



July 9, 2021

Mr. Don Lopp
Floyd County Board of Commissioners
2524 Corydon Pike, Room 202
New Albany, IN 47150

Re: Schrieber Road Drainage Study
Floyd County, Indiana (County)

Dear Don,

The following outlines the results of the drainage study performed for the area draining to Little Indian Creek bounded by Luther Road to the west, Duffy Road to the south, and United States 150 to the east. The goal of this study was to determine the existing drainage conditions in the area and the impact that potential future development of the area will have on runoff rates to Little Indian Creek.

Calculation Methodology

The study area was delineated into six different drainage areas. These areas are labeled in the enclosed figures. The peak 2-, 10-, and 100-year discharges from each area were determined for predevelopment and existing conditions using TR-20 methodologies consistent with the County requirements using the HydroCAD computer application. The existing drainage basins were then separated into areas that have been developed to date and areas that have not been developed. This delineation is included in the enclosed figures. In addition to the calculations previously described, a runoff rate was developed for each basin for only the area that is developed. This allows the existing condition to be separated into separate runoff rates generated by the developed and undeveloped portions of each drainage area.

The County stormwater ordinance requires 10-year runoff rates to be reduced to 2-year runoff rates and 100-year runoff rates reduced to 10-year runoff rates. This reduction was applied to the undeveloped portion of each drainage area to determine the future peak discharges for the fully developed condition.

Results

Tables with the future peak discharge for each drainage area, and the summation of all areas are enclosed. It was found that discharges from areas one, two, and three will be reduced to predevelopment conditions as development occurs according to the ordinance for all 10- and 100-year storm events. Discharges from areas four, five, and six will be lowered from existing conditions but not to predevelopment levels. Additional tables are included to show the benefit that can be provided in each area by requiring 10 to 25 percent additional detention in each area and across the entire study area. The additional detention provides additional reduction in rates in areas four, five, and six with resulting runoff rates closer to the predevelopment condition.

Total runoff from the study area is shown to be reduced to below predevelopment levels for the 100-year event as development continues to occur according to the current stormwater standards, with the 10-year

Mr. Don Lopp
Floyd County Board of Commissioners
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event reduced to near predevelopment levels. With 25 percent additional detention, both the 10- and 100-year postdevelopment rates are reduced below predevelopment levels.

Conclusion

In conclusion, as the current County stormwater detention requirements are applied to the study area, area-wide runoff rates will be reduced to at or near predevelopment levels for the 10- and 100-year design events. Within the study area, areas four, five, and six have experienced increased runoff from historical development before the current detention requirements. As development occurs in these areas, rates for the design events will continue to decrease but will not reach predevelopment levels. To maximize the benefits of detention in the study area and to offset runoff from historical developments, consideration should be given to an increase in required detention volumes for developments in the study area.

If you have any questions regarding the information provided in this report, please call 812-372-9911.

Sincerely,

STRAND ASSOCIATES, INC.®



Mark J. Krenzke, P.E.

Enclosures

Runoff Calculation Summary Tables

Base - From HydroCAD

Scenario 1 - Development @ Ordinance

Scenario 2 - Development @ 110% Ordinance

Scenario 3 - Development @ 125% Ordinance

Area 1 Peak Runoff (cfs)			
<i>Condition</i>	<i>2-Year</i>	<i>10-Year</i>	<i>100-Year</i>
Pre-Development	8.16	18.01	36.8
Existing	8.16	18.01	36.8
Developed	0.77	1.64	3.36
Undeveloped	7.39	16.37	33.44

Area 1 Peak Runoff (cfs)		
<i>Condition</i>	<i>10-Year</i>	<i>100-Year</i>
Pre-Development	18.01	36.8
Existing	18.01	36.8
Developed	1.64	3.36
Undeveloped	7.39	16.37
Total Future Runoff	9.03	19.73

Area 1 Peak Runoff (cfs)		
<i>Condition</i>	<i>10-Year</i>	<i>100-Year</i>
Pre-Development	18.01	36.80
Existing	18.01	36.80
Developed	1.64	3.36
Undeveloped	6.65	14.73
Total Future Runoff	8.29	18.09

Area 1 Peak Runoff (cfs)		
<i>Condition</i>	<i>10-Year</i>	<i>100-Year</i>
Pre-Development	18.01	36.80
Existing	18.01	36.80
Developed	1.64	3.36
Undeveloped	5.54	12.28
Total Future Runoff	7.18	15.64

Area 2 Peak Runoff (cfs)			
<i>Condition</i>	<i>2-Year</i>	<i>10-Year</i>	<i>100-Year</i>
Pre-Development	21.49	63.77	150.57
Existing	24.51	68.69	158.09
Developed	14.88	30.47	62.17
Undeveloped	9.63	38.22	95.92

Area 2 Peak Runoff (cfs)		
<i>Condition</i>	<i>10-Year</i>	<i>100-Year</i>
Pre-Development	63.77	150.57
Existing	68.69	158.09
Developed	30.47	62.17
Undeveloped	9.63	38.22
Total Future Runoff	40.1	100.39

Area 2 Peak Runoff (cfs)		
<i>Condition</i>	<i>10-Year</i>	<i>100-Year</i>
Pre-Development	63.77	150.57
Existing	68.69	158.09
Developed	30.47	62.17
Undeveloped	8.67	34.40
Total Future Runoff	39.14	96.57

Area 2 Peak Runoff (cfs)		
<i>Condition</i>	<i>10-Year</i>	<i>100-Year</i>
Pre-Development	63.77	150.57
Existing	68.69	158.09
Developed	30.47	62.17
Undeveloped	7.22	28.67
Total Future Runoff	37.69	90.84

Area 3 Peak Runoff (cfs)			
<i>Condition</i>	<i>2-Year</i>	<i>10-Year</i>	<i>100-Year</i>
Pre-Development	9.82	20.36	40.1
Existing	10.68	21.62	42.01
Developed	1.33	2.76	5.43
Undeveloped	9.35	18.86	36.58

Area 3 Peak Runoff (cfs)		
<i>Condition</i>	<i>10-Year</i>	<i>100-Year</i>
Pre-Development	20.36	40.1
Existing	21.62	42.01
Developed	2.76	5.43
Undeveloped	9.35	18.86
Total Future Runoff	12.11	24.29

Area 3 Peak Runoff (cfs)		
<i>Condition</i>	<i>10-Year</i>	<i>100-Year</i>
Pre-Development	20.36	40.10
Existing	21.62	42.01
Developed	2.76	5.43
Undeveloped	8.42	16.97
Total Future Runoff	11.18	22.40

Area 3 Peak Runoff (cfs)		
<i>Condition</i>	<i>10-Year</i>	<i>100-Year</i>
Pre-Development	20.36	40.10
Existing	21.62	42.01
Developed	2.76	5.43
Undeveloped	7.01	14.15
Total Future Runoff	9.77	19.58

Area 4 Peak Runoff (cfs)			
<i>Condition</i>	<i>2-Year</i>	<i>10-Year</i>	<i>100-Year</i>
Pre-Development	10.62	29.3	66.83
Existing	27.1	54	113.28
Developed	18.02	33.38	59.67
Undeveloped	9.08	20.62	53.61

Area 4 Peak Runoff (cfs)		
<i>Condition</i>	<i>10-Year</i>	<i>100-Year</i>
Pre-Development	29.3	66.83
Existing	54	113.28
Developed	33.38	59.67
Undeveloped	9.08	20.62
Total Future Runoff	42.46	80.29

Area 4 Peak Runoff (cfs)		
<i>Condition</i>	<i>10-Year</i>	<i>100-Year</i>
Pre-Development	29.30	66.83
Existing	54.00	113.28
Developed	33.38	59.67
Undeveloped	8.17	18.56
Total Future Runoff	41.55	78.23

Area 4 Peak Runoff (cfs)		
<i>Condition</i>	<i>10-Year</i>	<i>100-Year</i>
Pre-Development	29.30	66.83
Existing	54.00	113.28
Developed	33.38	59.67
Undeveloped	6.81	15.47
Total Future Runoff	40.19	75.14

Area 5 Peak Runoff (cfs)			
Condition	2-Year	10-Year	100-Year
Pre-Development	0.92	5.43	16.16
Existing	20.26	35.77	61.93
Developed	20.24	33.78	55.66
Undeveloped	0.02	1.99	6.27

Area 5 Peak Runoff (cfs)		
Condition	10-Year	100-Year
Pre-Development	5.43	16.16
Existing	35.77	61.93
Developed	33.78	55.66
Undeveloped	0.02	1.99
Total Future Runoff	33.8	57.65

Area 5 Peak Runoff (cfs)		
Condition	10-Year	100-Year
Pre-Development	5.43	16.16
Existing	35.77	61.93
Developed	33.78	55.66
Undeveloped	0.02	1.79
Total Future Runoff	33.80	57.45

Area 5 Peak Runoff (cfs)		
Condition	10-Year	100-Year
Pre-Development	5.43	16.16
Existing	35.77	61.93
Developed	33.78	55.66
Undeveloped	0.02	1.49
Total Future Runoff	33.80	57.15

Area 6 Peak Runoff (cfs)			
Condition	2-Year	10-Year	100-Year
Pre-Development	4.26	14.54	36.3
Existing	9.21	22.5	48.43
Developed	8.94	17.43	33.96
Undeveloped	0.27	5.07	14.47

Area 6 Peak Runoff (cfs)		
Condition	10-Year	100-Year
Pre-Development	14.54	36.3
Existing	22.5	48.43
Developed	17.43	33.96
Undeveloped	0.27	5.07
Total Future Runoff	17.7	39.03

Area 6 Peak Runoff (cfs)		
Condition	10-Year	100-Year
Pre-Development	14.54	36.30
Existing	22.50	48.43
Developed	17.43	33.96
Undeveloped	0.24	4.56
Total Future Runoff	17.67	38.52

Area 6 Peak Runoff (cfs)		
Condition	10-Year	100-Year
Pre-Development	14.54	36.30
Existing	22.50	48.43
Developed	17.43	33.96
Undeveloped	0.20	3.80
Total Future Runoff	17.63	37.76

Total Peak Runoff (cfs)			
Condition	2-Year	10-Year	100-Year
Pre-Development	55.27	151.41	346.76
Existing	99.92	220.59	460.54
Developed	64.18	119.46	220.25
Undeveloped	35.74	101.13	240.29

Total Peak Runoff (cfs)		
Condition	10-Year	100-Year
Pre-Development	151.41	346.76
Existing	220.59	460.54
Developed	119.46	220.25
Undeveloped	35.74	101.13
Total Future Runoff	155.2	321.38

Total Peak Runoff (cfs)		
Condition	10-Year	100-Year
Pre-Development	151.41	346.76
Existing	220.59	460.54
Developed	119.46	220.25
Undeveloped	32.17	91.02
Total Future Runoff	151.63	311.27

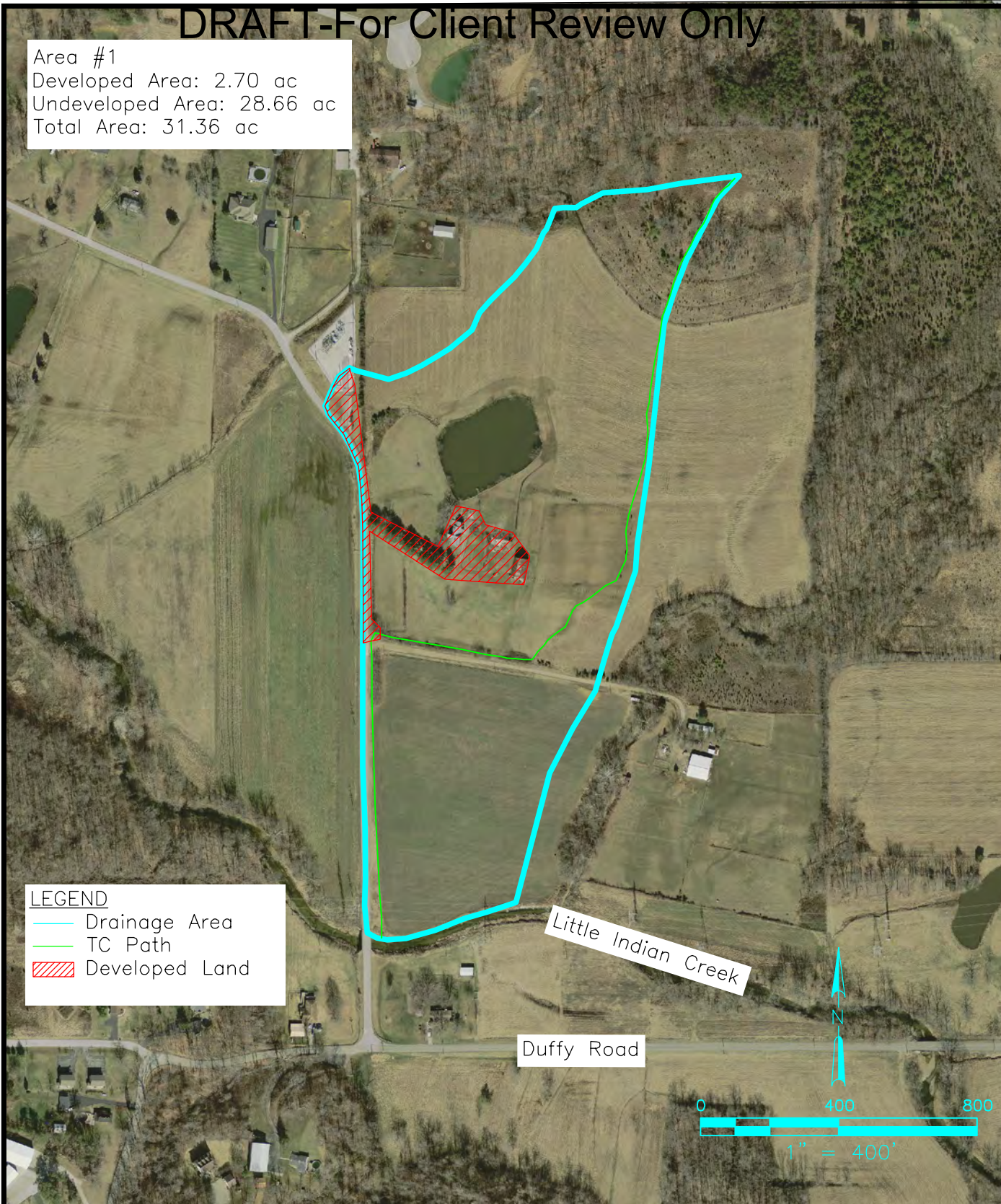
Total Peak Runoff (cfs)		
Condition	10-Year	100-Year
Pre-Development	151.41	346.76
Existing	220.59	460.54
Developed	119.46	220.25
Undeveloped	26.81	75.85
Total Future Runoff	146.27	296.10

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DRAINAGE AREA 1 HYDROLOGIC CALCULATIONS

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Area #1
Developed Area: 2.70 ac
Undeveloped Area: 28.66 ac
Total Area: 31.36 ac



LEGEND
— Drainage Area
— TC Path
▨ Developed Land

File: S:\COL\4000---4099\4046\035\Drawings\CAD\DrainageAreas_Printout.dwg Time: Jul 09, 2021 - 10:31am

Floyd County Drainage Study
Drainage Area #1



FIGURE 02

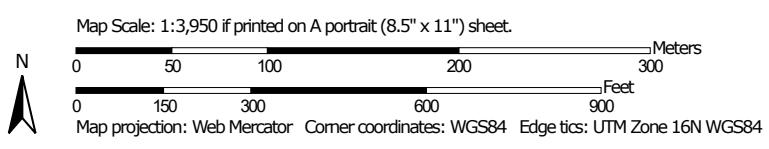
4046.035

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Hydrologic Soil Group: Hilly County, Indiana



Soil Map may not be valid at this scale.



MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines


 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points






 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available


Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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

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

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

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

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

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

Soil Survey Area: Floyd County, Indiana
 Survey Area Data: Version 25, Jun 4, 2020

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

Date(s) aerial images were photographed: Apr 3, 2020—Apr 11, 2020

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BcrAW	Beanblossom silt loam, 1 to 3 percent slopes, occasionally flooded, very brief duration	B	5.0	15.2%
GgfE2	Gilwood-Wrays silt loams, 12 to 25 percent slopes, eroded	C	5.4	16.2%
KxkC2	Knobcreek-Navilleton silt loams, 6 to 12 percent slopes, eroded	C	0.0	0.1%
SodB	Spickert silt loam, terrace, 1 to 4 percent slopes	C/D	12.1	36.5%
SolC2	Spickert-Wrays silt loams, 6 to 12 percent slopes, eroded	C	4.1	12.3%
StaAQ	Steff silt loam, 0 to 2 percent slopes, rarely flooded	C	6.5	19.7%
Totals for Area of Interest			33.2	100.0%

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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Predevelopment Basin #1 Curve Number Calculation						
		Percentage of Total Area per Soil Group				
		A	B	C	D	
		0.0%	15.1%	48.3%	36.6%	
Areas (Acres)		CN Value				CN
Residential	4.05	51	68	79	84	79.17
Grass	16.38	30	58	71	78	71.60
Farm	9.53	67	78	85	89	85.40
Water	1.40	100	100	100	77	91.59
Total Project Area	31.36					78.00

Existing Basin # 1 Curve Number Calculation						
		Percentage of Total Area per Soil Group				
		A	B	C	D	
		0.0%	15.1%	48.3%	36.6%	
Areas (Acres)		CN Value				CN
Residential	2.70	51	68	79	84	79.17
Grass	15.42	30	58	71	78	71.60
Farm	9.53	74	83	88	90	87.98
Woods	2.25	30	55	70	77	70.29
Water	1.46	100	100	100	100	100.00
Total Project Area	31.36					78.00

Developed Area Basin # 1 Curve Number Calculation						
		Percentage of Total Area per Soil Group				
		A	B	C	D	
		0.0%	15.1%	48.3%	36.6%	
Areas (Acres)		CN Value				CN
Residential	2.70	51	68	79	84	79.17
Total Project Area	2.70					79.00

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Schreiber Road

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Page 1

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.39	2
2	10YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.98	2
3	100YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	2.90	2

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Schreiber Road

Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

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Page 2

Summary for Subcatchment 11S: Basin #1 Pre Development

Runoff = 8.16 cfs @ 1.09 hrs, Volume= 0.489 af, Depth= 0.19"

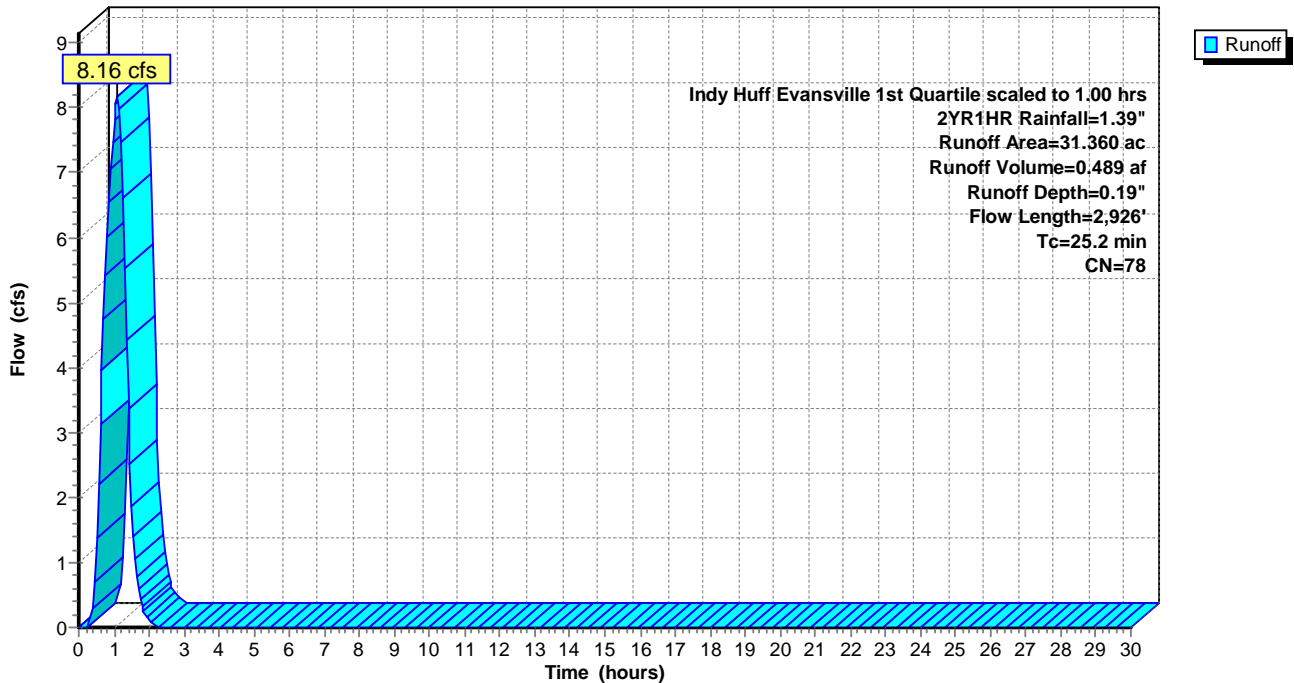
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

Area (ac)	CN	Description
* 31.360	78	
31.360		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0700	0.19		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
12.4	1,276	0.0596	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
4.0	1,550	0.0168	6.52	156.54	Channel Flow, Area= 24.0 sf Perim= 18.6' r= 1.29' n= 0.035 Earth, dense weeds
25.2	2,926	Total			

Subcatchment 11S: Basin #1 Pre Development

Hydrograph



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Summary for Subcatchment 11S: Basin #1 Pre Development

Runoff = 18.01 cfs @ 1.04 hrs, Volume= 1.237 af, Depth= 0.47"

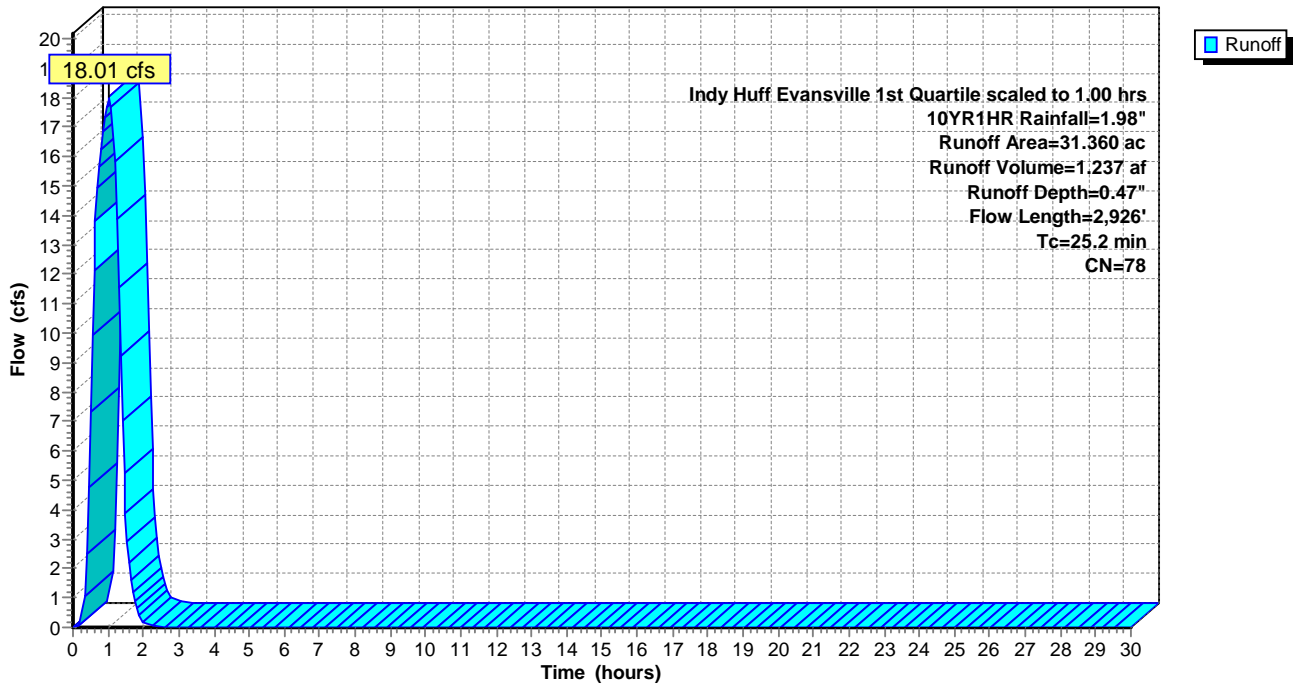
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

Area (ac)	CN	Description
* 31.360	78	
31.360		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0700	0.19		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
12.4	1,276	0.0596	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
4.0	1,550	0.0168	6.52	156.54	Channel Flow, Area= 24.0 sf Perim= 18.6' r= 1.29' n= 0.035 Earth, dense weeds
25.2	2,926	Total			

Subcatchment 11S: Basin #1 Pre Development

Hydrograph



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Schreiber Road *Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 100YR1HR Rainfall=2.90"*
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Summary for Subcatchment 11S: Basin #1 Pre Development

Runoff = 36.80 cfs @ 0.90 hrs, Volume= 2.765 af, Depth= 1.06"

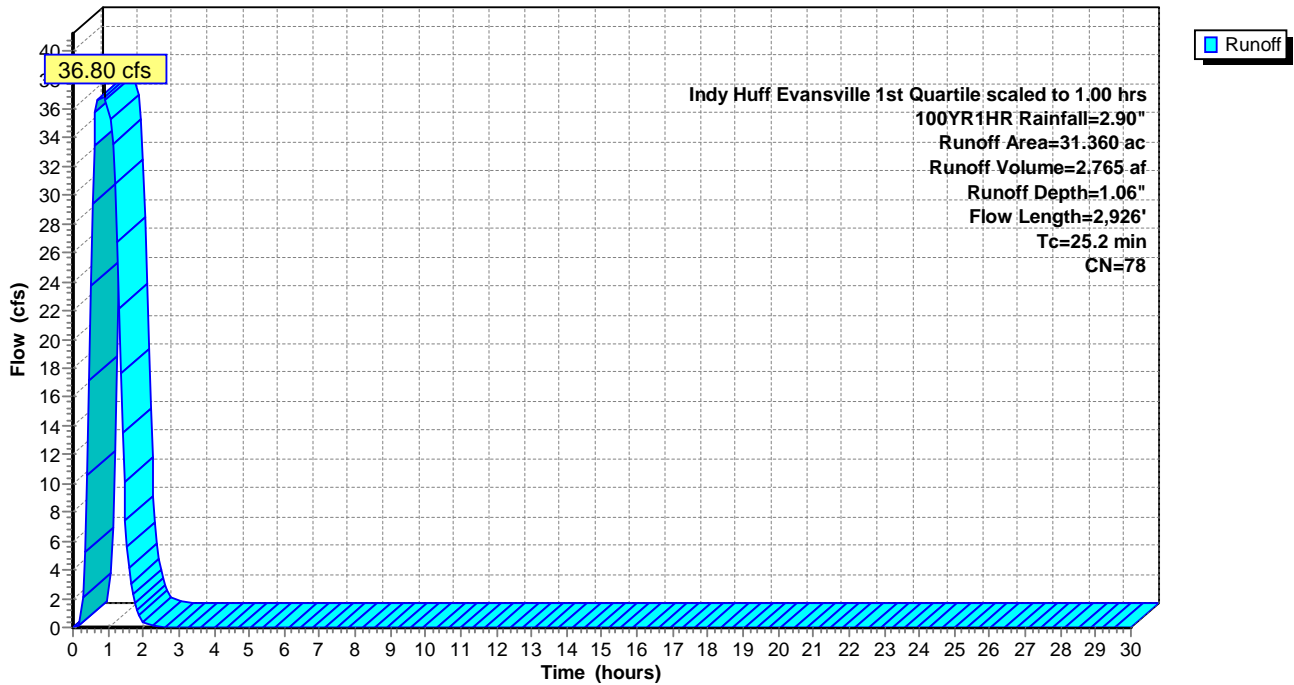
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 100YR1HR Rainfall=2.90"

Area (ac)	CN	Description
* 31.360	78	
31.360		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0700	0.19		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
12.4	1,276	0.0596	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
4.0	1,550	0.0168	6.52	156.54	Channel Flow, Area= 24.0 sf Perim= 18.6' r= 1.29' n= 0.035 Earth, dense weeds
25.2	2,926	Total			

Subcatchment 11S: Basin #1 Pre Development

Hydrograph



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Schreiber Road

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Page 1

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.39	2
2	10YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.98	2
3	100YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	2.90	2

DRAFT-For Client Review Only**Schreiber Road**

Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

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Page 2

Summary for Subcatchment 6S: Basin #1

Runoff = 8.16 cfs @ 1.09 hrs, Volume= 0.489 af, Depth= 0.19"

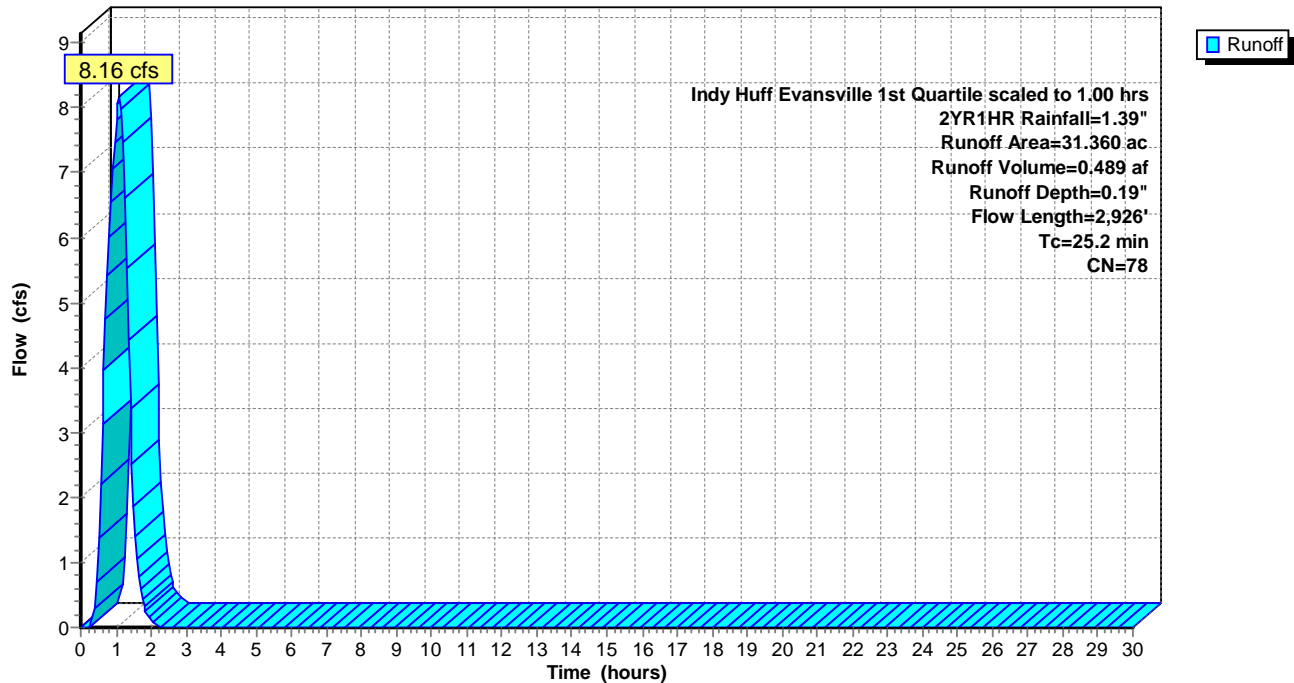
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

Area (ac)	CN	Description
* 31.360	78	
31.360		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0700	0.19		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
12.4	1,276	0.0596	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
4.0	1,550	0.0168	6.52	156.54	Channel Flow, Area= 24.0 sf Perim= 18.6' r= 1.29' n= 0.035 Earth, dense weeds
25.2	2,926	Total			

Subcatchment 6S: Basin #1

Hydrograph



DRAFT-For Client Review Only**Schreiber Road**

Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

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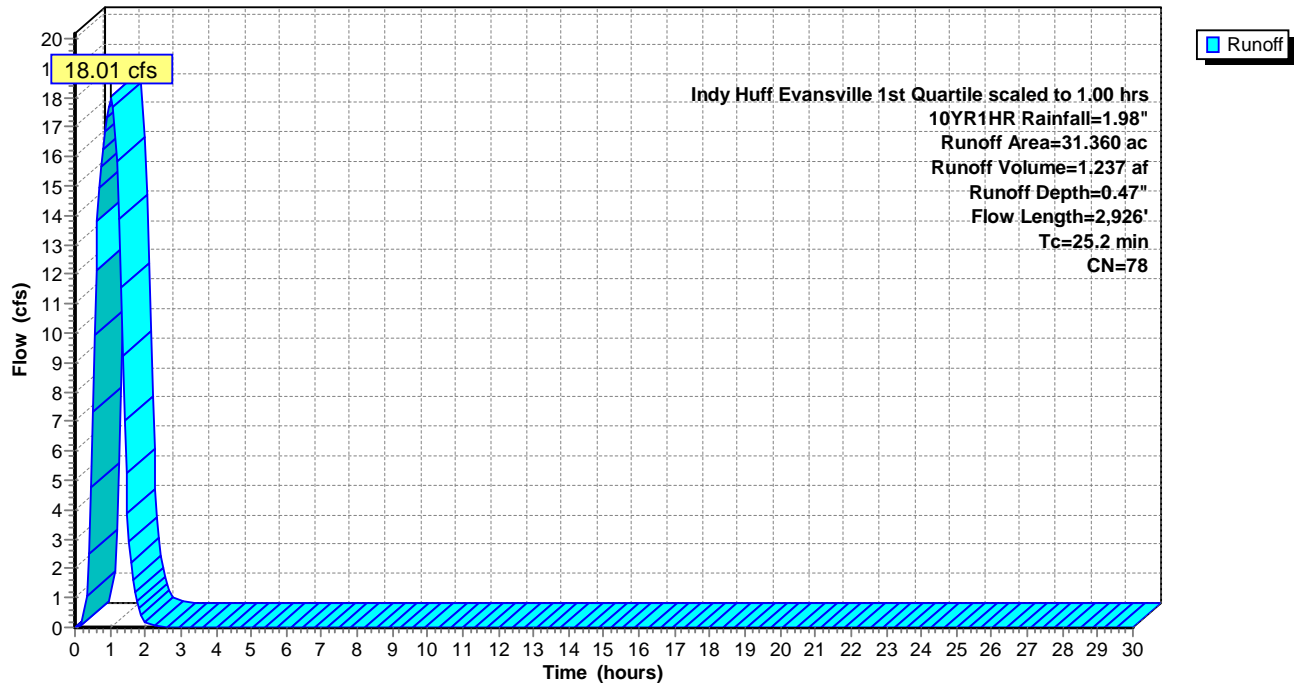
Summary for Subcatchment 6S: Basin #1

Runoff = 18.01 cfs @ 1.04 hrs, Volume= 1.237 af, Depth= 0.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

Area (ac)	CN	Description
* 31.360	78	
31.360		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0700	0.19		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
12.4	1,276	0.0596	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
4.0	1,550	0.0168	6.52	156.54	Channel Flow, Area= 24.0 sf Perim= 18.6' r= 1.29' n= 0.035 Earth, dense weeds
25.2	2,926	Total			

Subcatchment 6S: Basin #1**Hydrograph**

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Schreiber Road *Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 100YR1HR Rainfall=2.90"*
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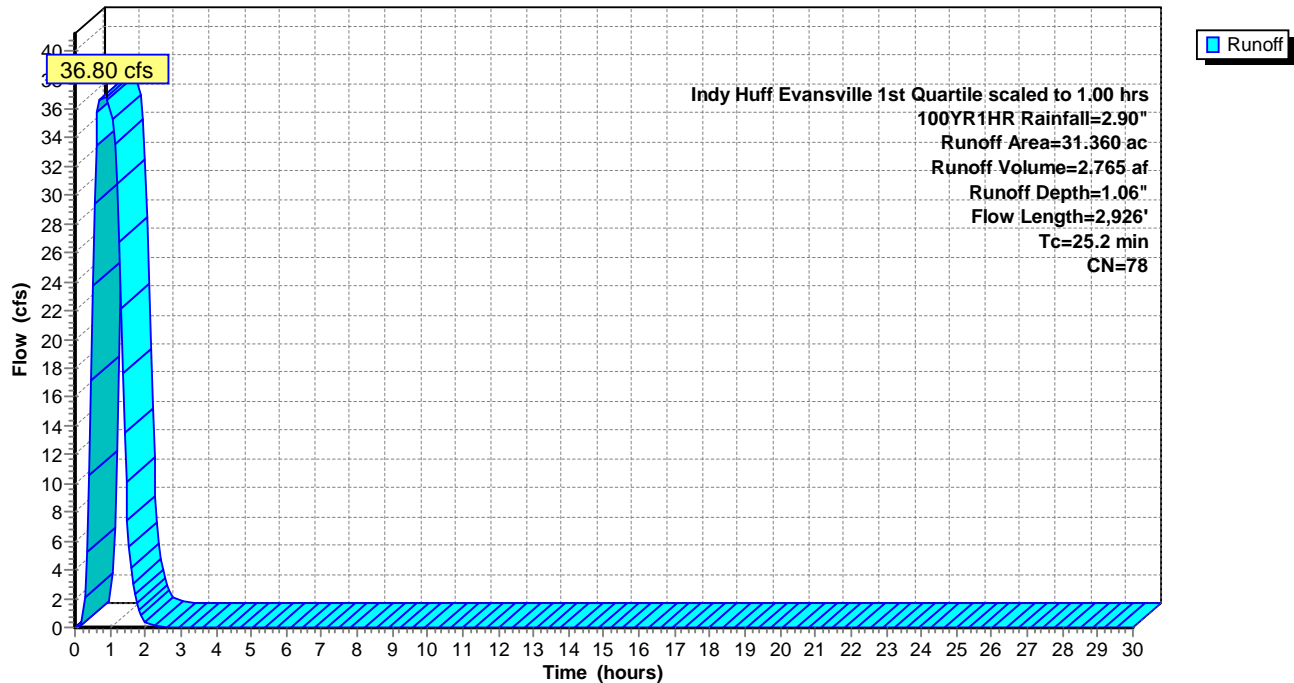
Summary for Subcatchment 6S: Basin #1

Runoff = 36.80 cfs @ 0.90 hrs, Volume= 2.765 af, Depth= 1.06"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 100YR1HR Rainfall=2.90"

Area (ac)	CN	Description
* 31.360	78	
31.360		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0700	0.19		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
12.4	1,276	0.0596	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
4.0	1,550	0.0168	6.52	156.54	Channel Flow, Area= 24.0 sf Perim= 18.6' r= 1.29' n= 0.035 Earth, dense weeds
25.2	2,926	Total			

Subcatchment 6S: Basin #1**Hydrograph**

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Schreiber Road

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Page 1

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.39	2
2	10YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.98	2
3	100YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	2.90	2

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Schreiber Road

Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

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Summary for Subcatchment 16S: Basin #1 Developed

Runoff = 0.77 cfs @ 1.09 hrs, Volume= 0.047 af, Depth= 0.21"

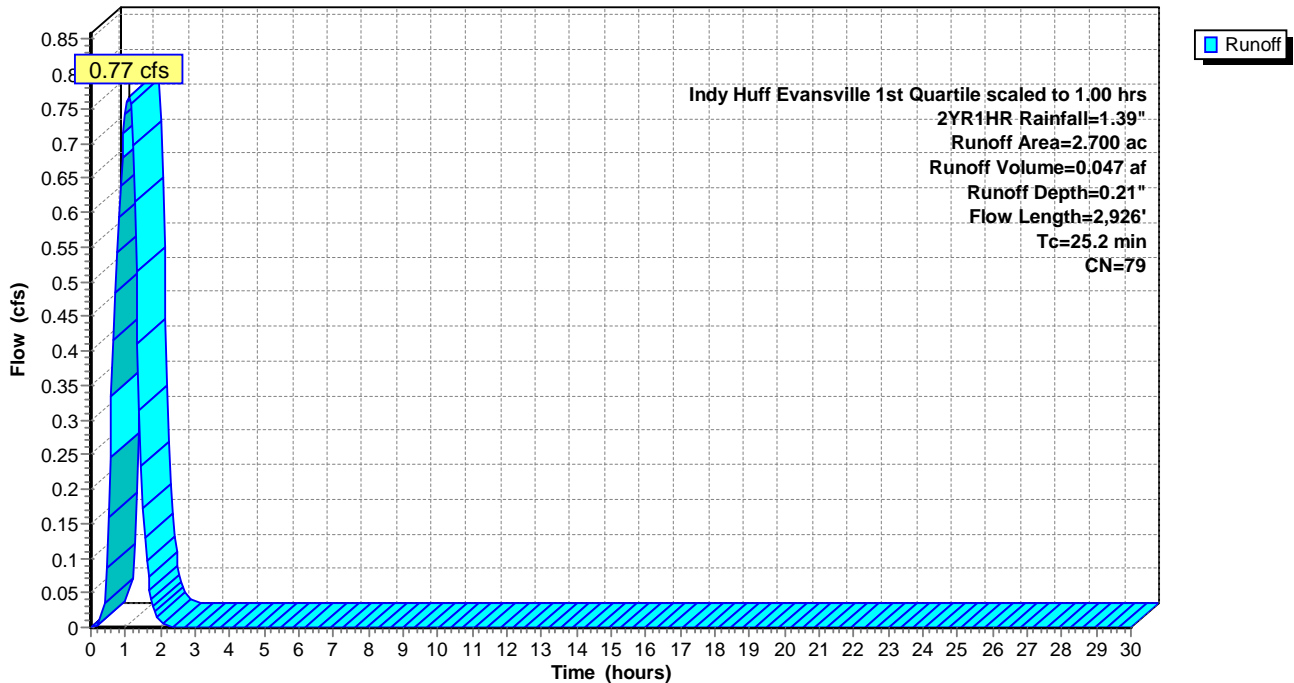
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

Area (ac)	CN	Description
* 2.700	79	
2.700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0700	0.19		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
12.4	1,276	0.0596	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
4.0	1,550	0.0168	6.52	156.54	Channel Flow, Area= 24.0 sf Perim= 18.6' r= 1.29' n= 0.035 Earth, dense weeds
25.2	2,926	Total			

Subcatchment 16S: Basin #1 Developed

Hydrograph



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Schreiber Road

Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

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Summary for Subcatchment 16S: Basin #1 Developed

Runoff = 1.64 cfs @ 1.03 hrs, Volume= 0.115 af, Depth= 0.51"

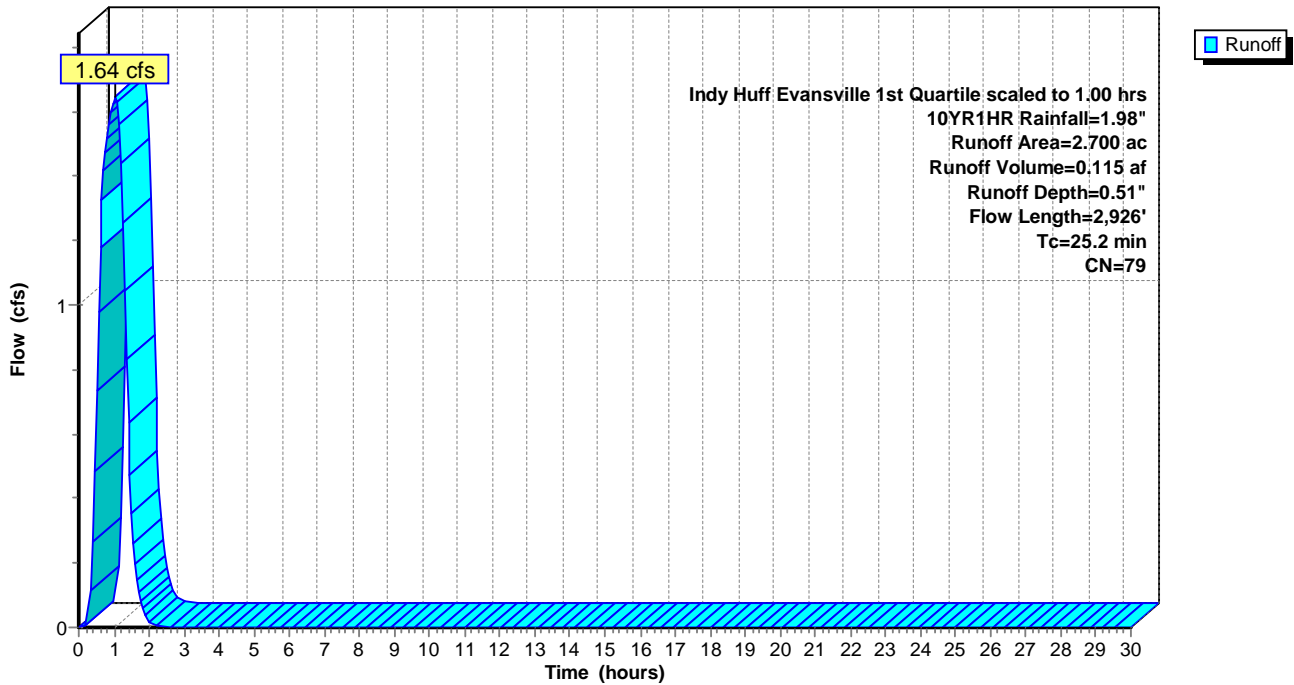
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

Area (ac)	CN	Description
* 2.700	79	
2.700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0700	0.19		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
12.4	1,276	0.0596	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
4.0	1,550	0.0168	6.52	156.54	Channel Flow, Area= 24.0 sf Perim= 18.6' r= 1.29' n= 0.035 Earth, dense weeds
25.2	2,926	Total			

Subcatchment 16S: Basin #1 Developed

Hydrograph



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Summary for Subcatchment 16S: Basin #1 Developed

Runoff = 3.36 cfs @ 0.72 hrs, Volume= 0.251 af, Depth= 1.12"

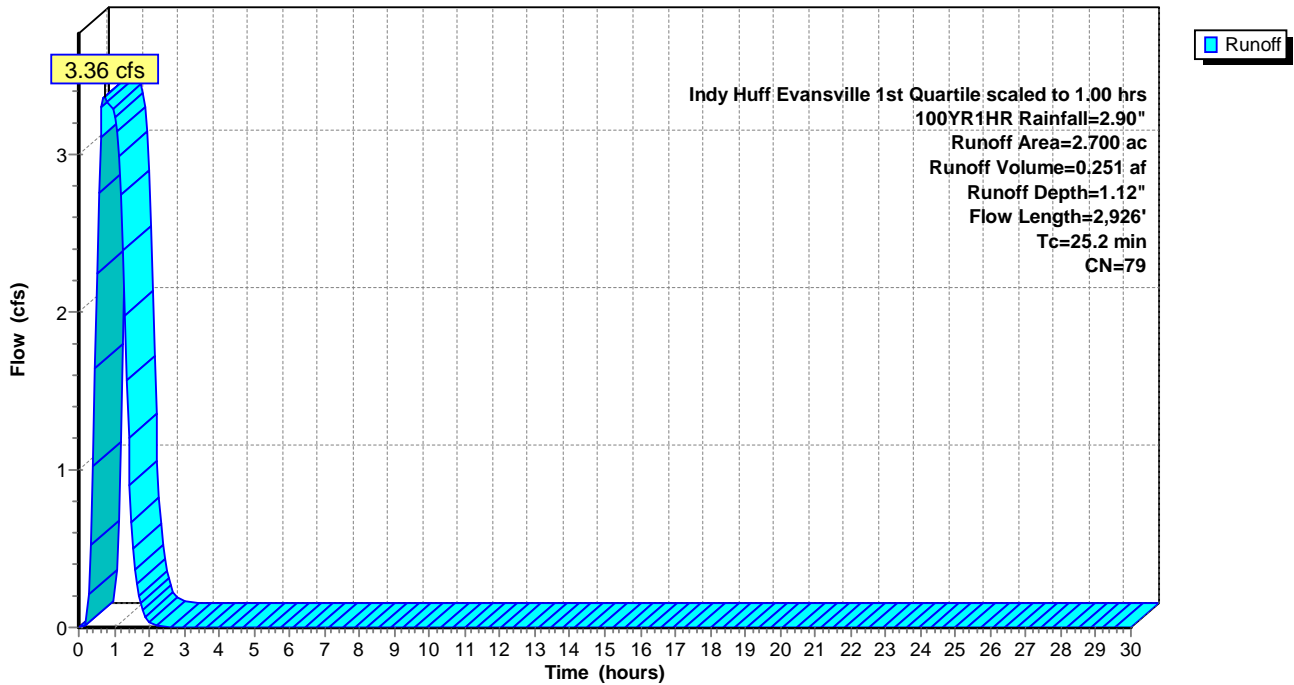
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 100YR1HR Rainfall=2.90"

Area (ac)	CN	Description
* 2.700	79	
2.700		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
8.8	100	0.0700	0.19		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
12.4	1,276	0.0596	1.71		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
4.0	1,550	0.0168	6.52	156.54	Channel Flow, Area= 24.0 sf Perim= 18.6' r= 1.29' n= 0.035 Earth, dense weeds
25.2	2,926	Total			

Subcatchment 16S: Basin #1 Developed

Hydrograph



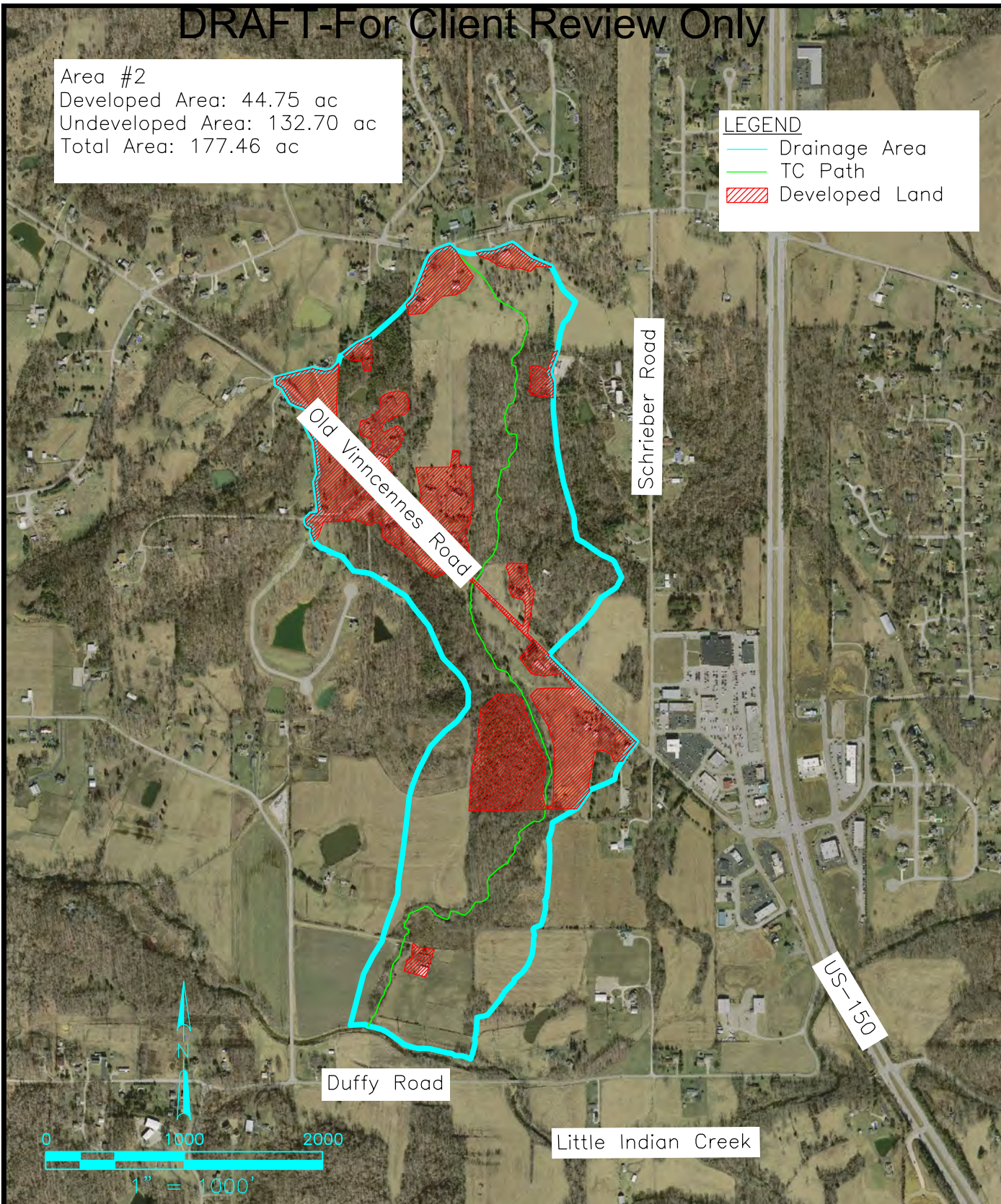
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DRAINAGE AREA 2 HYDROLOGIC CALCULATIONS

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Area #2
Developed Area: 44.75 ac
Undeveloped Area: 132.70 ac
Total Area: 177.46 ac

LEGEND
— Drainage Area
— TC Path
▨ Developed Land



File: S:\COL\4000--4099\4046\035\Drawings\CAD\DrainageAreas_Printout.dwg Time: Jul 09, 2021 - 10:32am

Floyd County Drainage Study
Drainage Area #2

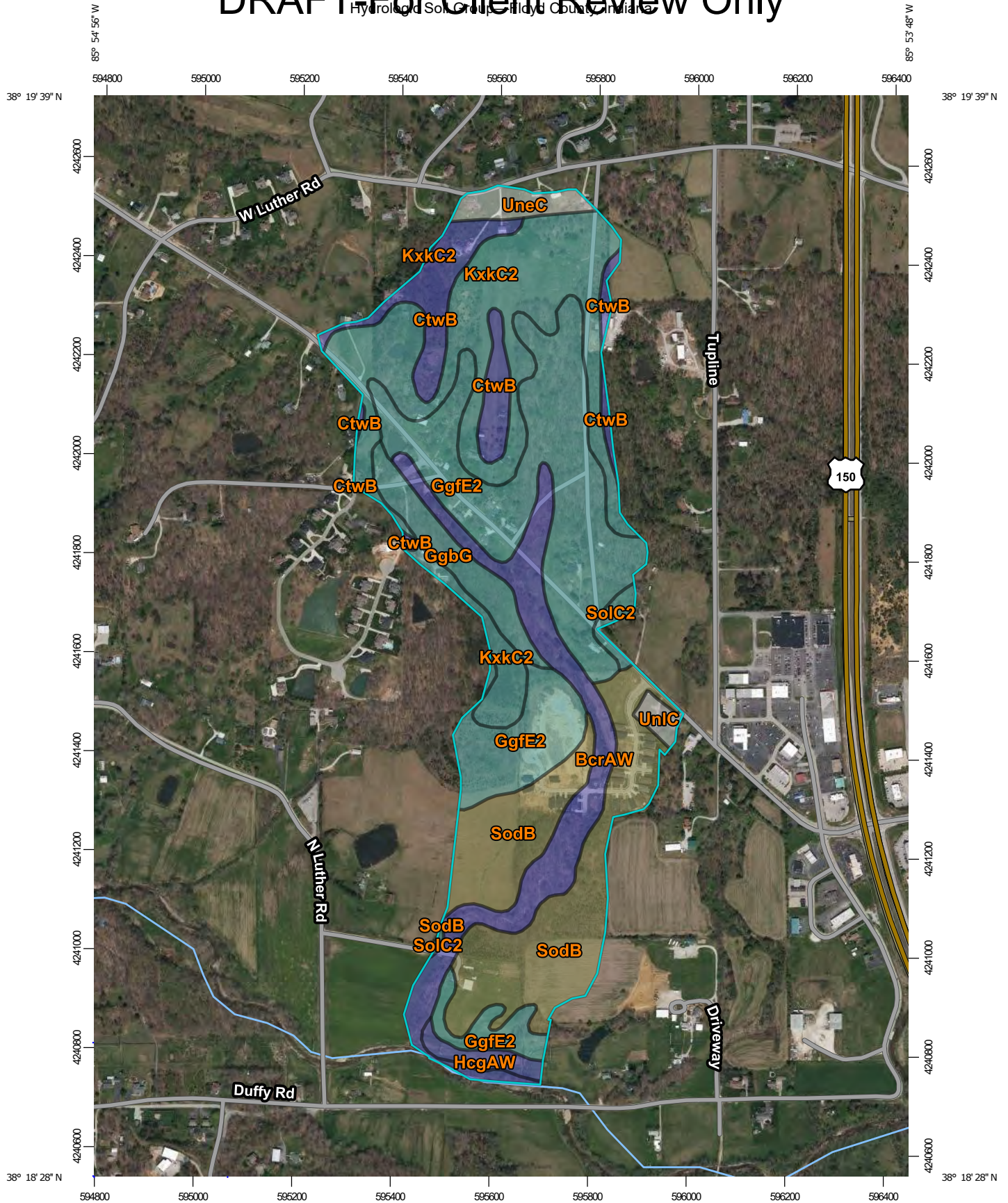


FIGURE 03

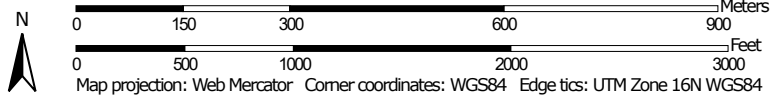
4046.035

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Hydrologic Soil Group, Hilly County, Indiana



Map Scale: 1:10,600 if printed on A portrait (8.5" x 11") sheet.



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

5/12/2021
Page 1 of 4

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

Soil Rating Polygons





 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points






 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available


Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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

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

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

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

Soil Survey Area: Floyd County, Indiana
 Survey Area Data: Version 25, Jun 4, 2020

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

Date(s) aerial images were photographed: Apr 3, 2020—Apr 11, 2020

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BcrAW	Beanblossom silt loam, 1 to 3 percent slopes, occasionally flooded, very brief duration	B	20.8	12.0%
CtwB	Crider-Bedford- Navilleton silt loams, 2 to 6 percent slopes	B	12.6	7.2%
GgbG	Gilwood-Brownstown silt loams, 25 to 75 percent slopes	C	7.3	4.2%
GgfE2	Gilwood-Wrays silt loams, 12 to 25 percent slopes, eroded	C	50.3	28.9%
HcgAW	Haymond silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	B	2.4	1.4%
KxkC2	Knobcreek-Navilleton silt loams, 6 to 12 percent slopes, eroded	C	38.5	22.1%
SodB	Spickert silt loam, terrace, 1 to 4 percent slopes	C/D	35.7	20.5%
SolC2	Spickert-Wrays silt loams, 6 to 12 percent slopes, eroded	C	1.5	0.9%
UneC	Urban land-Udarents, clayey substratum, complex, hills, 2 to 12 percent slopes		3.5	2.0%
UnIC	Urban land-Udarents, hard bedrock substratum, complex, hills, 2 to 15 percent slopes		1.4	0.8%
Totals for Area of Interest			174.1	100.0%

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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Predevelopment Basin #2 Curve Number Calculation						
		Percentage of Total Area per Soil Group				
		A	B	C	D	
		0.0%	23.4%	56.1%	20.5%	
Areas (Acres)		CN Value				CN
Residential	33.14	51	68	79	84	77.45
Grass	71.57	30	58	71	78	69.40
Farm	11.73	67	78	85	89	84.18
Woods	61.02	30	55	70	77	67.93
Total Project Area	177.46					71.00

Existing Basin # 2 Curve Number Calculation						
		Percentage of Total Area per Soil Group				
		A	B	C	D	
		0.0%	20.6%	56.1%	23.3%	
Areas (Acres)		CN Value				CN
Industrial	1.03	81	88	91	93	90.85
Residential	27.61	57	72	81	86	80.31
Grass	37.79	30	58	71	78	69.96
Farm	11.72	67	78	85	89	84.49
Woods	98.68	30	55	70	77	68.55
Water	0.62	100	100	100	100	100.00
Total Project Area	177.46					72.00

Developed Area Basin # 2 Curve Number Calculation						
		Percentage of Total Area per Soil Group				
		A	B	C	D	
		0.0%	20.6%	56.1%	23.3%	
Areas (Acres)		CN Value				CN
Industrial	1.03	81	88	91	93	90.85
Residential	43.72	57	72	81	86	80.31
Total Project Area	44.75					81.00

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Schreiber Road

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Page 1

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.39	2
2	10YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.98	2
3	100YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	2.90	2

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Schreiber Road

Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

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Summary for Subcatchment 4S: Basin #2 Pre Development

Runoff = 21.49 cfs @ 1.15 hrs, Volume= 1.043 af, Depth= 0.07"

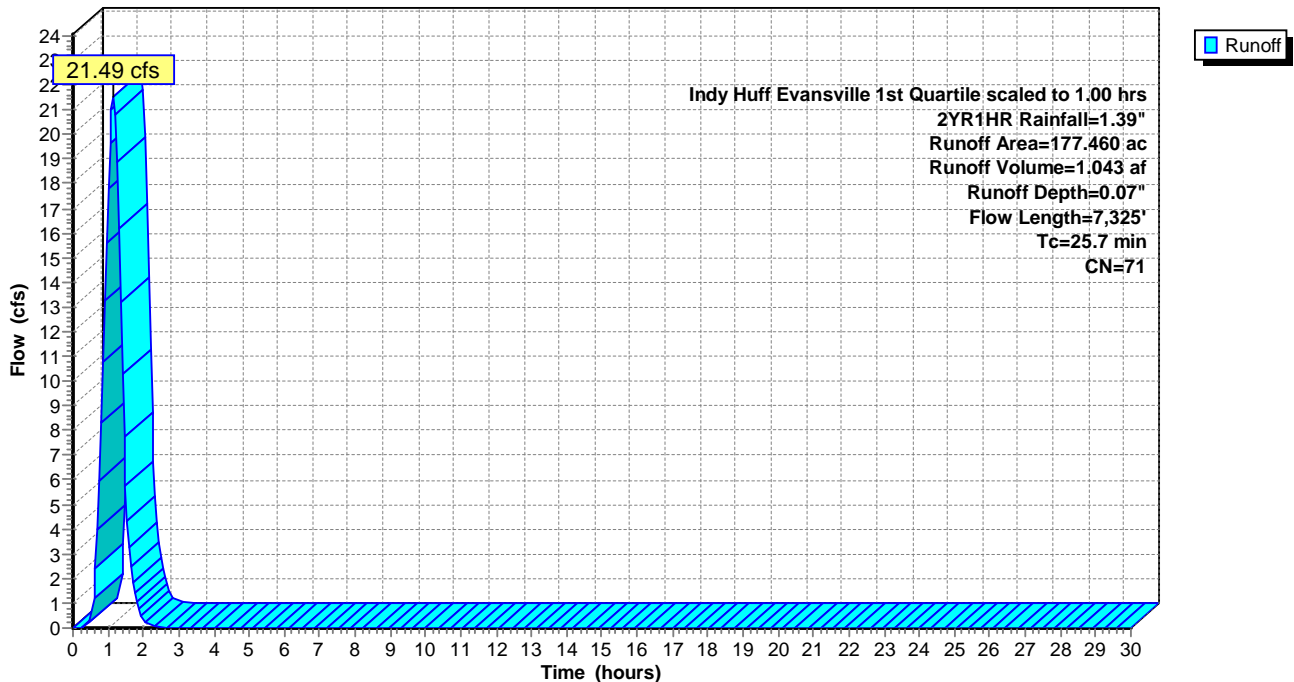
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

Area (ac)	CN	Description
* 177.460	71	
177.460		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.0200	0.17		Sheet Flow, Grass: Short n= 0.150 P2= 3.09"
3.3	905	0.0800	4.55		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
12.4	6,320	0.0188	8.46	270.86	Channel Flow, Area= 32.0 sf Perim= 23.0' r= 1.39' n= 0.030
25.7	7,325	Total			

Subcatchment 4S: Basin #2 Pre Development

Hydrograph



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Schreiber Road

Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

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Summary for Subcatchment 4S: Basin #2 Pre Development

Runoff = 63.77 cfs @ 1.10 hrs, Volume= 3.812 af, Depth= 0.26"

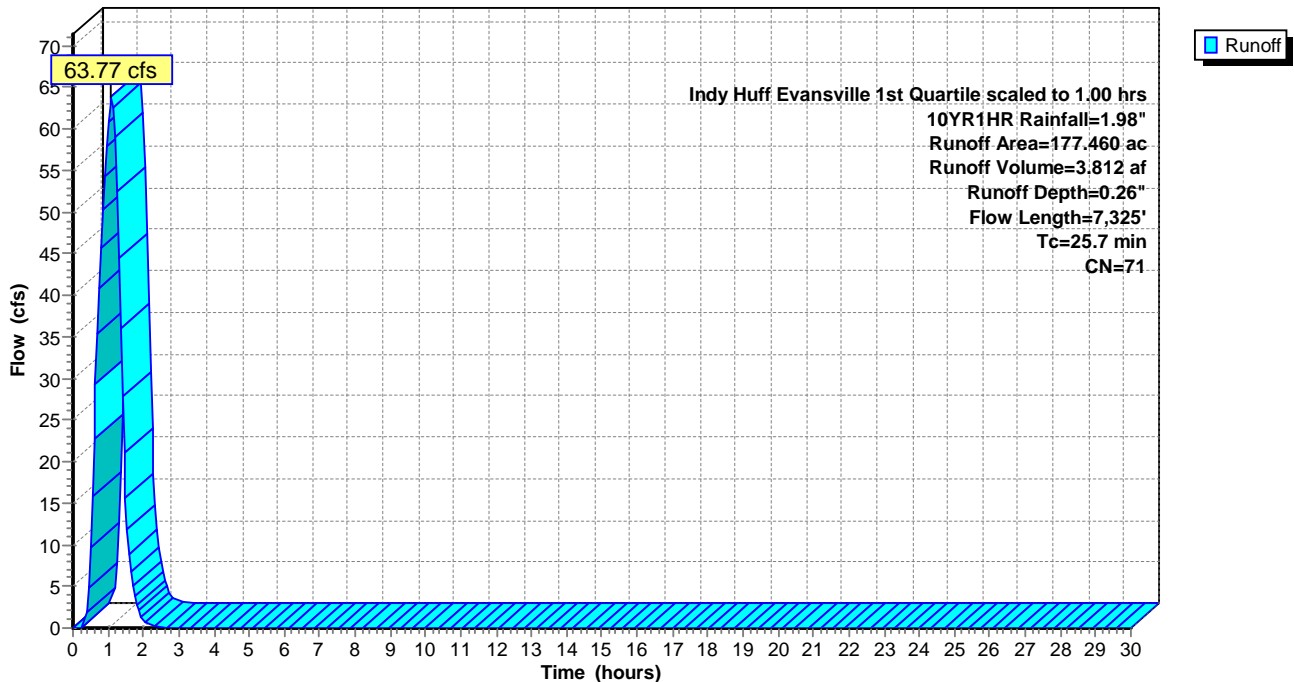
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

Area (ac)	CN	Description
* 177.460	71	
177.460		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.0200	0.17		Sheet Flow, Grass: Short n= 0.150 P2= 3.09"
3.3	905	0.0800	4.55		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
12.4	6,320	0.0188	8.46	270.86	Channel Flow, Area= 32.0 sf Perim= 23.0' r= 1.39' n= 0.030
25.7	7,325	Total			

Subcatchment 4S: Basin #2 Pre Development

Hydrograph



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Summary for Subcatchment 4S: Basin #2 Pre Development

Runoff = 150.57 cfs @ 1.04 hrs, Volume= 10.405 af, Depth= 0.70"

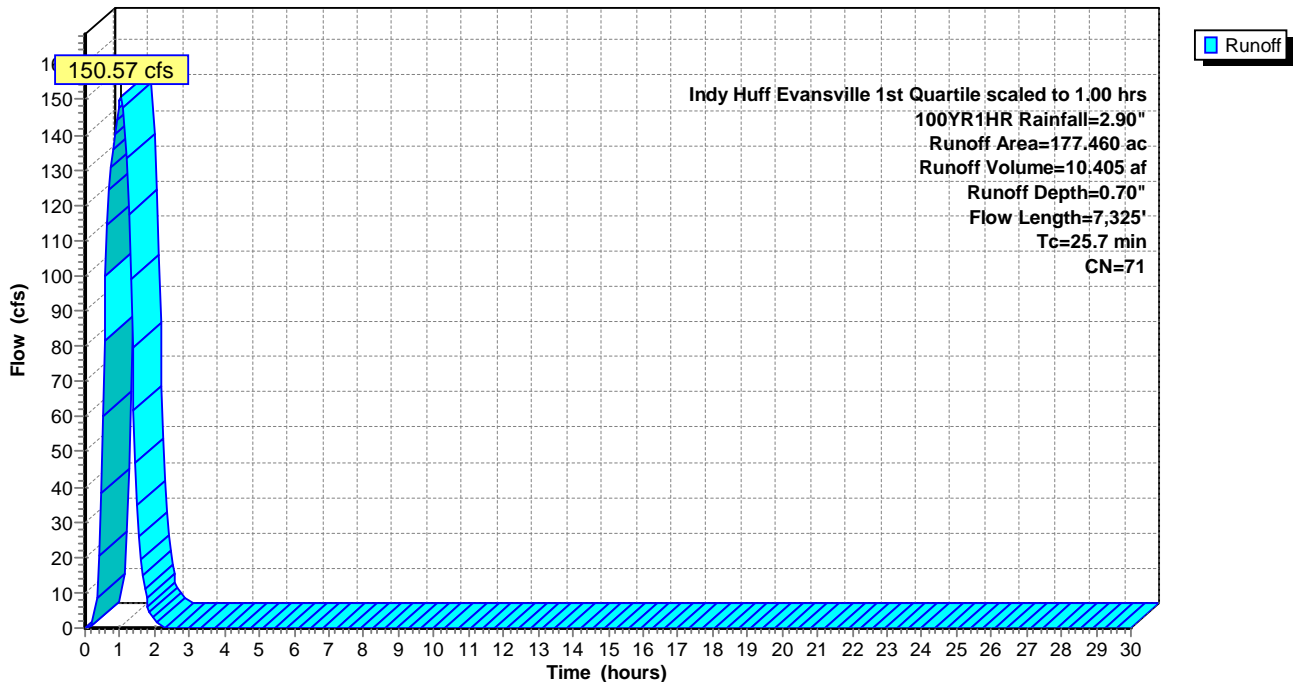
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 100YR1HR Rainfall=2.90"

Area (ac)	CN	Description
* 177.460	71	
177.460		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.0200	0.17		Sheet Flow, Grass: Short n= 0.150 P2= 3.09"
3.3	905	0.0800	4.55		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
12.4	6,320	0.0188	8.46	270.86	Channel Flow, Area= 32.0 sf Perim= 23.0' r= 1.39' n= 0.030
25.7	7,325	Total			

Subcatchment 4S: Basin #2 Pre Development

Hydrograph



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Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.39	2
2	10YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.98	2
3	100YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	2.90	2

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Schreiber Road

Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

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Summary for Subcatchment 2S: Basin #2

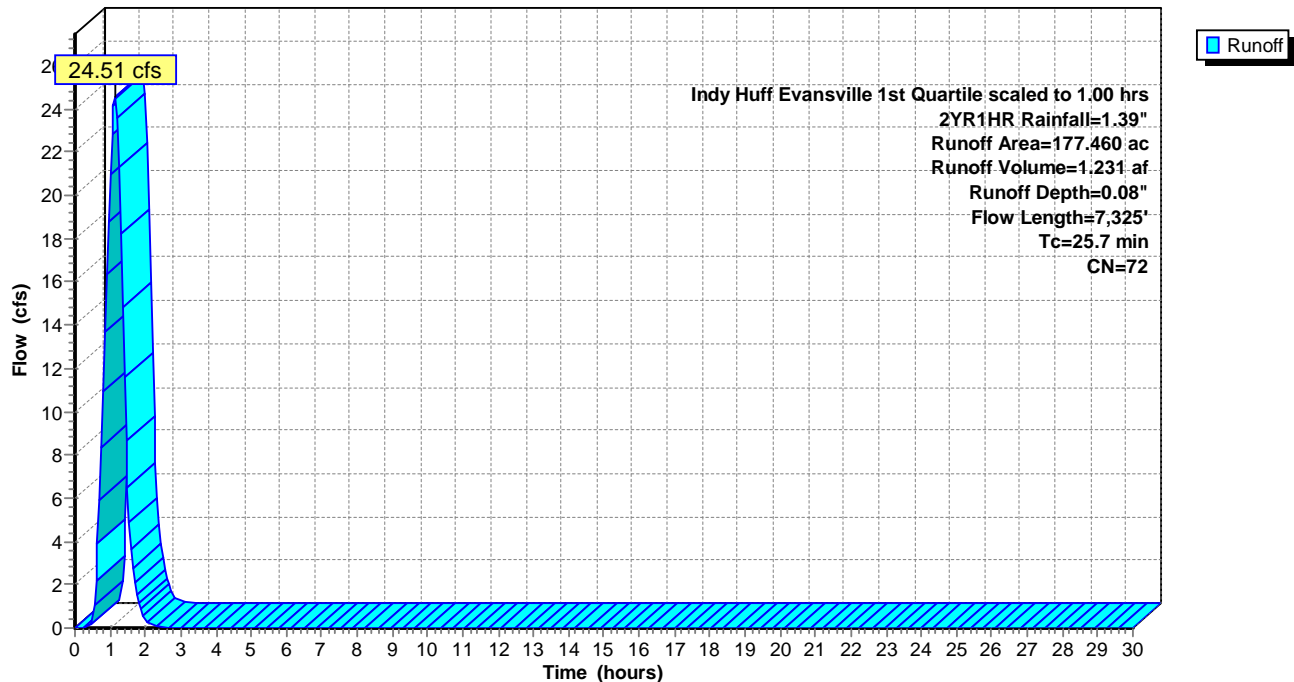
Runoff = 24.51 cfs @ 1.14 hrs, Volume= 1.231 af, Depth= 0.08"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

Area (ac)	CN	Description			
* 177.460	72				
177.460		100.00% Pervious Area			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.0200	0.17		Sheet Flow, Grass: Short n= 0.150 P2= 3.09"
3.3	905	0.0800	4.55		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
12.4	6,320	0.0188	8.46	270.86	Channel Flow, Area= 32.0 sf Perim= 23.0' r= 1.39' n= 0.030
25.7	7,325	Total			

Subcatchment 2S: Basin #2

Hydrograph



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Schreiber Road

Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

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Summary for Subcatchment 2S: Basin #2

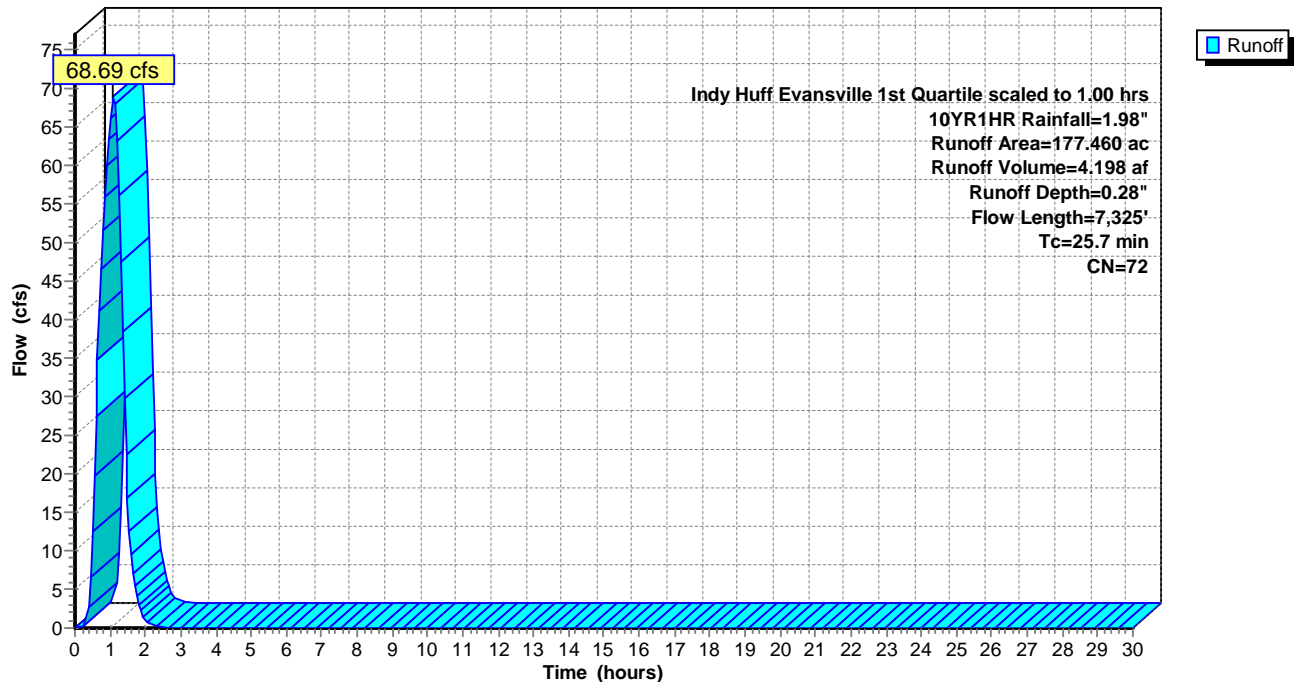
Runoff = 68.69 cfs @ 1.09 hrs, Volume= 4.198 af, Depth= 0.28"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

Area (ac)	CN	Description			
* 177.460	72				
177.460		100.00% Pervious Area			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.0200	0.17		Sheet Flow, Grass: Short n= 0.150 P2= 3.09"
3.3	905	0.0800	4.55		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
12.4	6,320	0.0188	8.46	270.86	Channel Flow, Area= 32.0 sf Perim= 23.0' r= 1.39' n= 0.030
25.7	7,325	Total			

Subcatchment 2S: Basin #2

Hydrograph



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Summary for Subcatchment 2S: Basin #2

Runoff = 158.09 cfs @ 1.03 hrs, Volume= 11.080 af, Depth= 0.75"

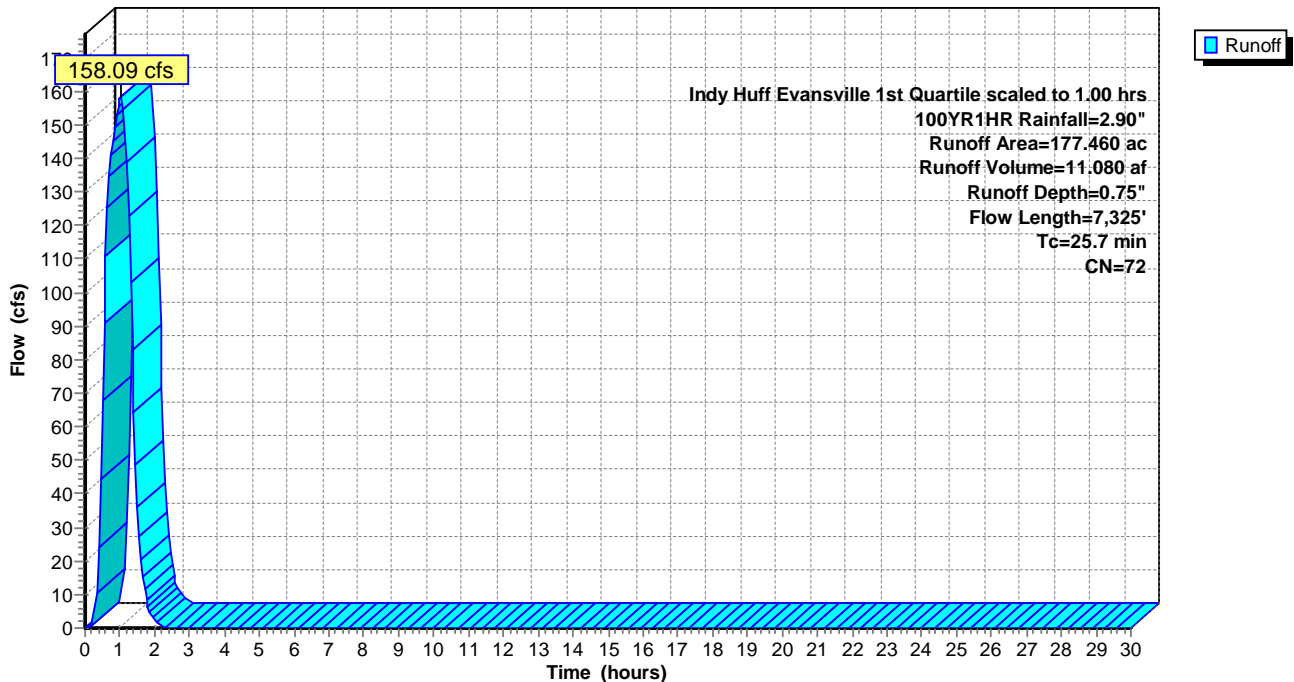
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 100YR1HR Rainfall=2.90"

Area (ac)	CN	Description
* 177.460	72	
177.460		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.0200	0.17		Sheet Flow, Grass: Short n= 0.150 P2= 3.09"
3.3	905	0.0800	4.55		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
12.4	6,320	0.0188	8.46	270.86	Channel Flow, Area= 32.0 sf Perim= 23.0' r= 1.39' n= 0.030
25.7	7,325	Total			

Subcatchment 2S: Basin #2

Hydrograph



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Schreiber Road

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Page 1

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.39	2
2	10YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.98	2
3	100YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	2.90	2

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Schreiber Road

Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

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Page 2

Summary for Subcatchment 18S: Basin #2 Developed

Runoff = 14.88 cfs @ 1.07 hrs, Volume= 0.968 af, Depth= 0.26"

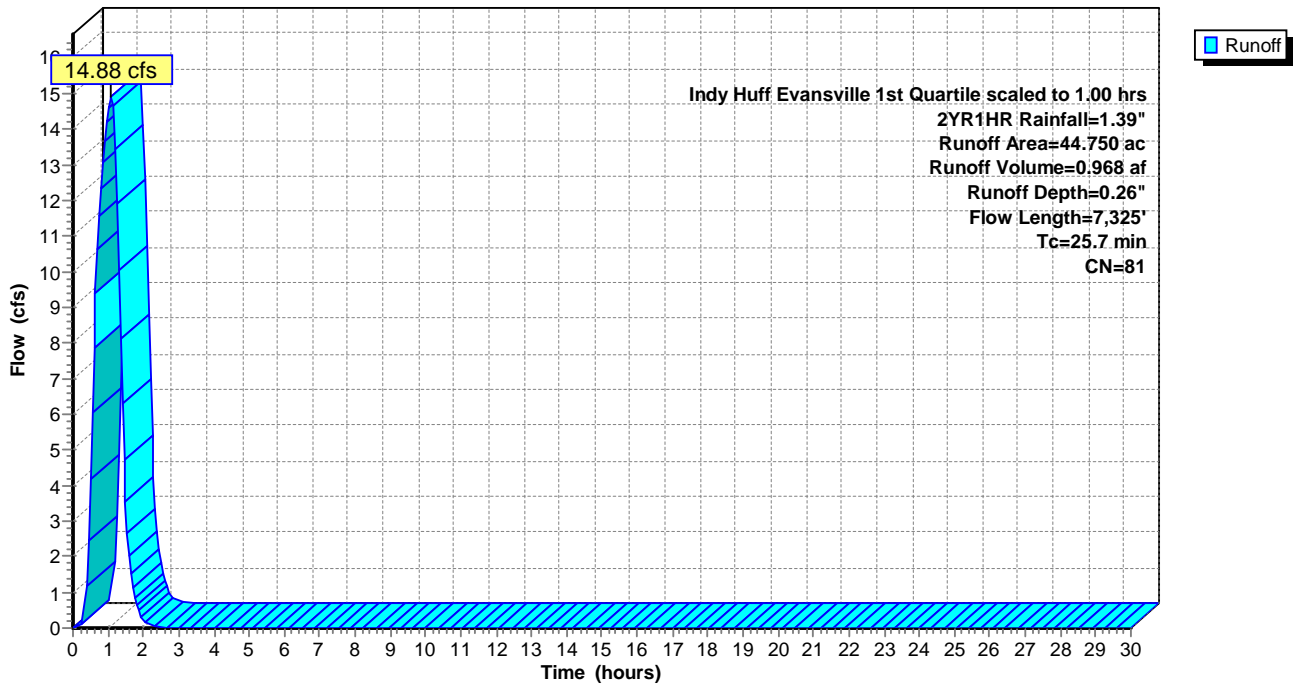
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

Area (ac)	CN	Description
* 44.750	81	
44.750		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.0200	0.17		Sheet Flow, Grass: Short n= 0.150 P2= 3.09"
3.3	905	0.0800	4.55		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
12.4	6,320	0.0188	8.46	270.86	Channel Flow, Area= 32.0 sf Perim= 23.0' r= 1.39' n= 0.030
25.7	7,325	Total			

Subcatchment 18S: Basin #2 Developed

Hydrograph



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Schreiber Road

Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

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Summary for Subcatchment 18S: Basin #2 Developed

Runoff = 30.47 cfs @ 1.00 hrs, Volume= 2.207 af, Depth= 0.59"

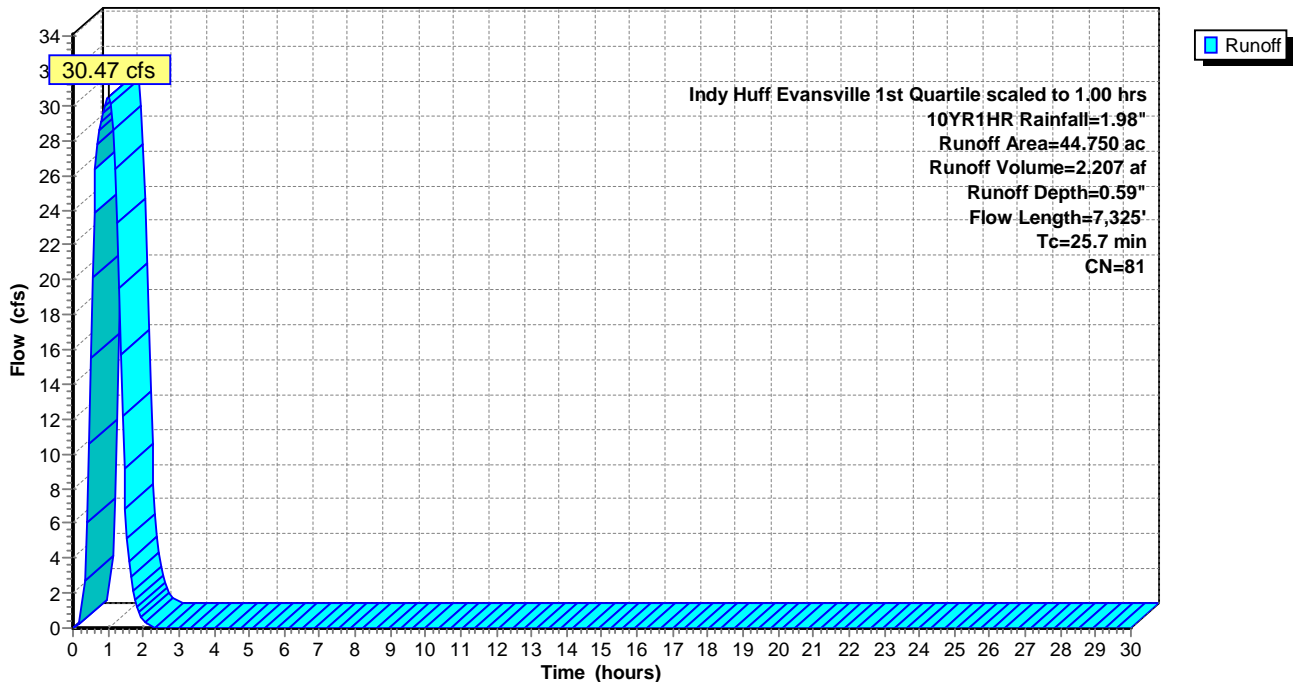
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

Area (ac)	CN	Description
* 44.750	81	
44.750		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.0200	0.17		Sheet Flow, Grass: Short n= 0.150 P2= 3.09"
3.3	905	0.0800	4.55		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
12.4	6,320	0.0188	8.46	270.86	Channel Flow, Area= 32.0 sf Perim= 23.0' r= 1.39' n= 0.030
25.7	7,325	Total			

Subcatchment 18S: Basin #2 Developed

Hydrograph



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Schreiber Road *Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 100YR1HR Rainfall=2.90"*
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Summary for Subcatchment 18S: Basin #2 Developed

Runoff = 62.17 cfs @ 0.71 hrs, Volume= 4.613 af, Depth= 1.24"

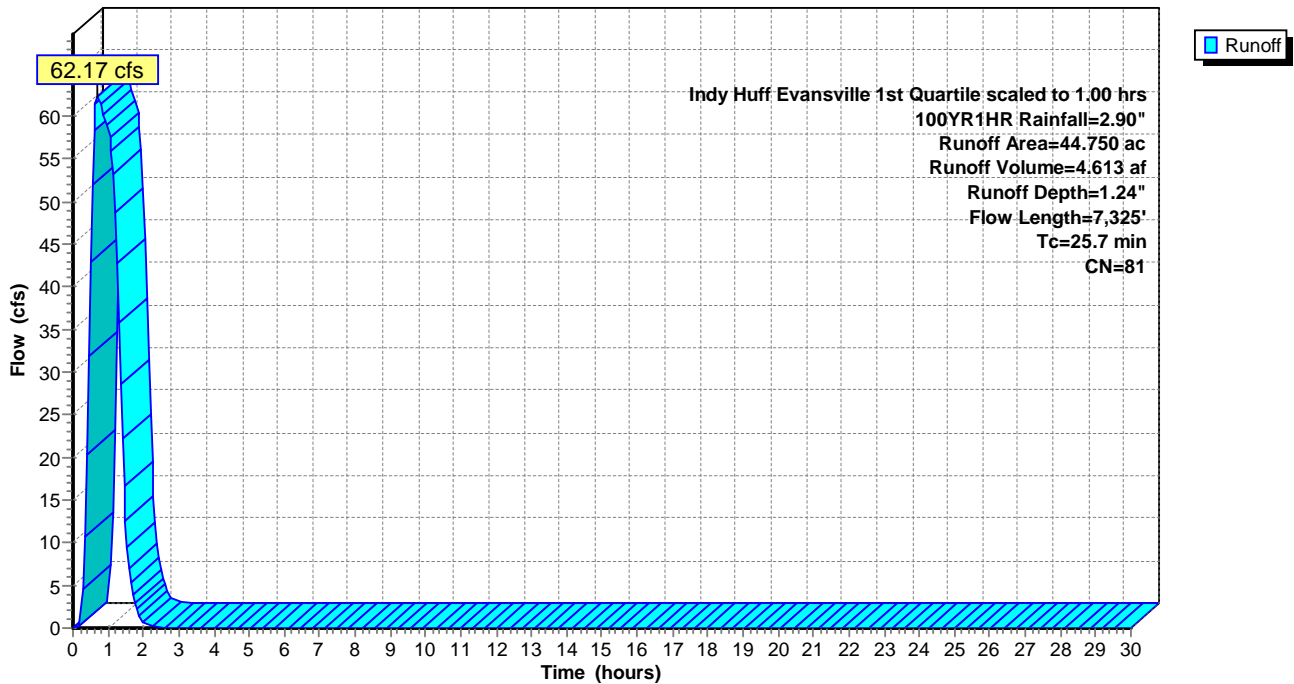
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 100YR1HR Rainfall=2.90"

Area (ac)	CN	Description
* 44.750	81	
44.750		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0	100	0.0200	0.17		Sheet Flow, Grass: Short n= 0.150 P2= 3.09"
3.3	905	0.0800	4.55		Shallow Concentrated Flow, Unpaved Kv= 16.1 fps
12.4	6,320	0.0188	8.46	270.86	Channel Flow, Area= 32.0 sf Perim= 23.0' r= 1.39' n= 0.030
25.7	7,325	Total			

Subcatchment 18S: Basin #2 Developed

Hydrograph



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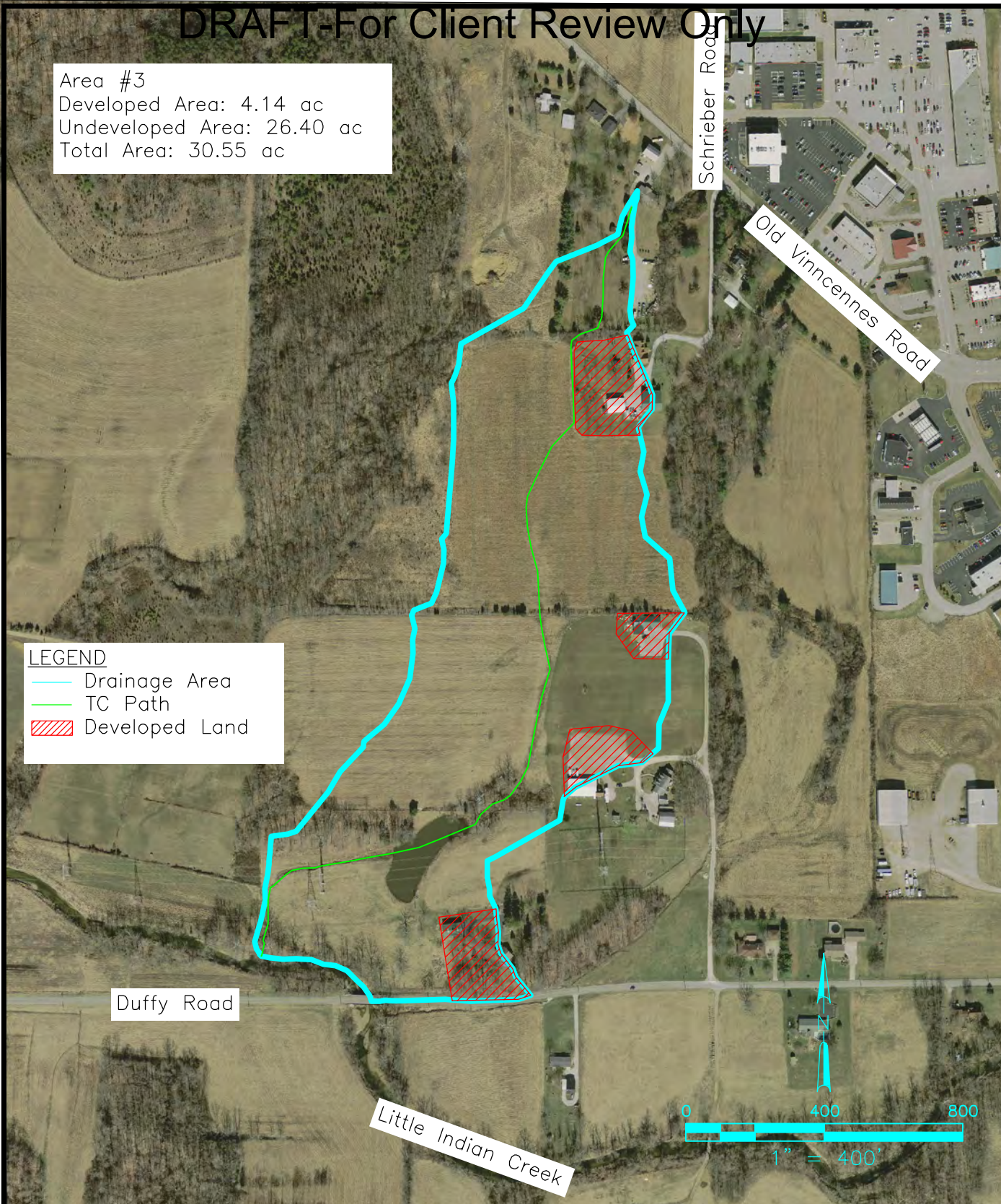
DRAINAGE AREA 3 HYDROLOGIC CALCULATIONS

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Area #3
Developed Area: 4.14 ac
Undeveloped Area: 26.40 ac
Total Area: 30.55 ac

LEGEND

- Drainage Area
- TC Path
- ▨ Developed Land



File: S:\COL\4000---4099\4046\035\Drawings\CAD\DrainageAreas_Printout.dwg Time: Jul 09, 2021 - 10:33am

Floyd County Drainage Study
Drainage Area #3



FIGURE 04

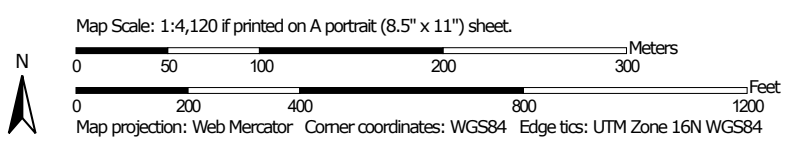
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





























Hydrologic Soil Group: Hilly County, Indiana



Soil Map may not be valid at this scale.



MAP LEGEND

- Area of Interest (AOI)**
 -  Area of Interest (AOI)
- Soils**
 - Soil Rating Polygons**
 -  A
 -  A/D
 -  B
 -  B/D
 -  C
 -  C/D
 -  D
 -  Not rated or not available
 - Soil Rating Lines**
 -  A
 -  A/D
 -  B
 -  B/D
 -  C
 -  C/D
 -  D
 -  Not rated or not available
 - Soil Rating Points**
 -  A
 -  A/D
 -  B
 -  B/D
- Water Features**
 -  Streams and Canals
- Transportation**
 -  Rails
 -  Interstate Highways
 -  US Routes
 -  Major Roads
 -  Local Roads
- Background**
 -  Aerial Photography
- Other**
 -  C
 -  C/D
 -  D
 -  Not rated or not available

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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

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

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

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

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

Soil Survey Area: Floyd County, Indiana
 Survey Area Data: Version 25, Jun 4, 2020

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

Date(s) aerial images were photographed: Apr 3, 2020—Apr 11, 2020

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BcrAW	Beanblossom silt loam, 1 to 3 percent slopes, occasionally flooded, very brief duration	B	0.3	0.9%
CwaAQ	Cuba silt loam, 0 to 2 percent slopes, rarely flooded	B	0.1	0.5%
GgfE2	Gilwood-Wrays silt loams, 12 to 25 percent slopes, eroded	C	3.6	12.1%
HcgAW	Haymond silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	B	1.5	5.2%
SodB	Spickert silt loam, terrace, 1 to 4 percent slopes	C/D	22.3	74.2%
SoIC2	Spickert-Wrays silt loams, 6 to 12 percent slopes, eroded	C	2.1	7.1%
UnIC	Urban land-Udarents, hard bedrock substratum, complex, hills, 2 to 15 percent slopes		0.0	0.0%
Totals for Area of Interest			30.0	100.0%

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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Predevelopment Basin #3 Curve Number Calculation						
		Percentage of Total Area per Soil Group				
		A	B	C	D	
		0.0%	6.4%	19.1%	74.6%	
Areas (Acres)		CN Value				CN
Woods	1.07	30	55	70	77	74.27
Residential	0.38	51	68	79	84	82.03
Grass	13.61	30	58	71	78	75.39
Farm	14.84	67	78	85	89	87.54
Water	0.65	100	100	100	100	100.00
Total Project Area	30.55					82.00

Existing Basin #3 Curve Number Calculation						
		Percentage of Total Area per Soil Group				
		A	B	C	D	
		0.0%	6.4%	19.1%	74.6%	
Areas (Acres)		CN Value				CN
Industrial	0.00	81	88	91	93	92.30
Residential	4.14	51	68	79	84	82.03
Grass	9.19	30	58	71	78	75.39
Farm	14.84	67	78	85	89	87.54
Woods	1.77	30	55	70	77	74.27
Water	0.61	100	100	100	100	100.00
Total Project Area	30.55					83.00

Developed Area Basin #3 Curve Number Calculation						
		Percentage of Total Area per Soil Group				
		A	B	C	D	
		0.0%	6.4%	19.1%	74.6%	
Areas (Acres)		CN Value				CN
Residential	4.14	51	68	79	84	82.03
Total Project Area	4.14					82.00

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Page 1

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.39	2
2	10YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.98	2
3	100YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	2.90	2

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Schreiber Road

Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

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Page 2

Summary for Subcatchment 12S: Basin #3 Pre Development

Runoff = 9.82 cfs @ 1.19 hrs, Volume= 0.732 af, Depth= 0.29"

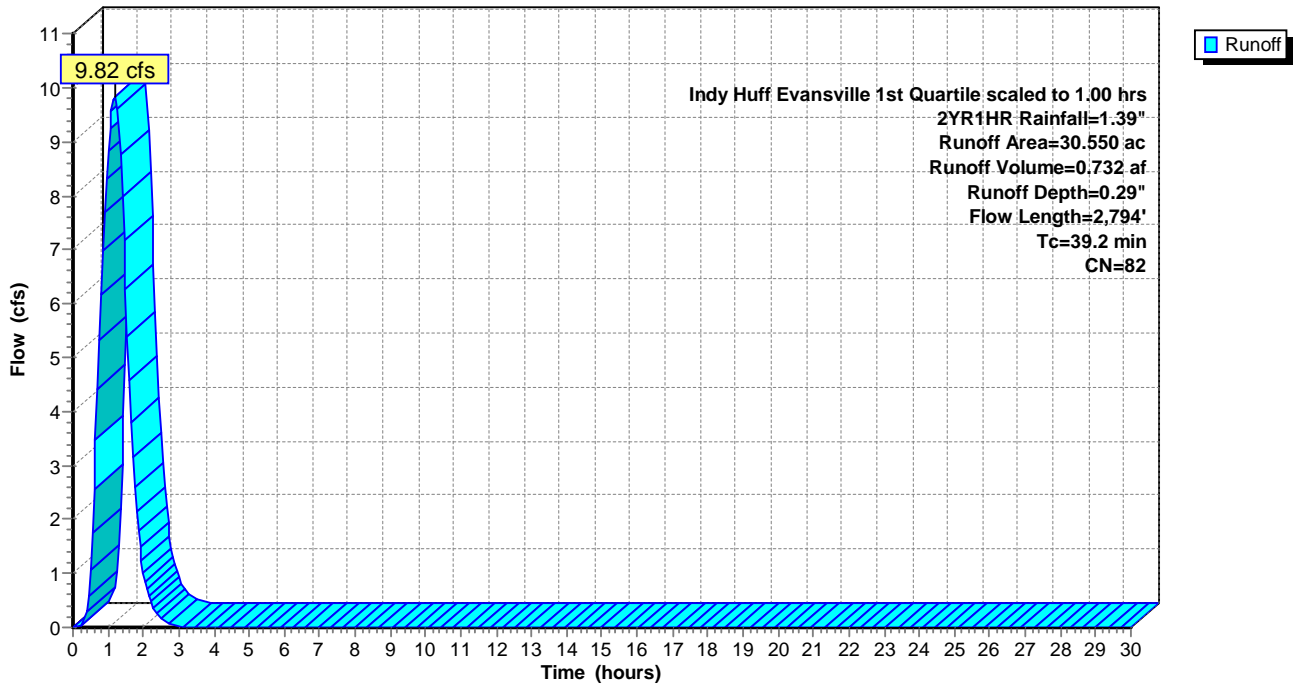
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

Area (ac)	CN	Description
* 30.550	82	
30.550		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.0200	0.11		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
21.7	1,240	0.0185	0.95		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
3.0	1,454	0.0213	8.20	344.31	Channel Flow, Area= 42.0 sf Perim= 27.6' r= 1.52' n= 0.035 Earth, dense weeds
39.2	2,794	Total			

Subcatchment 12S: Basin #3 Pre Development

Hydrograph



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Schreiber Road

Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

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Summary for Subcatchment 12S: Basin #3 Pre Development

Runoff = 20.36 cfs @ 1.13 hrs, Volume= 1.618 af, Depth= 0.64"

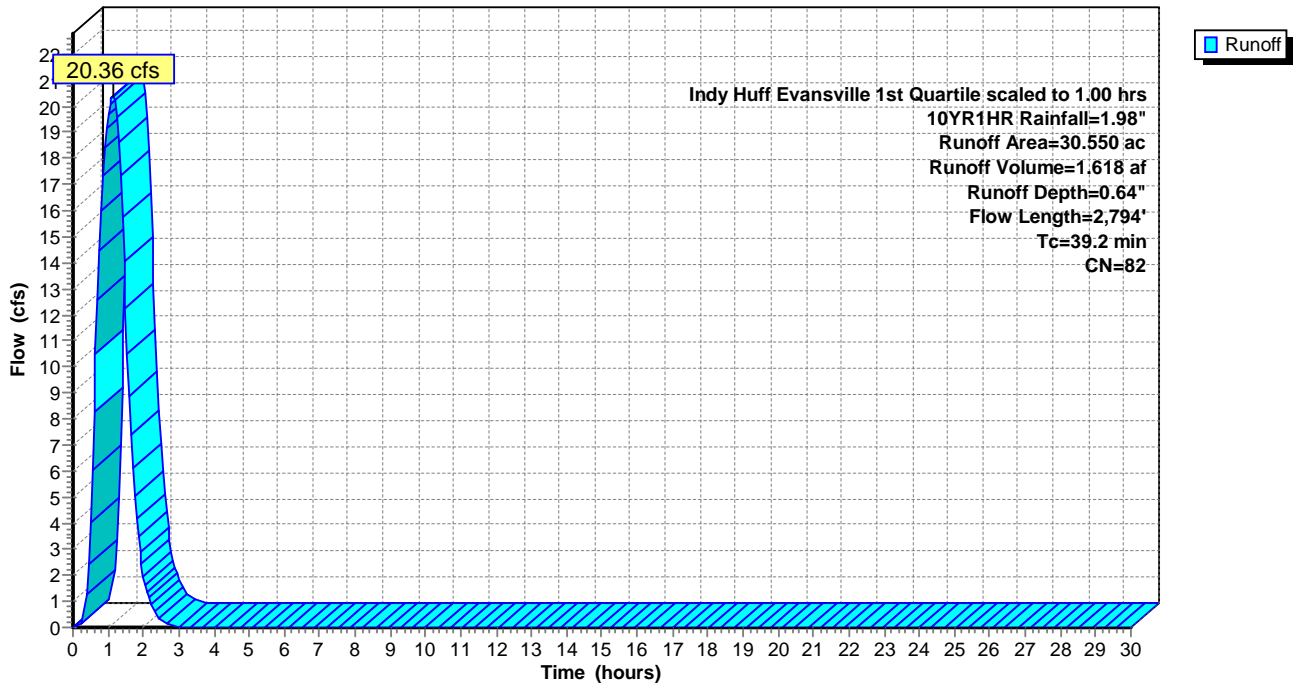
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

Area (ac)	CN	Description
* 30.550	82	
30.550		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.0200	0.11		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
21.7	1,240	0.0185	0.95		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
3.0	1,454	0.0213	8.20	344.31	Channel Flow, Area= 42.0 sf Perim= 27.6' r= 1.52' n= 0.035 Earth, dense weeds
39.2	2,794	Total			

Subcatchment 12S: Basin #3 Pre Development

Hydrograph



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Summary for Subcatchment 12S: Basin #3 Pre Development

Runoff = 40.10 cfs @ 1.02 hrs, Volume= 3.311 af, Depth= 1.30"

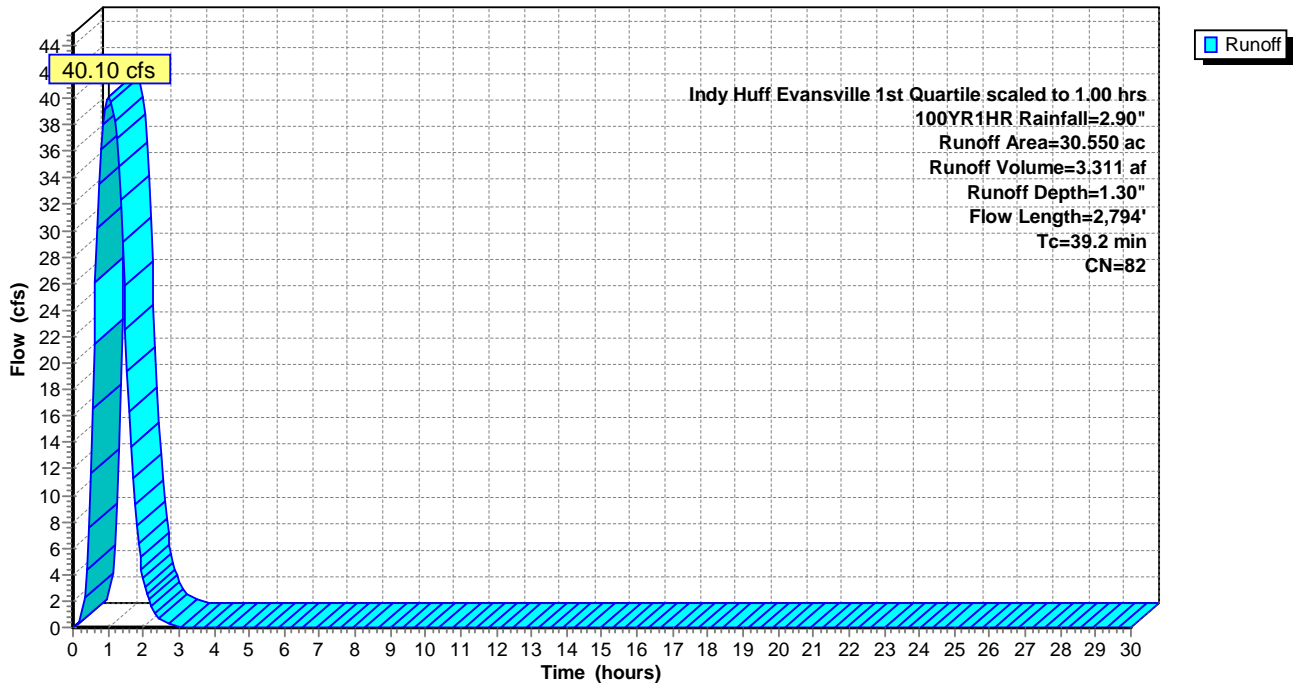
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 100YR1HR Rainfall=2.90"

Area (ac)	CN	Description
* 30.550	82	
30.550		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.0200	0.11		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
21.7	1,240	0.0185	0.95		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
3.0	1,454	0.0213	8.20	344.31	Channel Flow, Area= 42.0 sf Perim= 27.6' r= 1.52' n= 0.035 Earth, dense weeds
39.2	2,794	Total			

Subcatchment 12S: Basin #3 Pre Development

Hydrograph



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Page 1

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.39	2
2	10YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.98	2
3	100YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	2.90	2

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Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

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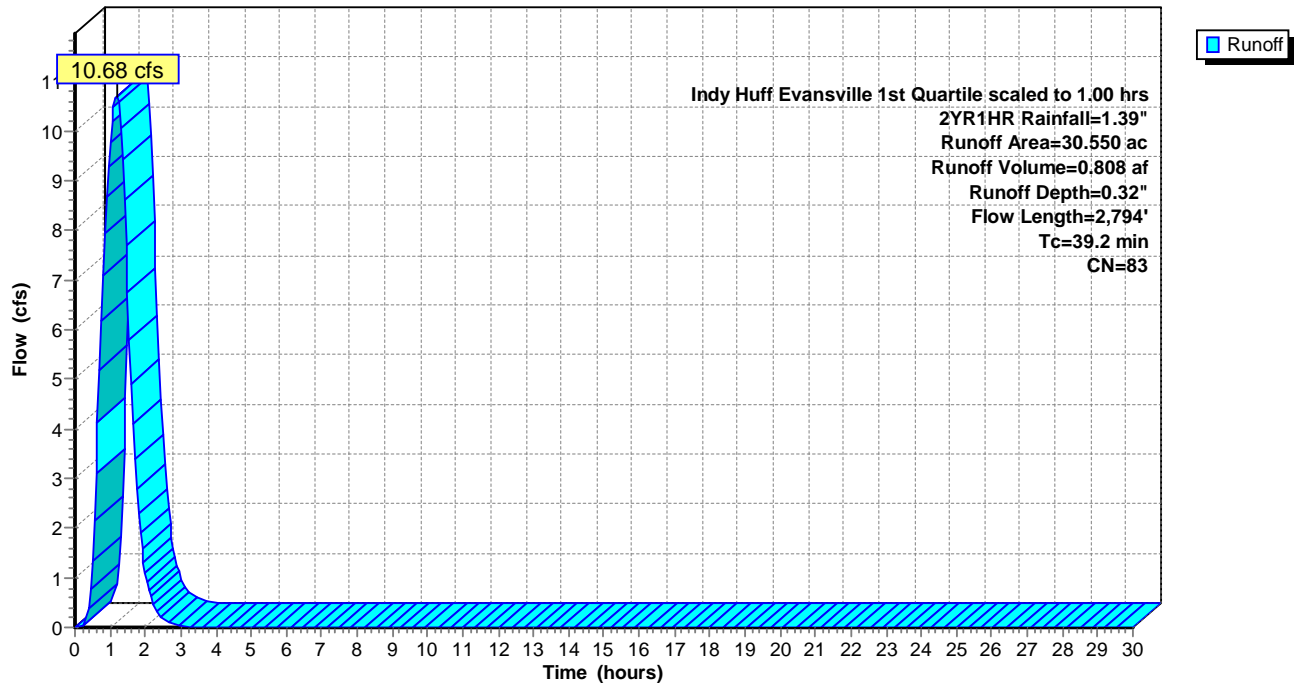
Page 2

Summary for Subcatchment 7S: Basin #3

Runoff = 10.68 cfs @ 1.18 hrs, Volume= 0.808 af, Depth= 0.32"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

Area (ac)	CN	Description			
* 30.550	83				
30.550		100.00% Pervious Area			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.0200	0.11		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
21.7	1,240	0.0185	0.95		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
3.0	1,454	0.0213	8.20	344.31	Channel Flow, Area= 42.0 sf Perim= 27.6' r= 1.52' n= 0.035 Earth, dense weeds
39.2	2,794	Total			

Subcatchment 7S: Basin #3**Hydrograph**

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Schreiber Road *Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"*
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Summary for Subcatchment 7S: Basin #3

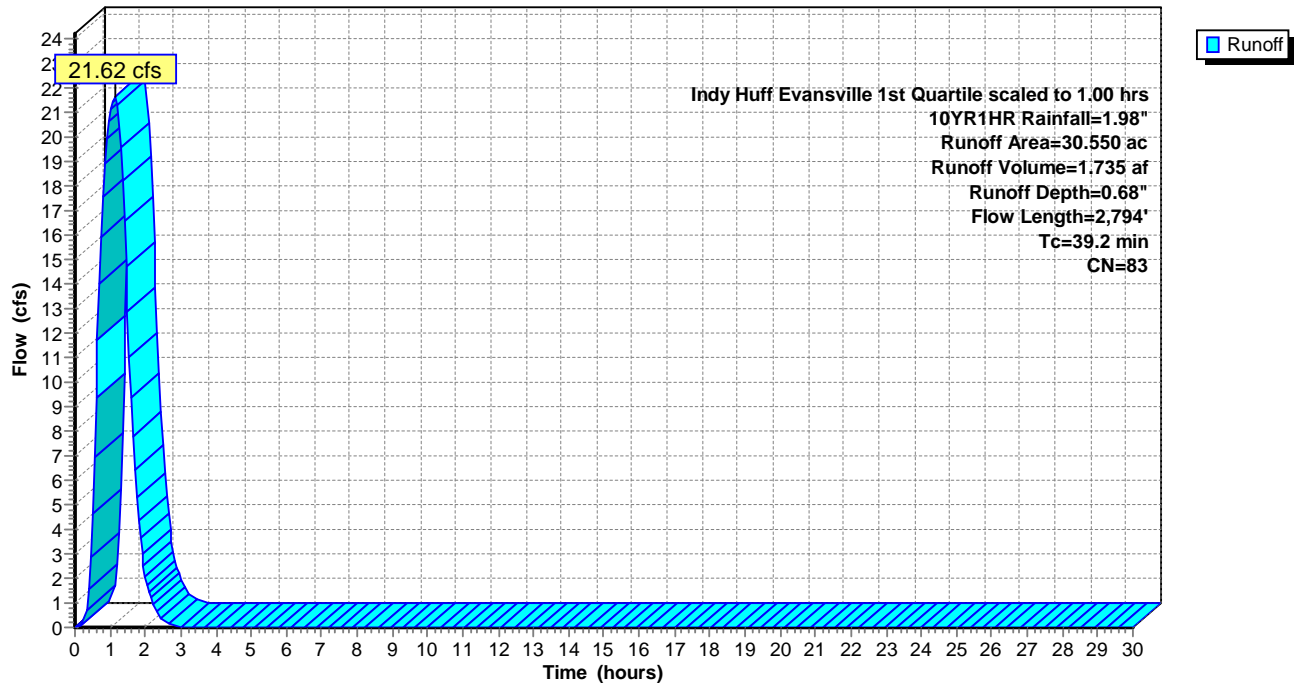
Runoff = 21.62 cfs @ 1.11 hrs, Volume= 1.735 af, Depth= 0.68"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

Area (ac)	CN	Description			
* 30.550	83				
30.550		100.00% Pervious Area			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.0200	0.11		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
21.7	1,240	0.0185	0.95		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
3.0	1,454	0.0213	8.20	344.31	Channel Flow, Area= 42.0 sf Perim= 27.6' r= 1.52' n= 0.035 Earth, dense weeds
39.2	2,794	Total			

Subcatchment 7S: Basin #3

Hydrograph



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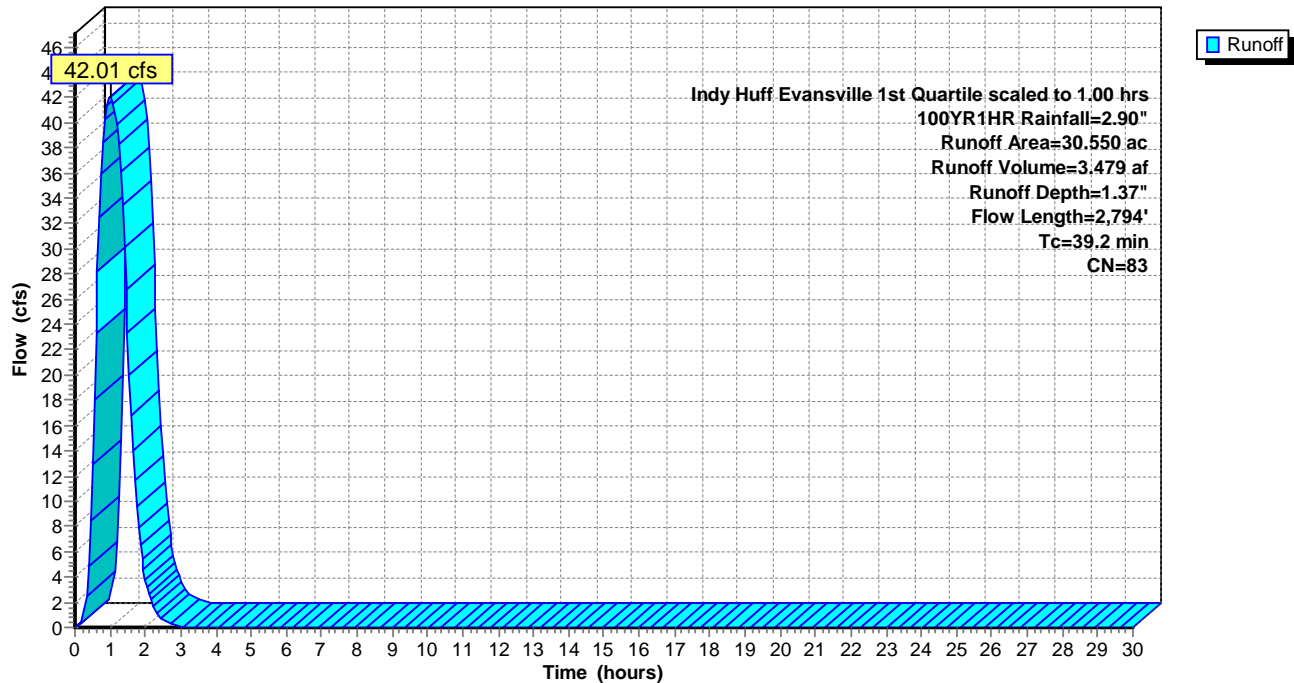
Schreiber Road *Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 100YR1HR Rainfall=2.90"*
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Summary for Subcatchment 7S: Basin #3

Runoff = 42.01 cfs @ 1.00 hrs, Volume= 3.479 af, Depth= 1.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 100YR1HR Rainfall=2.90"

Area (ac)	CN	Description			
* 30.550	83				
30.550		100.00% Pervious Area			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.0200	0.11		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
21.7	1,240	0.0185	0.95		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
3.0	1,454	0.0213	8.20	344.31	Channel Flow, Area= 42.0 sf Perim= 27.6' r= 1.52' n= 0.035 Earth, dense weeds
39.2	2,794	Total			

Subcatchment 7S: Basin #3**Hydrograph**

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Page 1

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.39	2
2	10YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.98	2
3	100YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	2.90	2

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Schreiber Road

Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

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Page 2

Summary for Subcatchment 20S: Basin #3 Developed

Runoff = 1.33 cfs @ 1.19 hrs, Volume= 0.099 af, Depth= 0.29"

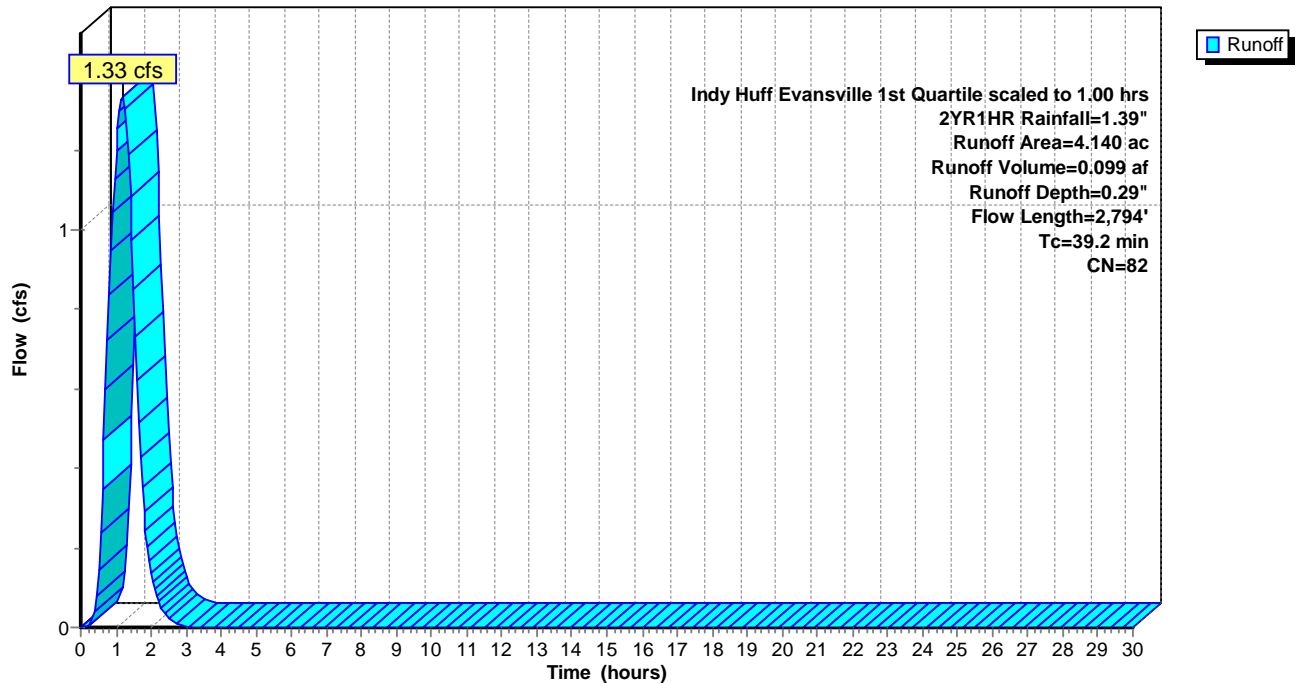
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

Area (ac)	CN	Description
* 4.140	82	
4.140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.0200	0.11		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
21.7	1,240	0.0185	0.95		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
3.0	1,454	0.0213	8.20	344.31	Channel Flow, Area= 42.0 sf Perim= 27.6' r= 1.52' n= 0.035 Earth, dense weeds
39.2	2,794	Total			

Subcatchment 20S: Basin #3 Developed

Hydrograph



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Schreiber Road

Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

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Page 3

Summary for Subcatchment 20S: Basin #3 Developed

Runoff = 2.76 cfs @ 1.13 hrs, Volume= 0.219 af, Depth= 0.64"

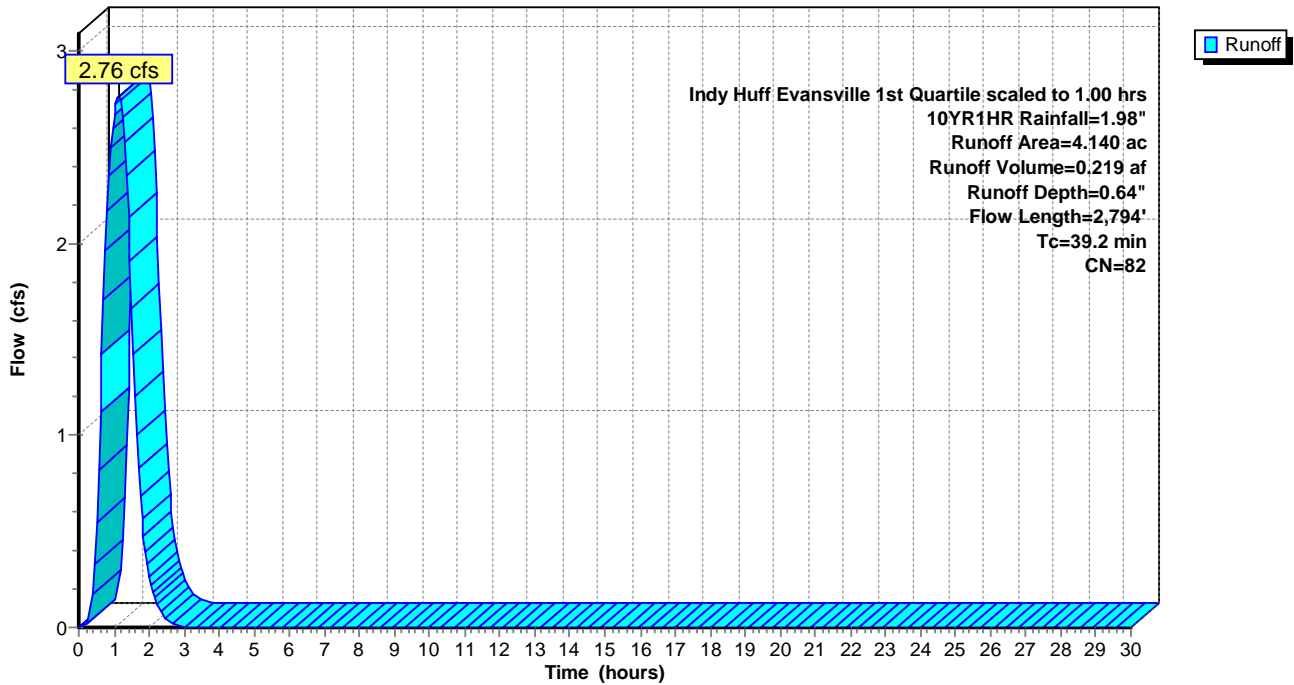
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

Area (ac)	CN	Description
* 4.140	82	
4.140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.0200	0.11		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
21.7	1,240	0.0185	0.95		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
3.0	1,454	0.0213	8.20	344.31	Channel Flow, Area= 42.0 sf Perim= 27.6' r= 1.52' n= 0.035 Earth, dense weeds
39.2	2,794	Total			

Subcatchment 20S: Basin #3 Developed

Hydrograph



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Schreiber Road *Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 100YR1HR Rainfall=2.90"*
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Summary for Subcatchment 20S: Basin #3 Developed

Runoff = 5.43 cfs @ 1.02 hrs, Volume= 0.449 af, Depth= 1.30"

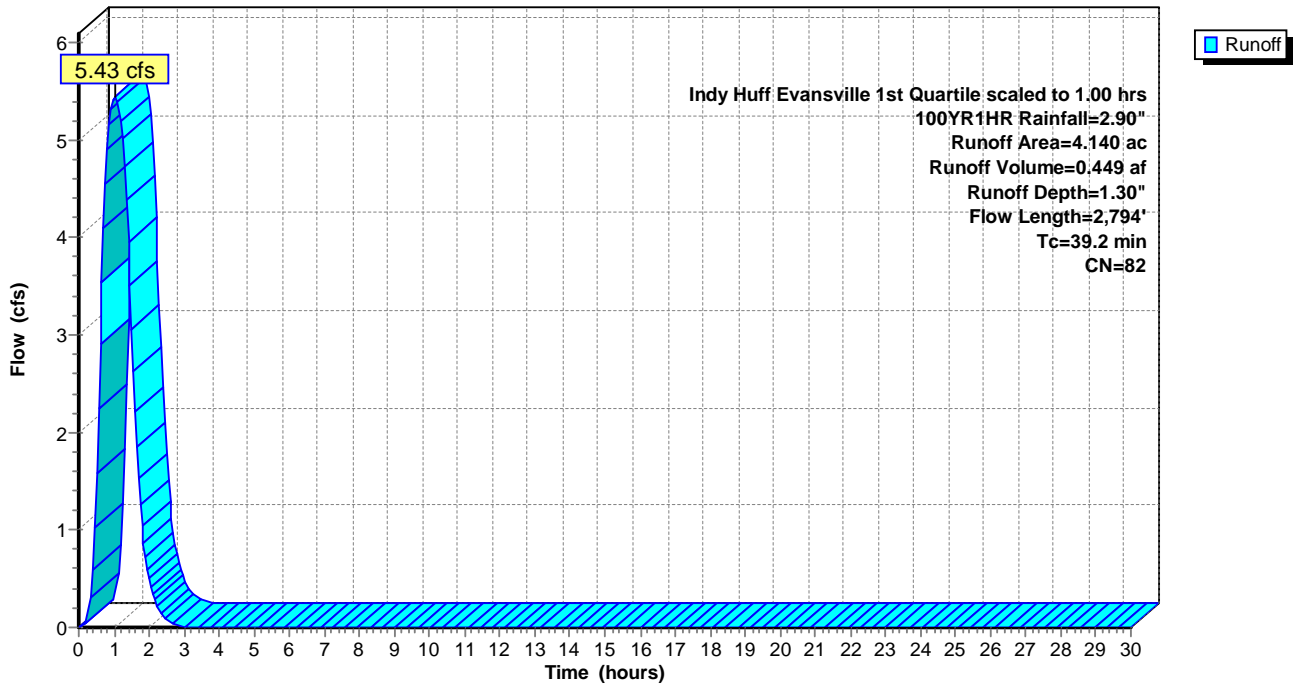
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 100YR1HR Rainfall=2.90"

Area (ac)	CN	Description
* 4.140	82	
4.140		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
14.5	100	0.0200	0.11		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
21.7	1,240	0.0185	0.95		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
3.0	1,454	0.0213	8.20	344.31	Channel Flow, Area= 42.0 sf Perim= 27.6' r= 1.52' n= 0.035 Earth, dense weeds
39.2	2,794	Total			

Subcatchment 20S: Basin #3 Developed

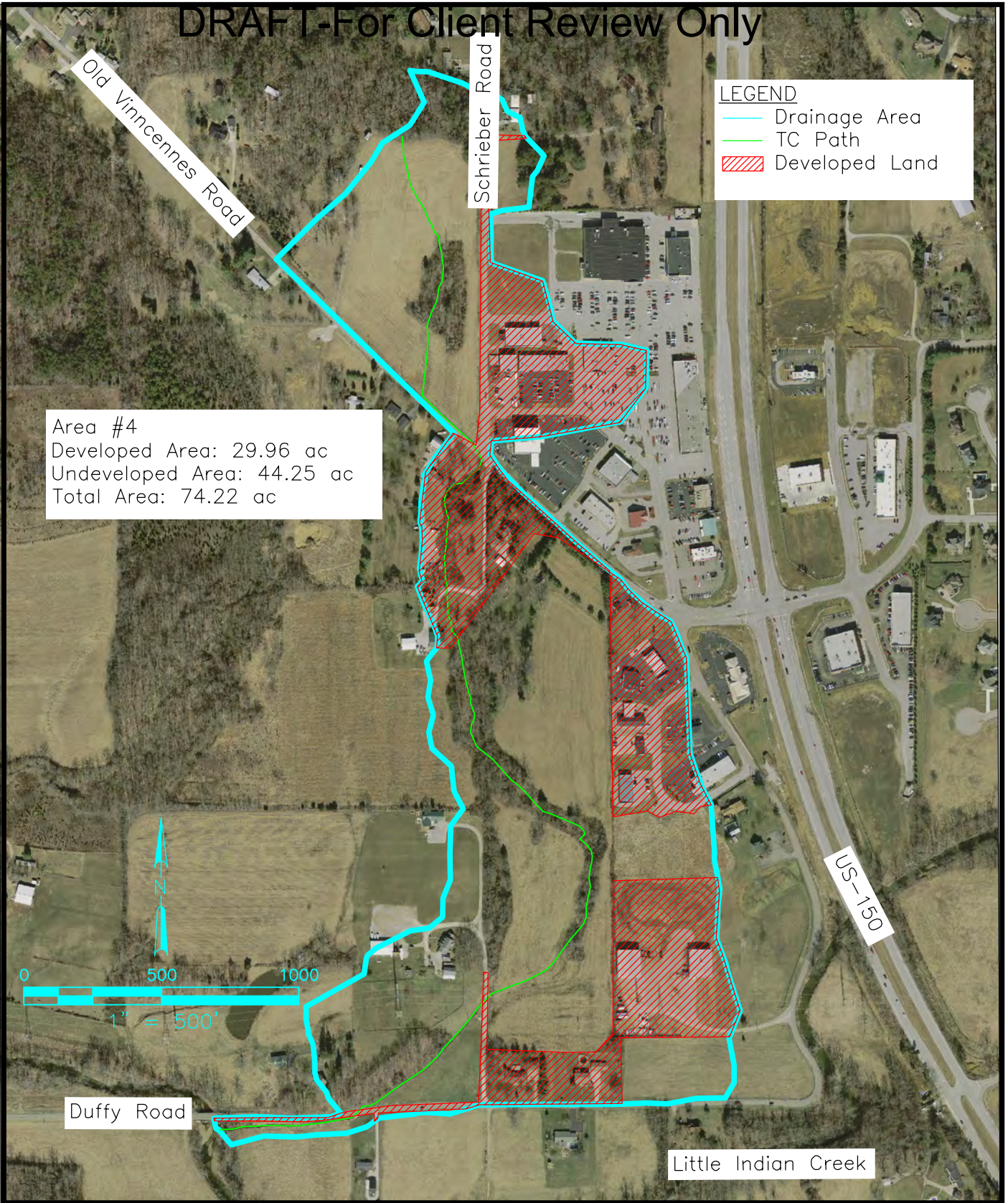
Hydrograph



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DRAINAGE AREA 4 HYDROLOGIC CALCULATIONS

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File: S:\COL\4000---4099\Drawings\4046\035\Drawings\CAD\DrainageAreas_Printout.dwg Time: Jul 09, 2021 - 10:33am

Floyd County Drainage Study
Drainage Area #4



FIGURE 05

4046.035

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Hydrologic Soil Group, Hilly County, Indiana



Map Scale: 1:6,810 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84




Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

6/7/2021
Page 1 of 4

MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available


Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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

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

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

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

Soil Survey Area: Floyd County, Indiana
 Survey Area Data: Version 25, Jun 4, 2020

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

Date(s) aerial images were photographed: Apr 3, 2020—Apr 11, 2020

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BcrAW	Beanblossom silt loam, 1 to 3 percent slopes, occasionally flooded, very brief duration	B	0.1	0.1%
CwaAQ	Cuba silt loam, 0 to 2 percent slopes, rarely flooded	B	3.3	4.5%
GgfE2	Gilwood-Wrays silt loams, 12 to 25 percent slopes, eroded	C	2.4	3.3%
HcgAW	Haymond silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	B	0.2	0.3%
SodB	Spickert silt loam, terrace, 1 to 4 percent slopes	C/D	23.1	31.6%
SoIC2	Spickert-Wrays silt loams, 6 to 12 percent slopes, eroded	C	9.2	12.5%
StaAQ	Steff silt loam, 0 to 2 percent slopes, rarely flooded	C	9.6	13.1%
Uaa	Udorthents, cut and filled		1.9	2.6%
UnkB	Urban land-Udarents, silty substratum, complex, terrace, 0 to 6 percent slopes		8.9	12.2%
UnIC	Urban land-Udarents, hard bedrock substratum, complex, hills, 2 to 15 percent slopes		14.5	19.9%
Totals for Area of Interest			73.2	100.0%

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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Predevelopment Basin #4 Curve Number Calculation						
		Percentage of Total Area per Soil Group				
		A	B	C	D	
		0.0%	39.5%	29.0%	31.6%	
Areas (Acres)		CN Value				CN
Woods	10.26	30	55	70	77	66.29
Residential	10.39	51	68	79	84	76.23
Grass	37.98	30	58	71	78	68.08
Farm	15.33	67	78	85	89	83.50
Water	0.26	100	100	100	100	100.00
Total Project Area	74.22					72.00

Existing Basin #4 Curve Number Calculation						
		Percentage of Total Area per Soil Group				
		A	B	C	D	
		0.0%	4.9%	29.0%	66.1%	
Areas (Acres)		CN Value				CN
Residential	18.42	51	68	79	84	81.77
Grass	17.18	30	58	71	78	74.99
Farm	15.33	67	78	85	89	87.30
Woods	11.74	30	55	70	77	73.89
Commercial	11.54	89	92	94	95	94.56
Total Project Area	74.22					82.00

Developed Area Basin #4 Curve Number Calculation						
		Percentage of Total Area per Soil Group				
		A	B	C	D	
		0.0%	4.9%	29.0%	66.1%	
Areas (Acres)		CN Value				CN
Residential	18.42	51	68	79	84	81.77
Commercial	11.54	89	92	94	95	94.56
Total Project Area	29.96					87.00

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Schreiber Road

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Page 1

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.39	2
2	10YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.98	2
3	100YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	2.90	2

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Schreiber Road

Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

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Summary for Subcatchment 13S: Basin #4 Pre Development

Runoff = 10.62 cfs @ 1.12 hrs, Volume= 0.515 af, Depth= 0.08"

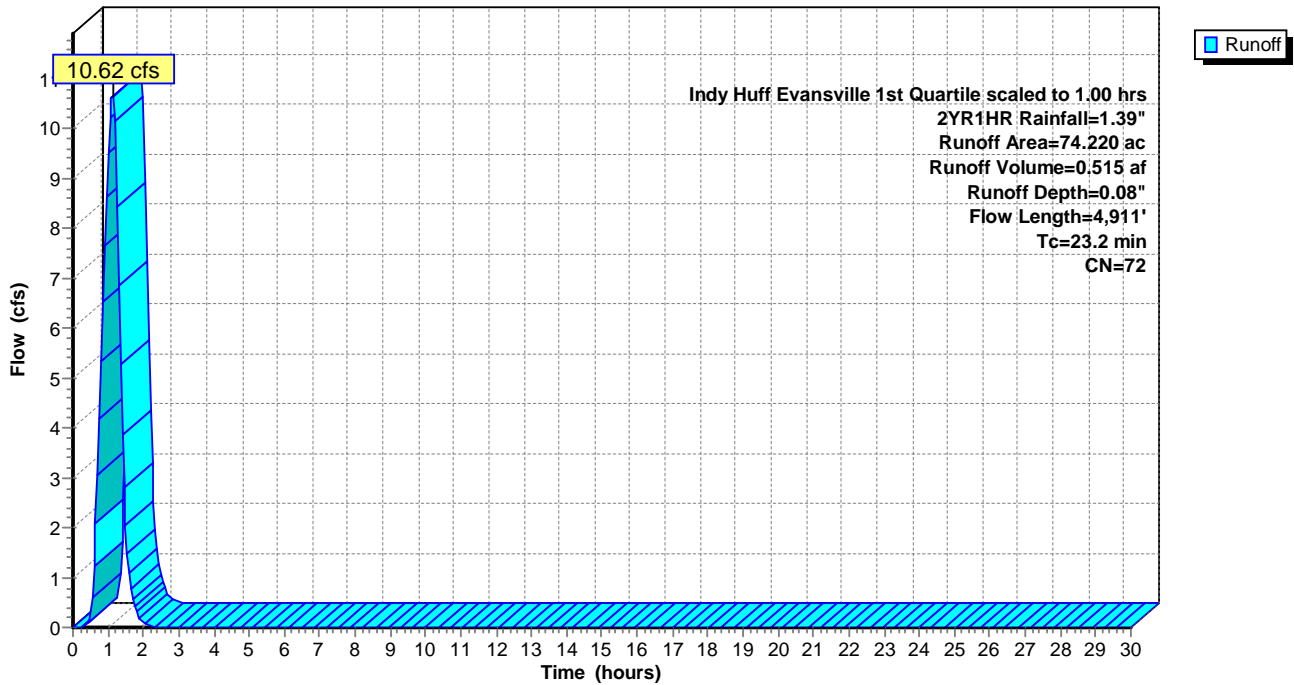
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

Area (ac)	CN	Description
* 74.220	72	
74.220		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	100	0.0700	0.66		Sheet Flow, Fallow n= 0.050 P2= 3.09"
13.1	1,131	0.0424	1.44		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
7.6	3,680	0.0158	8.03	288.92	Channel Flow, Area= 36.0 sf Perim= 24.6' r= 1.46' n= 0.030 Stream, clean & straight
23.2	4,911	Total			

Subcatchment 13S: Basin #4 Pre Development

Hydrograph



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Schreiber Road

Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

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Summary for Subcatchment 13S: Basin #4 Pre Development

Runoff = 29.30 cfs @ 1.07 hrs, Volume= 1.756 af, Depth= 0.28"

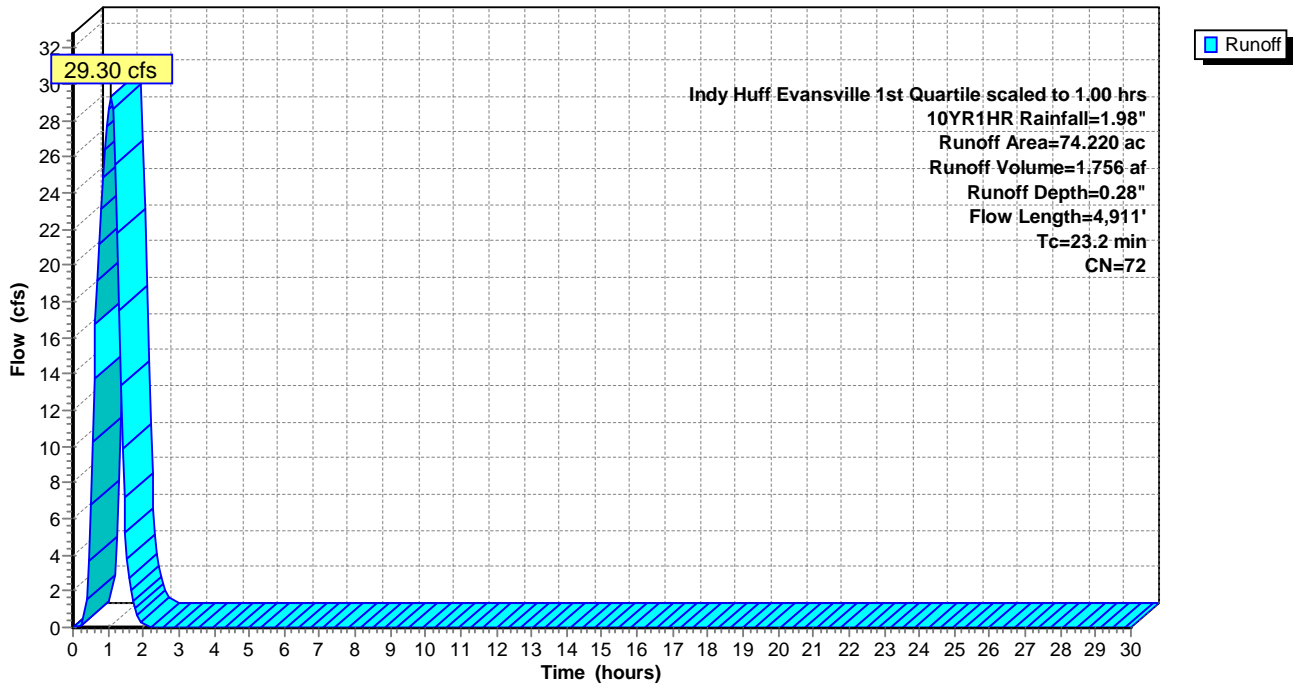
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

Area (ac)	CN	Description
* 74.220	72	
74.220		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	100	0.0700	0.66		Sheet Flow, Fallow n= 0.050 P2= 3.09"
13.1	1,131	0.0424	1.44		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
7.6	3,680	0.0158	8.03	288.92	Channel Flow, Area= 36.0 sf Perim= 24.6' r= 1.46' n= 0.030 Stream, clean & straight
23.2	4,911	Total			

Subcatchment 13S: Basin #4 Pre Development

Hydrograph



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Schreiber Road *Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 100YR1HR Rainfall=2.90"*
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Summary for Subcatchment 13S: Basin #4 Pre Development

Runoff = 66.83 cfs @ 1.00 hrs, Volume= 4.634 af, Depth= 0.75"

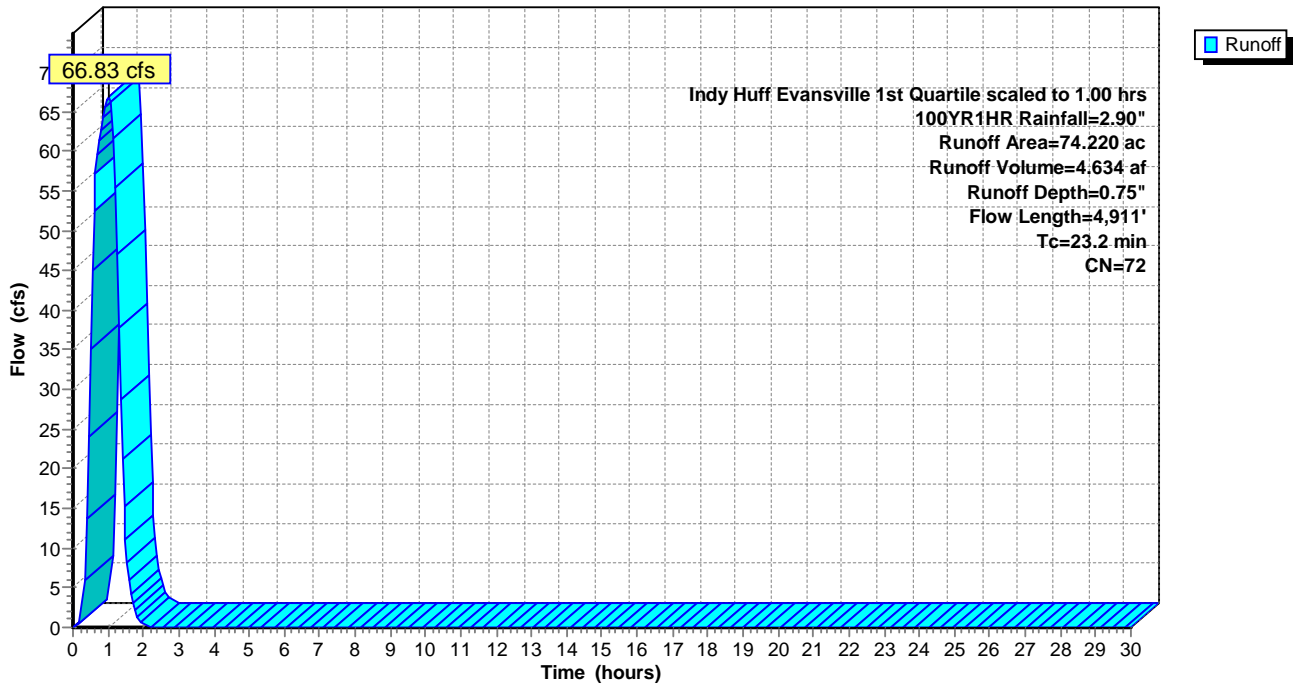
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 100YR1HR Rainfall=2.90"

Area (ac)	CN	Description
* 74.220	72	
74.220		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	100	0.0700	0.66		Sheet Flow, Fallow n= 0.050 P2= 3.09"
13.1	1,131	0.0424	1.44		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
7.6	3,680	0.0158	8.03	288.92	Channel Flow, Area= 36.0 sf Perim= 24.6' r= 1.46' n= 0.030 Stream, clean & straight
23.2	4,911	Total			

Subcatchment 13S: Basin #4 Pre Development

Hydrograph



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Page 1

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.39	2
2	10YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.98	2
3	100YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	2.90	2

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Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

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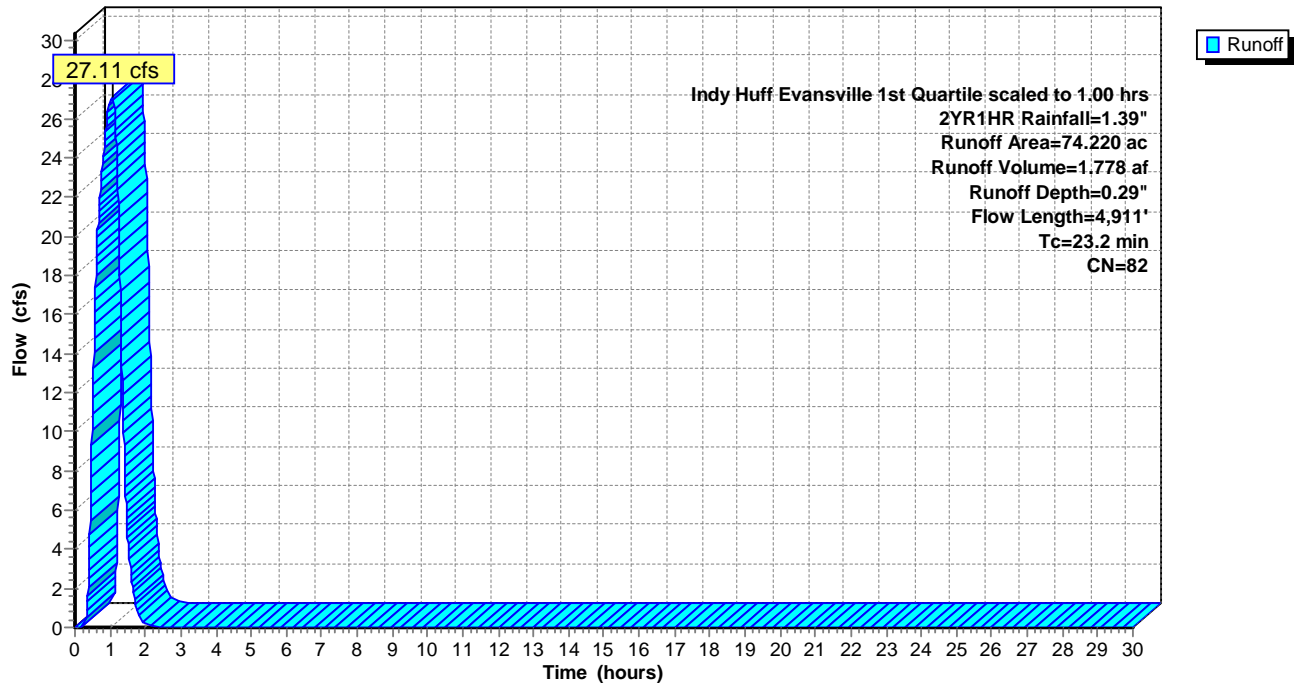
Page 2

Summary for Subcatchment 8S: Basin #4

Runoff = 27.11 cfs @ 1.05 hrs, Volume= 1.778 af, Depth= 0.29"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

Area (ac)	CN	Description			
* 74.220	82				
74.220		100.00% Pervious Area			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	100	0.0700	0.66		Sheet Flow, Fallow n= 0.050 P2= 3.09"
13.1	1,131	0.0424	1.44		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
7.6	3,680	0.0158	8.03	288.92	Channel Flow, Area= 36.0 sf Perim= 24.6' r= 1.46' n= 0.030 Stream, clean & straight
23.2	4,911	Total			

Subcatchment 8S: Basin #4**Hydrograph**

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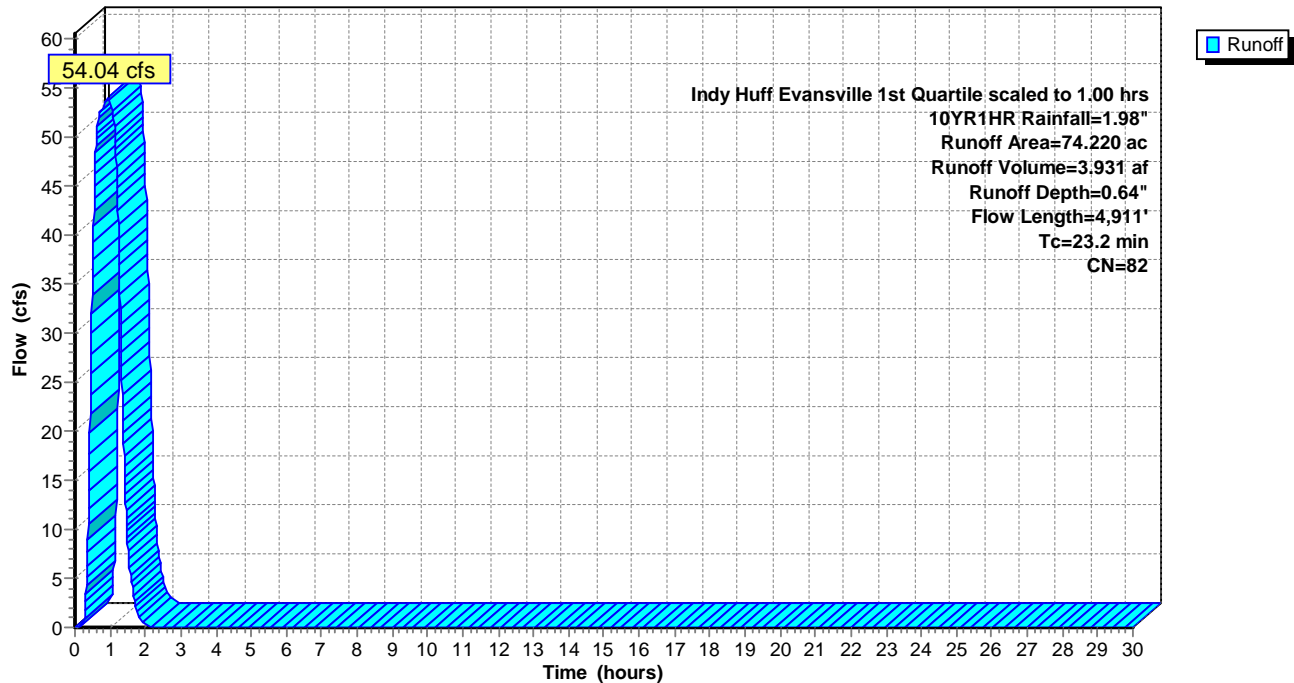
Schreiber Road *Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"*
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Summary for Subcatchment 8S: Basin #4

Runoff = 54.04 cfs @ 0.95 hrs, Volume= 3.931 af, Depth= 0.64"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

Area (ac)	CN	Description			
* 74.220	82				
74.220		100.00% Pervious Area			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	100	0.0700	0.66		Sheet Flow, Fallow n= 0.050 P2= 3.09"
13.1	1,131	0.0424	1.44		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
7.6	3,680	0.0158	8.03	288.92	Channel Flow, Area= 36.0 sf Perim= 24.6' r= 1.46' n= 0.030 Stream, clean & straight
23.2	4,911	Total			

Subcatchment 8S: Basin #4**Hydrograph**

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Schreiber Road *Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 100YR1HR Rainfall=2.90"*
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Summary for Subcatchment 8S: Basin #4

Runoff = 113.60 cfs @ 0.64 hrs, Volume= 8.045 af, Depth= 1.30"

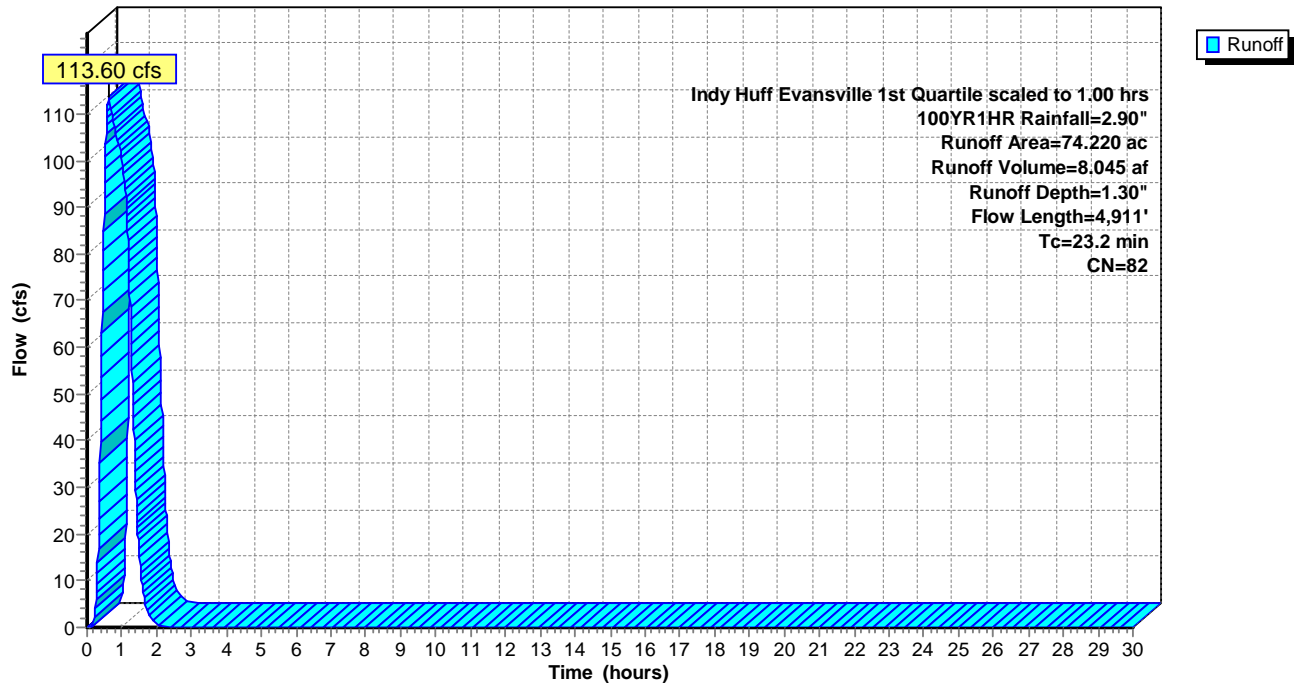
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.01 hrs
 Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 100YR1HR Rainfall=2.90"

Area (ac)	CN	Description
* 74.220	82	
74.220		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	100	0.0700	0.66		Sheet Flow, Fallow n= 0.050 P2= 3.09"
13.1	1,131	0.0424	1.44		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
7.6	3,680	0.0158	8.03	288.92	Channel Flow, Area= 36.0 sf Perim= 24.6' r= 1.46' n= 0.030 Stream, clean & straight
23.2	4,911	Total			

Subcatchment 8S: Basin #4

Hydrograph



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Page 1

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2YR30MIN	Indy Huff Evansville	1st Quartile	Scale	0.50	1	1.13	2
2	10YR30MIN	Indy Huff Evansville	1st Quartile	Scale	0.50	1	1.55	2
3	100YR30MIN	Indy Huff Evansville	1st Quartile	Scale	0.50	1	2.17	2

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Schreiber Road *Indy Huff Evansville 1st Quartile scaled to 0.50 hrs 2YR30MIN Rainfall=1.13"*
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Summary for Subcatchment 23S: Basin #4 Developed

Runoff = 18.02 cfs @ 0.61 hrs, Volume= 0.742 af, Depth= 0.30"

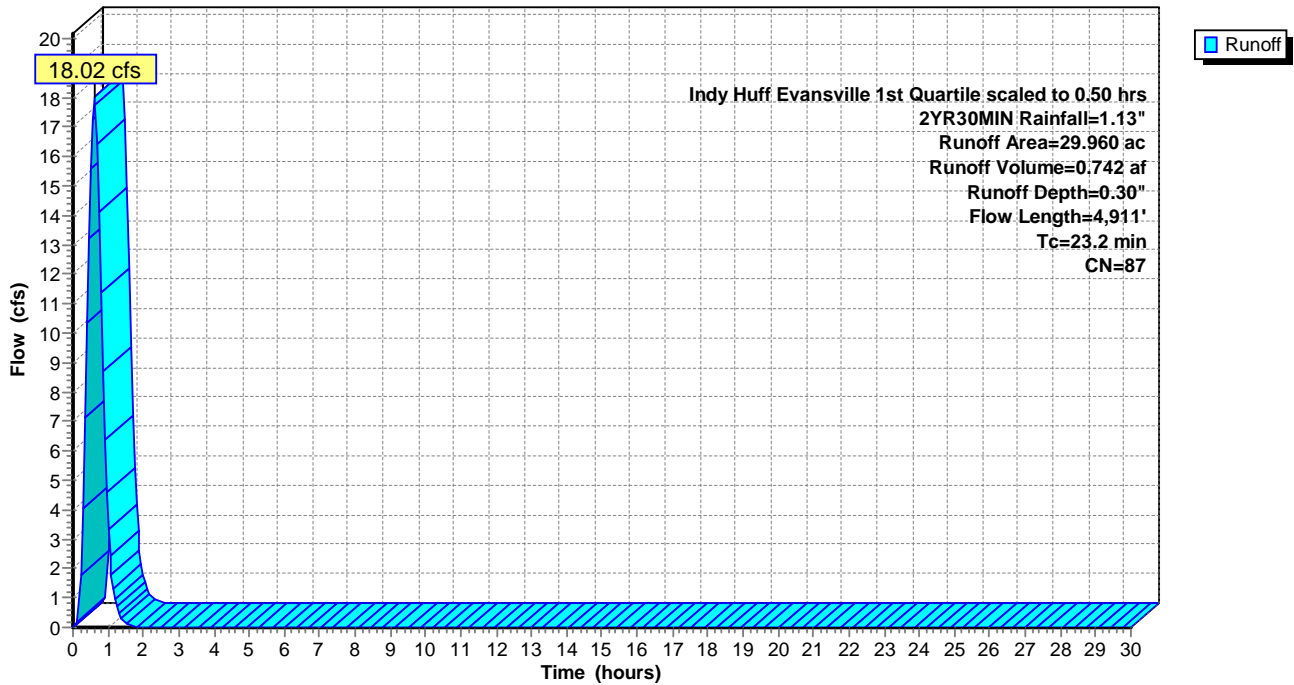
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Indy Huff Evansville 1st Quartile scaled to 0.50 hrs 2YR30MIN Rainfall=1.13"

Area (ac)	CN	Description
* 29.960	87	
29.960		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	100	0.0700	0.66		Sheet Flow, Fallow n= 0.050 P2= 3.09"
13.1	1,131	0.0424	1.44		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
7.6	3,680	0.0158	8.03	288.92	Channel Flow, Area= 36.0 sf Perim= 24.6' r= 1.46' n= 0.030 Stream, clean & straight
23.2	4,911	Total			

Subcatchment 23S: Basin #4 Developed

Hydrograph



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Schreiber Road *Indy Huff Evansville 1st Quartile scaled to 0.50 hrs 10YR30MIN Rainfall=1.55"*
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Summary for Subcatchment 23S: Basin #4 Developed

Runoff = 33.38 cfs @ 0.59 hrs, Volume= 1.424 af, Depth= 0.57"

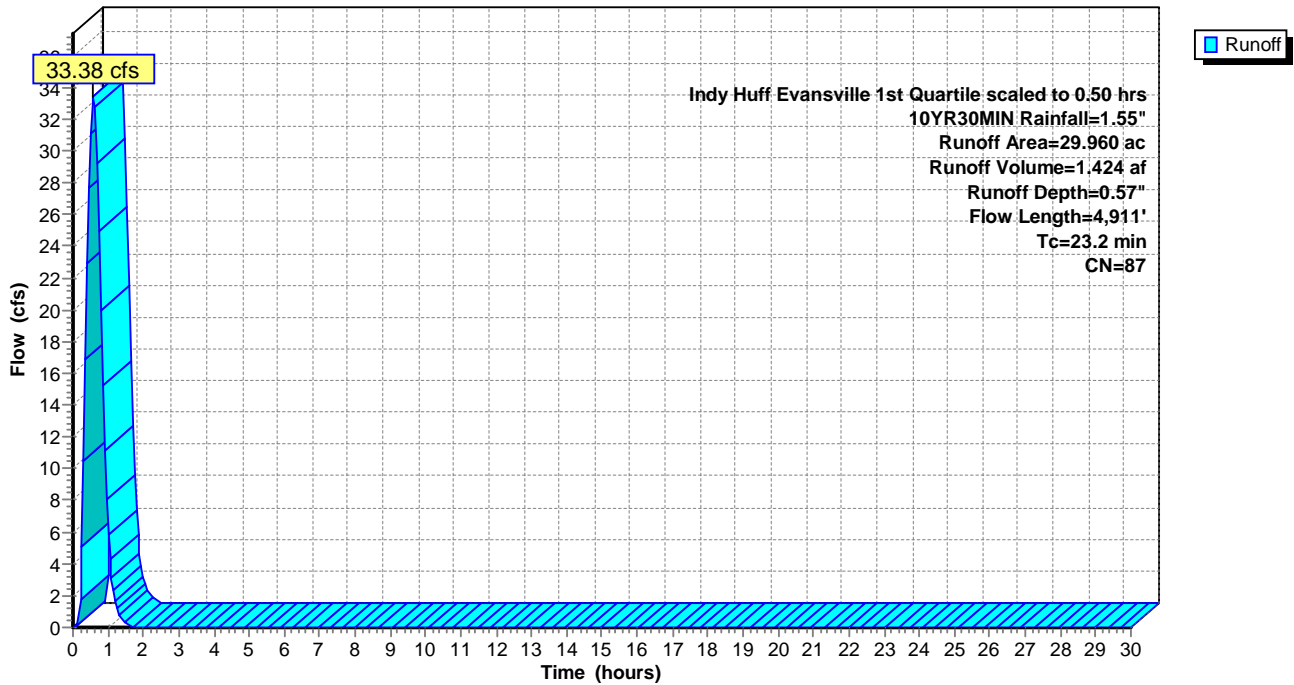
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Indy Huff Evansville 1st Quartile scaled to 0.50 hrs 10YR30MIN Rainfall=1.55"

Area (ac)	CN	Description
* 29.960	87	
29.960		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	100	0.0700	0.66		Sheet Flow, Fallow n= 0.050 P2= 3.09"
13.1	1,131	0.0424	1.44		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
7.6	3,680	0.0158	8.03	288.92	Channel Flow, Area= 36.0 sf Perim= 24.6' r= 1.46' n= 0.030 Stream, clean & straight
23.2	4,911	Total			

Subcatchment 23S: Basin #4 Developed

Hydrograph



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Schreiber Road *Indy Huff Evansville 1st Quartile scaled to 0.50 hrs 100YR30MIN Rainfall=2.17"*
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Summary for Subcatchment 23S: Basin #4 Developed

Runoff = 59.67 cfs @ 0.56 hrs, Volume= 2.597 af, Depth= 1.04"

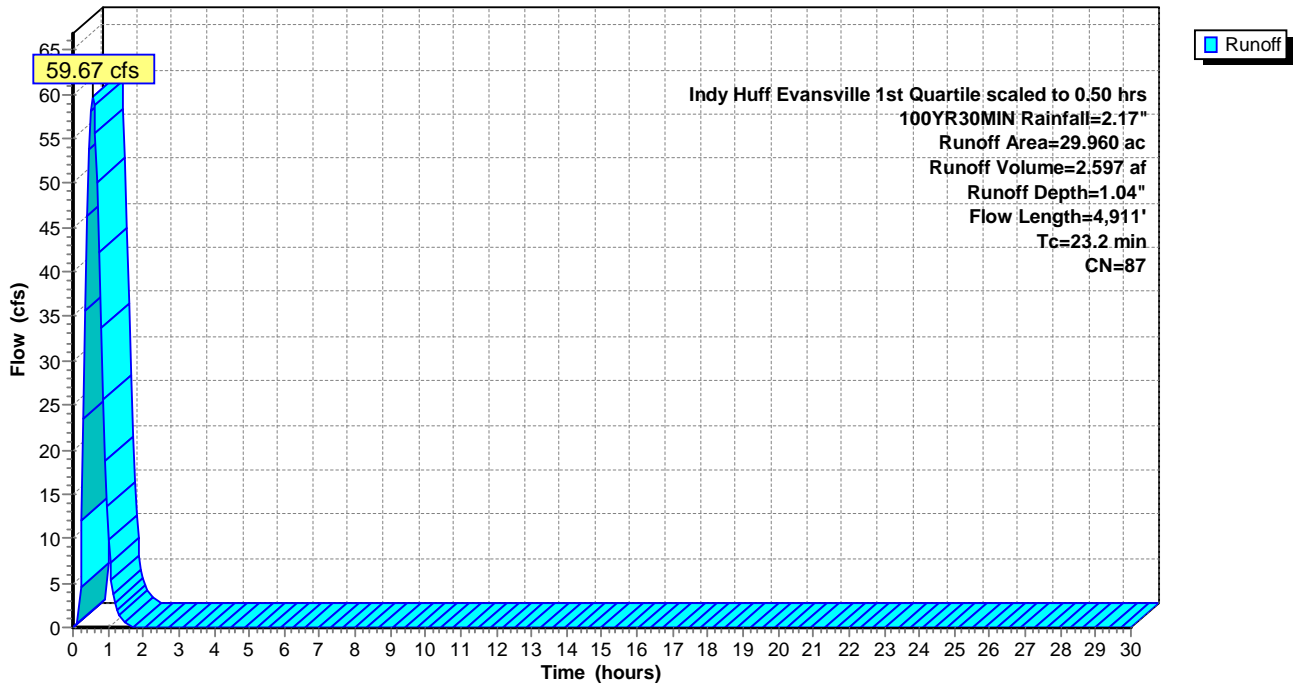
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Indy Huff Evansville 1st Quartile scaled to 0.50 hrs 100YR30MIN Rainfall=2.17"

Area (ac)	CN	Description
* 29.960	87	
29.960		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
2.5	100	0.0700	0.66		Sheet Flow, Fallow n= 0.050 P2= 3.09"
13.1	1,131	0.0424	1.44		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
7.6	3,680	0.0158	8.03	288.92	Channel Flow, Area= 36.0 sf Perim= 24.6' r= 1.46' n= 0.030 Stream, clean & straight
23.2	4,911	Total			

Subcatchment 23S: Basin #4 Developed

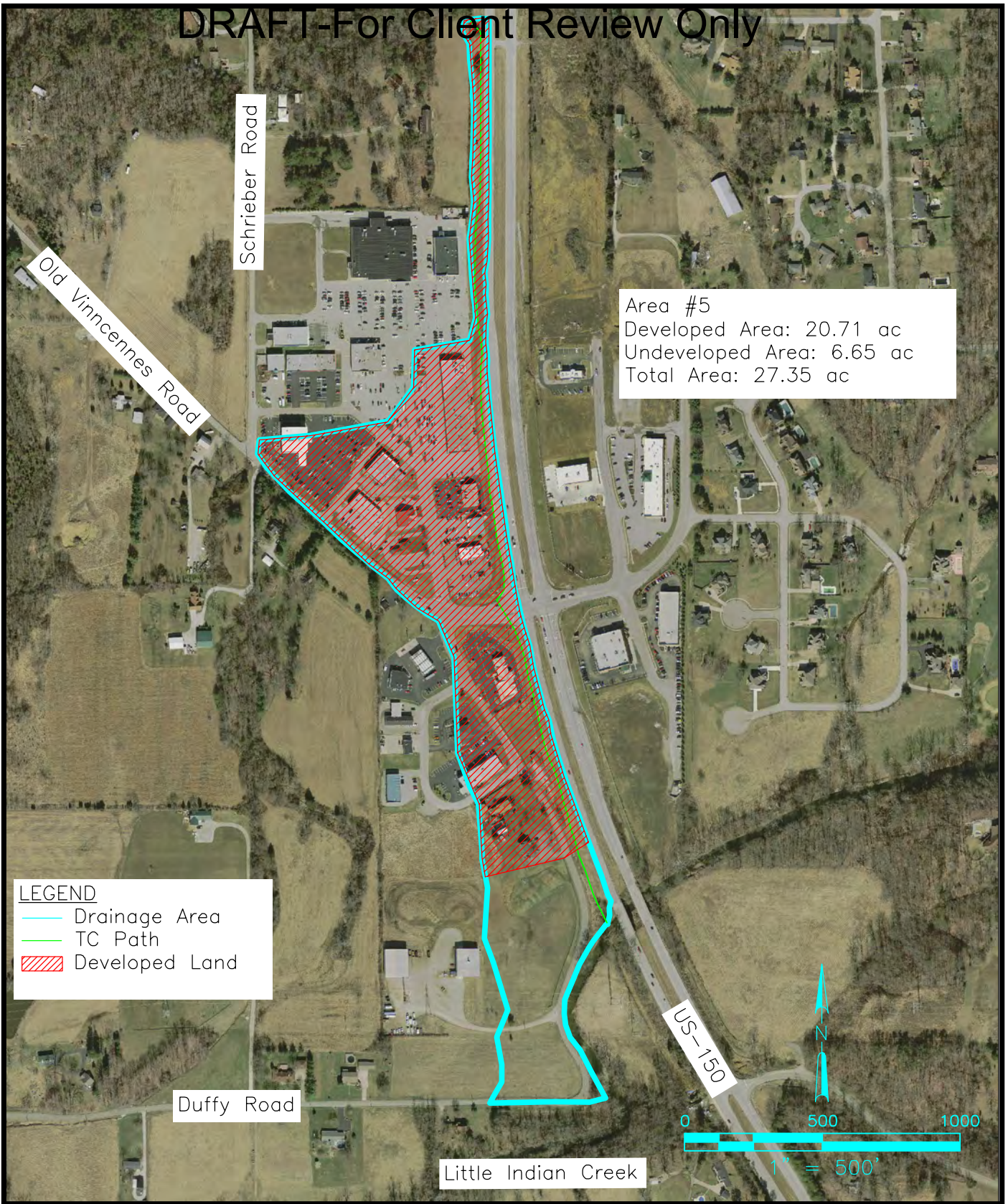
Hydrograph



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DRAINAGE AREA 5 HYDROLOGIC CALCULATIONS

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File: S:\COL\4000---4099\Drawings\4046\035\Drawings\CAD\DrainageAreas_Printout.dwg Time: Jul 09, 2021 - 10:34am

Floyd County Drainage Study
Drainage Area #5



FIGURE 06

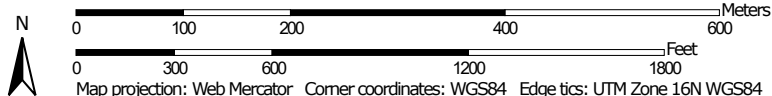
4046.035

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Hydrologic Soil Group, Floyd County, Indiana



Map Scale: 1:7,050 if printed on A portrait (8.5" x 11") sheet.




Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey

6/7/2021
Page 1 of 4

MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Lines

-  A
-  A/D
-  B
-  B/D
-  C
-  C/D
-  D
-  Not rated or not available

Soil Rating Points






-  A
-  A/D
-  B
-  B/D

-  C
-  C/D
-  D
-  Not rated or not available


Water Features

 Streams and Canals

Transportation

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

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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

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

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

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

Soil Survey Area: Floyd County, Indiana
 Survey Area Data: Version 25, Jun 4, 2020

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

Date(s) aerial images were photographed: Apr 3, 2020—Apr 11, 2020

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
BcrAW	Beanblossom silt loam, 1 to 3 percent slopes, occasionally flooded, very brief duration	B	1.7	5.9%
CtwB	Crider-Bedford-Navilleton silt loams, 2 to 6 percent slopes	B	0.4	1.3%
CwaAQ	Cuba silt loam, 0 to 2 percent slopes, rarely flooded	B	0.2	0.6%
GgfE2	Gilwood-Wrays silt loams, 12 to 25 percent slopes, eroded	C	0.0	0.1%
HcgAW	Haymond silt loam, 0 to 2 percent slopes, occasionally flooded, very brief duration	B	1.5	5.2%
SoaB	Spickert silt loam, 2 to 6 percent slopes	C/D	0.9	3.1%
Uaa	Udorthents, cut and filled		4.4	15.6%
UnkB	Urban land-Udarents, silty substratum, complex, terrace, 0 to 6 percent slopes		5.4	19.2%
UnIC	Urban land-Udarents, hard bedrock substratum, complex, hills, 2 to 15 percent slopes		13.9	49.1%
Totals for Area of Interest			28.4	100.0%

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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Predevelopment Basin #5 Curve Number Calculation						
		Percentage of Total Area per Soil Group				
		A	B	C	D	
		0.0%	96.8%	0.0%	3.2%	
Areas (Acres)		CN Value				CN
Residential	1.74	51	68	79	84	68.51
Grass	17.83	30	58	71	78	58.63
Farm	7.83	67	78	85	89	78.35
Water	0.00	100	100	100	100	100.00
Total Project Area	27.40					65.00

Existing Basin #5 Curve Number Calculation						
		Percentage of Total Area per Soil Group				
		A	B	C	D	
		0.0%	13.4%	0.0%	86.6%	
Areas (Acres)		CN Value				CN
Commercial	17.06	89	92	94	95	94.60
Residential	3.65	51	68	79	84	81.86
Grass	4.58	30	58	71	78	75.32
Farm	2.07	67	78	85	89	87.53
Woods	0.00	30	55	70	77	74.06
Water	0.00	100	100	100	100	100.00
Total Project Area	27.35					89.00

Developed Area Basin #5 Curve Number Calculation						
		Percentage of Total Area per Soil Group				
		A	B	C	D	
		0.0%	13.4%	0.0%	86.6%	
Areas (Acres)		CN Value				CN
Commercial	17.06	89	92	94	95	94.60
Residential	3.65	51	68	79	84	81.86
Total Project Area	20.71					92.00

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Schreiber Road

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Page 1

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.39	2
2	10YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.98	2
3	100YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	2.90	2

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Schreiber Road

Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

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Page 2

Summary for Subcatchment 14S: Basin #5 Pre Development

Runoff = 0.92 cfs @ 1.25 hrs, Volume= 0.039 af, Depth= 0.02"

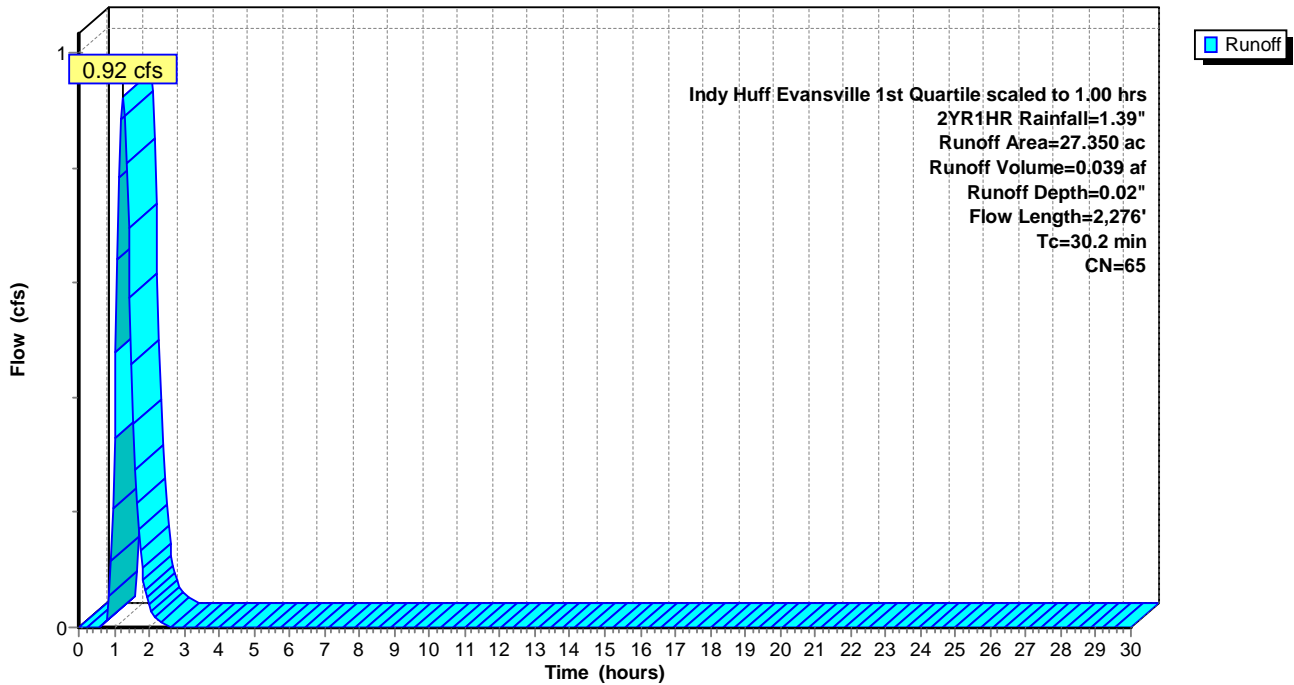
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

Area (ac)	CN	Description
* 27.350	65	
27.350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.0	100	0.0400	0.15		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
15.4	1,186	0.0337	1.29		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
3.8	990	0.0270	4.34	121.58	Channel Flow, Area= 28.0 sf Perim= 20.6' r= 1.36' n= 0.069 Riprap, 6-inch
30.2	2,276	Total			

Subcatchment 14S: Basin #5 Pre Development

Hydrograph



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Schreiber Road

Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

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Page 3

Summary for Subcatchment 14S: Basin #5 Pre Development

Runoff = 5.43 cfs @ 1.18 hrs, Volume= 0.296 af, Depth= 0.13"

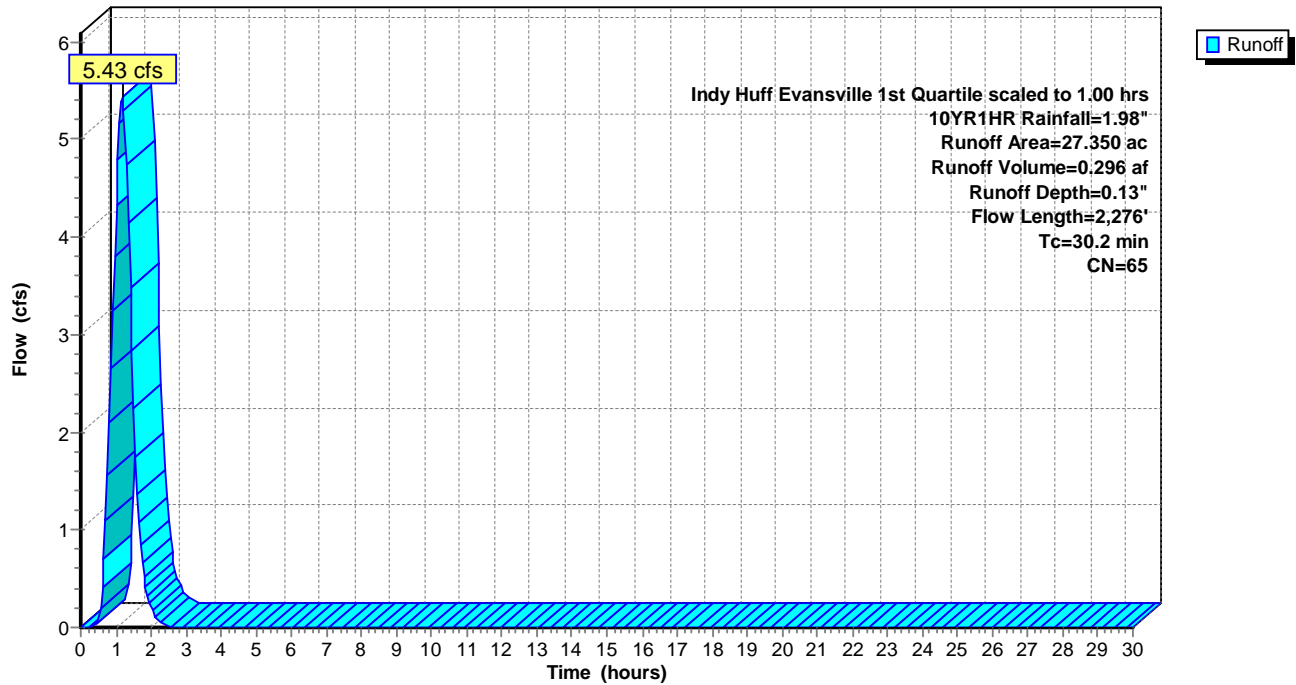
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

Area (ac)	CN	Description
* 27.350	65	
27.350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.0	100	0.0400	0.15		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
15.4	1,186	0.0337	1.29		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
3.8	990	0.0270	4.34	121.58	Channel Flow, Area= 28.0 sf Perim= 20.6' r= 1.36' n= 0.069 Riprap, 6-inch
30.2	2,276	Total			

Subcatchment 14S: Basin #5 Pre Development

Hydrograph



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Summary for Subcatchment 14S: Basin #5 Pre Development

Runoff = 16.16 cfs @ 1.13 hrs, Volume= 1.051 af, Depth= 0.46"

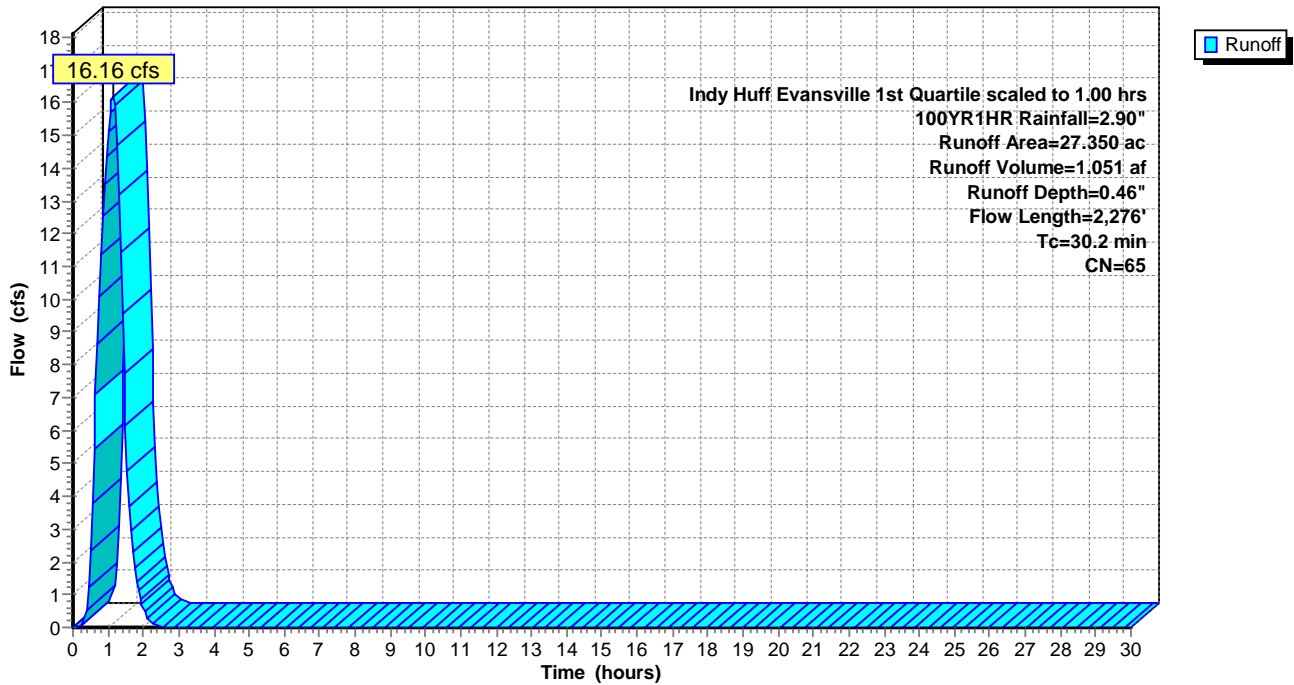
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 100YR1HR Rainfall=2.90"

Area (ac)	CN	Description
* 27.350	65	
27.350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
11.0	100	0.0400	0.15		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
15.4	1,186	0.0337	1.29		Shallow Concentrated Flow, Short Grass Pasture Kv= 7.0 fps
3.8	990	0.0270	4.34	121.58	Channel Flow, Area= 28.0 sf Perim= 20.6' r= 1.36' n= 0.069 Riprap, 6-inch
30.2	2,276	Total			

Subcatchment 14S: Basin #5 Pre Development

Hydrograph



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Schreiber Road

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Page 1

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2YR30MIN	Indy Huff Evansville	1st Quartile	Scale	0.50	1	1.13	2
2	10YR30MIN	Indy Huff Evansville	1st Quartile	Scale	0.50	1	1.55	2
3	100YR30MIN	Indy Huff Evansville	1st Quartile	Scale	0.50	1	2.17	2

DRAFT-For Client Review Only**Schreiber Road**

Indy Huff Evansville 1st Quartile scaled to 0.50 hrs 2YR30MIN Rainfall=1.13"

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Page 2

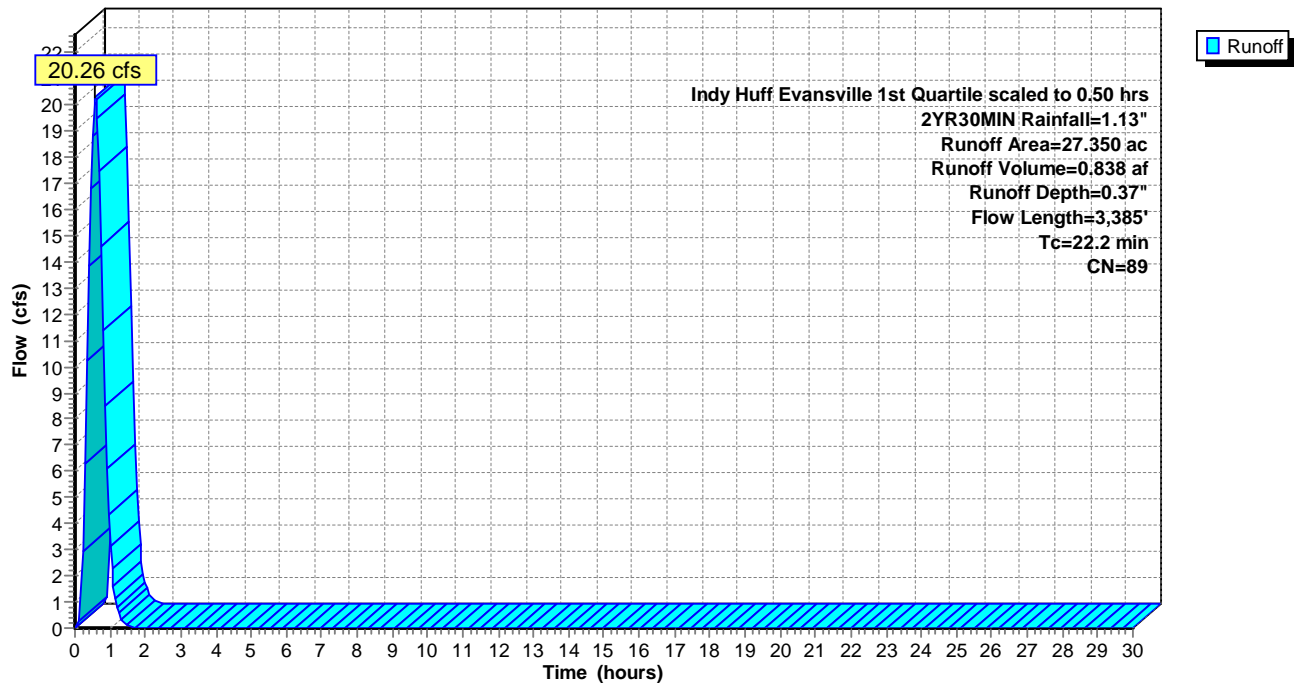
Summary for Subcatchment 9S: Basin #5

Runoff = 20.26 cfs @ 0.59 hrs, Volume= 0.838 af, Depth= 0.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 0.50 hrs 2YR30MIN Rainfall=1.13"

Area (ac)	CN	Description
* 27.350	89	
27.350		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	100	0.0600	0.18		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
12.8	3,285	0.0260	4.26	119.31	Channel Flow, Area= 28.0 sf Perim= 20.6' r= 1.36' n= 0.069 Riprap, 6-inch
22.2	3,385	Total			

Subcatchment 9S: Basin #5**Hydrograph**

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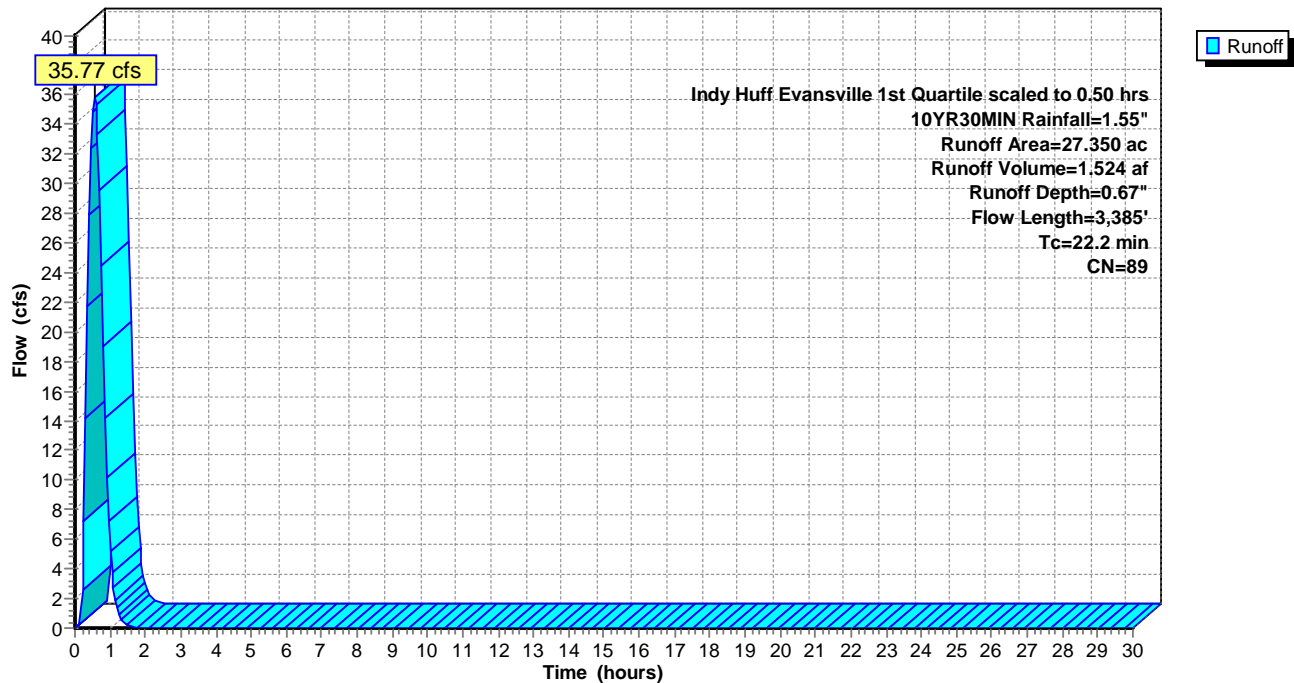
Schreiber Road *Indy Huff Evansville 1st Quartile scaled to 0.50 hrs 10YR30MIN Rainfall=1.55"*
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Summary for Subcatchment 9S: Basin #5

Runoff = 35.77 cfs @ 0.56 hrs, Volume= 1.524 af, Depth= 0.67"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Indy Huff Evansville 1st Quartile scaled to 0.50 hrs 10YR30MIN Rainfall=1.55"

Area (ac)	CN	Description			
* 27.350	89				
27.350		100.00% Pervious Area			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	100	0.0600	0.18		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
12.8	3,285	0.0260	4.26	119.31	Channel Flow, Area= 28.0 sf Perim= 20.6' r= 1.36' n= 0.069 Riprap, 6-inch
22.2	3,385	Total			

Subcatchment 9S: Basin #5**Hydrograph**

DRAFT-For Client Review Only**Schreiber Road** *Indy Huff Evansville 1st Quartile scaled to 0.50 hrs 100YR30MIN Rainfall=2.17"*

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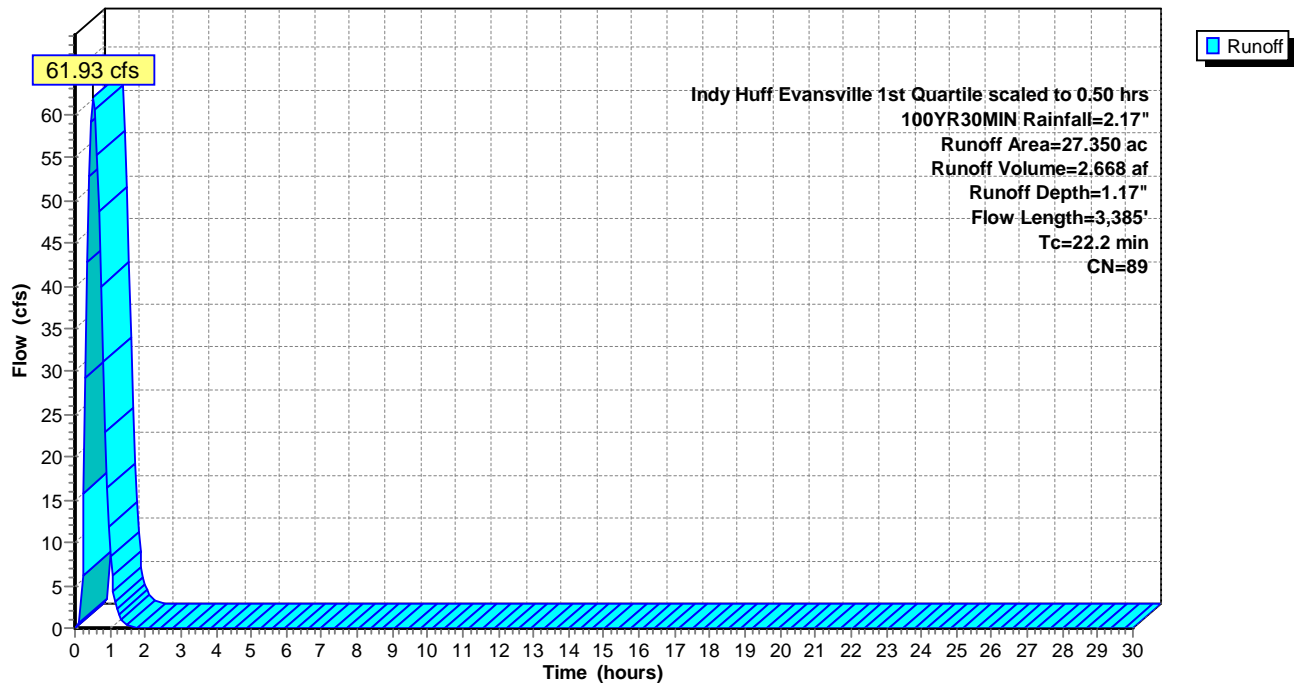
Page 4

Summary for Subcatchment 9S: Basin #5

Runoff = 61.93 cfs @ 0.52 hrs, Volume= 2.668 af, Depth= 1.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 0.50 hrs 100YR30MIN Rainfall=2.17"

Area (ac)	CN	Description			
* 27.350	89				
27.350		100.00% Pervious Area			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	100	0.0600	0.18		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
12.8	3,285	0.0260	4.26	119.31	Channel Flow, Area= 28.0 sf Perim= 20.6' r= 1.36' n= 0.069 Riprap, 6-inch
22.2	3,385	Total			

Subcatchment 9S: Basin #5**Hydrograph**

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Schreiber Road

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Page 1

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2YR30MIN	Indy Huff Evansville	1st Quartile	Scale	0.50	1	1.13	2
2	10YR30MIN	Indy Huff Evansville	1st Quartile	Scale	0.50	1	1.55	2
3	100YR30MIN	Indy Huff Evansville	1st Quartile	Scale	0.50	1	2.17	2

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Schreiber Road *Indy Huff Evansville 1st Quartile scaled to 0.50 hrs 2YR30MIN Rainfall=1.13"*
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Summary for Subcatchment 25S: Basin #5 Developed

Runoff = 20.24 cfs @ 0.55 hrs, Volume= 0.864 af, Depth= 0.50"

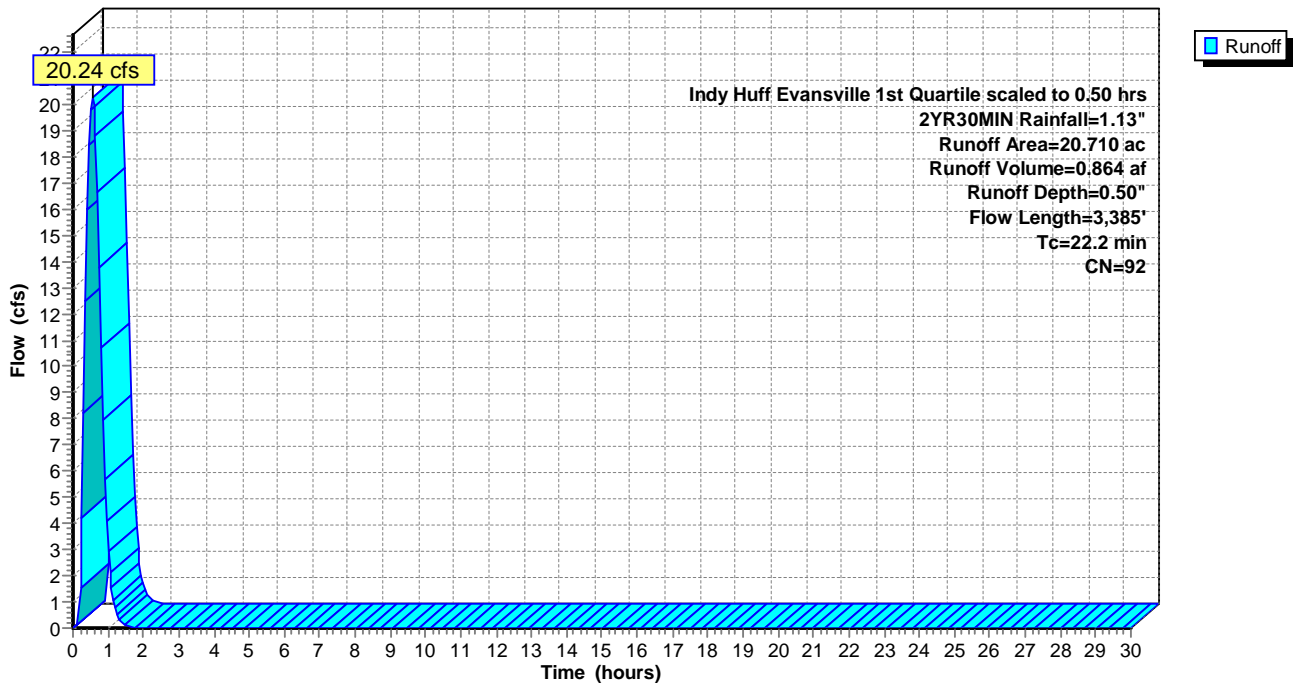
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Indy Huff Evansville 1st Quartile scaled to 0.50 hrs 2YR30MIN Rainfall=1.13"

Area (ac)	CN	Description
* 20.710	92	
20.710		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	100	0.0600	0.18		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
12.8	3,285	0.0260	4.26	119.31	Channel Flow, Area= 28.0 sf Perim= 20.6' r= 1.36' n= 0.069 Riprap, 6-inch
22.2	3,385	Total			

Subcatchment 25S: Basin #5 Developed

Hydrograph



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Schreiber Road *Indy Huff Evansville 1st Quartile scaled to 0.50 hrs 10YR30MIN Rainfall=1.55"*
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Summary for Subcatchment 25S: Basin #5 Developed

Runoff = 33.78 cfs @ 0.52 hrs, Volume= 1.455 af, Depth= 0.84"

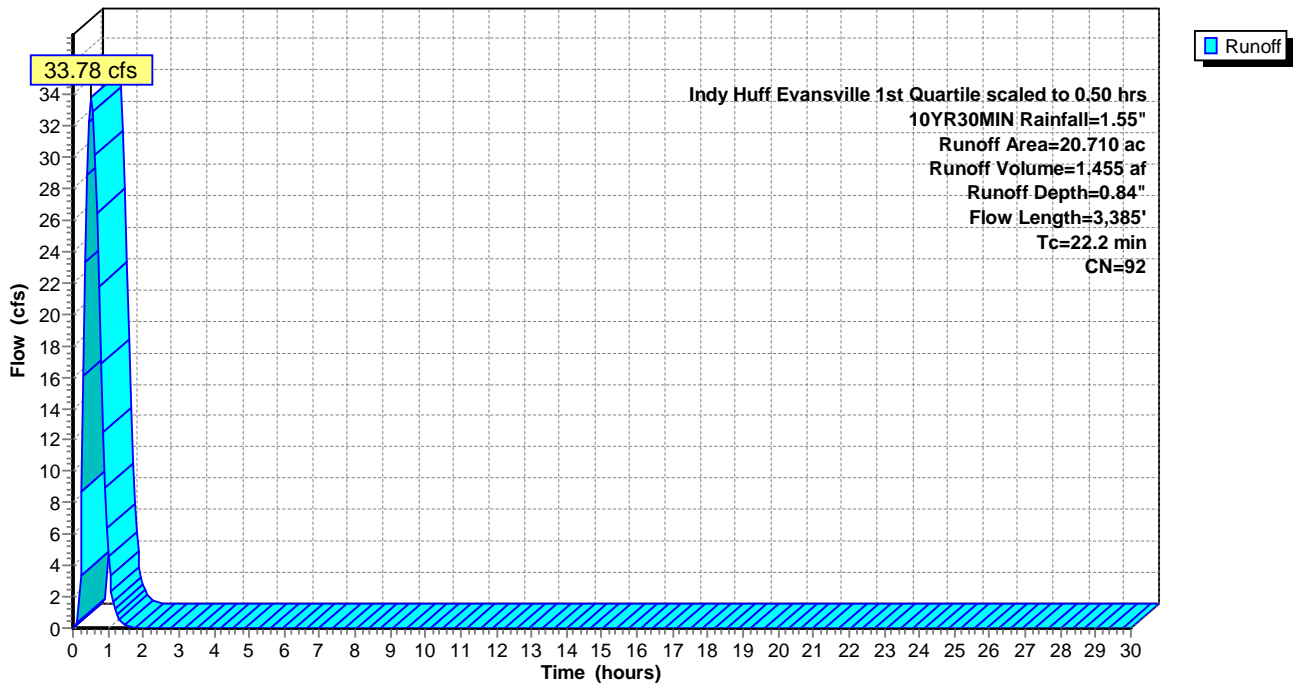
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Indy Huff Evansville 1st Quartile scaled to 0.50 hrs 10YR30MIN Rainfall=1.55"

Area (ac)	CN	Description
* 20.710	92	
20.710		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	100	0.0600	0.18		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
12.8	3,285	0.0260	4.26	119.31	Channel Flow, Area= 28.0 sf Perim= 20.6' r= 1.36' n= 0.069 Riprap, 6-inch
22.2	3,385	Total			

Subcatchment 25S: Basin #5 Developed

Hydrograph



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Schreiber Road *Indy Huff Evansville 1st Quartile scaled to 0.50 hrs 100YR30MIN Rainfall=2.17"*
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Summary for Subcatchment 25S: Basin #5 Developed

Runoff = 55.66 cfs @ 0.49 hrs, Volume= 2.400 af, Depth= 1.39"

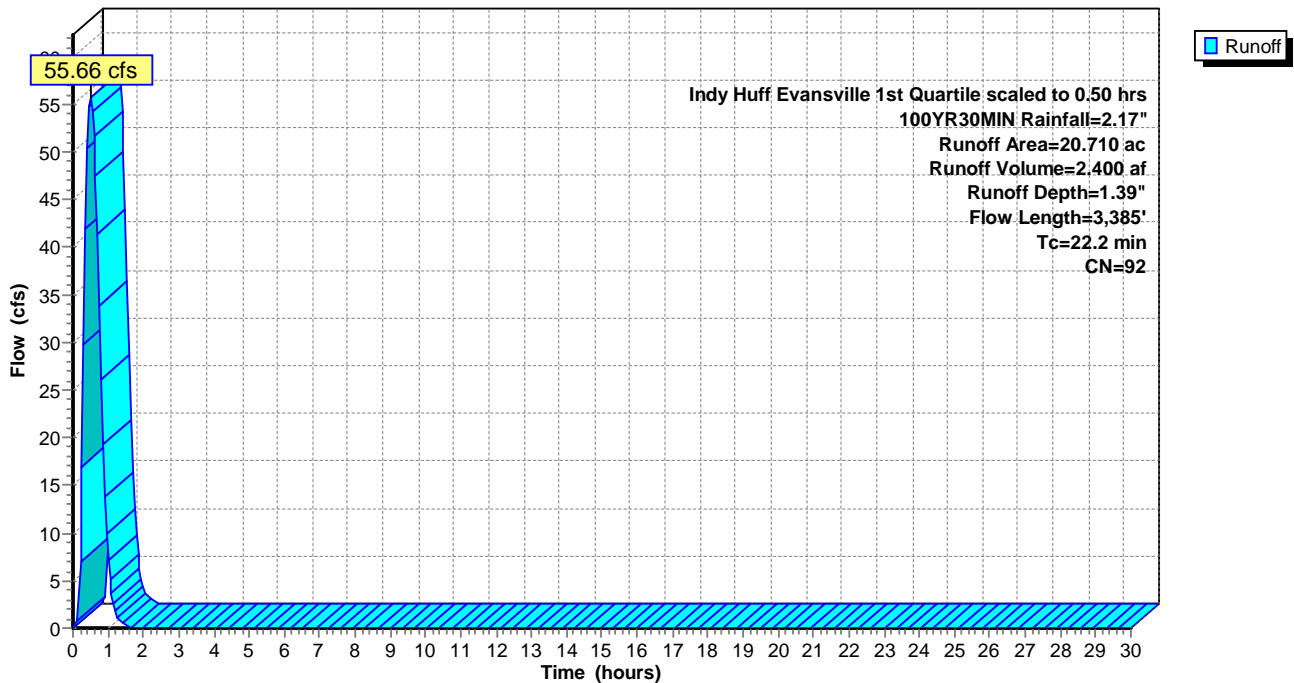
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Indy Huff Evansville 1st Quartile scaled to 0.50 hrs 100YR30MIN Rainfall=2.17"

Area (ac)	CN	Description
* 20.710	92	
20.710		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
9.4	100	0.0600	0.18		Sheet Flow, Grass: Dense n= 0.240 P2= 3.09"
12.8	3,285	0.0260	4.26	119.31	Channel Flow, Area= 28.0 sf Perim= 20.6' r= 1.36' n= 0.069 Riprap, 6-inch
22.2	3,385	Total			

Subcatchment 25S: Basin #5 Developed

Hydrograph



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DRAINAGE AREA 6 HYDROLOGIC CALCULATIONS

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File: S:\COL\4000---4099\Drawings\4046\035\Drawings\CAD\DrainageAreas_Printout.dwg Time: Jul 09, 2021 - 10:35am

LEGEND

- Drainage Area
- TC Path
- ▨ Developed Land

Schrieber Road

Area #6
Developed Area: 17.23 ac
Undeveloped Area: 30.02 ac
Total Area: 47.26 ac

US-150

Old Vincennes Road



Floyd County Drainage Study
Drainage Area #6

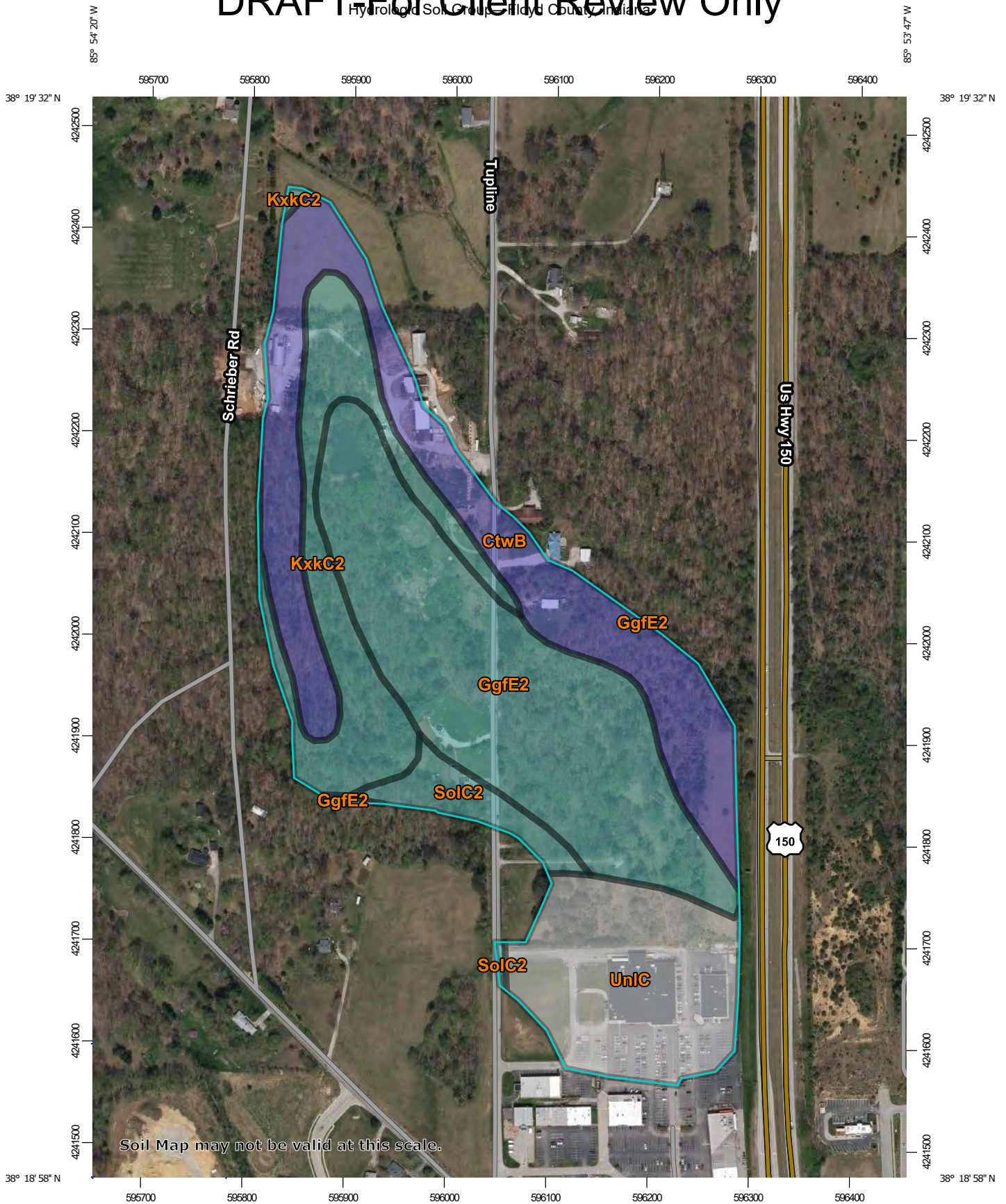


FIGURE 07

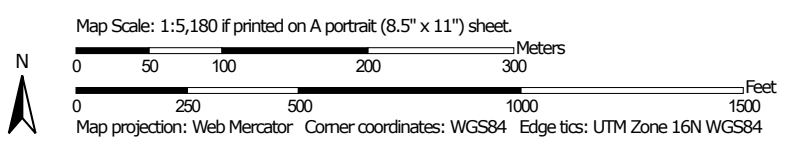
4046.035

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Hydrologic Soil Group: Hilly County, Indiana




Soil Map may not be valid at this scale.



MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines


 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points






 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available


Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

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

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

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

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

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

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

Soil Survey Area: Floyd County, Indiana
 Survey Area Data: Version 25, Jun 4, 2020

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

Date(s) aerial images were photographed: Apr 3, 2020—Apr 11, 2020

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CtwB	Crider-Bedford-Navilleton silt loams, 2 to 6 percent slopes	B	14.1	27.3%
GgfE2	Gilwood-Wrays silt loams, 12 to 25 percent slopes, eroded	C	18.1	35.2%
KxkC2	Knobcreek-Navilleton silt loams, 6 to 12 percent slopes, eroded	C	7.9	15.4%
SolC2	Spickert-Wrays silt loams, 6 to 12 percent slopes, eroded	C	2.1	4.1%
UnIC	Urban land-Udarents, hard bedrock substratum, complex, hills, 2 to 15 percent slopes		9.3	18.0%
Totals for Area of Interest			51.6	100.0%

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

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Predevelopment Basin #6 Curve Number Calculation						
		Percentage of Total Area per Soil Group				
		A	B	C	D	
		0.0%	45.4%	54.6%	0.0%	
Areas (Acres)		CN Value				CN
Industrial	4.54	81	88	91	93	89.64
Woods	17.86	30	55	70	77	63.18
Residential	7.87	51	68	79	84	74.00
Grass	16.48	30	58	71	78	65.09
Farm	0.00	67	78	85	89	81.82
Water	0.47	100	100	100	100	100.00
Total Project Area	47.23					69.00

Existing Basin #6 Curve Number Calculation						
		Percentage of Total Area per Soil Group				
		A	B	C	D	
		0.0%	27.4%	54.6%	18.1%	
Areas (Acres)		CN Value				CN
Industrial	3.50	81	88	91	93	90.54
Commercial	7.25	89	92	94	95	93.63
Residential	6.48	51	68	79	84	76.89
Grass	2.81	30	58	71	78	68.70
Farm	1.99	67	78	85	89	83.81
Woods	25.23	30	55	70	77	67.16
Water	0.00	100	100	100	100	100.00
Total Project Area	47.26					75.00

Developed Area #6 Curve Number Calculation						
		Percentage of Total Area per Soil Group				
		A	B	C	D	
		0.0%	27.4%	54.6%	18.1%	
Areas (Acres)		CN Value				CN
Industrial	3.50	81	88	91	93	90.54
Commercial	7.25	89	92	94	95	93.63
Residential	6.48	51	68	79	84	76.89
Total Project Area	17.23					87.00

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Schreiber Road

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Page 1

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.39	2
2	10YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.98	2
3	100YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	2.90	2

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Schreiber Road

Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

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Page 2

Summary for Subcatchment 15S: Basin #6 Pre Development

Runoff = 4.26 cfs @ 1.16 hrs, Volume= 0.191 af, Depth= 0.05"

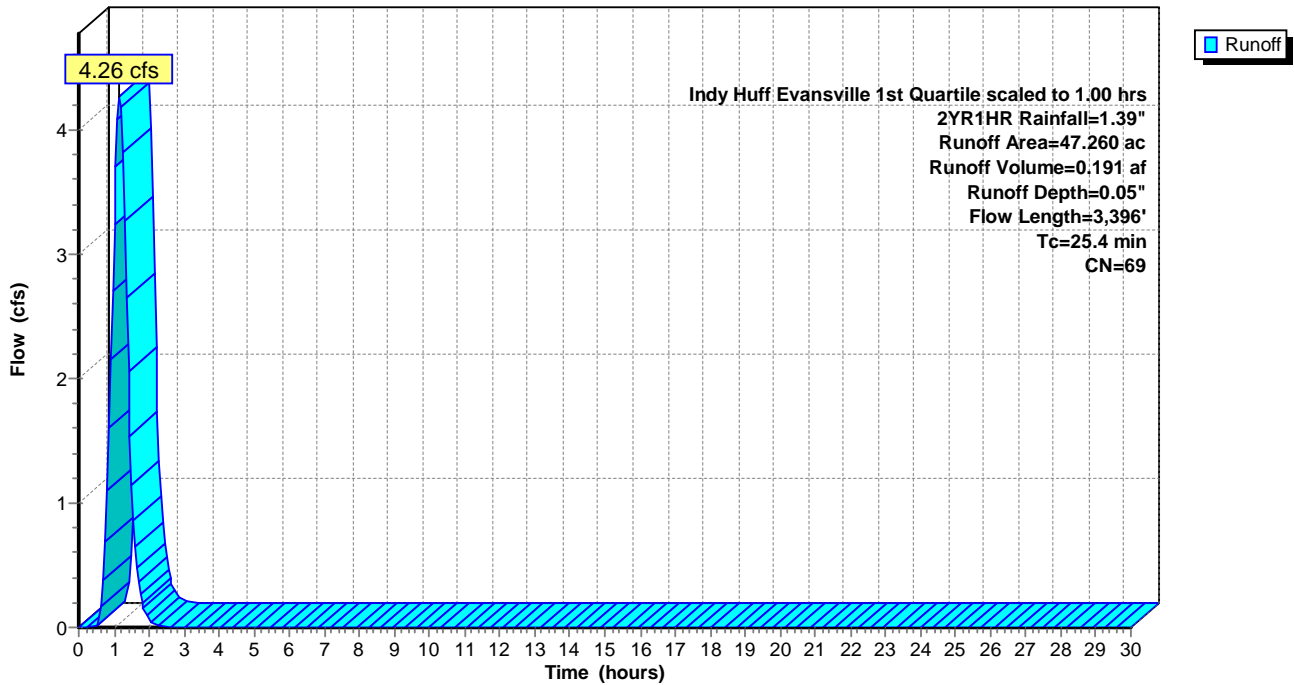
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

Area (ac)	CN	Description
* 47.260	69	
47.260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	100	0.0300	0.47		Sheet Flow, Fallow n= 0.050 P2= 3.09"
15.6	947	0.0412	1.01		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
6.3	2,349	0.0160	6.22	261.11	Channel Flow, Area= 42.0 sf Perim= 27.6' r= 1.52' n= 0.040 Mountain streams
25.4	3,396	Total			

Subcatchment 15S: Basin #6 Pre Development

Hydrograph



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Schreiber Road

Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

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Summary for Subcatchment 15S: Basin #6 Pre Development

Runoff = 14.54 cfs @ 1.11 hrs, Volume= 0.826 af, Depth= 0.21"

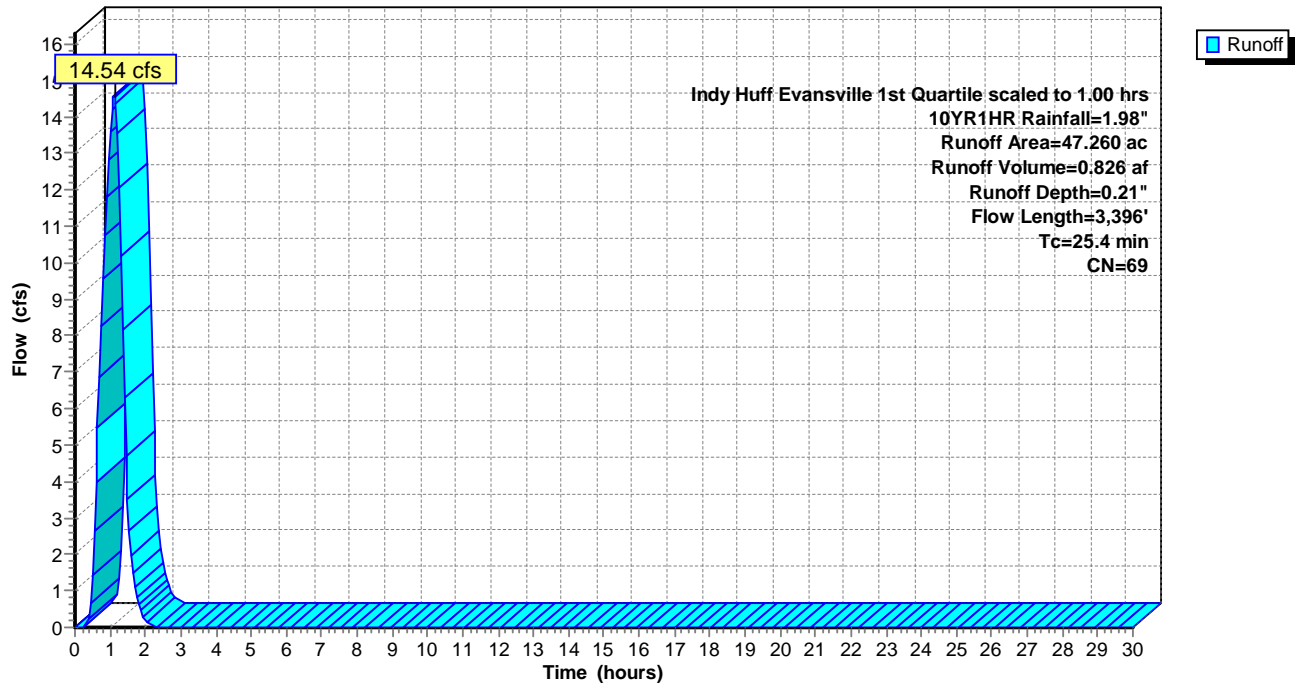
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

Area (ac)	CN	Description
* 47.260	69	
47.260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	100	0.0300	0.47		Sheet Flow, Fallow n= 0.050 P2= 3.09"
15.6	947	0.0412	1.01		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
6.3	2,349	0.0160	6.22	261.11	Channel Flow, Area= 42.0 sf Perim= 27.6' r= 1.52' n= 0.040 Mountain streams
25.4	3,396	Total			

Subcatchment 15S: Basin #6 Pre Development

Hydrograph



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Summary for Subcatchment 15S: Basin #6 Pre Development

Runoff = 36.30 cfs @ 1.06 hrs, Volume= 2.429 af, Depth= 0.62"

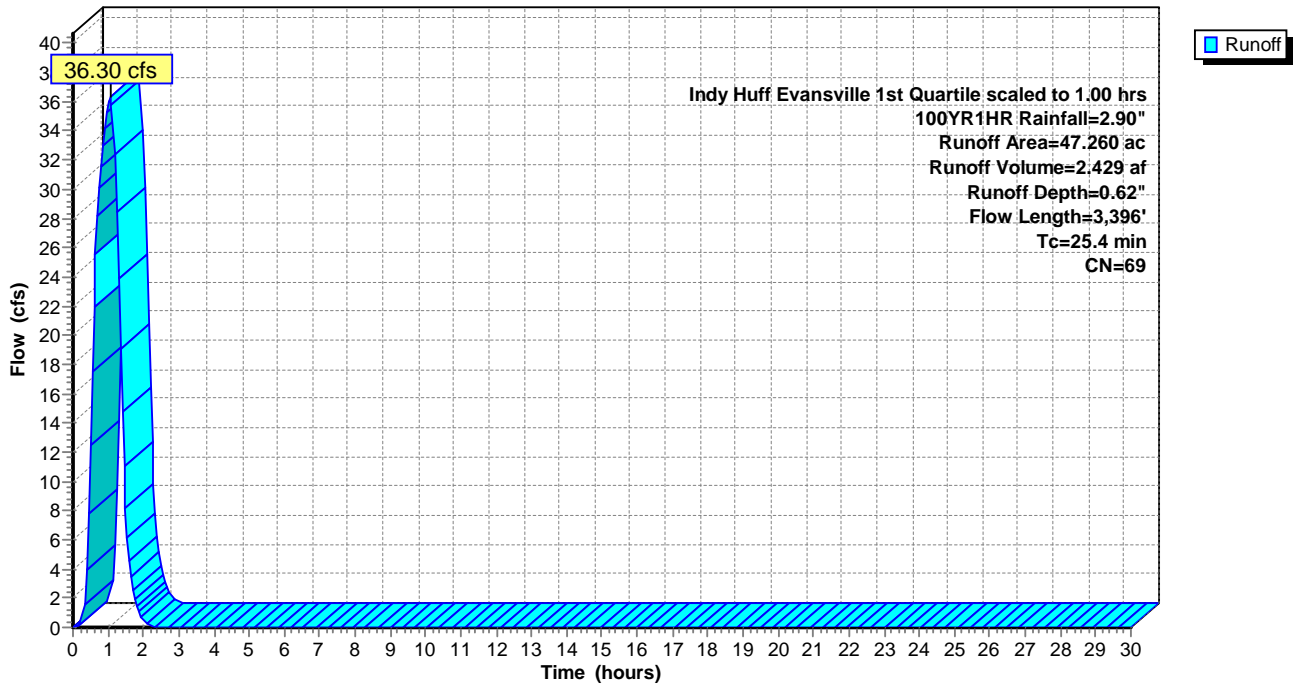
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 100YR1HR Rainfall=2.90"

Area (ac)	CN	Description
* 47.260	69	
47.260		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	100	0.0300	0.47		Sheet Flow, Fallow n= 0.050 P2= 3.09"
15.6	947	0.0412	1.01		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
6.3	2,349	0.0160	6.22	261.11	Channel Flow, Area= 42.0 sf Perim= 27.6' r= 1.52' n= 0.040 Mountain streams
25.4	3,396	Total			

Subcatchment 15S: Basin #6 Pre Development

Hydrograph



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Page 1

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.39	2
2	10YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.98	2
3	100YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	2.90	2

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Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

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Page 2

Summary for Subcatchment 10S: Basin #6

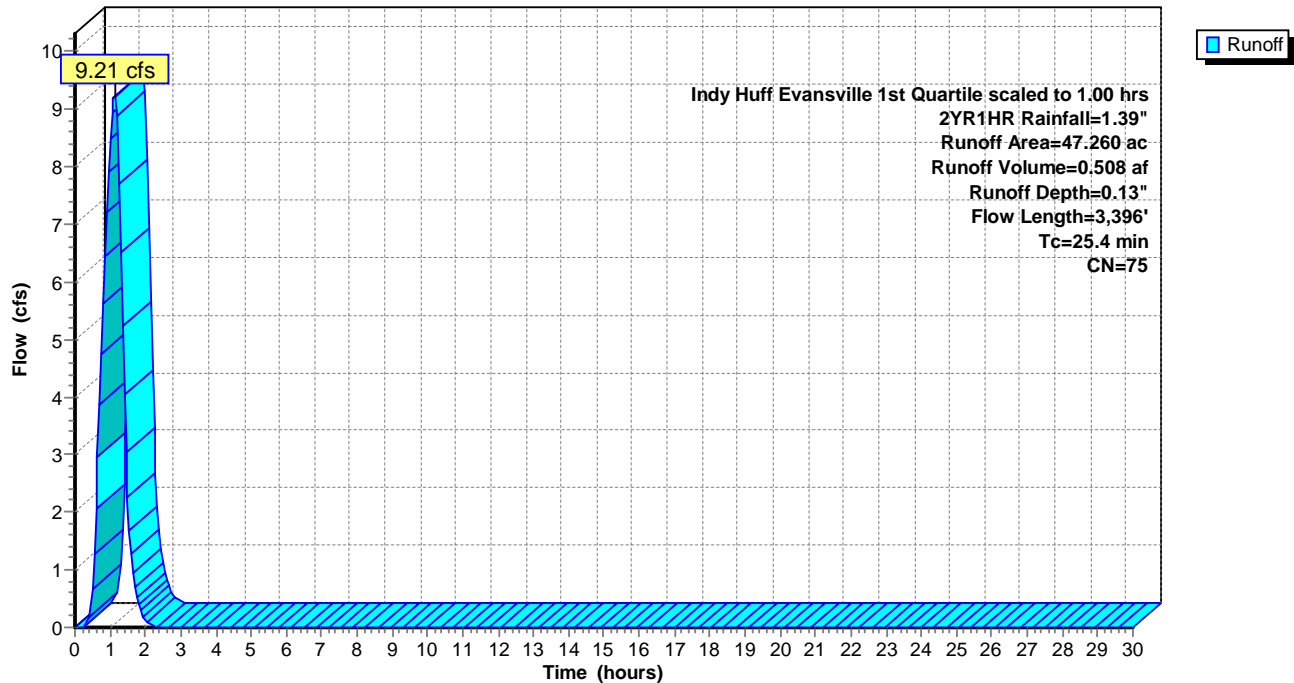
Runoff = 9.21 cfs @ 1.12 hrs, Volume= 0.508 af, Depth= 0.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

Area (ac)	CN	Description			
* 47.260	75				
47.260		100.00% Pervious Area			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	100	0.0300	0.47		Sheet Flow, Fallow n= 0.050 P2= 3.09"
15.6	947	0.0412	1.01		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
6.3	2,349	0.0160	6.22	261.11	Channel Flow, Area= 42.0 sf Perim= 27.6' r= 1.52' n= 0.040 Mountain streams
25.4	3,396	Total			

Subcatchment 10S: Basin #6

Hydrograph



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Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

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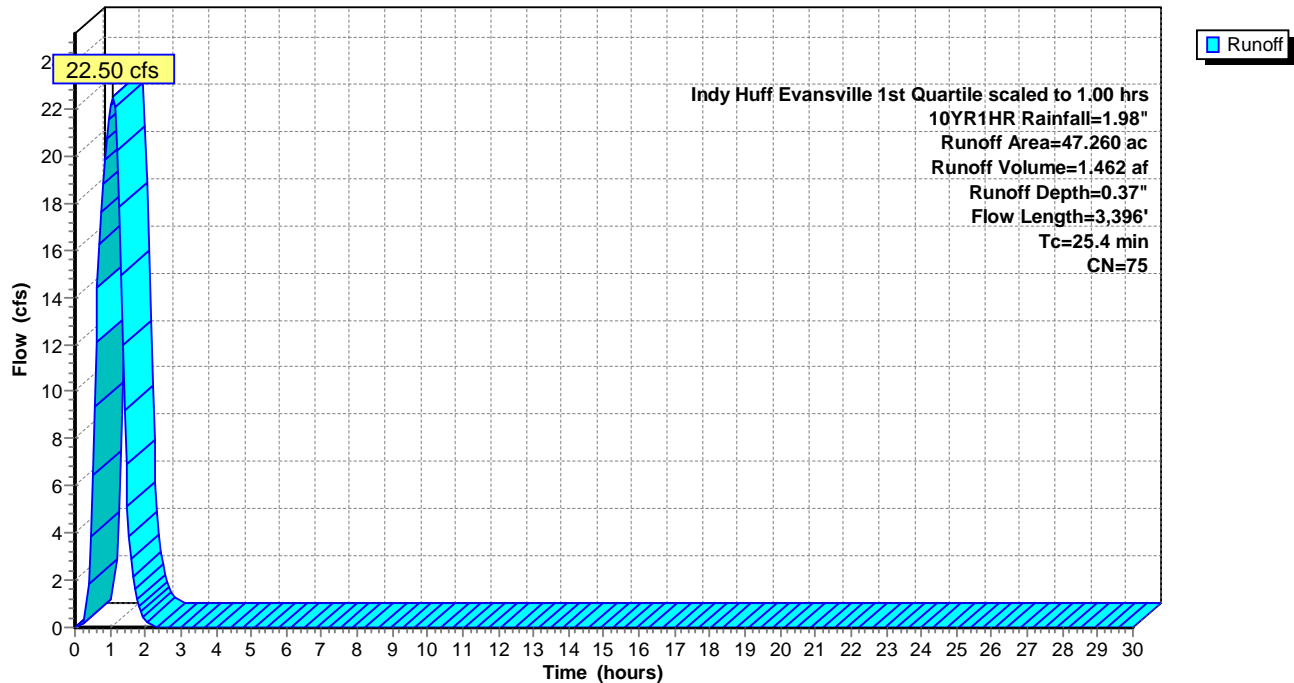
Page 3

Summary for Subcatchment 10S: Basin #6

Runoff = 22.50 cfs @ 1.07 hrs, Volume= 1.462 af, Depth= 0.37"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

Area (ac)	CN	Description			
* 47.260	75				
47.260		100.00% Pervious Area			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	100	0.0300	0.47		Sheet Flow, Fallow n= 0.050 P2= 3.09"
15.6	947	0.0412	1.01		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
6.3	2,349	0.0160	6.22	261.11	Channel Flow, Area= 42.0 sf Perim= 27.6' r= 1.52' n= 0.040 Mountain streams
25.4	3,396	Total			

Subcatchment 10S: Basin #6**Hydrograph**

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Schreiber Road *Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 100YR1HR Rainfall=2.90"*
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Summary for Subcatchment 10S: Basin #6

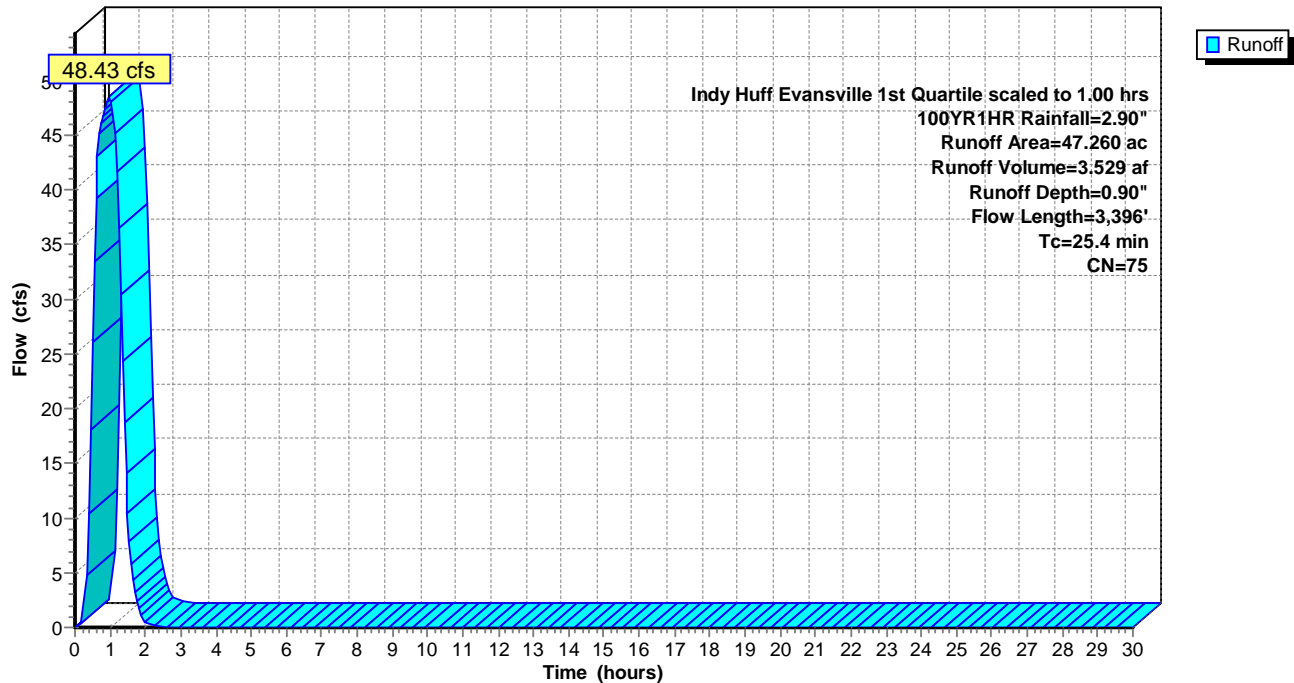
Runoff = 48.43 cfs @ 0.99 hrs, Volume= 3.529 af, Depth= 0.90"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 100YR1HR Rainfall=2.90"

Area (ac)	CN	Description			
* 47.260	75				
47.260		100.00% Pervious Area			
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	100	0.0300	0.47		Sheet Flow, Fallow n= 0.050 P2= 3.09"
15.6	947	0.0412	1.01		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
6.3	2,349	0.0160	6.22	261.11	Channel Flow, Area= 42.0 sf Perim= 27.6' r= 1.52' n= 0.040 Mountain streams
25.4	3,396	Total			

Subcatchment 10S: Basin #6

Hydrograph



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Page 1

Rainfall Events Listing (selected events)

Event#	Event Name	Storm Type	Curve	Mode	Duration (hours)	B/B	Depth (inches)	AMC
1	2YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.39	2
2	10YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	1.98	2
3	100YR1HR	Indy Huff Evansville	1st Quartile	Scale	1.00	1	2.90	2

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Schreiber Road

Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

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Page 2

Summary for Subcatchment 27S: Basin #6 Developed

Runoff = 8.94 cfs @ 0.96 hrs, Volume= 0.661 af, Depth= 0.46"

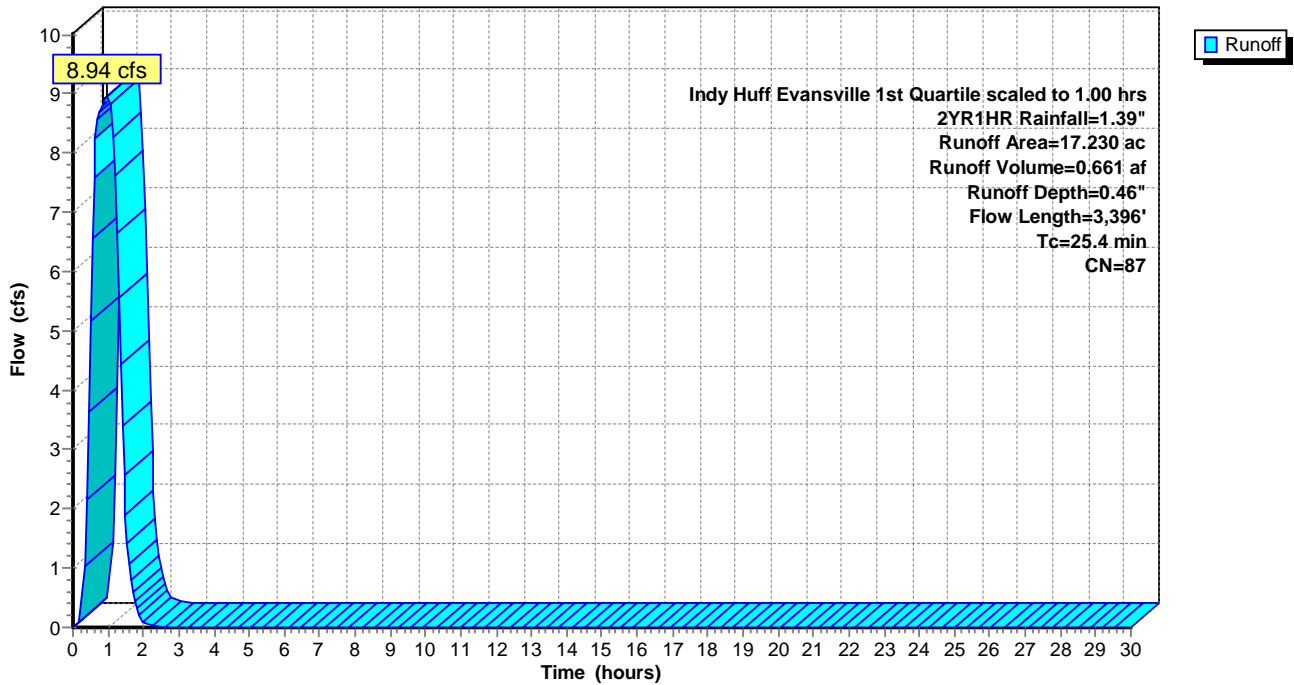
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 2YR1HR Rainfall=1.39"

Area (ac)	CN	Description
* 17.230	87	
17.230		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	100	0.0300	0.47		Sheet Flow, Fallow n= 0.050 P2= 3.09"
15.6	947	0.0412	1.01		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
6.3	2,349	0.0160	6.22	261.11	Channel Flow, Area= 42.0 sf Perim= 27.6' r= 1.52' n= 0.040 Mountain streams
25.4	3,396	Total			

Subcatchment 27S: Basin #6 Developed

Hydrograph



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Schreiber Road

Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

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Summary for Subcatchment 27S: Basin #6 Developed

Runoff = 17.43 cfs @ 0.68 hrs, Volume= 1.278 af, Depth= 0.89"

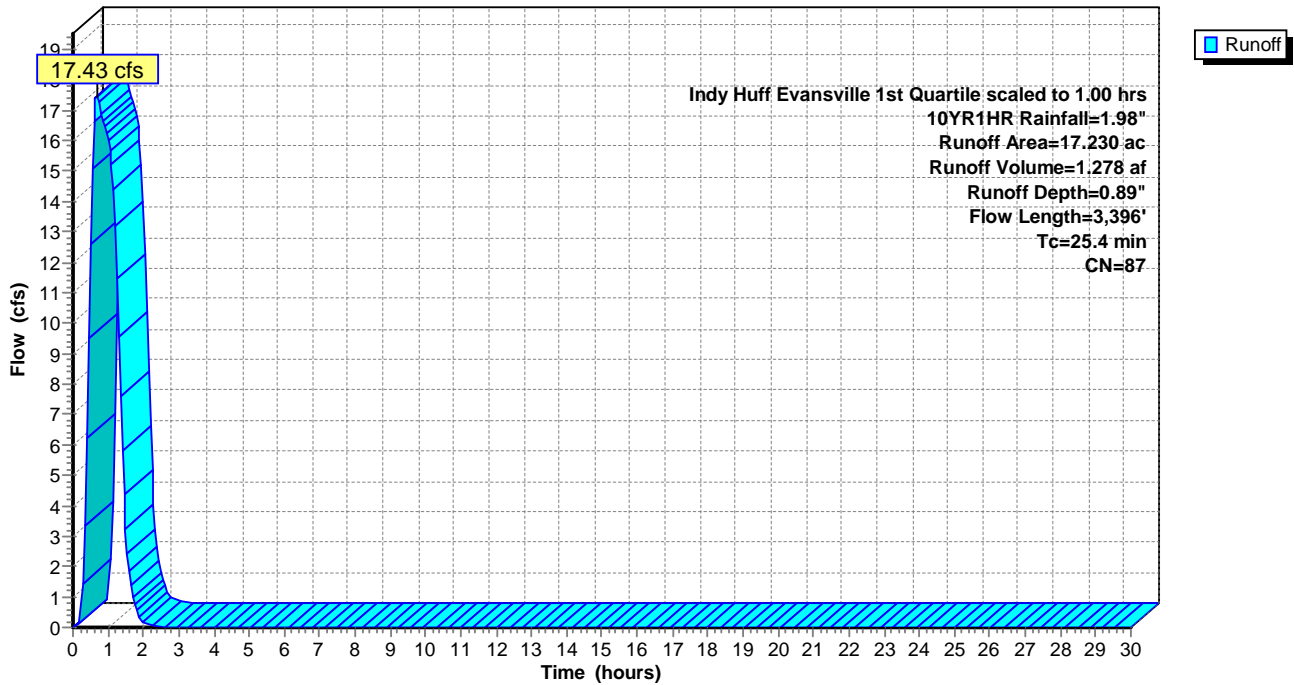
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 10YR1HR Rainfall=1.98"

Area (ac)	CN	Description
* 17.230	87	
17.230		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	100	0.0300	0.47		Sheet Flow, Fallow n= 0.050 P2= 3.09"
15.6	947	0.0412	1.01		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
6.3	2,349	0.0160	6.22	261.11	Channel Flow, Area= 42.0 sf Perim= 27.6' r= 1.52' n= 0.040 Mountain streams
25.4	3,396	Total			

Subcatchment 27S: Basin #6 Developed

Hydrograph



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Summary for Subcatchment 27S: Basin #6 Developed

Runoff = 33.96 cfs @ 0.64 hrs, Volume= 2.372 af, Depth= 1.65"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-30.00 hrs, dt= 0.05 hrs
 Indy Huff Evansville 1st Quartile scaled to 1.00 hrs 100YR1HR Rainfall=2.90"

Area (ac)	CN	Description
* 17.230	87	
17.230		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
3.5	100	0.0300	0.47		Sheet Flow, Fallow n= 0.050 P2= 3.09"
15.6	947	0.0412	1.01		Shallow Concentrated Flow, Woodland Kv= 5.0 fps
6.3	2,349	0.0160	6.22	261.11	Channel Flow, Area= 42.0 sf Perim= 27.6' r= 1.52' n= 0.040 Mountain streams
25.4	3,396	Total			

Subcatchment 27S: Basin #6 Developed

Hydrograph

