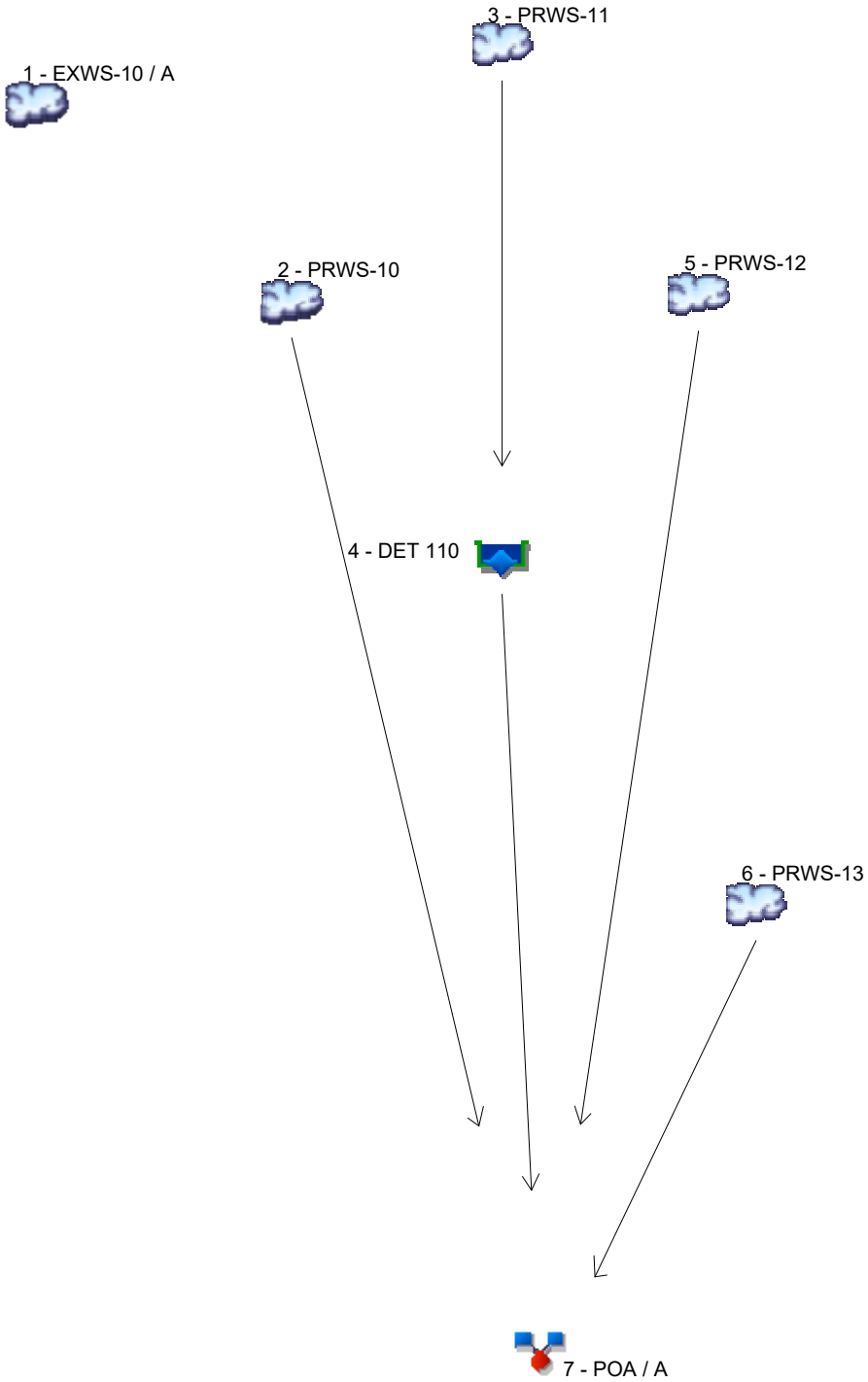
Hydrographs Peak Flowrate Summary (cfs)
Existing vs. Proposed

Storm Event	2yr		10yr		25yr		50yr		100yr	
	Exist	Prop	Exist	Prop	Exist	Prop	Exist	Prop	Exist	Prop
Analysis Point A	7.0	5.1	11.6	8.5	14.4	10.6	16.5	12.2	18.7	13.9
DET 110 W.S. Elev. (ft) Top Elev. of Stone Above Chambers = 621.5	-	619.0	-	619.7	-	620.2	-	620.7	-	621.4

Analysis Point	**Description**
A	Drainage in Pembroke Road (Rt. 37)

Watershed Model Schematic



Legend

Hyd.	Origin	Description
1	SCS Runoff	EXWS-10 / A
2	SCS Runoff	PRWS-10
3	SCS Runoff	PRWS-11
4	Reservoir	DET 110
5	SCS Runoff	PRWS-12
6	SCS Runoff	PRWS-13
7	Combine	POA / A

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)							Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	------	-------	7.039	-------	-------	11.59	14.41	16.48	18.72	EXWS-10 / A
2	SCS Runoff	------	-------	2.915	-------	-------	4.863	6.065	6.949	7.907	PRWS-10
3	SCS Runoff	------	-------	1.808	-------	-------	2.911	3.593	4.096	4.642	PRWS-11
4	Reservoir	3	-------	0.000	-------	-------	0.000	0.000	0.000	0.000	DET 110
5	SCS Runoff	------	-------	1.429	-------	-------	2.416	3.025	3.474	3.959	PRWS-12
6	SCS Runoff	------	-------	0.715	-------	-------	1.208	1.513	1.737	1.979	PRWS-13
7	Combine	2, 4, 5, 6	-------	5.059	-------	-------	8.487	10.60	12.16	13.85	POA / A

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	7.039	3	726	24,463	------	------	------	EXWS-10 / A
2	SCS Runoff	2.915	3	726	10,033	------	------	------	PRWS-10
3	SCS Runoff	1.808	3	726	6,444	------	------	------	PRWS-11
4	Reservoir	0.000	3	744	0	3	618.99	1,540	DET 110
5	SCS Runoff	1.429	3	726	4,879	------	------	------	PRWS-12
6	SCS Runoff	0.715	3	726	2,439	------	------	------	PRWS-13
7	Combine	5.059	3	726	17,351	2, 4, 5, 6	------	------	POA / A

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	11.59	3	726	41,566	------	------	------	EXWS-10 / A
2	SCS Runoff	4.863	3	726	17,258	------	------	------	PRWS-10
3	SCS Runoff	2.911	3	726	10,684	------	------	------	PRWS-11
4	Reservoir	0.000	3	741	0	3	619.71	3,086	DET 110
5	SCS Runoff	2.416	3	726	8,498	------	------	------	PRWS-12
6	SCS Runoff	1.208	3	726	4,249	------	------	------	PRWS-13
7	Combine	8.487	3	726	30,005	2, 4, 5, 6	------	------	POA / A

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	14.41	3	726	52,353	------	------	------	EXWS-10 / A
2	SCS Runoff	6.065	3	726	21,828	------	------	------	PRWS-10
3	SCS Runoff	3.593	3	726	13,345	------	------	------	PRWS-11
4	Reservoir	0.000	3	798	0	3	620.22	4,102	DET 110
5	SCS Runoff	3.025	3	726	10,793	------	------	------	PRWS-12
6	SCS Runoff	1.513	3	726	5,397	------	------	------	PRWS-13
7	Combine	10.60	3	726	38,018	2, 4, 5, 6	------	------	POA / A

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	16.48	3	726	60,359	------	------	------	EXWS-10 / A
2	SCS Runoff	6.949	3	726	25,223	------	------	------	PRWS-10
3	SCS Runoff	4.096	3	726	15,317	------	------	------	PRWS-11
4	Reservoir	0.000	3	777	0	3	620.67	4,864	DET 110
5	SCS Runoff	3.474	3	726	12,500	------	------	------	PRWS-12
6	SCS Runoff	1.737	3	726	6,250	------	------	------	PRWS-13
7	Combine	12.16	3	726	43,974	2, 4, 5, 6	------	------	POA / A

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	SCS Runoff	18.72	3	726	69,087	------	------	------	EXWS-10 / A
2	SCS Runoff	7.907	3	726	28,927	------	------	------	PRWS-10
3	SCS Runoff	4.642	3	726	17,465	------	------	------	PRWS-11
4	Reservoir	0.000	3	747	0	3	621.40	5,687	DET 110
5	SCS Runoff	3.959	3	726	14,364	------	------	------	PRWS-12
6	SCS Runoff	1.979	3	726	7,182	------	------	------	PRWS-13
7	Combine	13.85	3	726	50,472	2, 4, 5, 6	------	------	POA / A

Hydraflow Table of Contents

NFSC-Model01.gpw

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® 2019 by Autodesk, Inc. v2020

Tuesday, 08 / 31 / 2021

Worksheet 2: Runoff curve number and runoff

Project: New Fairfield Shopping Center By: MCB Date: 08/30/21
Location: New Fairfield, CT Checked: Date:
Circle one: ***Present*** Developed Watershed: EXWS-10

1.) Runoff curve number (CN)

Soil Name and Hydrologic Group (appendix A)	Cover Description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN Value [1.] Table 2-2	Figure 2-3	Figure 2-4	Area Acres Sq. Ft. %	Product of CN x Area
B Soil	Open Space - Good Condition	61			0.26	16.05
B Soil	Gravel	85			0.18	14.88
N/A	Building	98			0.56	54.42
N/A	Paved/Impervious	98			1.62	158.72
[1.] Use only one CN value source per line.				Totals =	2.61	244.06
					(0.00408	sq mi)

CN (weighted) = $\frac{\text{total product}}{\text{total area}}$ = $\frac{244.06}{2.61}$ Use CN = **93**

Worksheet 2: Runoff curve number and runoff

Project: New Fairfield Shopping Center By: MCB Date: 08/30/21
Location: New Fairfield, CT Checked: Date:
Circle one: Present ***Developed*** Watershed: PRWS-10

1.) Runoff curve number (CN)

Soil Name and Hydrologic Group (appendix A)	Cover Description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN Value [1.] Table 2-2	Figure 2-3	Figure 2-4	Area Acres Sq. Ft. %	Product of CN x Area
B Soil	Open Space - Good Condition	61			0.19	11.59
N/A	Building	98			0.05	5.03
N/A	Paved/Impervious	98			0.87	85.56
[1.] Use only one CN value source per line.				Totals =	1.11	102.18
					(0.00174	sq mi)

CN (weighted) = $\frac{\text{total product}}{\text{total area}}$ = $\frac{102.18}{1.11}$ Use CN = 92

Worksheet 2: Runoff curve number and runoff

Project: New Fairfield Shopping Center By: MCB Date: 08/31/21
Location: New Fairfield, CT Checked: Date:
Circle one: Present ***Developed*** Watershed: PRWS-11

1.) Runoff curve number (CN)

Soil Name and Hydrologic Group (appendix A)	Cover Description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN Value [1.] Table 2-2	Figure 2-3	Figure 2-4	Area Acres Sq. Ft. %	Product of CN x Area
B Soil	Open Space - Good Condition	61			0.05	3.12
N/A	Building	98			0.21	20.36
N/A	Paved/Impervious	98			0.38	37.58
[1.] Use only one CN value source per line.				Totals =	0.64	61.06
					(0.00100	sq mi)

CN (weighted) = $\frac{\text{total product}}{\text{total area}}$ = $\frac{61.06}{0.64}$ Use CN = 95

Worksheet 2: Runoff curve number and runoff

Project: New Fairfield Shopping Center By: MCB Date: 08/31/21
Location: New Fairfield, CT Checked: Date:
Circle one: Present ***Developed*** Watershed: PRWS-12

1.) Runoff curve number (CN)

Soil Name and Hydrologic Group (appendix A)	Cover Description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN Value [1.] Table 2-2	Figure 2-3	Figure 2-4	Area Acres Sq. Ft. %	Product of CN x Area
B Soil	Open Space - Good Condition	61			0.06	3.37
B Soil	Gravel	85			0.16	13.99
N/A	Building	98			0.18	17.70
N/A	Paved/Impervious	98			0.16	15.55
[1.] Use only one CN value source per line.				Totals =	0.56	50.61
					(0.00087	sq mi)

CN (weighted) = $\frac{\text{total product}}{\text{total area}}$ = $\frac{50.61}{0.56}$ Use CN = **91**

Worksheet 2: Runoff curve number and runoff

Project: New Fairfield Shopping Center By: MCB Date: 08/31/21
Location: New Fairfield, CT Checked: Date:
Circle one: Present ***Developed*** Watershed: PRWS-13

1.) Runoff curve number (CN)

Soil Name and Hydrologic Group (appendix A)	Cover Description (cover type, treatment, and hydrologic condition; percent impervious; unconnected/connected impervious area ratio)	CN Value [1.] Table 2-2	Figure 2-3	Figure 2-4	Area Acres Sq. Ft. %	Product of CN x Area
B Soil	Open Space - Good Condition	61			0.03	1.94
B Soil	Gravel	85			0.06	5.01
N/A	Building	98			0.03	2.50
N/A	Paved/Impervious	98			0.16	15.72
[1.] Use only one CN value source per line.				Totals =	0.28	25.17
					(0.00043	sq mi)

CN (weighted) = $\frac{\text{total product}}{\text{total area}}$ = $\frac{25.17}{0.28}$ Use CN = **91**

NOAA Atlas 14, Volume 10, Version 3
Location name: New Fairfield, Connecticut, USA*
Latitude: 41.4653°, Longitude: -73.4851°
Elevation: 627.28 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orlan Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.357** (0.272-0.468)	**0.417** (0.318-0.547)	**0.516** (0.391-0.677)	**0.597** (0.451-0.791)	**0.710** (0.520-0.974)	**0.795** (0.573-1.11)	**0.883** (0.617-1.27)	**0.977** (0.655-1.45)	**1.11** (0.715-1.70)	**1.21** (0.764-1.89)
10-min	**0.506** (0.386-0.663)	**0.591** (0.450-0.775)	**0.730** (0.554-0.960)	**0.846** (0.639-1.12)	**1.00** (0.737-1.38)	**1.13** (0.810-1.58)	**1.25** (0.874-1.81)	**1.38** (0.926-2.05)	**1.57** (1.01-2.40)	**1.71** (1.08-2.68)
15-min	**0.595** (0.454-0.780)	**0.696** (0.530-0.912)	**0.860** (0.653-1.13)	**0.996** (0.753-1.32)	**1.18** (0.867-1.62)	**1.33** (0.953-1.86)	**1.47** (1.03-2.13)	**1.63** (1.09-2.42)	**1.84** (1.19-2.83)	**2.01** (1.27-3.15)
30-min	**0.833** (0.635-1.09)	**0.969** (0.738-1.27)	**1.19** (0.905-1.57)	**1.38** (1.04-1.82)	**1.63** (1.20-2.24)	**1.83** (1.31-2.55)	**2.02** (1.41-2.92)	**2.23** (1.50-3.31)	**2.51** (1.63-3.85)	**2.73** (1.73-4.27)
60-min	**1.07** (0.816-1.40)	**1.24** (0.946-1.63)	**1.53** (1.16-2.00)	**1.76** (1.33-2.33)	**2.08** (1.52-2.85)	**2.33** (1.67-3.25)	**2.58** (1.80-3.71)	**2.83** (1.90-4.21)	**3.18** (2.06-4.88)	**3.45** (2.18-5.40)
2-hr	**1.40** (1.07-1.82)	**1.62** (1.24-2.12)	**1.99** (1.52-2.61)	**2.30** (1.75-3.03)	**2.72** (2.01-3.74)	**3.04** (2.21-4.26)	**3.37** (2.39-4.91)	**3.77** (2.53-5.58)	**4.36** (2.83-6.66)	**4.85** (3.08-7.56)
3-hr	**1.61** (1.24-2.10)	**1.88** (1.44-2.45)	**2.32** (1.78-3.03)	**2.69** (2.04-3.53)	**3.19** (2.37-4.38)	**3.56** (2.60-5.01)	**3.97** (2.84-5.80)	**4.47** (3.00-6.59)	**5.23** (3.40-7.98)	**5.89** (3.75-9.15)
6-hr	**2.01** (1.55-2.60)	**2.38** (1.84-3.09)	**2.99** (2.30-3.89)	**3.50** (2.67-4.58)	**4.20** (3.13-5.75)	**4.71** (3.46-6.60)	**5.27** (3.79-7.71)	**5.98** (4.03-8.79)	**7.08** (4.61-10.8)	**8.05** (5.13-12.5)
12-hr	**2.44** (1.89-3.14)	**2.95** (2.28-3.81)	**3.79** (2.92-4.91)	**4.49** (3.44-5.84)	**5.45** (4.08-7.44)	**6.16** (4.53-8.59)	**6.93** (5.00-10.1)	**7.88** (5.33-11.5)	**9.36** (6.11-14.1)	**10.6** (6.80-16.4)
24-hr	**2.86** (2.22-3.67)	**3.52** (2.73-4.52)	**4.60** (3.56-5.92)	**5.49** (4.23-7.11)	**6.72** (5.05-9.13)	**7.63** (5.64-10.6)	**8.62** (6.24-12.5)	**9.83** (6.67-14.3)	**11.7** (7.66-17.6)	**13.3** (8.53-20.4)
2-day	**3.27** (2.55-4.18)	**4.05** (3.16-5.18)	**5.32** (4.14-6.83)	**6.38** (4.93-8.23)	**7.84** (5.91-10.6)	**8.91** (6.61-12.3)	**10.1** (7.33-14.6)	**11.5** (7.85-16.7)	**13.8** (9.05-20.6)	**15.7** (10.1-24.0)
3-day	**3.56** (2.79-4.54)	**4.41** (3.45-5.62)	**5.79** (4.51-7.40)	**6.93** (5.38-8.92)	**8.51** (6.44-11.5)	**9.67** (7.20-13.4)	**10.9** (7.98-15.8)	**12.5** (8.54-18.1)	**15.0** (9.86-22.4)	**17.1** (11.0-26.0)
4-day	**3.82** (2.99-4.85)	**4.71** (3.69-5.99)	**6.17** (4.82-7.88)	**7.38** (5.73-9.47)	**9.04** (6.85-12.2)	**10.3** (7.65-14.2)	**11.6** (8.48-16.7)	**13.3** (9.07-19.2)	**15.9** (10.5-23.6)	**18.1** (11.7-27.5)
7-day	**4.51** (3.55-5.72)	**5.50** (4.32-6.98)	**7.12** (5.58-9.05)	**8.46** (6.59-10.8)	**10.3** (7.82-13.8)	**11.7** (8.71-16.0)	**13.1** (9.60-18.7)	**14.9** (10.2-21.5)	**17.7** (11.7-26.3)	**20.1** (13.0-30.3)
10-day	**5.21** (4.11-6.58)	**6.26** (4.93-7.91)	**7.97** (6.26-10.1)	**9.39** (7.33-12.0)	**11.3** (8.62-15.1)	**12.8** (9.55-17.4)	**14.4** (10.5-20.3)	**16.2** (11.1-23.2)	**19.0** (12.6-28.1)	**21.3** (13.8-32.1)
20-day	**7.41** (5.87-9.32)	**8.56** (6.77-10.8)	**10.4** (8.23-13.2)	**12.0** (9.41-15.2)	**14.1** (10.8-18.7)	**15.8** (11.8-21.2)	**17.5** (12.6-24.2)	**19.3** (13.3-27.5)	**21.8** (14.5-32.2)	**23.9** (15.5-35.9)
30-day	**9.26** (7.36-11.6)	**10.5** (8.31-13.2)	**12.5** (9.86-15.7)	**14.1** (11.1-17.9)	**16.4** (12.5-21.5)	**18.1** (13.5-24.2)	**19.9** (14.3-27.3)	**21.7** (15.0-30.8)	**24.1** (16.1-35.3)	**25.9** (16.9-38.8)
45-day	**11.5** (9.20-14.5)	**12.8** (10.2-16.1)	**15.0** (11.9-18.8)	**16.7** (13.2-21.1)	**19.2** (14.6-25.0)	**21.1** (15.7-27.9)	**22.9** (16.5-31.2)	**24.7** (17.2-34.9)	**27.0** (18.1-39.5)	**28.6** (18.7-42.8)
60-day	**13.4** (10.7-16.8)	**14.8** (11.8-18.5)	**17.1** (13.6-21.4)	**18.9** (15.0-23.9)	**21.5** (16.4-28.0)	**23.5** (17.6-31.1)	**25.5** (18.4-34.6)	**27.3** (19.0-38.5)	**29.6** (19.8-43.1)	**31.2** (20.4-46.4)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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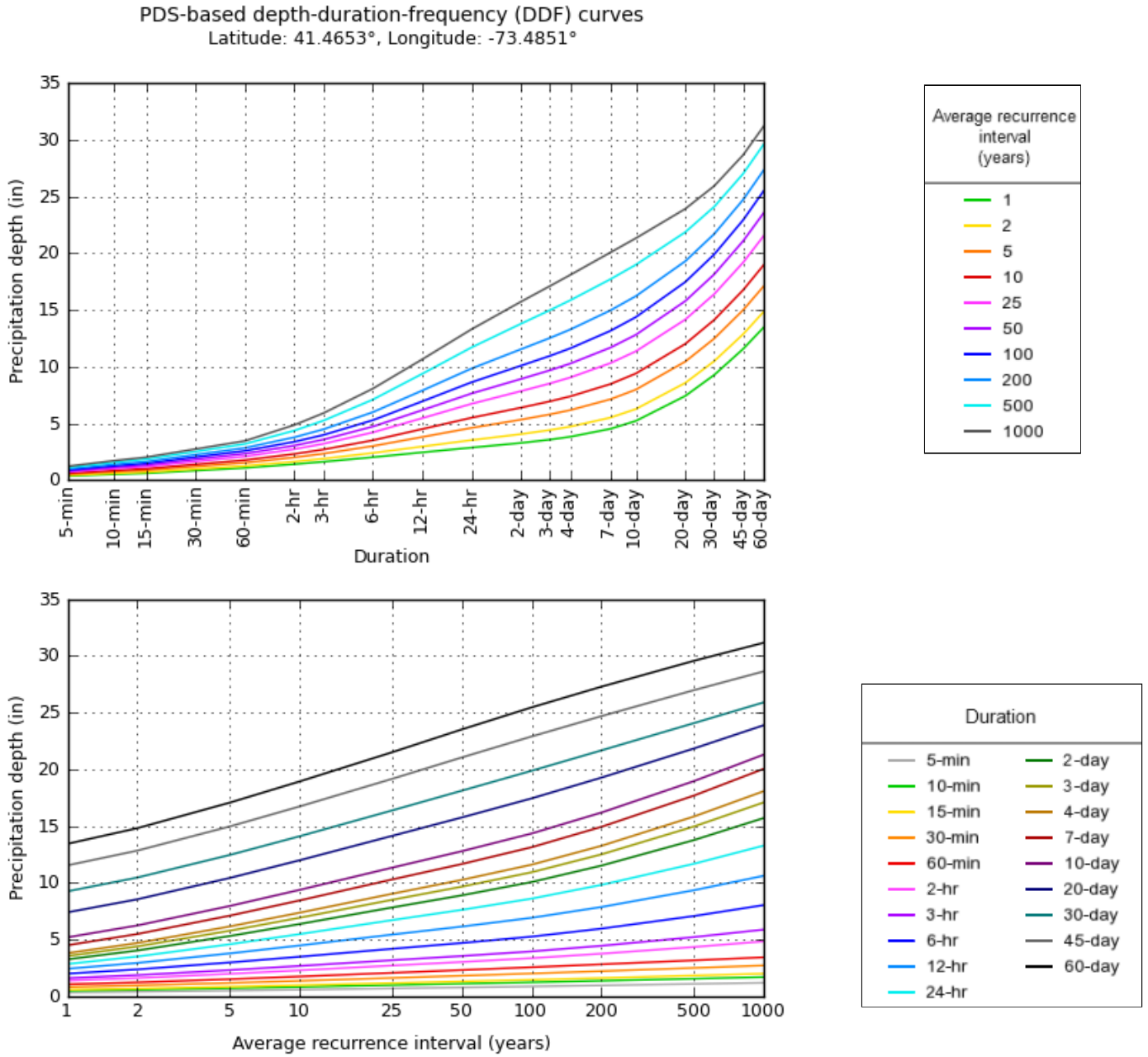
PF graphical



NOAA Atlas 14, Volume 10, Version 3

Created (GMT): Mon Aug 30 17:42:00 2021

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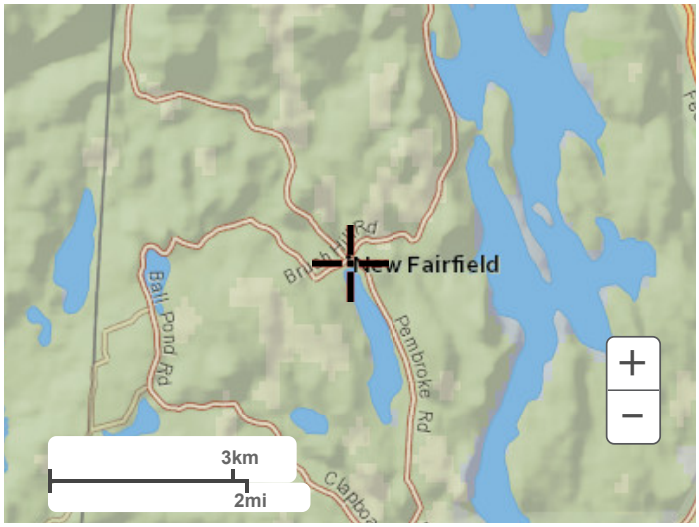
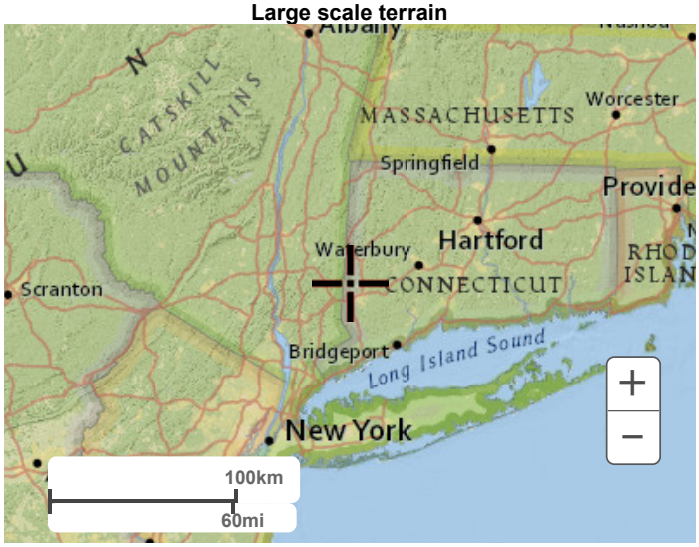
Maps & aerials

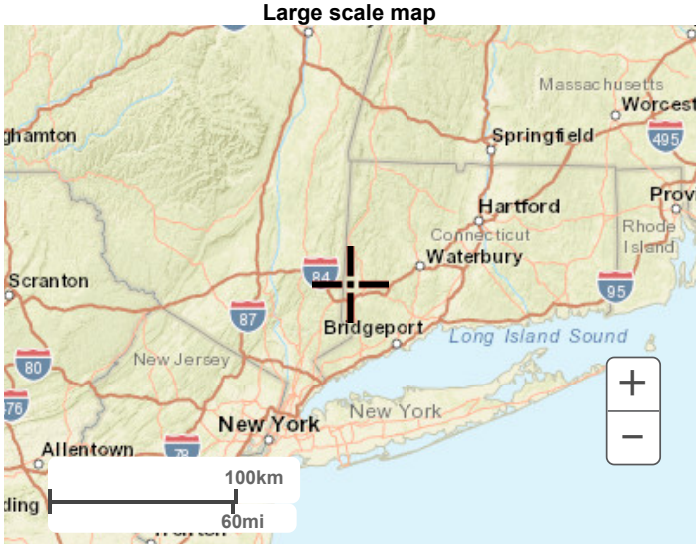
Small scale terrain



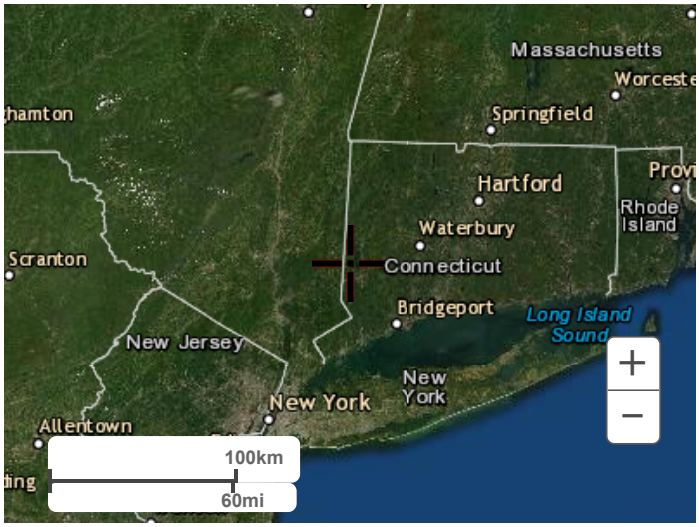
Large scale terrain



Large scale map



Large scale aerial



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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

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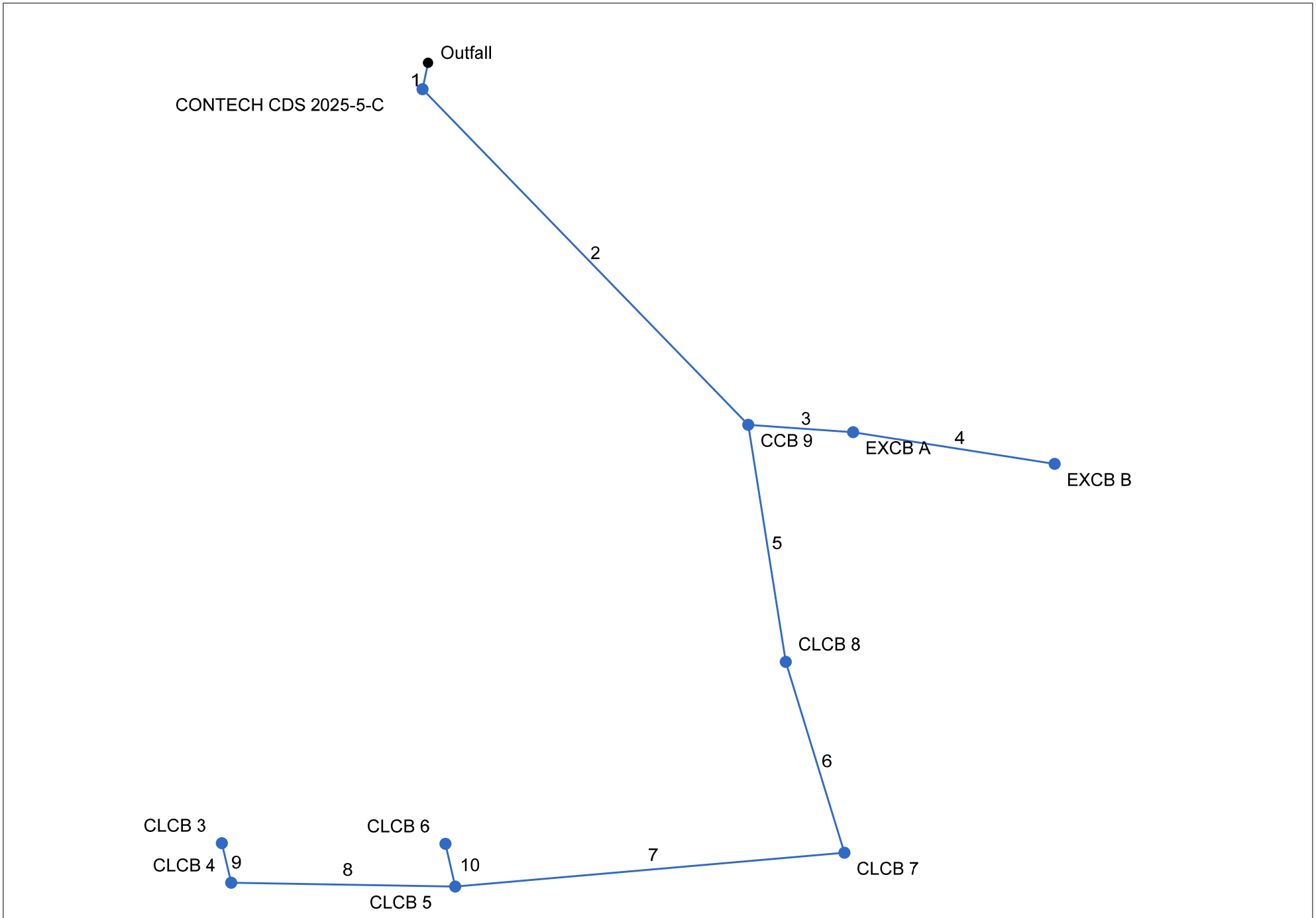
Hydraflow Storm Sewers Extension for Autodesk® AutoCAD® Civil 3D® Plan



Project File: Storm.stm	Number of lines: 10	Date: 9/14/2021

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	8	102	Grate	0.00	0.43	0.89	5.0	614.50	1.25	614.60	24	Cir	0.013	1.29	623.80	OUTFALL-CONTECH CD
2	1	138	-56	Comb	0.00	0.03	0.90	5.0	614.60	0.58	615.40	24	Cir	0.012	1.41	625.90	CONTECH CDS 2025-5
3	2	31	-42	Grate	0.00	0.08	0.78	5.0	621.50	1.61	622.00	12	Cir	0.012	0.50	625.07	CCB 9-EXCB A
4	3	60	5	Grate	0.00	0.16	0.52	5.0	622.00	0.83	622.50	12	Cir	0.012	1.00	625.27	EXCB A-EXCB B
5	2	71	35	Grate	0.00	0.13	0.86	5.0	615.40	0.56	615.80	24	Cir	0.012	0.50	625.10	CCB 9-CLCB 8
6	5	59	-8	Grate	0.00	0.28	0.69	5.0	615.80	0.51	616.10	18	Cir	0.012	1.50	623.50	CLCB 8-CLCB 7
7	6	115	102	Grate	0.00	0.12	0.85	5.0	616.10	0.52	616.70	15	Cir	0.012	1.49	618.50	CLCB 7-CLCB 5
8	7	66	6	Grate	0.00	0.13	0.62	5.0	616.70	0.61	617.10	15	Cir	0.012	1.46	618.90	CLCB 5-CLCB 4
9	8	12	76	Grate	0.00	0.22	0.72	5.0	617.40	0.83	617.50	12	Cir	0.012	1.00	619.30	CLCB 4-CLCB 3
10	7	13	82	Grate	0.00	0.08	0.84	5.0	617.00	0.77	617.10	12	Cir	0.012	1.00	618.80	CLCB 5-CLCB 6

Project File: Storm.stm | Number of lines: 10 | Date: 9/13/2021

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	8	0.43	1.66	0.89	0.38	1.27	5.0	7.3	7.2	9.13	25.28	2.93	24	1.25	614.50	614.60	616.50	616.51	0.00	623.80	OUTFALL-CONT
2	1	138	0.03	1.23	0.90	0.03	0.89	5.0	6.4	7.6	6.77	18.66	2.58	24	0.58	614.60	615.40	616.68	616.75	623.80	625.90	CONTECH CDS 2
3	2	31	0.08	0.24	0.78	0.06	0.15	5.0	5.4	8.2	1.20	4.90	4.27	12	1.61	621.50	622.00	621.84	622.46	625.90	625.07	CCB 9-EXCB A
4	3	60	0.16	0.16	0.52	0.08	0.08	5.0	5.0	8.5	0.71	3.52	2.44	12	0.83	622.00	622.50	622.46	622.85	625.07	625.27	EXCB A-EXCB B
5	2	71	0.13	0.96	0.86	0.11	0.71	5.0	6.1	7.8	5.59	18.39	3.33	24	0.56	615.40	615.80	616.95	616.63	625.90	625.10	CCB 9-CLCB 8
6	5	59	0.28	0.83	0.69	0.19	0.60	5.0	5.9	8.0	4.79	8.11	4.72	18	0.51	615.80	616.10	616.63	616.94	625.10	623.50	CLCB 8-CLCB 7
7	6	115	0.12	0.55	0.85	0.10	0.41	5.0	5.4	8.2	3.37	5.05	4.15	15	0.52	616.10	616.70	616.94	617.44	623.50	618.50	CLCB 7-CLCB 5
8	7	66	0.13	0.35	0.62	0.08	0.24	5.0	5.1	8.5	2.03	5.45	3.21	15	0.61	616.70	617.10	617.44	617.67	618.50	618.90	CLCB 5-CLCB 4
9	8	12	0.22	0.22	0.72	0.16	0.16	5.0	5.0	8.5	1.35	3.52	3.85	12	0.83	617.40	617.50	617.83	617.99	618.90	619.30	CLCB 4-CLCB 3
10	7	13	0.08	0.08	0.84	0.07	0.07	5.0	5.0	8.5	0.57	3.38	2.22	12	0.77	617.00	617.10	617.44	617.41	618.50	618.80	CLCB 5-CLCB 6

Project File: Storm.stm

Number of lines: 10

Run Date: 9/13/2021

NOTES:Intensity = 38.74 / (Inlet time + 3.60) ^ 0.70; Return period =Yrs. 25 ; c = cir e = ellip b = box

Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	CONTECH CDS 2	3.26	0.00	3.26	0.00	Grate	0.0	0.00	4.00	2.00	2.00	Sag	2.53	0.044	0.044	0.000	0.36	8.27	0.36	8.27	0.0	Off
2	CCB 9	0.23	0.00	0.23	0.00	Comb	4.0	2.73	3.12	2.31	1.35	Sag	2.53	0.010	0.010	0.000	0.07	7.01	0.07	7.01	0.0	Off
3	EXCB A	0.53	0.00	0.53	0.00	Grate	0.0	0.00	3.12	2.31	1.35	Sag	2.53	0.033	0.033	0.000	0.13	3.93	0.13	3.93	0.0	Off
4	EXCB B	0.71	0.00	0.71	0.00	Grate	0.0	0.00	3.12	2.31	1.35	Sag	2.53	0.017	0.017	0.000	0.14	8.34	0.14	8.34	0.0	Off
5	CLCB 8	0.95	0.00	0.69	0.26	Grate	0.0	0.00	0.00	2.31	1.35	0.003	2.53	0.044	0.044	0.013	0.22	5.01	0.14	3.08	0.0	6
6	CLCB 7	1.64	0.26	1.90	0.00	Grate	0.0	0.00	3.12	2.31	1.35	Sag	2.53	0.024	0.024	0.000	0.27	11.17	0.27	11.17	0.0	Off
7	CLCB 5	0.87	0.41	1.28	0.00	Grate	0.0	0.00	3.12	2.31	1.35	Sag	2.53	0.013	0.013	0.000	0.20	15.56	0.20	15.56	0.0	Off
8	CLCB 4	0.69	0.00	0.56	0.13	Grate	0.0	0.00	0.00	2.31	1.35	0.084	2.53	0.041	0.041	0.013	0.10	2.48	0.05	1.33	0.0	7
9	CLCB 3	1.35	0.00	1.22	0.13	Grate	0.0	0.00	0.00	2.31	1.35	0.039	2.53	0.106	0.106	0.013	0.22	2.04	0.09	0.85	0.0	10
10	CLCB 6	0.57	0.13	0.42	0.28	Grate	0.0	0.00	0.00	2.31	1.35	0.036	2.53	0.020	0.020	0.013	0.09	4.59	0.07	3.27	0.0	7

Project File: Storm.stm | Number of lines: 10 | Run Date: 9/13/2021

NOTES: Inlet N-Values = 0.016; Intensity = 38.74 / (Inlet time + 3.60) ^ 0.70; Return period = 25 Yrs. ; * Indicates Known Q added. All curb inlets are throat.

Hydraulic Grade Line Computations

Line	Size	Q	Downstream								Len	Upstream								Check		JL coeff	Minor loss
			Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf		Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf	Ave Sf	Enrgy loss		
	(in)	(cfs)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(%)	(ft)	(K)	(ft)
1	24	9.13	614.50	616.50	2.00	3.14	2.91	0.13	616.63	0.163	8	614.60	616.51	1.91	3.09	2.95	0.14	616.64	0.141	0.152	0.012	1.29	0.18
2	24	6.77	614.60	616.68	2.00	3.14	2.16	0.07	616.76	0.076	138	615.40	616.75	1.35	2.25	3.00	0.14	616.89	0.120	0.098	0.136	1.41	0.20
3	12	1.20	621.50	621.84	0.34*	0.23	5.15	0.18	622.02	0.000	31	622.00	622.46	0.46**	0.35	3.39	0.18	622.64	0.000	0.000	n/a	0.50	n/a
4	12	0.71	622.00	622.46	0.46	0.25	2.00	0.13	622.59	0.000	60	622.50	622.85 j	0.35**	0.25	2.88	0.13	622.98	0.000	0.000	n/a	1.00	n/a
5	24	5.59	615.40	616.95	1.55	1.24	2.14	0.32	617.26	0.000	71	615.80	616.63	0.83**	1.24	4.51	0.32	616.95	0.000	0.000	n/a	0.50	0.16
6	18	4.79	615.80	616.63	0.83	1.01	4.74	0.34	616.98	0.000	59	616.10	616.94	0.84**	1.02	4.70	0.34	617.28	0.000	0.000	n/a	1.50	n/a
7	15	3.37	616.10	616.94	0.84	0.76	3.84	0.23	617.17	0.368	115	616.70	617.44	0.74**	0.76	4.46	0.31	617.75	0.537	0.452	n/a	1.49	n/a
8	15	2.03	616.70	617.44	0.74	0.54	2.68	0.22	617.66	0.000	66	617.10	617.67	0.57**	0.54	3.74	0.22	617.88	0.000	0.000	n/a	1.46	0.32
9	12	1.35	617.40	617.83	0.43*	0.32	4.18	0.19	618.02	0.000	12	617.50	617.99	0.49**	0.38	3.52	0.19	618.18	0.000	0.000	n/a	1.00	0.19
10	12	0.57	617.00	617.44	0.44	0.21	1.72	0.11	617.55	0.000	13	617.10	617.41	0.31**	0.21	2.71	0.11	617.53	0.000	0.000	n/a	1.00	0.11

Project File: Storm.stm | Number of lines: 10 | Run Date: 9/13/2021

Notes: * depth assumed; ** Critical depth.; j-Line contains hyd. jump ; c = cir e = ellip b = box

Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data								Line ID
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	8	102	Grate	0.00	0.43	0.89	5.0	614.50	1.25	614.60	24	Cir	0.013	1.29	623.80	OUTFALL-CONTECH CD
2	1	138	-56	Comb	0.00	0.03	0.90	5.0	614.60	0.58	615.40	24	Cir	0.012	1.41	625.90	CONTECH CDS 2025-5
3	2	31	-42	Grate	0.00	0.08	0.78	5.0	621.50	1.61	622.00	12	Cir	0.012	0.50	625.07	CCB 9-EXCB A
4	3	60	5	Grate	0.00	0.16	0.52	5.0	622.00	0.83	622.50	12	Cir	0.012	1.00	625.27	EXCB A-EXCB B
5	2	71	35	Grate	0.00	0.13	0.86	5.0	615.40	0.56	615.80	24	Cir	0.012	0.50	625.10	CCB 9-CLCB 8
6	5	59	-8	Grate	0.00	0.28	0.69	5.0	615.80	0.51	616.10	18	Cir	0.012	1.50	623.50	CLCB 8-CLCB 7
7	6	115	102	Grate	0.00	0.12	0.85	5.0	616.10	0.52	616.70	15	Cir	0.012	1.49	618.50	CLCB 7-CLCB 5
8	7	66	6	Grate	0.00	0.13	0.62	5.0	616.70	0.61	617.10	15	Cir	0.012	1.46	618.90	CLCB 5-CLCB 4
9	8	12	76	Grate	0.00	0.22	0.72	5.0	617.40	0.83	617.50	12	Cir	0.012	1.00	619.30	CLCB 4-CLCB 3
10	7	13	82	Grate	0.00	0.08	0.84	5.0	617.00	0.77	617.10	12	Cir	0.012	1.00	618.80	CLCB 5-CLCB 6

Project File: Storm.stm | Number of lines: 10 | Date: 9/14/2021

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	8	0.43	1.66	0.89	0.38	1.27	5.0	7.5	8.8	11.20	25.28	3.59	24	1.25	614.50	614.60	616.50	616.51	0.00	623.80	OUTFALL-CONT
2	1	138	0.03	1.23	0.90	0.03	0.89	5.0	6.7	9.3	8.23	18.66	2.96	24	0.58	614.60	615.40	616.77	616.88	623.80	625.90	CONTECH CDS 2
3	2	31	0.08	0.24	0.78	0.06	0.15	5.0	5.4	10.2	1.49	4.90	4.56	12	1.61	621.50	622.00	621.88	622.52	625.90	625.07	CCB 9-EXCB A
4	3	60	0.16	0.16	0.52	0.08	0.08	5.0	5.0	10.6	0.88	3.52	2.61	12	0.83	622.00	622.50	622.52	622.89	625.07	625.27	EXCB A-EXCB B
5	2	71	0.13	0.96	0.86	0.11	0.71	5.0	6.4	9.5	6.78	18.39	3.57	24	0.56	615.40	615.80	617.12	616.72	625.90	625.10	CCB 9-CLCB 8
6	5	59	0.28	0.83	0.69	0.19	0.60	5.0	6.2	9.6	5.80	8.11	4.98	18	0.51	615.80	616.10	616.74	617.04	625.10	623.50	CLCB 8-CLCB 7
7	6	115	0.12	0.55	0.85	0.10	0.41	5.0	5.6	10.1	4.10	5.05	3.35	15	0.52	616.10	616.70	617.62	618.01	623.50	618.50	CLCB 7-CLCB 5
8	7	66	0.13	0.35	0.62	0.08	0.24	5.0	5.1	10.5	2.51	5.45	2.04	15	0.61	616.70	617.10	618.27	618.35	618.50	618.90	CLCB 5-CLCB 4
9	8	12	0.22	0.22	0.72	0.16	0.16	5.0	5.0	10.6	1.67	3.52	2.14	12	0.83	617.40	617.50	618.44	618.46	618.90	619.30	CLCB 4-CLCB 3
10	7	13	0.08	0.08	0.84	0.07	0.07	5.0	5.0	10.6	0.71	3.38	0.90	12	0.77	617.00	617.10	618.27	618.28	618.50	618.80	CLCB 5-CLCB 6

Project File: Storm.stm | Number of lines: 10 | Run Date: 9/14/2021

NOTES:Intensity = 48.91 / (Inlet time + 3.70) ^ 0.71; Return period =Yrs. 100 ; c = cir e = ellip b = box

Inlet Report

Line No	Inlet ID	Q = CIA (cfs)	Q carry (cfs)	Q capt (cfs)	Q Byp (cfs)	Junc Type	Curb Inlet		Grate Inlet			Gutter							Inlet			Byp Line No
							Ht (in)	L (ft)	Area (sqft)	L (ft)	W (ft)	So (ft/ft)	W (ft)	Sw (ft/ft)	Sx (ft/ft)	n	Depth (ft)	Spread (ft)	Depth (ft)	Spread (ft)	Depr (in)	
1	CONTECH CDS 2	4.04	0.00	4.04	0.00	Grate	0.0	0.00	4.00	2.00	2.00	Sag	2.53	0.044	0.044	0.000	0.41	9.40	0.41	9.40	0.0	Off
2	CCB 9	0.29	0.00	0.29	0.00	Comb	4.0	2.73	3.12	2.31	1.35	Sag	2.53	0.010	0.010	0.000	0.08	7.92	0.08	7.92	0.0	Off
3	EXCB A	0.66	0.00	0.66	0.00	Grate	0.0	0.00	3.12	2.31	1.35	Sag	2.53	0.033	0.033	0.000	0.15	4.44	0.15	4.44	0.0	Off
4	EXCB B	0.88	0.00	0.88	0.00	Grate	0.0	0.00	3.12	2.31	1.35	Sag	2.53	0.017	0.017	0.000	0.16	9.53	0.16	9.53	0.0	Off
5	CLCB 8	1.18	0.00	0.83	0.35	Grate	0.0	0.00	0.00	2.31	1.35	0.003	2.53	0.044	0.044	0.013	0.24	5.44	0.15	3.46	0.0	6
6	CLCB 7	2.04	0.35	2.40	0.00	Grate	0.0	0.00	3.12	2.31	1.35	Sag	2.53	0.024	0.024	0.000	0.31	12.92	0.31	12.92	0.0	Off
7	CLCB 5	1.08	0.60	1.68	0.00	Grate	0.0	0.00	3.12	2.31	1.35	Sag	2.53	0.013	0.013	0.000	0.24	18.52	0.24	18.52	0.0	Off
8	CLCB 4	0.85	0.00	0.66	0.19	Grate	0.0	0.00	0.00	2.31	1.35	0.084	2.53	0.041	0.041	0.013	0.11	2.69	0.06	1.54	0.0	7
9	CLCB 3	1.67	0.00	1.46	0.22	Grate	0.0	0.00	0.00	2.31	1.35	0.039	2.53	0.106	0.106	0.013	0.23	2.21	0.11	1.03	0.0	10
10	CLCB 6	0.71	0.22	0.52	0.41	Grate	0.0	0.00	0.00	2.31	1.35	0.036	2.53	0.020	0.020	0.013	0.10	5.10	0.08	3.76	0.0	7

Project File: Storm.stm | Number of lines: 10 | Run Date: 9/14/2021

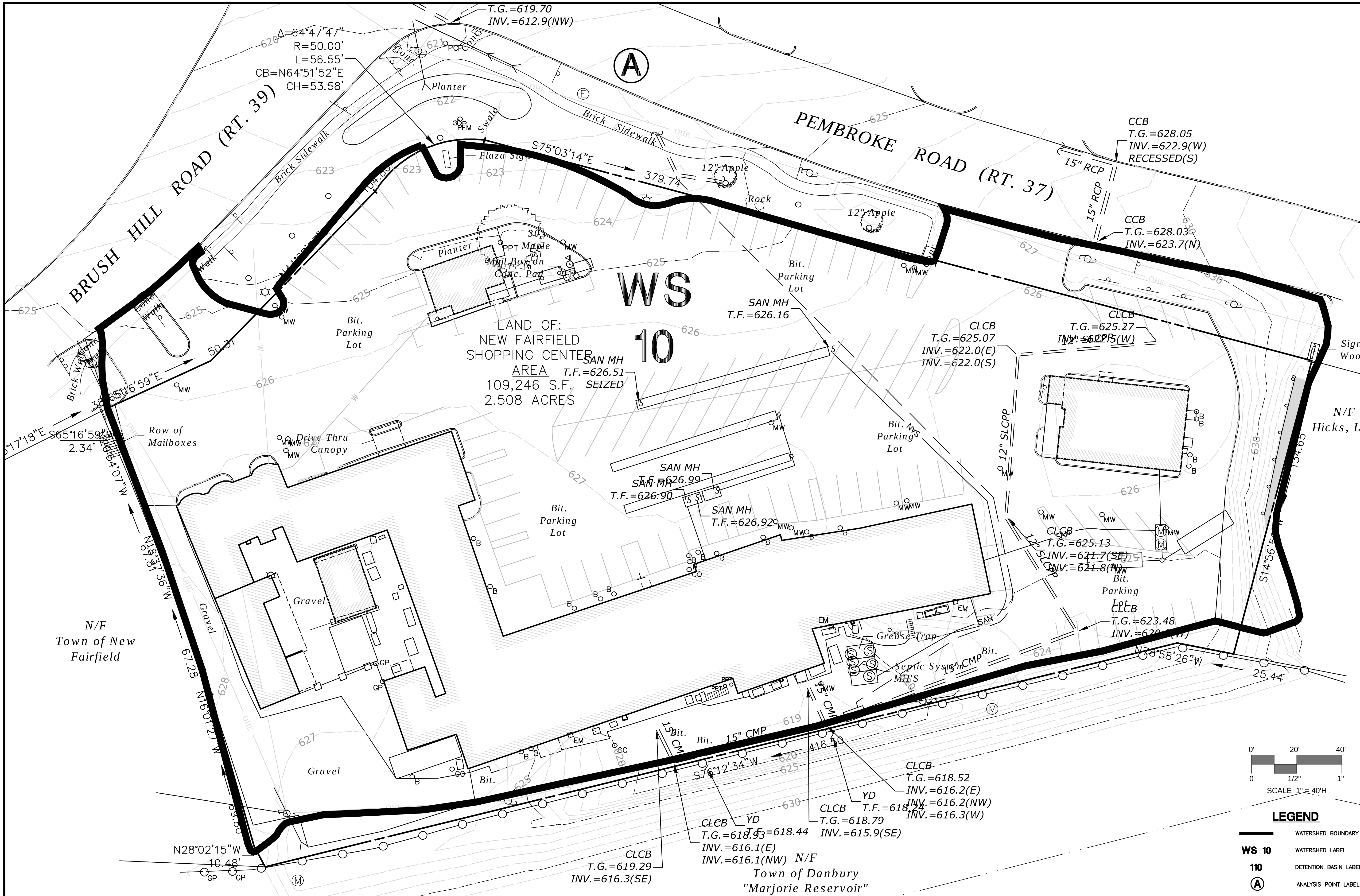
NOTES: Inlet N-Values = 0.016; Intensity = 48.91 / (Inlet time + 3.70) ^ 0.71; Return period = 100 Yrs. ; * Indicates Known Q added. All curb inlets are throat.

Hydraulic Grade Line Computations

Line	Size	Q	Downstream								Len	Upstream								Check		JL coeff	Minor loss
			Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf		Invert elev	HGL elev	Depth	Area	Vel	Vel head	EGL elev	Sf	Ave Sf	Enrgy loss		
	(in)	(cfs)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(ft)	(ft)	(ft)	(ft)	(sqft)	(ft/s)	(ft)	(ft)	(%)	(%)	(ft)	(K)	(ft)
1	24	11.20	614.50	616.50	2.00	3.14	3.57	0.20	616.70	0.245	8	614.60	616.51	1.91	3.09	3.62	0.20	616.72	0.213	0.229	0.018	1.29	0.26
2	24	8.23	614.60	616.77	2.00	3.14	2.62	0.11	616.88	0.113	138	615.40	616.88	1.48	2.50	3.29	0.17	617.05	0.139	0.126	0.174	1.41	0.24
3	12	1.49	621.50	621.88	0.38*	0.27	5.47	0.21	622.08	0.000	31	622.00	622.52	0.52**	0.41	3.64	0.21	622.72	0.000	0.000	n/a	0.50	n/a
4	12	0.88	622.00	622.52	0.52	0.29	2.14	0.15	622.66	0.000	60	622.50	622.89 j	0.39**	0.29	3.07	0.15	623.04	0.000	0.000	n/a	1.00	0.15
5	24	6.78	615.40	617.12	1.72	1.42	2.36	0.36	617.48	0.000	71	615.80	616.72	0.92**	1.42	4.79	0.36	617.08	0.000	0.000	n/a	0.50	n/a
6	18	5.80	615.80	616.74	0.94*	1.16	4.99	0.39	617.12	0.508	59	616.10	617.04	0.94	1.16	4.98	0.39	617.42	0.506	0.507	0.299	1.50	0.58
7	15	4.10	616.10	617.62	1.25	1.23	3.35	0.17	617.79	0.344	115	616.70	618.01	1.25	1.23	3.34	0.17	618.19	0.344	0.344	0.396	1.49	0.26
8	15	2.51	616.70	618.27	1.25	1.23	2.04	0.06	618.34	0.128	66	617.10	618.35	1.25	1.23	2.04	0.06	618.41	0.127	0.128	0.084	1.46	0.09
9	12	1.67	617.40	618.44	1.00	0.79	2.13	0.07	618.52	0.188	12	617.50	618.46	0.96	0.78	2.16	0.07	618.54	0.165	0.176	0.021	1.00	0.07
10	12	0.71	617.00	618.27	1.00	0.79	0.90	0.01	618.29	0.034	13	617.10	618.28	1.00	0.79	0.90	0.01	618.29	0.034	0.034	0.004	1.00	0.01

Project File: Storm.stm | Number of lines: 10 | Run Date: 9/14/2021

Notes: * depth assumed; ** Critical depth.; j-Line contains hyd. jump ; c = cir e = ellip b = box



WS
10
A
LAND OF:
NEW FAIRFIELD
SHOPPING CENTER
AREA
109,246 S.F.
2.508 ACRES
BRUSH HILL ROAD (RT. 39)
PEMBROKE ROAD (RT. 37)
Δ=64°47'47"
R=50.00'
L=56.55'
CB=N64°51'52"E
CH=53.58'
T.G.=619.70
INV.=612.9(NW)
CCB
T.G.=628.05
INV.=622.9(W)
RECESSED(S)
CCB
T.G.=628.03
INV.=623.7(N)
S75°03'14"E
379.74
Plaza Sign
Planter
Brick Sidewalk
12" Apple
Rock
15" RCP
Mail Box on
Conc. Pad
Bit.
Parking
Lot
SAN MH
T.F.=626.16
SAN MH
T.F.=626.51
SEIZED
CLCB
T.G.=625.07
INV.=622.0(E)
INV.=622.0(S)
CLCB
T.G.=625.27
12" SLCPP
Sign on
Wood
N/F
Hicks, LLC
Row of
Mailboxes
S65°16'59"E
2.34'
Drive Thru
Canopy
SAN MH
T.F.=626.99
SAN MH
T.F.=626.90
SAN MH
T.F.=626.92
CLCB
T.G.=625.13
INV.=621.7(SE)
INV.=621.8(N)
CLCB
T.G.=623.48
S14°56'
N18°37'36"W
Gravel
N/F
Town of New
Fairfield
67.28
Grease Trap
Septic System
MH'S
15" CMP
N28°58'26"W
25.44
S76°12'34"W
416.10
CLCB
T.G.=618.52
INV.=616.2(E)
INV.=616.2(NW)
INV.=616.3(W)
YD
T.F.=618.74
CLCB
T.G.=618.79
INV.=615.9(SE)
YD
T.F.=618.44
CLCB
T.G.=618.93
INV.=616.1(E)
INV.=616.1(NW)
CLCB
T.G.=619.29
INV.=616.3(SE)
N28°02'15"W
10.48'
N/F
Town of Danbury
"Marjorie Reservoir"
Marjorie Lake
0' 20' 40'
0 1/2" 1"
SCALE 1" = 40'H
LEGEND
WATERSHED BOUNDARY
WS 10 WATERSHED LABEL
110 DETENTION BASIN LABEL
A ANALYSIS POINT LABEL

SLR
99 REALTY DRIVE
CHESHIRE, CT 06410
203.271.1773
SLRCONSULTING.COM

REVISIONS

WATERSHED MAP - EXISTING CONDITIONS

NEW FAIRFIELD SHOPPING CENTER
PROPOSED SITE IMPROVEMENTS

1 BRUSH HILL ROAD
NEW FAIRFIELD, CONNECTICUT

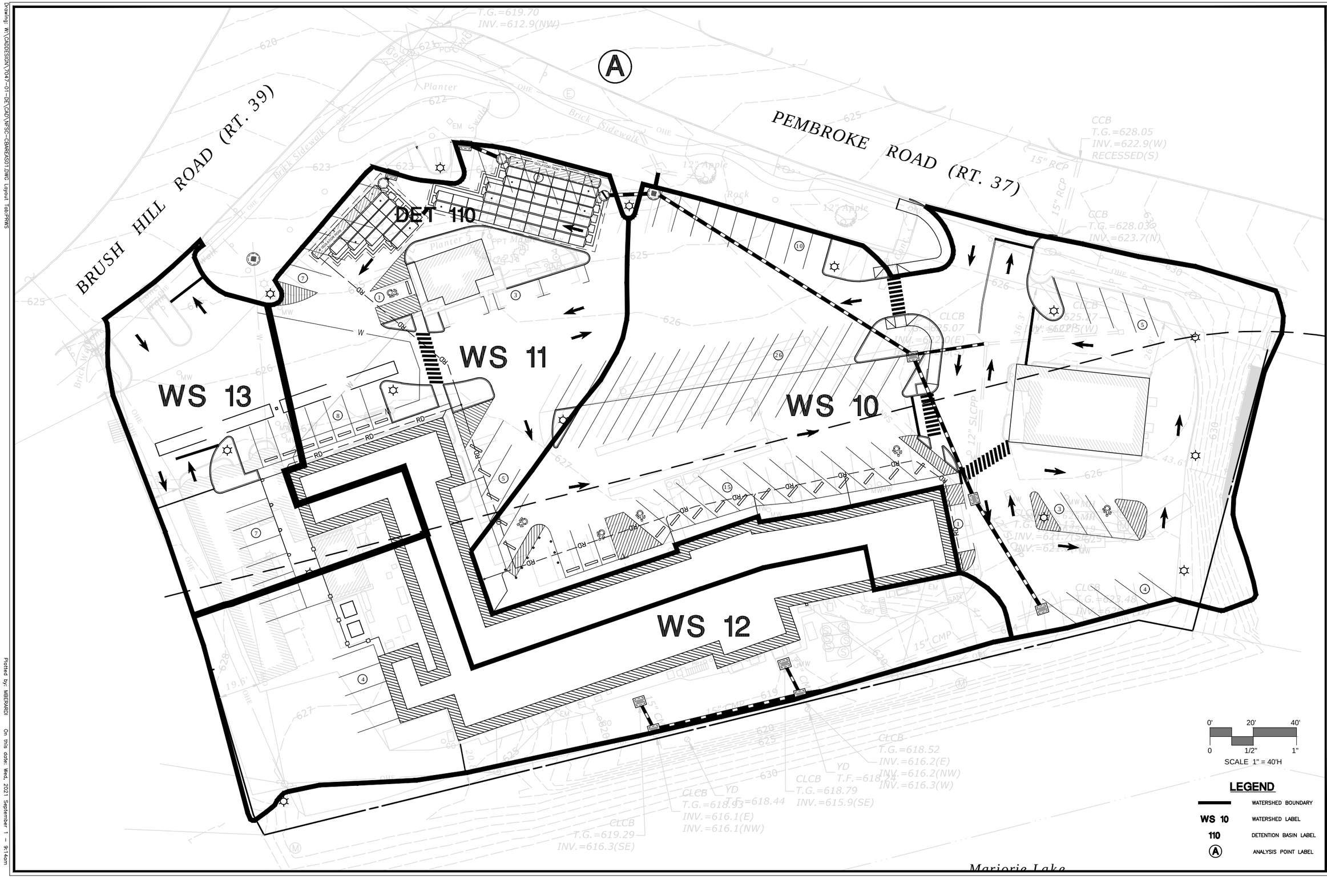
MCB	MCB	TR
DESIGNED	DRAWN	CHECKED

SCALE: 1"=40'

DATE: SEPTEMBER 1, 2021

PROJECT NO.: 7047-01

SHEET NO.: **EXWS**



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REVISIONS

WATERSHED MAP - PROPOSED CONDITIONS

NEW FAIRFIELD SHOPPING CENTER
PROPOSED SITE IMPROVEMENTS
1 BRUSH HILL ROAD
NEW FAIRFIELD, CONNECTICUT

MCB	MCB	TR
DESIGNED	DRAWN	CHECKED

SCALE: 1"=40'
DATE: SEPTEMBER 1, 2021
PROJECT NO.: 7047-01
SHEET NO.: PRWS