

Project Description

File Name As-built upstream (100yr).SPF

Project Options

Flow Units CFS
Elevation Type Elevation
Hydrology Method Rational
Time of Concentration (TOC) Method User-Defined
Link Routing Method Hydrodynamic
Enable Overflow Ponding at Nodes YES
Skip Steady State Analysis Time Periods NO

Analysis Options

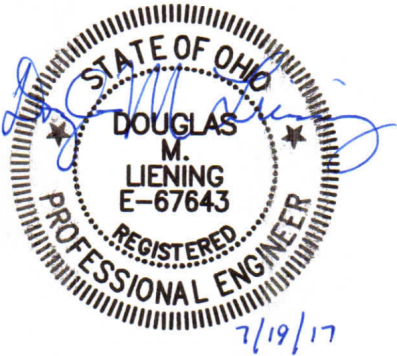
Start Analysis On Jul 18, 2017 00:00:00
End Analysis On Jul 19, 2017 00:00:00
Start Reporting On Jul 18, 2017 00:00:00
Antecedent Dry Days 0 days
Runoff (Dry Weather) Time Step 0 01:00:00 days hh:mm:ss
Runoff (Wet Weather) Time Step 0 00:05:00 days hh:mm:ss
Reporting Time Step 0 00:05:00 days hh:mm:ss
Routing Time Step 30 seconds

Number of Elements

	Qty
Rain Gages	0
Subbasins.....	7
Nodes.....	8
Junctions	3
Outfalls	1
Flow Diversions	0
Inlets	4
Storage Nodes	0
Links.....	7
Channels	0
Pipes	7
Pumps	0
Orifices	0
Weirs	0
Outlets	0
Pollutants	0
Land Uses	0

Rainfall Details

Return Period..... 100 year(s)



Subbasin Summary

SN	Subbasin ID	Area	Weighted Runoff Coefficient	Total Rainfall	Total Runoff	Total Runoff Volume	Peak Runoff	Time of Concentration
		(ac)		(in)	(in)	(ac-in)	(cfs)	(days hh:mm:ss)
1	Sub-1.1	1.06	0.7500	1.21	0.90	0.96	5.75	0 00:10:00
2	Sub-1.2	0.44	0.7500	1.21	0.90	0.40	2.39	0 00:10:00
3	Sub-1.3	0.29	0.7500	1.21	0.90	0.26	1.57	0 00:10:00
4	Sub-1.4	1.14	0.8800	1.21	1.06	1.21	7.26	0 00:10:00
5	Sub-1.5	0.47	0.8800	1.21	1.06	0.49	2.96	0 00:10:00
6	Sub-1.6	0.00	0.0000	1.21	0.00	0.00	0.00	0 00:10:00
7	Sub-1.7	0.00	0.0000	1.21	0.00	0.00	0.00	0 00:10:00

Node Summary

SN	Element ID	Element Type	Invert Elevation	Ground/Rim (Max) Elevation	Initial Water Elevation	Surcharge Elevation	Ponded Area	Peak Inflow	Max HGL Elevation Attained	Max Surcharge Depth Attained	Min Freeboard Attained	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
			(ft)	(ft)	(ft)	(ft)	(ft²)	(cfs)	(ft)	(ft)	(ft)	(days hh:mm)	(ac-in)	(min)
1	1.1	Junction	862.06	865.00	862.06	865.00	100.00	5.75	865.91	0.91	0.00	0 00:09	0.04	6.00
2	1.2	Junction	861.04	865.24	861.04	865.24	100.00	8.84	865.25	0.01	0.00	0 00:14	0.00	1.00
3	1.3	Junction	861.06	864.91	861.06	864.91	1000.00	9.68	865.07	0.16	0.00	0 00:09	0.05	5.00
4	1.8	Outfall	859.33					16.68	860.43					

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length	Inlet Invert Elevation	Outlet Invert Elevation	Average Slope	Diameter or Height	Manning's Roughness	Peak Flow	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Reported	Surcharged Condition
					(ft)	(ft)	(ft)	(%)	(in)		(cfs)	(cfs)		(ft/sec)	(ft)		(min)	
1	Pipe - (1)	Pipe	1.1	1.2	219.00	862.06	861.04	0.4700	18.000	0.0130	7.53	7.17	1.05	4.26	1.50	1.00	6.00	SURCHARGED
2	Pipe - (2)	Pipe	1.2	1.3	121.00	861.04	861.06	-0.0200	24.000	0.0130	8.82	10.12	0.87	2.81	2.00	1.00	7.00	SURCHARGED
3	Pipe - (3)	Pipe	1.3	1.4	123.00	861.06	861.04	0.0200	24.000	0.0130	9.23	10.12	0.91	2.94	2.00	1.00	6.00	SURCHARGED
4	Pipe - (4)	Pipe	1.4	1.5	200.00	861.04	860.35	0.3400	24.000	0.0130	14.42	13.29	1.08	4.59	2.00	1.00	6.00	SURCHARGED
5	Pipe - (5)	Pipe	1.5	1.6	58.00	860.35	860.23	0.2100	24.000	0.0130	17.13	10.29	1.66	5.45	2.00	1.00	6.00	SURCHARGED
6	Pipe - (6)	Pipe	1.6	1.7	146.00	860.24	860.07	0.1200	24.000	0.0130	16.68	10.12	1.65	5.73	1.75	0.88	0.00	> CAPACITY
7	Pipe - (7)	Pipe	1.7	1.8	46.00	860.06	859.33	1.5900	24.000	0.0130	16.68	28.50	0.59	7.65	1.31	0.65	0.00	Calculated

Inlet Summary

SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation	Max (Rim) Elevation	Initial Water Elevation	Ponded Area	Peak Flow	Peak Flow Intercepted by Inlet	Peak Flow Bypassing Inlet
						(ft)	(ft)	(ft)	(ft²)	(cfs)	(cfs)	(cfs)
1	1.4	FHWA HEC-22 GENERIC	N/A	On Sag	1	861.04	866.29	861.04	1000.00	7.26	N/A	N/A
2	1.5	FHWA HEC-22 GENERIC	N/A	On Sag	1	860.35	867.75	860.35	1000.00	2.96	N/A	N/A
3	1.6	FHWA HEC-22 GENERIC	N/A	On Sag	1	860.23	868.45	860.23	1000.00	0.00	N/A	N/A
4	1.7	FHWA HEC-22 GENERIC	N/A	On Sag	1	860.06	867.91	860.06	1000.00	0.00	N/A	N/A

Subbasin Hydrology

Subbasin : Sub-1.1

Input Data

Area (ac) 1.06
Weighted Runoff Coefficient 0.7500

Runoff Coefficient

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
-	1.06	-	0.75
Composite Area & Weighted Runoff Coeff.	1.06		0.75

Subbasin Runoff Results

Total Rainfall (in) 1.21
Total Runoff (in) 0.90
Peak Runoff (cfs) 5.75
Rainfall Intensity 7.234
Weighted Runoff Coefficient 0.7500
Time of Concentration (days hh:mm:ss) 0 00:10:00

Subbasin : Sub-1.2

Input Data

Area (ac) 0.44
Weighted Runoff Coefficient 0.7500

Runoff Coefficient

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
-	0.05	-	0.75
Composite Area & Weighted Runoff Coeff.	0.05		0.75

Subbasin Runoff Results

Total Rainfall (in) 1.21
Total Runoff (in) 0.90
Peak Runoff (cfs) 2.39
Rainfall Intensity 7.234
Weighted Runoff Coefficient 0.7500
Time of Concentration (days hh:mm:ss) 0 00:10:00

Subbasin : Sub-1.3

Input Data

Area (ac) 0.29
Weighted Runoff Coefficient 0.7500

Runoff Coefficient

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
-	0.29	-	0.75
Composite Area & Weighted Runoff Coeff.	0.29		0.75

Subbasin Runoff Results

Total Rainfall (in) 1.21
Total Runoff (in) 0.90
Peak Runoff (cfs) 1.57
Rainfall Intensity 7.234
Weighted Runoff Coefficient 0.7500
Time of Concentration (days hh:mm:ss) 0 00:10:00

Subbasin : Sub-1.4

Input Data

Area (ac) 1.14
Weighted Runoff Coefficient 0.8800

Runoff Coefficient

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
-	1.14	-	0.88
Composite Area & Weighted Runoff Coeff.	1.14		0.88

Subbasin Runoff Results

Total Rainfall (in) 1.21
Total Runoff (in) 1.06
Peak Runoff (cfs) 7.26
Rainfall Intensity 7.234
Weighted Runoff Coefficient 0.8800
Time of Concentration (days hh:mm:ss) 0 00:10:00

Subbasin : Sub-1.5

Input Data

Area (ac) 0.47
Weighted Runoff Coefficient 0.8800

Runoff Coefficient

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
-	0.47	-	0.88
Composite Area & Weighted Runoff Coeff.	0.47		0.88

Subbasin Runoff Results

Total Rainfall (in) 1.21
Total Runoff (in) 1.06
Peak Runoff (cfs) 2.96
Rainfall Intensity 7.234
Weighted Runoff Coefficient 0.8800
Time of Concentration (days hh:mm:ss) 0 00:10:00

Subbasin : Sub-1.6

Input Data

Area (ac) 0.00
Weighted Runoff Coefficient 0.0000

Runoff Coefficient

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
-	0.00	-	0.90
Composite Area & Weighted Runoff Coeff.	0.00		0

Subbasin Runoff Results

Total Rainfall (in) 1.21
Total Runoff (in) 0.00
Peak Runoff (cfs) 0.00
Rainfall Intensity 7.234
Weighted Runoff Coefficient 0.0000
Time of Concentration (days hh:mm:ss) 0 00:10:00

Subbasin : Sub-1.7

Input Data

Area (ac) 0.00
Weighted Runoff Coefficient 0.0000

Runoff Coefficient

Soil/Surface Description	Area (acres)	Soil Group	Runoff Coeff.
-	0.00	-	0.90
Composite Area & Weighted Runoff Coeff.	0.00		0

Subbasin Runoff Results

Total Rainfall (in) 1.21
Total Runoff (in) 0.00
Peak Runoff (cfs) 0.00
Rainfall Intensity 7.234
Weighted Runoff Coefficient 0.0000
Time of Concentration (days hh:mm:ss) 0 00:10:00

Junction Input

SN	Element ID	Invert Elevation	Ground/Rim (Max) Elevation (ft)	Ground/Rim (Max) Offset (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Surcharge Elevation (ft)	Surcharge Depth (ft)	Ponded Area (ft²)	Minimum Pipe Cover (in)
1	1.1	862.06	865.00	2.94	862.06	0.00	865.00	0.00	100.00	17.28
2	1.2	861.04	865.24	4.20	861.04	0.00	865.24	0.00	100.00	26.40
3	1.3	861.06	864.91	3.85	861.06	0.00	864.91	0.00	1000.00	22.20

Junction Results

SN	Element ID	Peak Inflow	Peak Lateral Inflow	Max HGL Elevation Attained	Max HGL Depth Attained	Max Surcharge Depth Attained	Min Freeboard Attained	Average HGL Elevation Attained	Average HGL Depth Attained	Time of Max HGL Occurrence	Time of Peak Flooding Occurrence	Total Flooded Volume	Total Time Flooded
		(cfs)	(cfs)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(days hh:mm)	(days hh:mm)	(ac-in)	(min)
1	1.1	5.75	5.75	865.91	3.85	0.91	0.00	862.08	0.02	0 00:11	0 00:09	0.04	6.00
2	1.2	8.84	2.39	865.25	4.21	0.01	0.00	861.10	0.06	0 00:12	0 00:14	0.00	1.00
3	1.3	9.68	1.57	865.07	4.01	0.16	0.00	861.10	0.04	0 00:12	0 00:09	0.05	5.00

Pipe Input

SN	Element ID	Length	Inlet Invert Elevation	Inlet Invert Offset	Outlet Invert Elevation	Outlet Invert Offset	Total Drop	Average Slope	Pipe Shape	Pipe Diameter or Height	Pipe Width	Manning's Roughness	Entrance Losses	Exit/Bend Losses	Additional Losses	Initial Flow	No. of Barrels
		(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(%)		(in)	(in)					(cfs)	
1	Pipe - (1)	219.00	862.06	0.00	861.04	0.00	1.02	0.4700	CIRCULAR	18.000	18.000	0.0130	0.5000	0.5000	0.0000	0.00	1
2	Pipe - (2)	121.00	861.04	0.00	861.06	0.00	-0.02	-0.0200	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	1
3	Pipe - (3)	123.00	861.06	0.00	861.04	0.00	0.02	0.0200	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	1
4	Pipe - (4)	200.00	861.04	0.00	860.35	0.00	0.69	0.3400	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	1
5	Pipe - (5)	58.00	860.35	0.00	860.23	0.00	0.12	0.2100	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	1
6	Pipe - (6)	146.00	860.24	0.01	860.07	0.01	0.17	0.1200	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	1
7	Pipe - (7)	46.00	860.06	0.00	859.33	0.00	0.73	1.5900	CIRCULAR	24.000	24.000	0.0130	0.5000	0.5000	0.0000	0.00	1

Pipe Results

SN Element ID	Peak Flow	Time of Peak Flow Occurrence	Design Flow Capacity	Peak Flow/ Design Flow Ratio	Peak Flow Velocity	Travel Time	Peak Flow Depth	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged	Froude Number	Reported Condition
	(cfs)	(days hh:mm)	(cfs)		(ft/sec)	(min)	(ft)		(min)		
1 Pipe - (1)	7.53	0 00:14	7.17	1.05	4.26	0.86	1.50	1.00	6.00		SURCHARGED
2 Pipe - (2)	8.82	0 00:14	10.12	0.87	2.81	0.72	2.00	1.00	7.00		SURCHARGED
3 Pipe - (3)	9.23	0 00:14	10.12	0.91	2.94	0.70	2.00	1.00	6.00		SURCHARGED
4 Pipe - (4)	14.42	0 00:09	13.29	1.08	4.59	0.73	2.00	1.00	6.00		SURCHARGED
5 Pipe - (5)	17.13	0 00:14	10.29	1.66	5.45	0.18	2.00	1.00	6.00		SURCHARGED
6 Pipe - (6)	16.68	0 00:11	10.12	1.65	5.73	0.42	1.75	0.88	0.00		> CAPACITY
7 Pipe - (7)	16.68	0 00:11	28.50	0.59	7.65	0.10	1.31	0.65	0.00		Calculated

Inlet Input

SN	Element ID	Inlet Manufacturer	Manufacturer Part Number	Inlet Location	Number of Inlets	Catchbasin Invert Elevation (ft)	Max (Rim) Elevation (ft)	Inlet Depth (ft)	Initial Water Elevation (ft)	Initial Water Depth (ft)	Ponded Area (ft²)
1	1.4	FHWA HEC-22 GENERIC	N/A	On Sag	1	861.04	866.29	5.25	861.04	0.00	1000.00
2	1.5	FHWA HEC-22 GENERIC	N/A	On Sag	1	860.35	867.75	7.40	860.35	0.00	1000.00
3	1.6	FHWA HEC-22 GENERIC	N/A	On Sag	1	860.23	868.45	8.22	860.23	0.00	1000.00
4	1.7	FHWA HEC-22 GENERIC	N/A	On Sag	1	860.06	867.91	7.85	860.06	0.00	1000.00

Inlet Results

SN	Element ID	Peak Flow	Peak Lateral Inflow	Peak Flow Intercepted by Inlet	Peak Flow Bypassing Inlet	Time of Max Depth Occurrence	Total Flooded Volume	Total Time Flooded
		(cfs)	(cfs)	(cfs)	(cfs)	(days hh:mm)	(ac-in)	(min)
1	1.4	7.26	7.26	N/A	N/A	0 00:09	0.00	0.00
2	1.5	2.96	2.96	N/A	N/A	0 00:14	0.00	0.00
3	1.6	0.00	0.00	N/A	N/A	0 00:09	0.00	0.00
4	1.7	0.00	0.00	N/A	N/A	0 00:11	0.00	0.00

