

# APPROVED

Jeannie Greenlee 02/25/2019

## Storm Sewer Calculations

For

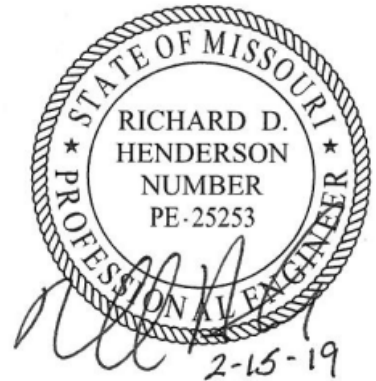
### MEMC SOI Expansion

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Date: February 15, 2019



**BILFINGER**

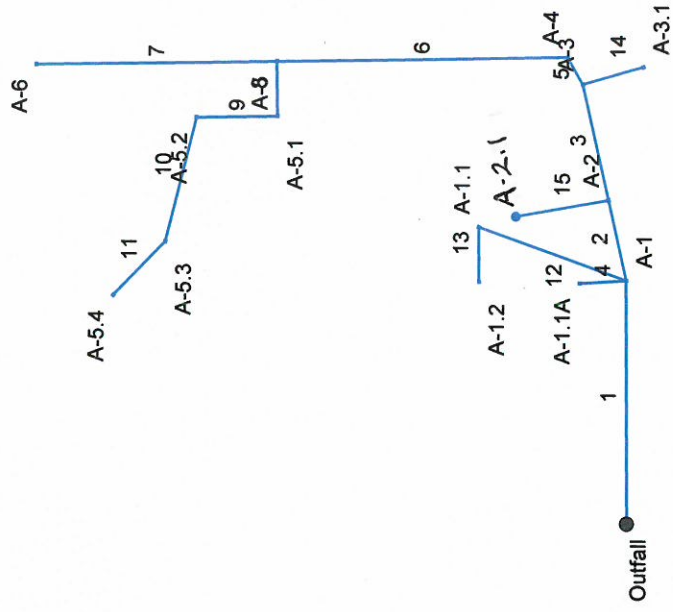


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### MEMC FLOW CALCULATIONS

Line Number	Upstream Inlet	Drainage Area Acres	15 Yr Runoff in/ac	15 yr Flow cfs	25 Yr Runoff in/ac	25 yr Flow cfs	100 Yr Runoff in/ac	100 yr Flow cfs
	A		3.85		4.75		6.08	
1	A-1	0.02	3.85	0.077	4.75	0.095	6.08	0.1216
2	A-2	MH						
3	A-3	0.02	3.85	0.077	4.75	0.095	6.08	0.1216
5	A-4	0.34	3.85	1.309	4.75	1.615	6.08	2.067
6	A-5	0.24	3.85	0.924	4.75	1.140	6.08	1.459
7	A-6	0.37	3.85	1.425	4.75	1.758	6.08	2.250
4	A_1.1A	0.019	3.85	0.073	4.75	0.090	6.08	0.116
12	A-1.1	0.18	3.85	0.693	4.75	0.855	6.08	1.0944
13	A-1.2	0.035	3.85	0.134	4.75	0.166	6.08	0.212
15	A-2.1	0.18	3.85	0.693	4.75	0.855	6.08	1.094
14	A-3.1	0.24	3.85	0.924	4.75	1.300	6.08	1.300
8	A-5.1	0.09	3.85	0.347	4.75	0.428	6.08	0.547
9	A-5.2	0.05	3.85	0.193	4.75	0.238	6.08	0.304
10	A-5.3	0.05	3.85	0.193	4.75	0.238	6.08	0.304
11	A-5.4	0.39	3.85	1.502	4.75	1.853	6.08	2.371
				8.562		10.723		13.362
Downspout		0.026851	3.85	0.103	4.75	0.128	6.08	0.163
2 Downspouts		0.053702	3.85	0.207	4.75	0.255	6.08	0.327
		0.053702					6.4	0.344

# MEMC SOI EXPANSION



Line No.	Line ID	Line Size (in)	Line Slope (%)	Flow Rate (cfs)	Capac Full (cfs)	Vel Ave (ft/s)	Invert Dn (ft)	Invert Up (ft)	HGL Dn (ft)	HGL Up (ft)	HGL Jnct (ft)	Gnd/Rim El Dn (ft)	Junct Type	Inlet ID	Pipe Travel (min)	Known Q (cfs)
1	Ex 18-in HDPE	18	1.71	8.52	14.86	5.40	484.78	487.05	486.28	488.18 j	488.18	492.88	Grate	A-1	0.46	0.08
2	Ex 18-in HDPE	24	1.42	7.58	29.22	4.56	487.05	487.69	488.18	488.67 j	488.67	492.29	Grate	A-2	0.31	0.00
3	Ex 18-in HDPE	24	1.72	6.89	0.00	4.74	487.69	488.81	488.60	489.72	489.72	493.51	Grate	A-3	0.49	0.08
4	Ex 12-in HDPE	12	1.46	0.04	0.00	0.78	487.89	488.27	488.11	488.35	488.35	492.29	Grate	A-1.1A	8.51	0.04
5	Ex 18-in HDPE	18	-0.06	5.89	0.00	3.19	488.81	488.80	490.31	490.35	490.56	495.86	Grate	A-4	0.09	1.31
6	Ex 15-in HDPE	15	0.90	4.58	0.00	4.05	488.80	490.25	490.56	491.15	491.64	495.86	Grate	A-5	0.72	0.92
7	Ex 12-in HDPE	12	0.00	1.43	0.00	1.82	490.25	490.25	491.64	491.82	491.87	496.43	Grate	A-6	1.22	1.43
8	EX 12-in HDPE	12	2.00	2.23	0.00	2.52	490.25	490.85	491.64	491.72	491.87	496.43	Grate	A-5.1	0.18	0.35
9	New 12-in HDPE	12	0.31	1.88	0.00	2.37	490.89	491.03	491.87	491.97	492.10	494.65	Grate	A-5.2	0.31	0.19
10	New 12-in HDPE	12	0.31	1.69	0.00	2.37	491.07	491.29	492.10	492.25	492.32	495.20	Grate	A-5.3	0.54	0.19
11	Ex 12-in HDPE	12	0.51	1.50	0.00	2.38	491.33	491.54	492.32	492.37	492.47	494.15	Grate	A-5.4	0.36	1.50
12	Ex 15-in HDPE	15	0.59	0.82	0.00	1.90	487.12	487.63	488.11	488.00	488.00	492.29	Grate	A-1.1	2.17	0.69
13	Ex 12-in HDPE	12	1.50	0.13	0.00	2.21	488.44	488.89	488.55	489.04	489.04	491.49	Grate	A-1.2	3.02	0.13
14	Ex 12-in HDPE	12	0.63	0.92	0.00	2.17	488.80	489.02	489.72	489.42	489.42	495.86	Grate	A-3.1	0.50	0.92
15	Ex 15-inch HDPE	15	1.17	0.69	0.00	0.00	487.69	488.30	0.00	0.00	0.00	493.51	Grate	A-2.1	1.54	0.69

**MEMC SOI EXPANSION** Number of lines: 15 Date: 2/15/2019

NOTES: \*\* Critical depth

# Storm Sewer Profile

