Gale Associates, Inc.
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March 7, 2016

Mr. Richard Harris
Town Planner
Town of South Hadley
116 Main Street
South Hadley, MA 01075

RE: Stormwater Management Report – Response Letter
South Hadley High School – Athletic Campus Improvements
Gale JN 717000

Dear Mr. Harris:

Gale Associates, Inc. (Gale), on behalf of its client, Town of South Hadley (Town), hereby submits this letter response to the peer review comments by Fuss & O'Neill (F&O) to the Stormwater Management Report, dated February 26, 2016, regarding the athletic campus improvements project proposed at the South Hadley High School.

The following are Gale's responses in **bold**, to F&O's peer review comments:

Site Plans

1. There appears to be a discrepancy between the proposed HydroCAD model of the outlet devices for Pond 1P: Base Stone (Turf Field) and what is depicted on the plans. Please clarify.

The proposed outlet in the model was changed from 10" to 12" in order the represent what is depicted on the plans. The post-development peak runoff flows remain the same and are below the pre-development flows. Please see attached revised stormwater model.

Stormwater Management Report

2. It is difficult to determine where the wetland buffer lies, please identify the wetlands buffer on plans.

Please see attached PDF of the plan with the wetland buffer highlighted. Gale met with Ms. Janice Stone, the Town's Conservation Administrator prior to the Planning Board meeting on February 29, 2016 to review the wetland buffer lines and potential impacts. Ms. Stone was in agreement that the proposed project work is outside the wetland buffer and should not have off-site impacts.

3. It appears under section 4.2 the existing 16" pipe is not shown on the plans. Please clarify.

Section 4.2 should state that the discharge is through a 15-inch existing pipe.

Addendum to the Stormwater Management Report

4. Please provide test pit information including a test pit location map to confirm groundwater within the field area and depth below proposed base. As it is stated in section 16-6 (3)(a)(6) "Infiltration basins shall be constructed with a three foot minimum separation between the bottom of the structure and the seasonal high groundwater elevation, as determined by a certified soil evaluator"

Please find copies of the test pit information for the site. The test pit were dug to a depth of approximately 10-feet. The standing water observed was at approximately a depth of 9-feet below grade. The proposed synthetic turf field's stone base will be approximately 12" to 15" in depth. The separation of bottom of synthetic turf system and estimated seasonal high groundwater elevation will be greater than 3-feet.

Stormwater Management Bylaw

5. Under Section 16-5 the following information needs to be submitted for support of the stormwater management plan.
   a. Locus map
   b. Natural heritage maps and certified vernal pool area map.

Please find copies of the locus map and Natural Heritage map attached as enclosures.

Stormwater Management Standard

6. It appears the separation between the bottom of the stone base field and seasonal high ground water as indicated under section 5.3 does not meet the bylaw as noted under #4 above.

As mentioned above, based on test pit observations there will be greater than a 3-ft separation from the bottom of the synthetic turf system and the seasonal high groundwater. Section 5.3 of the report should state that there will be a 3-ft minimum separation.

7. Please clarify the location of the proposed track as mentioned in section 5.4 but not shown on the plans

Please disregard the reference to "proposed track" in section 5.4 of the report. There will not be a track associated with this project.

If you have any questions, or require any additional information, please do not hesitate to contact our office.

GALE ASSOCIATES, INC.

Peter Spanos, P.E., LEED AP
Project Manager

Enclosures:

1. Locus Map and NHESP Map
2. Revised Post-Development Model
3. Layout Plan C101 with Highlighted Buffer
4. Test Pit Information

PS/

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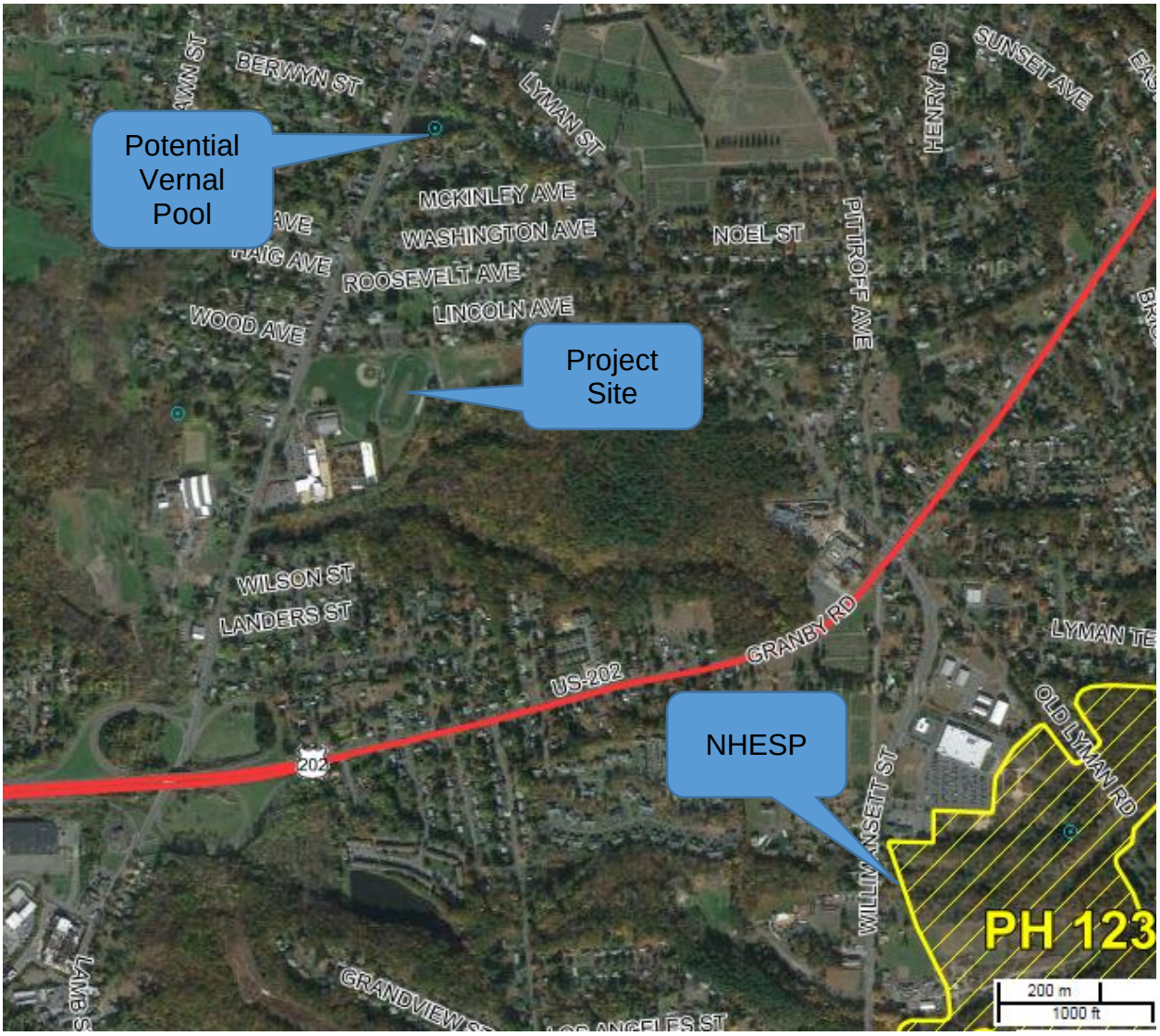
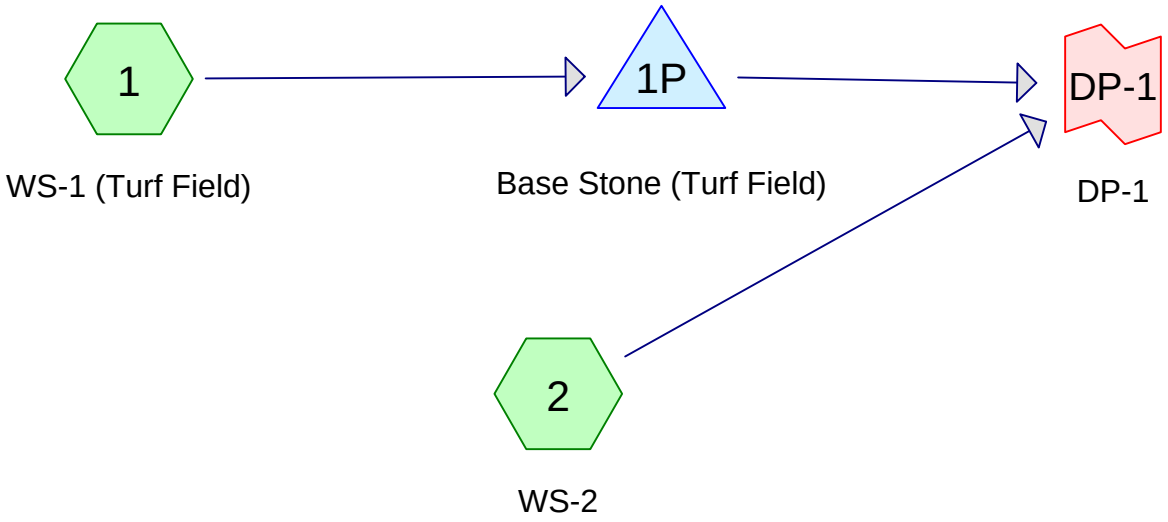
Enclosure 1: South Hadley Project Locus Map

Enclosure 1: South Hadley Project NHESP and Certified Vernal Pool Map





Subcat Reach Pond Link

Drainage Diagram for 717000_South Hadley_POST_Rev
Prepared by Hewlett-Packard Company, Printed 3/7/2016

Area Listing (all nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.156	61	>75% Grass cover, Good, HSG B (2)
0.107	85	Stone Dust Track, HSG B (2)
1.919	98	Synthetic Turf Field, 0% imp, HSG B (1)
0.372	98	Unconnected pavement, HSG B (2)
3.553	86	**TOTAL AREA**

Soil Listing (all nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
3.553	HSG B	1, 2
0.000	HSG C	
0.000	HSG D	
0.000	Other	
3.553		**TOTAL AREA**

Pipe Listing (all nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Fill (inches)
1	1P	145.96	143.91	101.0	0.0203	0.013	15.0	0.0	0.0

Time span=0.00-28.00 hrs, dt=0.05 hrs, 561 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: WS-1 (Turf Field) Runoff Area=83,600 sf 0.00% Impervious Runoff Depth=2.77"
Tc=6.0 min CN=98 Runoff=5.45 cfs 0.443 af

Subcatchment 2: WS-2 Runoff Area=71,190 sf 22.76% Impervious Runoff Depth=0.58"
Flow Length=527' Tc=11.0 min UI Adjusted CN=67 Runoff=0.74 cfs 0.080 af

Pond 1P: Base Stone (Turf Field) Peak Elev=151.85' Storage=2,677 cf Inflow=5.45 cfs 0.443 af
Discarded=1.97 cfs 0.443 af Primary=0.00 cfs 0.000 af Outflow=1.97 cfs 0.443 af

Link DP-1: DP-1 Inflow=0.74 cfs 0.080 af
Primary=0.74 cfs 0.080 af

Total Runoff Area = 3.553 ac Runoff Volume = 0.522 af Average Runoff Depth = 1.76"
89.53% Pervious = 3.182 ac 10.47% Impervious = 0.372 ac

Summary for Subcatchment 1: WS-1 (Turf Field)

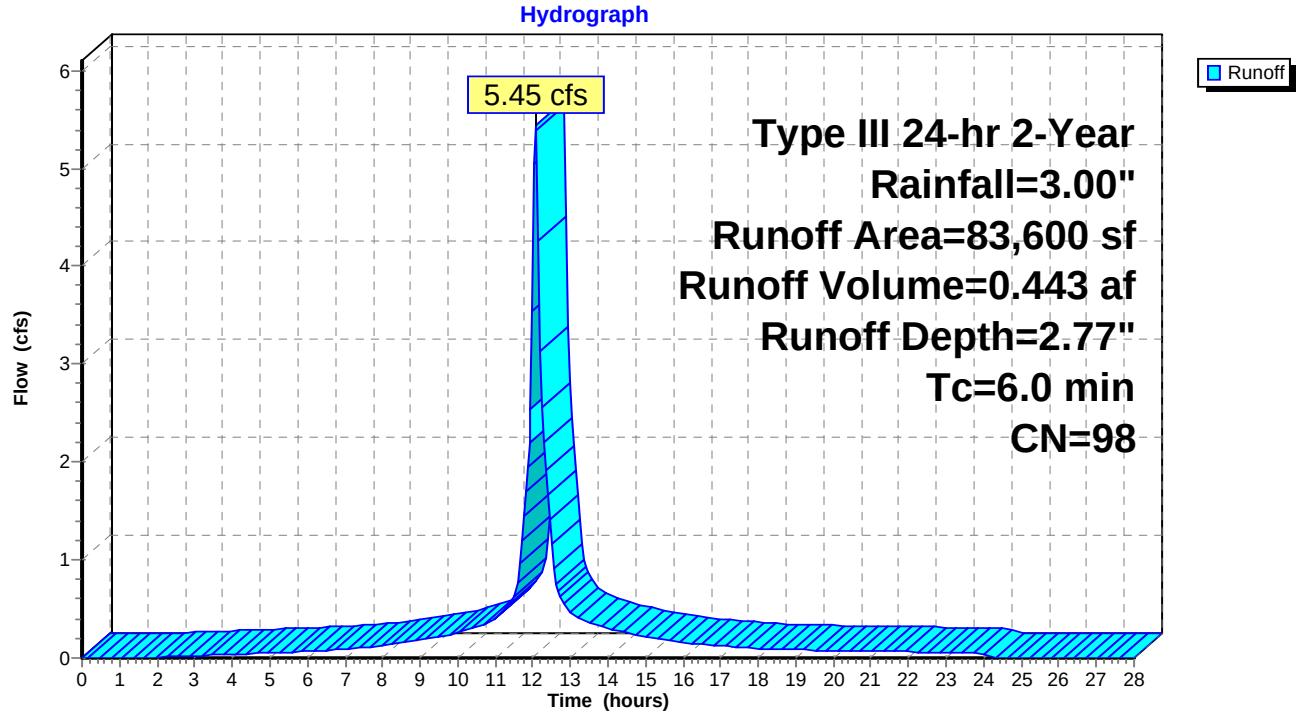
Runoff = 5.45 cfs @ 12.09 hrs, Volume= 0.443 af, Depth= 2.77"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-28.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

	Area (sf)	CN	Description
*	83,600	98	Synthetic Turf Field, 0% imp, HSG B
	83,600		100.00% Pervious Area

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

Subcatchment 1: WS-1 (Turf Field)



Summary for Subcatchment 2: WS-2

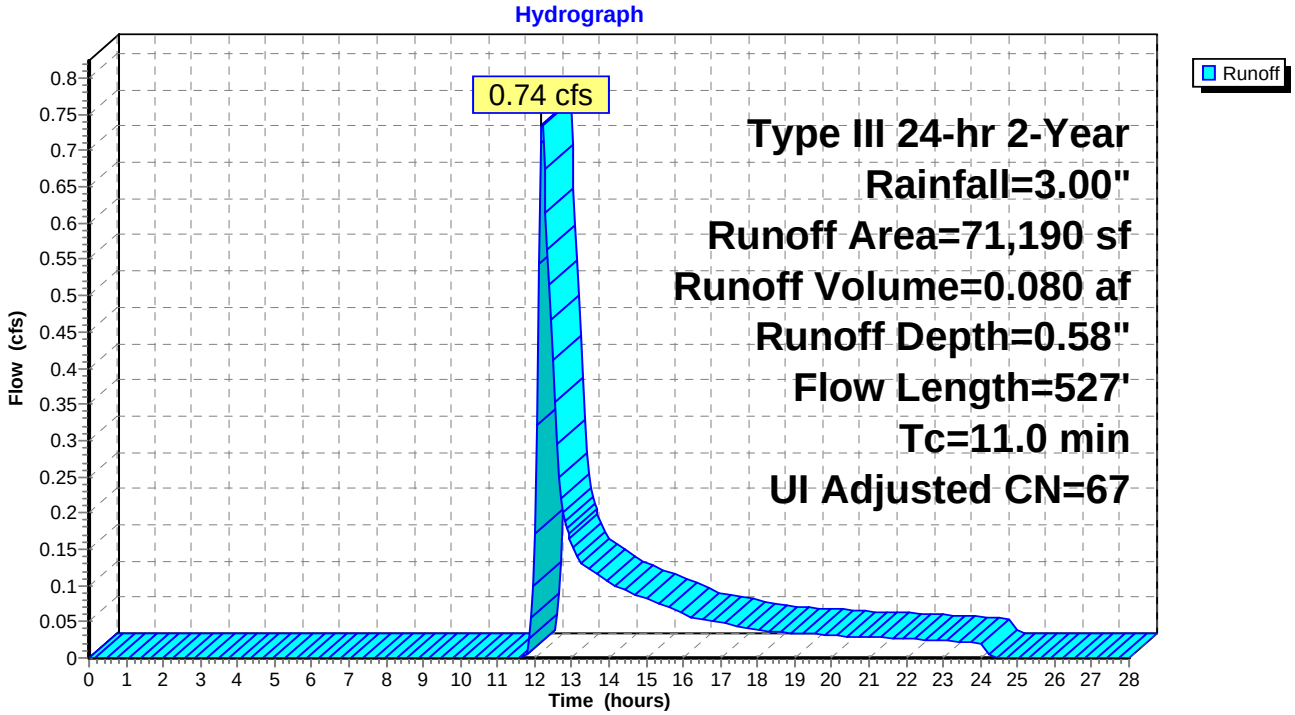
Runoff = 0.74 cfs @ 12.19 hrs, Volume= 0.080 af, Depth= 0.58"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-28.00 hrs, dt= 0.05 hrs
Type III 24-hr 2-Year Rainfall=3.00"

	Area (sf)	CN	Description
*	4,650	85	Stone Dust Track, HSG B
	16,200	98	Unconnected pavement, HSG B
	50,340	61	>75% Grass cover, Good, HSG B
	71,190	71	Weighted Average, UI Adjusted CN = 67
	54,990		77.24% Pervious Area
	16,200		22.76% Impervious Area
	16,200		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	50	0.0140	0.13		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
4.4	477	0.0126	1.81		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
11.0	527	Total			

Subcatchment 2: WS-2



Summary for Pond 1P: Base Stone (Turf Field)

Inflow Area = 1.919 ac, 0.00% Impervious, Inflow Depth = 2.77" for 2-Year event
Inflow = 5.45 cfs @ 12.09 hrs, Volume= 0.443 af
Outflow = 1.97 cfs @ 11.95 hrs, Volume= 0.443 af, Atten= 64%, Lag= 0.0 min
Discarded = 1.97 cfs @ 11.95 hrs, Volume= 0.443 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-28.00 hrs, dt= 0.05 hrs
Peak Elev= 151.85' @ 12.34 hrs Surf.Area= 83,600 sf Storage= 2,677 cf

Plug-Flow detention time= 7.4 min calculated for 0.442 af (100% of inflow)
Center-of-Mass det. time= 7.4 min (765.1 - 757.8)

Volume	Invert	Avail.Storage	Storage Description
#1	151.75'	27,588 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 83,600 cf Overall x 33.0% Voids

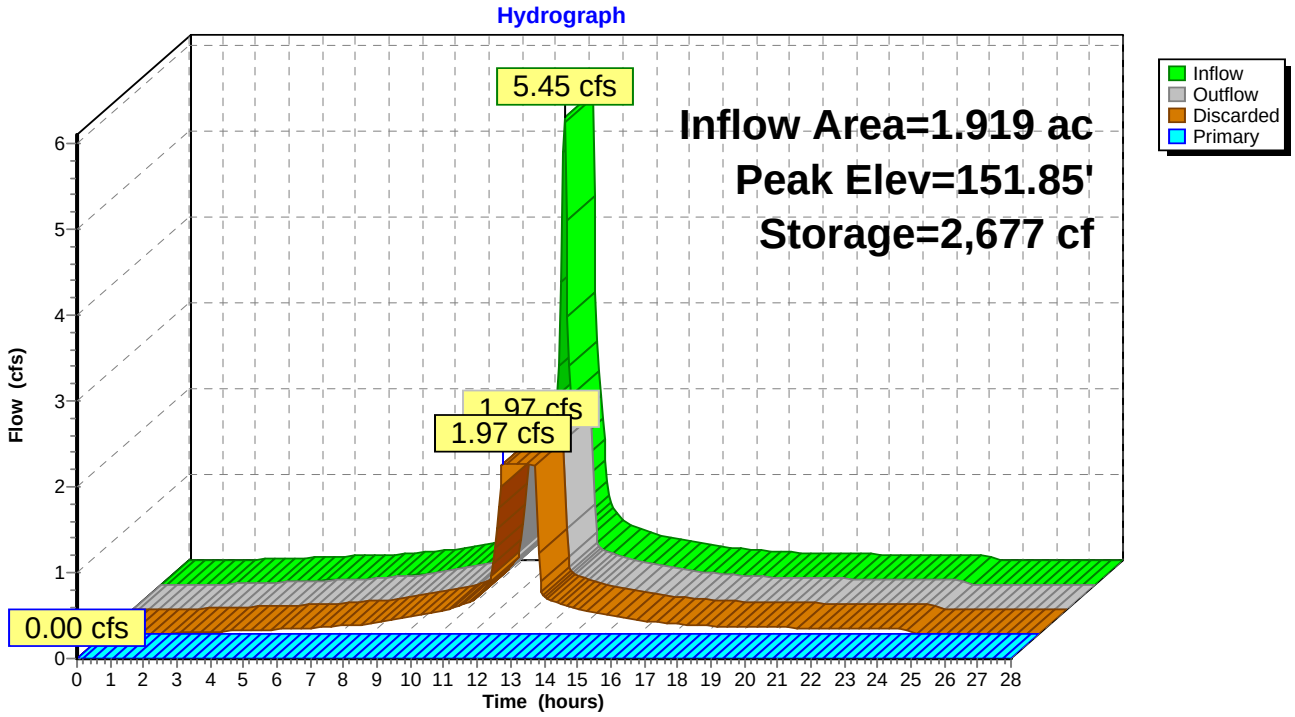
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
151.75	83,600	0	0
152.75	83,600	83,600	83,600

Device	Routing	Invert	Outlet Devices
#1	Discarded	151.75'	**1.020 in/hr Exfiltration over Surface area**
#2	Primary	145.96'	**15.0" Round Culvert** L= 101.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 145.96' / 143.91' S= 0.0203 '/' Cc= 0.900 n= 0.013 Cast iron, coated
#3	Device 2	152.00'	**12.0" Vert. Orifice/Grate** C= 0.600

Discarded OutFlow Max=1.97 cfs @ 11.95 hrs HW=151.77' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 1.97 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=151.75' (Free Discharge)
└**2=Culvert** (Passes 0.00 cfs of 12.88 cfs potential flow)
└**3=Orifice/Grate** (Controls 0.00 cfs)

Pond 1P: Base Stone (Turf Field)

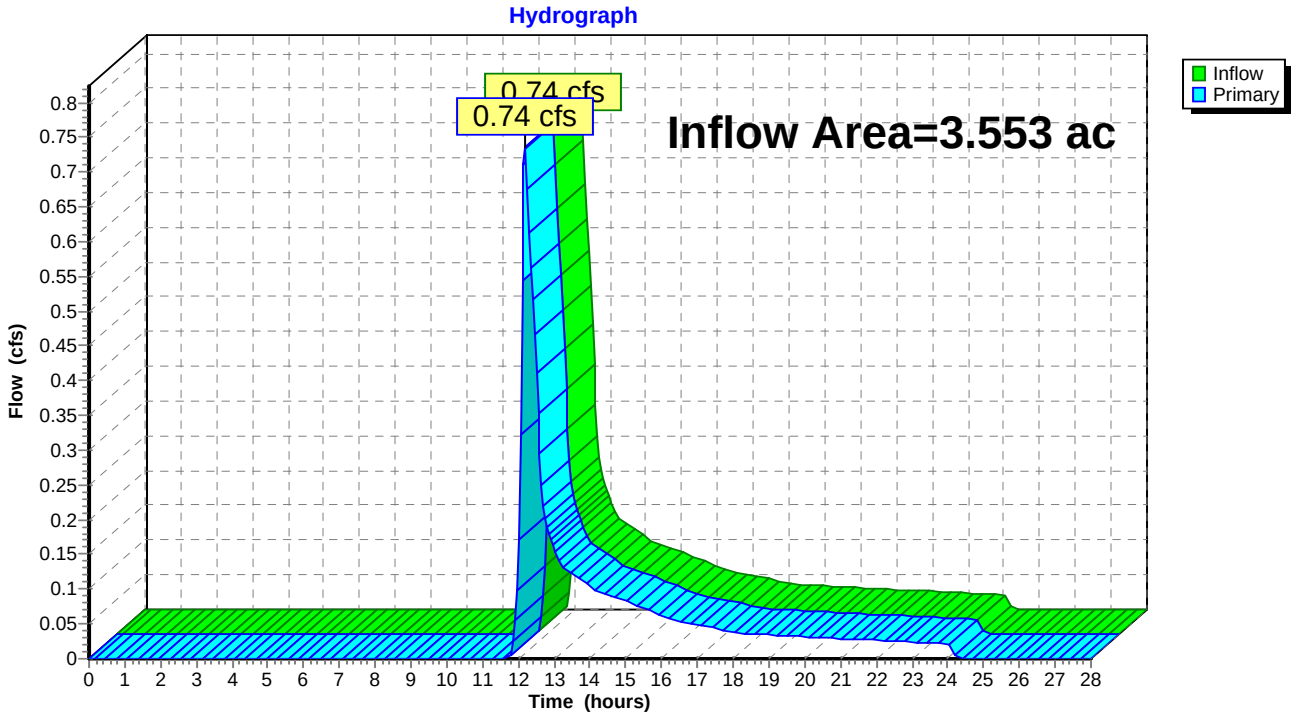


Summary for Link DP-1: DP-1

Inflow Area = 3.553 ac, 10.47% Impervious, Inflow Depth = 0.27" for 2-Year event
Inflow = 0.74 cfs @ 12.19 hrs, Volume= 0.080 af
Primary = 0.74 cfs @ 12.19 hrs, Volume= 0.080 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-28.00 hrs, dt= 0.05 hrs

Link DP-1: DP-1



Time span=0.00-28.00 hrs, dt=0.05 hrs, 561 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: WS-1 (Turf Field) Runoff Area=83,600 sf 0.00% Impervious Runoff Depth=4.36"
Tc=6.0 min CN=98 Runoff=8.43 cfs 0.698 af

Subcatchment 2: WS-2 Runoff Area=71,190 sf 22.76% Impervious Runoff Depth=1.53"
Flow Length=527' Tc=11.0 min UI Adjusted CN=67 Runoff=2.34 cfs 0.208 af

Pond 1P: Base Stone (Turf Field) Peak Elev=151.98' Storage=6,382 cf Inflow=8.43 cfs 0.698 af
Discarded=1.97 cfs 0.698 af Primary=0.00 cfs 0.000 af Outflow=1.97 cfs 0.698 af

Link DP-1: DP-1 Inflow=2.34 cfs 0.208 af
Primary=2.34 cfs 0.208 af

Total Runoff Area = 3.553 ac Runoff Volume = 0.906 af Average Runoff Depth = 3.06"
89.53% Pervious = 3.182 ac 10.47% Impervious = 0.372 ac

Summary for Subcatchment 1: WS-1 (Turf Field)

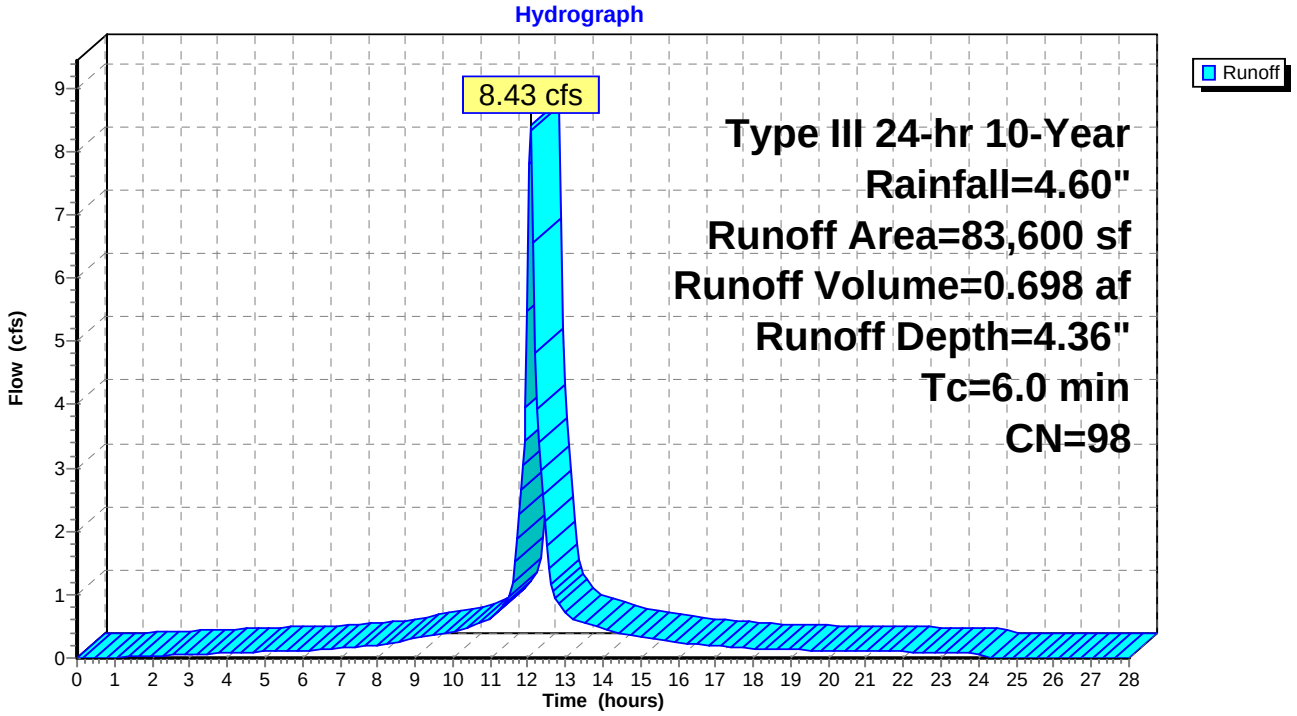
Runoff = 8.43 cfs @ 12.09 hrs, Volume= 0.698 af, Depth= 4.36"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-28.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.60"

	Area (sf)	CN	Description
*	83,600	98	Synthetic Turf Field, 0% imp, HSG B
	83,600		100.00% Pervious Area

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

Subcatchment 1: WS-1 (Turf Field)



Summary for Subcatchment 2: WS-2

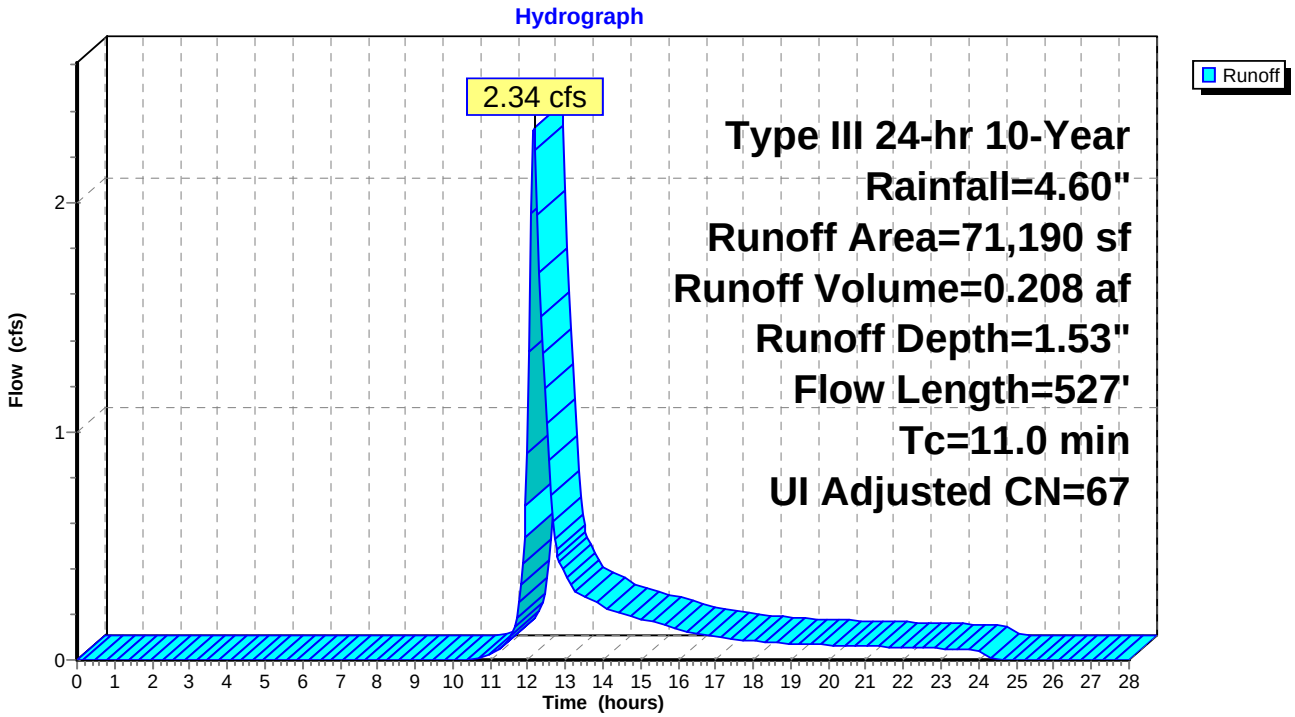
Runoff = 2.34 cfs @ 12.17 hrs, Volume= 0.208 af, Depth= 1.53"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-28.00 hrs, dt= 0.05 hrs
Type III 24-hr 10-Year Rainfall=4.60"

	Area (sf)	CN	Description
*	4,650	85	Stone Dust Track, HSG B
	16,200	98	Unconnected pavement, HSG B
	50,340	61	>75% Grass cover, Good, HSG B
	71,190	71	Weighted Average, UI Adjusted CN = 67
	54,990		77.24% Pervious Area
	16,200		22.76% Impervious Area
	16,200		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	50	0.0140	0.13		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
4.4	477	0.0126	1.81		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
11.0	527	Total			

Subcatchment 2: WS-2



Summary for Pond 1P: Base Stone (Turf Field)

Inflow Area = 1.919 ac, 0.00% Impervious, Inflow Depth = 4.36" for 10-Year event
Inflow = 8.43 cfs @ 12.09 hrs, Volume= 0.698 af
Outflow = 1.97 cfs @ 11.80 hrs, Volume= 0.698 af, Atten= 77%, Lag= 0.0 min
Discarded = 1.97 cfs @ 11.80 hrs, Volume= 0.698 af
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-28.00 hrs, dt= 0.05 hrs
Peak Elev= 151.98' @ 12.48 hrs Surf.Area= 83,600 sf Storage= 6,382 cf

Plug-Flow detention time= 16.7 min calculated for 0.697 af (100% of inflow)
Center-of-Mass det. time= 16.6 min (766.1 - 749.4)

Volume	Invert	Avail.Storage	Storage Description
#1	151.75'	27,588 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 83,600 cf Overall x 33.0% Voids

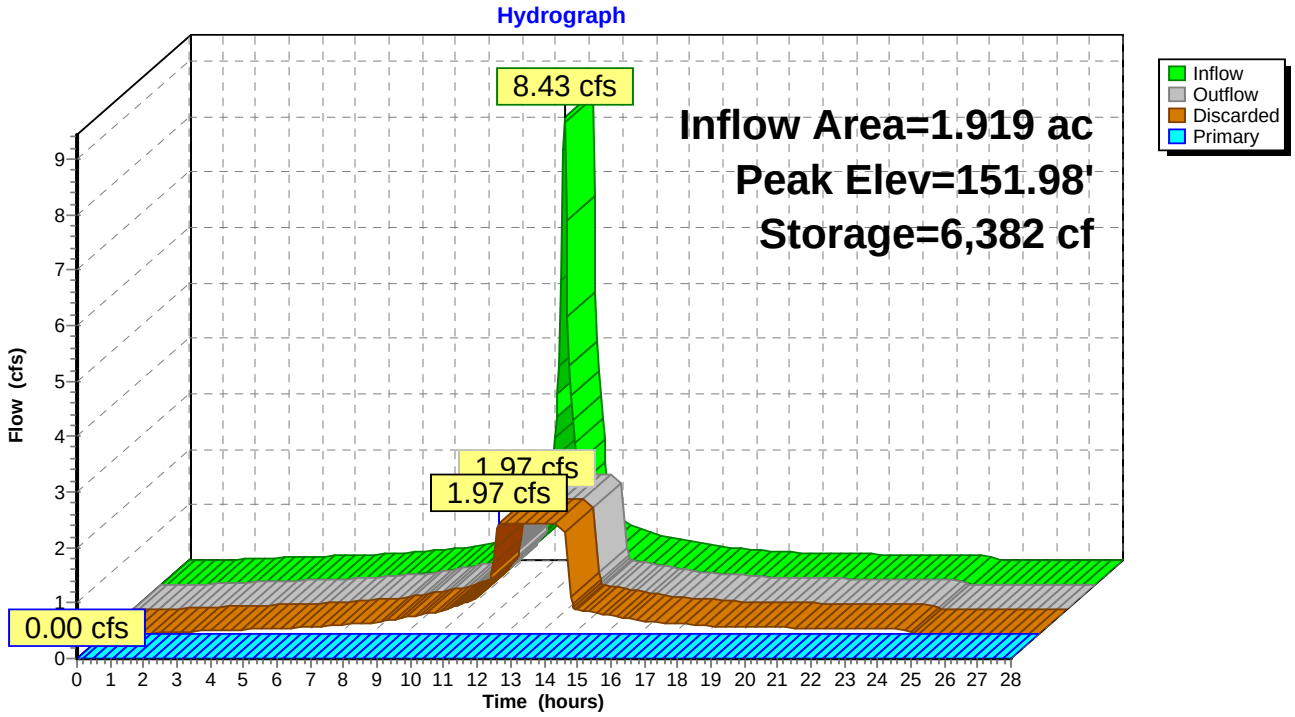
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
151.75	83,600	0	0
152.75	83,600	83,600	83,600

Device	Routing	Invert	Outlet Devices
#1	Discarded	151.75'	**1.020 in/hr Exfiltration over Surface area**
#2	Primary	145.96'	**15.0" Round Culvert** L= 101.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 145.96' / 143.91' S= 0.0203 '/' Cc= 0.900 n= 0.013 Cast iron, coated
#3	Device 2	152.00'	**12.0" Vert. Orifice/Grate** C= 0.600

Discarded OutFlow Max=1.97 cfs @ 11.80 hrs HW=151.77' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 1.97 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=151.75' (Free Discharge)
└**2=Culvert** (Passes 0.00 cfs of 12.88 cfs potential flow)
└**3=Orifice/Grate** (Controls 0.00 cfs)

Pond 1P: Base Stone (Turf Field)

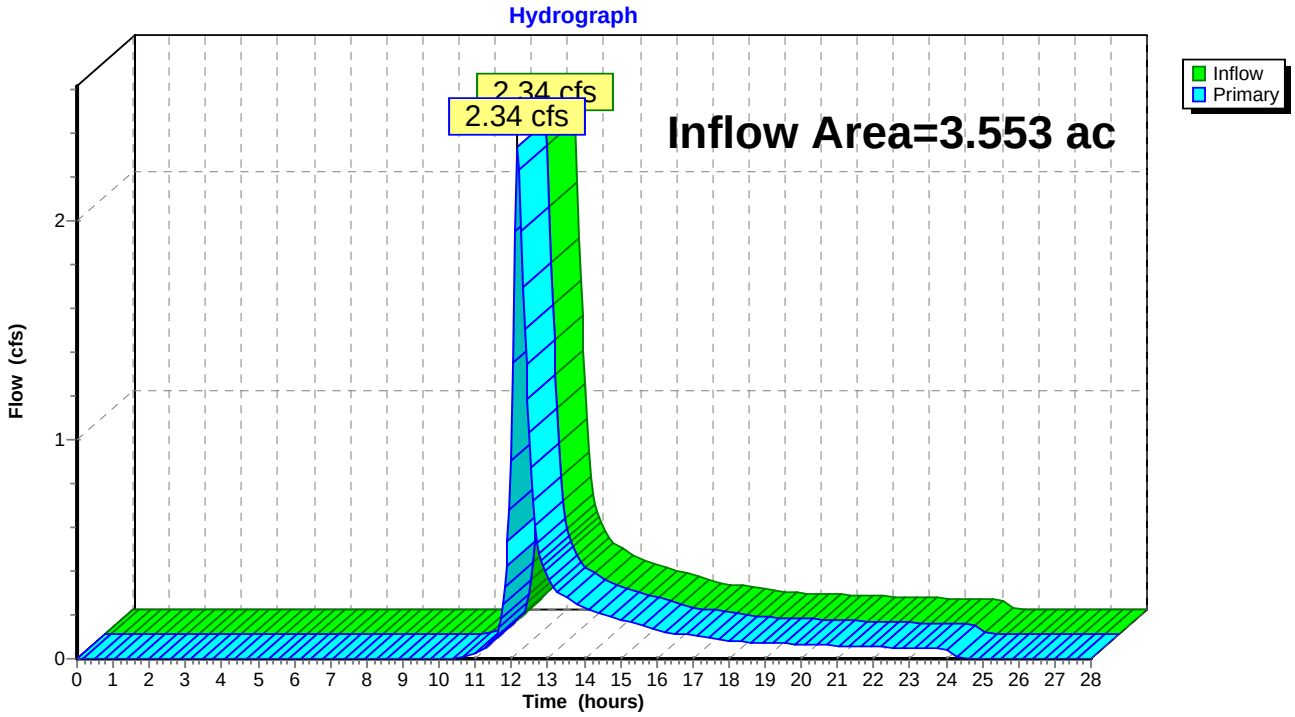


Summary for Link DP-1: DP-1

Inflow Area = 3.553 ac, 10.47% Impervious, Inflow Depth = 0.70" for 10-Year event
Inflow = 2.34 cfs @ 12.17 hrs, Volume= 0.208 af
Primary = 2.34 cfs @ 12.17 hrs, Volume= 0.208 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-28.00 hrs, dt= 0.05 hrs

Link DP-1: DP-1



Time span=0.00-28.00 hrs, dt=0.05 hrs, 561 points
Runoff by SCS TR-20 method, UH=SCS
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1: WS-1 (Turf Field) Runoff Area=83,600 sf 0.00% Impervious Runoff Depth=6.26"
Tc=6.0 min CN=98 Runoff=11.94 cfs 1.001 af

Subcatchment 2: WS-2 Runoff Area=71,190 sf 22.76% Impervious Runoff Depth=2.91"
Flow Length=527' Tc=11.0 min UI Adjusted CN=67 Runoff=4.64 cfs 0.397 af

Pond 1P: Base Stone (Turf Field) Peak Elev=152.16' Storage=11,319 cf Inflow=11.94 cfs 1.001 af
Discarded=1.97 cfs 0.994 af Primary=0.11 cfs 0.007 af Outflow=2.08 cfs 1.001 af

Link DP-1: DP-1 Inflow=4.65 cfs 0.404 af
Primary=4.65 cfs 0.404 af

Total Runoff Area = 3.553 ac Runoff Volume = 1.398 af Average Runoff Depth = 4.72"
89.53% Pervious = 3.182 ac 10.47% Impervious = 0.372 ac

Summary for Subcatchment 1: WS-1 (Turf Field)

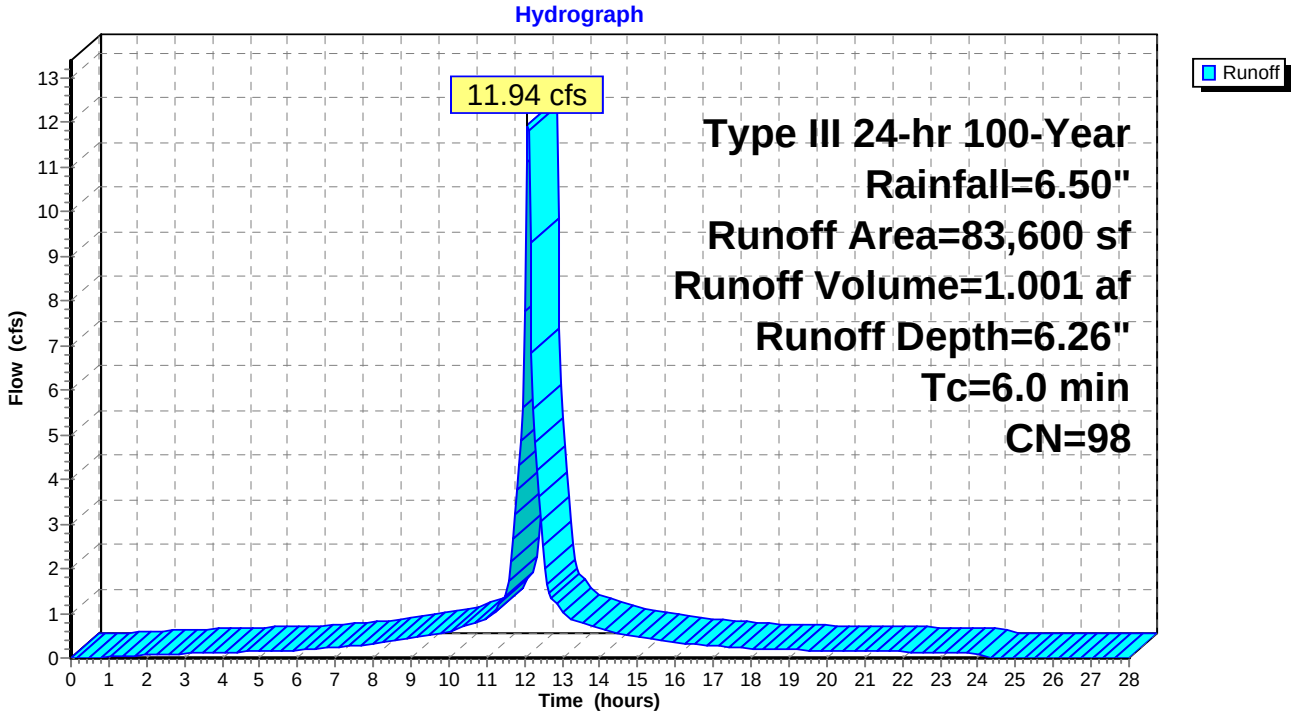
Runoff = 11.94 cfs @ 12.09 hrs, Volume= 1.001 af, Depth= 6.26"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-28.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

	Area (sf)	CN	Description
*	83,600	98	Synthetic Turf Field, 0% imp, HSG B
	83,600		100.00% Pervious Area

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

Subcatchment 1: WS-1 (Turf Field)



Summary for Subcatchment 2: WS-2

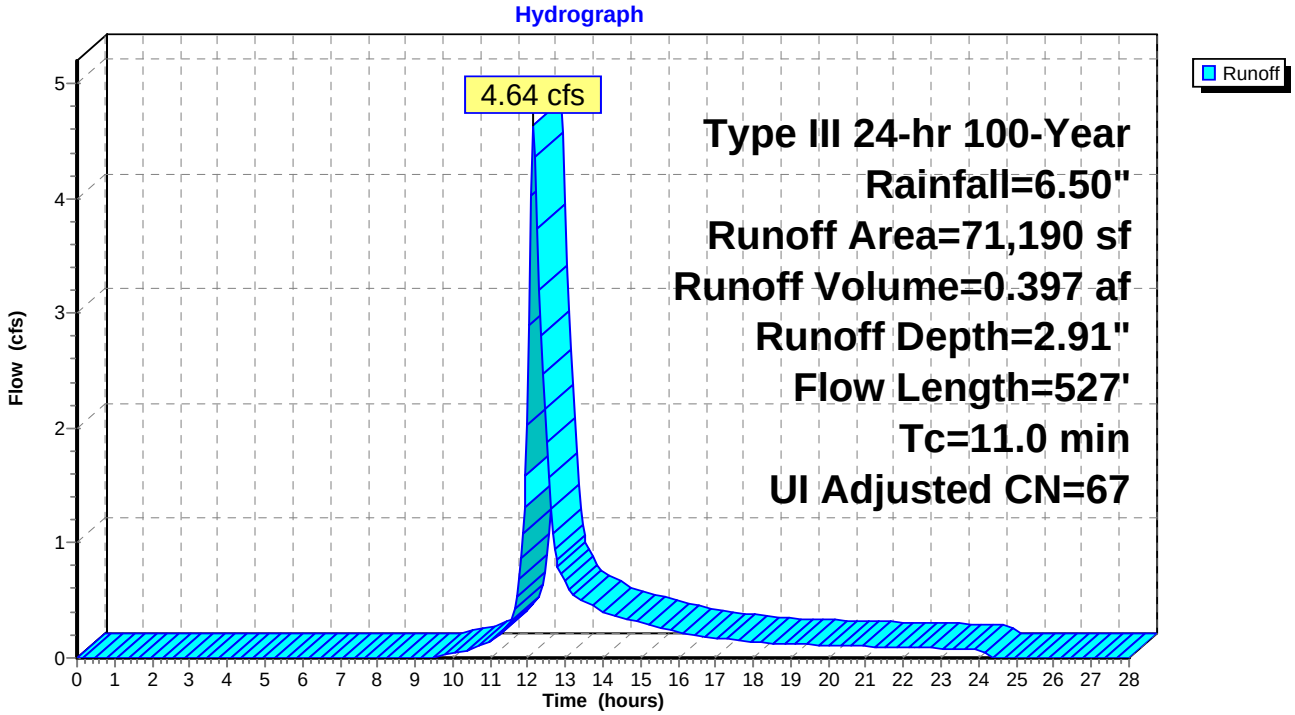
Runoff = 4.64 cfs @ 12.16 hrs, Volume= 0.397 af, Depth= 2.91"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-28.00 hrs, dt= 0.05 hrs
Type III 24-hr 100-Year Rainfall=6.50"

	Area (sf)	CN	Description
*	4,650	85	Stone Dust Track, HSG B
	16,200	98	Unconnected pavement, HSG B
	50,340	61	>75% Grass cover, Good, HSG B
	71,190	71	Weighted Average, UI Adjusted CN = 67
	54,990		77.24% Pervious Area
	16,200		22.76% Impervious Area
	16,200		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.6	50	0.0140	0.13		**Sheet Flow, A-B** Grass: Short n= 0.150 P2= 3.10"
4.4	477	0.0126	1.81		**Shallow Concentrated Flow, B-C** Unpaved Kv= 16.1 fps
11.0	527	Total			

Subcatchment 2: WS-2



Summary for Pond 1P: Base Stone (Turf Field)

Inflow Area = 1.919 ac, 0.00% Impervious, Inflow Depth = 6.26" for 100-Year event
Inflow = 11.94 cfs @ 12.09 hrs, Volume= 1.001 af
Outflow = 2.08 cfs @ 12.54 hrs, Volume= 1.001 af, Atten= 83%, Lag= 27.5 min
Discarded = 1.97 cfs @ 11.70 hrs, Volume= 0.994 af
Primary = 0.11 cfs @ 12.54 hrs, Volume= 0.007 af

Routing by Stor-Ind method, Time Span= 0.00-28.00 hrs, dt= 0.05 hrs
Peak Elev= 152.16' @ 12.54 hrs Surf.Area= 83,600 sf Storage= 11,319 cf

Plug-Flow detention time= 31.1 min calculated for 1.001 af (100% of inflow)
Center-of-Mass det. time= 31.1 min (775.1 - 744.0)

Volume	Invert	Avail.Storage	Storage Description
#1	151.75'	27,588 cf	**Custom Stage Data (Prismatic)**Listed below (Recalc) 83,600 cf Overall x 33.0% Voids

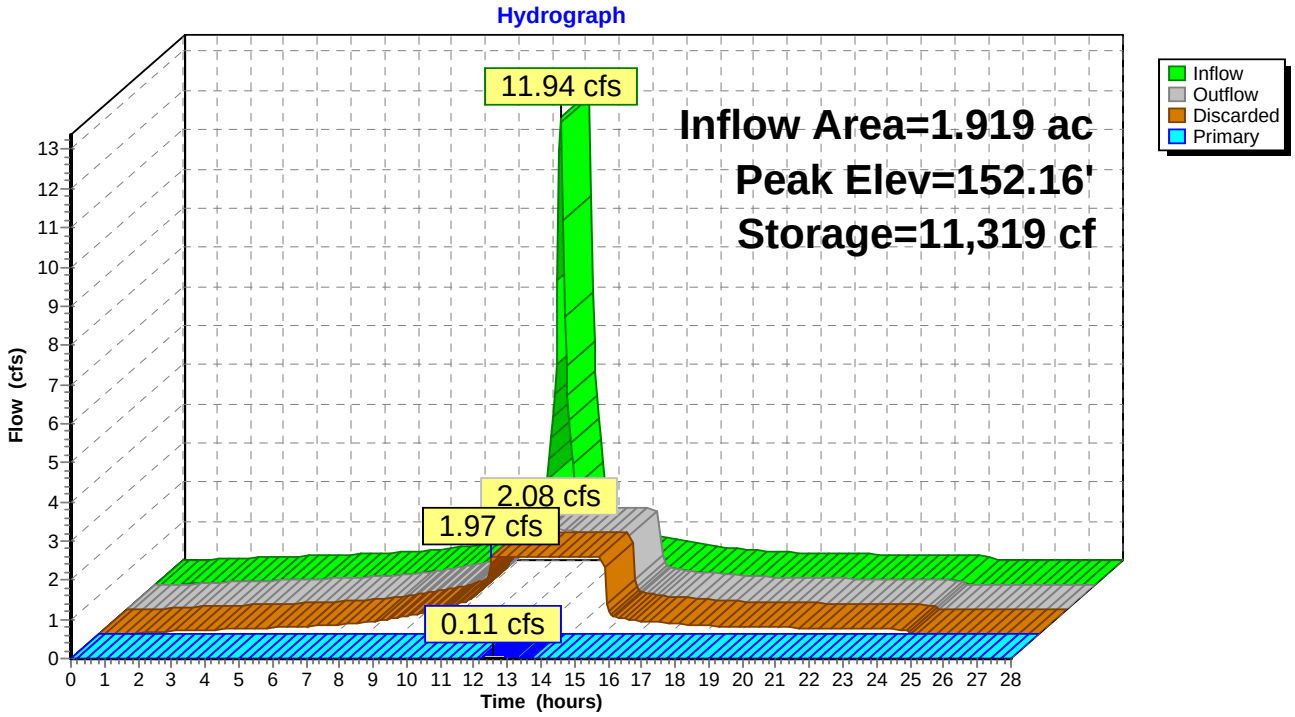
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
151.75	83,600	0	0
152.75	83,600	83,600	83,600

Device	Routing	Invert	Outlet Devices
#1	Discarded	151.75'	**1.020 in/hr Exfiltration over Surface area**
#2	Primary	145.96'	**15.0" Round Culvert** L= 101.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 145.96' / 143.91' S= 0.0203 '/' Cc= 0.900 n= 0.013 Cast iron, coated
#3	Device 2	152.00'	**12.0" Vert. Orifice/Grate** C= 0.600

Discarded OutFlow Max=1.97 cfs @ 11.70 hrs HW=151.76' (Free Discharge)
└**1=Exfiltration** (Exfiltration Controls 1.97 cfs)

Primary OutFlow Max=0.11 cfs @ 12.54 hrs HW=152.16' (Free Discharge)
└**2=Culvert** (Passes 0.11 cfs of 13.27 cfs potential flow)
└**3=Orifice/Grate** (Orifice Controls 0.11 cfs @ 1.36 fps)

Pond 1P: Base Stone (Turf Field)

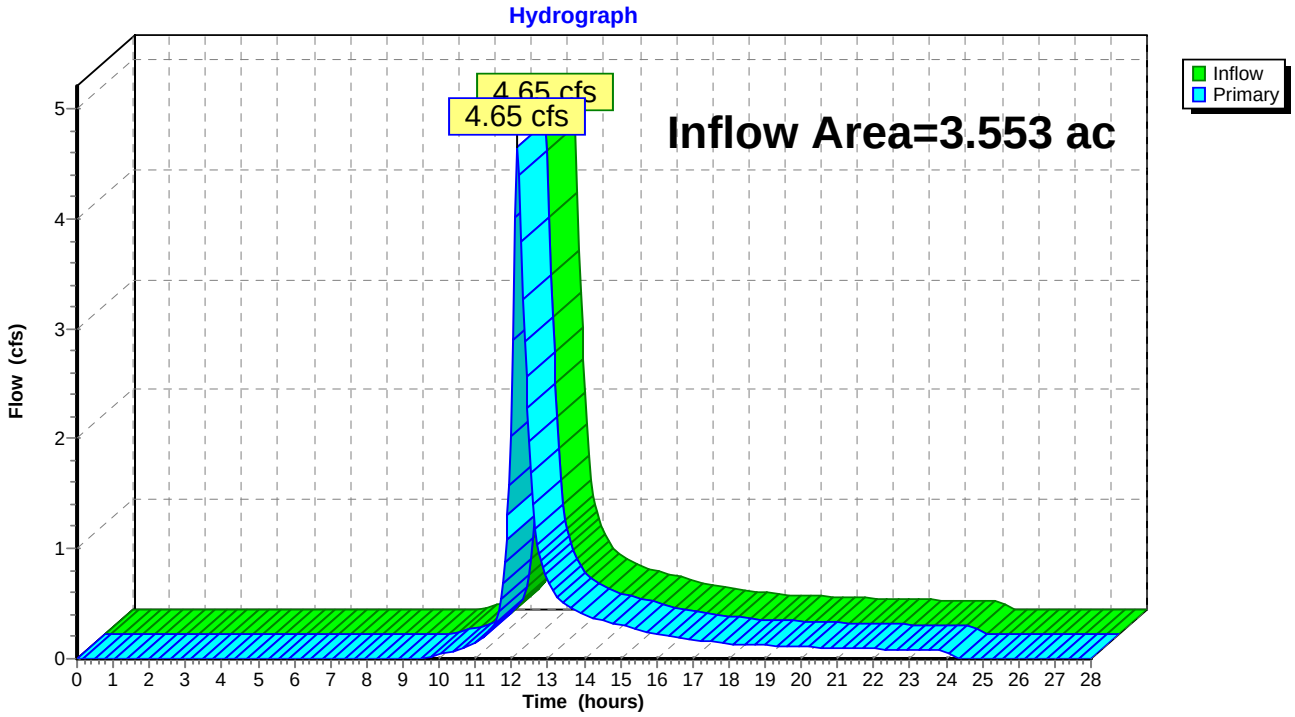


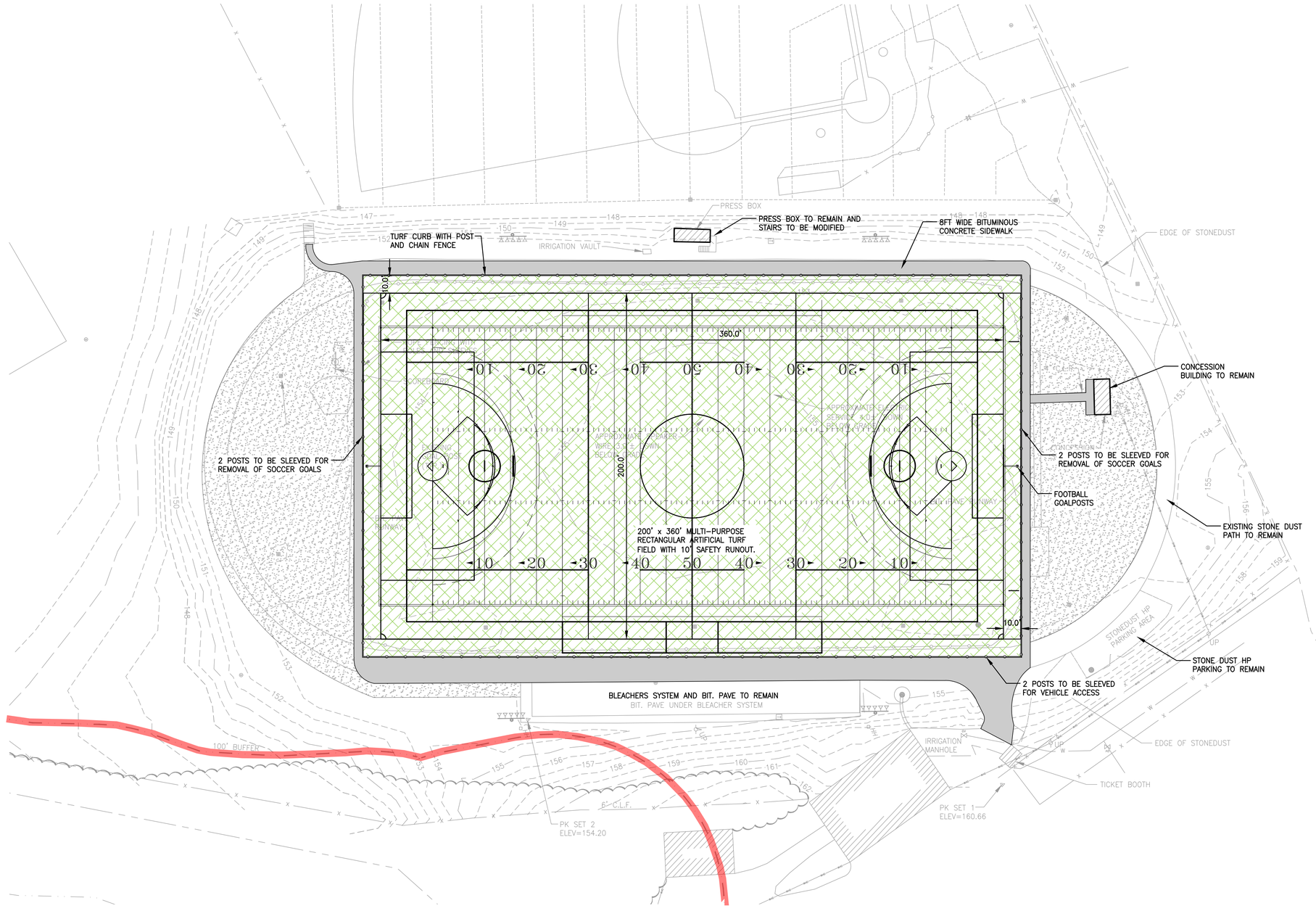
Summary for Link DP-1: DP-1

Inflow Area = 3.553 ac, 10.47% Impervious, Inflow Depth = 1.36" for 100-Year event
Inflow = 4.65 cfs @ 12.16 hrs, Volume= 0.404 af
Primary = 4.65 cfs @ 12.16 hrs, Volume= 0.404 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-28.00 hrs, dt= 0.05 hrs

Link DP-1: DP-1





- ABANDON CINDER TRACK
- MULTI-SPORT FIELD (200'x360')
- GRASS D-AREAS
- NEW PAVEMENT AREA ACCESS AND PAVED SIDEWALK AROUND FIELD
- BLEACHERS TO REMAIN IN PLACE

PERMIT SET

GALE

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PROJECT
TRACK AND FIELD PROJECT
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153 NEWTON STREET
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OWNER
TOWN OF SOUTH HADLEY
116 MAIN STREET
SOUTH HADLEY, MA 01075

REVISIONS

NO.	DATE	DESCRIPTION

CADD FILE	717000_C101
DESIGNED BY	PS
DRAWN BY	HAM
CHECKED BY	WJS
DATE	01/28/2016
DRAWING SCALE	1"=30'

GRAPHIC SCALE
0 30' 60'

SHEET TITLE

LAYOUT AND MATERIALS PLAN

DRAWING NO.
C101

PROJECT NO. 717000

SOIL EVALUATOR FORM

Location Address or Lot No. South Hadley High School

On-site Review

Deep Hole Number: TP-1 Date: 12-17-2015 Time: 9:30 am Weather: Cloudy 42 degrees

Location (Identify on site plan): See Map

Land Use: Athletic Field Slope (%): 0-5 Surface Stones: None

Vegetation: Grass

Landform:

Position on Landscape (sketch on the back):

Distances from:

Open Water Body:	feet	Drainage way:	feet
Possible Wet Area:	feet	Property Line:	feet
Drinking Water Well:	feet	Other:	feet

DEEP OBSERVATION HOLE LOG*

Depth from Surface (Inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Redox/ Mottles	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-11	A	Sandy Loam	10YR 3/2		Topsoil
11-26	Fill	Fine Loamy Sand	10YR 5/6		
26-108	C	Fine Loamy Sand	7.5YR 5/6		

Notes:

Standing water was at 7-ft depth which is consistent as this location is approximately 2' lower than the center of the field. There was some weeping at 66" depth; however, this location is at the "low" point of a slope and Town stated that this area is slow draining. It should be noted that the proposed synthetic turf field's footprint will be outside this area.

Parent Material (geologic) Loamy sand Depth to Bedrock: None

Depth to Groundwater: 84" Weeping from Pit Face: @66"

Estimated Seasonal High Ground Water:

Test Pit #1:

SOIL EVALUATOR FORM

Location Address or Lot No. South Hadley High School

On-site Review

Deep Hole Number: TP-2 Date: 12-17-2015 Time: 10:30 am Weather: Cloudy 42 degrees

Location (Identify on site plan): See Map

Land Use: Athletic Field Slope (%): 0-5 Surface Stones: None

Vegetation: Grass

Landform:

Position on Landscape (sketch on the back):

Distances from:

Open Water Body:	feet	Drainage way:	feet
Possible Wet Area:	feet	Property Line:	feet
Drinking Water Well:	feet	Other:	feet

DEEP OBSERVATION HOLE LOG*

Depth from Surface (Inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Redox/ Mottles	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-11	A	Sandy Loam	10YR 3/2		Topsoil
11-42	Fill	Fine Loamy Sand	10YR 5/6		
42-72	C1	Fine Loamy Sand	7.5YR 5/6		
72-74	A1	Sandy Loam	10YR 3/2		
74-114	C2	Fine Loamy Sand	7.5YR 5/6		

Notes:

Standing water was at 9-ft depth. There was no weeping from face. There was a thin layer (2") of buried topsoil, and not consistent around the entire pit. However there was no other buried topsoil layers observed in any of the other test pits.

Parent Material (geologic) Loamy sand Depth to Bedrock: None

Depth to Groundwater: 108" Weeping from Pit Face: None

Estimated Seasonal High Ground Water:

Test Pit #2:

SOIL EVALUATOR FORM

Location Address or Lot No. South Hadley High School

On-site Review

Deep Hole Number: TP-3 Date: 12-17-2015 Time: 11:30 am Weather: Cloudy 42 degrees

Location (Identify on site plan): See Map

Land Use: Athletic Field Slope (%): 0-5 Surface Stones: None

Vegetation: Grass

Landform:

Position on Landscape (sketch on the back):

Distances from:

Open Water Body:	feet	Drainage way:	feet
Possible Wet Area:	feet	Property Line:	feet
Drinking Water Well:	feet	Other:	feet

DEEP OBSERVATION HOLE LOG*

Depth from Surface (Inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Redox/ Mottles	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-11	A	Sandy Loam	10YR 3/2		Topsoil
11-26	Fill	Fine Loamy Sand	10YR 5/6		
26-108	C	Fine Laomy Sand	7.5YR 5/6		

Notes:

Standing water was at 8-ft depth which is consistent as this location is approximately 1' lower than the center of the field.

Parent Material (geologic) Loamy sand Depth to Bedrock: None

Depth to Groundwater: 96" Weeping from Pit Face: None

Estimated Seasonal High Ground Water:

Test Pit #3:

SOIL EVALUATOR FORM

Location Address or Lot No. South Hadley High School

On-site Review

Deep Hole Number: TP-4 Date: 12-17-2015 Time: 12:30 am Weather: Cloudy 42 degrees

Location (Identify on site plan): See Map

Land Use: Athletic Field Slope (%): 0-5 Surface Stones: None

Vegetation: Grass

Landform:

Position on Landscape (sketch on the back):

Distances from:

Open Water Body:	feet	Drainage way:	feet
Possible Wet Area:	feet	Property Line:	feet
Drinking Water Well:	feet	Other:	feet

DEEP OBSERVATION HOLE LOG*

Depth from Surface (Inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Redox/ Mottles	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-15	A	Sandy Loam	10YR 3/2		Topsoil
15-36	Fill	Fine Loamy Sand	10YR 5/6		
36-108	C	Fine Loamy Sand	7.5YR 5/6		

Notes:

Standing water was at 8.5-ft depth which is consistent as this location is approximately 1' lower than the center of the field.

Parent Material (geologic) Loamy sand Depth to Bedrock: None

Depth to Groundwater: 102" Weeping from Pit Face: None

Estimated Seasonal High Ground Water:

Test Pit #4: