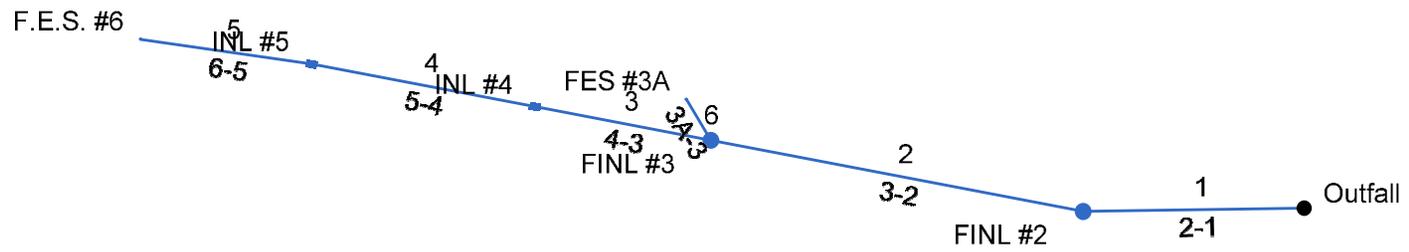


Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	2-1	2.65	18	Cir	62.761	71.50	73.50	3.187	72.12	74.12	0.06	74.12	End	Manhole
2	3-2	2.74	18	Cir	107.693	73.50	77.90	4.086	74.12	78.53	n/a	78.53	1	Manhole
3	4-3	2.68	18	Cir	50.973	77.90	81.01	6.101	78.53	81.63	n/a	81.63 j	2	Combination
4	5-4	2.63	18	Cir	64.578	81.01	83.59	3.995	81.63	84.20	n/a	84.20 j	3	Combination
5	6-5	2.65	18	Cir	49.101	83.59	88.30	9.593	84.20	88.92	0.23	88.92	4	Combination
6	3A-3	0.11	12	Cir	13.647	78.40	80.30	13.923	78.53	80.44	n/a	80.44	2	Combination

Project File: STM 1-6.stm	Number of lines: 6	Run Date: 2/23/2026
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NOTES: Return period = 10 Yrs. ; j - Line contains hyd. jump.

Storm Sewer Tabulation

Station		Len (ft)	Drng Area		Rnoff coeff (C)	Area x C		Tc		Rain (l) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr (ac)	Total (ac)		Incr	Total	Inlet (min)	Syst (min)					Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	62.761	0.00	1.82	0.00	0.00	0.62	0.0	14.9	4.3	2.65	20.31	3.87	18	3.19	71.50	73.50	72.12	74.12	71.50	78.00	2-1
2	1	107.693	0.00	1.82	0.00	0.00	0.62	0.0	13.8	4.4	2.74	22.99	3.96	18	4.09	73.50	77.90	74.12	78.53	78.00	84.07	3-2
3	2	50.973	0.03	1.70	0.85	0.03	0.59	6.0	13.3	4.5	2.68	28.10	3.85	18	6.10	77.90	81.01	78.53	81.63	84.07	85.51	4-3
4	3	64.578	0.02	1.67	0.34	0.01	0.57	6.0	12.5	4.6	2.63	22.74	3.83	18	4.00	81.01	83.59	81.63	84.20	85.51	88.15	5-4
5	4	49.101	1.65	1.65	0.34	0.56	0.56	12.0	12.0	4.7	2.65	35.23	3.88	18	9.59	83.59	88.30	84.20	88.92	88.15	87.80	6-5
6	2	13.647	0.12	0.12	0.20	0.02	0.02	12.0	12.0	4.7	0.11	14.40	1.84	12	13.92	78.40	80.30	78.53	80.44	84.07	80.30	3A-3

Project File: STM 1-6.stm

Number of lines: 6

Run Date: 2/23/2026

NOTES: Intensity = $26.53 / (\text{Inlet time} + 5.20)^{0.61}$; Return period = Yrs. 10 ; c = cir e = ellip b = box

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	2-1	4.65	18	Cir	62.761	71.50	73.50	3.187	72.33	74.33	n/a	74.33	End	Manhole
2	3-2	4.73	18	Cir	107.693	73.50	77.90	4.086	74.33	78.73	0.27	78.73	1	Manhole
3	4-3	4.59	18	Cir	50.973	77.90	81.01	6.101	78.73	81.83	n/a	81.83 j	2	Combination
4	5-4	4.44	18	Cir	64.578	81.01	83.59	3.995	81.83	84.40	n/a	84.40 j	3	Combination
5	6-5	4.43	18	Cir	49.101	83.59	88.30	9.593	84.40	89.11	n/a	89.11 j	4	Combination
6	3A-3	0.19	12	Cir	13.647	78.40	80.30	13.923	78.73	80.48	n/a	80.48 j	2	Combination

Project File: STM 1-6.stm	Number of lines: 6	Run Date: 2/23/2026
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NOTES: Return period = 100 Yrs. ; j - Line contains hyd. jump.

Storm Sewer Tabulation

Station		Len (ft)	Drng Area		Rnoff coeff (C)	Area x C		Tc		Rain (l) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr (ac)	Total (ac)		Incr	Total	Inlet (min)	Syst (min)					Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	62.761	0.00	1.82	0.00	0.00	0.62	0.0	13.7	7.5	4.65	20.31	4.65	18	3.19	71.50	73.50	72.33	74.33	71.50	78.00	2-1
2	1	107.693	0.00	1.82	0.00	0.00	0.62	0.0	13.1	7.7	4.73	22.99	4.71	18	4.09	73.50	77.90	74.33	78.73	78.00	84.07	3-2
3	2	50.973	0.03	1.70	0.85	0.03	0.59	6.0	12.8	7.7	4.59	28.10	4.58	18	6.10	77.90	81.01	78.73	81.83	84.07	85.51	4-3
4	3	64.578	0.02	1.67	0.34	0.01	0.57	6.0	12.3	7.8	4.44	22.74	4.53	18	4.00	81.01	83.59	81.83	84.40	85.51	88.15	5-4
5	4	49.101	1.65	1.65	0.34	0.56	0.56	12.0	12.0	7.9	4.43	35.23	4.57	18	9.59	83.59	88.30	84.40	89.11	88.15	87.80	6-5
6	2	13.647	0.12	0.12	0.20	0.02	0.02	12.0	12.0	7.9	0.19	14.40	1.41	12	13.92	78.40	80.30	78.73	80.48	84.07	80.30	3A-3

Project File: STM 1-6.stm

Number of lines: 6

Run Date: 2/23/2026

NOTES: Intensity = 127.16 / (Inlet time + 17.80) ^ 0.82; Return period = Yrs. 100 ; c = cir e = ellip b = box

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	11-10	3.38	12	Cir	32.768	82.50	82.87	1.129	83.29	83.66	n/a	83.66	End	Combination
2	12-11	1.72	12	Cir	36.000	82.87	83.05	0.500	83.66	83.71	0.15	83.86	1	Combination

Project File: STM 10-12.stm	Number of lines: 2	Run Date: 2/23/2026
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NOTES: Return period = 10 Yrs.

Storm Sewer Tabulation

Station		Len (ft)	Drng Area		Rnoff coeff (C)	Area x C		Tc		Rain (l) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr (ac)	Total (ac)		Incr	Total	Inlet (min)	Syst (min)					Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	32.768	0.40	0.76	0.70	0.28	0.56	6.0	6.3	6.0	3.38	4.10	5.11	12	1.13	82.50	82.87	83.29	83.66	83.73	86.05	11-10
2	1	36.000	0.36	0.36	0.78	0.28	0.28	6.0	6.0	6.1	1.72	2.73	2.87	12	0.50	82.87	83.05	83.66	83.71	86.05	86.05	12-11

Project File: STM 10-12.stm

Number of lines: 2

Run Date: 2/23/2026

NOTES: Intensity = $26.53 / (\text{Inlet time} + 5.20)^{0.61}$; Return period = Yrs. 10 ; c = cir e = ellip b = box

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	11-10	5.29	12	Cir	32.768	82.50	82.87	1.129	83.43*	84.05*	0.35	84.40	End	Combination
2	12-11	2.66	12	Cir	36.000	82.87	83.05	0.500	84.40*	84.57*	0.18	84.75	1	Combination

Project File: STM 10-12.stm	Number of lines: 2	Run Date: 2/23/2026
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NOTES: Return period = 100 Yrs. ; *Surcharged (HGL above crown).

Storm Sewer Tabulation

Station		Len (ft)	Drng Area		Rnoff coeff (C)	Area x C		Tc		Rain (l) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr (ac)	Total (ac)		Incr	Total	Inlet (min)	Syst (min)					Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	32.768	0.40	0.76	0.70	0.28	0.56	6.0	6.2	9.4	5.29	4.10	6.84	12	1.13	82.50	82.87	83.43	84.05	83.73	86.05	11-10
2	1	36.000	0.36	0.36	0.78	0.28	0.28	6.0	6.0	9.5	2.66	2.73	3.39	12	0.50	82.87	83.05	84.40	84.57	86.05	86.05	12-11

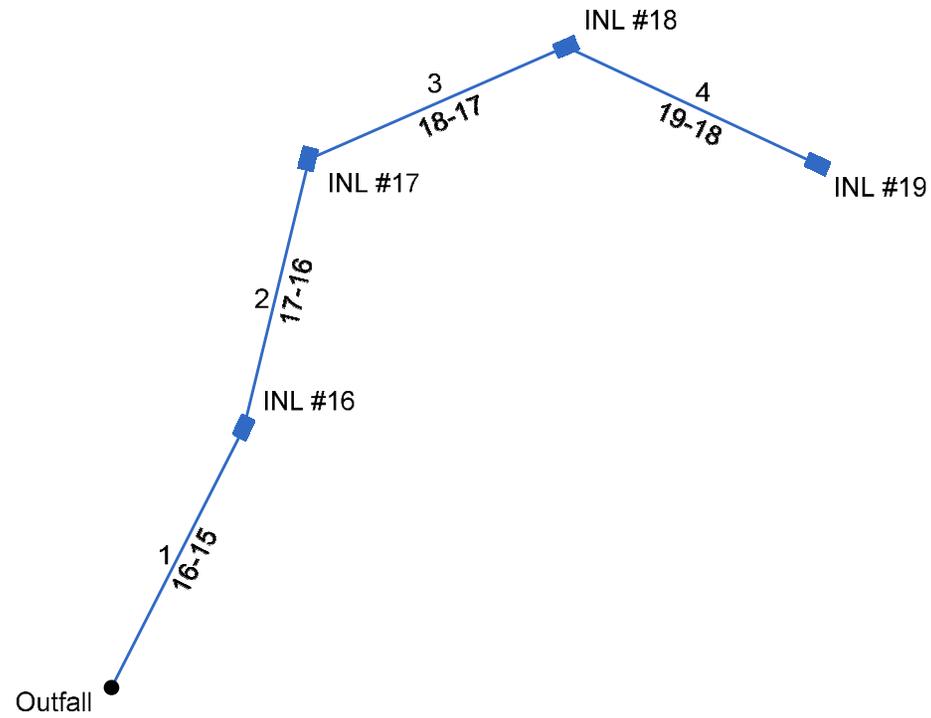
Project File: STM 10-12.stm

Number of lines: 2

Run Date: 2/23/2026

NOTES: Intensity = 127.16 / (Inlet time + 17.80) ^ 0.82; Return period = Yrs. 100 ; c = cir e = ellip b = box

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	16-15	2.71	12	Cir	38.142	93.00	93.34	0.891	93.71	94.05	n/a	94.05	End	Combination
2	17-16	2.32	12	Cir	36.010	93.34	93.50	0.444	94.08	94.24	0.27	94.51	1	Combination
3	18-17	1.76	12	Cir	36.677	93.50	94.76	3.435	94.51	95.32	n/a	95.32 j	2	Combination
4	19-18	1.00	12	Cir	35.988	94.76	95.02	0.722	95.32	95.44	n/a	95.44 j	3	Combination

Project File: STM 15-19.stm	Number of lines: 4	Run Date: 2/23/2026
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NOTES: Return period = 10 Yrs. ; j - Line contains hyd. jump.

Storm Sewer Tabulation

Station		Len (ft)	Drng Area		Rnoff coeff (C)	Area x C		Tc		Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr (ac)	Total (ac)		Incr	Total	Inlet (min)	Syst (min)					Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	38.142	0.09	0.60	0.80	0.07	0.47	6.0	6.9	5.8	2.71	3.64	4.58	12	0.89	93.00	93.34	93.71	94.05	94.23	97.48	16-15
2	1	36.010	0.13	0.51	0.76	0.10	0.39	6.0	6.7	5.9	2.32	2.57	3.71	12	0.44	93.34	93.50	94.08	94.24	97.48	97.50	17-16
3	2	36.677	0.17	0.38	0.77	0.13	0.29	6.0	6.5	6.0	1.76	7.15	3.05	12	3.44	93.50	94.76	94.51	95.32	97.50	99.02	18-17
4	3	35.988	0.21	0.21	0.78	0.16	0.16	6.0	6.0	6.1	1.00	3.28	2.70	12	0.72	94.76	95.02	95.32	95.44	99.02	99.02	19-18

Project File: STM 15-19.stm

Number of lines: 4

Run Date: 2/23/2026

NOTES: Intensity = $26.53 / (\text{Inlet time} + 5.20)^{0.61}$; Return period = Yrs. 10 ; c = cir e = ellip b = box

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	16-15	4.32	12	Cir	38.142	93.00	93.34	0.891	93.87*	94.41*	0.24	94.64	End	Combination
2	17-16	3.67	12	Cir	36.010	93.34	93.50	0.444	94.64*	94.97*	0.42	95.39	1	Combination
3	18-17	2.77	12	Cir	36.677	93.50	94.76	3.435	95.39	95.49	0.38	95.86	2	Combination
4	19-18	1.55	12	Cir	35.988	94.76	95.02	0.722	95.86	95.91	0.07	95.98	3	Combination

Project File: STM 15-19.stm	Number of lines: 4	Run Date: 2/23/2026
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NOTES: Return period = 100 Yrs. ; *Surcharged (HGL above crown).

Storm Sewer Tabulation

Station		Len (ft)	Drng Area		Rnoff coeff (C)	Area x C		Tc		Rain (I) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr (ac)	Total (ac)		Incr	Total	Inlet (min)	Syst (min)					Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	38.142	0.09	0.60	0.80	0.07	0.47	6.0	6.6	9.3	4.32	3.64	5.73	12	0.89	93.00	93.34	93.87	94.41	94.23	97.48	16-15
2	1	36.010	0.13	0.51	0.76	0.10	0.39	6.0	6.5	9.3	3.67	2.57	4.68	12	0.44	93.34	93.50	94.64	94.97	97.48	97.50	17-16
3	2	36.677	0.17	0.38	0.77	0.13	0.29	6.0	6.3	9.4	2.77	7.15	4.03	12	3.44	93.50	94.76	95.39	95.49	97.50	99.02	18-17
4	3	35.988	0.21	0.21	0.78	0.16	0.16	6.0	6.0	9.5	1.55	3.28	2.04	12	0.72	94.76	95.02	95.86	95.91	99.02	99.02	19-18

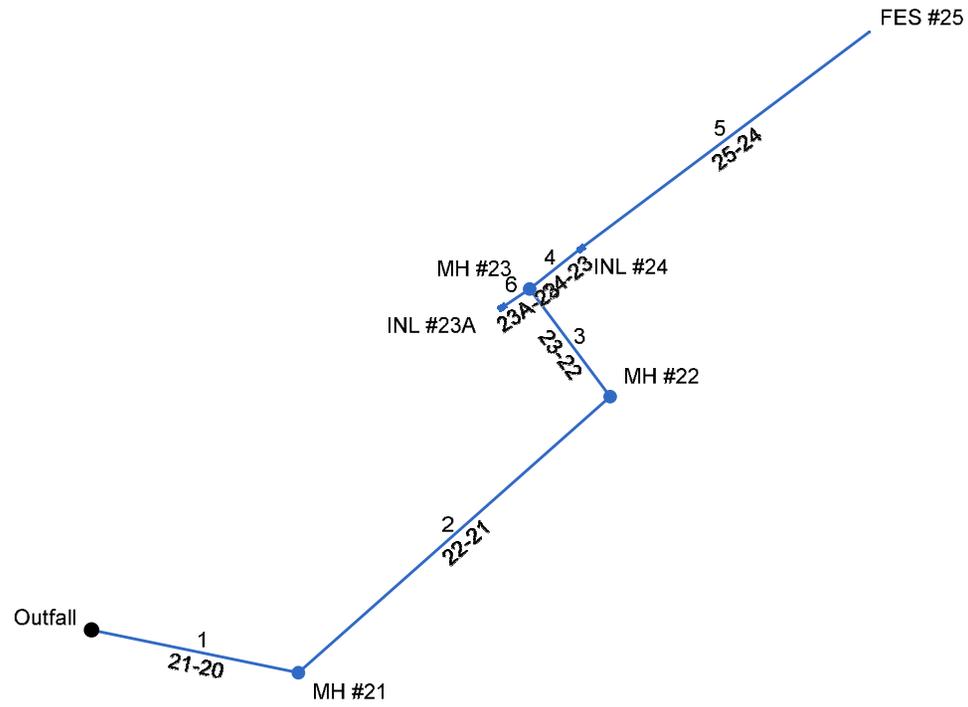
Project File: STM 15-19.stm

Number of lines: 4

Run Date: 2/23/2026

NOTES: Intensity = $127.16 / (\text{Inlet time} + 17.80)^{0.82}$; Return period = Yrs. 100 ; c = cir e = ellip b = box

Hydraflow Storm Sewers Extension for Autodesk® Civil 3D® Plan



Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	21-20	7.39	24	Cir	78.144	93.50	93.89	0.499	94.47	94.86	n/a	94.86	End	Manhole
2	22-21	7.61	24	Cir	154.062	93.89	94.72	0.539	94.86	95.70	0.38	95.70	1	Manhole
3	23-22	7.69	24	Cir	49.705	94.72	94.97	0.503	95.70	95.96	0.39	95.96	2	Manhole
4	24-23	6.21	18	Cir	24.093	95.47	95.59	0.498	96.46	96.58	0.20	96.78	3	Combination
5	25-24	5.19	18	Cir	133.489	95.59	96.40	0.607	96.78	97.28	n/a	97.28 j	4	Combination
6	23A-23	2.20	12	Cir	11.926	95.97	96.03	0.503	96.65	96.71	0.23	96.94	3	Combination

Project File: STM 20-25.stm	Number of lines: 6	Run Date: 2/23/2026
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NOTES: Return period = 10 Yrs. ; j - Line contains hyd. jump.

Storm Sewer Tabulation

Station		Len (ft)	Drng Area		Rnoff coeff (C)	Area x C		Tc		Rain (l) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr (ac)	Total (ac)		Incr	Total	Inlet (min)	Syst (min)					Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	78.144	0.00	3.98	0.00	0.00	1.84	0.0	17.3	4.0	7.39	17.31	4.92	24	0.50	93.50	93.89	94.47	94.86	94.00	99.56	21-20
2	1	154.062	0.00	3.98	0.00	0.00	1.84	0.0	16.2	4.1	7.61	17.98	5.02	24	0.54	93.89	94.72	94.86	95.70	99.56	100.74	22-21
3	2	49.705	0.00	3.98	0.00	0.00	1.84	0.0	15.9	4.2	7.69	17.38	5.00	24	0.50	94.72	94.97	95.70	95.96	100.74	100.30	23-22
4	3	24.093	0.48	3.37	0.56	0.27	1.48	6.0	15.8	4.2	6.21	8.03	5.01	18	0.50	95.47	95.59	96.46	96.58	100.30	100.09	24-23
5	4	133.489	2.89	2.89	0.42	1.21	1.21	15.0	15.0	4.3	5.19	8.86	4.15	18	0.61	95.59	96.40	96.78	97.28	100.09	96.40	25-24
6	3	11.926	0.61	0.61	0.59	0.36	0.36	6.0	6.0	6.1	2.20	2.74	3.88	12	0.50	95.97	96.03	96.65	96.71	100.30	100.03	23A-23

Project File: STM 20-25.stm

Number of lines: 6

Run Date: 2/23/2026

NOTES: Intensity = 26.53 / (Inlet time + 5.20) ^ 0.61; Return period = Yrs. 10 ; c = cir e = ellip b = box

Storm Sewer Summary Report

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1	21-20	13.01	24	Cir	78.144	93.50	93.89	0.499	94.80	95.19	0.47	95.19	End	Manhole
2	22-21	13.20	24	Cir	154.062	93.89	94.72	0.539	95.19	96.03	0.57	96.03	1	Manhole
3	23-22	13.27	24	Cir	49.705	94.72	94.97	0.503	96.03	96.28	0.58	96.28	2	Manhole
4	24-23	10.69	18	Cir	24.093	95.47	95.59	0.498	96.97*	97.18*	0.28	97.47	3	Combination
5	25-24	8.85	18	Cir	133.489	95.59	96.40	0.607	97.47*	98.28*	0.39	98.67	4	Combination
6	23A-23	3.41	12	Cir	11.926	95.97	96.03	0.503	96.97	97.03	0.29	97.32	3	Combination

Project File: STM 20-25.stm	Number of lines: 6	Run Date: 2/23/2026
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NOTES: Return period = 100 Yrs. ; *Surcharged (HGL above crown).

Storm Sewer Tabulation

Station		Len (ft)	Drng Area		Rnoff coeff (C)	Area x C		Tc		Rain (l) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line		Incr (ac)	Total (ac)		Incr	Total	Inlet (min)	Syst (min)					Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	78.144	0.00	3.98	0.00	0.00	1.84	0.0	16.3	7.1	13.01	17.31	6.04	24	0.50	93.50	93.89	94.80	95.19	94.00	99.56	21-20
2	1	154.062	0.00	3.98	0.00	0.00	1.84	0.0	15.7	7.2	13.20	17.98	6.10	24	0.54	93.89	94.72	95.19	96.03	99.56	100.74	22-21
3	2	49.705	0.00	3.98	0.00	0.00	1.84	0.0	15.5	7.2	13.27	17.38	6.09	24	0.50	94.72	94.97	96.03	96.28	100.74	100.30	23-22
4	3	24.093	0.48	3.37	0.56	0.27	1.48	6.0	15.4	7.2	10.69	8.03	6.05	18	0.50	95.47	95.59	96.97	97.18	100.30	100.09	24-23
5	4	133.489	2.89	2.89	0.42	1.21	1.21	15.0	15.0	7.3	8.85	8.86	5.01	18	0.61	95.59	96.40	97.47	98.28	100.09	96.40	25-24
6	3	11.926	0.61	0.61	0.59	0.36	0.36	6.0	6.0	9.5	3.41	2.74	4.35	12	0.50	95.97	96.03	96.97	97.03	100.30	100.03	23A-23

Project File: STM 20-25.stm

Number of lines: 6

Run Date: 2/23/2026

NOTES: Intensity = 127.16 / (Inlet time + 17.80) ^ 0.82; Return period = Yrs. 100 ; c = cir e = ellip b = box