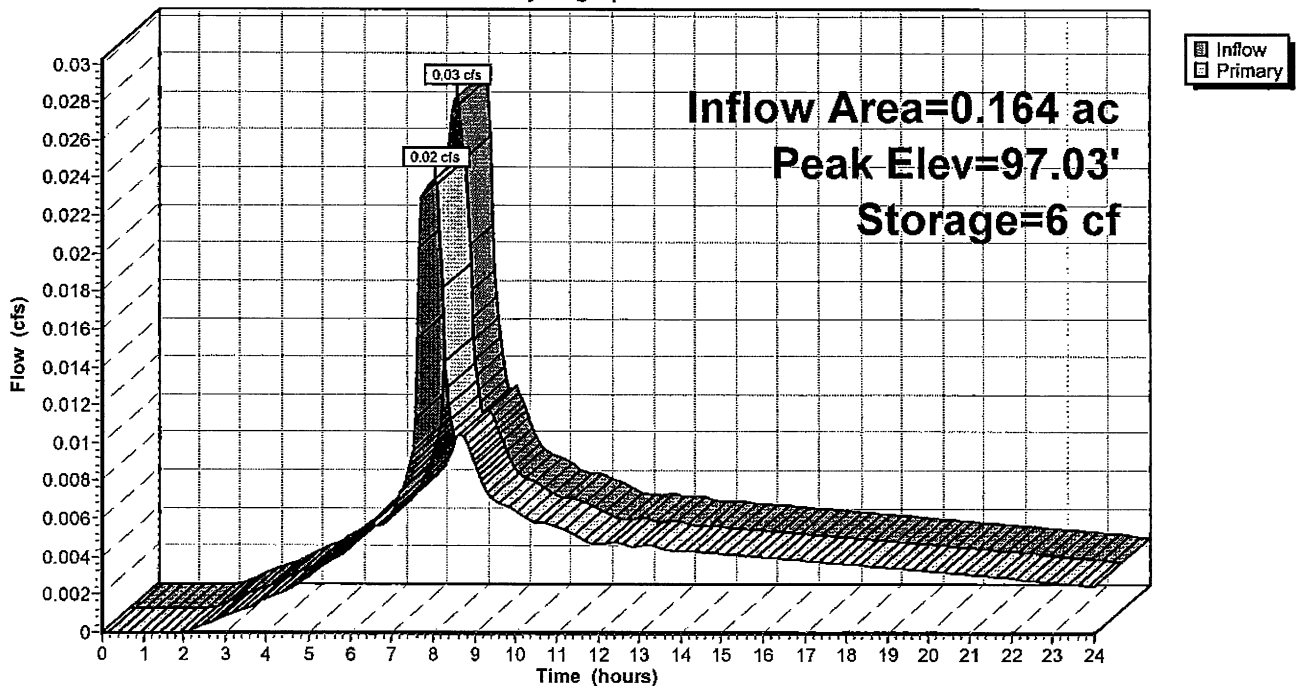
Volume	Invert	Avail.Storage	Storage Description
#1	97.00'	618 cf	2.00'W x 120.00'L x 1.00'H Prismatoid Z=3.0

Device	Routing	Invert	Outlet Devices
#1	Primary	97.00'	4.000 in/hr Exfiltration over Surface area

Primary OutFlow Max=0.02 cfs @ 8.04 hrs HW=97.03' (Free Discharge)
 1=Exfiltration (Exfiltration Controls 0.02 cfs)

Pond 7P: Rain Garden - N2 drainage area

Hydrograph



Florence Dialysis

Type IA 24-hr 2 Year Design Rainfall=3.46"

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Page 1

Summary for Pond 7P: Rain Garden - N2 drainage area

Inflow Area = 0.164 ac, 100.00% Impervious, Inflow Depth > 3.22" for 2 Year Design event
 Inflow = 0.14 cfs @ 7.86 hrs, Volume= 0.044 af
 Outflow = 0.06 cfs @ 8.36 hrs, Volume= 0.044 af, Atten= 57%, Lag= 30.1 min
 Primary = 0.06 cfs @ 8.36 hrs, Volume= 0.044 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 97.51' @ 8.36 hrs Surf.Area= 625 sf Storage= 221 cf
 Flood Elev= 98.20' Surf.Area= 1,008 sf Storage= 618 cf

Plug-Flow detention time= 21.9 min calculated for 0.044 af (100% of inflow)
 Center-of-Mass det. time= 21.4 min (683.0 - 661.6)

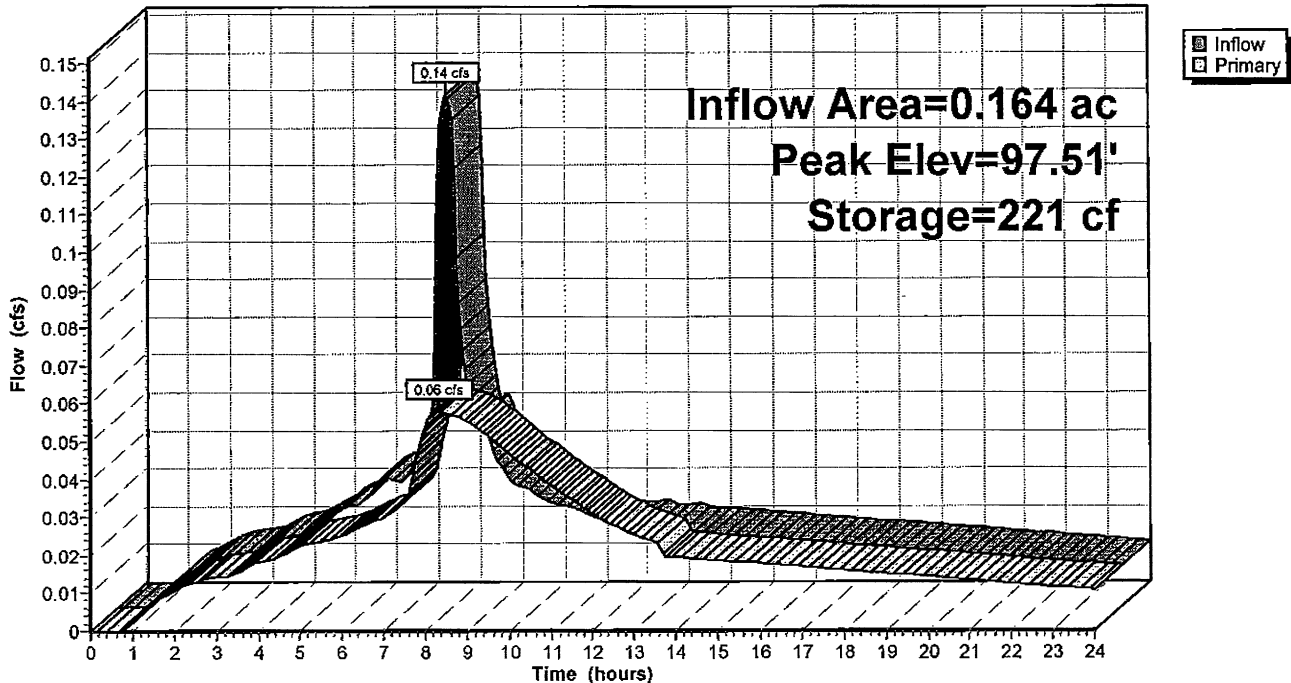
Volume	Invert	Avail.Storage	Storage Description
#1	97.00'	618 cf	2.00'W x 120.00'L x 1.00'H Prismatoid Z=3.0

Device	Routing	Invert	Outlet Devices
#1	Primary	97.00'	4.000 in/hr Exfiltration over Surface area

Primary OutFlow Max=0.06 cfs @ 8.36 hrs HW=97.51' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.06 cfs)

Pond 7P: Rain Garden - N2 drainage area

Hydrograph



Summary for Pond 7P: Rain Garden - N2 drainage area

Inflow Area = 0.164 ac, 100.00% Impervious, Inflow Depth > 4.24" for 10 Year Design event
 Inflow = 0.18 cfs @ 7.85 hrs, Volume= 0.058 af
 Outflow = 0.07 cfs @ 8.41 hrs, Volume= 0.058 af, Atten= 60%, Lag= 33.6 min
 Primary = 0.07 cfs @ 8.41 hrs, Volume= 0.058 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 97.68' @ 8.41 hrs Surf.Area= 755 sf Storage= 337 cf
 Flood Elev= 98.20' Surf.Area= 1,008 sf Storage= 618 cf

Plug-Flow detention time= 32.8 min calculated for 0.058 af (100% of inflow)
 Center-of-Mass det. time= 32.2 min (687.7 - 655.5)

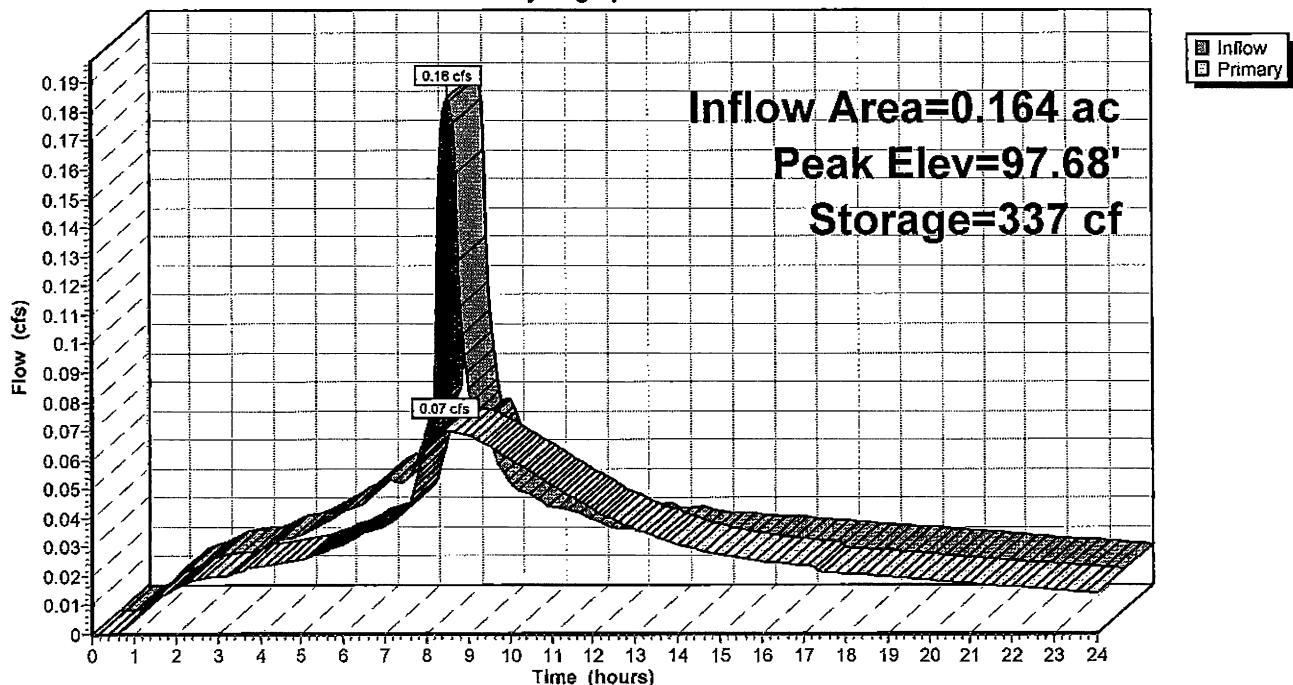
Volume	Invert	Avail.Storage	Storage Description
#1	97.00'	618 cf	2.00'W x 120.00'L x 1.00'H Prismatoid Z=3.0

Device	Routing	Invert	Outlet Devices
#1	Primary	97.00'	4.000 in/hr Exfiltration over Surface area

Primary OutFlow Max=0.07 cfs @ 8.41 hrs HW=97.68' (Free Discharge)
 ←1=Exfiltration (Exfiltration Controls 0.07 cfs)

Pond 7P: Rain Garden - N2 drainage area

Hydrograph



Summary for Pond 7P: Rain Garden - N2 drainage area

Inflow Area = 0.164 ac, 100.00% Impervious, Inflow Depth > 4.82" for 25 Year Design event
 Inflow = 0.20 cfs @ 7.85 hrs, Volume= 0.066 af
 Outflow = 0.08 cfs @ 8.44 hrs, Volume= 0.066 af, Atten= 62%, Lag= 35.4 min
 Primary = 0.08 cfs @ 8.44 hrs, Volume= 0.066 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 97.77' @ 8.44 hrs Surf.Area= 825 sf Storage= 407 cf
 Flood Elev= 98.20' Surf.Area= 1,008 sf Storage= 618 cf

Plug-Flow detention time= 39.3 min calculated for 0.066 af (100% of inflow)
 Center-of-Mass det. time= 38.7 min (691.7 - 653.0)

Volume	Invert	Avail.Storage	Storage Description
#1	97.00'	618 cf	2.00'W x 120.00'L x 1.00'H Prismatoid Z=3.0

Device	Routing	Invert	Outlet Devices
#1	Primary	97.00'	4.000 in/hr Exfiltration over Surface area

Primary OutFlow Max=0.08 cfs @ 8.44 hrs HW=97.77' (Free Discharge)
 ←1=Exfiltration (Exfiltration Controls 0.08 cfs)

Pond 7P: Rain Garden - N2 drainage area

Hydrograph

