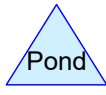


Subcat



Reach



Pond



Link

**Summary for Subcatchment X1: wood yard**

Runoff = 9.3 cfs @ 12.13 hrs, Volume= 0.660 af, Depth> 4.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs  
NRCC 24-hr C 50-YEAR Rainfall=6.05"

Area (sf)	CN	Description
2,170	98	Unconnected roofs, HSG C
62,263	89	Gravel roads, HSG C
0	86	<50% Grass cover, Poor, HSG C
7,233	77	Brush, Poor, HSG C
4,025	70	Woods, Good, HSG C
75,691	87	Weighted Average
73,521		97.13% Pervious Area
2,170		2.87% Impervious Area
2,170		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	383	0.0320	0.98		Lag/CN Method,

**Summary for Subcatchment X2: to wetland**

Runoff = 1.9 cfs @ 12.12 hrs, Volume= 0.124 af, Depth> 4.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs  
NRCC 24-hr C 50-YEAR Rainfall=6.05"

Area (sf)	CN	Adj	Description
1,922	98		Unconnected roofs, HSG C
3,662	89		Gravel roads, HSG C
3,860	86		<50% Grass cover, Poor, HSG C
4,070	77		Brush, Poor, HSG C
2,140	70		Woods, Good, HSG C
15,654	84	83	Weighted Average, UI Adjusted
13,732			87.72% Pervious Area
1,922			12.28% Impervious Area
1,922			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	241	0.0740	1.22		Lag/CN Method,
3.3	241	Total, Increased to minimum Tc = 5.0 min			

**Summary for Subcatchment X3: site**

Runoff = 22.4 cfs @ 12.15 hrs, Volume= 1.593 af, Depth> 3.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs  
NRCC 24-hr C 50-YEAR Rainfall=6.05"

Area (sf)	CN	Adj	Description
8,627	98		Unconnected roofs, HSG C
56,369	89		Gravel roads, HSG C
29,047	86		<50% Grass cover, Poor, HSG C
36,308	77		Brush, Poor, HSG C
99,840	70		Woods, Good, HSG C
230,191	79	78	Weighted Average, UI Adjusted
221,564			96.25% Pervious Area
8,627			3.75% Impervious Area
8,627			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.8	573	0.0730	1.23		Lag/CN Method,

**Summary for Reach R1: wood yard culvert**

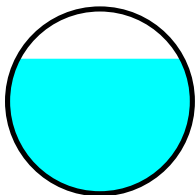
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 1.738 ac, 2.87% Impervious, Inflow Depth > 4.56" for 50-YEAR event  
 Inflow = 9.3 cfs @ 12.13 hrs, Volume= 0.660 af  
 Outflow = 9.3 cfs @ 12.14 hrs, Volume= 0.660 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs / 2  
 Max. Velocity= 9.61 fps, Min. Travel Time= 0.1 min  
 Avg. Velocity = 3.43 fps, Avg. Travel Time= 0.2 min

Peak Storage= 36 cf @ 12.13 hrs  
 Average Depth at Peak Storage= 0.91' , Surface Width= 1.11'  
 Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 10.5 cfs

15.0" Round Pipe  
 n= 0.020 Corrugated PE, corrugated interior  
 Length= 37.0' Slope= 0.0622 '/'  
 Inlet Invert= 454.00', Outlet Invert= 451.70'



**Summary for Reach R2: swale offsite**

Inflow Area = 2.097 ac, 4.48% Impervious, Inflow Depth > 4.49" for 50-YEAR event  
Inflow = 11.1 cfs @ 12.13 hrs, Volume= 0.784 af  
Outflow = 10.6 cfs @ 12.18 hrs, Volume= 0.782 af, Atten= 5%, Lag= 3.0 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs / 2  
Max. Velocity= 1.05 fps, Min. Travel Time= 1.9 min  
Avg. Velocity = 0.29 fps, Avg. Travel Time= 7.0 min

Peak Storage= 1,219 cf @ 12.15 hrs  
Average Depth at Peak Storage= 0.78' , Surface Width= 16.20'  
Bank-Full Depth= 2.00' Flow Area= 36.0 sf, Capacity= 63.5 cfs

10.00' x 2.00' deep channel, n= 0.400 Sheet flow: Woods+light brush  
Side Slope Z-value= 4.0 ' ' Top Width= 26.00'  
Length= 120.0' Slope= 0.1500 ' '  
Inlet Invert= 442.00', Outlet Invert= 424.00'



**Summary for Link 1L: OFFSITE (to river)**

Inflow Area = 7.381 ac, 3.96% Impervious, Inflow Depth > 3.86" for 50-YEAR event  
Inflow = 32.3 cfs @ 12.16 hrs, Volume= 2.375 af  
Primary = 32.3 cfs @ 12.16 hrs, Volume= 2.375 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs

Time span=0.00-24.00 hrs, dt=0.03 hrs, 801 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment X1: wood yard** Runoff Area=75,691 sf 2.87% Impervious Runoff Depth>1.20"  
Flow Length=383' Slope=0.0320 '/' Tc=6.5 min CN=87 Runoff=2.6 cfs 0.174 af

**Subcatchment X2: to wetland** Runoff Area=15,654 sf 12.28% Impervious Runoff Depth>0.96"  
Flow Length=241' Slope=0.0740 '/' Tc=5.0 min UI Adjusted CN=83 Runoff=0.5 cfs 0.029 af

**Subcatchment X3: site** Runoff Area=230,191 sf 3.75% Impervious Runoff Depth>0.70"  
Flow Length=573' Slope=0.0730 '/' Tc=7.8 min UI Adjusted CN=78 Runoff=4.2 cfs 0.310 af

**Reach R1: wood yard culvert** Avg. Flow Depth=0.42' Max Vel=7.03 fps Inflow=2.6 cfs 0.174 af  
15.0" Round Pipe n=0.020 L=37.0' S=0.0622 '/' Capacity=10.5 cfs Outflow=2.6 cfs 0.174 af

**Reach R2: swale offsite** Avg. Flow Depth=0.36' Max Vel=0.67 fps Inflow=3.0 cfs 0.203 af  
n=0.400 L=120.0' S=0.1500 '/' Capacity=63.5 cfs Outflow=2.7 cfs 0.202 af

**Link 1L: OFFSITE (to river)** Inflow=6.5 cfs 0.511 af  
Primary=6.5 cfs 0.511 af

**Total Runoff Area = 7.381 ac Runoff Volume = 0.512 af Average Runoff Depth = 0.83"**  
**96.04% Pervious = 7.089 ac 3.96% Impervious = 0.292 ac**

Time span=0.00-24.00 hrs, dt=0.03 hrs, 801 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment X1: wood yard** Runoff Area=75,691 sf 2.87% Impervious Runoff Depth>1.58"  
Flow Length=383' Slope=0.0320 '/' Tc=6.5 min CN=87 Runoff=3.4 cfs 0.229 af

**Subcatchment X2: to wetland** Runoff Area=15,654 sf 12.28% Impervious Runoff Depth>1.30"  
Flow Length=241' Slope=0.0740 '/' Tc=5.0 min UI Adjusted CN=83 Runoff=0.6 cfs 0.039 af

**Subcatchment X3: site** Runoff Area=230,191 sf 3.75% Impervious Runoff Depth>1.00"  
Flow Length=573' Slope=0.0730 '/' Tc=7.8 min UI Adjusted CN=78 Runoff=6.1 cfs 0.440 af

**Reach R1: wood yard culvert** Avg. Flow Depth=0.49' Max Vel=7.57 fps Inflow=3.4 cfs 0.229 af  
15.0" Round Pipe n=0.020 L=37.0' S=0.0622 '/' Capacity=10.5 cfs Outflow=3.4 cfs 0.229 af

**Reach R2: swale offsite** Avg. Flow Depth=0.42' Max Vel=0.74 fps Inflow=3.9 cfs 0.268 af  
n=0.400 L=120.0' S=0.1500 '/' Capacity=63.5 cfs Outflow=3.6 cfs 0.267 af

**Link 1L: OFFSITE (to river)** Inflow=9.3 cfs 0.707 af  
Primary=9.3 cfs 0.707 af

**Total Runoff Area = 7.381 ac Runoff Volume = 0.708 af Average Runoff Depth = 1.15"**  
**96.04% Pervious = 7.089 ac 3.96% Impervious = 0.292 ac**

Time span=0.00-24.00 hrs, dt=0.03 hrs, 801 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment X1: wood yard** Runoff Area=75,691 sf 2.87% Impervious Runoff Depth>2.75"  
Flow Length=383' Slope=0.0320 '/' Tc=6.5 min CN=87 Runoff=5.8 cfs 0.399 af

**Subcatchment X2: to wetland** Runoff Area=15,654 sf 12.28% Impervious Runoff Depth>2.40"  
Flow Length=241' Slope=0.0740 '/' Tc=5.0 min UI Adjusted CN=83 Runoff=1.1 cfs 0.072 af

**Subcatchment X3: site** Runoff Area=230,191 sf 3.75% Impervious Runoff Depth>1.99"  
Flow Length=573' Slope=0.0730 '/' Tc=7.8 min UI Adjusted CN=78 Runoff=12.4 cfs 0.875 af

**Reach R1: wood yard culvert** Avg. Flow Depth=0.66' Max Vel=8.69 fps Inflow=5.8 cfs 0.399 af  
15.0" Round Pipe n=0.020 L=37.0' S=0.0622 '/' Capacity=10.5 cfs Outflow=5.7 cfs 0.399 af

**Reach R2: swale offsite** Avg. Flow Depth=0.59' Max Vel=0.89 fps Inflow=6.8 cfs 0.470 af  
n=0.400 L=120.0' S=0.1500 '/' Capacity=63.5 cfs Outflow=6.4 cfs 0.469 af

**Link 1L: OFFSITE (to river)** Inflow=18.2 cfs 1.344 af  
Primary=18.2 cfs 1.344 af

**Total Runoff Area = 7.381 ac Runoff Volume = 1.345 af Average Runoff Depth = 2.19"**  
**96.04% Pervious = 7.089 ac 3.96% Impervious = 0.292 ac**

Time span=0.00-24.00 hrs, dt=0.03 hrs, 801 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment X1: wood yard** Runoff Area=75,691 sf 2.87% Impervious Runoff Depth>4.56"  
Flow Length=383' Slope=0.0320 '/' Tc=6.5 min CN=87 Runoff=9.3 cfs 0.660 af

**Subcatchment X2: to wetland** Runoff Area=15,654 sf 12.28% Impervious Runoff Depth>4.13"  
Flow Length=241' Slope=0.0740 '/' Tc=5.0 min UI Adjusted CN=83 Runoff=1.9 cfs 0.124 af

**Subcatchment X3: site** Runoff Area=230,191 sf 3.75% Impervious Runoff Depth>3.62"  
Flow Length=573' Slope=0.0730 '/' Tc=7.8 min UI Adjusted CN=78 Runoff=22.4 cfs 1.593 af

**Reach R1: wood yard culvert** Avg. Flow Depth=0.91' Max Vel=9.61 fps Inflow=9.3 cfs 0.660 af  
15.0" Round Pipe n=0.020 L=37.0' S=0.0622 '/' Capacity=10.5 cfs Outflow=9.3 cfs 0.660 af

**Reach R2: swale offsite** Avg. Flow Depth=0.78' Max Vel=1.05 fps Inflow=11.1 cfs 0.784 af  
n=0.400 L=120.0' S=0.1500 '/' Capacity=63.5 cfs Outflow=10.6 cfs 0.782 af

**Link 1L: OFFSITE (to river)** Inflow=32.3 cfs 2.375 af  
Primary=32.3 cfs 2.375 af

**Total Runoff Area = 7.381 ac Runoff Volume = 2.377 af Average Runoff Depth = 3.86"**  
**96.04% Pervious = 7.089 ac 3.96% Impervious = 0.292 ac**



**Events for Subcatchment X1: wood yard**

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1-YEAR	2.37	2.6	0.174	1.20
2-YEAR	2.82	3.4	0.229	1.58
10-YEAR	4.13	5.8	0.399	2.75
50-YEAR	<b>6.05</b>	<b>9.3</b>	<b>0.660</b>	<b>4.56</b>

**Events for Subcatchment X2: to wetland**

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1-YEAR	2.37	0.5	0.029	0.96
2-YEAR	2.82	0.6	0.039	1.30
10-YEAR	4.13	1.1	0.072	2.40
50-YEAR	<b>6.05</b>	<b>1.9</b>	<b>0.124</b>	<b>4.13</b>

**Events for Subcatchment X3: site**

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
1-YEAR	2.37	4.2	0.310	0.70
2-YEAR	2.82	6.1	0.440	1.00
10-YEAR	4.13	12.4	0.875	1.99
50-YEAR	<b>6.05</b>	<b>22.4</b>	<b>1.593</b>	<b>3.62</b>

**Events for Reach R1: wood yard culvert**

Event	Inflow (cfs)	Outflow (cfs)	Elevation (feet)	Storage (cubic-feet)
1-YEAR	2.6	2.6	454.42	13
2-YEAR	3.4	3.4	454.49	16
10-YEAR	5.8	5.7	454.66	24
50-YEAR	<b>9.3</b>	<b>9.3</b>	<b>454.91</b>	<b>36</b>

**Events for Reach R2: swale offsite**

Event	Inflow (cfs)	Outflow (cfs)	Elevation (feet)	Storage (cubic-feet)
1-YEAR	3.0	2.7	442.36	494
2-YEAR	3.9	3.6	442.42	597
10-YEAR	6.8	6.4	442.59	869
50-YEAR	<b>11.1</b>	<b>10.6</b>	<b>442.78</b>	<b>1,219</b>

**Events for Link 1L: OFFSITE (to river)**

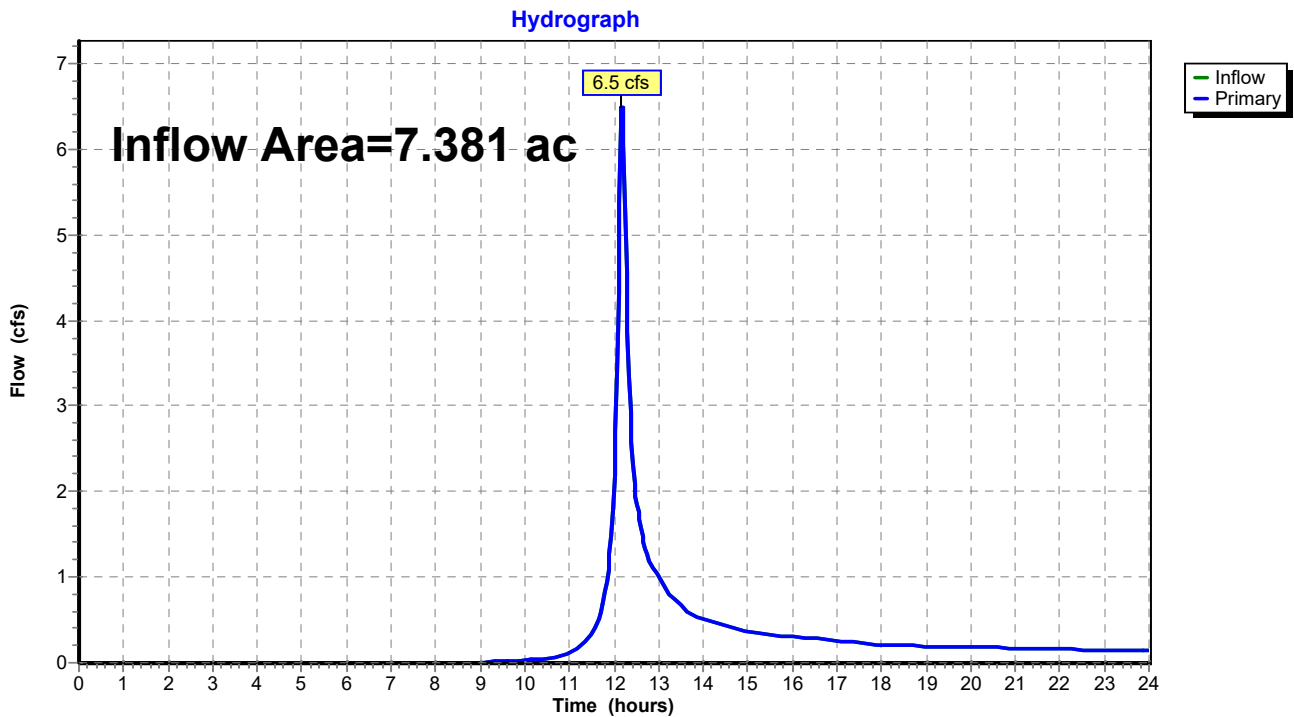
Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
1-YEAR	6.5	6.5	<b>0.00</b>
2-YEAR	9.3	9.3	0.00
10-YEAR	18.2	18.2	0.00
50-YEAR	<b>32.3</b>	<b>32.3</b>	0.00

### Summary for Link 1L: OFFSITE (to river)

Inflow Area = 7.381 ac, 3.96% Impervious, Inflow Depth > 0.83" for 1-YEAR event  
Inflow = 6.5 cfs @ 12.18 hrs, Volume= 0.511 af  
Primary = 6.5 cfs @ 12.18 hrs, Volume= 0.511 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs

### Link 1L: OFFSITE (to river)



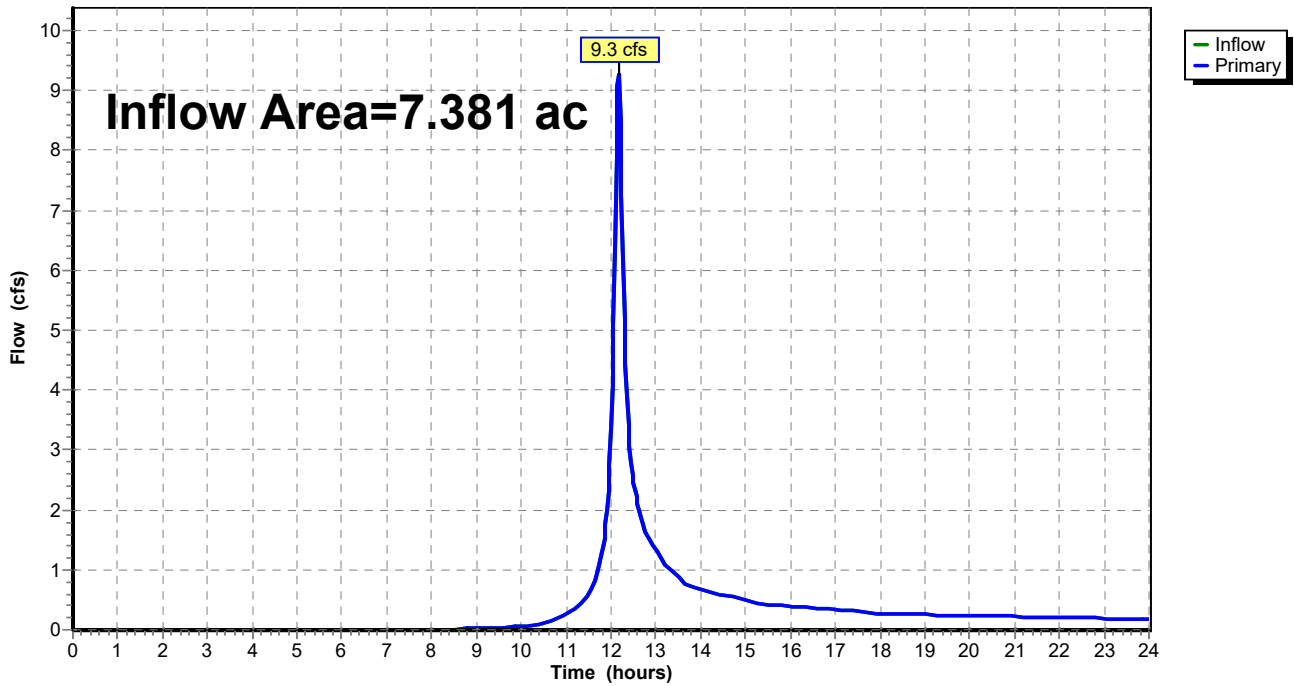
### Summary for Link 1L: OFFSITE (to river)

Inflow Area = 7.381 ac, 3.96% Impervious, Inflow Depth > 1.15" for 2-YEAR event  
Inflow = 9.3 cfs @ 12.17 hrs, Volume= 0.707 af  
Primary = 9.3 cfs @ 12.17 hrs, Volume= 0.707 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs

### Link 1L: OFFSITE (to river)

Hydrograph





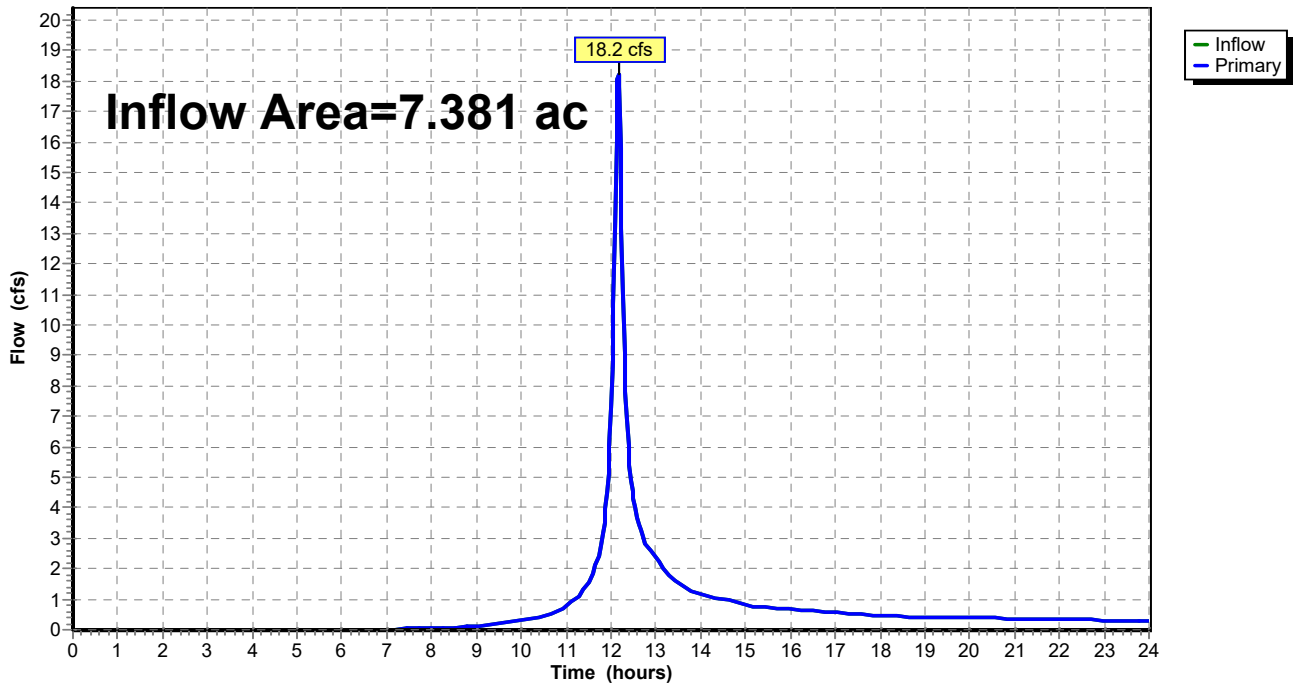
### Summary for Link 1L: OFFSITE (to river)

Inflow Area = 7.381 ac, 3.96% Impervious, Inflow Depth > 2.18" for 10-YEAR event  
Inflow = 18.2 cfs @ 12.16 hrs, Volume= 1.344 af  
Primary = 18.2 cfs @ 12.16 hrs, Volume= 1.344 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs

### Link 1L: OFFSITE (to river)

Hydrograph



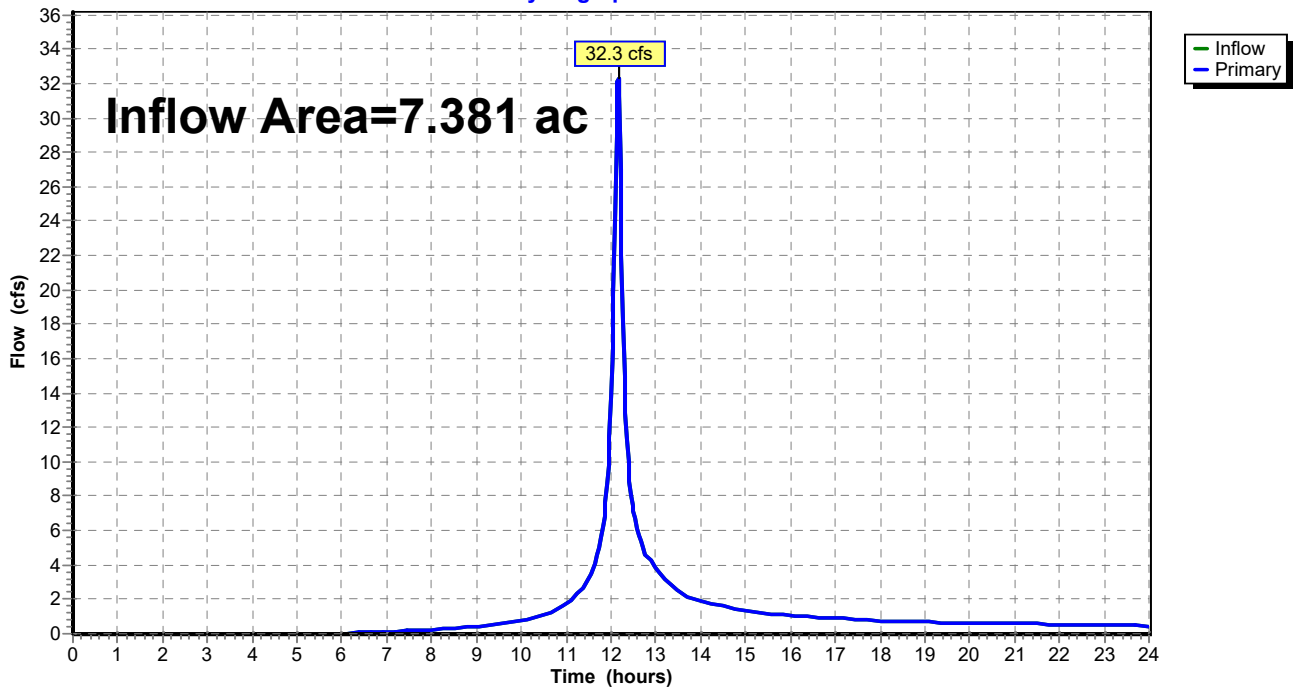
### Summary for Link 1L: OFFSITE (to river)

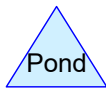
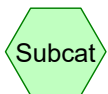
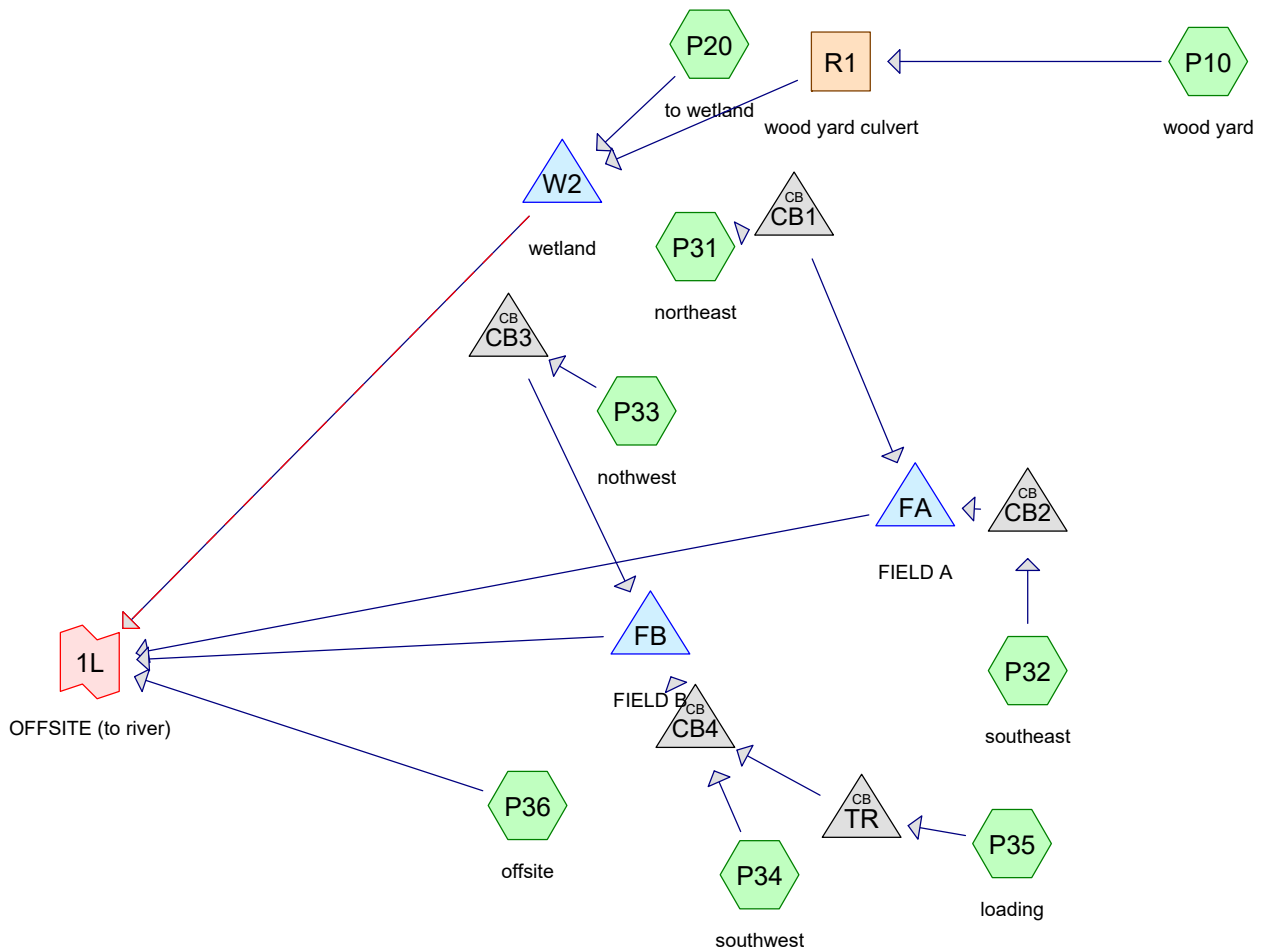
Inflow Area = 7.381 ac, 3.96% Impervious, Inflow Depth > 3.86" for 50-YEAR event  
Inflow = 32.3 cfs @ 12.16 hrs, Volume= 2.375 af  
Primary = 32.3 cfs @ 12.16 hrs, Volume= 2.375 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs

### Link 1L: OFFSITE (to river)

Hydrograph





**Routing Diagram for MES Site POST 2020-0404 FINAL**  
 Prepared by LMS Designs, Printed 4/4/2020  
 HydroCAD® 10.10-3a s/n 05802 © 2020 HydroCAD Software Solutions LLC

**Summary for Subcatchment P10: wood yard**

Runoff = 9.3 cfs @ 12.13 hrs, Volume= 28,760 cf, Depth> 4.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs  
NRCC 24-hr C 50-YEAR Rainfall=6.05"

Area (sf)	CN	Description
2,170	98	Unconnected roofs, HSG C
62,263	89	Gravel roads, HSG C
0	86	<50% Grass cover, Poor, HSG C
0	79	50-75% Grass cover, Fair, HSG C
7,233	77	Brush, Poor, HSG C
4,025	70	Woods, Good, HSG C
75,691	87	Weighted Average
73,521		97.13% Pervious Area
2,170		2.87% Impervious Area
2,170		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.5	383	0.0320	0.98		Lag/CN Method,

**Summary for Subcatchment P20: to wetland**

Runoff = 1.6 cfs @ 12.12 hrs, Volume= 4,609 cf, Depth> 4.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs  
NRCC 24-hr C 50-YEAR Rainfall=6.05"

Area (sf)	CN	Adj	Description
1,759	98		Unconnected roofs, HSG C
3,989	89		Gravel roads, HSG C
0	86		<50% Grass cover, Poor, HSG C
4,706	79		50-75% Grass cover, Fair, HSG C
2,641	77		Brush, Poor, HSG C
283	70		Woods, Good, HSG C
13,378	84	83	Weighted Average, UI Adjusted
11,619			86.85% Pervious Area
1,759			13.15% Impervious Area
1,759			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	263	0.0840	1.33		Lag/CN Method,
3.3	263	Total, Increased to minimum Tc = 5.0 min			

**Summary for Subcatchment P31: northeast**

Runoff = 4.1 cfs @ 12.12 hrs, Volume= 12,256 cf, Depth> 4.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs  
NRCC 24-hr C 50-YEAR Rainfall=6.05"

Area (sf)	CN	Adj	Description
5,937	98		Unconnected roofs, HSG C
20,103	89		Gravel roads, HSG C
0	86		<50% Grass cover, Poor, HSG C
4,695	79		50-75% Grass cover, Fair, HSG C
895	77		Brush, Poor, HSG C
620	70		Woods, Good, HSG C
32,250	89	87	Weighted Average, UI Adjusted
26,313			81.59% Pervious Area
5,937			18.41% Impervious Area
5,937			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.7	387	0.0360	1.13		<b>Lag/CN Method,</b>

**Summary for Subcatchment P32: southeast**

Runoff = 3.3 cfs @ 12.12 hrs, Volume= 9,304 cf, Depth> 4.24"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs  
NRCC 24-hr C 50-YEAR Rainfall=6.05"

Area (sf)	CN	Adj	Description
6,906	98		Unconnected roofs, HSG C
10,057	89		Gravel roads, HSG C
0	86		<50% Grass cover, Poor, HSG C
2,237	79		50-75% Grass cover, Fair, HSG C
1,766	77		Brush, Poor, HSG C
5,371	70		Woods, Good, HSG C
26,337	86	84	Weighted Average, UI Adjusted
19,431			73.78% Pervious Area
6,906			26.22% Impervious Area
6,906			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.3	285	0.0830	1.44		<b>Lag/CN Method,</b>
3.3	285	Total, Increased to minimum Tc = 5.0 min			

**Summary for Subcatchment P33: nothwest**

Runoff = 3.5 cfs @ 12.12 hrs, Volume= 10,142 cf, Depth> 4.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs  
NRCC 24-hr C 50-YEAR Rainfall=6.05"

Area (sf)	CN	Adj	Description
4,017	98		Unconnected roofs, HSG C
18,001	89		Gravel roads, HSG C
0	86		<50% Grass cover, Poor, HSG C
3,780	79		50-75% Grass cover, Fair, HSG C
113	77		Brush, Poor, HSG C
151	70		Woods, Good, HSG C
26,062	89	88	Weighted Average, UI Adjusted
22,045			84.59% Pervious Area
4,017			15.41% Impervious Area
4,017			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.0	261	0.0720	1.47		<b>Lag/CN Method,</b>
3.0	261	Total, Increased to minimum Tc = 5.0 min			

**Summary for Subcatchment P34: southwest**

Runoff = 1.9 cfs @ 12.12 hrs, Volume= 5,665 cf, Depth> 4.89"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs  
NRCC 24-hr C 50-YEAR Rainfall=6.05"

Area (sf)	CN	Adj	Description
4,000	98		Unconnected roofs, HSG C
9,900	89		Gravel roads, HSG C
0	86		<50% Grass cover, Poor, HSG C
0	79		50-75% Grass cover, Fair, HSG C
0	77		Brush, Poor, HSG C
0	70		Woods, Good, HSG C
13,900	92	90	Weighted Average, UI Adjusted
9,900			71.22% Pervious Area
4,000			28.78% Impervious Area
4,000			100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.1	139	0.0180	0.74		<b>Lag/CN Method,</b>
3.1	139	Total, Increased to minimum Tc = 5.0 min			

**Summary for Subcatchment P35: loading**

Runoff = 3.6 cfs @ 12.12 hrs, Volume= 10,402 cf, Depth> 4.56"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs  
NRCC 24-hr C 50-YEAR Rainfall=6.05"

Area (sf)	CN	Description
2,937	98	Unconnected roofs, HSG C
20,463	89	Gravel roads, HSG C
0	86	<50% Grass cover, Poor, HSG C
0	79	50-75% Grass cover, Fair, HSG C
719	77	Brush, Poor, HSG C
3,248	70	Woods, Good, HSG C
27,367	87	Weighted Average
24,430		89.27% Pervious Area
2,937		10.73% Impervious Area
2,937		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
4.3	377	0.0730	1.48		<b>Lag/CN Method,</b>
4.3	377	Total, Increased to minimum Tc = 5.0 min			

**Summary for Subcatchment P36: offsite**

Runoff = 9.3 cfs @ 12.14 hrs, Volume= 27,745 cf, Depth> 3.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs  
NRCC 24-hr C 50-YEAR Rainfall=6.05"

Area (sf)	CN	Description
1,993	98	Unconnected roofs, HSG C
4,649	89	Gravel roads, HSG C
0	86	<50% Grass cover, Poor, HSG C
12,944	79	50-75% Grass cover, Fair, HSG C
7,907	77	Brush, Poor, HSG C
79,055	70	Woods, Good, HSG C
106,548	73	Weighted Average
104,555		98.13% Pervious Area
1,993		1.87% Impervious Area
1,993		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
7.1	469	0.0910	1.11		<b>Lag/CN Method,</b>

**Summary for Reach R1: wood yard culvert**

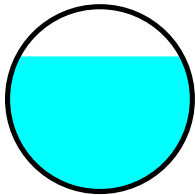
[52] Hint: Inlet/Outlet conditions not evaluated

Inflow Area = 75,691 sf, 2.87% Impervious, Inflow Depth > 4.56" for 50-YEAR event  
 Inflow = 9.3 cfs @ 12.13 hrs, Volume= 28,760 cf  
 Outflow = 9.3 cfs @ 12.14 hrs, Volume= 28,757 cf, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs / 2  
 Max. Velocity= 9.61 fps, Min. Travel Time= 0.1 min  
 Avg. Velocity = 3.43 fps, Avg. Travel Time= 0.2 min

Peak Storage= 36 cf @ 12.13 hrs  
 Average Depth at Peak Storage= 0.91' , Surface Width= 1.11'  
 Bank-Full Depth= 1.25' Flow Area= 1.2 sf, Capacity= 10.5 cfs

15.0" Round Pipe  
 n= 0.020 Corrugated PE, corrugated interior  
 Length= 37.0' Slope= 0.0622 '/  
 Inlet Invert= 454.00', Outlet Invert= 451.70'



**Summary for Pond CB1:**

Inflow Area = 32,250 sf, 18.41% Impervious, Inflow Depth > 4.56" for 50-YEAR event  
 Inflow = 4.1 cfs @ 12.12 hrs, Volume= 12,256 cf  
 Outflow = 4.1 cfs @ 12.12 hrs, Volume= 12,256 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 4.1 cfs @ 12.12 hrs, Volume= 12,256 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs / 2  
 Peak Elev= 439.67' @ 12.12 hrs  
 Flood Elev= 440.30'

Device	Routing	Invert	Outlet Devices
#1	Primary	438.00'	<b>12.0" Round Culvert</b> L= 48.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 438.00' / 436.50' S= 0.0313 '/ Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=4.0 cfs @ 12.12 hrs HW=439.64' (Free Discharge)  
 ↑1=Culvert (Inlet Controls 4.0 cfs @ 5.15 fps)



**Summary for Pond CB2:**

Inflow Area = 26,337 sf, 26.22% Impervious, Inflow Depth > 4.24" for 50-YEAR event  
 Inflow = 3.3 cfs @ 12.12 hrs, Volume= 9,304 cf  
 Outflow = 3.3 cfs @ 12.12 hrs, Volume= 9,304 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 3.3 cfs @ 12.12 hrs, Volume= 9,304 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs / 2  
 Peak Elev= 439.74' @ 12.12 hrs  
 Flood Elev= 440.80'

Device	Routing	Invert	Outlet Devices
#1	Primary	438.50'	<b>12.0" Round Culvert</b> L= 106.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 438.50' / 436.50' S= 0.0189 '/ Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=3.2 cfs @ 12.12 hrs HW=439.73' (Free Discharge)  
 ↑1=Culvert (Inlet Controls 3.2 cfs @ 4.12 fps)

**Summary for Pond CB3:**

Inflow Area = 26,062 sf, 15.41% Impervious, Inflow Depth > 4.67" for 50-YEAR event  
 Inflow = 3.5 cfs @ 12.12 hrs, Volume= 10,142 cf  
 Outflow = 3.5 cfs @ 12.12 hrs, Volume= 10,142 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 3.5 cfs @ 12.12 hrs, Volume= 10,142 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs / 2  
 Peak Elev= 439.34' @ 12.12 hrs  
 Flood Elev= 440.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	438.00'	<b>12.0" Round Culvert</b> L= 104.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 438.00' / 435.50' S= 0.0240 '/ Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=3.4 cfs @ 12.12 hrs HW=439.33' (Free Discharge)  
 ↑1=Culvert (Inlet Controls 3.4 cfs @ 4.37 fps)

**Summary for Pond CB4:**

[58] Hint: Peaked 0.55' above defined flood level  
 [81] Warning: Exceeded Pond TR by 1.12' @ 12.12 hrs

Inflow Area = 41,267 sf, 16.81% Impervious, Inflow Depth > 4.67" for 50-YEAR event  
 Inflow = 5.5 cfs @ 12.12 hrs, Volume= 16,067 cf  
 Outflow = 5.5 cfs @ 12.12 hrs, Volume= 16,067 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 5.5 cfs @ 12.12 hrs, Volume= 16,067 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs / 2

Peak Elev= 439.55' @ 12.12 hrs  
 Flood Elev= 439.00'

Device	Routing	Invert	Outlet Devices
#1	Primary	435.70'	<b>12.0" Round Culvert</b> L= 34.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 435.70' / 435.50' S= 0.0059 '/ Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=5.4 cfs @ 12.12 hrs HW=439.50' (Free Discharge)

↑1=Culvert (Barrel Controls 5.4 cfs @ 6.92 fps)

**Summary for Pond FA: FIELD A**

[79] Warning: Submerged Pond CB1 Primary device # 1 INLET by 0.81'

[79] Warning: Submerged Pond CB2 Primary device # 1 INLET by 0.31'

Inflow Area = 58,587 sf, 21.92% Impervious, Inflow Depth > 4.42" for 50-YEAR event  
 Inflow = 7.3 cfs @ 12.12 hrs, Volume= 21,560 cf  
 Outflow = 4.9 cfs @ 12.19 hrs, Volume= 20,087 cf, Atten= 34%, Lag= 3.9 min  
 Primary = 4.9 cfs @ 12.19 hrs, Volume= 20,087 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs / 2  
 Peak Elev= 438.81' @ 12.19 hrs Surf.Area= 2,545 sf Storage= 3,764 cf  
 Flood Elev= 439.00' Surf.Area= 2,545 sf Storage= 3,960 cf

Plug-Flow detention time= 66.6 min calculated for 20,087 cf (93% of inflow)  
 Center-of-Mass det. time= 29.3 min ( 832.7 - 803.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	436.00'	2,325 cf	<b>13.50'W x 188.50'L x 3.00'H Prismatic</b> 7,634 cf Overall - 1,821 cf Embedded = 5,813 cf x 40.0% Voids
#2	436.50'	1,635 cf	<b>18.0" Round Pipe Storage x 5 Inside #1</b> L= 185.0' 1,821 cf Overall - 0.5" Wall Thickness = 1,635 cf
		3,960 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	437.00'	<b>10.0" Round Culvert X 2.00</b> L= 185.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 437.00' / 432.00' S= 0.0270 '/ Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.55 sf

**Primary OutFlow** Max=4.9 cfs @ 12.19 hrs HW=438.80' (Free Discharge)

↑1=Culvert (Barrel Controls 4.9 cfs @ 4.47 fps)

**Summary for Pond FB: FIELD B**

[79] Warning: Submerged Pond CB3 Primary device # 1 INLET by 0.41'

[81] Warning: Exceeded Pond CB4 by 1.37' @ 12.24 hrs

Inflow Area = 67,329 sf, 16.27% Impervious, Inflow Depth > 4.67" for 50-YEAR event  
 Inflow = 9.0 cfs @ 12.12 hrs, Volume= 26,209 cf  
 Outflow = 5.6 cfs @ 12.18 hrs, Volume= 24,544 cf, Atten= 38%, Lag= 4.1 min  
 Primary = 5.6 cfs @ 12.18 hrs, Volume= 24,544 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs / 2  
 Peak Elev= 438.42' @ 12.18 hrs Surf.Area= 2,804 sf Storage= 4,849 cf  
 Flood Elev= 438.50' Surf.Area= 2,804 sf Storage= 4,944 cf

Plug-Flow detention time= 66.0 min calculated for 24,513 cf (94% of inflow)  
 Center-of-Mass det. time= 30.9 min ( 826.1 - 795.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	435.00'	3,106 cf	<b>21.00'W x 133.50'L x 3.50'H Prismatic</b> 9,812 cf Overall - 2,048 cf Embedded = 7,765 cf x 40.0% Voids
#2	435.50'	1,838 cf	<b>18.0" Round Pipe Storage</b> x 8 Inside #1 L= 130.0' 2,048 cf Overall - 0.5" Wall Thickness = 1,838 cf
		4,944 cf	Total Available Storage

Device	Routing	Invert	Outlet Devices
#1	Primary	436.00'	<b>10.0" Round Culvert X 2.00</b> L= 36.0' CPP, mitered to conform to fill, Ke= 0.700 Inlet / Outlet Invert= 436.00' / 435.50' S= 0.0139 1' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.55 sf

**Primary OutFlow** Max=5.6 cfs @ 12.18 hrs HW=438.40' (Free Discharge)  
 ↑1=Culvert (Barrel Controls 5.6 cfs @ 5.11 fps)

**Summary for Pond TR:**

[58] Hint: Peaked 0.83' above defined flood level

Inflow Area = 27,367 sf, 10.73% Impervious, Inflow Depth > 4.56" for 50-YEAR event  
 Inflow = 3.6 cfs @ 12.12 hrs, Volume= 10,402 cf  
 Outflow = 3.6 cfs @ 12.12 hrs, Volume= 10,402 cf, Atten= 0%, Lag= 0.0 min  
 Primary = 3.6 cfs @ 12.12 hrs, Volume= 10,402 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs / 2  
 Peak Elev= 438.43' @ 12.12 hrs  
 Flood Elev= 437.60'

Device	Routing	Invert	Outlet Devices
#1	Primary	436.00'	<b>12.0" Round Culvert</b> L= 52.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 436.00' / 435.70' S= 0.0058 1' Cc= 0.900

n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.79 sf

**Primary OutFlow** Max=3.5 cfs @ 12.12 hrs HW=438.40' (Free Discharge)  
 ↑1=Culvert (Barrel Controls 3.5 cfs @ 4.52 fps)

**Summary for Pond W2: wetland**

[58] Hint: Peaked 0.17' above defined flood level

Inflow Area = 89,069 sf, 4.41% Impervious, Inflow Depth > 4.50" for 50-YEAR event  
 Inflow = 10.8 cfs @ 12.13 hrs, Volume= 33,366 cf  
 Outflow = 10.7 cfs @ 12.13 hrs, Volume= 33,286 cf, Atten= 1%, Lag= 0.1 min  
 Primary = 3.3 cfs @ 12.13 hrs, Volume= 28,845 cf  
 Secondary = 7.5 cfs @ 12.13 hrs, Volume= 4,441 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs / 3  
 Peak Elev= 442.67' @ 12.13 hrs Surf.Area= 552 sf Storage= 734 cf  
 Flood Elev= 442.50' Surf.Area= 500 sf Storage= 645 cf

Plug-Flow detention time= 3.1 min calculated for 33,244 cf (100% of inflow)  
 Center-of-Mass det. time= 1.6 min ( 803.4 - 801.8 )

Volume	Invert	Avail.Storage	Storage Description		
#1	437.50'	1,782 cf	<b>Custom Stage Data (Conic)</b> Listed below (Recalc)		
Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)	
437.50	1	0	0	1	
438.00	25	5	5	26	
440.00	100	117	122	118	
442.00	250	339	461	293	
442.50	500	184	645	546	
444.00	1,050	1,137	1,782	1,114	

Device	Routing	Invert	Outlet Devices									
#1	Primary	439.00'	<b>6.0" Round Culvert X 3.00</b> L= 72.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 439.00' / 435.00' S= 0.0556 ' S= 0.0556 ' Cc= 0.900 n= 0.020 Corrugated PE, corrugated interior, Flow Area= 0.20 sf									
#2	Secondary	442.50'	<b>40.0' long x 1.5' breadth Broad-Crested Rectangular Weir</b> Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 Coef. (English) 2.62 2.64 2.64 2.68 2.75 2.86 2.92 3.07 3.07 3.03 3.28 3.32									

**Primary OutFlow** Max=3.3 cfs @ 12.13 hrs HW=442.67' (Free Discharge)  
 ↑1=Culvert (Barrel Controls 3.3 cfs @ 5.55 fps)

**Secondary OutFlow** Max=7.2 cfs @ 12.13 hrs HW=442.67' (Free Discharge)  
 ↑2=Broad-Crested Rectangular Weir (Weir Controls 7.2 cfs @ 1.07 fps)

**Summary for Link 1L: OFFSITE (to river)**

Inflow Area = 321,533 sf, 9.24% Impervious, Inflow Depth > 3.94" for 50-YEAR event  
Inflow = 30.1 cfs @ 12.14 hrs, Volume= 105,662 cf  
Primary = 30.1 cfs @ 12.14 hrs, Volume= 105,662 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs

Time span=0.00-24.00 hrs, dt=0.03 hrs, 801 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment P10: wood yard** Runoff Area=75,691 sf 2.87% Impervious Runoff Depth>1.20"  
Flow Length=383' Slope=0.0320 '/' Tc=6.5 min CN=87 Runoff=2.6 cfs 7,577 cf

**Subcatchment P20: to wetland** Runoff Area=13,378 sf 13.15% Impervious Runoff Depth>0.96"  
Flow Length=263' Slope=0.0840 '/' Tc=5.0 min UI Adjusted CN=83 Runoff=0.4 cfs 1,067 cf

**Subcatchment P31: northeast** Runoff Area=32,250 sf 18.41% Impervious Runoff Depth>1.20"  
Flow Length=387' Slope=0.0360 '/' Tc=5.7 min UI Adjusted CN=87 Runoff=1.1 cfs 3,229 cf

**Subcatchment P32: southeast** Runoff Area=26,337 sf 26.22% Impervious Runoff Depth>1.01"  
Flow Length=285' Slope=0.0830 '/' Tc=5.0 min UI Adjusted CN=84 Runoff=0.8 cfs 2,227 cf

**Subcatchment P33: nothwest** Runoff Area=26,062 sf 15.41% Impervious Runoff Depth>1.27"  
Flow Length=261' Slope=0.0720 '/' Tc=5.0 min UI Adjusted CN=88 Runoff=1.0 cfs 2,757 cf

**Subcatchment P34: southwest** Runoff Area=13,900 sf 28.78% Impervious Runoff Depth>1.41"  
Flow Length=139' Slope=0.0180 '/' Tc=5.0 min UI Adjusted CN=90 Runoff=0.6 cfs 1,638 cf

**Subcatchment P35: loading** Runoff Area=27,367 sf 10.73% Impervious Runoff Depth>1.20"  
Flow Length=377' Slope=0.0730 '/' Tc=5.0 min CN=87 Runoff=1.0 cfs 2,741 cf

**Subcatchment P36: offsite** Runoff Area=106,548 sf 1.87% Impervious Runoff Depth>0.50"  
Flow Length=469' Slope=0.0910 '/' Tc=7.1 min CN=73 Runoff=1.3 cfs 4,417 cf

**Reach R1: wood yard culvert** Avg. Flow Depth=0.42' Max Vel=7.03 fps Inflow=2.6 cfs 7,577 cf  
15.0" Round Pipe n=0.020 L=37.0' S=0.0622 '/' Capacity=10.5 cfs Outflow=2.6 cfs 7,576 cf

**Pond CB1:** Peak Elev=438.55' Inflow=1.1 cfs 3,229 cf  
12.0" Round Culvert n=0.020 L=48.0' S=0.0313 '/' Outflow=1.1 cfs 3,229 cf

**Pond CB2:** Peak Elev=438.97' Inflow=0.8 cfs 2,227 cf  
12.0" Round Culvert n=0.020 L=106.0' S=0.0189 '/' Outflow=0.8 cfs 2,227 cf

**Pond CB3:** Peak Elev=438.52' Inflow=1.0 cfs 2,757 cf  
12.0" Round Culvert n=0.020 L=104.0' S=0.0240 '/' Outflow=1.0 cfs 2,757 cf

**Pond CB4:** Peak Elev=436.61' Inflow=1.6 cfs 4,379 cf  
12.0" Round Culvert n=0.020 L=34.0' S=0.0059 '/' Outflow=1.6 cfs 4,379 cf

**Pond FA: FIELD A** Peak Elev=437.35' Storage=1,910 cf Inflow=1.9 cfs 5,456 cf  
10.0" Round Culvert x 2.00 n=0.020 L=185.0' S=0.0270 '/' Outflow=0.8 cfs 4,069 cf

**Pond FB: FIELD B** Peak Elev=436.51' Storage=2,433 cf Inflow=2.6 cfs 7,136 cf  
10.0" Round Culvert x 2.00 n=0.020 L=36.0' S=0.0139 '/' Outflow=1.3 cfs 5,564 cf

**Pond TR:** Peak Elev=436.69' Inflow=1.0 cfs 2,741 cf  
12.0" Round Culvert n=0.020 L=52.0' S=0.0058 '/' Outflow=1.0 cfs 2,741 cf

**MES Site POST 2020-0404 FINAL**

*NRCC 24-hr C 1-YEAR Rainfall=2.37"*

Prepared by LMS Designs

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**Pond W2: wetland**

Peak Elev=440.33' Storage=159 cf Inflow=2.9 cfs 8,644 cf  
Primary=2.7 cfs 8,594 cf Secondary=0.0 cfs 0 cf Outflow=2.7 cfs 8,594 cf

**Link 1L: OFFSITE (to river)**

Inflow=5.8 cfs 22,645 cf  
Primary=5.8 cfs 22,645 cf

**Total Runoff Area = 321,533 sf Runoff Volume = 25,654 cf Average Runoff Depth = 0.96"**  
**90.76% Pervious = 291,814 sf 9.24% Impervious = 29,719 sf**

Time span=0.00-24.00 hrs, dt=0.03 hrs, 801 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment P10: wood yard** Runoff Area=75,691 sf 2.87% Impervious Runoff Depth>1.58"  
Flow Length=383' Slope=0.0320 '/' Tc=6.5 min CN=87 Runoff=3.4 cfs 9,970 cf

**Subcatchment P20: to wetland** Runoff Area=13,378 sf 13.15% Impervious Runoff Depth>1.30"  
Flow Length=263' Slope=0.0840 '/' Tc=5.0 min UI Adjusted CN=83 Runoff=0.5 cfs 1,451 cf

**Subcatchment P31: northeast** Runoff Area=32,250 sf 18.41% Impervious Runoff Depth>1.58"  
Flow Length=387' Slope=0.0360 '/' Tc=5.7 min UI Adjusted CN=87 Runoff=1.5 cfs 4,249 cf

**Subcatchment P32: southeast** Runoff Area=26,337 sf 26.22% Impervious Runoff Depth>1.37"  
Flow Length=285' Slope=0.0830 '/' Tc=5.0 min UI Adjusted CN=84 Runoff=1.1 cfs 3,002 cf

**Subcatchment P33: nothwest** Runoff Area=26,062 sf 15.41% Impervious Runoff Depth>1.66"  
Flow Length=261' Slope=0.0720 '/' Tc=5.0 min UI Adjusted CN=88 Runoff=1.3 cfs 3,600 cf

**Subcatchment P34: southwest** Runoff Area=13,900 sf 28.78% Impervious Runoff Depth>1.82"  
Flow Length=139' Slope=0.0180 '/' Tc=5.0 min UI Adjusted CN=90 Runoff=0.7 cfs 2,106 cf

**Subcatchment P35: loading** Runoff Area=27,367 sf 10.73% Impervious Runoff Depth>1.58"  
Flow Length=377' Slope=0.0730 '/' Tc=5.0 min CN=87 Runoff=1.3 cfs 3,606 cf

**Subcatchment P36: offsite** Runoff Area=106,548 sf 1.87% Impervious Runoff Depth>0.75"  
Flow Length=469' Slope=0.0910 '/' Tc=7.1 min CN=73 Runoff=2.1 cfs 6,633 cf

**Reach R1: wood yard culvert** Avg. Flow Depth=0.49' Max Vel=7.57 fps Inflow=3.4 cfs 9,970 cf  
15.0" Round Pipe n=0.020 L=37.0' S=0.0622 '/' Capacity=10.5 cfs Outflow=3.4 cfs 9,969 cf

**Pond CB1:** Peak Elev=438.65' Inflow=1.5 cfs 4,249 cf  
12.0" Round Culvert n=0.020 L=48.0' S=0.0313 '/' Outflow=1.5 cfs 4,249 cf

**Pond CB2:** Peak Elev=439.05' Inflow=1.1 cfs 3,002 cf  
12.0" Round Culvert n=0.020 L=106.0' S=0.0189 '/' Outflow=1.1 cfs 3,002 cf

**Pond CB3:** Peak Elev=438.60' Inflow=1.3 cfs 3,600 cf  
12.0" Round Culvert n=0.020 L=104.0' S=0.0240 '/' Outflow=1.3 cfs 3,600 cf

**Pond CB4:** Peak Elev=436.79' Inflow=2.0 cfs 5,712 cf  
12.0" Round Culvert n=0.020 L=34.0' S=0.0059 '/' Outflow=2.0 cfs 5,712 cf

**Pond FA: FIELD A** Peak Elev=437.54' Storage=2,240 cf Inflow=2.6 cfs 7,251 cf  
10.0" Round Culvert x 2.00 n=0.020 L=185.0' S=0.0270 '/' Outflow=1.6 cfs 5,850 cf

**Pond FB: FIELD B** Peak Elev=436.70' Storage=2,796 cf Inflow=3.3 cfs 9,311 cf  
10.0" Round Culvert x 2.00 n=0.020 L=36.0' S=0.0139 '/' Outflow=2.2 cfs 7,724 cf

**Pond TR:** Peak Elev=436.81' Inflow=1.3 cfs 3,606 cf  
12.0" Round Culvert n=0.020 L=52.0' S=0.0058 '/' Outflow=1.3 cfs 3,606 cf



**MES Site POST 2020-0404 FINAL**

*NRCC 24-hr C 2-YEAR Rainfall=2.82"*

Prepared by LMS Designs

Printed 4/4/2020

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**Pond W2: wetland**

Peak Elev=441.68' Storage=384 cf Inflow=3.9 cfs 11,420 cf  
Primary=3.0 cfs 11,363 cf Secondary=0.0 cfs 0 cf Outflow=3.0 cfs 11,363 cf

**Link 1L: OFFSITE (to river)**

Inflow=8.8 cfs 31,569 cf  
Primary=8.8 cfs 31,569 cf

**Total Runoff Area = 321,533 sf Runoff Volume = 34,617 cf Average Runoff Depth = 1.29"**  
**90.76% Pervious = 291,814 sf 9.24% Impervious = 29,719 sf**

Time span=0.00-24.00 hrs, dt=0.03 hrs, 801 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment P10: wood yard** Runoff Area=75,691 sf 2.87% Impervious Runoff Depth>2.75"  
Flow Length=383' Slope=0.0320 '/' Tc=6.5 min CN=87 Runoff=5.8 cfs 17,362 cf

**Subcatchment P20: to wetland** Runoff Area=13,378 sf 13.15% Impervious Runoff Depth>2.40"  
Flow Length=263' Slope=0.0840 '/' Tc=5.0 min UI Adjusted CN=83 Runoff=1.0 cfs 2,672 cf

**Subcatchment P31: northeast** Runoff Area=32,250 sf 18.41% Impervious Runoff Depth>2.75"  
Flow Length=387' Slope=0.0360 '/' Tc=5.7 min UI Adjusted CN=87 Runoff=2.5 cfs 7,399 cf

**Subcatchment P32: southeast** Runoff Area=26,337 sf 26.22% Impervious Runoff Depth>2.48"  
Flow Length=285' Slope=0.0830 '/' Tc=5.0 min UI Adjusted CN=84 Runoff=2.0 cfs 5,451 cf

**Subcatchment P33: nothwest** Runoff Area=26,062 sf 15.41% Impervious Runoff Depth>2.85"  
Flow Length=261' Slope=0.0720 '/' Tc=5.0 min UI Adjusted CN=88 Runoff=2.2 cfs 6,183 cf

**Subcatchment P34: southwest** Runoff Area=13,900 sf 28.78% Impervious Runoff Depth>3.04"  
Flow Length=139' Slope=0.0180 '/' Tc=5.0 min UI Adjusted CN=90 Runoff=1.2 cfs 3,521 cf

**Subcatchment P35: loading** Runoff Area=27,367 sf 10.73% Impervious Runoff Depth>2.75"  
Flow Length=377' Slope=0.0730 '/' Tc=5.0 min CN=87 Runoff=2.2 cfs 6,280 cf

**Subcatchment P36: offsite** Runoff Area=106,548 sf 1.87% Impervious Runoff Depth>1.62"  
Flow Length=469' Slope=0.0910 '/' Tc=7.1 min CN=73 Runoff=4.8 cfs 14,368 cf

**Reach R1: wood yard culvert** Avg. Flow Depth=0.66' Max Vel=8.69 fps Inflow=5.8 cfs 17,362 cf  
15.0" Round Pipe n=0.020 L=37.0' S=0.0622 '/' Capacity=10.5 cfs Outflow=5.7 cfs 17,361 cf

**Pond CB1:** Peak Elev=438.94' Inflow=2.5 cfs 7,399 cf  
12.0" Round Culvert n=0.020 L=48.0' S=0.0313 '/' Outflow=2.5 cfs 7,399 cf

**Pond CB2:** Peak Elev=439.28' Inflow=2.0 cfs 5,451 cf  
12.0" Round Culvert n=0.020 L=106.0' S=0.0189 '/' Outflow=2.0 cfs 5,451 cf

**Pond CB3:** Peak Elev=438.83' Inflow=2.2 cfs 6,183 cf  
12.0" Round Culvert n=0.020 L=104.0' S=0.0240 '/' Outflow=2.2 cfs 6,183 cf

**Pond CB4:** Peak Elev=437.70' Inflow=3.4 cfs 9,801 cf  
12.0" Round Culvert n=0.020 L=34.0' S=0.0059 '/' Outflow=3.4 cfs 9,801 cf

**Pond FA: FIELD A** Peak Elev=437.93' Storage=2,861 cf Inflow=4.5 cfs 12,849 cf  
10.0" Round Culvert x 2.00 n=0.020 L=185.0' S=0.0270 '/' Outflow=3.3 cfs 11,414 cf

**Pond FB: FIELD B** Peak Elev=437.28' Storage=3,574 cf Inflow=5.6 cfs 15,984 cf  
10.0" Round Culvert x 2.00 n=0.020 L=36.0' S=0.0139 '/' Outflow=3.8 cfs 14,358 cf

**Pond TR:** Peak Elev=437.25' Inflow=2.2 cfs 6,280 cf  
12.0" Round Culvert n=0.020 L=52.0' S=0.0058 '/' Outflow=2.2 cfs 6,280 cf

**MES Site POST 2020-0404 FINAL**

*NRCC 24-hr C 10-YEAR Rainfall=4.13"*

Prepared by LMS Designs

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**Pond W2: wetland**

Peak Elev=442.60' Storage=695 cf Inflow=6.7 cfs 20,033 cf  
Primary=3.3 cfs 18,844 cf Secondary=3.4 cfs 1,083 cf Outflow=6.6 cfs 19,927 cf

**Link 1L: OFFSITE (to river)**

Inflow=18.2 cfs 60,068 cf  
Primary=18.2 cfs 60,068 cf

**Total Runoff Area = 321,533 sf Runoff Volume = 63,236 cf Average Runoff Depth = 2.36"**  
**90.76% Pervious = 291,814 sf 9.24% Impervious = 29,719 sf**

Time span=0.00-24.00 hrs, dt=0.03 hrs, 801 points  
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment P10: wood yard** Runoff Area=75,691 sf 2.87% Impervious Runoff Depth>4.56"  
 Flow Length=383' Slope=0.0320 '/ Tc=6.5 min CN=87 Runoff=9.3 cfs 28,760 cf

**Subcatchment P20: to wetland** Runoff Area=13,378 sf 13.15% Impervious Runoff Depth>4.13"  
 Flow Length=263' Slope=0.0840 '/ Tc=5.0 min UI Adjusted CN=83 Runoff=1.6 cfs 4,609 cf

**Subcatchment P31: northeast** Runoff Area=32,250 sf 18.41% Impervious Runoff Depth>4.56"  
 Flow Length=387' Slope=0.0360 '/ Tc=5.7 min UI Adjusted CN=87 Runoff=4.1 cfs 12,256 cf

**Subcatchment P32: southeast** Runoff Area=26,337 sf 26.22% Impervious Runoff Depth>4.24"  
 Flow Length=285' Slope=0.0830 '/ Tc=5.0 min UI Adjusted CN=84 Runoff=3.3 cfs 9,304 cf

**Subcatchment P33: nothwest** Runoff Area=26,062 sf 15.41% Impervious Runoff Depth>4.67"  
 Flow Length=261' Slope=0.0720 '/ Tc=5.0 min UI Adjusted CN=88 Runoff=3.5 cfs 10,142 cf

**Subcatchment P34: southwest** Runoff Area=13,900 sf 28.78% Impervious Runoff Depth>4.89"  
 Flow Length=139' Slope=0.0180 '/ Tc=5.0 min UI Adjusted CN=90 Runoff=1.9 cfs 5,665 cf

**Subcatchment P35: loading** Runoff Area=27,367 sf 10.73% Impervious Runoff Depth>4.56"  
 Flow Length=377' Slope=0.0730 '/ Tc=5.0 min CN=87 Runoff=3.6 cfs 10,402 cf

**Subcatchment P36: offsite** Runoff Area=106,548 sf 1.87% Impervious Runoff Depth>3.12"  
 Flow Length=469' Slope=0.0910 '/ Tc=7.1 min CN=73 Runoff=9.3 cfs 27,745 cf

**Reach R1: wood yard culvert** Avg. Flow Depth=0.91' Max Vel=9.61 fps Inflow=9.3 cfs 28,760 cf  
 15.0" Round Pipe n=0.020 L=37.0' S=0.0622 '/ Capacity=10.5 cfs Outflow=9.3 cfs 28,757 cf

**Pond CB1:** Peak Elev=439.67' Inflow=4.1 cfs 12,256 cf  
 12.0" Round Culvert n=0.020 L=48.0' S=0.0313 '/ Outflow=4.1 cfs 12,256 cf

**Pond CB2:** Peak Elev=439.74' Inflow=3.3 cfs 9,304 cf  
 12.0" Round Culvert n=0.020 L=106.0' S=0.0189 '/ Outflow=3.3 cfs 9,304 cf

**Pond CB3:** Peak Elev=439.34' Inflow=3.5 cfs 10,142 cf  
 12.0" Round Culvert n=0.020 L=104.0' S=0.0240 '/ Outflow=3.5 cfs 10,142 cf

**Pond CB4:** Peak Elev=439.55' Inflow=5.5 cfs 16,067 cf  
 12.0" Round Culvert n=0.020 L=34.0' S=0.0059 '/ Outflow=5.5 cfs 16,067 cf

**Pond FA: FIELD A** Peak Elev=438.81' Storage=3,764 cf Inflow=7.3 cfs 21,560 cf  
 10.0" Round Culvert x 2.00 n=0.020 L=185.0' S=0.0270 '/ Outflow=4.9 cfs 20,087 cf

**Pond FB: FIELD B** Peak Elev=438.42' Storage=4,849 cf Inflow=9.0 cfs 26,209 cf  
 10.0" Round Culvert x 2.00 n=0.020 L=36.0' S=0.0139 '/ Outflow=5.6 cfs 24,544 cf

**Pond TR:** Peak Elev=438.43' Inflow=3.6 cfs 10,402 cf  
 12.0" Round Culvert n=0.020 L=52.0' S=0.0058 '/ Outflow=3.6 cfs 10,402 cf

**MES Site POST 2020-0404 FINAL**

*NRCC 24-hr C 50-YEAR Rainfall=6.05"*

Prepared by LMS Designs

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**Pond W2: wetland**

Peak Elev=442.67' Storage=734 cf Inflow=10.8 cfs 33,366 cf  
Primary=3.3 cfs 28,845 cf Secondary=7.5 cfs 4,441 cf Outflow=10.7 cfs 33,286 cf

**Link 1L: OFFSITE (to river)**

Inflow=30.1 cfs 105,662 cf  
Primary=30.1 cfs 105,662 cf

**Total Runoff Area = 321,533 sf Runoff Volume = 108,882 cf Average Runoff Depth = 4.06"**  
**90.76% Pervious = 291,814 sf 9.24% Impervious = 29,719 sf**

**Events for Subcatchment P10: wood yard**

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
1-YEAR	2.37	2.6	7,577	1.20
2-YEAR	2.82	3.4	9,970	1.58
10-YEAR	4.13	5.8	17,362	2.75
50-YEAR	<b>6.05</b>	<b>9.3</b>	<b>28,760</b>	<b>4.56</b>

**Events for Subcatchment P20: to wetland**

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
1-YEAR	2.37	0.4	1,067	0.96
2-YEAR	2.82	0.5	1,451	1.30
10-YEAR	4.13	1.0	2,672	2.40
50-YEAR	<b>6.05</b>	<b>1.6</b>	<b>4,609</b>	<b>4.13</b>

**Events for Subcatchment P31: northeast**

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
1-YEAR	2.37	1.1	3,229	1.20
2-YEAR	2.82	1.5	4,249	1.58
10-YEAR	4.13	2.5	7,399	2.75
50-YEAR	<b>6.05</b>	<b>4.1</b>	<b>12,256</b>	<b>4.56</b>



**Events for Subcatchment P32: southeast**

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
1-YEAR	2.37	0.8	2,227	1.01
2-YEAR	2.82	1.1	3,002	1.37
10-YEAR	4.13	2.0	5,451	2.48
50-YEAR	<b>6.05</b>	<b>3.3</b>	<b>9,304</b>	<b>4.24</b>

**Events for Subcatchment P33: nothwest**

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
1-YEAR	2.37	1.0	2,757	1.27
2-YEAR	2.82	1.3	3,600	1.66
10-YEAR	4.13	2.2	6,183	2.85
50-YEAR	<b>6.05</b>	<b>3.5</b>	<b>10,142</b>	<b>4.67</b>

**Events for Subcatchment P34: southwest**

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
1-YEAR	2.37	0.6	1,638	1.41
2-YEAR	2.82	0.7	2,106	1.82
10-YEAR	4.13	1.2	3,521	3.04
50-YEAR	<b>6.05</b>	<b>1.9</b>	<b>5,665</b>	<b>4.89</b>

**Events for Subcatchment P35: loading**

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
1-YEAR	2.37	1.0	2,741	1.20
2-YEAR	2.82	1.3	3,606	1.58
10-YEAR	4.13	2.2	6,280	2.75
50-YEAR	<b>6.05</b>	<b>3.6</b>	<b>10,402</b>	<b>4.56</b>

**Events for Subcatchment P36: offsite**

Event	Rainfall (inches)	Runoff (cfs)	Volume (cubic-feet)	Depth (inches)
1-YEAR	2.37	1.3	4,417	0.50
2-YEAR	2.82	2.1	6,633	0.75
10-YEAR	4.13	4.8	14,368	1.62
50-YEAR	<b>6.05</b>	<b>9.3</b>	<b>27,745</b>	<b>3.12</b>

**Events for Reach R1: wood yard culvert**

Event	Inflow (cfs)	Outflow (cfs)	Elevation (feet)	Storage (cubic-feet)
1-YEAR	2.6	2.6	454.42	13
2-YEAR	3.4	3.4	454.49	16
10-YEAR	5.8	5.7	454.66	24
50-YEAR	<b>9.3</b>	<b>9.3</b>	<b>454.91</b>	<b>36</b>

**Events for Pond CB1:**

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (cubic-feet)
1-YEAR	1.1	1.1	438.55	<b>0</b>
2-YEAR	1.5	1.5	438.65	0
10-YEAR	2.5	2.5	438.94	0
50-YEAR	<b>4.1</b>	<b>4.1</b>	<b>439.67</b>	0

**Events for Pond CB2:**

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (cubic-feet)
1-YEAR	0.8	0.8	438.97	<b>0</b>
2-YEAR	1.1	1.1	439.05	0
10-YEAR	2.0	2.0	439.28	0
50-YEAR	<b>3.3</b>	<b>3.3</b>	<b>439.74</b>	0



**Events for Pond CB3:**

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (cubic-feet)
1-YEAR	1.0	1.0	438.52	<b>0</b>
2-YEAR	1.3	1.3	438.60	0
10-YEAR	2.2	2.2	438.83	0
50-YEAR	<b>3.5</b>	<b>3.5</b>	<b>439.34</b>	0

**Events for Pond CB4:**

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (cubic-feet)
1-YEAR	1.6	1.6	436.61	<b>0</b>
2-YEAR	2.0	2.0	436.79	0
10-YEAR	3.4	3.4	437.70	0
50-YEAR	<b>5.5</b>	<b>5.5</b>	<b>439.55</b>	0

**Events for Pond FA: FIELD A**

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (cubic-feet)
1-YEAR	1.9	0.8	437.35	1,910
2-YEAR	2.6	1.6	437.54	2,240
10-YEAR	4.5	3.3	437.93	2,861
50-YEAR	<b>7.3</b>	<b>4.9</b>	<b>438.81</b>	<b>3,764</b>

**Events for Pond FB: FIELD B**

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (cubic-feet)
1-YEAR	2.6	1.3	436.51	2,433
2-YEAR	3.3	2.2	436.70	2,796
10-YEAR	5.6	3.8	437.28	3,574
50-YEAR	<b>9.0</b>	<b>5.6</b>	<b>438.42</b>	<b>4,849</b>

**Events for Pond TR:**

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (cubic-feet)
1-YEAR	1.0	1.0	436.69	<b>0</b>
2-YEAR	1.3	1.3	436.81	0
10-YEAR	2.2	2.2	437.25	0
50-YEAR	<b>3.6</b>	<b>3.6</b>	<b>438.43</b>	0

**Events for Pond W2: wetland**

Event	Inflow (cfs)	Outflow (cfs)	Primary (cfs)	Secondary (cfs)	Elevation (feet)	Storage (cubic-feet)
1-YEAR	2.9	2.7	2.7	0.0	440.33	159
2-YEAR	3.9	3.0	3.0	0.0	441.68	384
10-YEAR	6.7	6.6	3.3	3.4	442.60	695
50-YEAR	<b>10.8</b>	<b>10.7</b>	<b>3.3</b>	<b>7.5</b>	<b>442.67</b>	<b>734</b>

**Events for Link 1L: OFFSITE (to river)**

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)
1-YEAR	5.8	5.8	<b>0.00</b>
2-YEAR	8.8	8.8	0.00
10-YEAR	18.2	18.2	0.00
50-YEAR	<b>30.1</b>	<b>30.1</b>	0.00

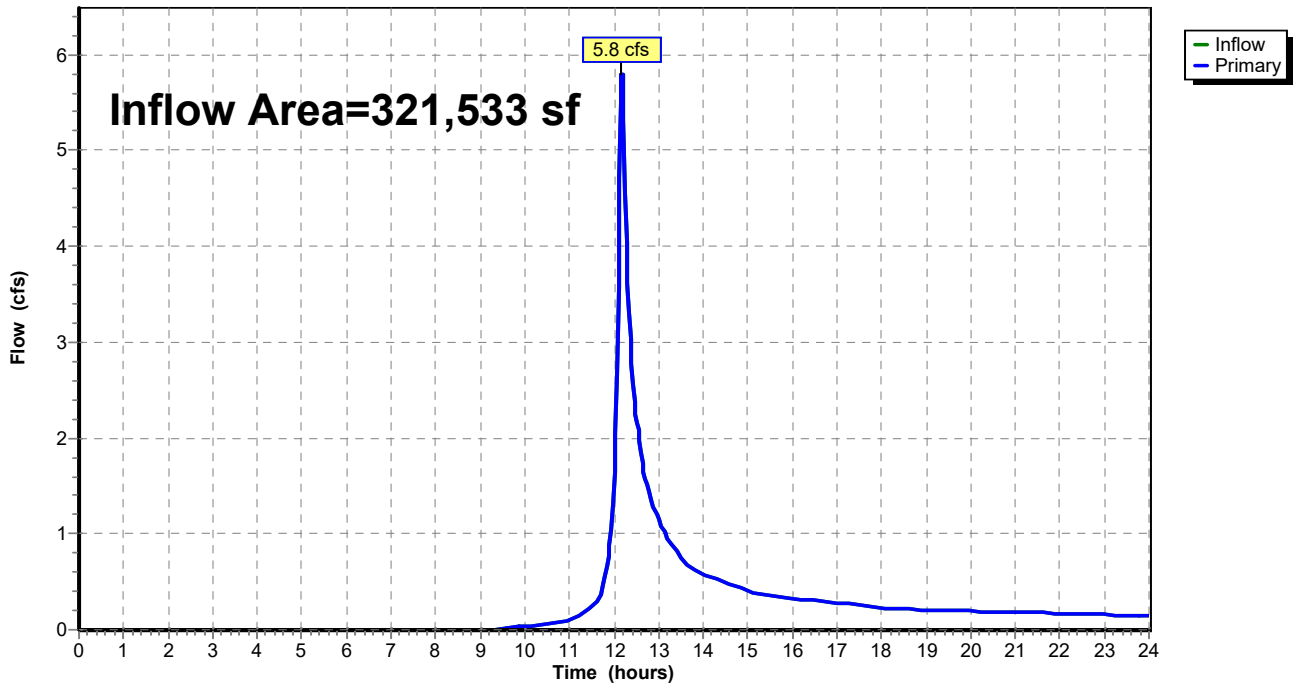
### Summary for Link 1L: OFFSITE (to river)

Inflow Area = 321,533 sf, 9.24% Impervious, Inflow Depth > 0.85" for 1-YEAR event  
Inflow = 5.8 cfs @ 12.18 hrs, Volume= 22,645 cf  
Primary = 5.8 cfs @ 12.18 hrs, Volume= 22,645 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs

### Link 1L: OFFSITE (to river)

Hydrograph





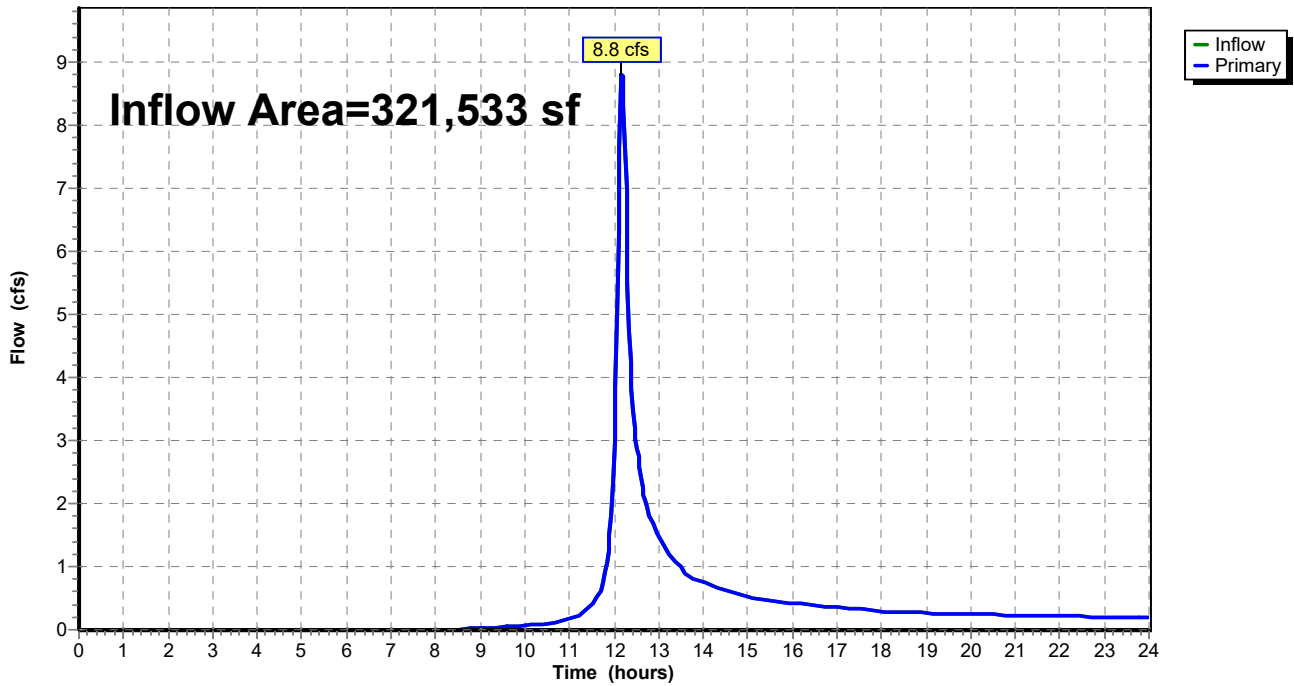
### Summary for Link 1L: OFFSITE (to river)

Inflow Area = 321,533 sf, 9.24% Impervious, Inflow Depth > 1.18" for 2-YEAR event  
Inflow = 8.8 cfs @ 12.17 hrs, Volume= 31,569 cf  
Primary = 8.8 cfs @ 12.17 hrs, Volume= 31,569 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs

### Link 1L: OFFSITE (to river)

Hydrograph



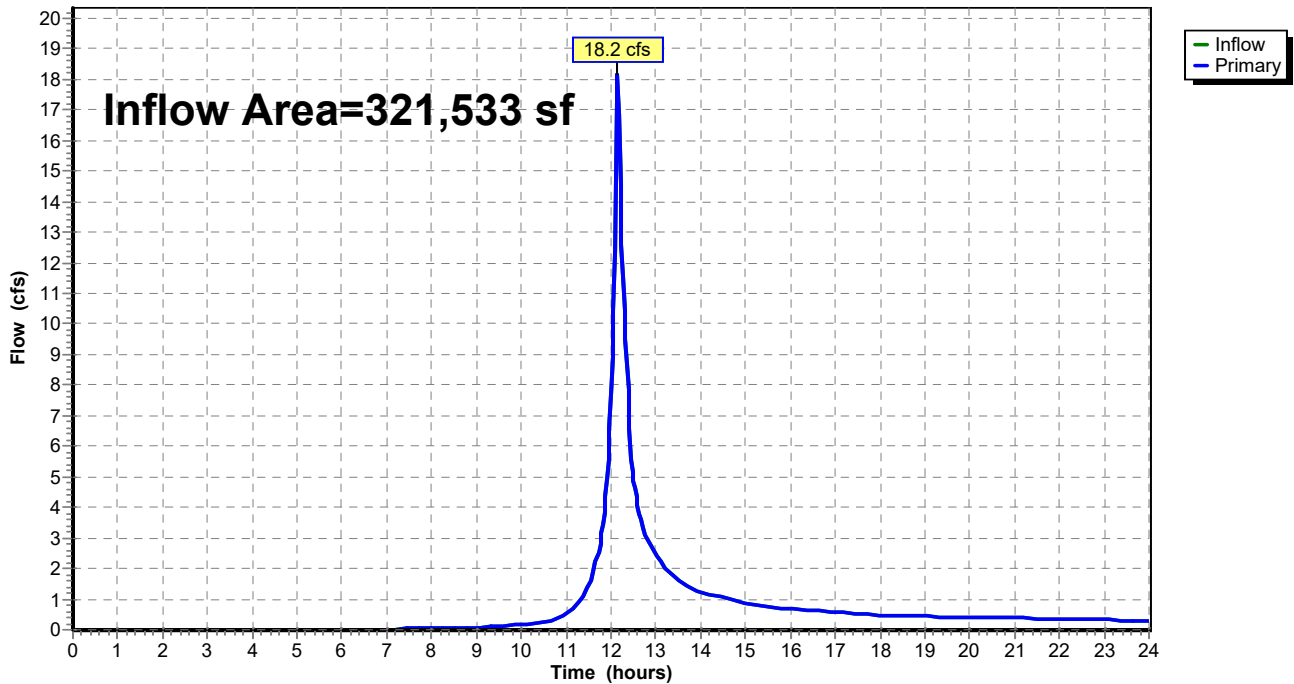
### Summary for Link 1L: OFFSITE (to river)

Inflow Area = 321,533 sf, 9.24% Impervious, Inflow Depth > 2.24" for 10-YEAR event  
Inflow = 18.2 cfs @ 12.15 hrs, Volume= 60,068 cf  
Primary = 18.2 cfs @ 12.15 hrs, Volume= 60,068 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs

### Link 1L: OFFSITE (to river)

Hydrograph



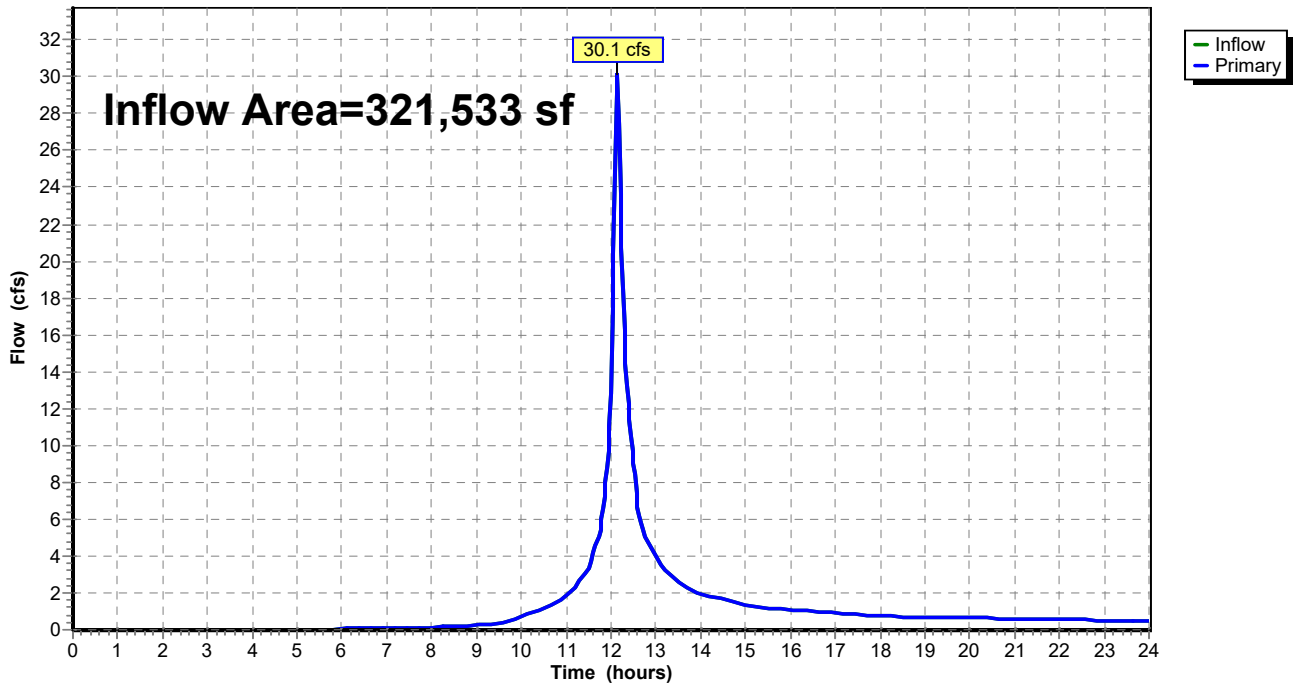
### Summary for Link 1L: OFFSITE (to river)

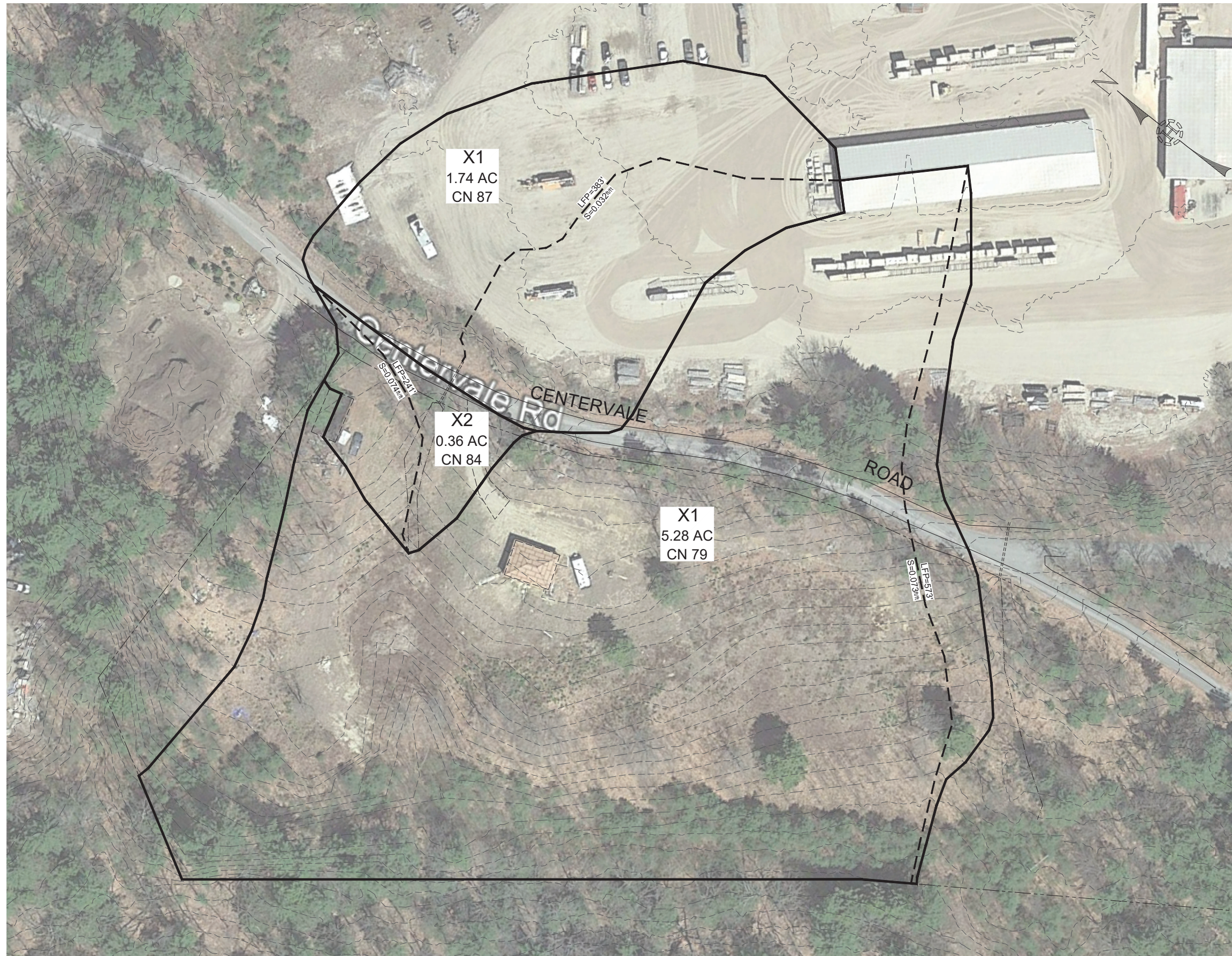
Inflow Area = 321,533 sf, 9.24% Impervious, Inflow Depth > 3.94" for 50-YEAR event  
Inflow = 30.1 cfs @ 12.14 hrs, Volume= 105,662 cf  
Primary = 30.1 cfs @ 12.14 hrs, Volume= 105,662 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.03 hrs

### Link 1L: OFFSITE (to river)

Hydrograph





SOIL DATA:  
 SOIL TYPE FOR THE ENTIRE STAUDY AREA IS 480B  
 MILLSITE-WOODSTOCK-HENNIKER COMPLEX  
 3-8% SLOPES, HSG C

PRE-DEVELOPMENT DRAINAGE WORKSHEET  
 PREPARED FOR:  
**DAVID P. CURRIER REVOCABLE TRUST**  
 CENTERVILLE ROAD  
**TAX MAP 1 LOT 548**  
 HENNIKER, NEW HAMPSHIRE

APRIL 04, 2020

SCALE: 1"=40'

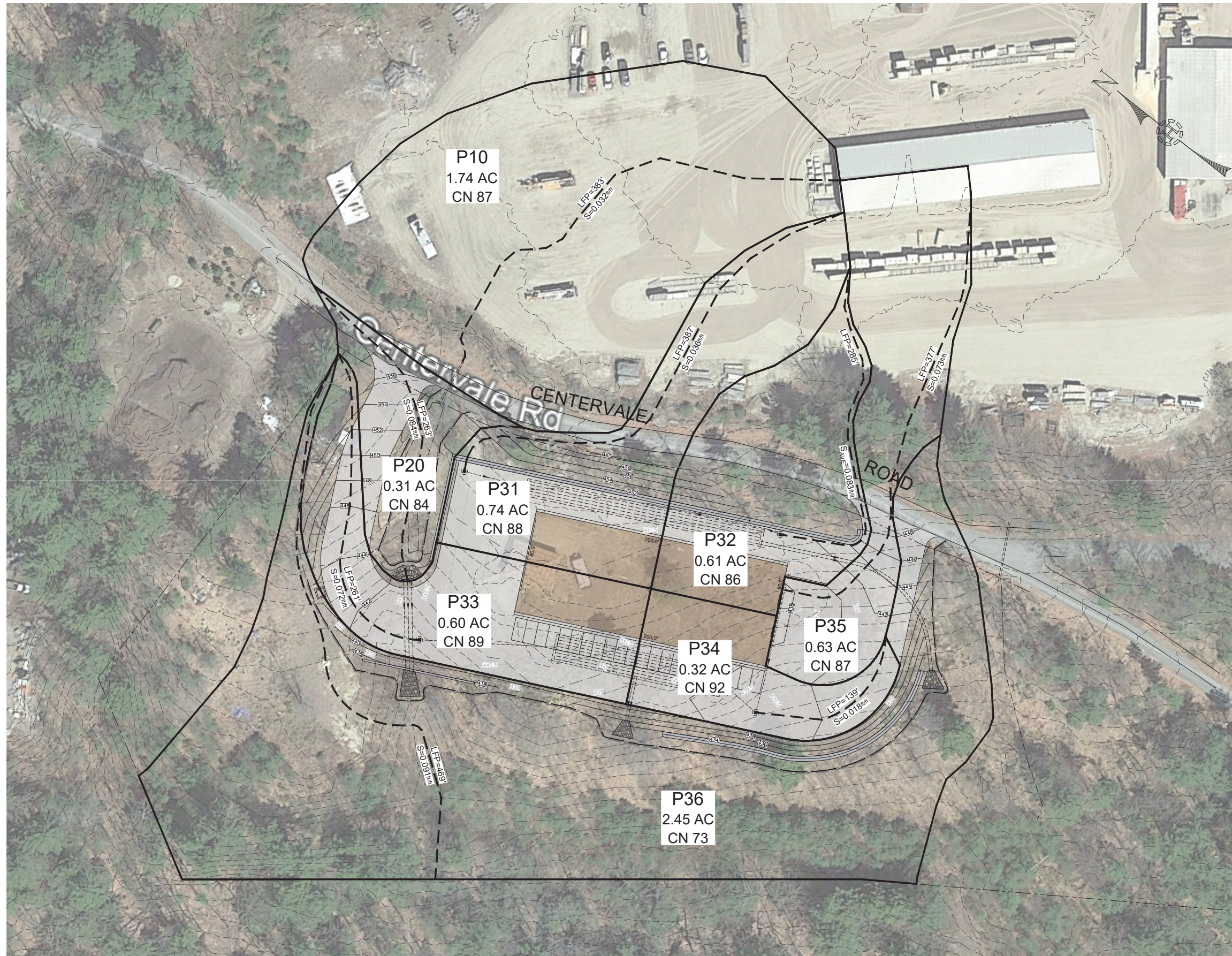


REV.	DATE	DESCRIPTION	BY
0	04.04.2020	INITIAL SUBMISSION TO HENNIKER PLANNING BOARD	LM

LMS DESIGNS

146 FARVIEW DRIVE DANVILLE NH 03819

TEL: 603-382-7357 SCALE: 1" = 40' SHEET: 1 OF 2



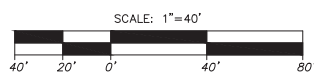
**CENTERVALE ROAD, HENNIKER NH**

STORM	PRE	POST
	cfs	cfs
1-YEAR	6.5	5.8
2-YEAR	9.3	8.8
10-YEAR	18.2	18.2
50-YEAR	32.3	30.1

SOIL DATA:  
 SOIL TYPE FOR THE ENTIRE STAUDY AREA IS 480B  
 MILLSITE-WOODSTOCK-HENNIKER COMPLEX  
 3-8% SLOPES, HSG C

POST-DEVELOPMENT DRAINAGE WORKSHEET  
 PREPARED FOR:  
**DAVID P. CURRIER REVOCABLE TRUST**  
 CENTERVALE ROAD  
 TAX MAP 1 LOT 548  
 HENNIKER, NEW HAMPSHIRE

APRIL 04, 2020



REV.	DATE	DESCRIPTION	BY
0	04.04.2020	INITIAL SUBMISSION TO HENNIKER PLANNING BOARD	LM

LMS DESIGNS		
146 FARVIEW DRIVE DANVILLE NH 03819		
TEL: 603-382-7357	SCALE: 1" = 40'	SHEET: 2 OF 2

# Extreme Precipitation Tables

## Northeast Regional Climate Center

Data represents point estimates calculated from partial duration series. All precipitation amounts are displayed in inches.

Smoothing	Yes
State	New Hampshire
Location	
Longitude	71.783 degrees West
Latitude	43.179 degrees North
Elevation	0 feet
Date/Time	Sat, 21 Mar 2020 21:53:54 -0400

### Extreme Precipitation Estimates

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.26	0.40	0.49	0.65	0.81	1.02	1yr	0.70	0.97	1.18	1.48	1.87	2.37	2.57	1yr	2.10	2.47	2.91	3.64	4.16	1yr
2yr	0.31	0.48	0.60	0.79	0.99	1.25	2yr	0.85	1.14	1.44	1.80	2.25	2.82	3.16	2yr	2.50	3.04	3.54	4.24	4.83	2yr
5yr	0.37	0.57	0.72	0.96	1.23	1.57	5yr	1.06	1.43	1.81	2.27	2.82	3.50	4.01	5yr	3.10	3.86	4.46	5.25	5.94	5yr
10yr	0.41	0.65	0.82	1.12	1.46	1.87	10yr	1.26	1.69	2.17	2.71	3.35	4.13	4.81	10yr	3.65	4.62	5.32	6.19	6.94	10yr
25yr	0.49	0.78	0.99	1.37	1.82	2.34	25yr	1.57	2.12	2.73	3.40	4.20	5.13	6.11	25yr	4.54	5.88	6.71	7.69	8.54	25yr
50yr	0.56	0.90	1.15	1.60	2.15	2.79	50yr	1.86	2.52	3.25	4.06	4.98	6.05	7.33	50yr	5.36	7.05	8.01	9.06	9.99	50yr
100yr	0.63	1.02	1.32	1.87	2.55	3.33	100yr	2.20	2.99	3.88	4.84	5.91	7.15	8.80	100yr	6.33	8.47	9.56	10.70	11.69	100yr
200yr	0.73	1.18	1.53	2.19	3.02	3.96	200yr	2.61	3.56	4.63	5.75	7.02	8.44	10.58	200yr	7.47	10.17	11.41	12.62	13.69	200yr
500yr	0.87	1.43	1.86	2.70	3.78	4.98	500yr	3.26	4.47	5.83	7.24	8.80	10.53	13.49	500yr	9.32	12.97	14.43	15.73	16.87	500yr

### Lower Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.24	0.37	0.45	0.61	0.75	0.91	1yr	0.64	0.89	0.97	1.23	1.60	2.02	2.25	1yr	1.79	2.17	2.62	2.96	3.55	1yr
2yr	0.31	0.47	0.58	0.79	0.98	1.15	2yr	0.84	1.13	1.31	1.73	2.21	2.71	3.03	2yr	2.40	2.92	3.38	4.09	4.63	2yr
5yr	0.34	0.53	0.66	0.90	1.15	1.36	5yr	0.99	1.33	1.55	2.01	2.55	3.18	3.61	5yr	2.81	3.47	4.01	4.82	5.50	5yr
10yr	0.39	0.59	0.73	1.03	1.32	1.52	10yr	1.14	1.49	1.76	2.26	2.82	3.59	4.12	10yr	3.17	3.96	4.53	5.46	6.21	10yr
25yr	0.44	0.67	0.83	1.19	1.57	1.77	25yr	1.35	1.73	2.07	2.62	3.24	4.19	4.89	25yr	3.71	4.70	5.31	6.46	7.30	25yr
50yr	0.49	0.74	0.93	1.33	1.79	2.00	50yr	1.55	1.96	2.35	2.95	3.61	4.73	5.56	50yr	4.18	5.35	5.97	7.34	8.30	50yr
100yr	0.54	0.82	1.03	1.49	2.04	2.24	100yr	1.76	2.19	2.66	3.33	4.02	5.33	6.33	100yr	4.72	6.08	6.71	8.36	9.43	100yr
200yr	0.61	0.91	1.15	1.67	2.33	2.51	200yr	2.01	2.45	3.02	3.76	4.47	6.02	7.19	200yr	5.33	6.92	7.53	9.55	10.74	200yr
500yr	0.71	1.05	1.35	1.97	2.80	2.93	500yr	2.42	2.86	3.58	4.45	5.19	7.06	8.52	500yr	6.25	8.20	8.75	11.44	12.80	500yr

### Upper Confidence Limits

	5min	10min	15min	30min	60min	120min		1hr	2hr	3hr	6hr	12hr	24hr	48hr		1day	2day	4day	7day	10day	
1yr	0.29	0.44	0.54	0.73	0.90	1.08	1yr	0.78	1.06	1.20	1.57	1.98	2.64	2.86	1yr	2.34	2.75	3.29	4.02	4.57	1yr
2yr	0.33	0.51	0.63	0.86	1.06	1.24	2yr	0.91	1.21	1.40	1.83	2.34	2.96	3.32	2yr	2.62	3.20	3.74	4.41	5.11	2yr
5yr	0.40	0.62	0.77	1.05	1.34	1.58	5yr	1.16	1.55	1.78	2.31	2.96	3.85	4.46	5yr	3.41	4.29	4.93	5.66	6.42	5yr
10yr	0.48	0.74	0.92	1.29	1.67	1.91	10yr	1.44	1.87	2.14	2.75	3.52	4.72	5.60	10yr	4.18	5.38	6.15	6.83	7.72	10yr
25yr	0.61	0.93	1.15	1.65	2.17	2.46	25yr	1.87	2.40	2.75	3.47	4.45	6.18	7.56	25yr	5.47	7.27	8.25	8.77	9.86	25yr
50yr	0.73	1.11	1.38	1.98	2.67	2.98	50yr	2.30	2.92	3.33	4.14	5.30	7.58	9.51	50yr	6.71	9.15	10.33	10.60	11.86	50yr
100yr	0.87	1.32	1.65	2.39	3.27	3.61	100yr	2.82	3.53	4.02	4.95	6.33	9.31	11.98	100yr	8.24	11.52	12.92	12.80	14.25	100yr
200yr	1.04	1.57	1.98	2.87	4.00	4.37	200yr	3.46	4.28	4.87	5.90	7.55	11.43	15.08	200yr	10.11	14.50	16.17	15.45	17.11	200yr
500yr	1.33	1.97	2.54	3.69	5.25	5.66	500yr	4.53	5.53	6.27	7.44	9.56	15.02	20.50	500yr	13.29	19.71	21.84	19.82	21.79	500yr



