

**Routing Diagram for 15-128 crestway hamden rev B**  
 Prepared by Hewlett-Packard Company, Printed 1/29/2021  
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# 15-128 crestway hamden rev B

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## Area Listing (selected nodes)

Area (sq-ft)	CN	Description (subcatchment-numbers)
162,388	86	Newly graded area, HSG B (10S, 19S, 20S, 21S)
77,424	98	Paved parking, HSG B (10S, 11S, 19S)
2,233	98	Unconnected pavement, HSG B (18S)
4,800	98	Unconnected roofs, HSG B (19S)
29,774	65	Woods/grass comb., Fair, HSG B (11S, 18S, 21S)
<b>276,619</b>	<b>87</b>	<b>TOTAL AREA</b>

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## Soil Listing (selected nodes)

Area (sq-ft)	Soil Group	Subcatchment Numbers
0	HSG A	
276,619	HSG B	10S, 11S, 18S, 19S, 20S, 21S
0	HSG C	
0	HSG D	
0	Other	
<b>276,619</b>		<b>TOTAL AREA</b>

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**Ground Covers (selected nodes)**

HSG-A (sq-ft)	HSG-B (sq-ft)	HSG-C (sq-ft)	HSG-D (sq-ft)	Other (sq-ft)	Total (sq-ft)	Ground Cover
0	162,388	0	0	0	162,388	Newly graded area
0	77,424	0	0	0	77,424	Paved parking
0	2,233	0	0	0	2,233	Unconnected pavement
0	4,800	0	0	0	4,800	Unconnected roofs
0	29,774	0	0	0	29,774	Woods/grass comb., Fair
<b>0</b>	<b>276,619</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>276,619</b>	<b>TOTAL AREA</b>

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**Pipe Listing (selected nodes)**

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	16P	179.30	178.60	99.0	0.0071	0.013	18.0	0.0	0.0

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Type III 24-hr 2-Year Rainfall=3.30"

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Time span=3.00-20.00 hrs, dt=0.05 hrs, 341 points  
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

<b>Subcatchment 10S: Area to Detention</b>	Runoff Area=76,700 sf 64.68% Impervious Runoff Depth>2.50" Tc=5.0 min CN=94 Runoff=5.24 cfs 15,986 cf
<b>Subcatchment 11S: Area To Swale</b>	Runoff Area=20,536 sf 86.49% Impervious Runoff Depth>2.50" Tc=5.0 min CN=94 Runoff=1.40 cfs 4,280 cf
<b>Subcatchment 18S: Tributary Area</b>	Runoff Area=12,486 sf 17.88% Impervious Runoff Depth>0.71" Tc=0.0 min UI Adjusted CN=68 Runoff=0.27 cfs 739 cf
<b>Subcatchment 19S: Tributary Area</b>	Runoff Area=29,111 sf 51.03% Impervious Runoff Depth>2.31" Tc=0.0 min CN=92 Runoff=2.14 cfs 5,608 cf
<b>Subcatchment 20S: Tributary Area Draining</b>	Runoff Area=72,042 sf 0.00% Impervious Runoff Depth>1.80" Tc=0.0 min CN=86 Runoff=4.28 cfs 10,804 cf
<b>Subcatchment 21S: Tributary Area</b>	Runoff Area=65,744 sf 0.00% Impervious Runoff Depth>1.44" Tc=0.0 min CN=81 Runoff=3.13 cfs 7,873 cf
<b>Reach 12R: (new Reach)</b>	Avg. Flow Depth=0.12' Max Vel=3.33 fps Inflow=1.40 cfs 4,280 cf n=0.016 L=245.0' S=0.0245 '/' Capacity=16.71 cfs Outflow=1.33 cfs 4,271 cf
<b>Pond 16P: (new Pond)</b>	Peak Elev=180.78' Storage=4,523 cf Inflow=6.45 cfs 20,257 cf Outflow=2.67 cfs 19,936 cf
<b>Link 17L: (new Link)</b>	Inflow=3.96 cfs 25,544 cf Primary=3.96 cfs 25,544 cf
<b>Link 22L: (new Link)</b>	Inflow=7.42 cfs 18,677 cf Primary=7.42 cfs 18,677 cf
<b>Link 23L: (new Link)</b>	Inflow=4.23 cfs 26,284 cf Primary=4.23 cfs 26,284 cf

**Total Runoff Area = 276,619 sf Runoff Volume = 45,290 cf Average Runoff Depth = 1.96"**  
**69.47% Pervious = 192,162 sf 30.53% Impervious = 84,457 sf**

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Type III 24-hr 2-Year Rainfall=3.30"

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**Summary for Subcatchment 10S: Area to Detention Basin**

[49] Hint:  $T_c < 2dt$  may require smaller  $dt$

Runoff = 5.24 cfs @ 12.07 hrs, Volume= 15,986 cf, Depth> 2.50"

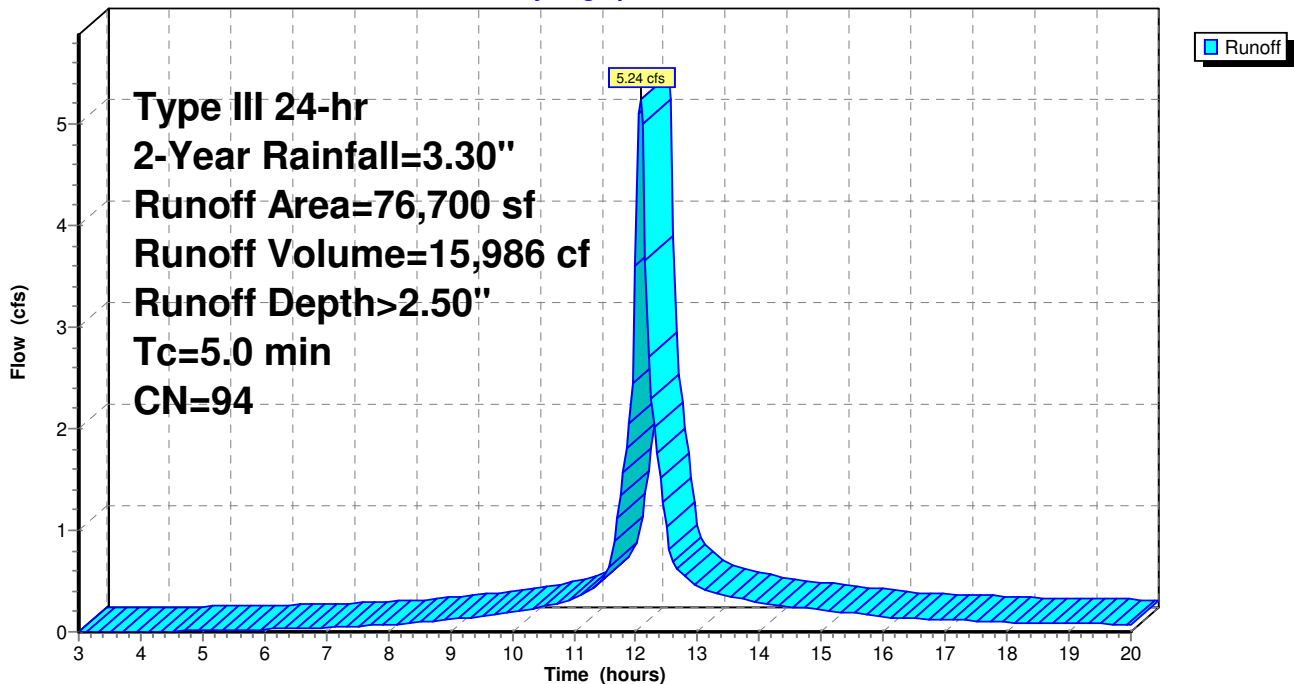
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs,  $dt= 0.05$  hrs  
 Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
49,607	98	Paved parking, HSG B
8,567	86	Newly graded area, HSG B
18,526	86	Newly graded area, HSG B
76,700	94	Weighted Average
27,093		35.32% Pervious Area
49,607		64.68% Impervious Area

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

**Subcatchment 10S: Area to Detention Basin**

Hydrograph



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Type III 24-hr 2-Year Rainfall=3.30"

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**Summary for Subcatchment 11S: Area To Swale**

[49] Hint: Tc<2dt may require smaller dt

Runoff = 1.40 cfs @ 12.07 hrs, Volume= 4,280 cf, Depth> 2.50"

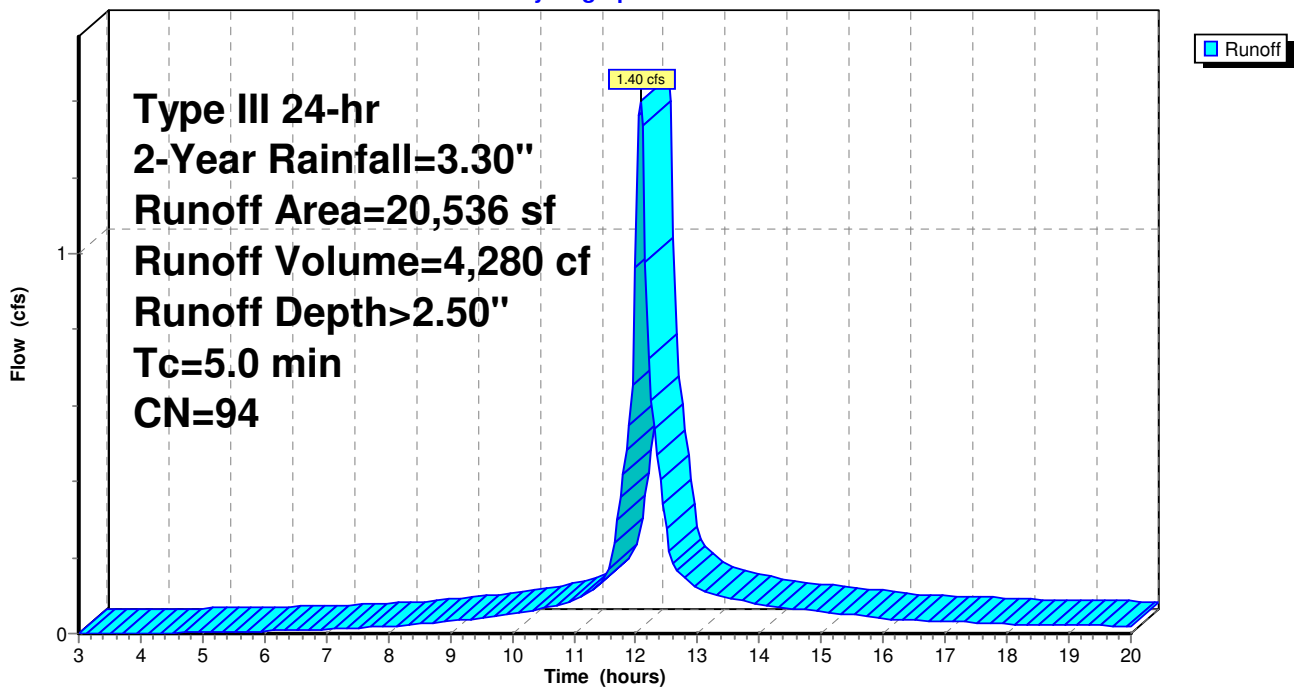
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
17,761	98	Paved parking, HSG B
2,775	65	Woods/grass comb., Fair, HSG B
20,536	94	Weighted Average
2,775		13.51% Pervious Area
17,761		86.49% Impervious Area

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

**Subcatchment 11S: Area To Swale**

Hydrograph





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Type III 24-hr 2-Year Rainfall=3.30"

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**Summary for Subcatchment 18S: Tributary Area Traveling over Eastern Property Line**

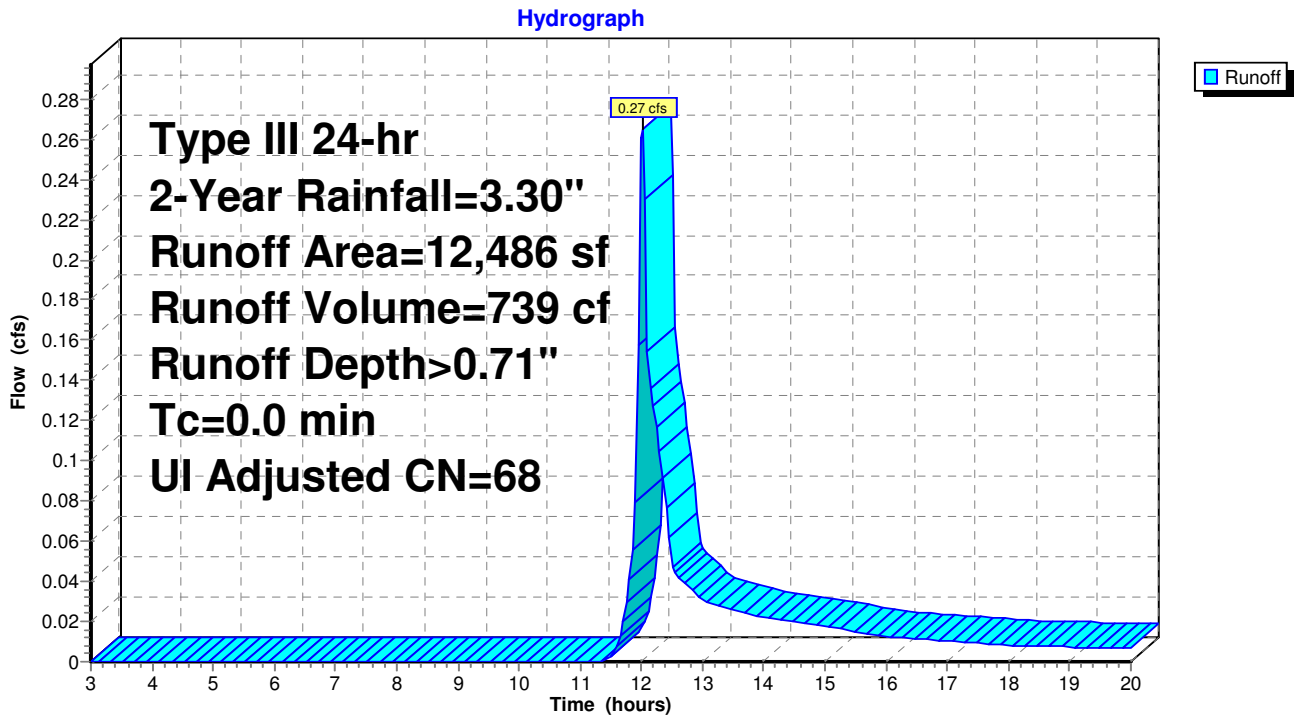
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 0.27 cfs @ 12.01 hrs, Volume= 739 cf, Depth> 0.71"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Adj	Description
10,253	65		Woods/grass comb., Fair, HSG B
2,233	98		Unconnected pavement, HSG B
12,486	71	68	Weighted Average, UI Adjusted
10,253			82.12% Pervious Area
2,233			17.88% Impervious Area
2,233			100.00% Unconnected

**Subcatchment 18S: Tributary Area Traveling over Eastern Property Line**



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Type III 24-hr 2-Year Rainfall=3.30"

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## Summary for Subcatchment 19S: Tributary Area Draining To Crest Way

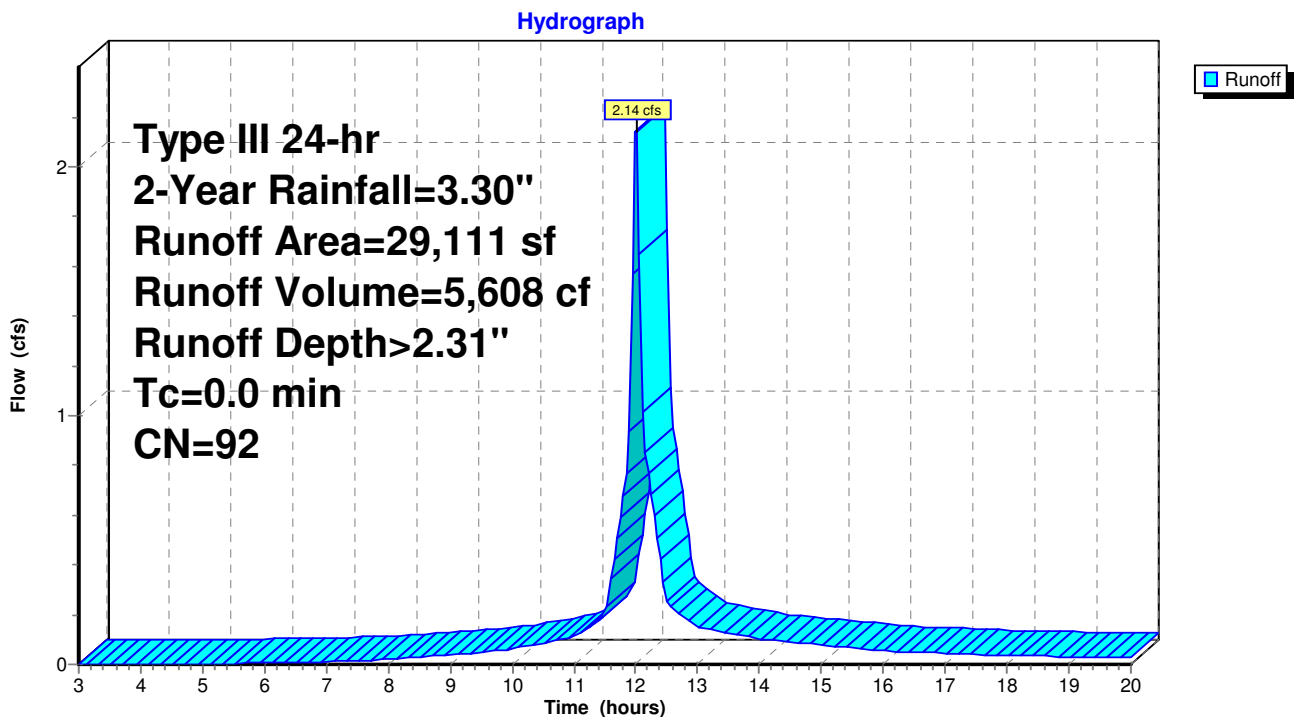
[46] Hint:  $T_c=0$  (Instant runoff peak depends on dt)

Runoff = 2.14 cfs @ 12.00 hrs, Volume= 5,608 cf, Depth> 2.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
14,255	86	Newly graded area, HSG B
10,056	98	Paved parking, HSG B
4,800	98	Unconnected roofs, HSG B
29,111	92	Weighted Average
14,255		48.97% Pervious Area
14,856		51.03% Impervious Area
4,800		32.31% Unconnected

## Subcatchment 19S: Tributary Area Draining To Crest Way



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Type III 24-hr 2-Year Rainfall=3.30"

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## Summary for Subcatchment 20S: Tributary Area Draining To Crest Way

[46] Hint:  $T_c=0$  (Instant runoff peak depends on dt)

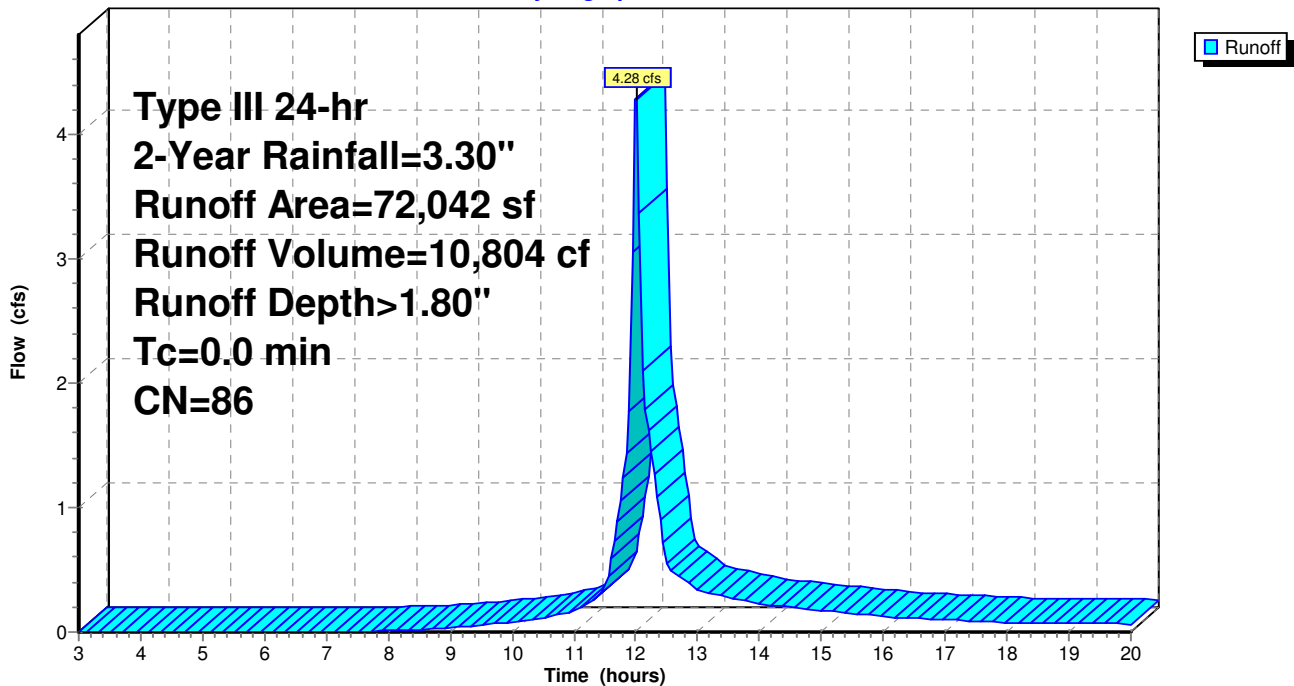
Runoff = 4.28 cfs @ 12.00 hrs, Volume= 10,804 cf, Depth> 1.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
72,042	86	Newly graded area, HSG B
72,042		100.00% Pervious Area

## Subcatchment 20S: Tributary Area Draining To Crest Way

Hydrograph



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Type III 24-hr 2-Year Rainfall=3.30"

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## Summary for Subcatchment 21S: Tributary Area Traveling over Eastern Property Line

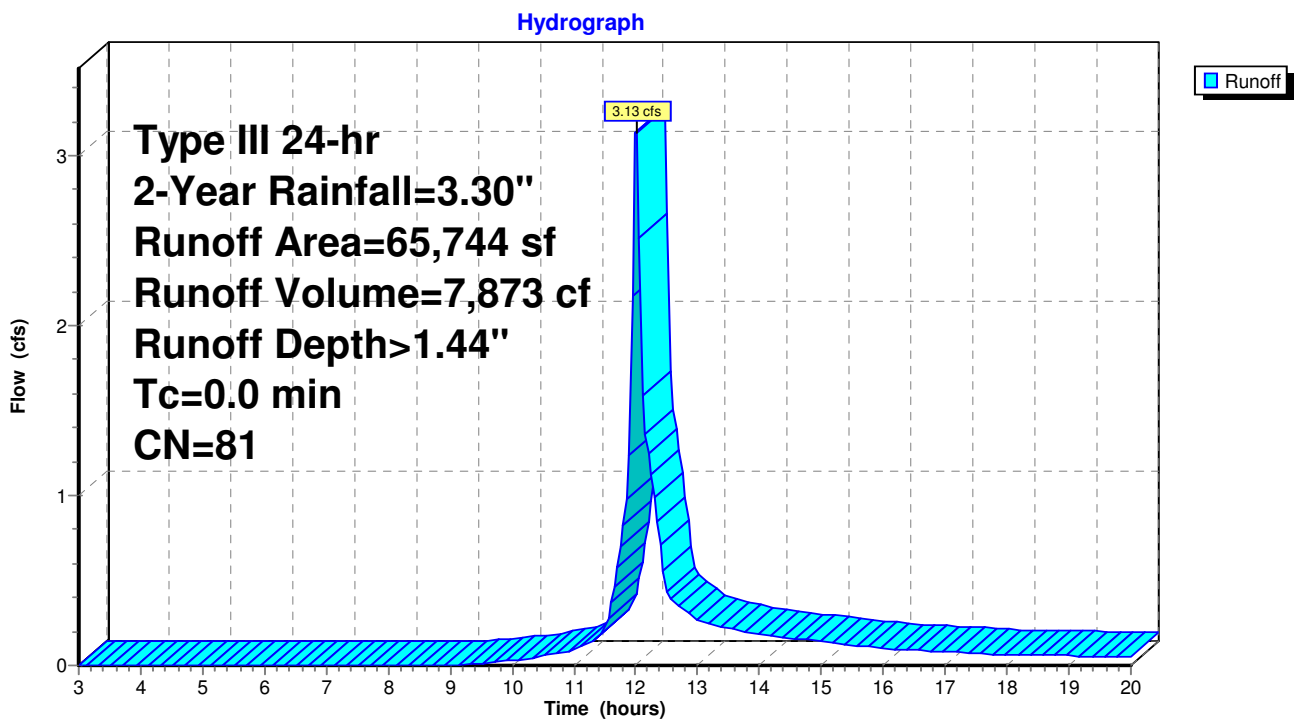
[46] Hint:  $T_c=0$  (Instant runoff peak depends on dt)

Runoff = 3.13 cfs @ 12.01 hrs, Volume= 7,873 cf, Depth> 1.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 2-Year Rainfall=3.30"

Area (sf)	CN	Description
8,169	65	Woods/grass comb., Fair, HSG B
8,577	65	Woods/grass comb., Fair, HSG B
48,998	86	Newly graded area, HSG B
65,744	81	Weighted Average
65,744		100.00% Pervious Area

## Subcatchment 21S: Tributary Area Traveling over Eastern Property Line



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Type III 24-hr 2-Year Rainfall=3.30"

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**Summary for Reach 12R: (new Reach)**

Inflow Area = 20,536 sf, 86.49% Impervious, Inflow Depth > 2.50" for 2-Year event  
Inflow = 1.40 cfs @ 12.07 hrs, Volume= 4,280 cf  
Outflow = 1.33 cfs @ 12.11 hrs, Volume= 4,271 cf, Atten= 5%, Lag= 2.2 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 3.33 fps, Min. Travel Time= 1.2 min  
Avg. Velocity = 0.91 fps, Avg. Travel Time= 4.5 min

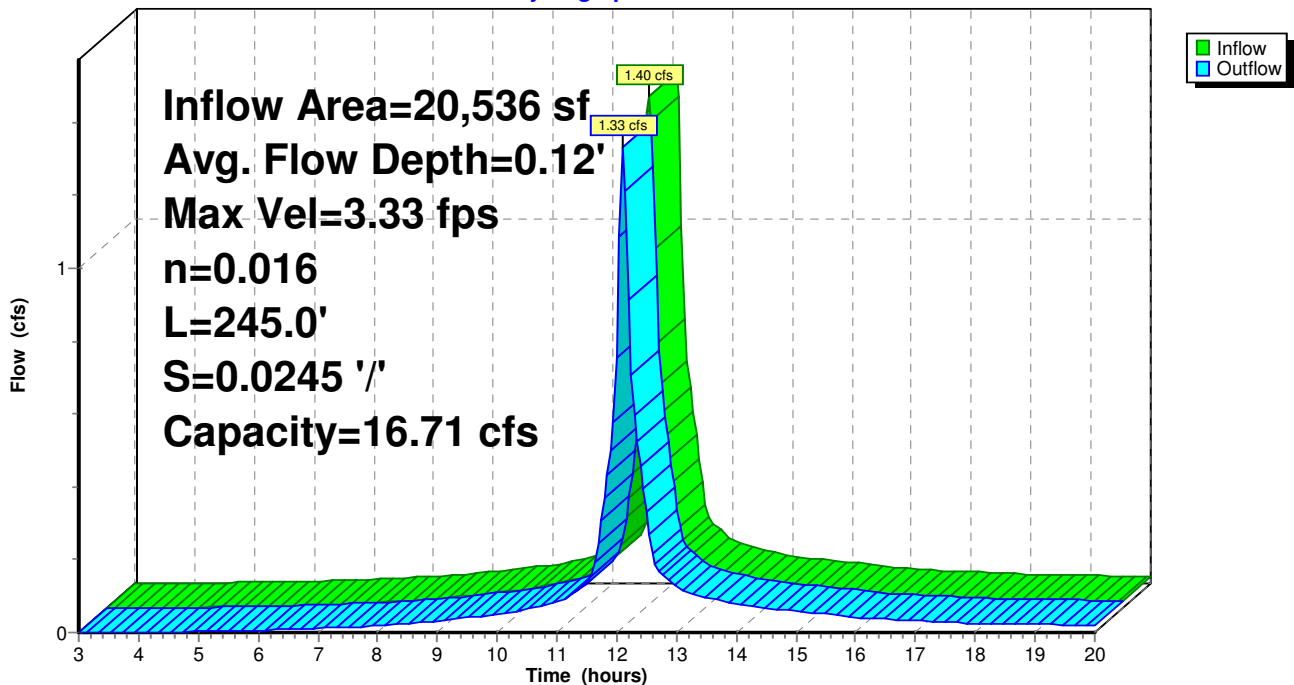
Peak Storage= 102 cf @ 12.09 hrs  
Average Depth at Peak Storage= 0.12'  
Bank-Full Depth= 0.50' Flow Area= 2.3 sf, Capacity= 16.71 cfs

3.00' x 0.50' deep channel, n= 0.016 Asphalt, rough  
Side Slope Z-value= 3.0 '/' Top Width= 6.00'  
Length= 245.0' Slope= 0.0245 '/'  
Inlet Invert= 192.00', Outlet Invert= 186.00'



**Reach 12R: (new Reach)**

Hydrograph



**15-128 crestway hamden rev B**

Type III 24-hr 2-Year Rainfall=3.30"

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**Summary for Pond 16P: (new Pond)**

Inflow Area = 97,236 sf, 69.28% Impervious, Inflow Depth > 2.50" for 2-Year event  
 Inflow = 6.45 cfs @ 12.08 hrs, Volume= 20,257 cf  
 Outflow = 2.67 cfs @ 12.29 hrs, Volume= 19,936 cf, Atten= 59%, Lag= 12.9 min  
 Primary = 2.67 cfs @ 12.29 hrs, Volume= 19,936 cf

Routing by Stor-Ind method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 180.78' @ 12.29 hrs Surf.Area= 3,699 sf Storage= 4,523 cf

Plug-Flow detention time= 28.8 min calculated for 19,936 cf (98% of inflow)  
 Center-of-Mass det. time= 22.2 min ( 778.4 - 756.2 )

Volume	Invert	Avail.Storage	Storage Description		
#1	179.30'	19,898 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)	
179.30	2,035	0	0	2,035	
180.00	3,222	1,824	1,824	3,229	
182.00	4,510	7,696	9,520	4,590	
184.00	5,899	10,378	19,898	6,069	

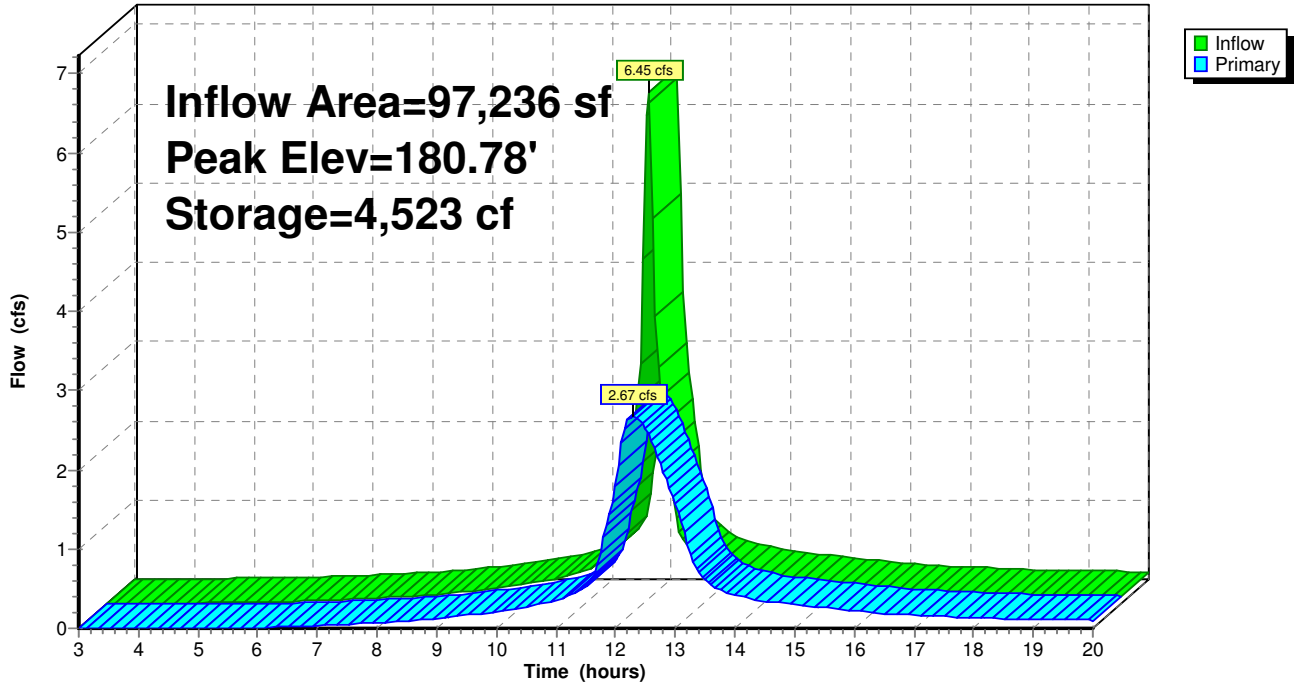
Device	Routing	Invert	Outlet Devices		
#1	Primary	179.30'	<b>18.0" Round Culvert</b> L= 99.0' Ke= 0.500 Inlet / Outlet Invert= 179.30' / 178.60' S= 0.0071 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf		
#2	Device 1	182.00'	<b>24.0" x 36.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads		
#3	Device 1	179.30'	<b>12.0" W x 6.0" H Vert. Orifice/Grate</b> C= 0.600		

**Primary OutFlow** Max=2.67 cfs @ 12.29 hrs HW=180.78' (Free Discharge)

- ↑ **1=Culvert** (Passes 2.67 cfs of 6.82 cfs potential flow)
- ↑ **2=Orifice/Grate** ( Controls 0.00 cfs)
- ↑ **3=Orifice/Grate** (Orifice Controls 2.67 cfs @ 5.33 fps)

Pond 16P: (new Pond)

Hydrograph



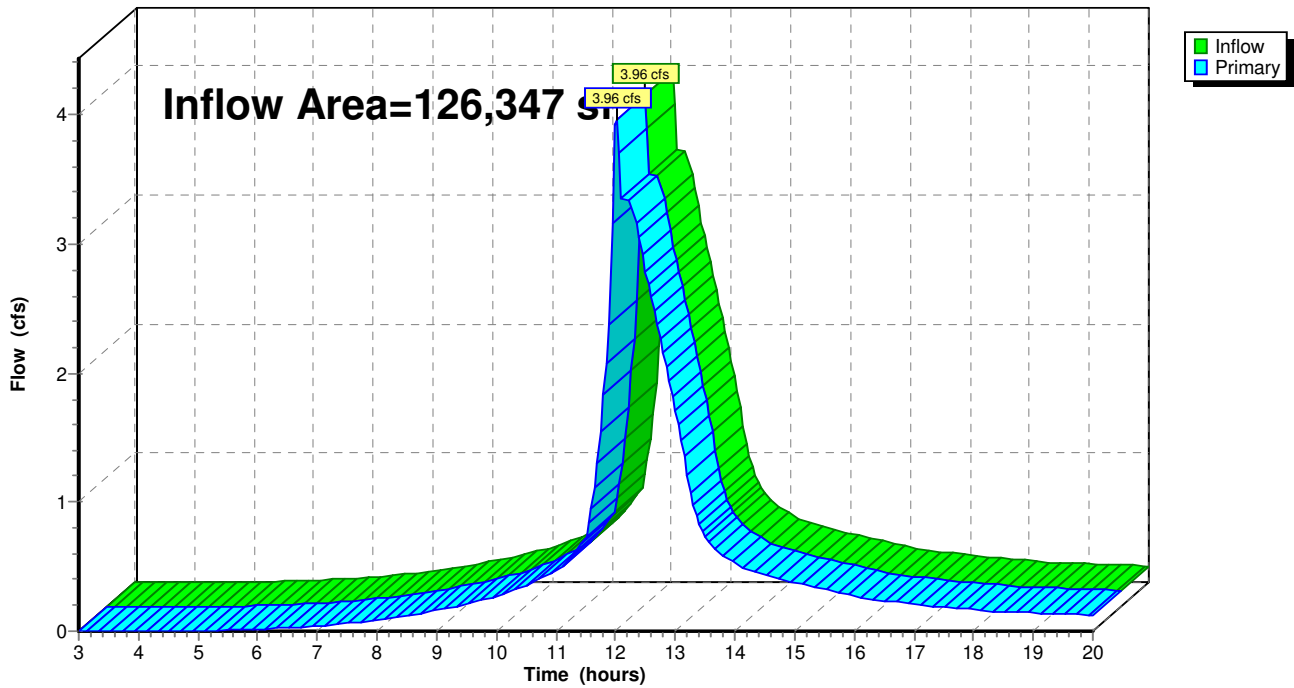
Summary for Link 17L: (new Link)

Inflow Area = 126,347 sf, 65.08% Impervious, Inflow Depth > 2.43" for 2-Year event  
Inflow = 3.96 cfs @ 12.01 hrs, Volume= 25,544 cf  
Primary = 3.96 cfs @ 12.01 hrs, Volume= 25,544 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

Link 17L: (new Link)

Hydrograph





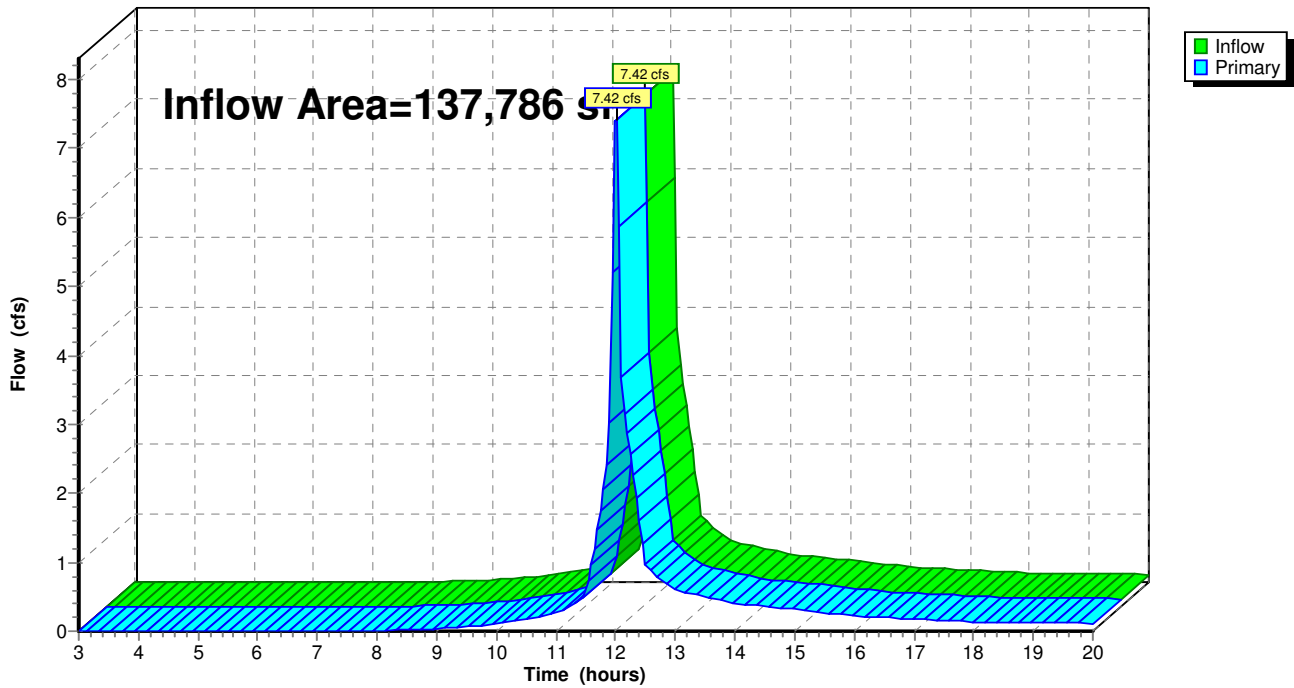
### Summary for Link 22L: (new Link)

Inflow Area = 137,786 sf, 0.00% Impervious, Inflow Depth > 1.63" for 2-Year event  
Inflow = 7.42 cfs @ 12.00 hrs, Volume= 18,677 cf  
Primary = 7.42 cfs @ 12.00 hrs, Volume= 18,677 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

### Link 22L: (new Link)

Hydrograph



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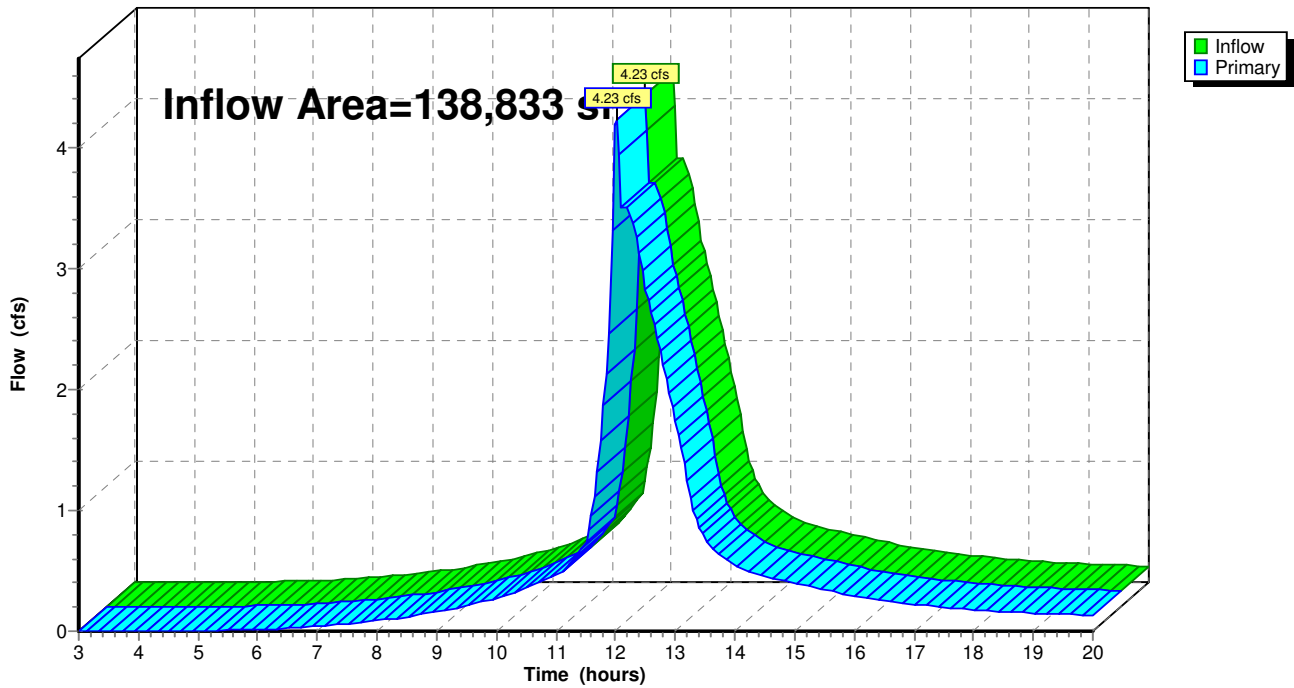
**Summary for Link 23L: (new Link)**

Inflow Area = 138,833 sf, 60.83% Impervious, Inflow Depth > 2.27" for 2-Year event  
Inflow = 4.23 cfs @ 12.01 hrs, Volume= 26,284 cf  
Primary = 4.23 cfs @ 12.01 hrs, Volume= 26,284 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

**Link 23L: (new Link)**

Hydrograph



**15-128 crestway hamden rev B**

Type III 24-hr 5-Year Rainfall=4.20"

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Time span=3.00-20.00 hrs, dt=0.05 hrs, 341 points  
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

<b>Subcatchment 10S: Area to Detention</b>	Runoff Area=76,700 sf 64.68% Impervious Runoff Depth>3.34" Tc=5.0 min CN=94 Runoff=6.88 cfs 21,352 cf
<b>Subcatchment 11S: Area To Swale</b>	Runoff Area=20,536 sf 86.49% Impervious Runoff Depth>3.34" Tc=5.0 min CN=94 Runoff=1.84 cfs 5,717 cf
<b>Subcatchment 18S: Tributary Area</b>	Runoff Area=12,486 sf 17.88% Impervious Runoff Depth>1.22" Tc=0.0 min UI Adjusted CN=68 Runoff=0.49 cfs 1,267 cf
<b>Subcatchment 19S: Tributary Area</b>	Runoff Area=29,111 sf 51.03% Impervious Runoff Depth>3.14" Tc=0.0 min CN=92 Runoff=2.85 cfs 7,612 cf
<b>Subcatchment 20S: Tributary Area Draining</b>	Runoff Area=72,042 sf 0.00% Impervious Runoff Depth>2.57" Tc=0.0 min CN=86 Runoff=6.03 cfs 15,400 cf
<b>Subcatchment 21S: Tributary Area</b>	Runoff Area=65,744 sf 0.00% Impervious Runoff Depth>2.14" Tc=0.0 min CN=81 Runoff=4.66 cfs 11,719 cf
<b>Reach 12R: (new Reach)</b>	Avg. Flow Depth=0.14' Max Vel=3.66 fps Inflow=1.84 cfs 5,717 cf n=0.016 L=245.0' S=0.0245 '/' Capacity=16.71 cfs Outflow=1.75 cfs 5,707 cf
<b>Pond 16P: (new Pond)</b>	Peak Elev=181.26' Storage=6,364 cf Inflow=8.49 cfs 27,058 cf Outflow=3.14 cfs 26,695 cf
<b>Link 17L: (new Link)</b>	Inflow=5.01 cfs 34,306 cf Primary=5.01 cfs 34,306 cf
<b>Link 22L: (new Link)</b>	Inflow=10.69 cfs 27,118 cf Primary=10.69 cfs 27,118 cf
<b>Link 23L: (new Link)</b>	Inflow=5.50 cfs 35,574 cf Primary=5.50 cfs 35,574 cf

**Total Runoff Area = 276,619 sf Runoff Volume = 63,066 cf Average Runoff Depth = 2.74"**  
**69.47% Pervious = 192,162 sf 30.53% Impervious = 84,457 sf**

**Summary for Subcatchment 10S: Area to Detention Basin**

[49] Hint:  $T_c < 2dt$  may require smaller  $dt$

Runoff = 6.88 cfs @ 12.07 hrs, Volume= 21,352 cf, Depth> 3.34"

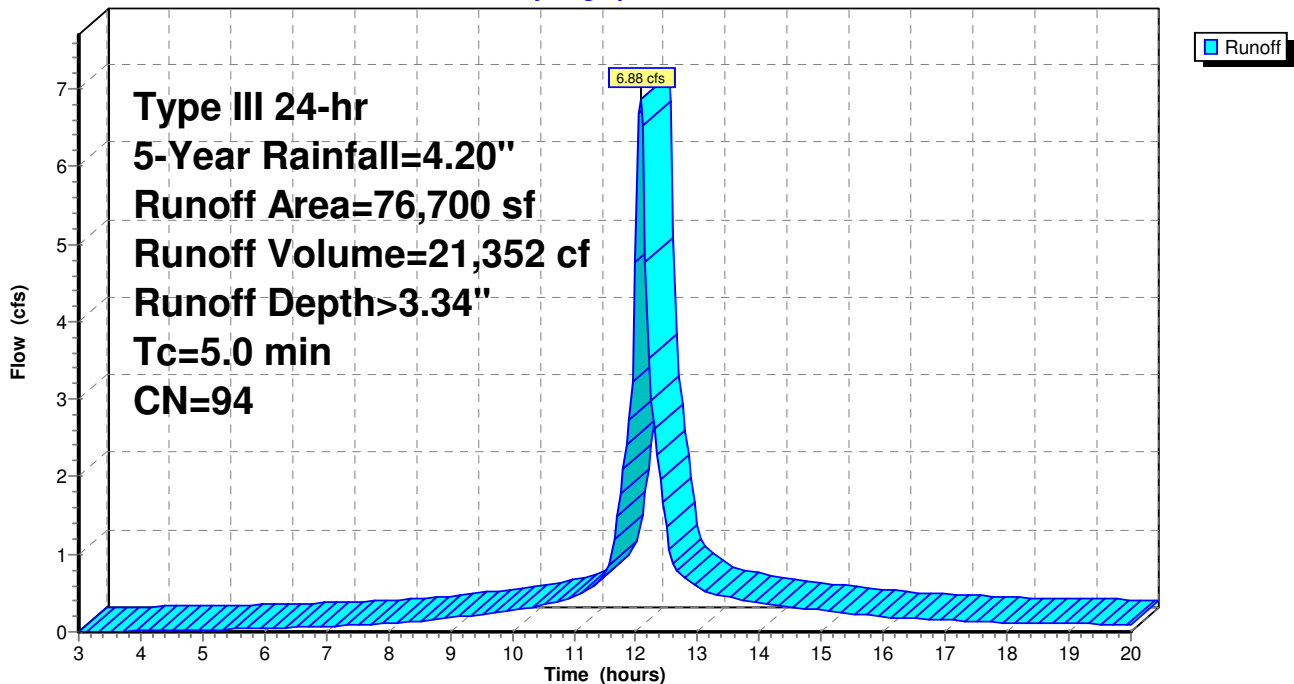
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs,  $dt= 0.05$  hrs  
 Type III 24-hr 5-Year Rainfall=4.20"

Area (sf)	CN	Description
49,607	98	Paved parking, HSG B
8,567	86	Newly graded area, HSG B
18,526	86	Newly graded area, HSG B
76,700	94	Weighted Average
27,093		35.32% Pervious Area
49,607		64.68% Impervious Area

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

**Subcatchment 10S: Area to Detention Basin**

Hydrograph



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Type III 24-hr 5-Year Rainfall=4.20"

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**Summary for Subcatchment 11S: Area To Swale**

[49] Hint:  $T_c < 2dt$  may require smaller  $dt$

Runoff = 1.84 cfs @ 12.07 hrs, Volume= 5,717 cf, Depth> 3.34"

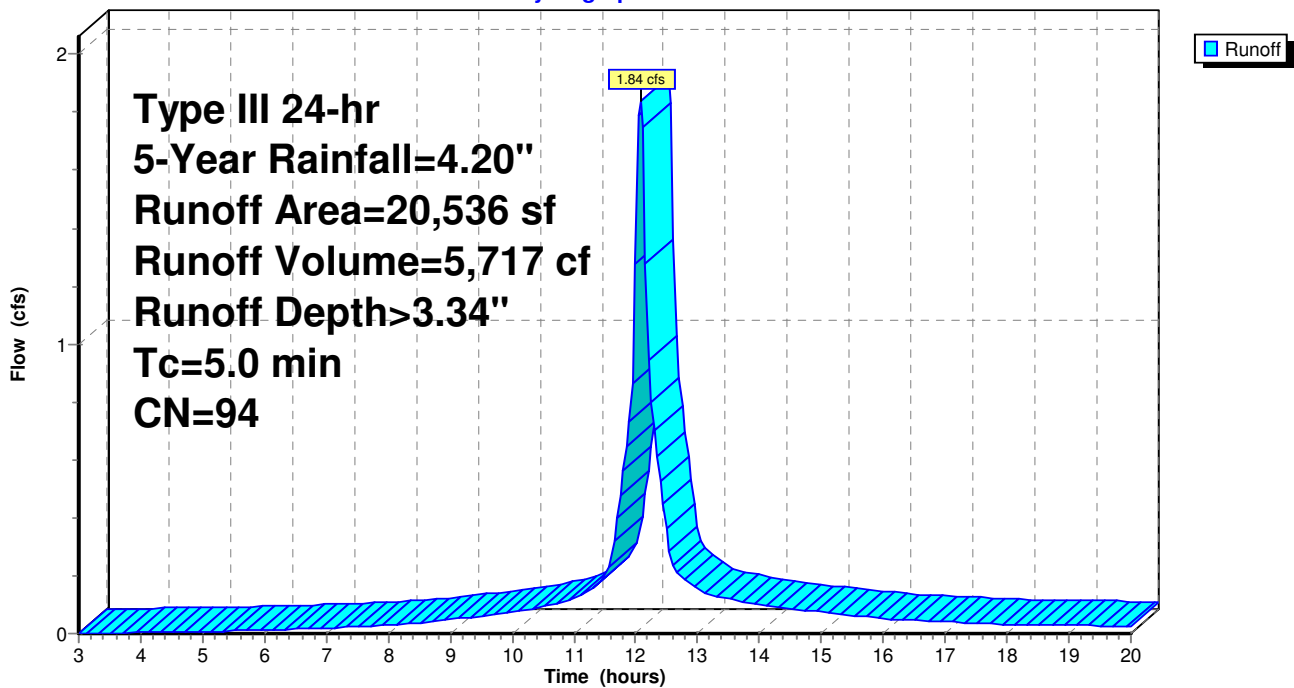
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs,  $dt= 0.05$  hrs  
 Type III 24-hr 5-Year Rainfall=4.20"

Area (sf)	CN	Description
17,761	98	Paved parking, HSG B
2,775	65	Woods/grass comb., Fair, HSG B
20,536	94	Weighted Average
2,775		13.51% Pervious Area
17,761		86.49% Impervious Area

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

**Subcatchment 11S: Area To Swale**

Hydrograph



**15-128 crestway hamden rev B**

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Type III 24-hr 5-Year Rainfall=4.20"

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**Summary for Subcatchment 18S: Tributary Area Traveling over Eastern Property Line**

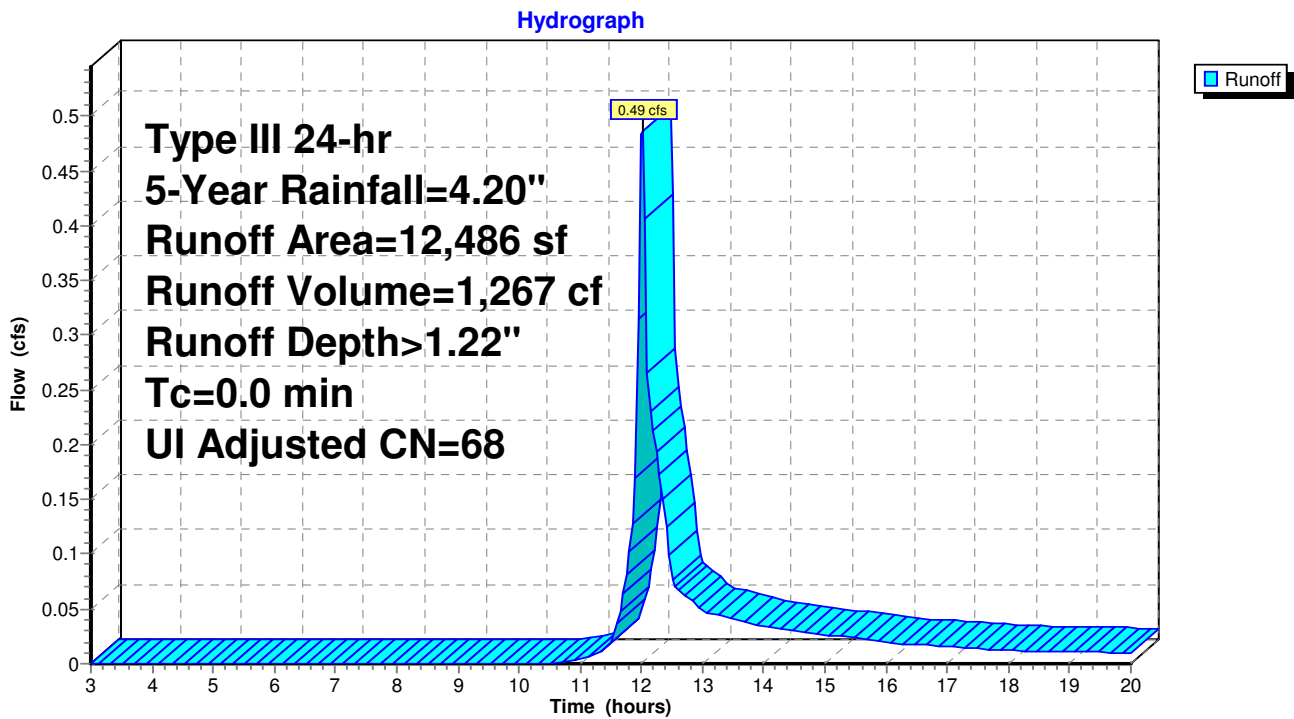
[46] Hint: Tc=0 (Instant runoff peak depends on dt)

Runoff = 0.49 cfs @ 12.01 hrs, Volume= 1,267 cf, Depth> 1.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 5-Year Rainfall=4.20"

Area (sf)	CN	Adj	Description
10,253	65		Woods/grass comb., Fair, HSG B
2,233	98		Unconnected pavement, HSG B
12,486	71	68	Weighted Average, UI Adjusted
10,253			82.12% Pervious Area
2,233			17.88% Impervious Area
2,233			100.00% Unconnected

**Subcatchment 18S: Tributary Area Traveling over Eastern Property Line**



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Type III 24-hr 5-Year Rainfall=4.20"

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## Summary for Subcatchment 19S: Tributary Area Draining To Crest Way

[46] Hint:  $T_c=0$  (Instant runoff peak depends on dt)

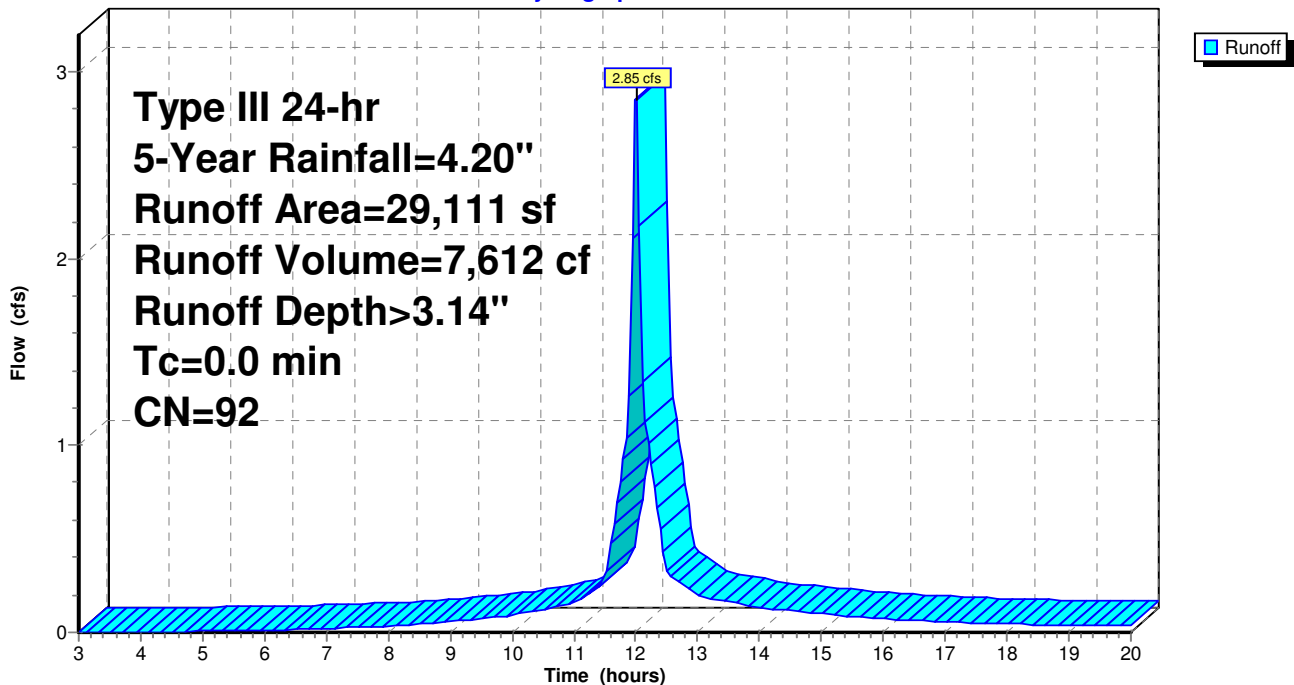
Runoff = 2.85 cfs @ 12.00 hrs, Volume= 7,612 cf, Depth> 3.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 5-Year Rainfall=4.20"

Area (sf)	CN	Description
14,255	86	Newly graded area, HSG B
10,056	98	Paved parking, HSG B
4,800	98	Unconnected roofs, HSG B
29,111	92	Weighted Average
14,255		48.97% Pervious Area
14,856		51.03% Impervious Area
4,800		32.31% Unconnected

## Subcatchment 19S: Tributary Area Draining To Crest Way

Hydrograph



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Type III 24-hr 5-Year Rainfall=4.20"

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## Summary for Subcatchment 20S: Tributary Area Draining To Crest Way

[46] Hint:  $T_c=0$  (Instant runoff peak depends on dt)

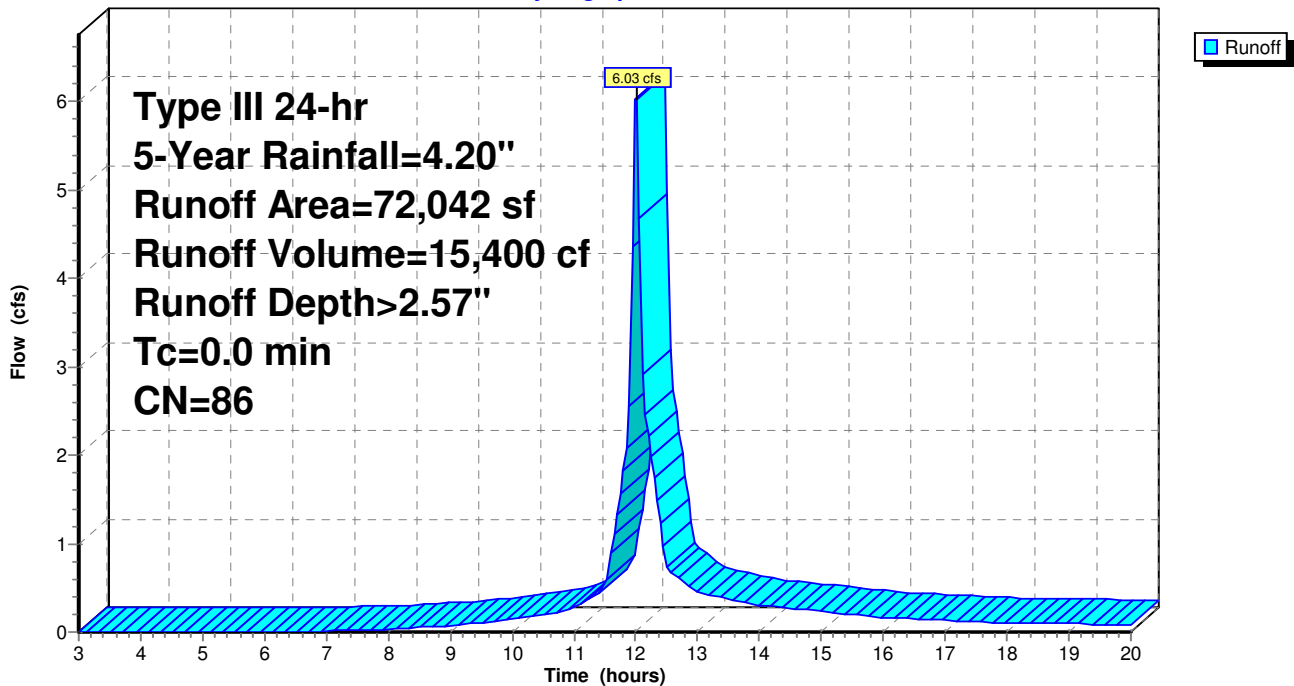
Runoff = 6.03 cfs @ 12.00 hrs, Volume= 15,400 cf, Depth> 2.57"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 5-Year Rainfall=4.20"

Area (sf)	CN	Description
72,042	86	Newly graded area, HSG B
72,042		100.00% Pervious Area

## Subcatchment 20S: Tributary Area Draining To Crest Way

Hydrograph





# 15-128 crestway hamden rev B

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Type III 24-hr 5-Year Rainfall=4.20"

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## Summary for Subcatchment 21S: Tributary Area Traveling over Eastern Property Line

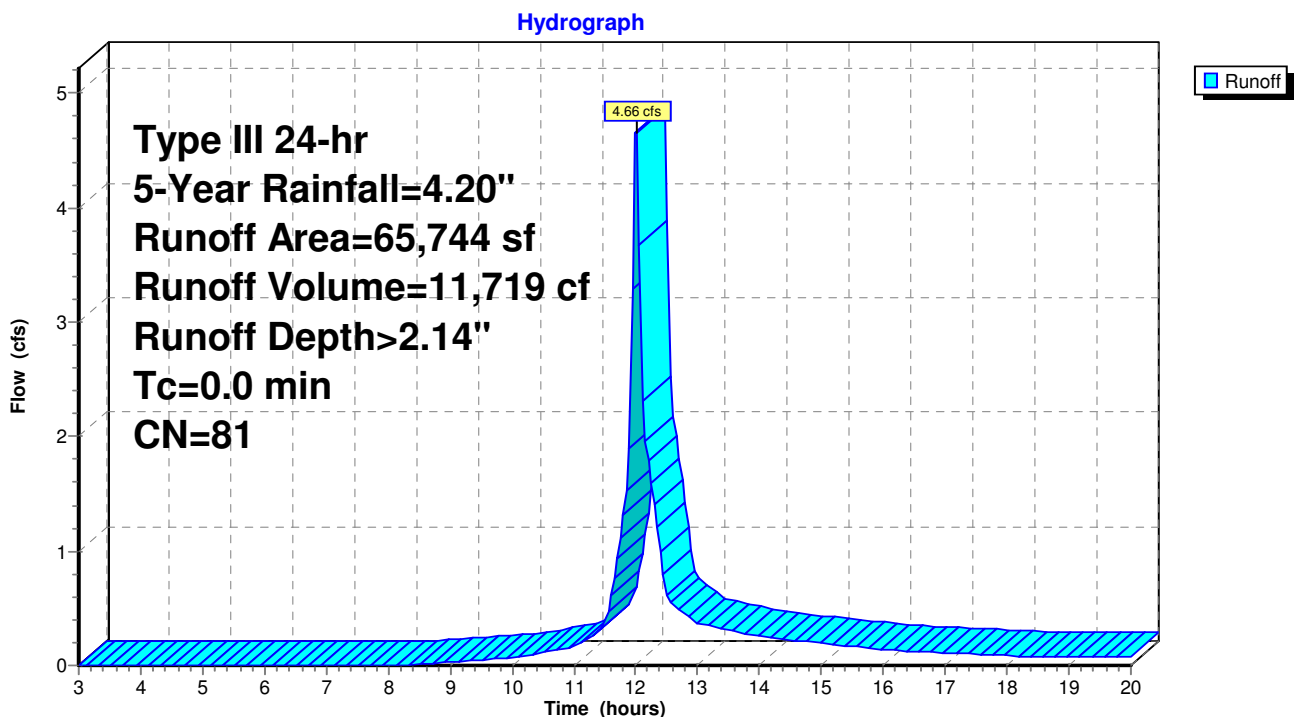
[46] Hint:  $T_c=0$  (Instant runoff peak depends on dt)

Runoff = 4.66 cfs @ 12.00 hrs, Volume= 11,719 cf, Depth> 2.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 5-Year Rainfall=4.20"

Area (sf)	CN	Description
8,169	65	Woods/grass comb., Fair, HSG B
8,577	65	Woods/grass comb., Fair, HSG B
48,998	86	Newly graded area, HSG B
65,744	81	Weighted Average
65,744		100.00% Pervious Area

## Subcatchment 21S: Tributary Area Traveling over Eastern Property Line



**15-128 crestway hamden rev B**

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Type III 24-hr 5-Year Rainfall=4.20"

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**Summary for Reach 12R: (new Reach)**

Inflow Area = 20,536 sf, 86.49% Impervious, Inflow Depth > 3.34" for 5-Year event  
Inflow = 1.84 cfs @ 12.07 hrs, Volume= 5,717 cf  
Outflow = 1.75 cfs @ 12.11 hrs, Volume= 5,707 cf, Atten= 5%, Lag= 2.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 3.66 fps, Min. Travel Time= 1.1 min  
Avg. Velocity = 1.00 fps, Avg. Travel Time= 4.1 min

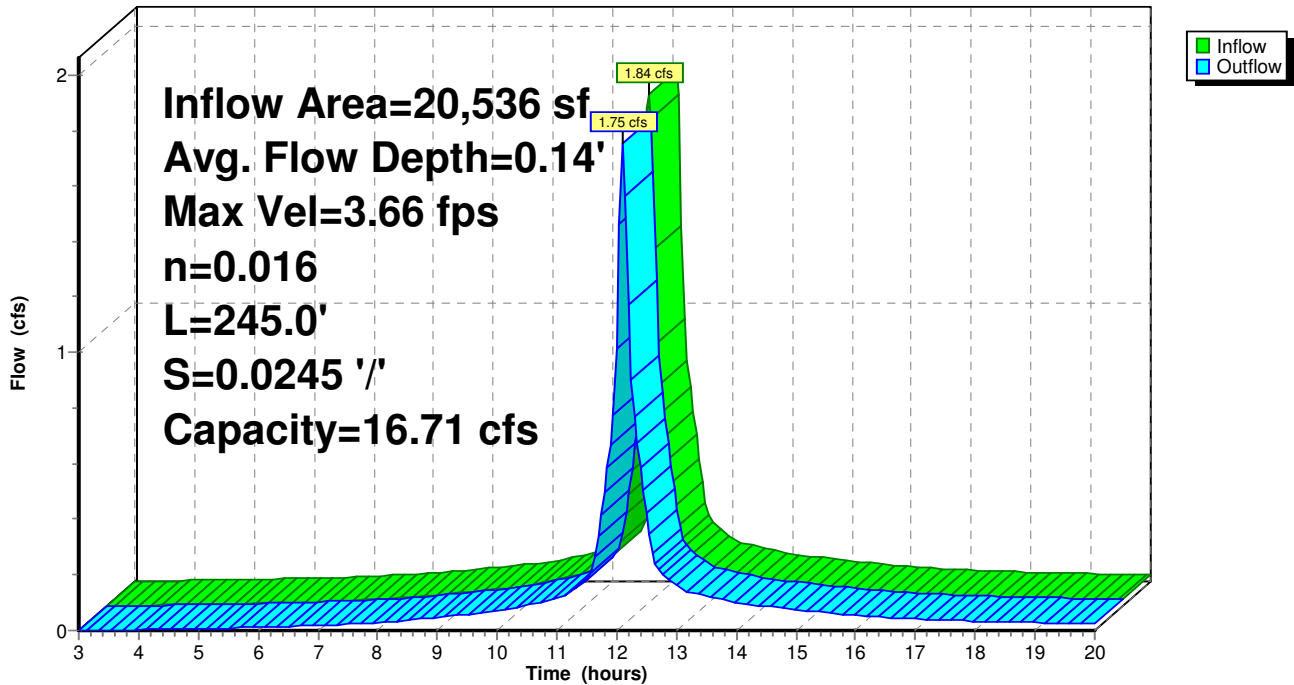
Peak Storage= 122 cf @ 12.09 hrs  
Average Depth at Peak Storage= 0.14'  
Bank-Full Depth= 0.50' Flow Area= 2.3 sf, Capacity= 16.71 cfs

3.00' x 0.50' deep channel, n= 0.016 Asphalt, rough  
Side Slope Z-value= 3.0 '/' Top Width= 6.00'  
Length= 245.0' Slope= 0.0245 '/'  
Inlet Invert= 192.00', Outlet Invert= 186.00'



**Reach 12R: (new Reach)**

Hydrograph



**15-128 crestway hamden rev B**

Type III 24-hr 5-Year Rainfall=4.20"

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**Summary for Pond 16P: (new Pond)**

Inflow Area = 97,236 sf, 69.28% Impervious, Inflow Depth > 3.34" for 5-Year event  
 Inflow = 8.49 cfs @ 12.08 hrs, Volume= 27,058 cf  
 Outflow = 3.14 cfs @ 12.33 hrs, Volume= 26,695 cf, Atten= 63%, Lag= 15.0 min  
 Primary = 3.14 cfs @ 12.33 hrs, Volume= 26,695 cf

Routing by Stor-Ind method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 181.26' @ 12.33 hrs Surf.Area= 4,007 sf Storage= 6,364 cf

Plug-Flow detention time= 29.1 min calculated for 26,695 cf (99% of inflow)  
 Center-of-Mass det. time= 23.3 min ( 772.7 - 749.3 )

Volume	Invert	Avail.Storage	Storage Description		
#1	179.30'	19,898 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)	
179.30	2,035	0	0	2,035	
180.00	3,222	1,824	1,824	3,229	
182.00	4,510	7,696	9,520	4,590	
184.00	5,899	10,378	19,898	6,069	

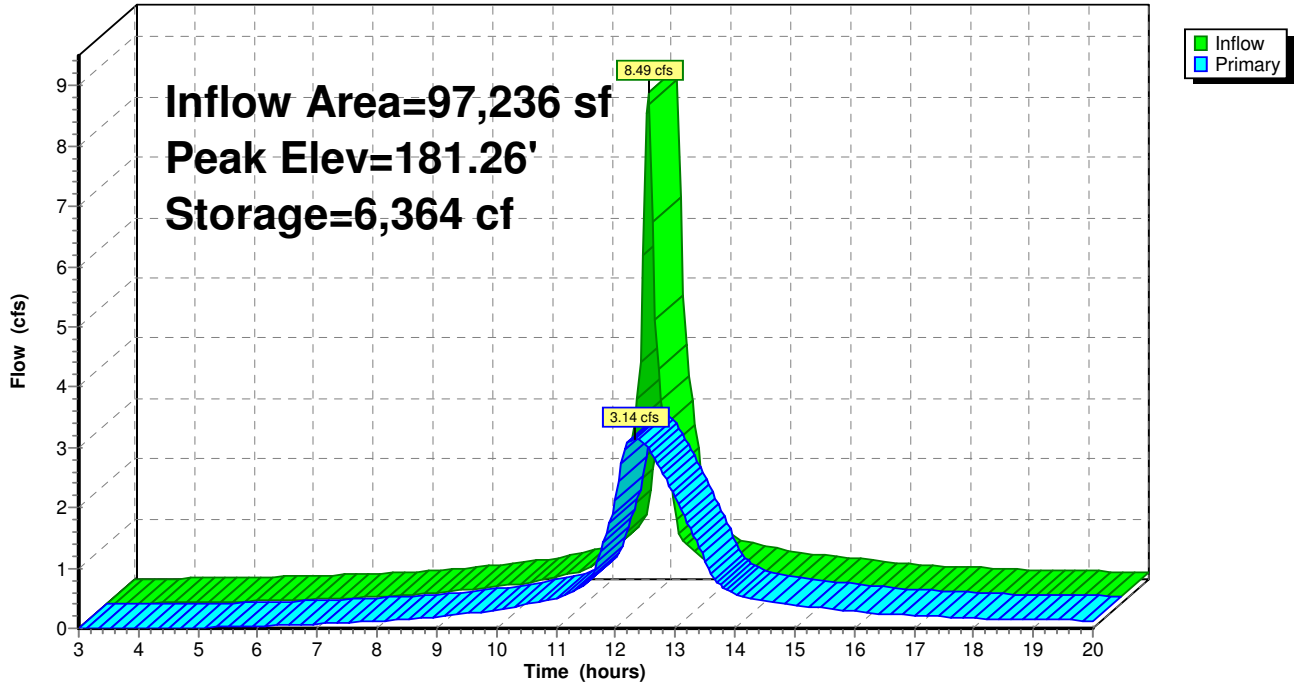
Device	Routing	Invert	Outlet Devices		
#1	Primary	179.30'	<b>18.0" Round Culvert</b> L= 99.0' Ke= 0.500 Inlet / Outlet Invert= 179.30' / 178.60' S= 0.0071 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf		
#2	Device 1	182.00'	<b>24.0" x 36.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads		
#3	Device 1	179.30'	<b>12.0" W x 6.0" H Vert. Orifice/Grate</b> C= 0.600		

**Primary OutFlow** Max=3.14 cfs @ 12.33 hrs HW=181.26' (Free Discharge)

- ↑ **1=Culvert** (Passes 3.14 cfs of 8.74 cfs potential flow)
- ↑ **2=Orifice/Grate** ( Controls 0.00 cfs)
- ↑ **3=Orifice/Grate** (Orifice Controls 3.14 cfs @ 6.28 fps)

Pond 16P: (new Pond)

Hydrograph



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Type III 24-hr 5-Year Rainfall=4.20"

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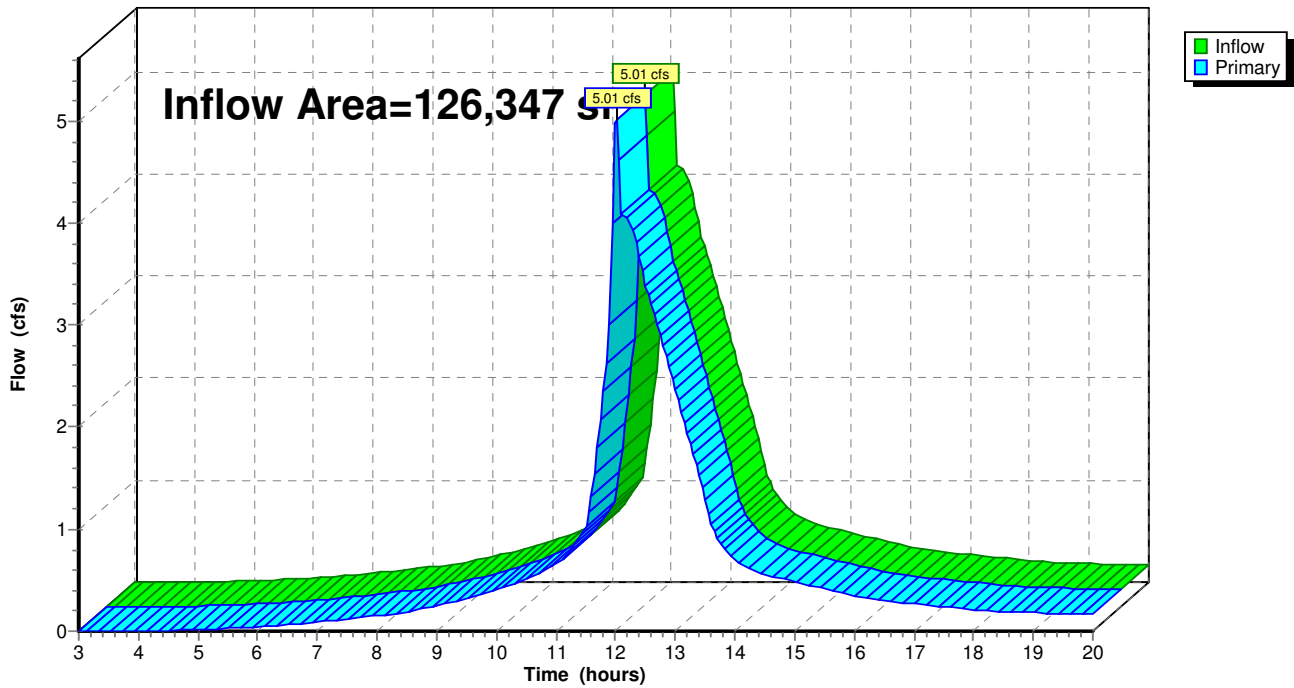
## Summary for Link 17L: (new Link)

Inflow Area = 126,347 sf, 65.08% Impervious, Inflow Depth > 3.26" for 5-Year event  
Inflow = 5.01 cfs @ 12.01 hrs, Volume= 34,306 cf  
Primary = 5.01 cfs @ 12.01 hrs, Volume= 34,306 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

## Link 17L: (new Link)

Hydrograph



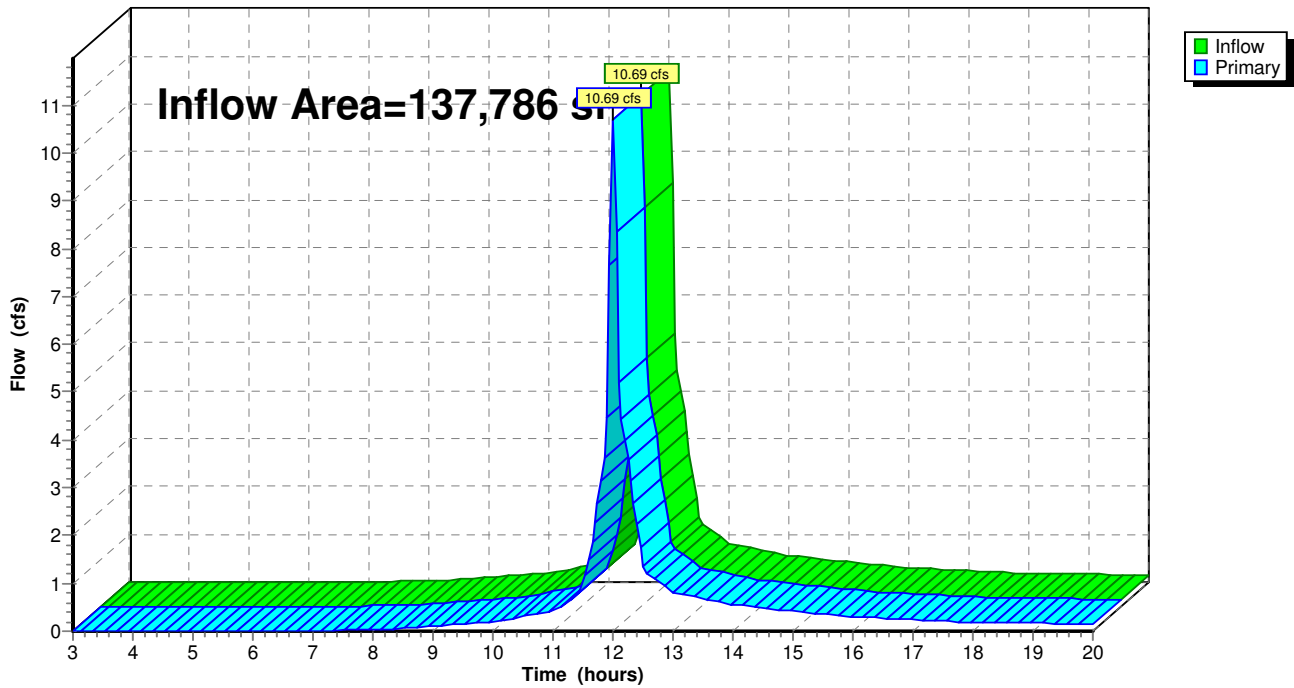
### Summary for Link 22L: (new Link)

Inflow Area = 137,786 sf, 0.00% Impervious, Inflow Depth > 2.36" for 5-Year event  
Inflow = 10.69 cfs @ 12.00 hrs, Volume= 27,118 cf  
Primary = 10.69 cfs @ 12.00 hrs, Volume= 27,118 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

### Link 22L: (new Link)

Hydrograph



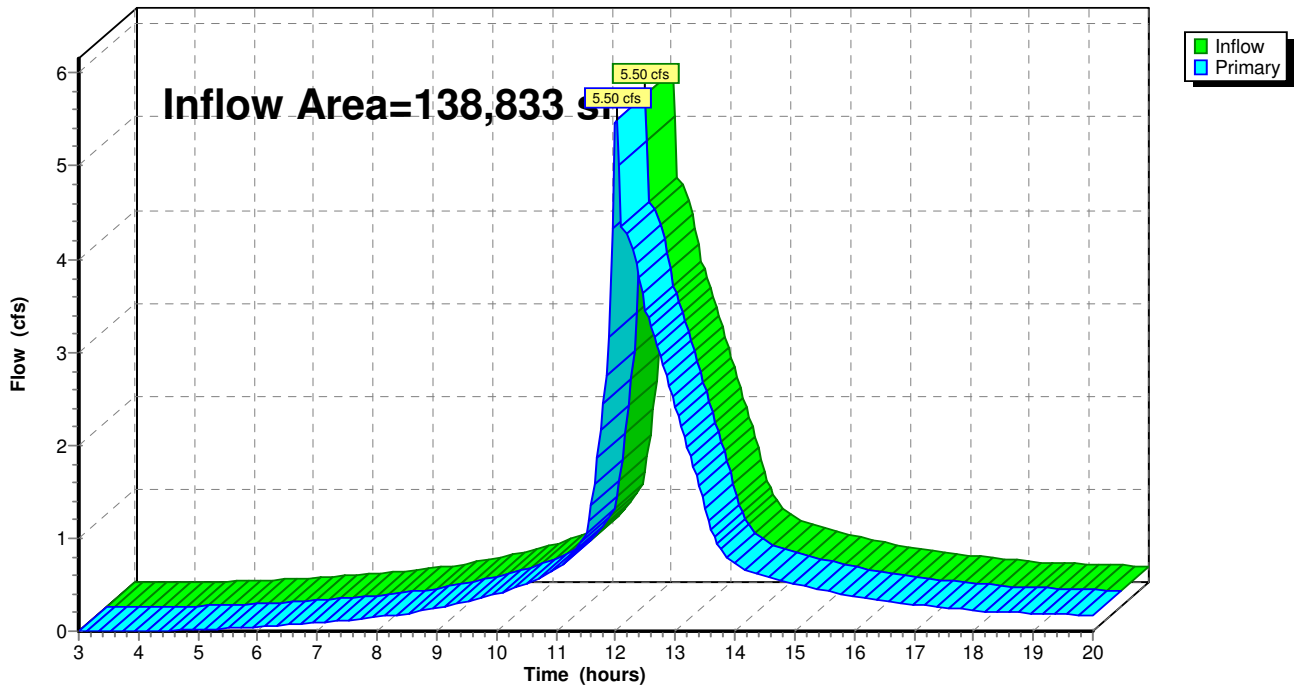
Summary for Link 23L: (new Link)

Inflow Area = 138,833 sf, 60.83% Impervious, Inflow Depth > 3.07" for 5-Year event  
Inflow = 5.50 cfs @ 12.01 hrs, Volume= 35,574 cf  
Primary = 5.50 cfs @ 12.01 hrs, Volume= 35,574 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

Link 23L: (new Link)

Hydrograph



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Type III 24-hr 10-Year Rainfall=5.00"

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Time span=3.00-20.00 hrs, dt=0.05 hrs, 341 points  
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

<b>Subcatchment 10S: Area to Detention</b>	Runoff Area=76,700 sf 64.68% Impervious Runoff Depth>4.09" Tc=5.0 min CN=94 Runoff=8.32 cfs 26,155 cf
<b>Subcatchment 11S: Area To Swale</b>	Runoff Area=20,536 sf 86.49% Impervious Runoff Depth>4.09" Tc=5.0 min CN=94 Runoff=2.23 cfs 7,003 cf
<b>Subcatchment 18S: Tributary Area</b>	Runoff Area=12,486 sf 17.88% Impervious Runoff Depth>1.73" Tc=0.0 min UI Adjusted CN=68 Runoff=0.71 cfs 1,799 cf
<b>Subcatchment 19S: Tributary Area</b>	Runoff Area=29,111 sf 51.03% Impervious Runoff Depth>3.88" Tc=0.0 min CN=92 Runoff=3.48 cfs 9,415 cf
<b>Subcatchment 20S: Tributary Area Draining</b>	Runoff Area=72,042 sf 0.00% Impervious Runoff Depth>3.27" Tc=0.0 min CN=86 Runoff=7.61 cfs 19,622 cf
<b>Subcatchment 21S: Tributary Area</b>	Runoff Area=65,744 sf 0.00% Impervious Runoff Depth>2.80" Tc=0.0 min CN=81 Runoff=6.06 cfs 15,327 cf
<b>Reach 12R: (new Reach)</b>	Avg. Flow Depth=0.16' Max Vel=3.91 fps Inflow=2.23 cfs 7,003 cf n=0.016 L=245.0' S=0.0245 '/' Capacity=16.71 cfs Outflow=2.13 cfs 6,991 cf
<b>Pond 16P: (new Pond)</b>	Peak Elev=181.68' Storage=8,122 cf Inflow=10.28 cfs 33,146 cf Outflow=3.51 cfs 32,745 cf
<b>Link 17L: (new Link)</b>	Inflow=5.90 cfs 42,160 cf Primary=5.90 cfs 42,160 cf
<b>Link 22L: (new Link)</b>	Inflow=13.67 cfs 34,949 cf Primary=13.67 cfs 34,949 cf
<b>Link 23L: (new Link)</b>	Inflow=6.61 cfs 43,959 cf Primary=6.61 cfs 43,959 cf

**Total Runoff Area = 276,619 sf Runoff Volume = 79,320 cf Average Runoff Depth = 3.44"**  
**69.47% Pervious = 192,162 sf 30.53% Impervious = 84,457 sf**



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Type III 24-hr 10-Year Rainfall=5.00"

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**Summary for Subcatchment 10S: Area to Detention Basin**

[49] Hint:  $T_c < 2dt$  may require smaller  $dt$

Runoff = 8.32 cfs @ 12.07 hrs, Volume= 26,155 cf, Depth > 4.09"

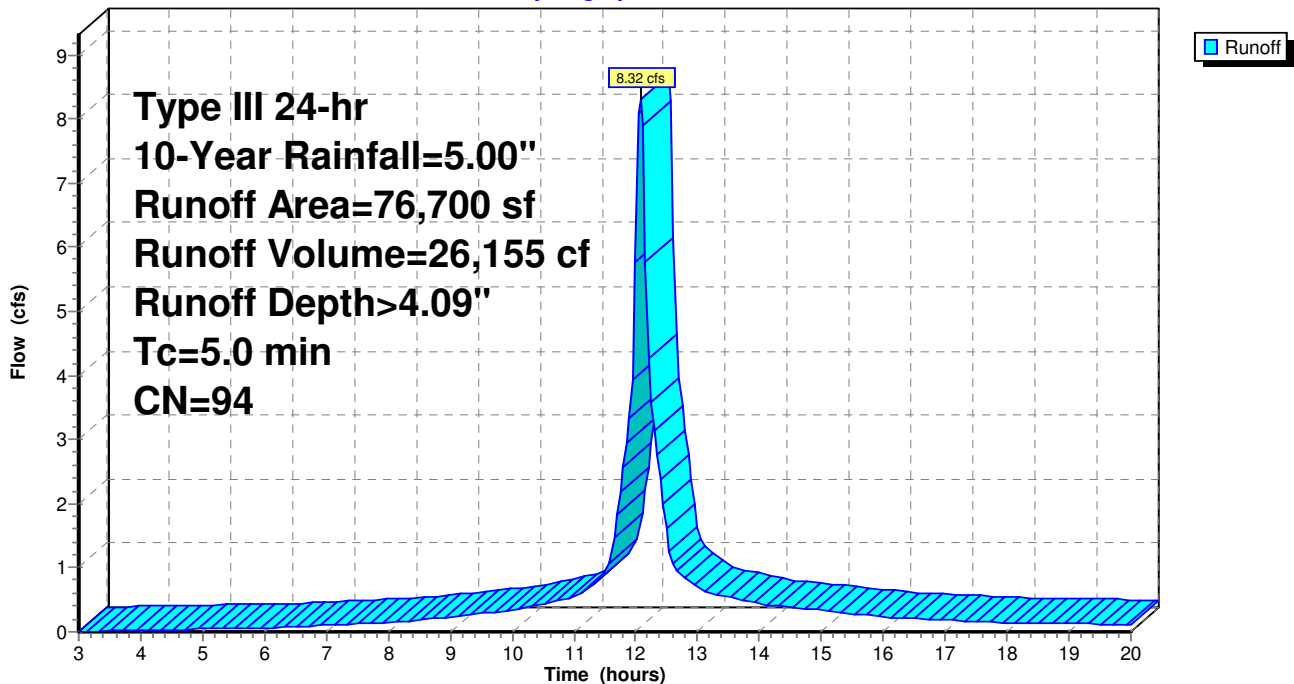
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs,  $dt=0.05$  hrs  
Type III 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
49,607	98	Paved parking, HSG B
8,567	86	Newly graded area, HSG B
18,526	86	Newly graded area, HSG B
76,700	94	Weighted Average
27,093		35.32% Pervious Area
49,607		64.68% Impervious Area

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

**Subcatchment 10S: Area to Detention Basin**

Hydrograph



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Type III 24-hr 10-Year Rainfall=5.00"

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**Summary for Subcatchment 11S: Area To Swale**

[49] Hint:  $T_c < 2dt$  may require smaller  $dt$

Runoff = 2.23 cfs @ 12.07 hrs, Volume= 7,003 cf, Depth> 4.09"

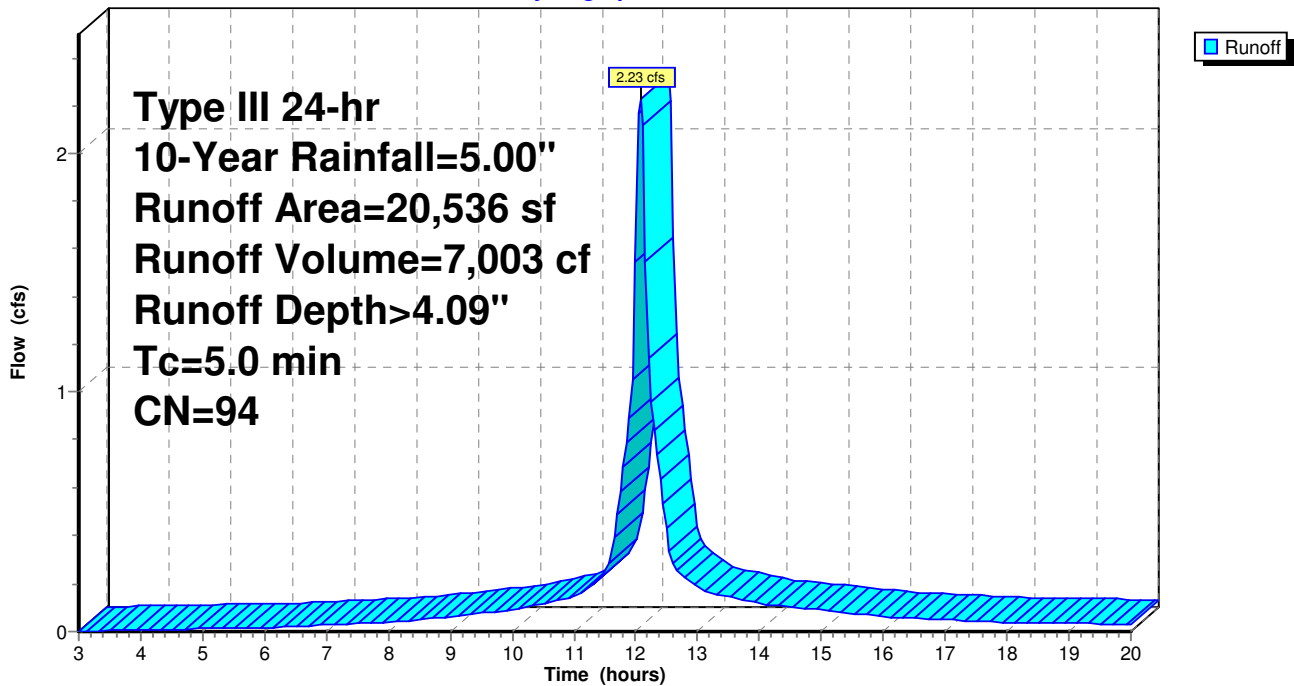
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs,  $dt= 0.05$  hrs  
 Type III 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
17,761	98	Paved parking, HSG B
2,775	65	Woods/grass comb., Fair, HSG B
20,536	94	Weighted Average
2,775		13.51% Pervious Area
17,761		86.49% Impervious Area

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

**Subcatchment 11S: Area To Swale**

Hydrograph



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Type III 24-hr 10-Year Rainfall=5.00"

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## Summary for Subcatchment 18S: Tributary Area Traveling over Eastern Property Line

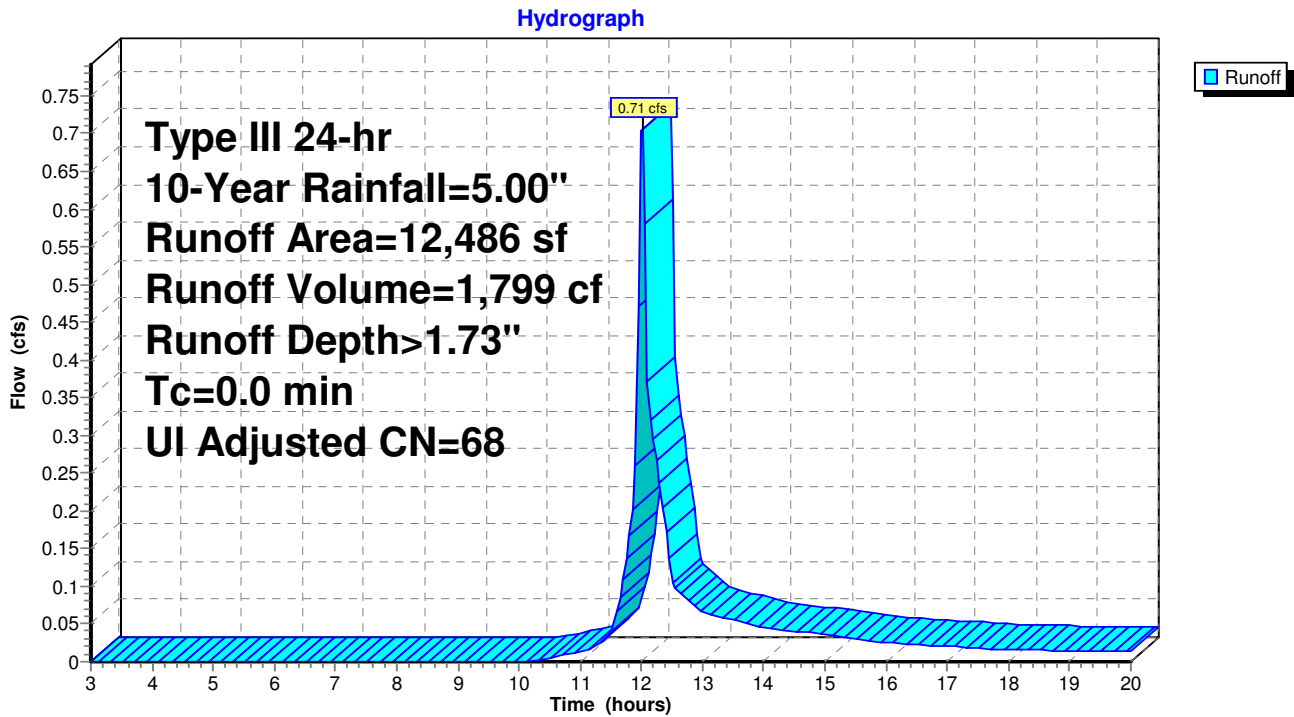
[46] Hint:  $T_c=0$  (Instant runoff peak depends on dt)

Runoff = 0.71 cfs @ 12.01 hrs, Volume= 1,799 cf, Depth> 1.73"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Adj	Description
10,253	65		Woods/grass comb., Fair, HSG B
2,233	98		Unconnected pavement, HSG B
12,486	71	68	Weighted Average, UI Adjusted
10,253			82.12% Pervious Area
2,233			17.88% Impervious Area
2,233			100.00% Unconnected

## Subcatchment 18S: Tributary Area Traveling over Eastern Property Line



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Type III 24-hr 10-Year Rainfall=5.00"

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## Summary for Subcatchment 19S: Tributary Area Draining To Crest Way

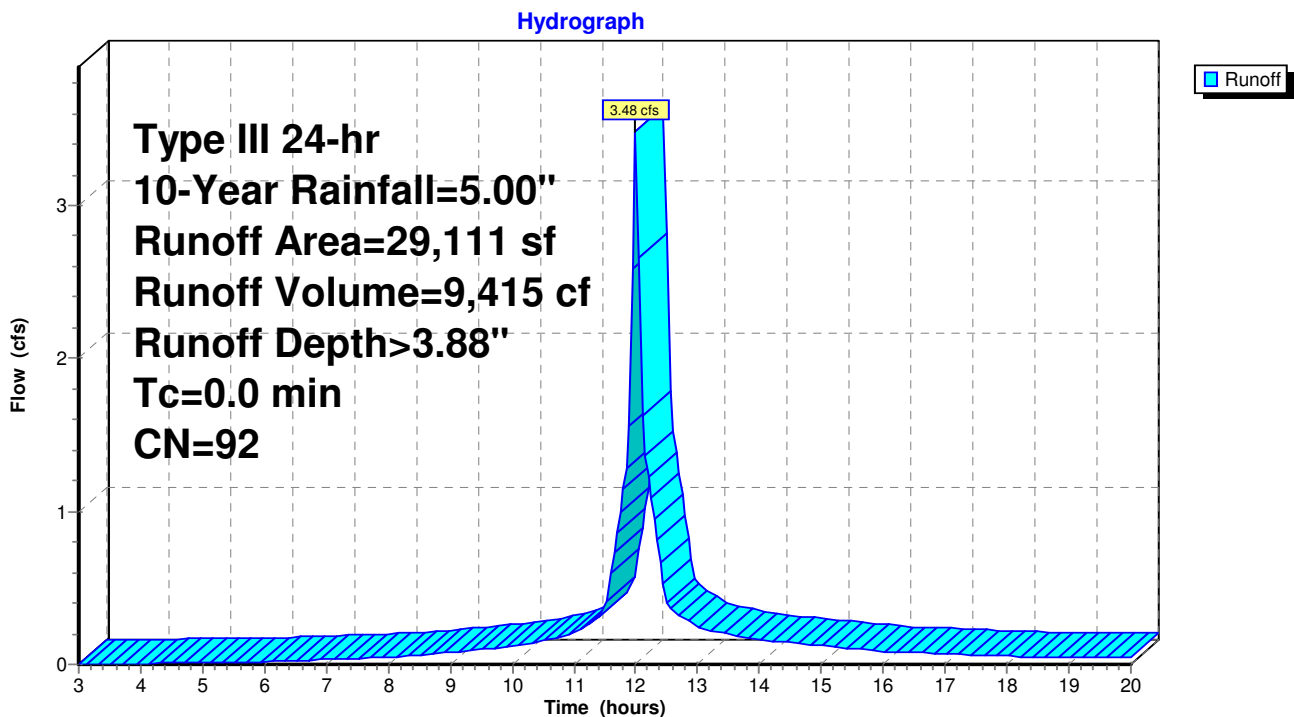
[46] Hint:  $T_c=0$  (Instant runoff peak depends on dt)

Runoff = 3.48 cfs @ 12.00 hrs, Volume= 9,415 cf, Depth> 3.88"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
14,255	86	Newly graded area, HSG B
10,056	98	Paved parking, HSG B
4,800	98	Unconnected roofs, HSG B
29,111	92	Weighted Average
14,255		48.97% Pervious Area
14,856		51.03% Impervious Area
4,800		32.31% Unconnected

## Subcatchment 19S: Tributary Area Draining To Crest Way



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Type III 24-hr 10-Year Rainfall=5.00"

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**Summary for Subcatchment 20S: Tributary Area Draining To Crest Way**

[46] Hint: Tc=0 (Instant runoff peak depends on dt)

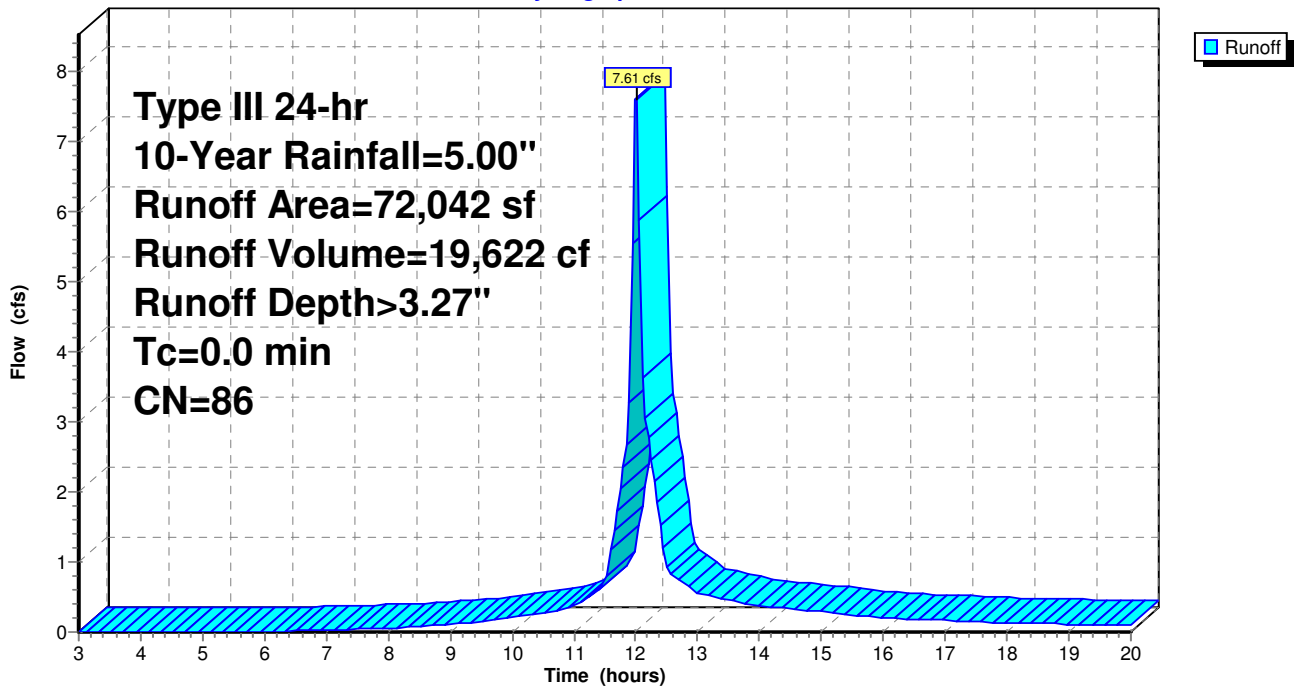
Runoff = 7.61 cfs @ 12.00 hrs, Volume= 19,622 cf, Depth> 3.27"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
72,042	86	Newly graded area, HSG B
72,042		100.00% Pervious Area

**Subcatchment 20S: Tributary Area Draining To Crest Way**

Hydrograph



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Type III 24-hr 10-Year Rainfall=5.00"

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## Summary for Subcatchment 21S: Tributary Area Traveling over Eastern Property Line

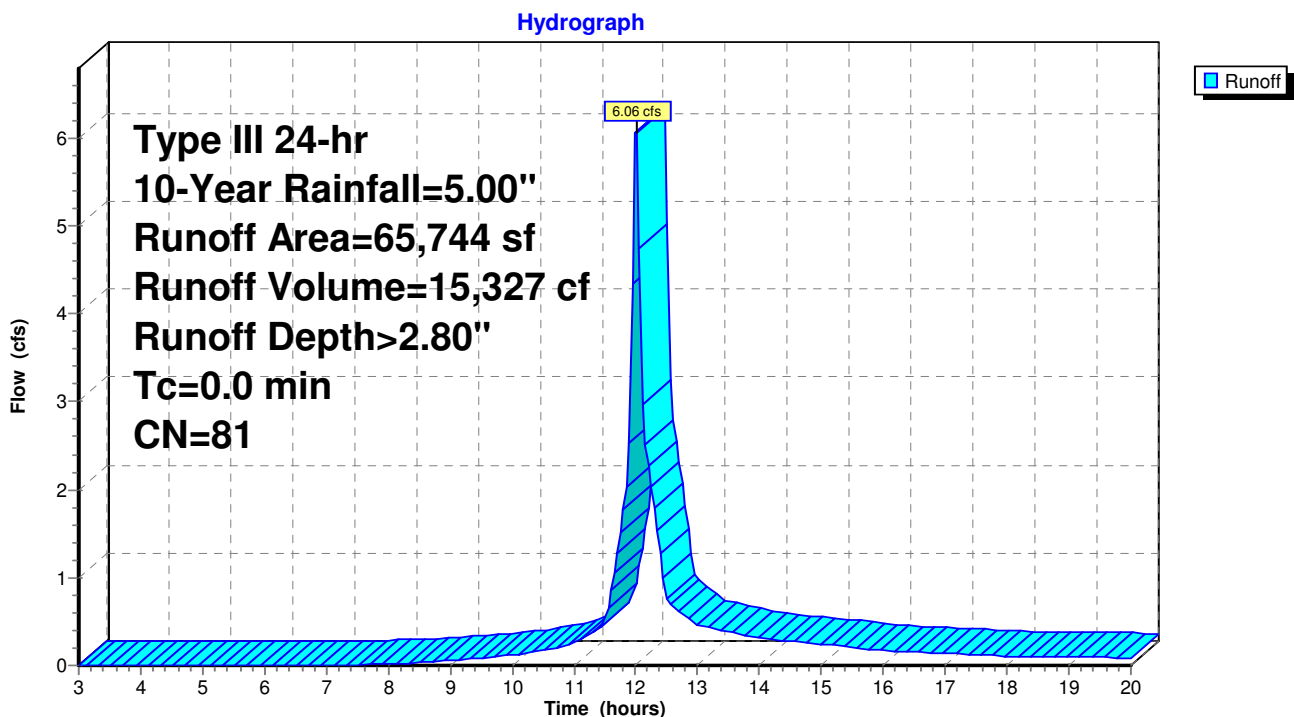
[46] Hint:  $T_c=0$  (Instant runoff peak depends on dt)

Runoff = 6.06 cfs @ 12.00 hrs, Volume= 15,327 cf, Depth> 2.80"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 10-Year Rainfall=5.00"

Area (sf)	CN	Description
8,169	65	Woods/grass comb., Fair, HSG B
8,577	65	Woods/grass comb., Fair, HSG B
48,998	86	Newly graded area, HSG B
65,744	81	Weighted Average
65,744		100.00% Pervious Area

## Subcatchment 21S: Tributary Area Traveling over Eastern Property Line



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Type III 24-hr 10-Year Rainfall=5.00"

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**Summary for Reach 12R: (new Reach)**

Inflow Area = 20,536 sf, 86.49% Impervious, Inflow Depth > 4.09" for 10-Year event  
Inflow = 2.23 cfs @ 12.07 hrs, Volume= 7,003 cf  
Outflow = 2.13 cfs @ 12.10 hrs, Volume= 6,991 cf, Atten= 4%, Lag= 1.9 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 3.91 fps, Min. Travel Time= 1.0 min  
Avg. Velocity = 1.08 fps, Avg. Travel Time= 3.8 min

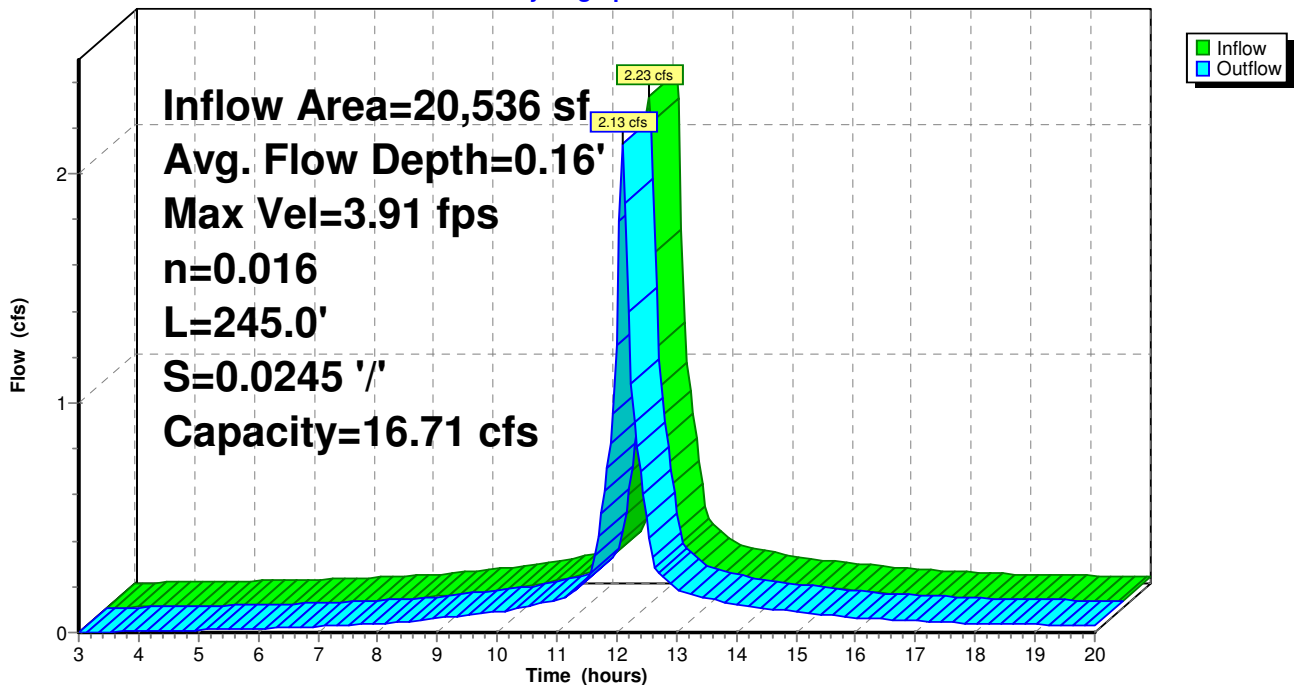
Peak Storage= 138 cf @ 12.09 hrs  
Average Depth at Peak Storage= 0.16'  
Bank-Full Depth= 0.50' Flow Area= 2.3 sf, Capacity= 16.71 cfs

3.00' x 0.50' deep channel, n= 0.016 Asphalt, rough  
Side Slope Z-value= 3.0 '/' Top Width= 6.00'  
Length= 245.0' Slope= 0.0245 '/'  
Inlet Invert= 192.00', Outlet Invert= 186.00'



**Reach 12R: (new Reach)**

Hydrograph



**15-128 crestway hamden rev B**

Type III 24-hr 10-Year Rainfall=5.00"

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**Summary for Pond 16P: (new Pond)**

Inflow Area = 97,236 sf, 69.28% Impervious, Inflow Depth > 4.09" for 10-Year event  
 Inflow = 10.28 cfs @ 12.08 hrs, Volume= 33,146 cf  
 Outflow = 3.51 cfs @ 12.36 hrs, Volume= 32,745 cf, Atten= 66%, Lag= 16.7 min  
 Primary = 3.51 cfs @ 12.36 hrs, Volume= 32,745 cf

Routing by Stor-Ind method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 181.68' @ 12.36 hrs Surf.Area= 4,291 sf Storage= 8,122 cf

Plug-Flow detention time= 29.8 min calculated for 32,744 cf (99% of inflow)  
 Center-of-Mass det. time= 24.6 min ( 769.3 - 744.7 )

Volume	Invert	Avail.Storage	Storage Description		
#1	179.30'	19,898 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)	
179.30	2,035	0	0	2,035	
180.00	3,222	1,824	1,824	3,229	
182.00	4,510	7,696	9,520	4,590	
184.00	5,899	10,378	19,898	6,069	

Device	Routing	Invert	Outlet Devices		
#1	Primary	179.30'	<b>18.0" Round Culvert</b> L= 99.0' Ke= 0.500 Inlet / Outlet Invert= 179.30' / 178.60' S= 0.0071 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf		
#2	Device 1	182.00'	<b>24.0" x 36.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads		
#3	Device 1	179.30'	<b>12.0" W x 6.0" H Vert. Orifice/Grate</b> C= 0.600		

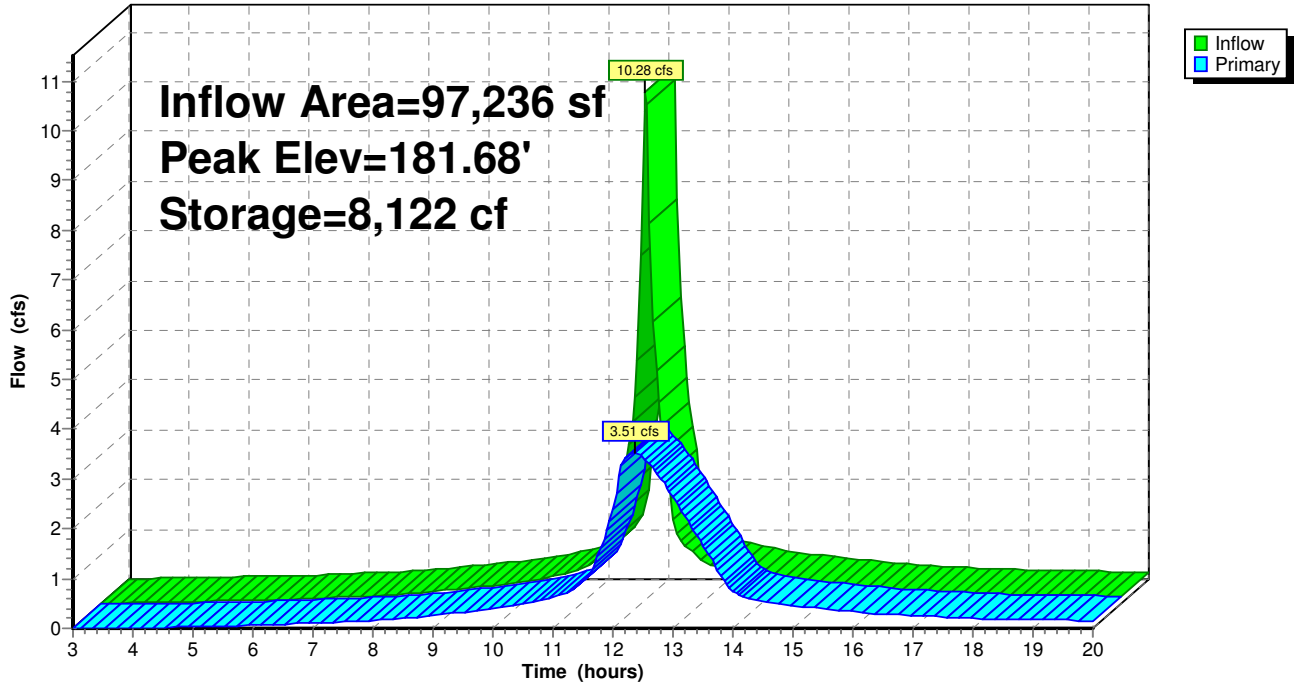
**Primary OutFlow** Max=3.51 cfs @ 12.36 hrs HW=181.68' (Free Discharge)

- ↑ **1=Culvert** (Passes 3.51 cfs of 9.80 cfs potential flow)
- ↑ **2=Orifice/Grate** ( Controls 0.00 cfs)
- ↑ **3=Orifice/Grate** (Orifice Controls 3.51 cfs @ 7.03 fps)



Pond 16P: (new Pond)

Hydrograph



**15-128 crestway hamden rev B**

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Type III 24-hr 10-Year Rainfall=5.00"

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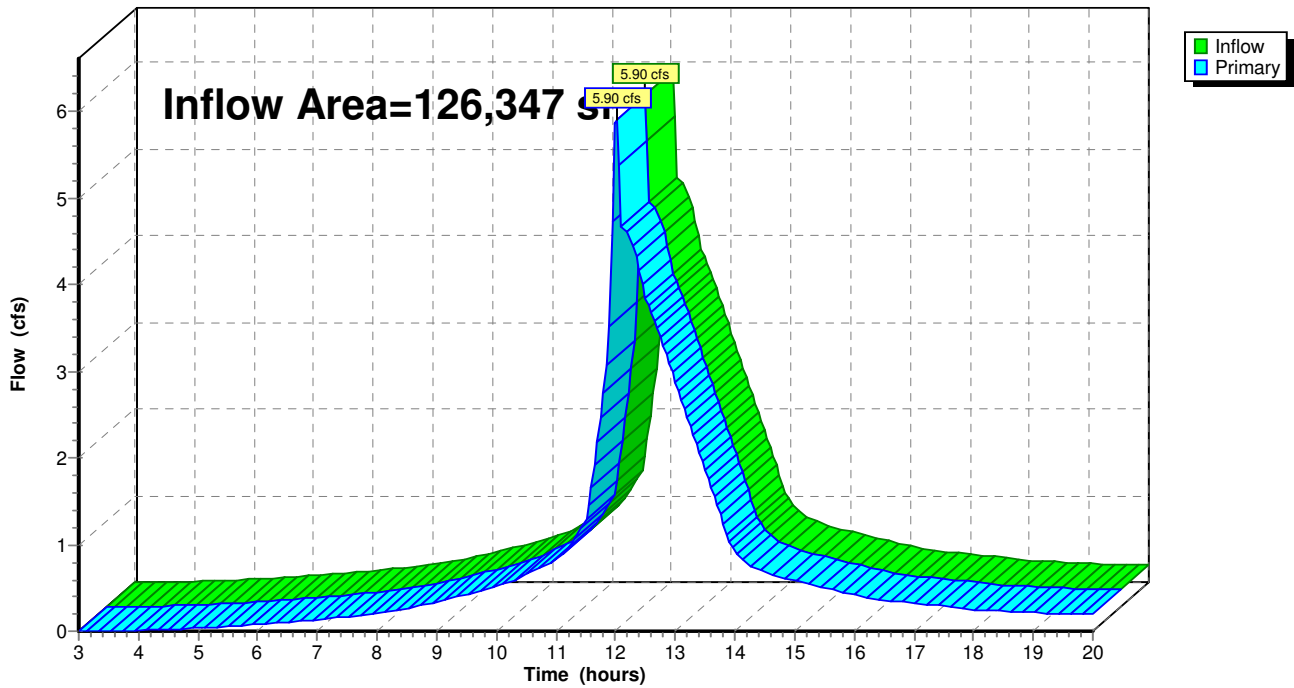
**Summary for Link 17L: (new Link)**

Inflow Area = 126,347 sf, 65.08% Impervious, Inflow Depth > 4.00" for 10-Year event  
Inflow = 5.90 cfs @ 12.01 hrs, Volume= 42,160 cf  
Primary = 5.90 cfs @ 12.01 hrs, Volume= 42,160 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

**Link 17L: (new Link)**

Hydrograph



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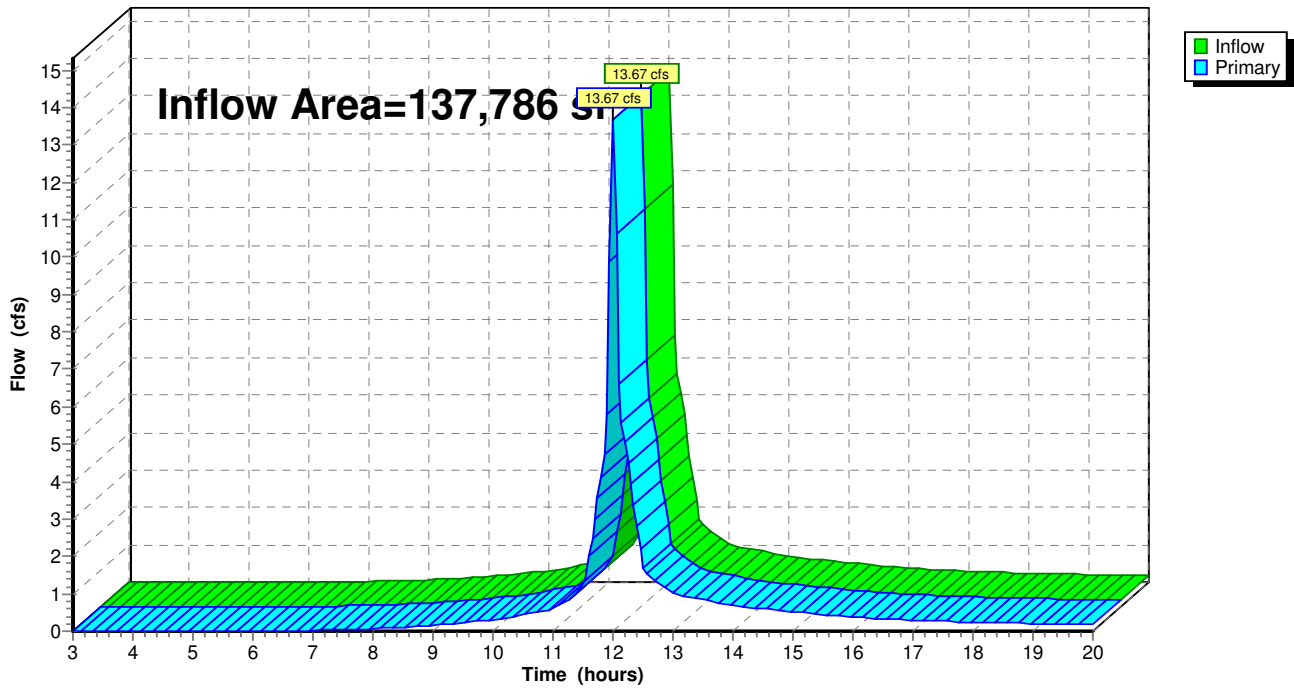
**Summary for Link 22L: (new Link)**

Inflow Area = 137,786 sf, 0.00% Impervious, Inflow Depth > 3.04" for 10-Year event  
Inflow = 13.67 cfs @ 12.00 hrs, Volume= 34,949 cf  
Primary = 13.67 cfs @ 12.00 hrs, Volume= 34,949 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

**Link 22L: (new Link)**

Hydrograph



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Type III 24-hr 10-Year Rainfall=5.00"

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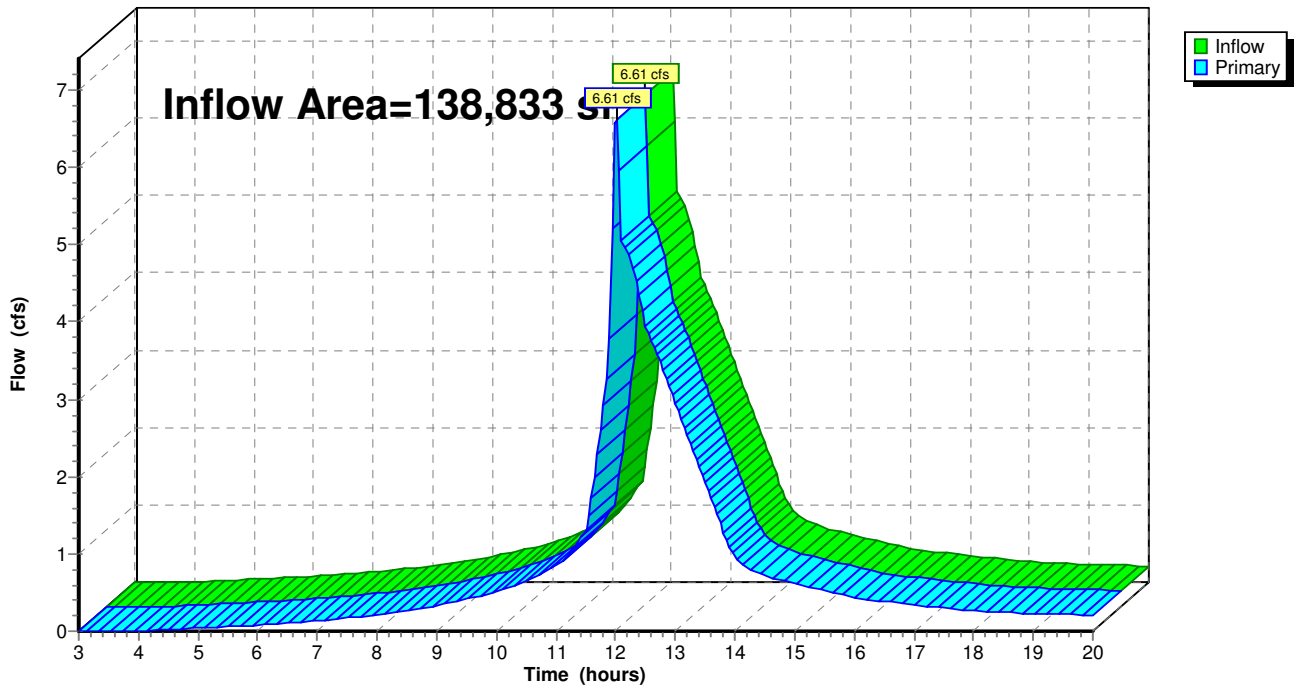
## Summary for Link 23L: (new Link)

Inflow Area = 138,833 sf, 60.83% Impervious, Inflow Depth > 3.80" for 10-Year event  
Inflow = 6.61 cfs @ 12.01 hrs, Volume= 43,959 cf  
Primary = 6.61 cfs @ 12.01 hrs, Volume= 43,959 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

## Link 23L: (new Link)

Hydrograph



**15-128 crestway hamden rev B**

Type III 24-hr 25-Year Rainfall=5.60"

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Time span=3.00-20.00 hrs, dt=0.05 hrs, 341 points  
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

<b>Subcatchment 10S: Area to Detention</b>	Runoff Area=76,700 sf 64.68% Impervious Runoff Depth>4.66" Tc=5.0 min CN=94 Runoff=9.40 cfs 29,764 cf
<b>Subcatchment 11S: Area To Swale</b>	Runoff Area=20,536 sf 86.49% Impervious Runoff Depth>4.66" Tc=5.0 min CN=94 Runoff=2.52 cfs 7,969 cf
<b>Subcatchment 18S: Tributary Area</b>	Runoff Area=12,486 sf 17.88% Impervious Runoff Depth>2.14" Tc=0.0 min UI Adjusted CN=68 Runoff=0.88 cfs 2,227 cf
<b>Subcatchment 19S: Tributary Area</b>	Runoff Area=29,111 sf 51.03% Impervious Runoff Depth>4.44" Tc=0.0 min CN=92 Runoff=3.95 cfs 10,777 cf
<b>Subcatchment 20S: Tributary Area Draining</b>	Runoff Area=72,042 sf 0.00% Impervious Runoff Depth>3.81" Tc=0.0 min CN=86 Runoff=8.79 cfs 22,845 cf
<b>Subcatchment 21S: Tributary Area</b>	Runoff Area=65,744 sf 0.00% Impervious Runoff Depth>3.31" Tc=0.0 min CN=81 Runoff=7.13 cfs 18,115 cf
<b>Reach 12R: (new Reach)</b>	Avg. Flow Depth=0.17' Max Vel=4.07 fps Inflow=2.52 cfs 7,969 cf n=0.016 L=245.0' S=0.0245 '/' Capacity=16.71 cfs Outflow=2.41 cfs 7,957 cf
<b>Pond 16P: (new Pond)</b>	Peak Elev=182.00' Storage=9,504 cf Inflow=11.62 cfs 37,721 cf Outflow=3.76 cfs 37,297 cf
<b>Link 17L: (new Link)</b>	Inflow=6.56 cfs 48,074 cf Primary=6.56 cfs 48,074 cf
<b>Link 22L: (new Link)</b>	Inflow=15.91 cfs 40,960 cf Primary=15.91 cfs 40,960 cf
<b>Link 23L: (new Link)</b>	Inflow=7.44 cfs 50,301 cf Primary=7.44 cfs 50,301 cf

**Total Runoff Area = 276,619 sf Runoff Volume = 91,697 cf Average Runoff Depth = 3.98"**  
**69.47% Pervious = 192,162 sf 30.53% Impervious = 84,457 sf**

**15-128 crestway hamden rev B**

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Type III 24-hr 25-Year Rainfall=5.60"

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**Summary for Subcatchment 10S: Area to Detention Basin**

[49] Hint:  $T_c < 2dt$  may require smaller  $dt$

Runoff = 9.40 cfs @ 12.07 hrs, Volume= 29,764 cf, Depth > 4.66"

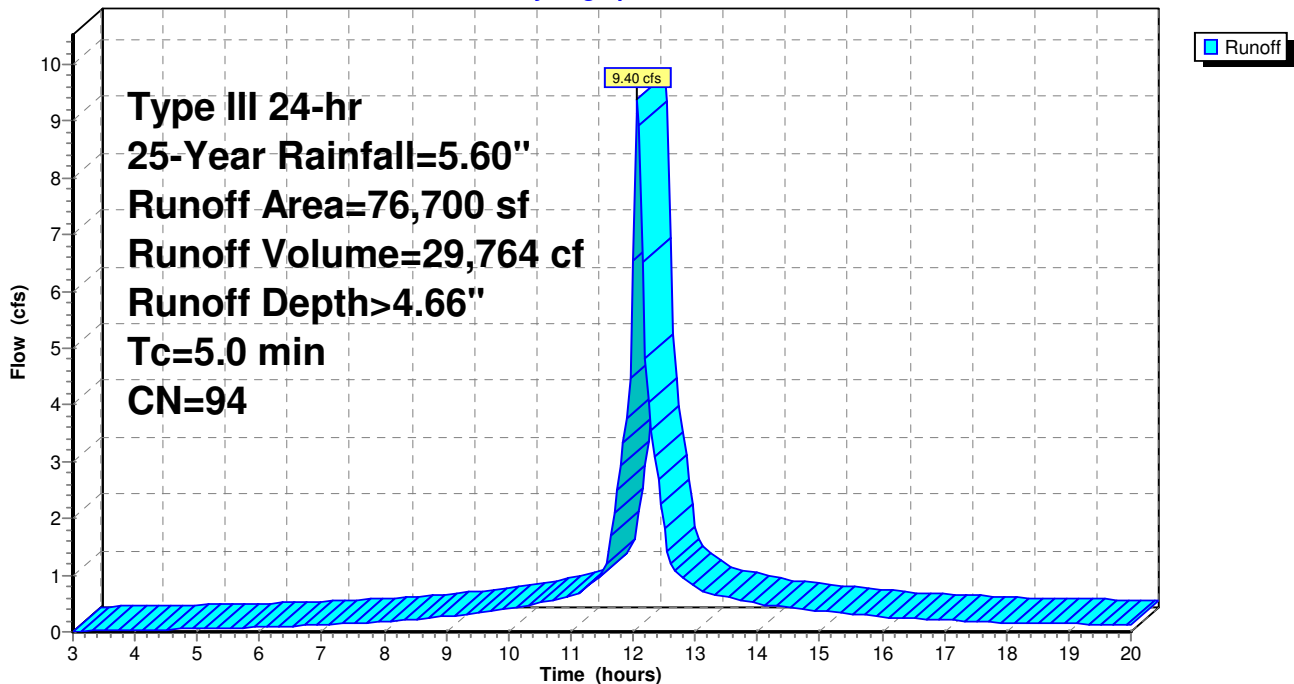
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs,  $dt=0.05$  hrs  
 Type III 24-hr 25-Year Rainfall=5.60"

Area (sf)	CN	Description
49,607	98	Paved parking, HSG B
8,567	86	Newly graded area, HSG B
18,526	86	Newly graded area, HSG B
76,700	94	Weighted Average
27,093		35.32% Pervious Area
49,607		64.68% Impervious Area

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

**Subcatchment 10S: Area to Detention Basin**

Hydrograph



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Type III 24-hr 25-Year Rainfall=5.60"

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**Summary for Subcatchment 11S: Area To Swale**

[49] Hint:  $T_c < 2dt$  may require smaller  $dt$

Runoff = 2.52 cfs @ 12.07 hrs, Volume= 7,969 cf, Depth> 4.66"

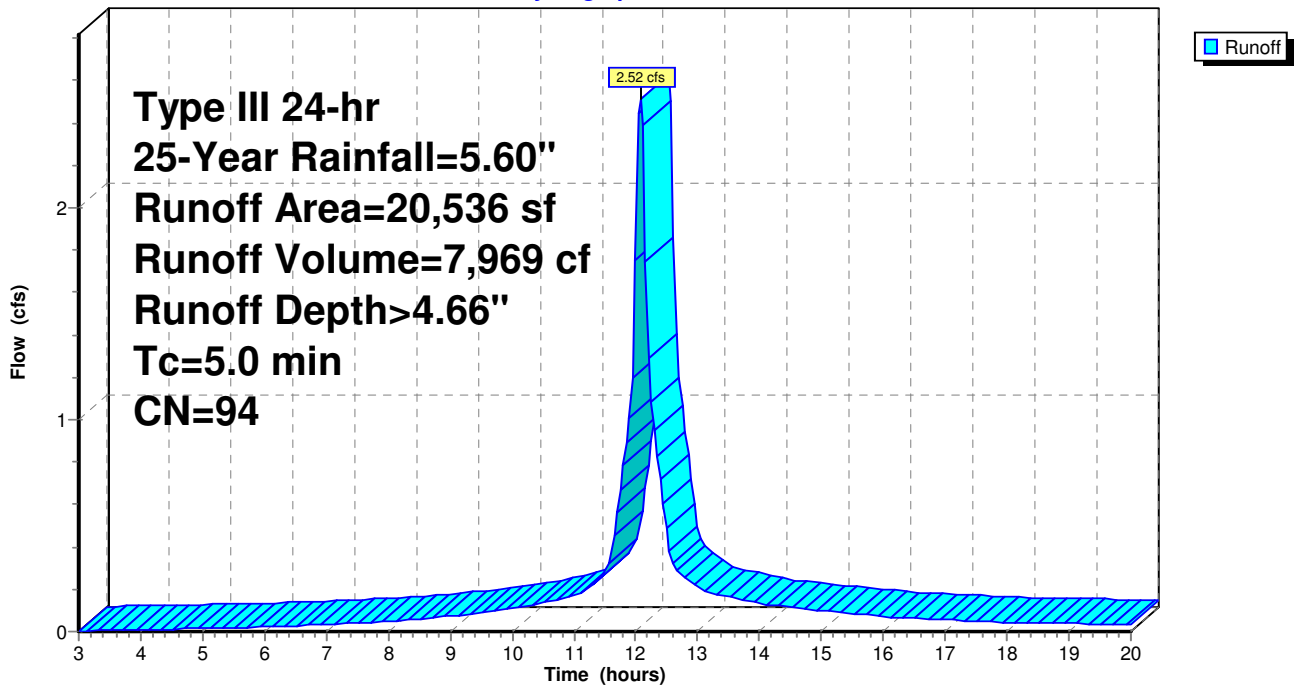
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs,  $dt= 0.05$  hrs  
 Type III 24-hr 25-Year Rainfall=5.60"

Area (sf)	CN	Description
17,761	98	Paved parking, HSG B
2,775	65	Woods/grass comb., Fair, HSG B
20,536	94	Weighted Average
2,775		13.51% Pervious Area
17,761		86.49% Impervious Area

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

**Subcatchment 11S: Area To Swale**

Hydrograph



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Type III 24-hr 25-Year Rainfall=5.60"

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## Summary for Subcatchment 18S: Tributary Area Traveling over Eastern Property Line

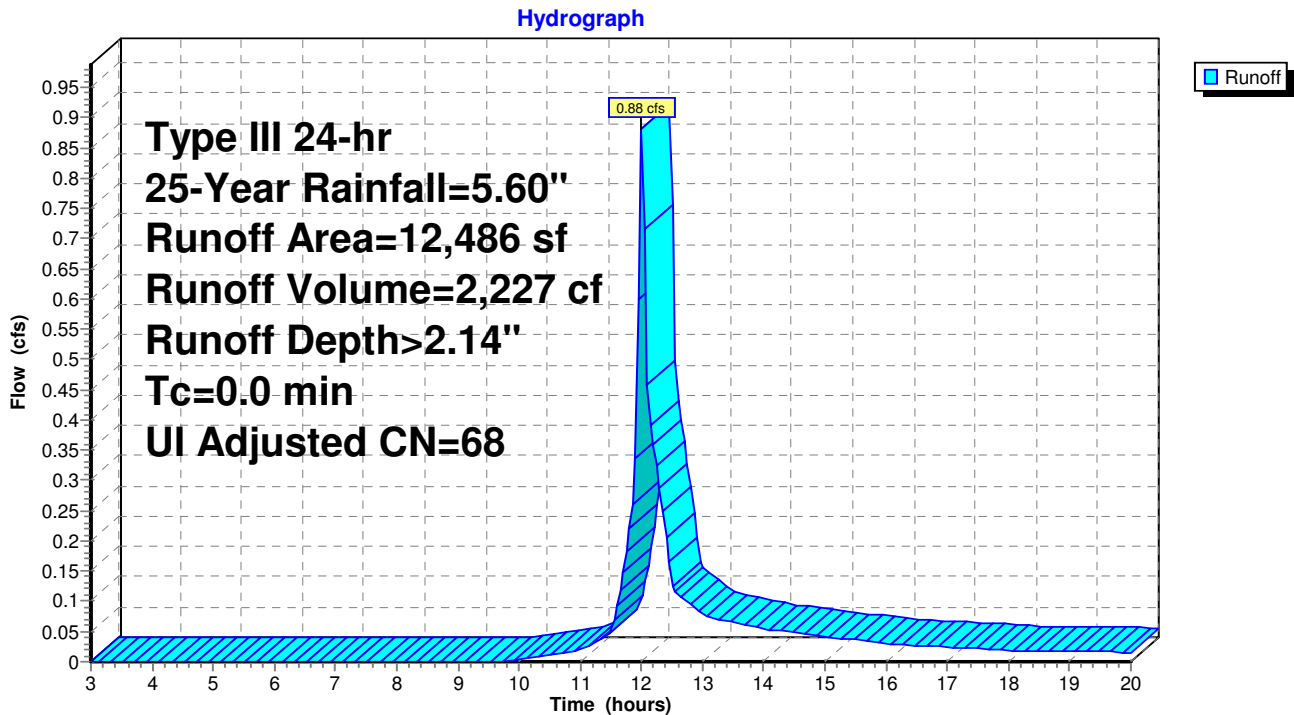
[46] Hint:  $T_c=0$  (Instant runoff peak depends on dt)

Runoff = 0.88 cfs @ 12.01 hrs, Volume= 2,227 cf, Depth> 2.14"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.60"

Area (sf)	CN	Adj	Description
10,253	65		Woods/grass comb., Fair, HSG B
2,233	98		Unconnected pavement, HSG B
12,486	71	68	Weighted Average, UI Adjusted
10,253			82.12% Pervious Area
2,233			17.88% Impervious Area
2,233			100.00% Unconnected

## Subcatchment 18S: Tributary Area Traveling over Eastern Property Line





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Type III 24-hr 25-Year Rainfall=5.60"

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**Summary for Subcatchment 19S: Tributary Area Draining To Crest Way**

[46] Hint:  $T_c=0$  (Instant runoff peak depends on dt)

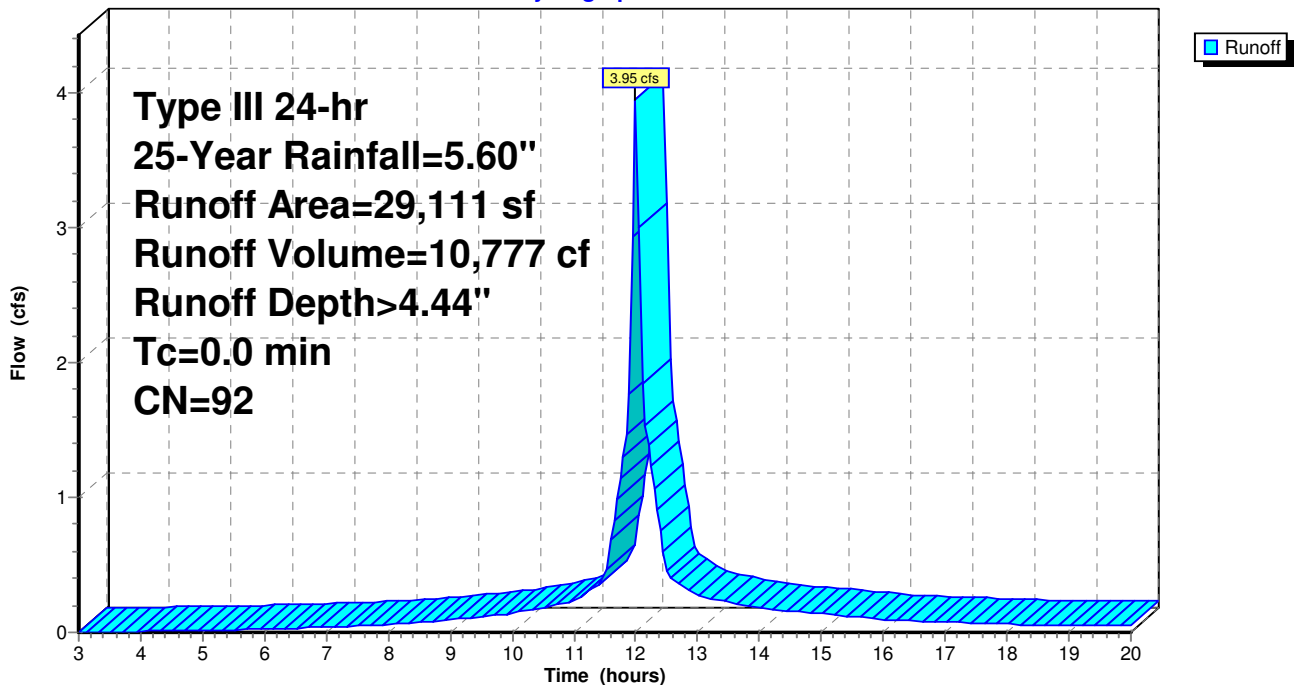
Runoff = 3.95 cfs @ 12.00 hrs, Volume= 10,777 cf, Depth> 4.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
 Type III 24-hr 25-Year Rainfall=5.60"

Area (sf)	CN	Description
14,255	86	Newly graded area, HSG B
10,056	98	Paved parking, HSG B
4,800	98	Unconnected roofs, HSG B
29,111	92	Weighted Average
14,255		48.97% Pervious Area
14,856		51.03% Impervious Area
4,800		32.31% Unconnected

**Subcatchment 19S: Tributary Area Draining To Crest Way**

Hydrograph



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Type III 24-hr 25-Year Rainfall=5.60"

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## Summary for Subcatchment 20S: Tributary Area Draining To Crest Way

[46] Hint:  $T_c=0$  (Instant runoff peak depends on dt)

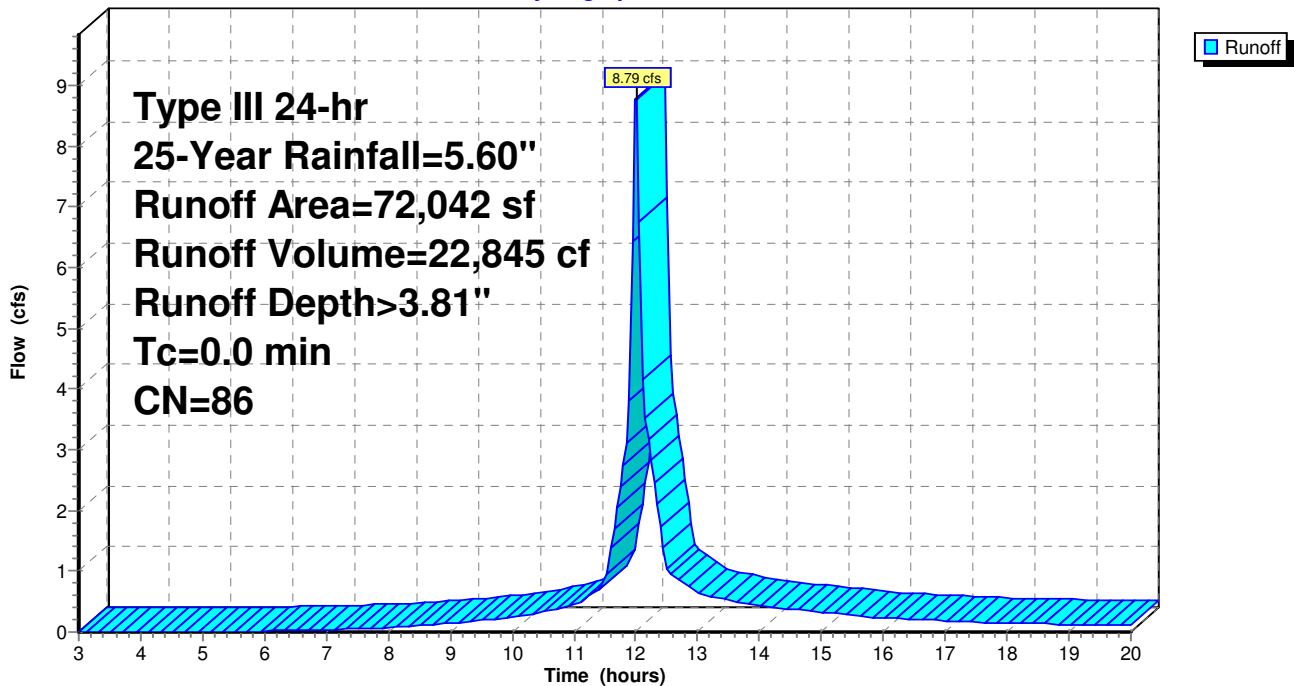
Runoff = 8.79 cfs @ 12.00 hrs, Volume= 22,845 cf, Depth> 3.81"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.60"

Area (sf)	CN	Description
72,042	86	Newly graded area, HSG B
72,042		100.00% Pervious Area

## Subcatchment 20S: Tributary Area Draining To Crest Way

Hydrograph



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Type III 24-hr 25-Year Rainfall=5.60"

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## Summary for Subcatchment 21S: Tributary Area Traveling over Eastern Property Line

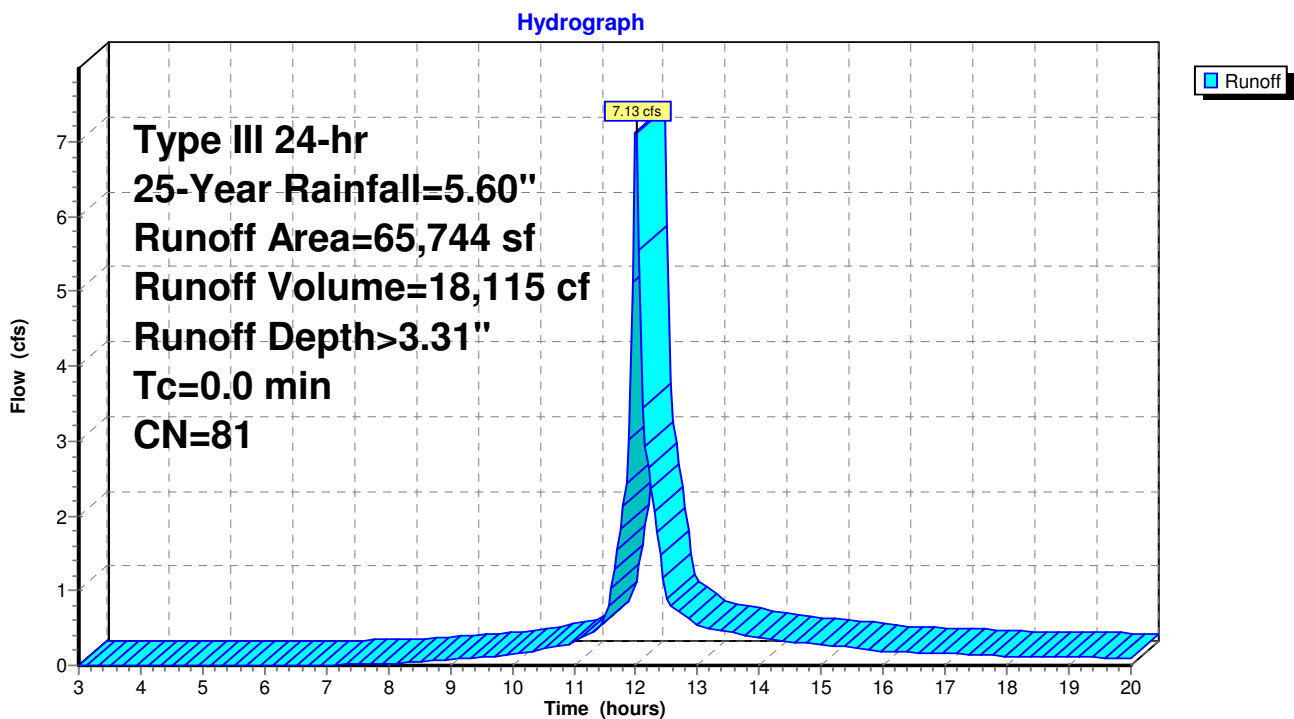
[46] Hint:  $T_c=0$  (Instant runoff peak depends on dt)

Runoff = 7.13 cfs @ 12.00 hrs, Volume= 18,115 cf, Depth> 3.31"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 25-Year Rainfall=5.60"

Area (sf)	CN	Description
8,169	65	Woods/grass comb., Fair, HSG B
8,577	65	Woods/grass comb., Fair, HSG B
48,998	86	Newly graded area, HSG B
65,744	81	Weighted Average
65,744		100.00% Pervious Area

## Subcatchment 21S: Tributary Area Traveling over Eastern Property Line



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Type III 24-hr 25-Year Rainfall=5.60"

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**Summary for Reach 12R: (new Reach)**

[82] Warning: Early inflow requires earlier time span

Inflow Area = 20,536 sf, 86.49% Impervious, Inflow Depth > 4.66" for 25-Year event  
Inflow = 2.52 cfs @ 12.07 hrs, Volume= 7,969 cf  
Outflow = 2.41 cfs @ 12.10 hrs, Volume= 7,957 cf, Atten= 4%, Lag= 1.9 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 4.07 fps, Min. Travel Time= 1.0 min  
Avg. Velocity = 1.13 fps, Avg. Travel Time= 3.6 min

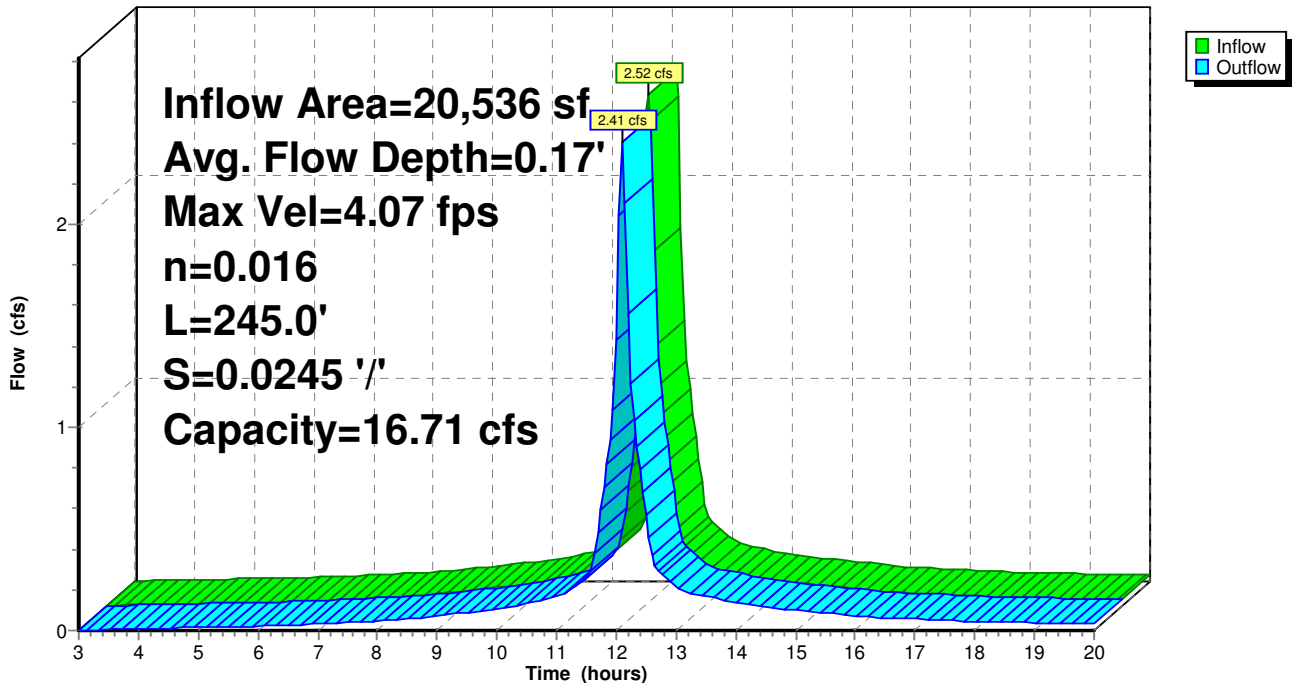
Peak Storage= 150 cf @ 12.09 hrs  
Average Depth at Peak Storage= 0.17'  
Bank-Full Depth= 0.50' Flow Area= 2.3 sf, Capacity= 16.71 cfs

3.00' x 0.50' deep channel, n= 0.016 Asphalt, rough  
Side Slope Z-value= 3.0 '/' Top Width= 6.00'  
Length= 245.0' Slope= 0.0245 '/'  
Inlet Invert= 192.00', Outlet Invert= 186.00'



**Reach 12R: (new Reach)**

Hydrograph



**Summary for Pond 16P: (new Pond)**

[82] Warning: Early inflow requires earlier time span

Inflow Area = 97,236 sf, 69.28% Impervious, Inflow Depth > 4.66" for 25-Year event  
 Inflow = 11.62 cfs @ 12.08 hrs, Volume= 37,721 cf  
 Outflow = 3.76 cfs @ 12.37 hrs, Volume= 37,297 cf, Atten= 68%, Lag= 17.7 min  
 Primary = 3.76 cfs @ 12.37 hrs, Volume= 37,297 cf

Routing by Stor-Ind method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 182.00' @ 12.37 hrs Surf.Area= 4,508 sf Storage= 9,504 cf

Plug-Flow detention time= 30.6 min calculated for 37,186 cf (99% of inflow)  
 Center-of-Mass det. time= 25.6 min ( 767.6 - 742.0 )

Volume	Invert	Avail.Storage	Storage Description	
#1	179.30'	19,898 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)
179.30	2,035	0	0	2,035
180.00	3,222	1,824	1,824	3,229
182.00	4,510	7,696	9,520	4,590
184.00	5,899	10,378	19,898	6,069

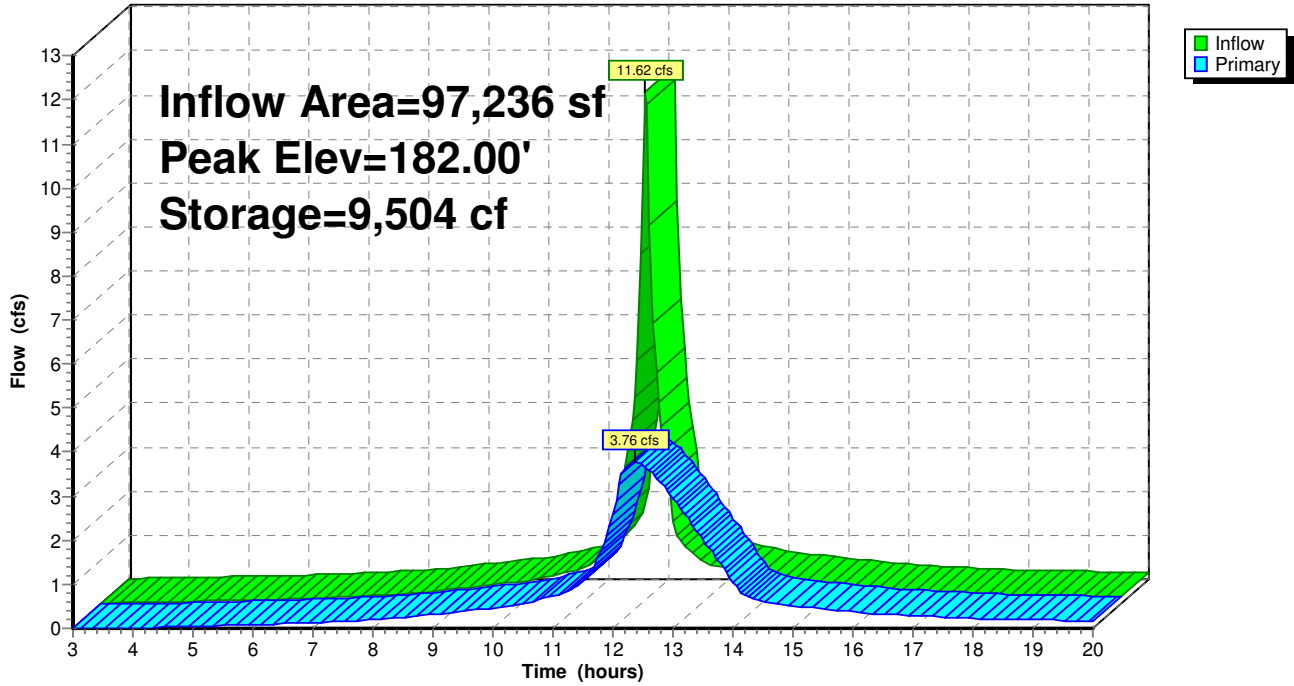
Device	Routing	Invert	Outlet Devices
#1	Primary	179.30'	<b>18.0" Round Culvert</b> L= 99.0' Ke= 0.500 Inlet / Outlet Invert= 179.30' / 178.60' S= 0.0071 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	182.00'	<b>24.0" x 36.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	179.30'	<b>12.0" W x 6.0" H Vert. Orifice/Grate</b> C= 0.600

**Primary OutFlow** Max=3.76 cfs @ 12.37 hrs HW=181.99' (Free Discharge)

- ↑ 1=Culvert (Passes 3.76 cfs of 10.73 cfs potential flow)
- ↑ 2=Orifice/Grate ( Controls 0.00 cfs)
- ↑ 3=Orifice/Grate (Orifice Controls 3.76 cfs @ 7.52 fps)

Pond 16P: (new Pond)

Hydrograph



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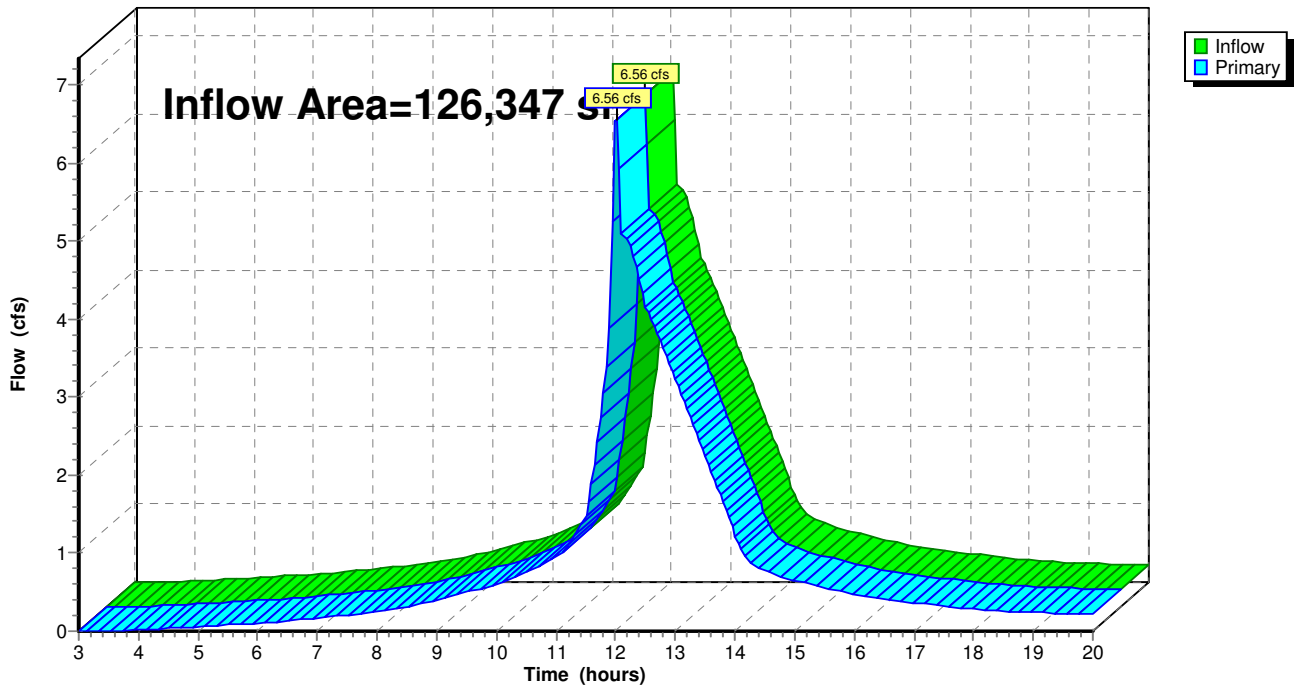
## Summary for Link 17L: (new Link)

Inflow Area = 126,347 sf, 65.08% Impervious, Inflow Depth > 4.57" for 25-Year event  
Inflow = 6.56 cfs @ 12.01 hrs, Volume= 48,074 cf  
Primary = 6.56 cfs @ 12.01 hrs, Volume= 48,074 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

## Link 17L: (new Link)

Hydrograph



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Type III 24-hr 25-Year Rainfall=5.60"

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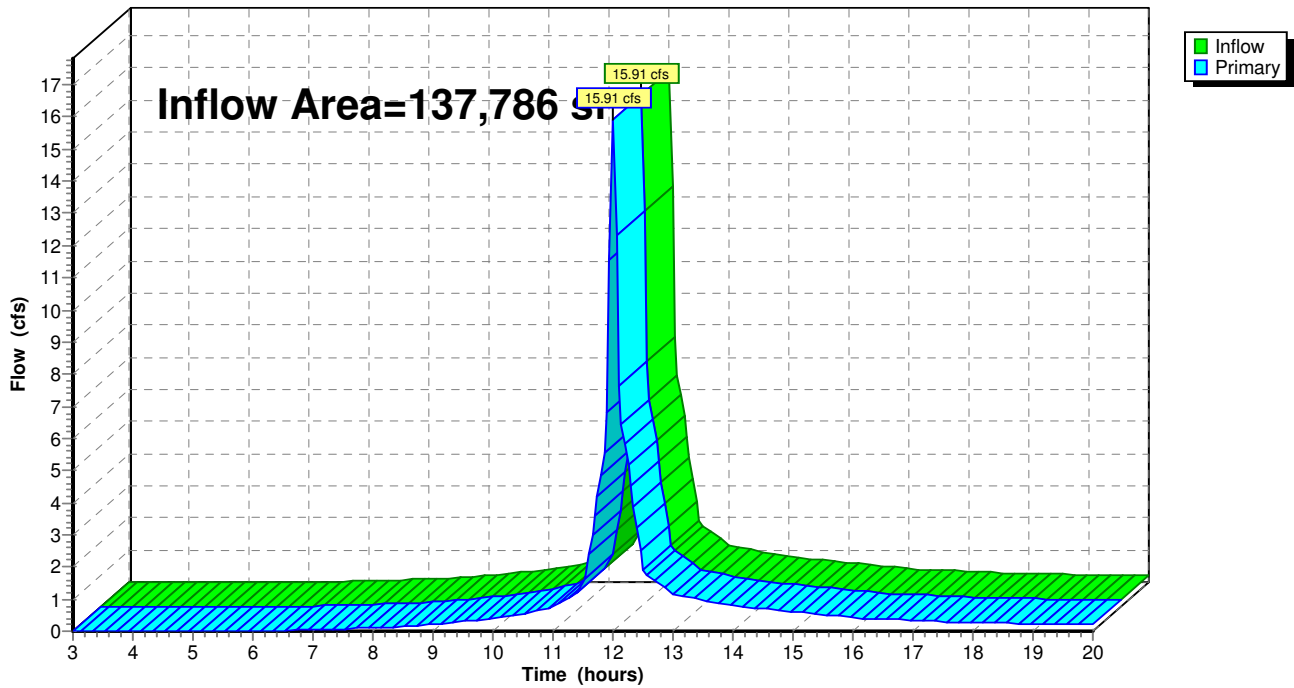
**Summary for Link 22L: (new Link)**

Inflow Area = 137,786 sf, 0.00% Impervious, Inflow Depth > 3.57" for 25-Year event  
Inflow = 15.91 cfs @ 12.00 hrs, Volume= 40,960 cf  
Primary = 15.91 cfs @ 12.00 hrs, Volume= 40,960 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

**Link 22L: (new Link)**

Hydrograph





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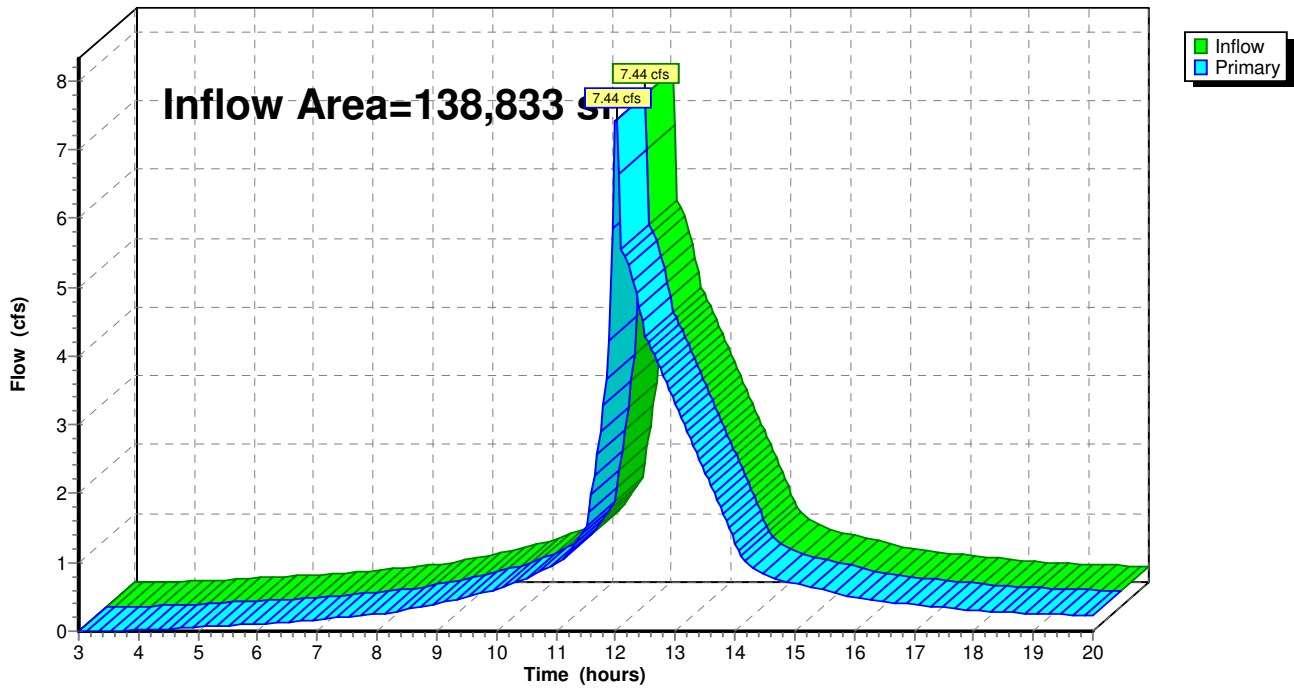
**Summary for Link 23L: (new Link)**

Inflow Area = 138,833 sf, 60.83% Impervious, Inflow Depth > 4.35" for 25-Year event  
Inflow = 7.44 cfs @ 12.01 hrs, Volume= 50,301 cf  
Primary = 7.44 cfs @ 12.01 hrs, Volume= 50,301 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

**Link 23L: (new Link)**

Hydrograph



**15-128 crestway hamden rev B**

Type III 24-hr 50-Year Rainfall=6.30"

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Time span=3.00-20.00 hrs, dt=0.05 hrs, 341 points  
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

<b>Subcatchment 10S: Area to Detention</b>	Runoff Area=76,700 sf 64.68% Impervious Runoff Depth>5.32" Tc=5.0 min CN=94 Runoff=10.65 cfs 33,980 cf
<b>Subcatchment 11S: Area To Swale</b>	Runoff Area=20,536 sf 86.49% Impervious Runoff Depth>5.32" Tc=5.0 min CN=94 Runoff=2.85 cfs 9,098 cf
<b>Subcatchment 18S: Tributary Area</b>	Runoff Area=12,486 sf 17.88% Impervious Runoff Depth>2.64" Tc=0.0 min UI Adjusted CN=68 Runoff=1.09 cfs 2,752 cf
<b>Subcatchment 19S: Tributary Area</b>	Runoff Area=29,111 sf 51.03% Impervious Runoff Depth>5.10" Tc=0.0 min CN=92 Runoff=4.50 cfs 12,371 cf
<b>Subcatchment 20S: Tributary Area Draining</b>	Runoff Area=72,042 sf 0.00% Impervious Runoff Depth>4.44" Tc=0.0 min CN=86 Runoff=10.16 cfs 26,650 cf
<b>Subcatchment 21S: Tributary Area</b>	Runoff Area=65,744 sf 0.00% Impervious Runoff Depth>3.91" Tc=0.0 min CN=81 Runoff=8.38 cfs 21,433 cf
<b>Reach 12R: (new Reach)</b>	Avg. Flow Depth=0.19' Max Vel=4.25 fps Inflow=2.85 cfs 9,098 cf n=0.016 L=245.0' S=0.0245 '/' Capacity=16.71 cfs Outflow=2.73 cfs 9,084 cf
<b>Pond 16P: (new Pond)</b>	Peak Elev=182.16' Storage=10,263 cf Inflow=13.17 cfs 43,064 cf Outflow=6.04 cfs 42,613 cf
<b>Link 17L: (new Link)</b>	Inflow=7.41 cfs 54,985 cf Primary=7.41 cfs 54,985 cf
<b>Link 22L: (new Link)</b>	Inflow=18.54 cfs 48,083 cf Primary=18.54 cfs 48,083 cf
<b>Link 23L: (new Link)</b>	Inflow=8.39 cfs 57,737 cf Primary=8.39 cfs 57,737 cf

**Total Runoff Area = 276,619 sf Runoff Volume = 106,284 cf Average Runoff Depth = 4.61"**  
**69.47% Pervious = 192,162 sf 30.53% Impervious = 84,457 sf**

**Summary for Subcatchment 10S: Area to Detention Basin**

[49] Hint:  $T_c < 2dt$  may require smaller  $dt$

Runoff = 10.65 cfs @ 12.07 hrs, Volume= 33,980 cf, Depth > 5.32"

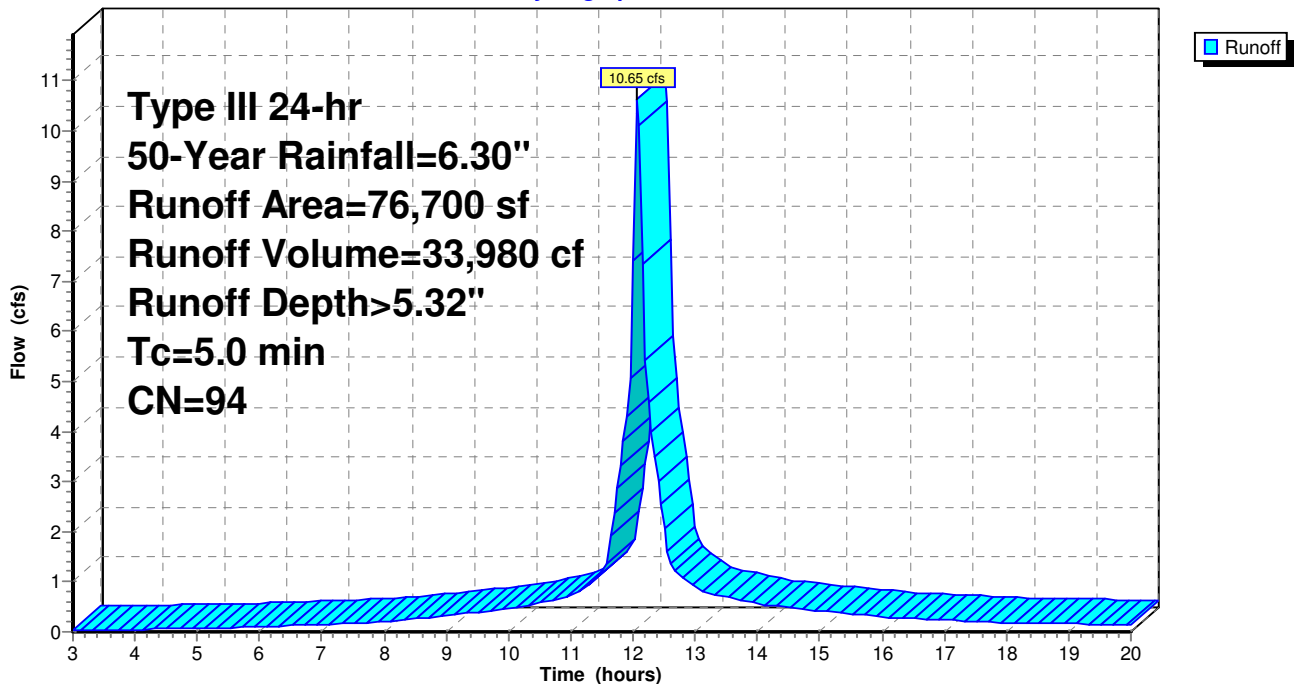
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs,  $dt=0.05$  hrs  
 Type III 24-hr 50-Year Rainfall=6.30"

Area (sf)	CN	Description
49,607	98	Paved parking, HSG B
8,567	86	Newly graded area, HSG B
18,526	86	Newly graded area, HSG B
76,700	94	Weighted Average
27,093		35.32% Pervious Area
49,607		64.68% Impervious Area

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

**Subcatchment 10S: Area to Detention Basin**

Hydrograph



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Type III 24-hr 50-Year Rainfall=6.30"

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**Summary for Subcatchment 11S: Area To Swale**

[49] Hint:  $T_c < 2dt$  may require smaller  $dt$

Runoff = 2.85 cfs @ 12.07 hrs, Volume= 9,098 cf, Depth> 5.32"

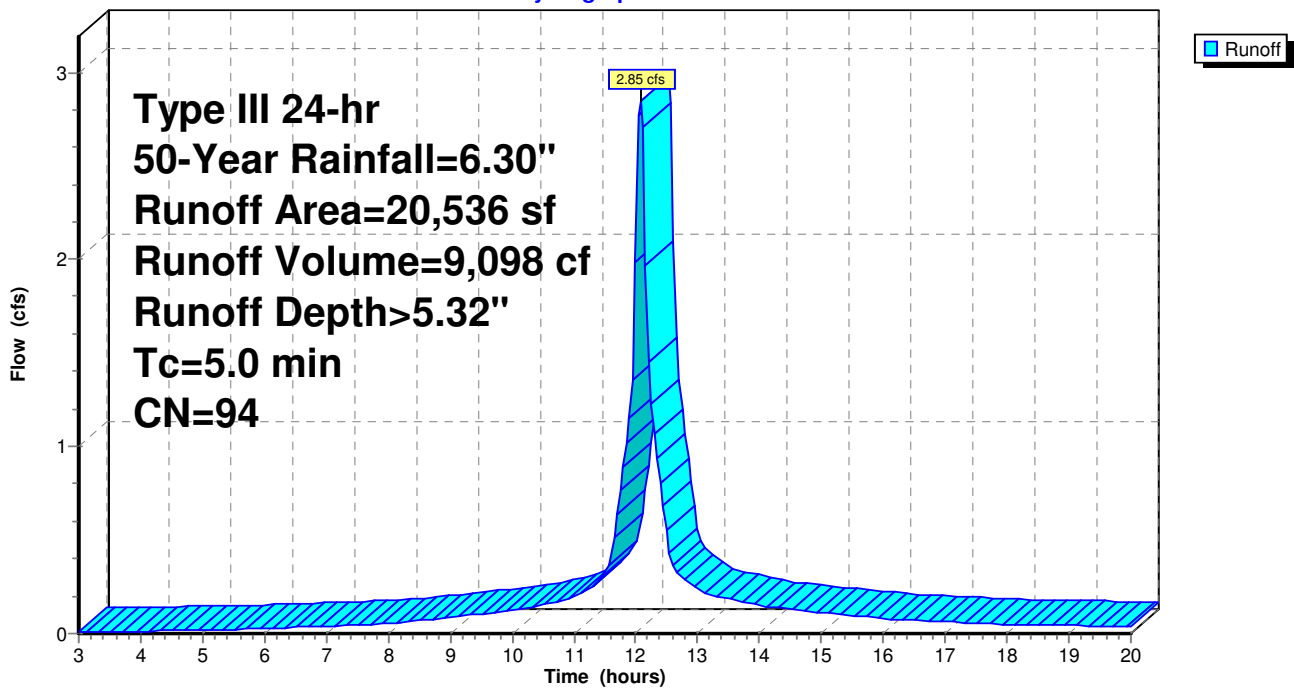
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs,  $dt= 0.05$  hrs  
 Type III 24-hr 50-Year Rainfall=6.30"

Area (sf)	CN	Description
17,761	98	Paved parking, HSG B
2,775	65	Woods/grass comb., Fair, HSG B
20,536	94	Weighted Average
2,775		13.51% Pervious Area
17,761		86.49% Impervious Area

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

**Subcatchment 11S: Area To Swale**

Hydrograph



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Type III 24-hr 50-Year Rainfall=6.30"

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## Summary for Subcatchment 18S: Tributary Area Traveling over Eastern Property Line

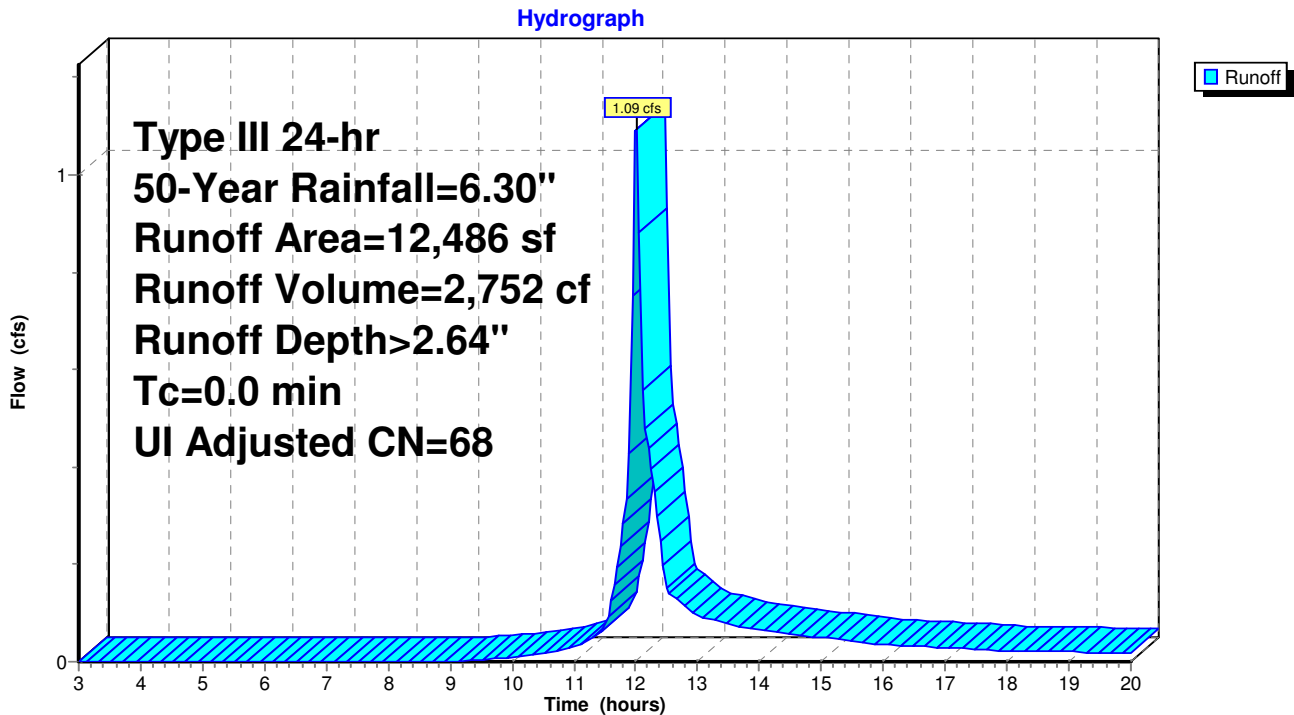
[46] Hint:  $T_c=0$  (Instant runoff peak depends on dt)

Runoff = 1.09 cfs @ 12.01 hrs, Volume= 2,752 cf, Depth> 2.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 50-Year Rainfall=6.30"

Area (sf)	CN	Adj	Description
10,253	65		Woods/grass comb., Fair, HSG B
2,233	98		Unconnected pavement, HSG B
12,486	71	68	Weighted Average, UI Adjusted
10,253			82.12% Pervious Area
2,233			17.88% Impervious Area
2,233			100.00% Unconnected

## Subcatchment 18S: Tributary Area Traveling over Eastern Property Line



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Type III 24-hr 50-Year Rainfall=6.30"

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## Summary for Subcatchment 19S: Tributary Area Draining To Crest Way

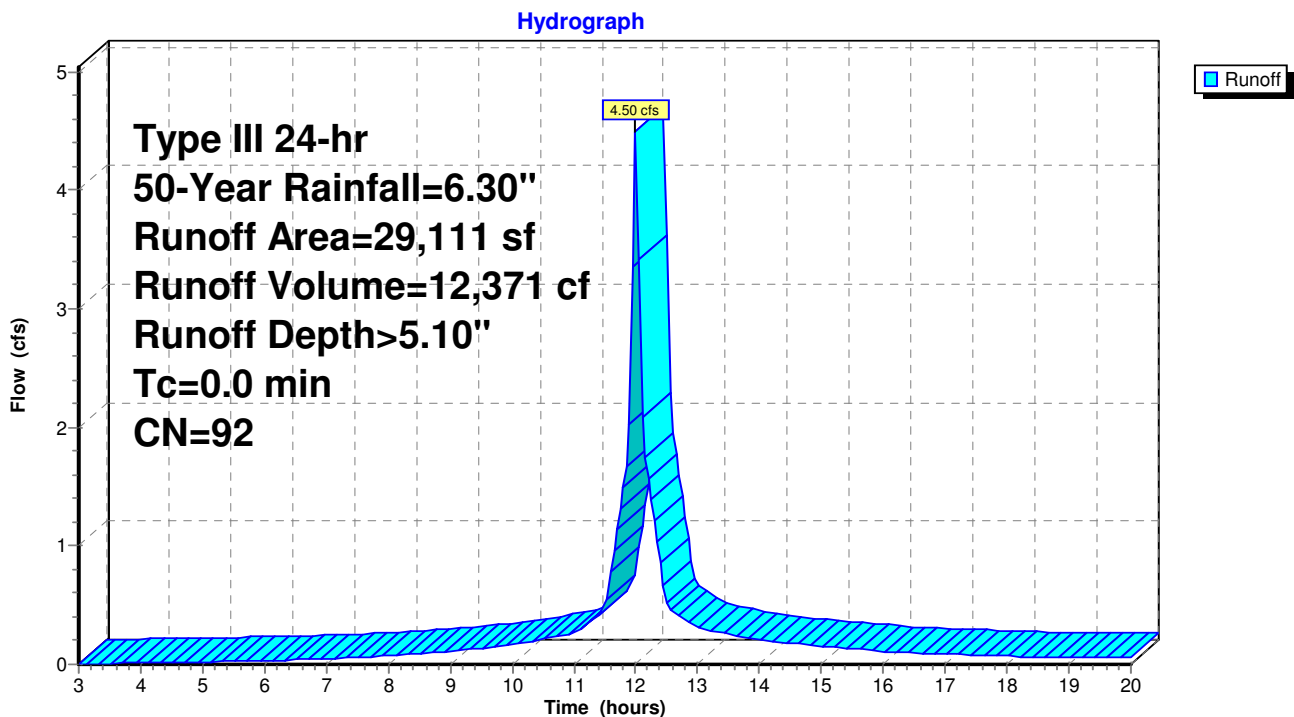
[46] Hint:  $T_c=0$  (Instant runoff peak depends on dt)

Runoff = 4.50 cfs @ 12.00 hrs, Volume= 12,371 cf, Depth> 5.10"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 50-Year Rainfall=6.30"

Area (sf)	CN	Description
14,255	86	Newly graded area, HSG B
10,056	98	Paved parking, HSG B
4,800	98	Unconnected roofs, HSG B
29,111	92	Weighted Average
14,255		48.97% Pervious Area
14,856		51.03% Impervious Area
4,800		32.31% Unconnected

## Subcatchment 19S: Tributary Area Draining To Crest Way



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Type III 24-hr 50-Year Rainfall=6.30"

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## Summary for Subcatchment 20S: Tributary Area Draining To Crest Way

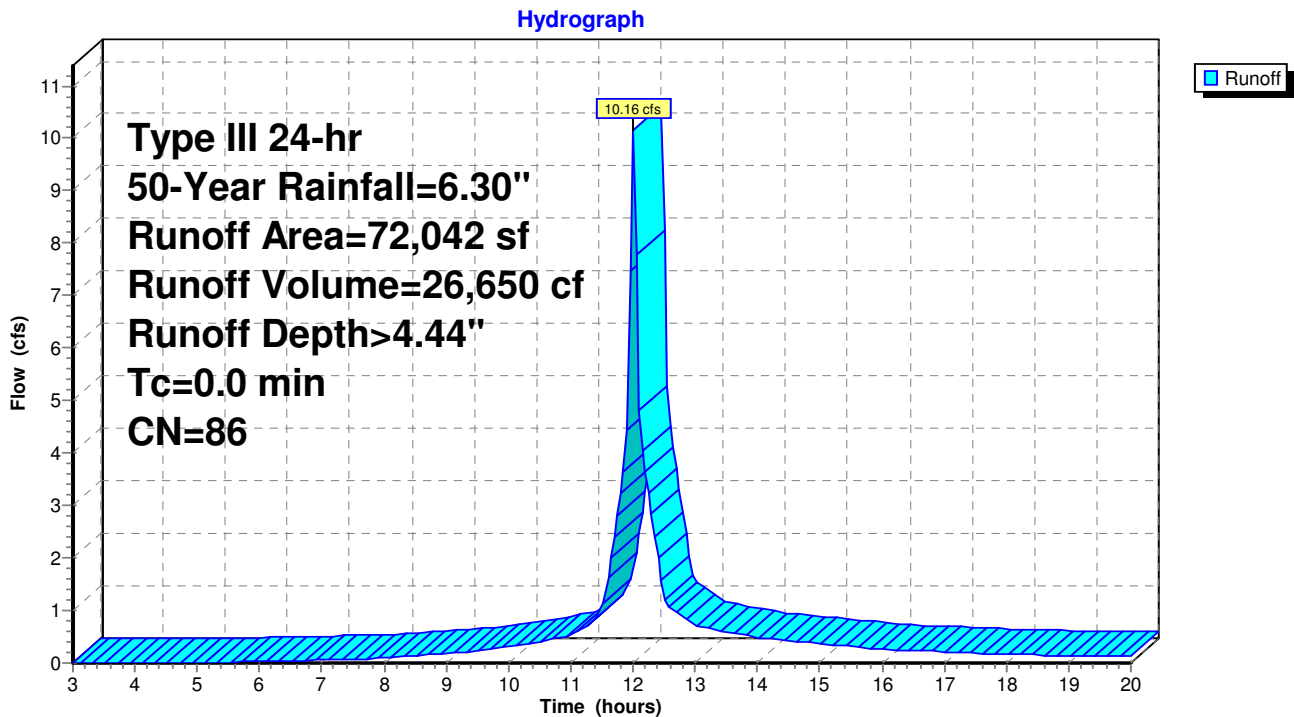
[46] Hint:  $T_c=0$  (Instant runoff peak depends on dt)

Runoff = 10.16 cfs @ 12.00 hrs, Volume= 26,650 cf, Depth> 4.44"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 50-Year Rainfall=6.30"

Area (sf)	CN	Description
72,042	86	Newly graded area, HSG B
72,042		100.00% Pervious Area

## Subcatchment 20S: Tributary Area Draining To Crest Way



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Type III 24-hr 50-Year Rainfall=6.30"

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**Summary for Subcatchment 21S: Tributary Area Traveling over Eastern Property Line**

[46] Hint: Tc=0 (Instant runoff peak depends on dt)

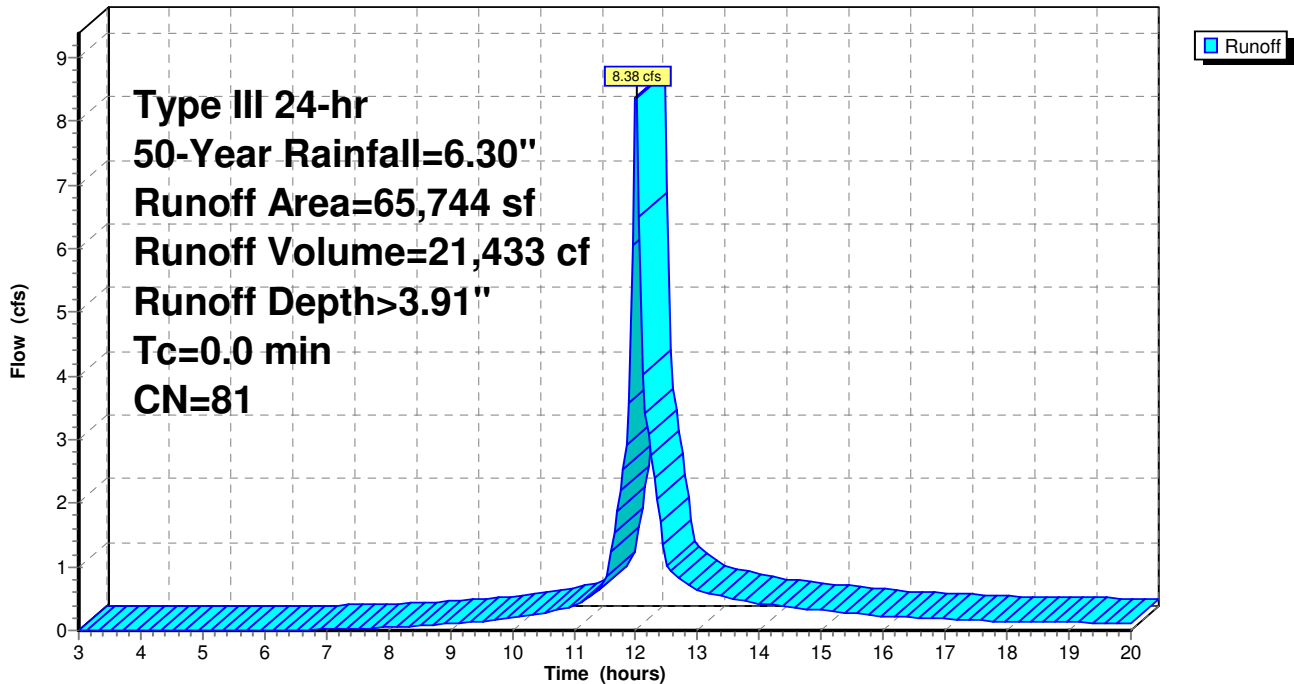
Runoff = 8.38 cfs @ 12.00 hrs, Volume= 21,433 cf, Depth> 3.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 50-Year Rainfall=6.30"

Area (sf)	CN	Description
8,169	65	Woods/grass comb., Fair, HSG B
8,577	65	Woods/grass comb., Fair, HSG B
48,998	86	Newly graded area, HSG B
65,744	81	Weighted Average
65,744		100.00% Pervious Area

**Subcatchment 21S: Tributary Area Traveling over Eastern Property Line**

Hydrograph





**15-128 crestway hamden rev B**

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Type III 24-hr 50-Year Rainfall=6.30"

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**Summary for Reach 12R: (new Reach)**

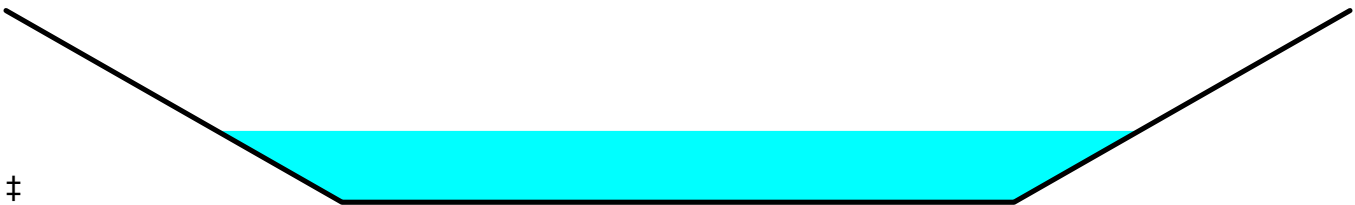
[82] Warning: Early inflow requires earlier time span

Inflow Area = 20,536 sf, 86.49% Impervious, Inflow Depth > 5.32" for 50-Year event  
Inflow = 2.85 cfs @ 12.07 hrs, Volume= 9,098 cf  
Outflow = 2.73 cfs @ 12.10 hrs, Volume= 9,084 cf, Atten= 4%, Lag= 1.8 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Max. Velocity= 4.25 fps, Min. Travel Time= 1.0 min  
Avg. Velocity = 1.20 fps, Avg. Travel Time= 3.4 min

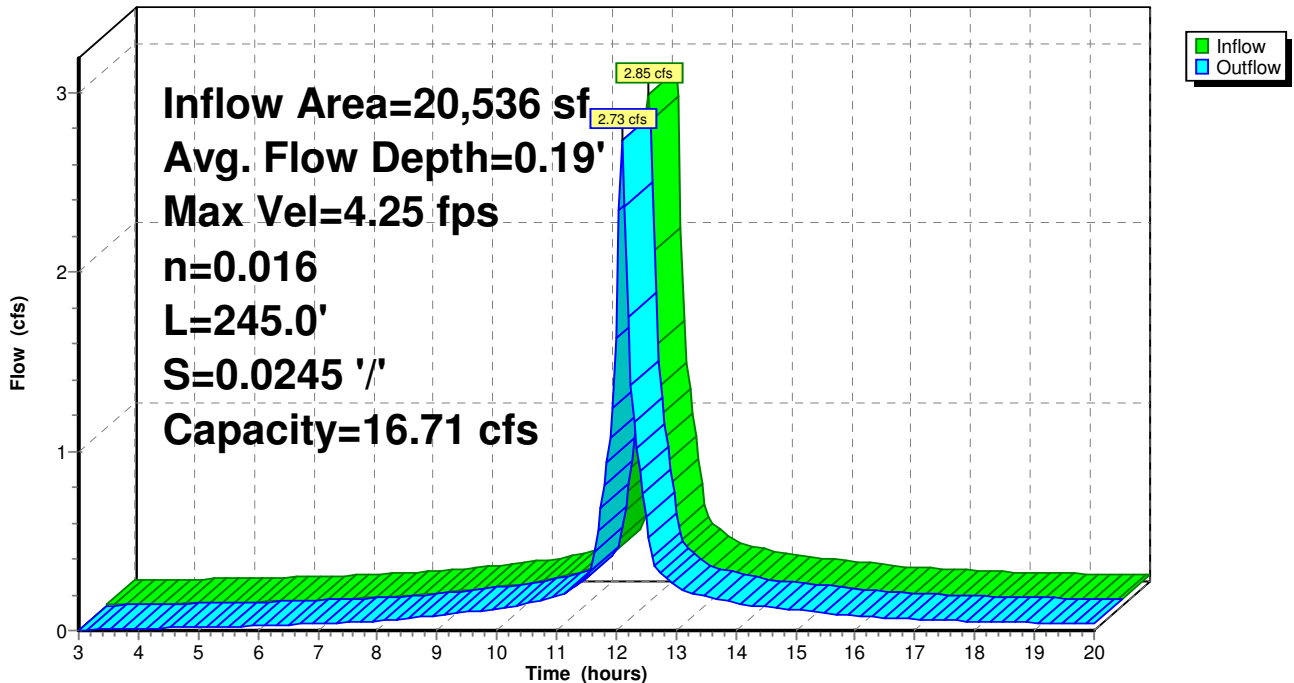
Peak Storage= 163 cf @ 12.09 hrs  
Average Depth at Peak Storage= 0.19'  
Bank-Full Depth= 0.50' Flow Area= 2.3 sf, Capacity= 16.71 cfs

3.00' x 0.50' deep channel, n= 0.016 Asphalt, rough  
Side Slope Z-value= 3.0 '/' Top Width= 6.00'  
Length= 245.0' Slope= 0.0245 '/'  
Inlet Invert= 192.00', Outlet Invert= 186.00'



**Reach 12R: (new Reach)**

Hydrograph



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Type III 24-hr 50-Year Rainfall=6.30"

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**Summary for Pond 16P: (new Pond)**

[82] Warning: Early inflow requires earlier time span

Inflow Area = 97,236 sf, 69.28% Impervious, Inflow Depth > 5.31" for 50-Year event  
 Inflow = 13.17 cfs @ 12.08 hrs, Volume= 43,064 cf  
 Outflow = 6.04 cfs @ 12.26 hrs, Volume= 42,613 cf, Atten= 54%, Lag= 11.0 min  
 Primary = 6.04 cfs @ 12.26 hrs, Volume= 42,613 cf

Routing by Stor-Ind method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 182.16' @ 12.26 hrs Surf.Area= 4,616 sf Storage= 10,263 cf

Plug-Flow detention time= 29.5 min calculated for 42,611 cf (99% of inflow)  
 Center-of-Mass det. time= 24.8 min ( 764.2 - 739.3 )

Volume	Invert	Avail.Storage	Storage Description	
#1	179.30'	19,898 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)
179.30	2,035	0	0	2,035
180.00	3,222	1,824	1,824	3,229
182.00	4,510	7,696	9,520	4,590
184.00	5,899	10,378	19,898	6,069

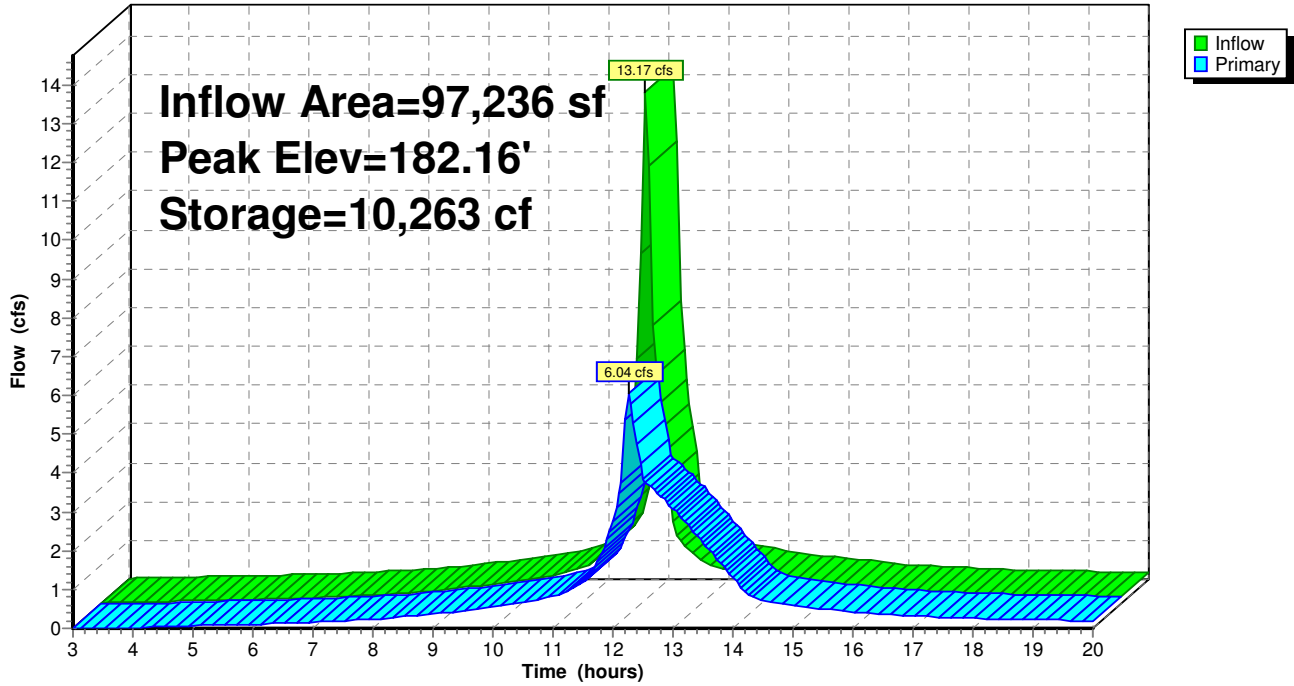
Device	Routing	Invert	Outlet Devices
#1	Primary	179.30'	<b>18.0" Round Culvert</b> L= 99.0' Ke= 0.500 Inlet / Outlet Invert= 179.30' / 178.60' S= 0.0071 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	182.00'	<b>24.0" x 36.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	179.30'	<b>12.0" W x 6.0" H Vert. Orifice/Grate</b> C= 0.600

**Primary OutFlow** Max=5.96 cfs @ 12.26 hrs HW=182.16' (Free Discharge)

- ↑ 1=Culvert (Passes 5.96 cfs of 11.18 cfs potential flow)
- ↑ 2=Orifice/Grate (Weir Controls 2.07 cfs @ 1.30 fps)
- ↑ 3=Orifice/Grate (Orifice Controls 3.89 cfs @ 7.77 fps)

Pond 16P: (new Pond)

Hydrograph



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Type III 24-hr 50-Year Rainfall=6.30"

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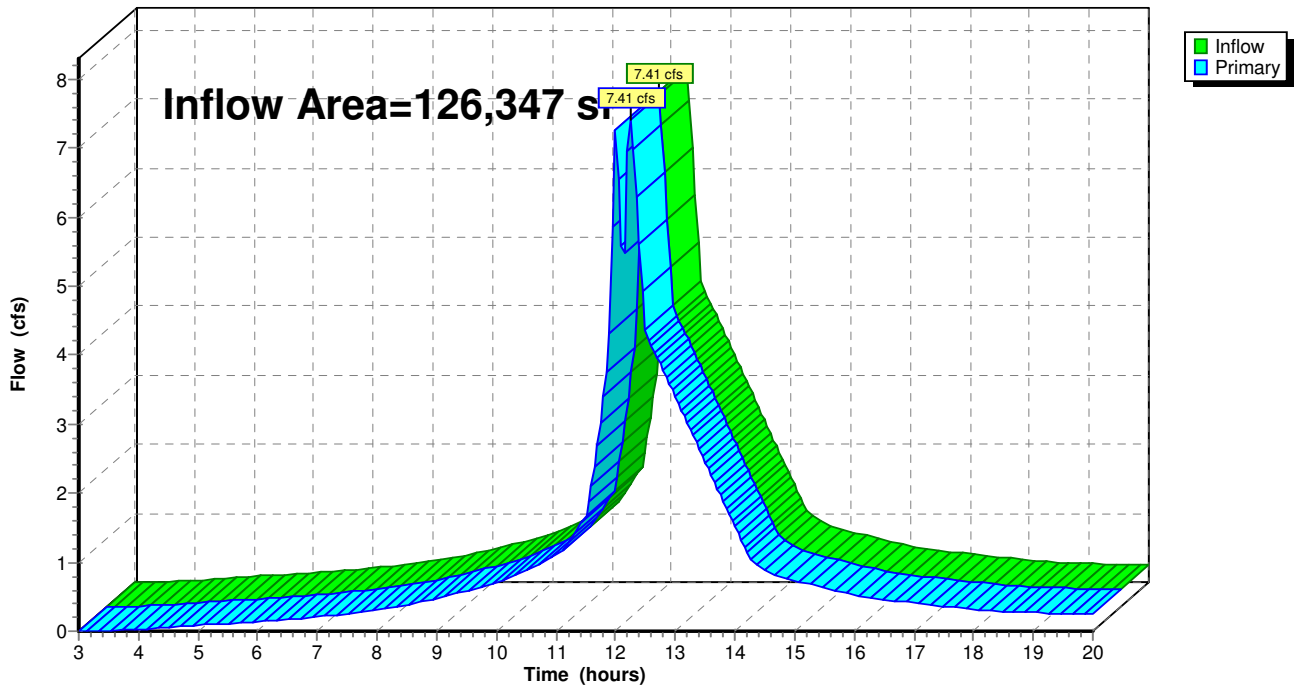
**Summary for Link 17L: (new Link)**

Inflow Area = 126,347 sf, 65.08% Impervious, Inflow Depth > 5.22" for 50-Year event  
Inflow = 7.41 cfs @ 12.25 hrs, Volume= 54,985 cf  
Primary = 7.41 cfs @ 12.25 hrs, Volume= 54,985 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

**Link 17L: (new Link)**

Hydrograph



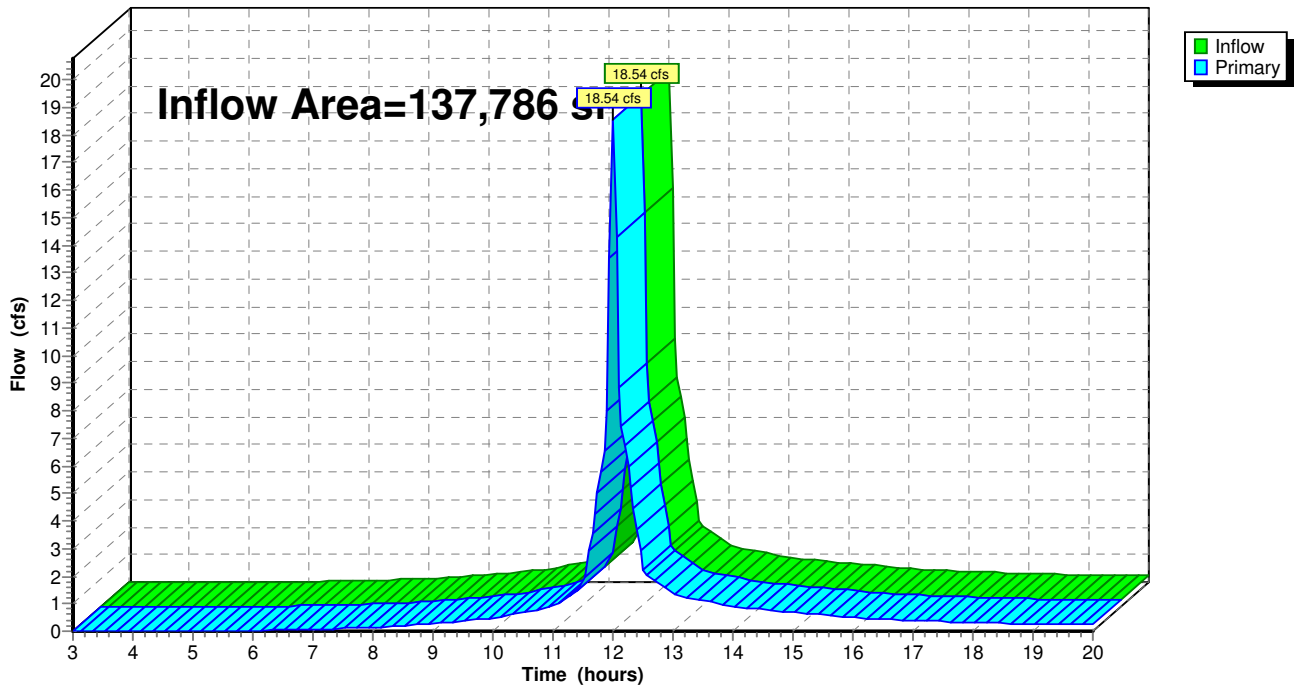
### Summary for Link 22L: (new Link)

Inflow Area = 137,786 sf, 0.00% Impervious, Inflow Depth > 4.19" for 50-Year event  
Inflow = 18.54 cfs @ 12.00 hrs, Volume= 48,083 cf  
Primary = 18.54 cfs @ 12.00 hrs, Volume= 48,083 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

### Link 22L: (new Link)

Hydrograph



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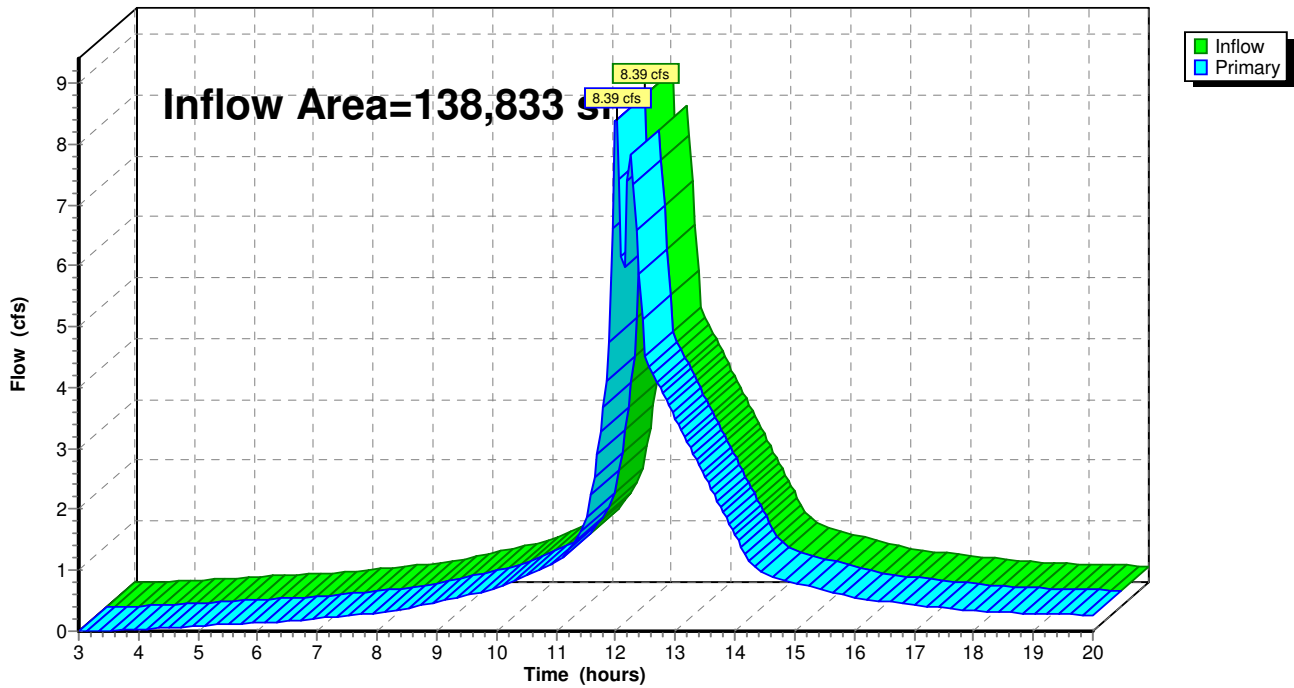
## Summary for Link 23L: (new Link)

Inflow Area = 138,833 sf, 60.83% Impervious, Inflow Depth > 4.99" for 50-Year event  
Inflow = 8.39 cfs @ 12.01 hrs, Volume= 57,737 cf  
Primary = 8.39 cfs @ 12.01 hrs, Volume= 57,737 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

## Link 23L: (new Link)

Hydrograph



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Type III 24-hr 100-Year Rainfall=7.10"

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Time span=3.00-20.00 hrs, dt=0.05 hrs, 341 points  
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

<b>Subcatchment 10S: Area to Detention</b>	Runoff Area=76,700 sf 64.68% Impervious Runoff Depth>6.07" Tc=5.0 min CN=94 Runoff=12.07 cfs 38,799 cf
<b>Subcatchment 11S: Area To Swale</b>	Runoff Area=20,536 sf 86.49% Impervious Runoff Depth>6.07" Tc=5.0 min CN=94 Runoff=3.23 cfs 10,388 cf
<b>Subcatchment 18S: Tributary Area</b>	Runoff Area=12,486 sf 17.88% Impervious Runoff Depth>3.25" Tc=0.0 min UI Adjusted CN=68 Runoff=1.35 cfs 3,378 cf
<b>Subcatchment 19S: Tributary Area</b>	Runoff Area=29,111 sf 51.03% Impervious Runoff Depth>5.85" Tc=0.0 min CN=92 Runoff=5.12 cfs 14,198 cf
<b>Subcatchment 20S: Tributary Area Draining</b>	Runoff Area=72,042 sf 0.00% Impervious Runoff Depth>5.17" Tc=0.0 min CN=86 Runoff=11.73 cfs 31,042 cf
<b>Subcatchment 21S: Tributary Area</b>	Runoff Area=65,744 sf 0.00% Impervious Runoff Depth>4.62" Tc=0.0 min CN=81 Runoff=9.81 cfs 25,293 cf
<b>Reach 12R: (new Reach)</b>	Avg. Flow Depth=0.20' Max Vel=4.43 fps Inflow=3.23 cfs 10,388 cf n=0.016 L=245.0' S=0.0245 '/' Capacity=16.71 cfs Outflow=3.10 cfs 10,373 cf
<b>Pond 16P: (new Pond)</b>	Peak Elev=182.28' Storage=10,825 cf Inflow=14.95 cfs 49,172 cf Outflow=8.93 cfs 48,692 cf
<b>Link 17L: (new Link)</b>	Inflow=10.71 cfs 62,890 cf Primary=10.71 cfs 62,890 cf
<b>Link 22L: (new Link)</b>	Inflow=21.55 cfs 56,335 cf Primary=21.55 cfs 56,335 cf
<b>Link 23L: (new Link)</b>	Inflow=11.24 cfs 66,268 cf Primary=11.24 cfs 66,268 cf

**Total Runoff Area = 276,619 sf Runoff Volume = 123,098 cf Average Runoff Depth = 5.34"**  
**69.47% Pervious = 192,162 sf 30.53% Impervious = 84,457 sf**

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Type III 24-hr 100-Year Rainfall=7.10"

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**Summary for Subcatchment 10S: Area to Detention Basin**

[49] Hint:  $T_c < 2dt$  may require smaller dt

Runoff = 12.07 cfs @ 12.07 hrs, Volume= 38,799 cf, Depth > 6.07"

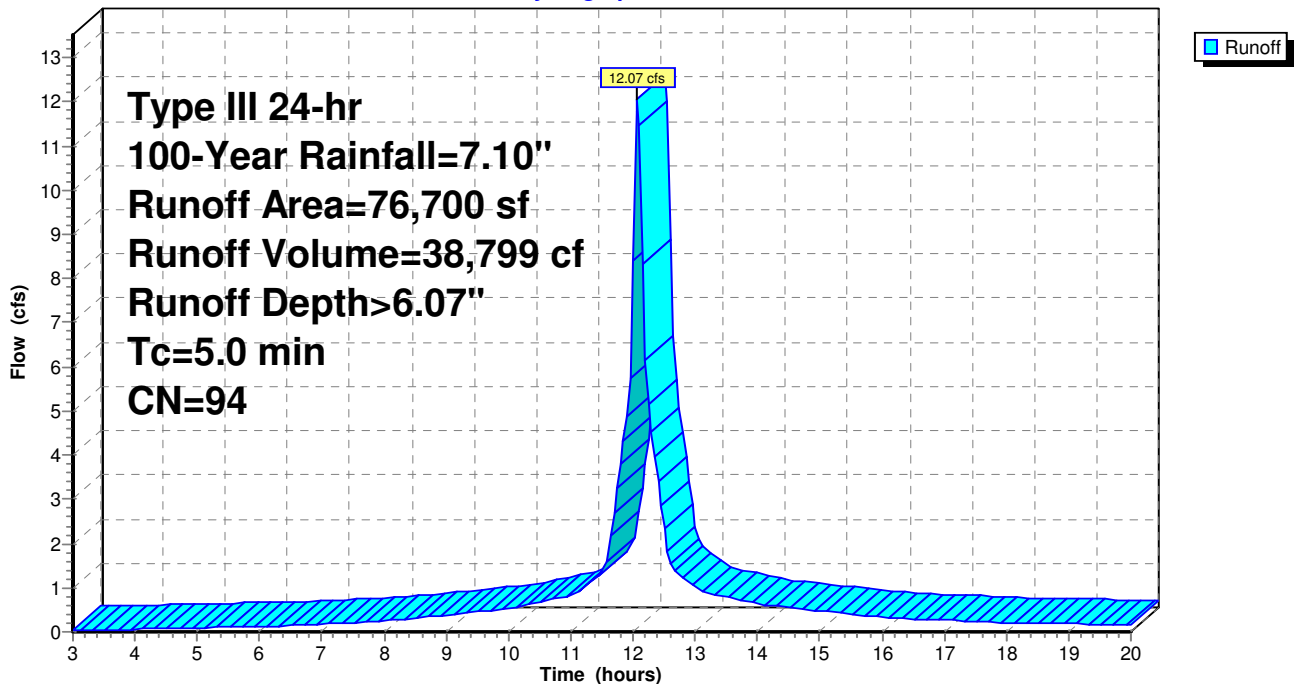
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=7.10"

Area (sf)	CN	Description
49,607	98	Paved parking, HSG B
8,567	86	Newly graded area, HSG B
18,526	86	Newly graded area, HSG B
76,700	94	Weighted Average
27,093		35.32% Pervious Area
49,607		64.68% Impervious Area

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

**Subcatchment 10S: Area to Detention Basin**

Hydrograph





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**Summary for Subcatchment 11S: Area To Swale**

[49] Hint:  $T_c < 2dt$  may require smaller  $dt$

Runoff = 3.23 cfs @ 12.07 hrs, Volume= 10,388 cf, Depth> 6.07"

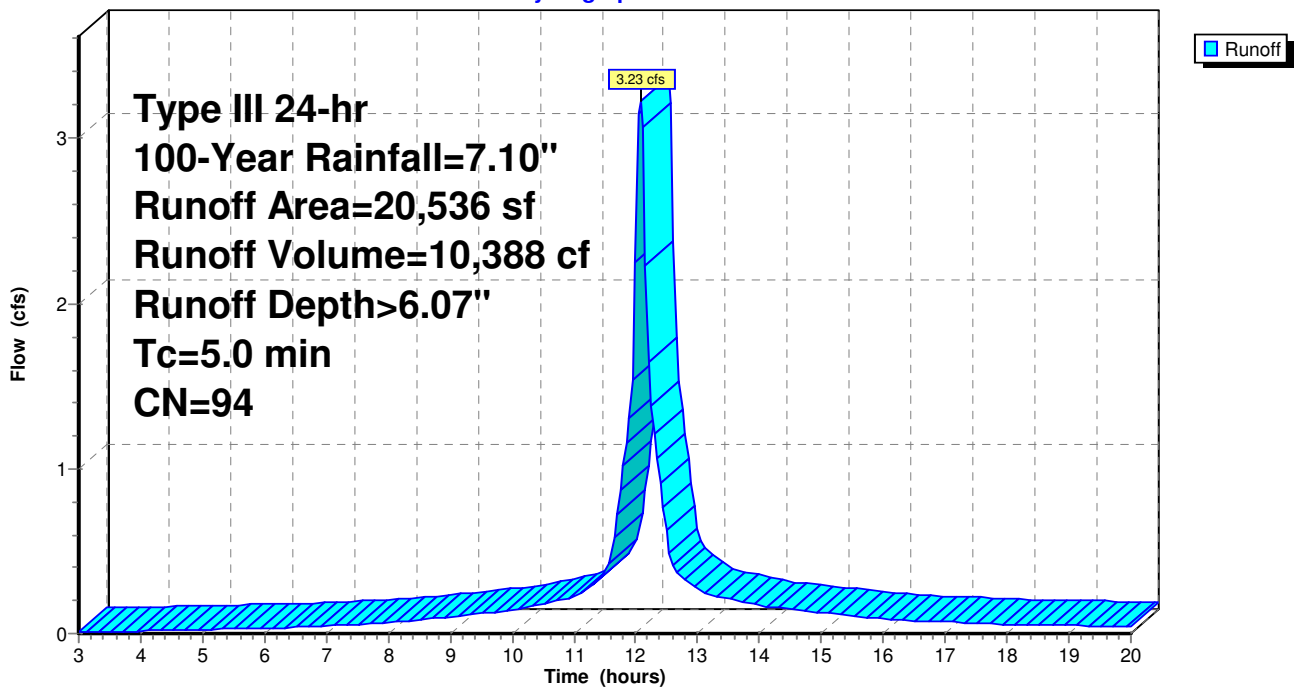
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs,  $dt= 0.05$  hrs  
 Type III 24-hr 100-Year Rainfall=7.10"

Area (sf)	CN	Description
17,761	98	Paved parking, HSG B
2,775	65	Woods/grass comb., Fair, HSG B
20,536	94	Weighted Average
2,775		13.51% Pervious Area
17,761		86.49% Impervious Area

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

**Subcatchment 11S: Area To Swale**

Hydrograph



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Type III 24-hr 100-Year Rainfall=7.10"

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## Summary for Subcatchment 18S: Tributary Area Traveling over Eastern Property Line

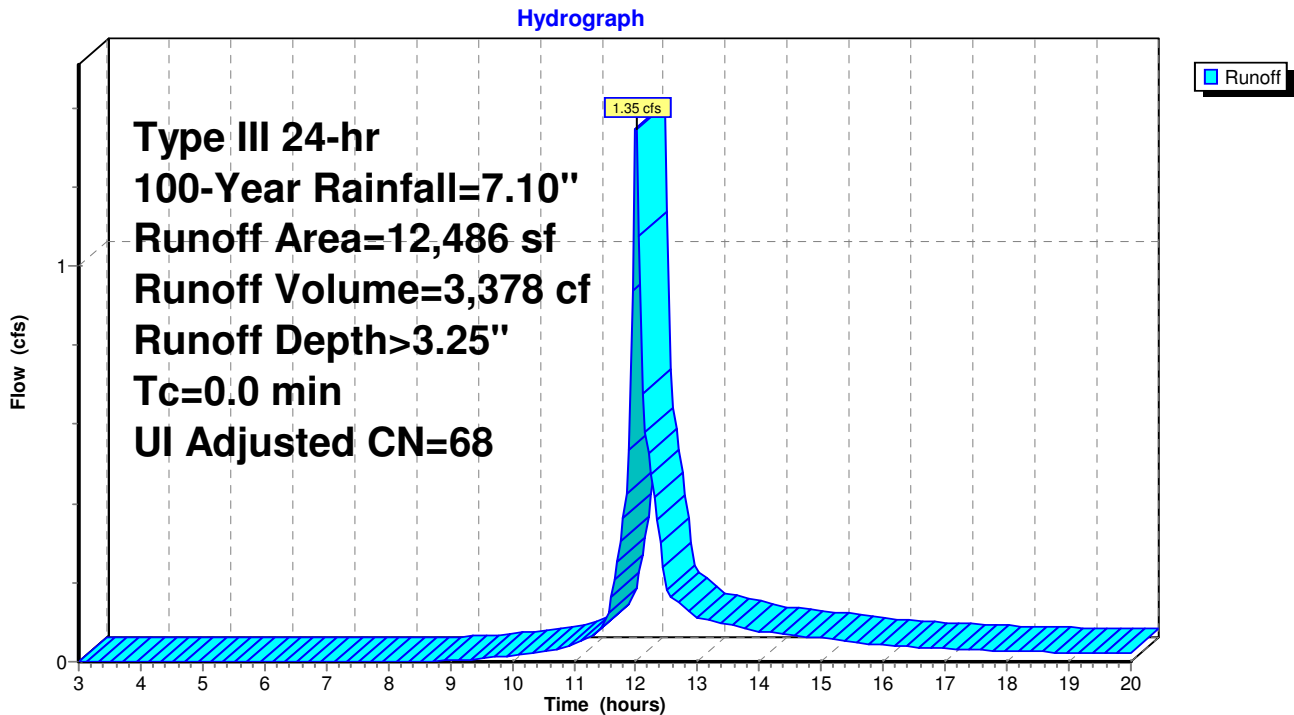
[46] Hint:  $T_c=0$  (Instant runoff peak depends on dt)

Runoff = 1.35 cfs @ 12.01 hrs, Volume= 3,378 cf, Depth> 3.25"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=7.10"

Area (sf)	CN	Adj	Description
10,253	65		Woods/grass comb., Fair, HSG B
2,233	98		Unconnected pavement, HSG B
12,486	71	68	Weighted Average, UI Adjusted
10,253			82.12% Pervious Area
2,233			17.88% Impervious Area
2,233			100.00% Unconnected

## Subcatchment 18S: Tributary Area Traveling over Eastern Property Line



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Type III 24-hr 100-Year Rainfall=7.10"

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## Summary for Subcatchment 19S: Tributary Area Draining To Crest Way

[46] Hint:  $T_c=0$  (Instant runoff peak depends on dt)

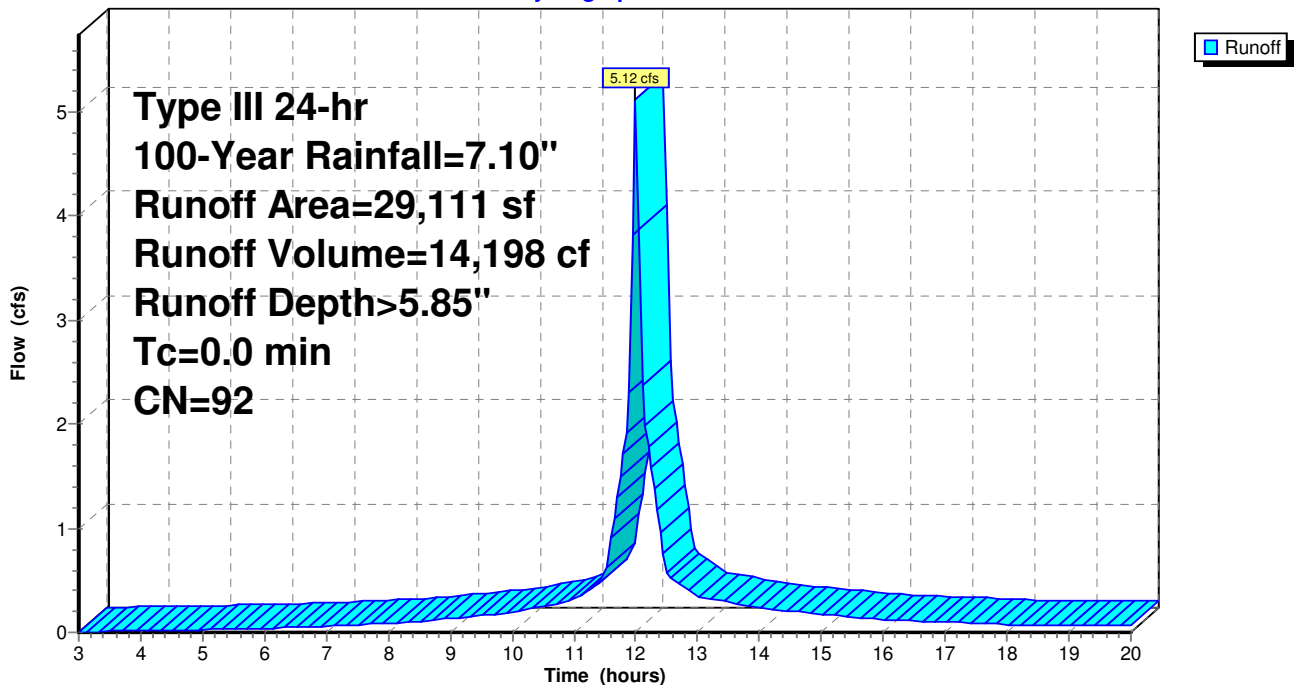
Runoff = 5.12 cfs @ 12.00 hrs, Volume= 14,198 cf, Depth > 5.85"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=7.10"

Area (sf)	CN	Description
14,255	86	Newly graded area, HSG B
10,056	98	Paved parking, HSG B
4,800	98	Unconnected roofs, HSG B
29,111	92	Weighted Average
14,255		48.97% Pervious Area
14,856		51.03% Impervious Area
4,800		32.31% Unconnected

## Subcatchment 19S: Tributary Area Draining To Crest Way

Hydrograph



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Type III 24-hr 100-Year Rainfall=7.10"

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## Summary for Subcatchment 20S: Tributary Area Draining To Crest Way

[46] Hint:  $T_c=0$  (Instant runoff peak depends on dt)

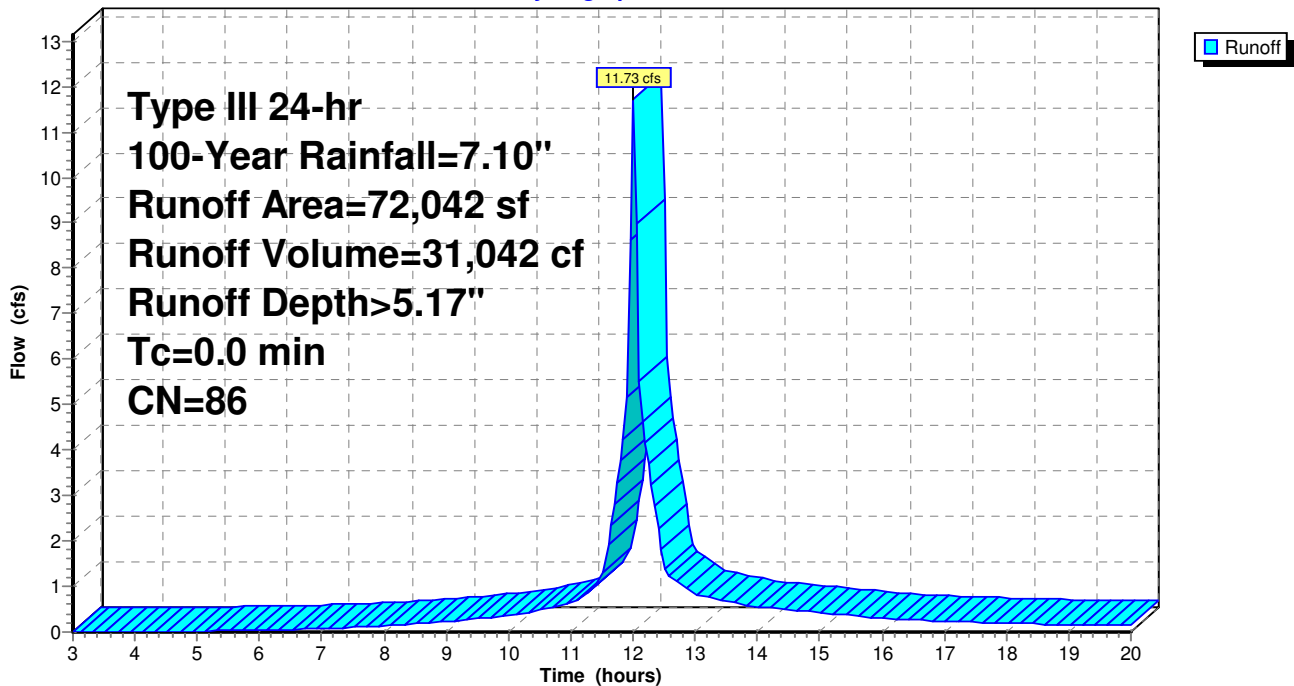
Runoff = 11.73 cfs @ 12.00 hrs, Volume= 31,042 cf, Depth> 5.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=7.10"

Area (sf)	CN	Description
72,042	86	Newly graded area, HSG B
72,042		100.00% Pervious Area

## Subcatchment 20S: Tributary Area Draining To Crest Way

Hydrograph



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Type III 24-hr 100-Year Rainfall=7.10"

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## Summary for Subcatchment 21S: Tributary Area Traveling over Eastern Property Line

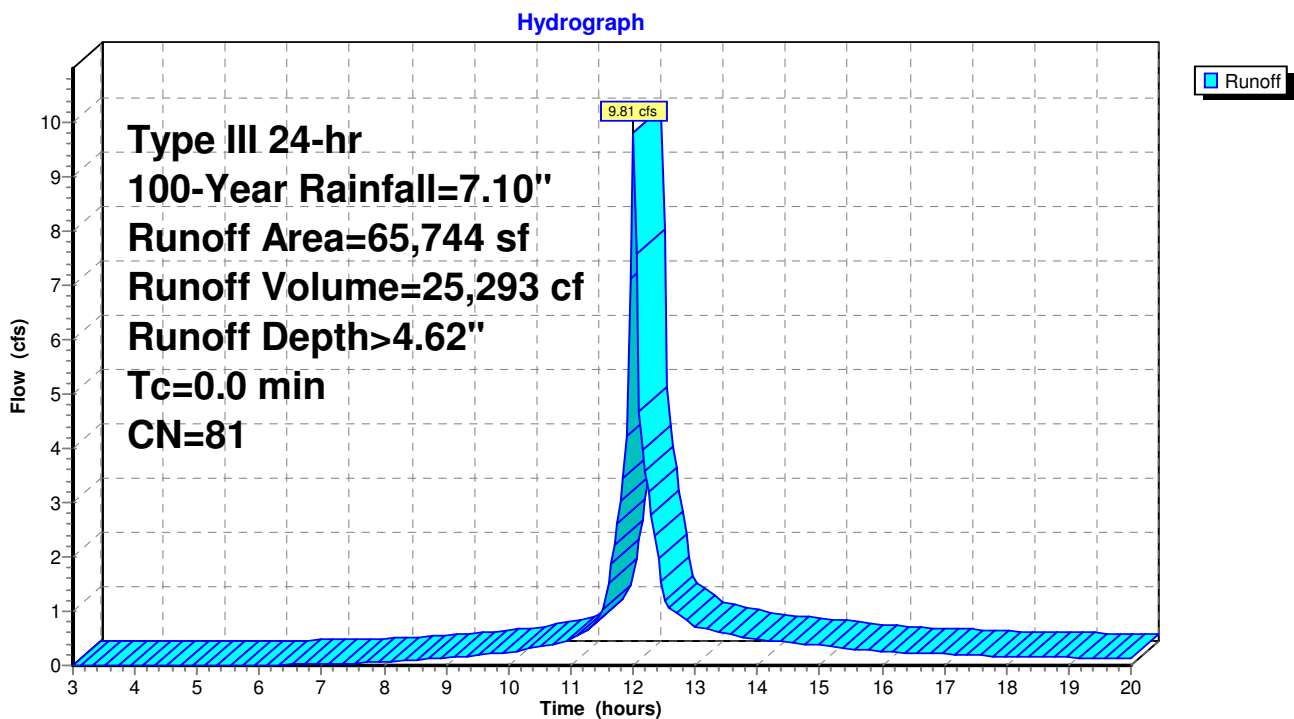
[46] Hint:  $T_c=0$  (Instant runoff peak depends on dt)

Runoff = 9.81 cfs @ 12.00 hrs, Volume= 25,293 cf, Depth> 4.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr 100-Year Rainfall=7.10"

Area (sf)	CN	Description
8,169	65	Woods/grass comb., Fair, HSG B
8,577	65	Woods/grass comb., Fair, HSG B
48,998	86	Newly graded area, HSG B
65,744	81	Weighted Average
65,744		100.00% Pervious Area

## Subcatchment 21S: Tributary Area Traveling over Eastern Property Line



# 15-128 crestway hamden rev B

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Type III 24-hr 100-Year Rainfall=7.10"

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## Summary for Reach 12R: (new Reach)

[82] Warning: Early inflow requires earlier time span

Inflow Area = 20,536 sf, 86.49% Impervious, Inflow Depth > 6.07" for 100-Year event  
Inflow = 3.23 cfs @ 12.07 hrs, Volume= 10,388 cf  
Outflow = 3.10 cfs @ 12.10 hrs, Volume= 10,373 cf, Atten= 4%, Lag= 1.7 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

Max. Velocity= 4.43 fps, Min. Travel Time= 0.9 min

Avg. Velocity = 1.27 fps, Avg. Travel Time= 3.2 min

Peak Storage= 177 cf @ 12.09 hrs

Average Depth at Peak Storage= 0.20'

Bank-Full Depth= 0.50' Flow Area= 2.3 sf, Capacity= 16.71 cfs

3.00' x 0.50' deep channel, n= 0.016 Asphalt, rough

Side Slope Z-value= 3.0 '/' Top Width= 6.00'

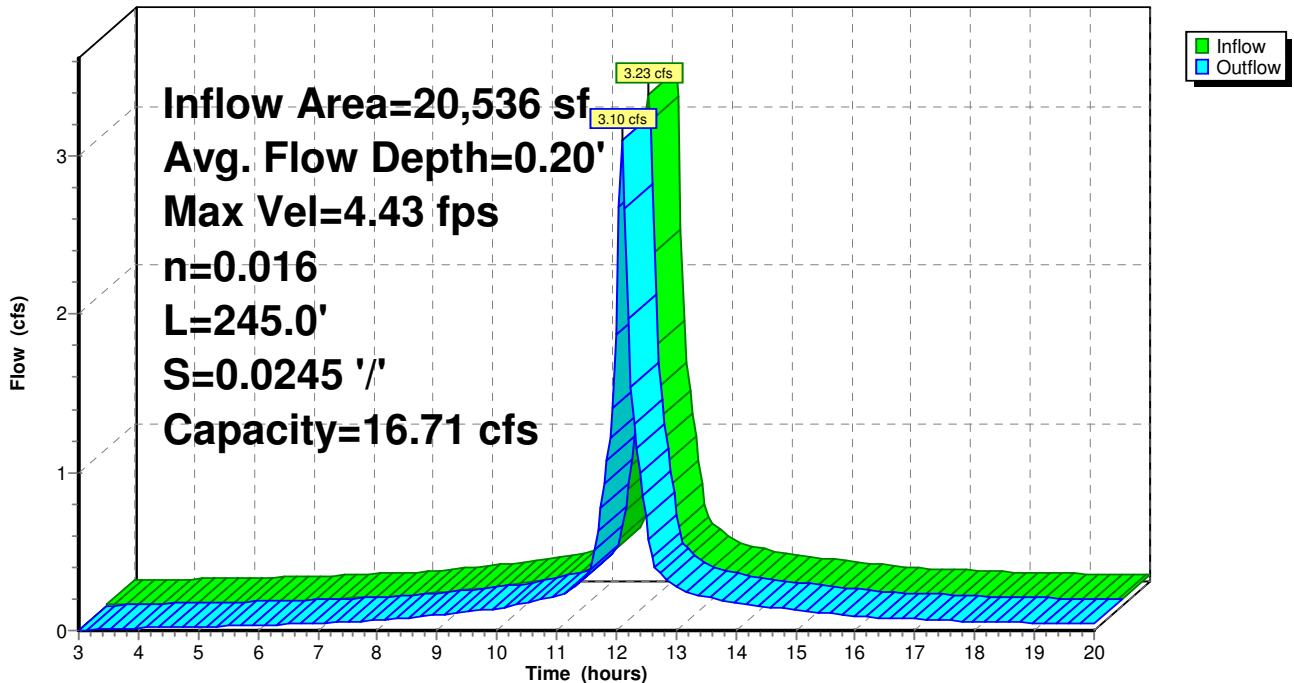
Length= 245.0' Slope= 0.0245 '/'

Inlet Invert= 192.00', Outlet Invert= 186.00'



## Reach 12R: (new Reach)

### Hydrograph



**Summary for Pond 16P: (new Pond)**

[82] Warning: Early inflow requires earlier time span

Inflow Area = 97,236 sf, 69.28% Impervious, Inflow Depth > 6.07" for 100-Year event  
 Inflow = 14.95 cfs @ 12.08 hrs, Volume= 49,172 cf  
 Outflow = 8.93 cfs @ 12.20 hrs, Volume= 48,692 cf, Atten= 40%, Lag= 7.5 min  
 Primary = 8.93 cfs @ 12.20 hrs, Volume= 48,692 cf

Routing by Stor-Ind method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 182.28' @ 12.20 hrs Surf.Area= 4,696 sf Storage= 10,825 cf

Plug-Flow detention time= 28.0 min calculated for 48,547 cf (99% of inflow)  
 Center-of-Mass det. time= 23.6 min ( 760.4 - 736.8 )

Volume	Invert	Avail.Storage	Storage Description	
#1	179.30'	19,898 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)
179.30	2,035	0	0	2,035
180.00	3,222	1,824	1,824	3,229
182.00	4,510	7,696	9,520	4,590
184.00	5,899	10,378	19,898	6,069

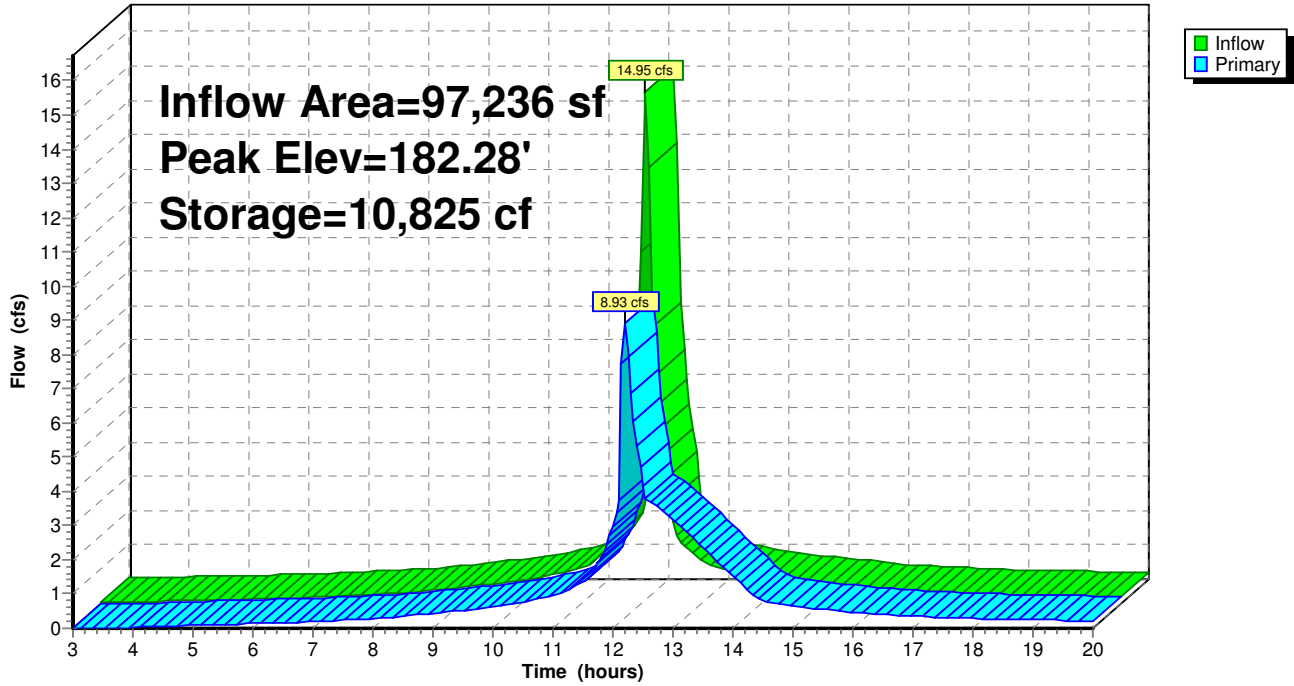
Device	Routing	Invert	Outlet Devices
#1	Primary	179.30'	<b>18.0" Round Culvert</b> L= 99.0' Ke= 0.500 Inlet / Outlet Invert= 179.30' / 178.60' S= 0.0071 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf
#2	Device 1	182.00'	<b>24.0" x 36.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads
#3	Device 1	179.30'	<b>12.0" W x 6.0" H Vert. Orifice/Grate</b> C= 0.600

**Primary OutFlow** Max=8.87 cfs @ 12.20 hrs HW=182.28' (Free Discharge)

- ↑ 1=Culvert (Passes 8.87 cfs of 11.51 cfs potential flow)
- ↑ 2=Orifice/Grate (Weir Controls 4.89 cfs @ 1.74 fps)
- ↑ 3=Orifice/Grate (Orifice Controls 3.98 cfs @ 7.96 fps)

### Pond 16P: (new Pond)

Hydrograph





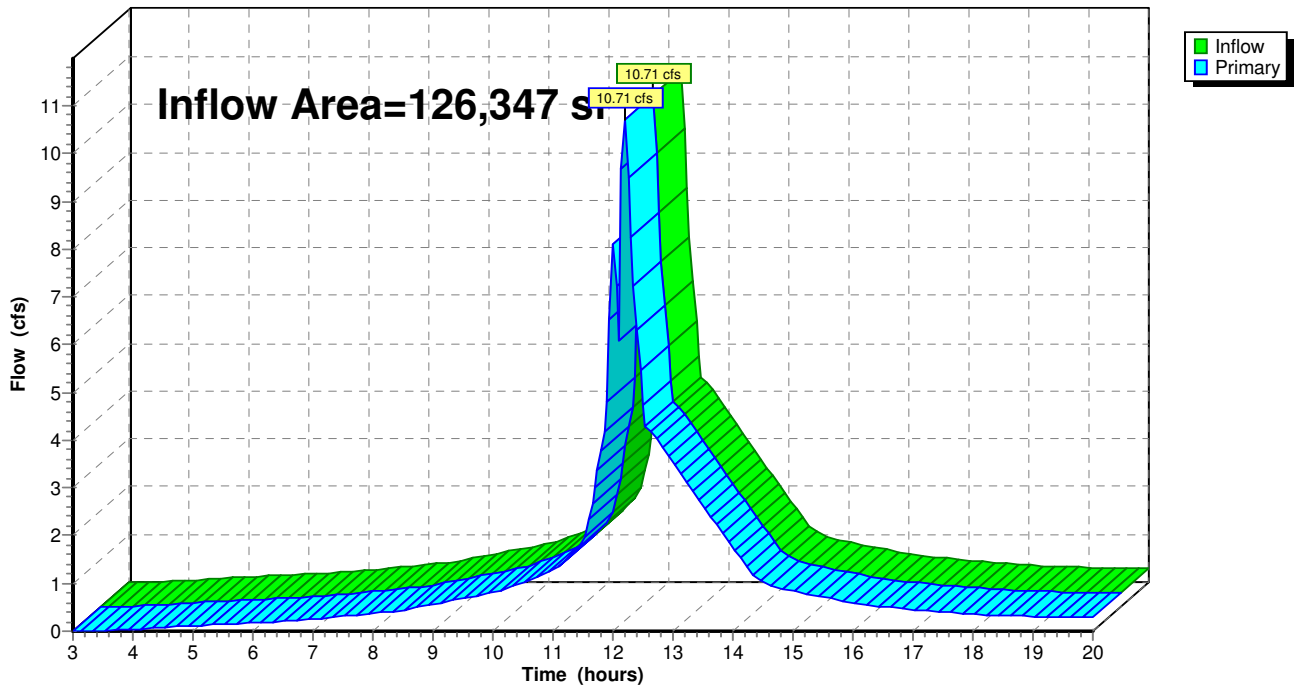
### Summary for Link 17L: (new Link)

Inflow Area = 126,347 sf, 65.08% Impervious, Inflow Depth > 5.97" for 100-Year event  
Inflow = 10.71 cfs @ 12.20 hrs, Volume= 62,890 cf  
Primary = 10.71 cfs @ 12.20 hrs, Volume= 62,890 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

### Link 17L: (new Link)

Hydrograph



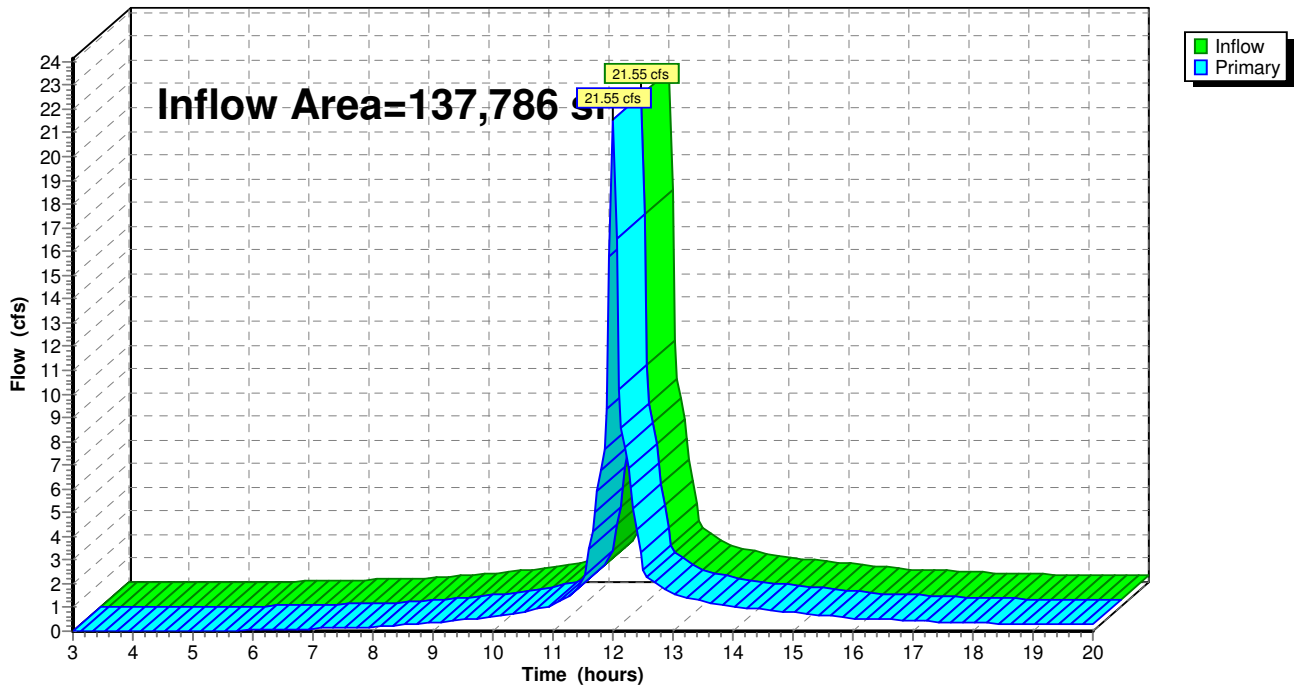
### Summary for Link 22L: (new Link)

Inflow Area = 137,786 sf, 0.00% Impervious, Inflow Depth > 4.91" for 100-Year event  
Inflow = 21.55 cfs @ 12.00 hrs, Volume= 56,335 cf  
Primary = 21.55 cfs @ 12.00 hrs, Volume= 56,335 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

### Link 22L: (new Link)

Hydrograph



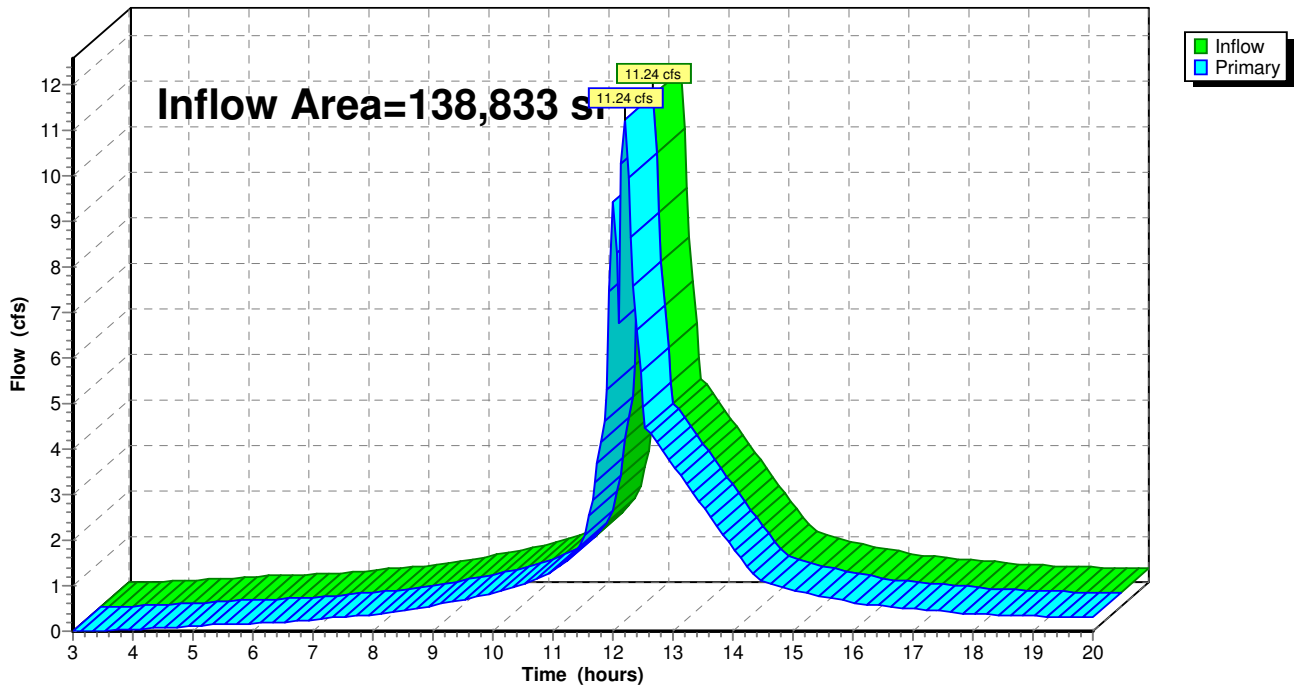
### Summary for Link 23L: (new Link)

Inflow Area = 138,833 sf, 60.83% Impervious, Inflow Depth > 5.73" for 100-Year event  
Inflow = 11.24 cfs @ 12.20 hrs, Volume= 66,268 cf  
Primary = 11.24 cfs @ 12.20 hrs, Volume= 66,268 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

### Link 23L: (new Link)

Hydrograph



**15-128 crestway hamden rev B**

Type III 24-hr First Flush Rainfall=1.00"

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Time span=3.00-20.00 hrs, dt=0.05 hrs, 341 points  
 Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
 Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

<b>Subcatchment 10S: Area to Detention</b>	Runoff Area=76,700 sf 64.68% Impervious Runoff Depth>0.47" Tc=5.0 min CN=94 Runoff=1.04 cfs 2,992 cf
<b>Subcatchment 11S: Area To Swale</b>	Runoff Area=20,536 sf 86.49% Impervious Runoff Depth>0.47" Tc=5.0 min CN=94 Runoff=0.28 cfs 801 cf
<b>Subcatchment 18S: Tributary Area</b>	Runoff Area=12,486 sf 17.88% Impervious Runoff Depth>0.00" Tc=0.0 min UI Adjusted CN=68 Runoff=0.00 cfs 0 cf
<b>Subcatchment 19S: Tributary Area</b>	Runoff Area=29,111 sf 51.03% Impervious Runoff Depth>0.37" Tc=0.0 min CN=92 Runoff=0.36 cfs 901 cf
<b>Subcatchment 20S: Tributary Area Draining</b>	Runoff Area=72,042 sf 0.00% Impervious Runoff Depth>0.18" Tc=0.0 min CN=86 Runoff=0.35 cfs 1,060 cf
<b>Subcatchment 21S: Tributary Area</b>	Runoff Area=65,744 sf 0.00% Impervious Runoff Depth>0.08" Tc=0.0 min CN=81 Runoff=0.08 cfs 461 cf
<b>Reach 12R: (new Reach)</b>	Avg. Flow Depth=0.05' Max Vel=1.83 fps Inflow=0.28 cfs 801 cf n=0.016 L=245.0' S=0.0245 '/' Capacity=16.71 cfs Outflow=0.26 cfs 797 cf
<b>Pond 16P: (new Pond)</b>	Peak Elev=179.70' Storage=931 cf Inflow=1.26 cfs 3,789 cf Outflow=0.71 cfs 3,626 cf
<b>Link 17L: (new Link)</b>	Inflow=0.85 cfs 4,527 cf Primary=0.85 cfs 4,527 cf
<b>Link 22L: (new Link)</b>	Inflow=0.41 cfs 1,521 cf Primary=0.41 cfs 1,521 cf
<b>Link 23L: (new Link)</b>	Inflow=0.85 cfs 4,527 cf Primary=0.85 cfs 4,527 cf

**Total Runoff Area = 276,619 sf Runoff Volume = 6,215 cf Average Runoff Depth = 0.27"**  
**69.47% Pervious = 192,162 sf 30.53% Impervious = 84,457 sf**

**Summary for Subcatchment 10S: Area to Detention Basin**

[49] Hint:  $T_c < 2dt$  may require smaller  $dt$

Runoff = 1.04 cfs @ 12.08 hrs, Volume= 2,992 cf, Depth> 0.47"

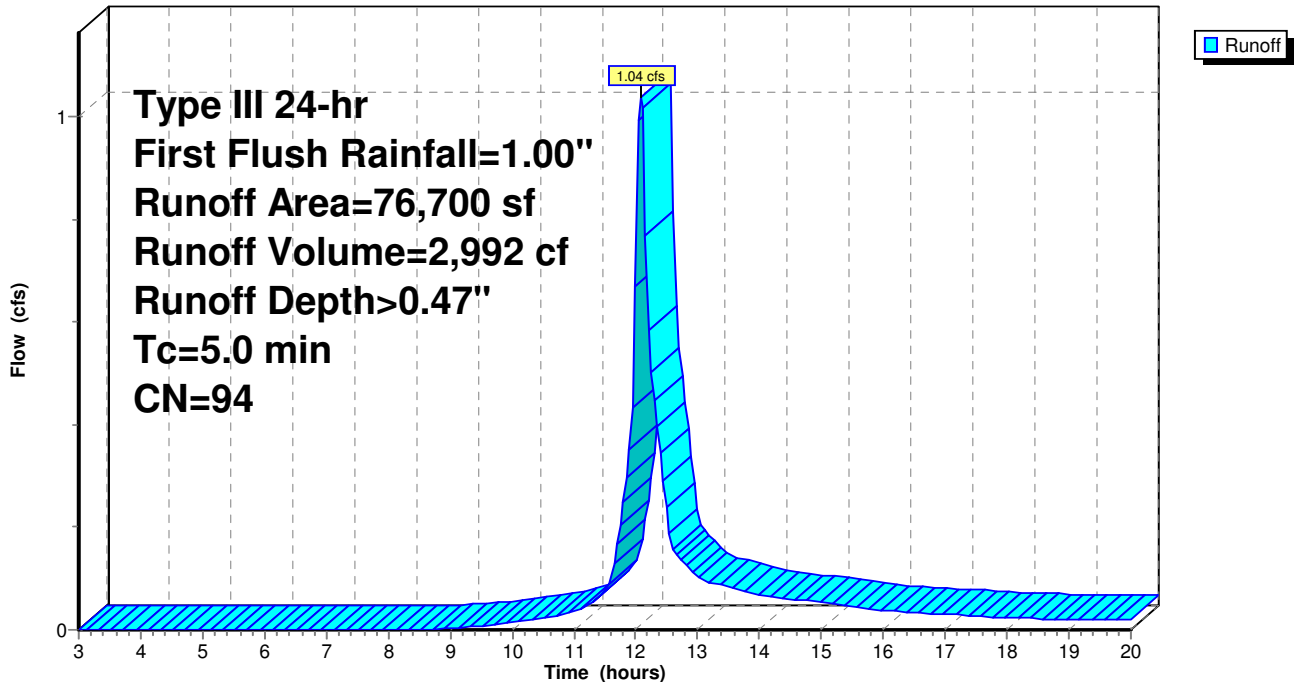
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs,  $dt= 0.05$  hrs  
 Type III 24-hr First Flush Rainfall=1.00"

Area (sf)	CN	Description
49,607	98	Paved parking, HSG B
8,567	86	Newly graded area, HSG B
18,526	86	Newly graded area, HSG B
76,700	94	Weighted Average
27,093		35.32% Pervious Area
49,607		64.68% Impervious Area

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

**Subcatchment 10S: Area to Detention Basin**

Hydrograph



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Type III 24-hr First Flush Rainfall=1.00"

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**Summary for Subcatchment 11S: Area To Swale**

[49] Hint:  $T_c < 2dt$  may require smaller  $dt$

Runoff = 0.28 cfs @ 12.08 hrs, Volume= 801 cf, Depth> 0.47"

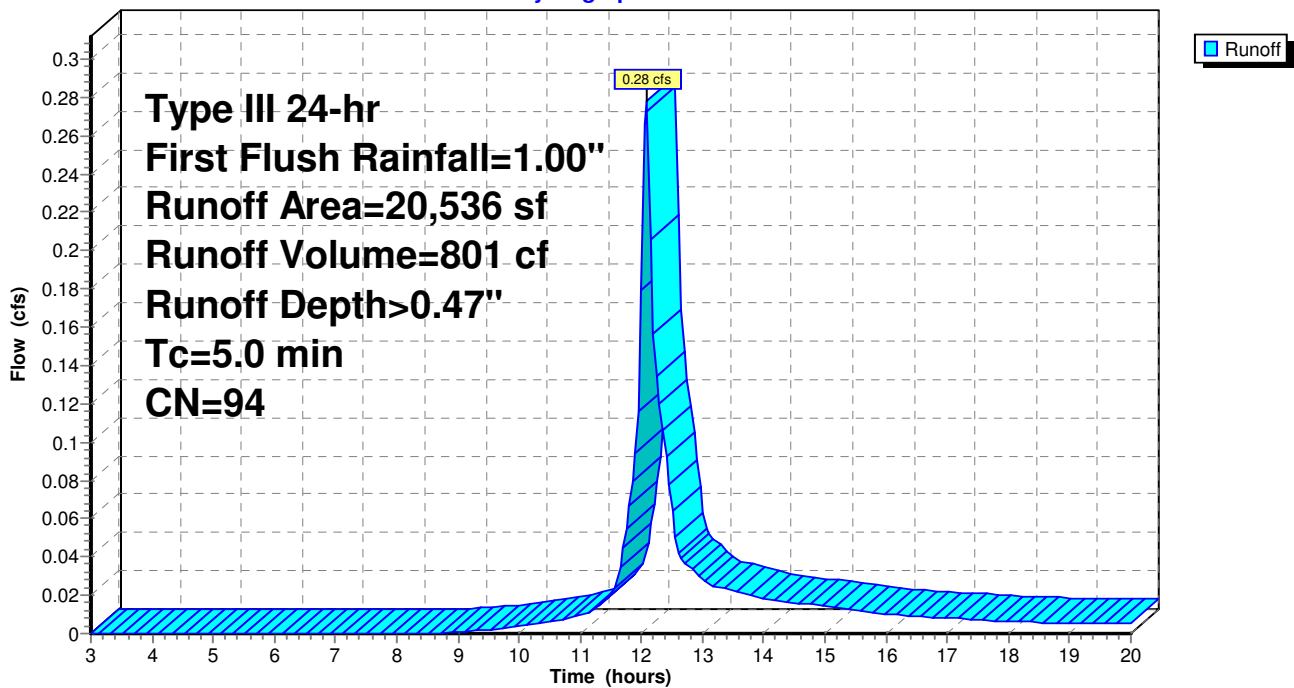
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs,  $dt= 0.05$  hrs  
 Type III 24-hr First Flush Rainfall=1.00"

Area (sf)	CN	Description
17,761	98	Paved parking, HSG B
2,775	65	Woods/grass comb., Fair, HSG B
20,536	94	Weighted Average
2,775		13.51% Pervious Area
17,761		86.49% Impervious Area

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

**Subcatchment 11S: Area To Swale**

Hydrograph



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Type III 24-hr First Flush Rainfall=1.00"

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## Summary for Subcatchment 18S: Tributary Area Traveling over Eastern Property Line

[46] Hint: Tc=0 (Instant runoff peak depends on dt)

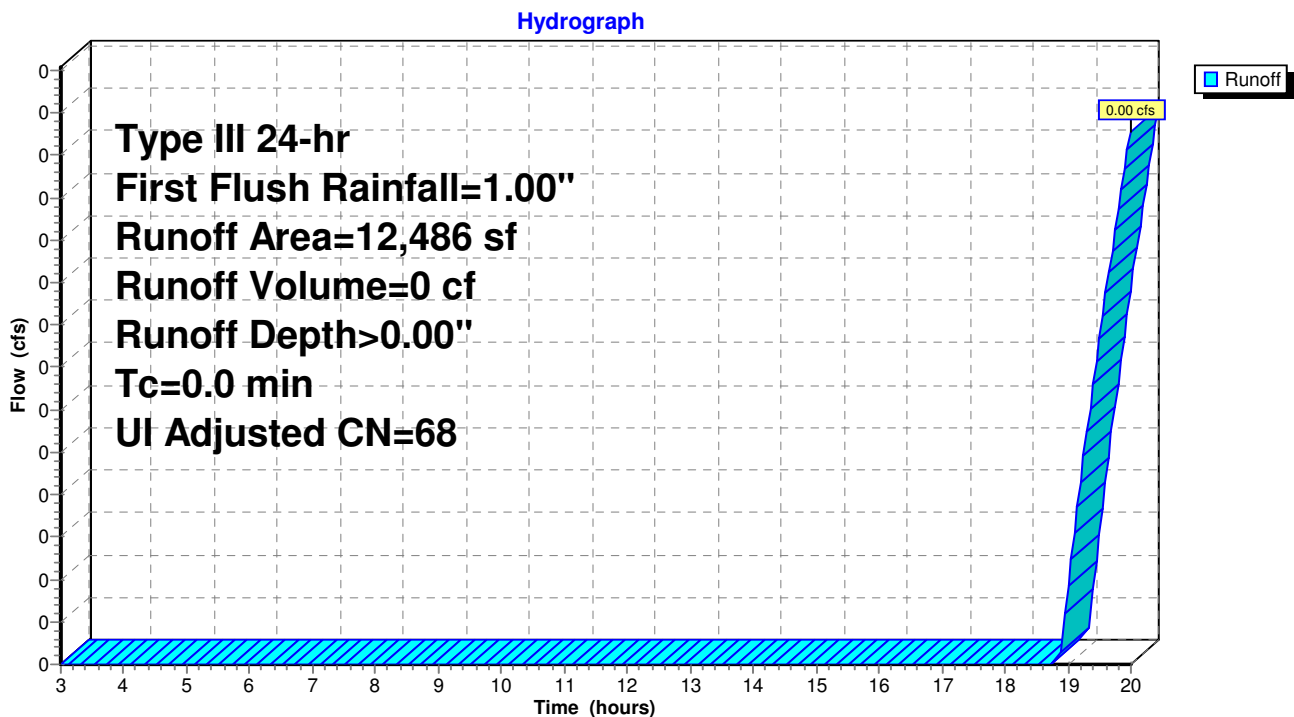
[73] Warning: Peak may fall outside time span

Runoff = 0.00 cfs @ 20.00 hrs, Volume= 0 cf, Depth> 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr First Flush Rainfall=1.00"

Area (sf)	CN	Adj	Description
10,253	65		Woods/grass comb., Fair, HSG B
2,233	98		Unconnected pavement, HSG B
12,486	71	68	Weighted Average, UI Adjusted
10,253			82.12% Pervious Area
2,233			17.88% Impervious Area
2,233			100.00% Unconnected

## Subcatchment 18S: Tributary Area Traveling over Eastern Property Line



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Type III 24-hr First Flush Rainfall=1.00"

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## Summary for Subcatchment 19S: Tributary Area Draining To Crest Way

[46] Hint:  $T_c=0$  (Instant runoff peak depends on dt)

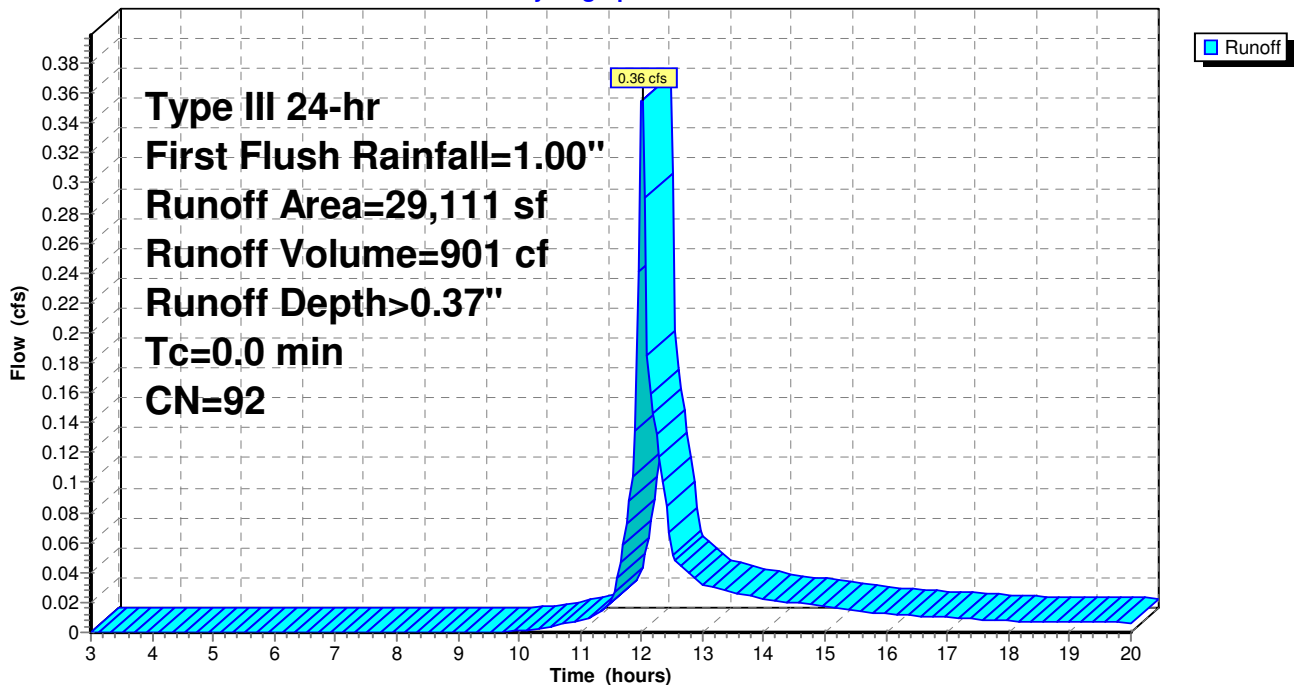
Runoff = 0.36 cfs @ 12.01 hrs, Volume= 901 cf, Depth> 0.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr First Flush Rainfall=1.00"

Area (sf)	CN	Description
14,255	86	Newly graded area, HSG B
10,056	98	Paved parking, HSG B
4,800	98	Unconnected roofs, HSG B
29,111	92	Weighted Average
14,255		48.97% Pervious Area
14,856		51.03% Impervious Area
4,800		32.31% Unconnected

## Subcatchment 19S: Tributary Area Draining To Crest Way

Hydrograph





**Summary for Subcatchment 20S: Tributary Area Draining To Crest Way**

[46] Hint:  $T_c=0$  (Instant runoff peak depends on dt)

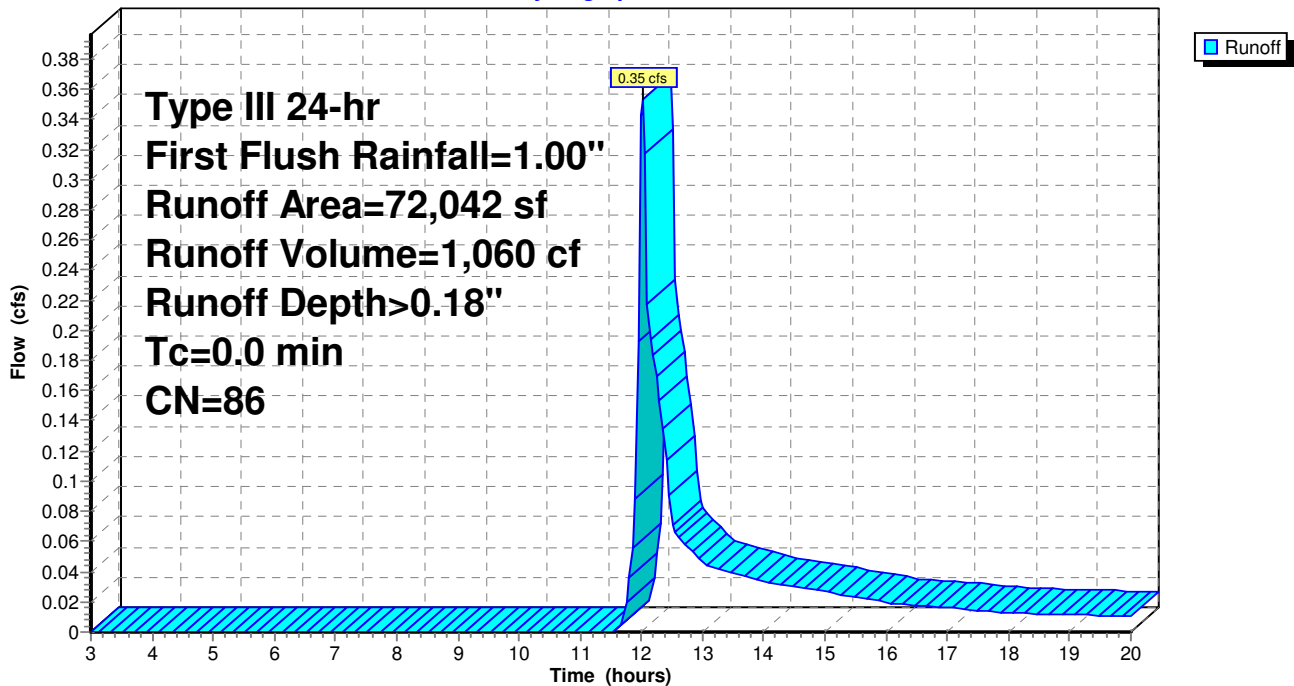
Runoff = 0.35 cfs @ 12.02 hrs, Volume= 1,060 cf, Depth> 0.18"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
 Type III 24-hr First Flush Rainfall=1.00"

Area (sf)	CN	Description
72,042	86	Newly graded area, HSG B
72,042		100.00% Pervious Area

**Subcatchment 20S: Tributary Area Draining To Crest Way**

Hydrograph



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Type III 24-hr First Flush Rainfall=1.00"

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**Summary for Subcatchment 21S: Tributary Area Traveling over Eastern Property Line**

[46] Hint: Tc=0 (Instant runoff peak depends on dt)

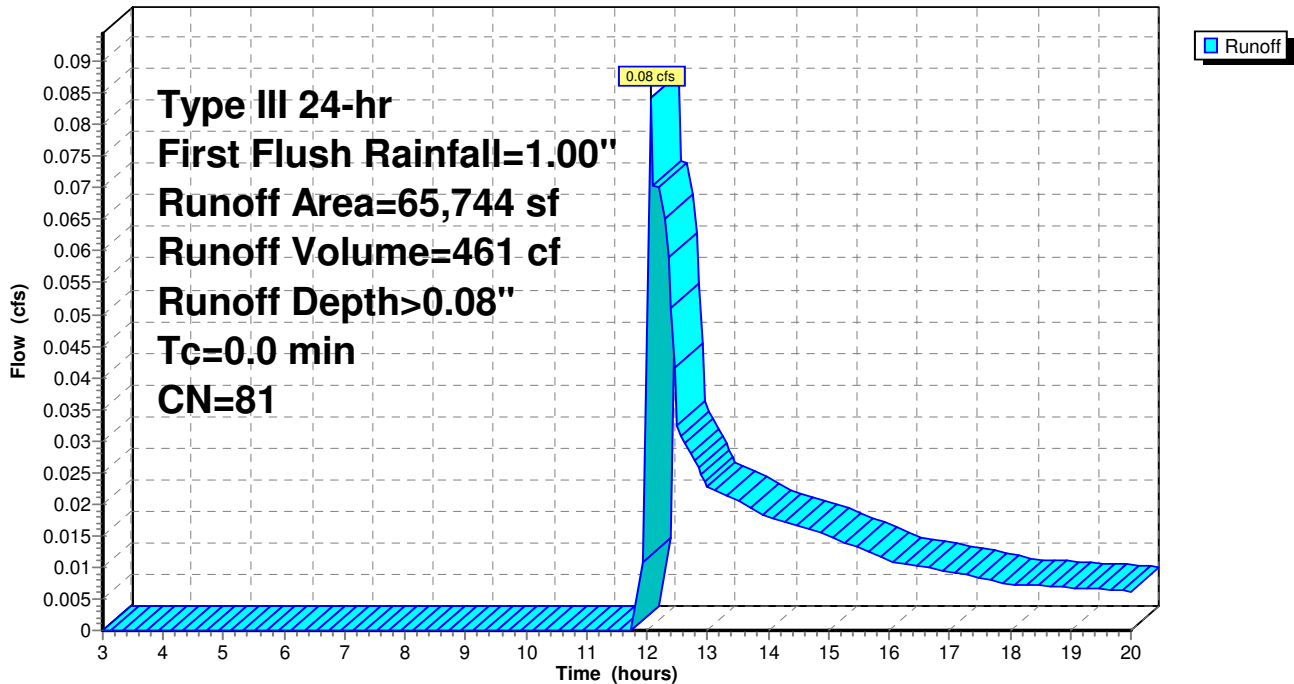
Runoff = 0.08 cfs @ 12.06 hrs, Volume= 461 cf, Depth> 0.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
Type III 24-hr First Flush Rainfall=1.00"

Area (sf)	CN	Description
8,169	65	Woods/grass comb., Fair, HSG B
8,577	65	Woods/grass comb., Fair, HSG B
48,998	86	Newly graded area, HSG B
65,744	81	Weighted Average
65,744		100.00% Pervious Area

**Subcatchment 21S: Tributary Area Traveling over Eastern Property Line**

Hydrograph



### Summary for Reach 12R: (new Reach)

Inflow Area = 20,536 sf, 86.49% Impervious, Inflow Depth > 0.47" for First Flush event  
 Inflow = 0.28 cfs @ 12.08 hrs, Volume= 801 cf  
 Outflow = 0.26 cfs @ 12.15 hrs, Volume= 797 cf, Atten= 6%, Lag= 4.0 min

Routing by Stor-Ind+Trans method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
 Max. Velocity= 1.83 fps, Min. Travel Time= 2.2 min  
 Avg. Velocity = 0.59 fps, Avg. Travel Time= 6.9 min

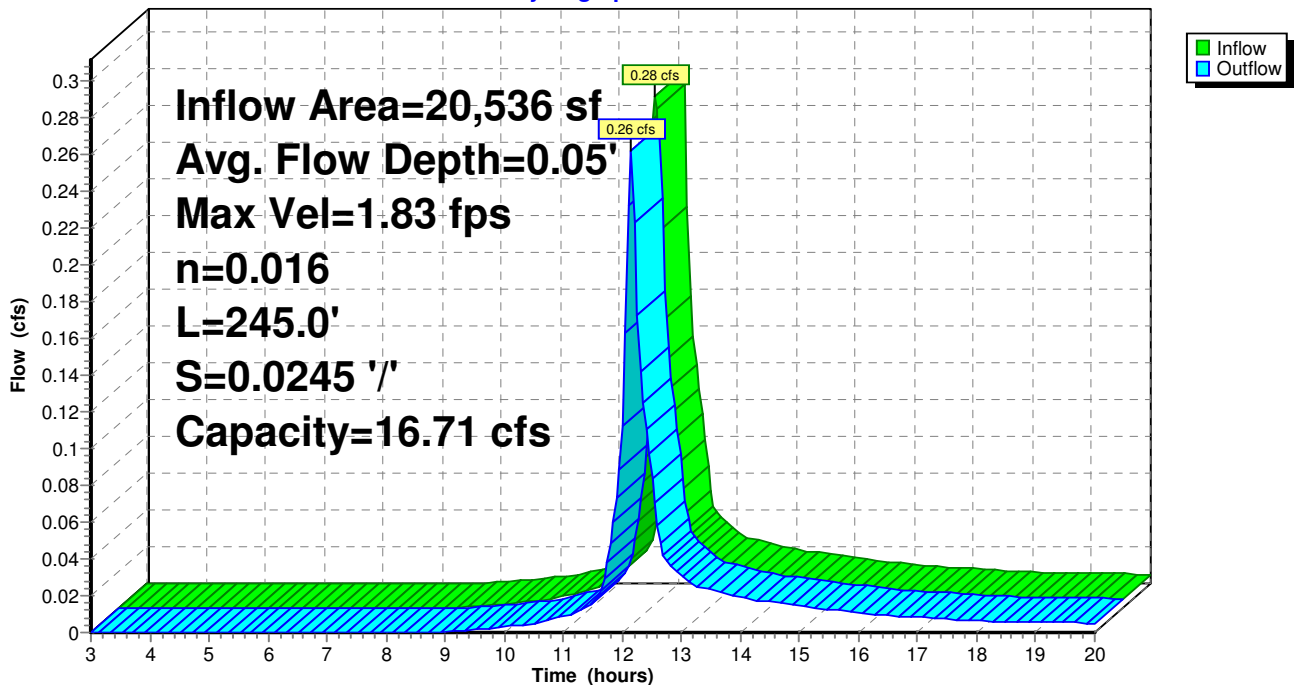
Peak Storage= 36 cf @ 12.11 hrs  
 Average Depth at Peak Storage= 0.05'  
 Bank-Full Depth= 0.50' Flow Area= 2.3 sf, Capacity= 16.71 cfs

3.00' x 0.50' deep channel, n= 0.016 Asphalt, rough  
 Side Slope Z-value= 3.0 ' / ' Top Width= 6.00'  
 Length= 245.0' Slope= 0.0245 ' / '  
 Inlet Invert= 192.00', Outlet Invert= 186.00'



Reach 12R: (new Reach)

Hydrograph



**15-128 crestway hamden rev B**

Type III 24-hr First Flush Rainfall=1.00"

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**Summary for Pond 16P: (new Pond)**

Inflow Area = 97,236 sf, 69.28% Impervious, Inflow Depth > 0.47" for First Flush event  
 Inflow = 1.26 cfs @ 12.09 hrs, Volume= 3,789 cf  
 Outflow = 0.71 cfs @ 12.24 hrs, Volume= 3,626 cf, Atten= 43%, Lag= 9.1 min  
 Primary = 0.71 cfs @ 12.24 hrs, Volume= 3,626 cf

Routing by Stor-Ind method, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs  
 Peak Elev= 179.70' @ 12.24 hrs Surf.Area= 2,674 sf Storage= 931 cf

Plug-Flow detention time= 43.7 min calculated for 3,615 cf (95% of inflow)  
 Center-of-Mass det. time= 28.1 min ( 824.3 - 796.2 )

Volume	Invert	Avail.Storage	Storage Description		
#1	179.30'	19,898 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)	
179.30	2,035	0	0	2,035	
180.00	3,222	1,824	1,824	3,229	
182.00	4,510	7,696	9,520	4,590	
184.00	5,899	10,378	19,898	6,069	

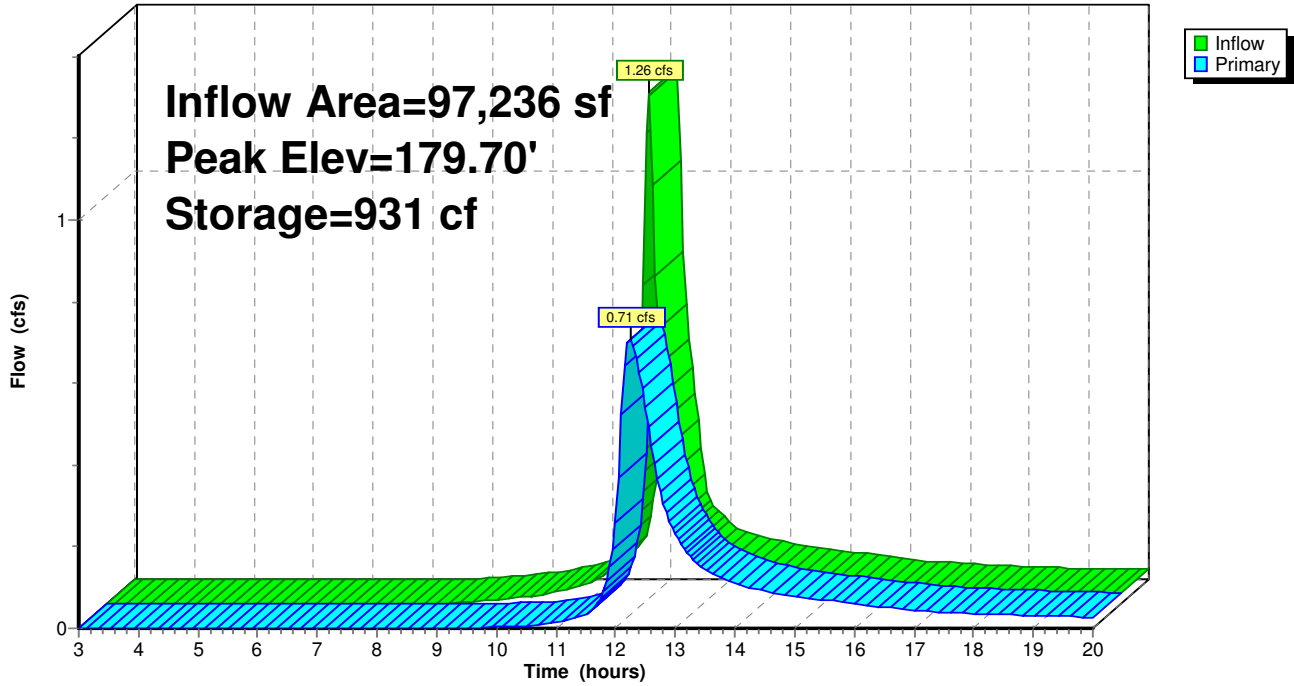
Device	Routing	Invert	Outlet Devices	
#1	Primary	179.30'	<b>18.0" Round Culvert</b> L= 99.0' Ke= 0.500 Inlet / Outlet Invert= 179.30' / 178.60' S= 0.0071 '/' Cc= 0.900 n= 0.013 Corrugated PE, smooth interior, Flow Area= 1.77 sf	
#2	Device 1	182.00'	<b>24.0" x 36.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads	
#3	Device 1	179.30'	<b>12.0" W x 6.0" H Vert. Orifice/Grate</b> C= 0.600	

**Primary OutFlow** Max=0.71 cfs @ 12.24 hrs HW=179.70' (Free Discharge)

- ↑ **1=Culvert** (Barrel Controls 0.71 cfs @ 2.85 fps)
- ↑ **2=Orifice/Grate** ( Controls 0.00 cfs)
- ↑ **3=Orifice/Grate** (Passes 0.71 cfs of 0.80 cfs potential flow)

Pond 16P: (new Pond)

Hydrograph



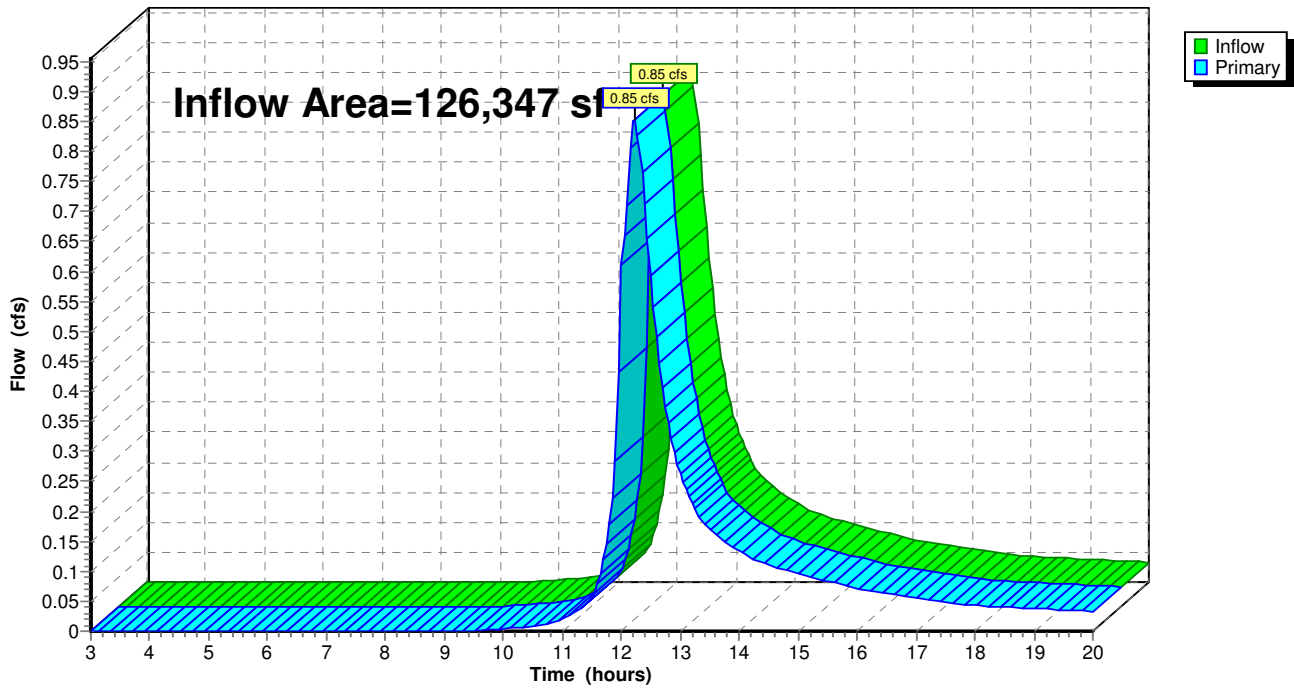
### Summary for Link 17L: (new Link)

Inflow Area = 126,347 sf, 65.08% Impervious, Inflow Depth > 0.43" for First Flush event  
Inflow = 0.85 cfs @ 12.22 hrs, Volume= 4,527 cf  
Primary = 0.85 cfs @ 12.22 hrs, Volume= 4,527 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

### Link 17L: (new Link)

Hydrograph



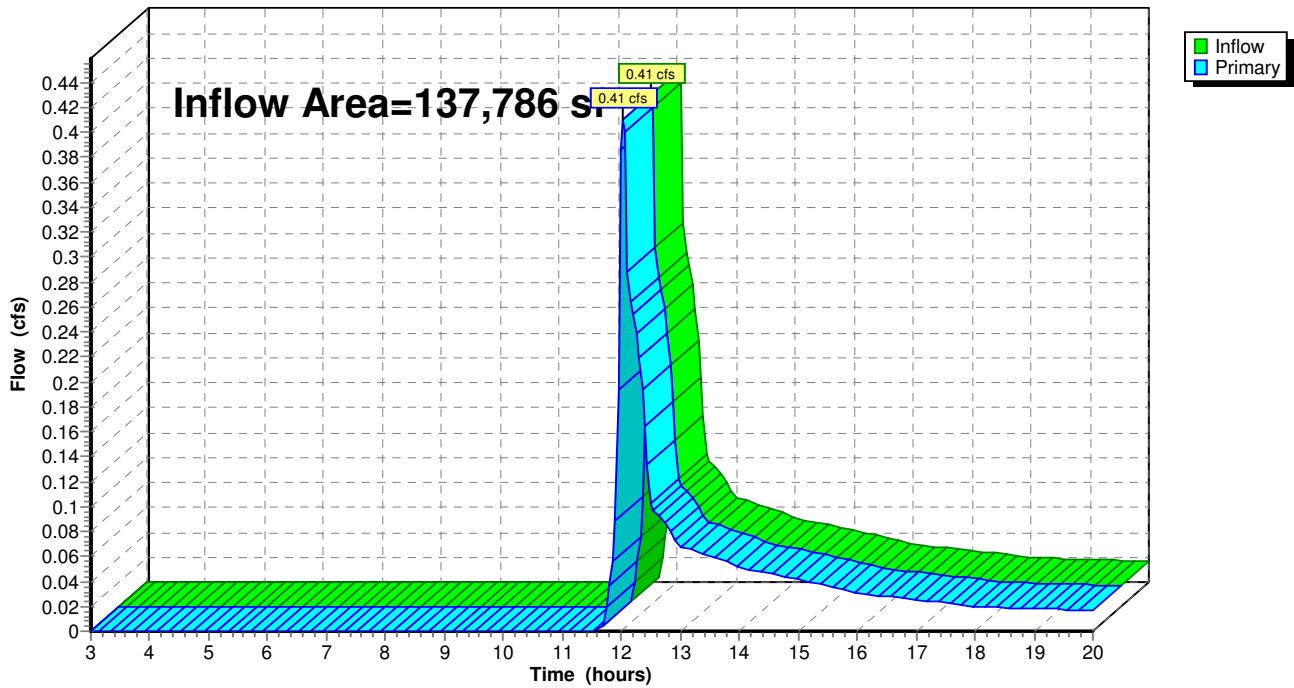
### Summary for Link 22L: (new Link)

Inflow Area = 137,786 sf, 0.00% Impervious, Inflow Depth > 0.13" for First Flush event  
Inflow = 0.41 cfs @ 12.03 hrs, Volume= 1,521 cf  
Primary = 0.41 cfs @ 12.03 hrs, Volume= 1,521 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

### Link 22L: (new Link)

Hydrograph



### Summary for Link 23L: (new Link)

Inflow Area = 138,833 sf, 60.83% Impervious, Inflow Depth > 0.39" for First Flush event  
Inflow = 0.85 cfs @ 12.22 hrs, Volume= 4,527 cf  
Primary = 0.85 cfs @ 12.22 hrs, Volume= 4,527 cf, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 3.00-20.00 hrs, dt= 0.05 hrs

### Link 23L: (new Link)

Hydrograph

