

### Design Settings

Rainfall Methodology FSR Return Period (years) 1 Additional Flow (%) 0 FSR Region England and Wales M5-60 (mm) 19.100 Ratio-R 0.403 CV 0.750 Time of Entry (mins) 5.00	Maximum Time of Concentration (mins) 30.00 Maximum Rainfall (mm/hr) 75.0 Minimum Velocity (m/s) 1.00 Connection Type Level Soffits Minimum Backdrop Height (m) 0.200 Preferred Cover Depth (m) 1.200 Include Intermediate Ground ✓ Enforce best practice design rules ✓
---	--

### Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
1	0.143	5.00	21.475	1200	471272.188	379630.635	1.375
2	0.034	5.00	21.903	1200	471308.202	379639.983	2.253
3	0.071	5.00	21.984	1500	471317.054	379636.244	2.579
4	0.241	5.00	21.850	1500	471380.046	379618.881	1.475
5	0.093	5.00	22.135	1800	471325.236	379604.679	2.945
6	0.120	5.00	21.325	1500	471275.198	379557.616	1.480
7	0.219	5.00	22.025	1800	471337.189	379558.568	3.175
8	0.101	5.00	22.555	1800	471383.703	379557.502	3.890
9	0.147	5.00	22.316	1800	471421.917	379556.608	3.801
10	0.241	5.00	21.650	1800	471475.145	379555.383	3.350
11	0.081	5.00	22.113	1350	471384.527	379522.764	1.575
12	0.098	5.00	22.404	1350	471385.800	379494.909	1.966
13	0.134	5.00	22.402	1350	471429.462	379494.347	2.134
14	0.147	5.00	22.100	1350	471473.633	379493.792	2.097
15	0.149	5.00	22.893	1200	471452.589	379430.833	1.543
16	0.181	5.00	22.511	1350	471493.064	379428.130	1.586
17			22.136	1350	471495.747	379481.756	1.711
18	0.089	5.00	22.011	1350	471502.966	379490.132	2.108
19	0.223	5.00	21.257	2100	471506.177	379552.070	3.170
20	0.217	5.00	20.535	2100	471564.690	379543.782	2.568
21	0.196	5.00	20.160	1200	471622.914	379507.739	1.696
22	0.316	5.00	19.771	2100	471625.891	379535.763	2.132
24	0.034	5.00	19.874	1800	471684.997	379542.104	2.353
25	0.089	5.00	19.422	1800	471737.358	379545.952	2.123
26			19.710	1800	471757.140	379528.561	2.460
27	0.020	5.00	19.615	1800	471762.512	379518.429	2.387
28	0.087	5.00	19.339	2400	471762.507	379494.276	2.148
29		5.00	18.595	1800	471782.773	379482.258	1.500
30			18.595	1800	471767.673	379487.375	1.538
31			19.500	3000	471767.464	379494.318	2.712
32			19.500	2100	471772.169	379494.380	2.739
35	0.082	5.00	19.580	1200	471682.000	379511.887	1.430
36	0.126	5.00	19.492	1500	471682.624	379476.922	1.623
37	0.045	5.00	19.280	1500	471723.589	379477.537	1.581
38	0.132	5.00	19.131	1500	471749.504	379481.590	1.726
39	0.000	5.00	19.179	1800	471763.200	379482.304	2.034
41	0.143	5.00	22.190	1200	471551.924	379421.165	1.690
42	0.013	5.00	21.570	1200	471555.668	379469.063	1.600
43	0.059	5.00	21.365	1500	471559.628	379480.310	1.715

### Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
44	0.464	5.00	20.577	1500	471617.881	379473.000	1.907
45	0.289	5.00	20.734	1500	471617.411	379418.845	2.363
46	0.163	5.00	20.032	1500	471679.657	379416.845	1.800
47	0.214	5.00	20.008	1800	471714.409	379417.712	1.912
48	0.104	5.00	19.756	1800	471765.346	379420.309	1.876
50	0.080	5.00	21.518	1200	471544.775	379483.605	1.425

### Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	1	2	37.208	0.600	20.100	19.725	0.375	99.2	225	5.47	50.4
1.001	2	3	9.610	0.600	19.650	19.555	0.095	101.2	300	5.58	50.0
1.002	3	5	32.608	0.600	19.405	19.190	0.215	151.7	450	5.90	48.7
2.000	4	5	56.620	0.600	20.375	19.340	1.035	54.7	300	5.44	50.6
1.003	5	7	47.635	0.600	19.190	19.000	0.190	250.7	450	6.53	46.4
3.000	6	7	61.998	0.600	19.845	19.150	0.695	89.2	300	5.62	49.8
1.004	7	8	46.527	0.600	18.850	18.665	0.185	251.5	600	7.03	44.7
1.005	8	9	38.224	0.600	18.665	18.515	0.150	254.8	600	7.45	43.4
1.006	9	10	53.243	0.600	18.515	18.300	0.215	247.6	600	8.03	41.8
1.007	10	19	31.208	0.600	18.300	18.237	0.063	495.4	600	8.50	40.6
4.000	11	12	27.884	0.600	20.538	20.438	0.100	278.8	375	5.43	50.6
4.001	12	13	43.666	0.600	20.438	20.268	0.170	256.9	375	6.08	48.0
4.002	13	14	44.283	0.600	20.268	20.078	0.190	233.1	375	6.70	45.8
4.003	14	18	29.549	0.600	20.003	19.903	0.100	295.5	450	7.12	44.5
5.000	15	16	40.565	0.600	21.350	21.000	0.350	115.9	300	5.46	50.5
5.001	16	17	53.693	0.600	20.925	20.425	0.500	107.4	375	5.98	48.4
5.002	17	18	10.868	0.600	20.425	19.978	0.447	24.3	375	6.02	48.2
4.004	18	19	62.021	0.600	19.903	18.387	1.516	40.9	450	7.44	43.5

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.000	1.312	52.2	19.5	1.150	1.953	0.143	0.0
1.001	1.563	110.5	24.0	1.953	2.129	0.177	0.0
1.002	1.648	262.1	32.7	2.129	2.495	0.248	0.0
2.000	2.130	150.5	33.0	1.175	2.495	0.241	0.0
1.003	1.279	203.4	73.2	2.495	2.575	0.582	0.0
3.000	1.665	117.7	16.2	1.180	2.575	0.120	0.0
1.004	1.531	432.8	111.7	2.575	3.290	0.921	0.0
1.005	1.521	429.9	120.4	3.290	3.201	1.022	0.0
1.006	1.543	436.2	132.5	3.201	2.750	1.169	0.0
1.007	1.087	307.4	155.0	2.750	2.420	1.410	0.0
4.000	1.080	119.3	11.1	1.200	1.591	0.081	0.0
4.001	1.126	124.3	23.3	1.591	1.759	0.179	0.0
4.002	1.182	130.6	38.9	1.759	1.647	0.313	0.0
4.003	1.177	187.2	55.4	1.647	1.658	0.460	0.0
5.000	1.459	103.1	20.4	1.243	1.211	0.149	0.0
5.001	1.748	193.0	43.3	1.211	1.336	0.330	0.0
5.002	3.687	407.2	43.1	1.336	1.658	0.330	0.0
4.004	3.185	506.6	103.6	1.658	2.420	0.879	0.0

**Links**

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.008	19	20	59.603	0.600	18.087	17.967	0.120	496.7	750	9.30	38.6
1.009	20	22	61.900	0.600	17.967	17.789	0.178	347.8	750	9.99	37.2
6.000	21	22	34.820	0.600	18.464	18.239	0.225	154.8	300	5.46	50.5
1.010	22	24	58.588	0.600	17.639	17.521	0.118	496.5	900	10.69	35.8
1.011	24	25	55.334	0.600	17.521	17.299	0.222	249.3	900	11.15	35.0
1.012	25	26	24.281	0.600	17.299	17.250	0.049	495.5	900	11.44	34.5
1.013	26	27	10.647	0.600	17.250	17.228	0.022	484.0	900	11.57	34.3
1.014	27	28	16.427	0.600	17.228	17.191	0.037	444.0	900	11.75	34.0
1.015	28	31	5.211	0.600	17.191	16.888	0.303	17.2	900	11.77	34.0
7.000	29	30	17.300	0.600	17.095	17.057	0.038	455.3	750	5.22	51.5
7.001	30	31	8.389	0.600	17.057	17.038	0.019	441.5	750	9.63	37.9
1.016	31	32	6.035	0.600	16.788	16.761	0.027	223.5	375	11.85	33.9
8.000	35	36	34.971	0.600	18.150	17.944	0.206	170.0	225	5.58	50.0
8.001	36	37	40.970	0.600	17.869	17.699	0.170	241.0	300	6.26	47.4
8.002	37	38	26.230	0.600	17.699	17.555	0.144	182.2	300	6.64	46.0
8.003	38	39	13.715	0.600	17.405	17.370	0.035	391.8	450	6.86	45.3
8.004	39	30	6.762	0.600	17.145	17.132	0.013	520.1	675	9.52	38.1
9.000	41	42	48.044	0.600	20.500	20.045	0.455	105.6	225	5.63	49.8
9.001	42	43	11.924	0.600	19.970	19.650	0.320	37.3	300	5.71	49.5
9.002	43	44	58.710	0.600	19.650	18.820	0.830	70.7	300	6.23	47.5
9.003	44	45	54.157	0.600	18.670	18.521	0.149	363.5	450	7.08	44.6
9.004	45	46	62.278	0.600	18.371	18.232	0.139	448.0	600	7.99	41.9

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.008	1.249	551.6	263.1	2.420	1.818	2.512	0.0
1.009	1.495	660.3	274.9	1.818	1.232	2.729	0.0
6.000	1.261	89.1	26.8	1.396	1.232	0.196	0.0
1.010	1.399	890.0	314.9	1.232	1.453	3.241	0.0
1.011	1.980	1259.5	310.9	1.453	1.223	3.275	0.0
1.012	1.400	890.9	314.9	1.223	1.560	3.364	0.0
1.013	1.417	901.6	313.1	1.560	1.487	3.364	0.0
1.014	1.480	941.7	312.2	1.487	1.248	3.384	0.0
1.015	7.573	4818.0	320.0	1.248	1.712	3.471	0.0
7.000	1.305	576.4	0.0	0.750	0.788	0.000	0.0
7.001	1.325	585.4	196.7	0.788	1.712	1.914	0.0
1.016	1.208	133.4	494.6	2.337	2.364	5.385	0.0
8.000	1.000	39.7	11.1	1.205	1.323	0.082	0.0
8.001	1.008	71.3	26.7	1.323	1.281	0.208	0.0
8.002	1.161	82.1	31.6	1.281	1.276	0.253	0.0
8.003	1.021	162.3	47.3	1.276	1.359	0.385	0.0
8.004	1.142	408.7	197.9	1.359	0.788	1.914	0.0
9.000	1.272	50.6	19.3	1.465	1.300	0.143	0.0
9.001	2.583	182.6	20.9	1.300	1.415	0.156	0.0
9.002	1.871	132.3	38.0	1.415	1.457	0.295	0.0
9.003	1.060	168.6	91.7	1.457	1.763	0.759	0.0
9.004	1.144	323.4	119.1	1.763	1.200	1.048	0.0

### Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
9.005	46	47	34.763	0.600	18.232	18.171	0.061	569.9	600	8.56	40.4
9.006	47	48	51.003	0.600	18.096	17.880	0.216	236.1	675	9.06	39.2
9.007	48	39	62.032	0.600	17.880	17.145	0.735	84.4	675	9.42	38.4
10.000	50	43	15.214	0.600	20.093	19.725	0.368	41.3	225	5.12	51.9

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
9.005	1.013	286.3	132.6	1.200	1.237	1.211	0.0
9.006	1.701	608.7	151.4	1.237	1.201	1.425	0.0
9.007	2.854	1021.2	159.0	1.201	1.359	1.529	0.0
10.000	2.040	81.1	11.3	1.200	1.415	0.080	0.0

### Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	37.208	99.2	225	1 surface	21.475	20.100	1.150	21.903	19.725	1.953
1.001	9.610	101.2	300	1 surface	21.903	19.650	1.953	21.984	19.555	2.129
1.002	32.608	151.7	450	1 surface	21.984	19.405	2.129	22.135	19.190	2.495
2.000	56.620	54.7	300	1 surface	21.850	20.375	1.175	22.135	19.340	2.495
1.003	47.635	250.7	450	1 surface	22.135	19.190	2.495	22.025	19.000	2.575
3.000	61.998	89.2	300	1 surface	21.325	19.845	1.180	22.025	19.150	2.575
1.004	46.527	251.5	600	1 surface	22.025	18.850	2.575	22.555	18.665	3.290
1.005	38.224	254.8	600	1 surface	22.555	18.665	3.290	22.316	18.515	3.201
1.006	53.243	247.6	600	1 surface	22.316	18.515	3.201	21.650	18.300	2.750
1.007	31.208	495.4	600	1 surface	21.650	18.300	2.750	21.257	18.237	2.420
4.000	27.884	278.8	375	1 surface	22.113	20.538	1.200	22.404	20.438	1.591
4.001	43.666	256.9	375	1 surface	22.404	20.438	1.591	22.402	20.268	1.759
4.002	44.283	233.1	375	1 surface	22.402	20.268	1.759	22.100	20.078	1.647
4.003	29.549	295.5	450	1 surface	22.100	20.003	1.647	22.011	19.903	1.658
5.000	40.565	115.9	300	1 surface	22.893	21.350	1.243	22.511	21.000	1.211
5.001	53.693	107.4	375	1 surface	22.511	20.925	1.211	22.136	20.425	1.336

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	1	1200	Manhole	1 surface	2	1200	Manhole	1 surface
1.001	2	1200	Manhole	1 surface	3	1500	Manhole	1 surface
1.002	3	1500	Manhole	1 surface	5	1800	Manhole	1 surface
2.000	4	1500	Manhole	1 surface	5	1800	Manhole	1 surface
1.003	5	1800	Manhole	1 surface	7	1800	Manhole	1 surface
3.000	6	1500	Manhole	1 surface	7	1800	Manhole	1 surface
1.004	7	1800	Manhole	1 surface	8	1800	Manhole	1 surface
1.005	8	1800	Manhole	1 surface	9	1800	Manhole	1 surface
1.006	9	1800	Manhole	1 surface	10	1800	Manhole	1 surface
1.007	10	1800	Manhole	1 surface	19	2100	Manhole	1 surface
4.000	11	1350	Manhole	1 surface	12	1350	Manhole	1 surface
4.001	12	1350	Manhole	1 surface	13	1350	Manhole	1 surface
4.002	13	1350	Manhole	1 surface	14	1350	Manhole	1 surface
4.003	14	1350	Manhole	1 surface	18	1350	Manhole	1 surface
5.000	15	1200	Manhole	1 surface	16	1350	Manhole	1 surface
5.001	16	1350	Manhole	1 surface	17	1350	Manhole	1 surface

### Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
5.002	10.868	24.3	375	1 surface	22.136	20.425	1.336	22.011	19.978	1.658
4.004	62.021	40.9	450	1 surface	22.011	19.903	1.658	21.257	18.387	2.420
1.008	59.603	496.7	750	1 surface	21.257	18.087	2.420	20.535	17.967	1.818
1.009	61.900	347.8	750	1 surface	20.535	17.967	1.818	19.771	17.789	1.232
6.000	34.820	154.8	300	1 surface	20.160	18.464	1.396	19.771	18.239	1.232
1.010	58.588	496.5	900	1 surface	19.771	17.639	1.232	19.874	17.521	1.453
1.011	55.334	249.3	900	1 surface	19.874	17.521	1.453	19.422	17.299	1.223
1.012	24.281	495.5	900	1 surface	19.422	17.299	1.223	19.710	17.250	1.560
1.013	10.647	484.0	900	1 surface	19.710	17.250	1.560	19.615	17.228	1.487
1.014	16.427	444.0	900	1 surface	19.615	17.228	1.487	19.339	17.191	1.248
1.015	5.211	17.2	900	1 surface	19.339	17.191	1.248	19.500	16.888	1.712
7.000	17.300	455.3	750	1 surface	18.595	17.095	0.750	18.595	17.057	0.788
7.001	8.389	441.5	750	1 surface	18.595	17.057	0.788	19.500	17.038	1.712
1.016	6.035	223.5	375	1 surface	19.500	16.788	2.337	19.500	16.761	2.364
8.000	34.971	170.0	225	1 surface	19.580	18.150	1.205	19.492	17.944	1.323
8.001	40.970	241.0	300	1 surface	19.492	17.869	1.323	19.280	17.699	1.281
8.002	26.230	182.2	300	1 surface	19.280	17.699	1.281	19.131	17.555	1.276
8.003	13.715	391.8	450	1 surface	19.131	17.405	1.276	19.179	17.370	1.359
8.004	6.762	520.1	675	1 surface	19.179	17.145	1.359	18.595	17.132	0.788
9.000	48.044	105.6	225	1 surface	22.190	20.500	1.465	21.570	20.045	1.300
9.001	11.924	37.3	300	1 surface	21.570	19.970	1.300	21.365	19.650	1.415
9.002	58.710	70.7	300	1 surface	21.365	19.650	1.415	20.577	18.820	1.457
9.003	54.157	363.5	450	1 surface	20.577	18.670	1.457	20.734	18.521	1.763

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
5.002	17	1350	Manhole	1 surface	18	1350	Manhole	1 surface
4.004	18	1350	Manhole	1 surface	19	2100	Manhole	1 surface
1.008	19	2100	Manhole	1 surface	20	2100	Manhole	1 surface
1.009	20	2100	Manhole	1 surface	22	2100	Manhole	1 surface
6.000	21	1200	Manhole	1 surface	22	2100	Manhole	1 surface
1.010	22	2100	Manhole	1 surface	24	1800	Manhole	1 surface
1.011	24	1800	Manhole	1 surface	25	1800	Manhole	1 surface
1.012	25	1800	Manhole	1 surface	26	1800	Manhole	1 surface
1.013	26	1800	Manhole	1 surface	27	1800	Manhole	1 surface
1.014	27	1800	Manhole	1 surface	28	2400	Manhole	1 surface
1.015	28	2400	Manhole	1 surface	31	3000	Manhole	1 surface
7.000	29	1800	Manhole	1 surface	30	1800	Manhole	1 surface
7.001	30	1800	Manhole	1 surface	31	3000	Manhole	1 surface
1.016	31	3000	Manhole	1 surface	32	2100	Manhole	1 surface
8.000	35	1200	Manhole	1 surface	36	1500	Manhole	1 surface
8.001	36	1500	Manhole	1 surface	37	1500	Manhole	1 surface
8.002	37	1500	Manhole	1 surface	38	1500	Manhole	1 surface
8.003	38	1500	Manhole	1 surface	39	1800	Manhole	1 surface
8.004	39	1800	Manhole	1 surface	30	1800	Manhole	1 surface
9.000	41	1200	Manhole	1 surface	42	1200	Manhole	1 surface
9.001	42	1200	Manhole	1 surface	43	1500	Manhole	1 surface
9.002	43	1500	Manhole	1 surface	44	1500	Manhole	1 surface
9.003	44	1500	Manhole	1 surface	45	1500	Manhole	1 surface

### Pipeline Schedule








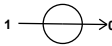








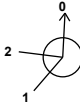

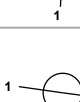

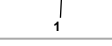


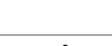

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
9.004	62.278	448.0	600	1 surface	20.734	18.371	1.763	20.032	18.232	1.200
9.005	34.763	569.9	600	1 surface	20.032	18.232	1.200	20.008	18.171	1.237
9.006	51.003	236.1	675	1 surface	20.008	18.096	1.237	19.756	17.880	1.201
9.007	62.032	84.4	675	1 surface	19.756	17.880	1.201	19.179	17.145	1.359
10.000	15.214	41.3	225	1 surface	21.518	20.093	1.200	21.365	19.725	1.415

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
9.004	45	1500	Manhole	1 surface	46	1500	Manhole	1 surface
9.005	46	1500	Manhole	1 surface	47	1800	Manhole	1 surface
9.006	47	1800	Manhole	1 surface	48	1800	Manhole	1 surface
9.007	48	1800	Manhole	1 surface	39	1800	Manhole	1 surface
10.000	50	1200	Manhole	1 surface	43	1500	Manhole	1 surface

### Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
1	471272.188	379630.635	21.475	1.375	1200		0	1.000	20.100	225
2	471308.202	379639.983	21.903	2.253	1200		1	1.000	19.725	225
3	471317.054	379636.244	21.984	2.579	1500		1	1.001	19.650	300
4	471380.046	379618.881	21.850	1.475	1500		0	1.002	19.405	450
5	471325.236	379604.679	22.135	2.945	1800		1	2.000	19.340	300
6	471275.198	379557.616	21.325	1.480	1500		2	1.002	19.190	450
7	471337.189	379558.568	22.025	3.175	1800		0	3.000	19.845	300
8	471383.703	379557.502	22.555	3.890	1800		1	1.003	19.000	450
							0	1.004	18.850	600
							1	1.004	18.665	600
							0	1.005	18.665	600

**Manhole Schedule**


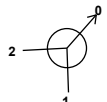


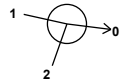



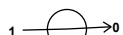


Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
9	471421.917	379556.608	22.316	3.801	1800	 1	1.005	18.515	600
						 0	1.006	18.515	600
10	471475.145	379555.383	21.650	3.350	1800	 1	1.006	18.300	600
						 0	1.007	18.300	600
11	471384.527	379522.764	22.113	1.575	1350	 0	4.000	20.538	375
12	471385.800	379494.909	22.404	1.966	1350	 1	4.000	20.438	375
						 0	4.001	20.438	375
13	471429.462	379494.347	22.402	2.134	1350	 1	4.001	20.268	375
						 0	4.002	20.268	375
14	471473.633	379493.792	22.100	2.097	1350	 1	4.002	20.078	375
						 0	4.003	20.003	450
15	471452.589	379430.833	22.893	1.543	1200	 0	5.000	21.350	300
16	471493.064	379428.130	22.511	1.586	1350	 1	5.000	21.000	300
						 0	5.001	20.925	375
17	471495.747	379481.756	22.136	1.711	1350	 1	5.001	20.425	375
						 0	5.002	20.425	375
18	471502.966	379490.132	22.011	2.108	1350	 1	5.002	19.978	375
						 2	4.003	19.903	450
						 0	4.004	19.903	450
19	471506.177	379552.070	21.257	3.170	2100	 1	4.004	18.387	450
						 2	1.007	18.237	600
						 0	1.008	18.087	750
20	471564.690	379543.782	20.535	2.568	2100	 1	1.008	17.967	750
						 0	1.009	17.967	750
21	471622.914	379507.739	20.160	1.696	1200	 0	6.000	18.464	300

**Manhole Schedule**

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
22	471625.891	379535.763	19.771	2.132	2100		1	6.000	18.239	300
							2	1.009	17.789	750
							0	1.010	17.639	900
24	471684.997	379542.104	19.874	2.353	1800		1	1.010	17.521	900
							0	1.011	17.521	900
25	471737.358	379545.952	19.422	2.123	1800		1	1.011	17.299	900
							0	1.012	17.299	900
26	471757.140	379528.561	19.710	2.460	1800		1	1.012	17.250	900
							0	1.013	17.250	900
27	471762.512	379518.429	19.615	2.387	1800		1	1.013	17.228	900
							0	1.014	17.228	900
28	471762.507	379494.276	19.339	2.148	2400		1	1.014	17.191	900
							0	1.015	17.191	900
29	471782.773	379482.258	18.595	1.500	1800		0	7.000	17.095	750
							1	8.004	17.132	675
30	471767.673	379487.375	18.595	1.538	1800		2	7.000	17.057	750
							0	7.001	17.057	750
							1	7.001	17.038	750
31	471767.464	379494.318	19.500	2.712	3000		2	1.015	16.888	900
							0	1.016	16.788	375
							1	1.016	16.761	375
32	471772.169	379494.380	19.500	2.739	2100		1	1.016	16.761	375
							0	8.000	18.150	225
35	471682.000	379511.887	19.580	1.430	1200		0	8.000	18.150	225
							1	8.000	17.944	225
36	471682.624	379476.922	19.492	1.623	1500		1	8.000	17.944	225
							0	8.001	17.869	300
37	471723.589	379477.537	19.280	1.581	1500		1	8.001	17.699	300
							0	8.002	17.699	300



### Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
38	471749.504	379481.590	19.131	1.726	1500		1 8.002	17.555	300
							0 8.003	17.405	450
39	471763.200	379482.304	19.179	2.034	1800		1 9.007	17.145	675
							2 8.003	17.370	450
							0 8.004	17.145	675
41	471551.924	379421.165	22.190	1.690	1200		0 9.000	20.500	225
42	471555.668	379469.063	21.570	1.600	1200		1 9.000	20.045	225
							0 9.001	19.970	300
43	471559.628	379480.310	21.365	1.715	1500		1 10.000	19.725	225
							2 9.001	19.650	300
							0 9.002	19.650	300
44	471617.881	379473.000	20.577	1.907	1500		1 9.002	18.820	300
							0 9.003	18.670	450
45	471617.411	379418.845	20.734	2.363	1500		1 9.003	18.521	450
							0 9.004	18.371	600
46	471679.657	379416.845	20.032	1.800	1500		1 9.004	18.232	600
							0 9.005	18.232	600
47	471714.409	379417.712	20.008	1.912	1800		1 9.005	18.171	600
							0 9.006	18.096	675
48	471765.346	379420.309	19.756	1.876	1800		1 9.006	17.880	675
							0 9.007	17.880	675
50	471544.775	379483.605	21.518	1.425	1200		0 10.000	20.093	225

### Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Detailed
FSR Region	England and Wales	Skip Steady State	x
M5-60 (mm)	19.100	Drain Down Time (mins)	240
Ratio-R	0.403	Additional Storage (m³/ha)	20.0
Summer CV	0.750	Check Discharge Rate(s)	x
Winter CV	0.840	Check Discharge Volume	x

**Storm Durations**

15	60	180	360	600	960	2160	4320	7200	10080
30	120	240	480	720	1440	2880	5760	8640	

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0
30	0	0	0
100	30	0	0

**Node 31 Online Hydro-Brake® Control**

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	16.788	Product Number	CTL-SHE-0292-5410-2000-5410
Design Depth (m)	2.000	Min Outlet Diameter (m)	0.375
Design Flow (l/s)	54.1	Min Node Diameter (mm)	2100

**Node 29 Online Orifice Control**

Flap Valve	x	Invert Level (m)	17.095	Discharge Coefficient	0.850
Replaces Downstream Link	✓	Diameter (m)	0.800		

**Node 29 Depth/Area Storage Structure**

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	17.095
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

Depth (m)	Area (m <sup>2</sup> )	Inf Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Inf Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Inf Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Inf Area (m <sup>2</sup> )
0.000	2310.0	0.0	0.500	2618.0	0.0	1.000	2939.0	0.0	1.500	3274.0	0.0

**Results for 1 year Critical Storm Duration. Lowest mass balance: 99.54%**

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m <sup>3</sup> )	Flood (m <sup>3</sup> )	Status
15 minute winter	1	10	20.195	0.095	19.3	0.3057	0.0000	OK
15 minute winter	2	11	19.751	0.101	23.1	0.1448	0.0000	OK
15 minute winter	3	11	19.510	0.105	32.4	0.2436	0.0000	OK
15 minute winter	4	10	20.469	0.094	32.5	0.4748	0.0000	OK
15 minute winter	5	11	19.385	0.195	75.6	0.6202	0.0000	OK
15 minute winter	6	11	19.919	0.074	16.2	0.2508	0.0000	OK
15 minute winter	7	11	19.074	0.224	118.1	0.8788	0.0000	OK
15 minute winter	8	11	18.904	0.239	130.4	0.7315	0.0000	OK
15 minute winter	9	12	18.761	0.246	145.2	0.8156	0.0000	OK
15 minute winter	10	12	18.620	0.320	171.9	1.2735	0.0000	OK
15 minute winter	11	10	20.613	0.075	10.9	0.1835	0.0000	OK
15 minute winter	12	11	20.546	0.108	23.8	0.2622	0.0000	OK
15 minute winter	13	11	20.413	0.145	40.6	0.3900	0.0000	OK
15 minute winter	14	11	20.178	0.175	58.0	0.4955	0.0000	OK
15 minute winter	15	10	21.440	0.090	20.1	0.2750	0.0000	OK
15 minute winter	16	10	21.052	0.127	43.6	0.4732	0.0000	OK
15 minute winter	17	11	20.515	0.090	43.2	0.1284	0.0000	OK
15 minute winter	18	11	20.049	0.146	112.6	0.3334	0.0000	OK
15 minute winter	19	12	18.498	0.411	302.2	2.0032	0.0000	OK
15 minute winter	20	13	18.347	0.380	324.0	1.9582	0.0000	OK
15 minute winter	21	10	18.577	0.113	26.4	0.3901	0.0000	OK
15 minute winter	22	13	18.048	0.409	361.7	2.6280	0.0000	OK
15 minute winter	24	13	17.880	0.359	367.9	1.0171	0.0000	OK
15 minute winter	25	14	17.766	0.467	370.4	1.5797	0.0000	OK
15 minute winter	26	14	17.706	0.456	364.8	1.1613	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m <sup>3</sup> )	Discharge Vol (m <sup>3</sup> )
15 minute winter	1	1.000	2	18.6	1.196	0.357	0.5803	
15 minute winter	2	1.001	3	23.1	1.179	0.209	0.1884	
15 minute winter	3	1.002	5	32.4	0.715	0.123	1.5329	
15 minute winter	4	2.000	5	31.4	1.687	0.209	1.0538	
15 minute winter	5	1.003	7	74.8	1.181	0.368	3.0335	
15 minute winter	6	3.000	7	15.5	1.163	0.132	0.8281	
15 minute winter	7	1.004	8	117.6	1.175	0.272	4.6596	
15 minute winter	8	1.005	9	129.1	1.213	0.300	4.0667	
15 minute winter	9	1.006	10	146.5	1.122	0.336	6.9556	
15 minute winter	10	1.007	19	169.4	1.248	0.551	4.2572	
15 minute winter	11	4.000	12	10.6	0.520	0.089	0.5797	
15 minute winter	12	4.001	13	23.2	0.719	0.186	1.4314	
15 minute winter	13	4.002	14	39.4	1.036	0.302	1.6932	
15 minute winter	14	4.003	18	57.9	1.140	0.309	1.5020	
15 minute winter	15	5.000	16	19.4	1.122	0.188	0.7030	
15 minute winter	16	5.001	17	43.2	1.639	0.224	1.4228	
15 minute winter	17	5.002	18	43.4	2.293	0.107	0.2059	
15 minute winter	18	4.004	19	111.3	2.553	0.220	2.7036	
15 minute winter	19	1.008	20	301.2	1.286	0.546	13.9606	
15 minute winter	20	1.009	22	319.1	1.515	0.483	13.0390	
15 minute winter	21	6.000	22	25.6	1.085	0.287	0.8234	
15 minute winter	22	1.010	24	365.3	1.417	0.410	15.1085	
15 minute winter	24	1.011	25	363.5	1.315	0.289	15.5783	
15 minute winter	25	1.012	26	364.8	1.129	0.409	7.9491	
15 minute winter	26	1.013	27	364.0	1.202	0.404	3.2307	

**Results for 1 year Critical Storm Duration. Lowest mass balance: 99.54%**

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m <sup>3</sup> )	Flood (m <sup>3</sup> )	Status
15 minute winter	27	14	17.642	0.414	365.1	1.1217	0.0000	OK
15 minute winter	28	14	17.578	0.387	352.7	2.0624	0.0000	OK
120 minute winter	29	104	17.255	0.160	179.4	378.0567	0.0000	OK
15 minute summer	30	14	17.548	0.491	475.5	1.2491	0.0000	OK
15 minute winter	31	15	17.601	0.813	546.6	5.7479	0.0000	SURCHARGED
15 minute summer	32	13	16.924	0.163	54.0	0.0000	0.0000	OK

15 minute winter	35	11	18.231	0.081	11.0	0.1840	0.0000	OK
15 minute winter	36	10	18.000	0.131	27.4	0.4343	0.0000	OK
15 minute winter	37	11	17.836	0.137	32.9	0.3211	0.0000	OK
15 minute winter	38	11	17.581	0.176	49.3	0.5796	0.0000	OK
15 minute winter	39	14	17.570	0.425	229.0	1.0815	0.0000	OK

15 minute winter	41	11	20.596	0.096	19.3	0.2706	0.0000	OK
15 minute winter	42	11	20.037	0.067	20.2	0.0867	0.0000	OK
15 minute winter	43	11	19.762	0.112	38.5	0.2759	0.0000	OK
15 minute winter	44	11	18.922	0.252	98.5	1.6718	0.0000	OK
15 minute winter	45	11	18.649	0.278	133.6	1.1712	0.0000	OK
15 minute winter	46	12	18.536	0.304	152.5	1.0869	0.0000	OK
15 minute winter	47	12	18.348	0.252	172.2	1.2060	0.0000	OK
15 minute winter	48	12	18.069	0.189	184.2	0.6891	0.0000	OK
15 minute winter	50	10	20.150	0.057	10.8	0.1288	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m <sup>3</sup> )	Discharge Vol (m <sup>3</sup> )
15 minute winter	27	1.014	28	348.0	1.815	0.370	4.4723	
15 minute winter	28	1.015	31	546.6	1.372	0.113	2.0496	
120 minute winter	29	Orifice	30	39.0				
15 minute summer	30	7.001	31	-333.8	-1.080	-0.570	2.6406	
15 minute winter	31	1.016	32	54.0	1.079	0.405	0.3024	274.0

15 minute winter	35	8.000	36	10.7	0.846	0.268	0.4405	
15 minute winter	36	8.001	37	27.2	0.896	0.382	1.2487	
15 minute winter	37	8.002	38	32.6	1.075	0.397	0.7955	
15 minute winter	38	8.003	39	49.2	0.943	0.303	0.8384	
15 minute winter	39	8.004	30	222.0	1.194	0.543	1.4820	

15 minute winter	41	9.000	42	18.6	1.173	0.368	0.7628	
15 minute winter	42	9.001	43	20.3	1.158	0.111	0.2134	
15 minute winter	43	9.002	44	38.4	1.621	0.290	1.3897	
15 minute winter	44	9.003	45	96.9	1.166	0.575	4.5148	
15 minute winter	45	9.004	46	131.8	0.986	0.408	8.3252	
15 minute winter	46	9.005	47	149.7	1.183	0.523	4.4044	
15 minute winter	47	9.006	48	173.3	1.715	0.285	5.1745	
15 minute winter	48	9.007	39	182.7	1.341	0.179	9.6423	
15 minute winter	50	10.000	43	10.6	1.383	0.131	0.1169	

**Results for 30 year Critical Storm Duration. Lowest mass balance: 99.54%**

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m <sup>3</sup> )	Flood (m <sup>3</sup> )	Status
15 minute winter	1	10	20.272	0.172	47.2	0.5524	0.0000	OK
15 minute winter	2	11	19.822	0.172	56.7	0.2465	0.0000	OK
15 minute winter	3	11	19.572	0.167	79.6	0.3862	0.0000	OK
15 minute winter	4	10	20.530	0.155	79.6	0.7783	0.0000	OK
15 minute winter	5	11	19.544	0.354	188.7	1.1248	0.0000	OK
15 minute winter	6	10	19.964	0.119	39.6	0.4046	0.0000	OK
15 minute winter	7	12	19.296	0.446	291.3	1.7498	0.0000	OK
15 minute winter	8	12	19.266	0.601	321.9	1.8425	0.0000	SURCHARGED
15 minute winter	9	12	19.190	0.675	330.1	2.2389	0.0000	SURCHARGED
15 minute winter	10	12	19.053	0.753	368.3	2.9999	0.0000	SURCHARGED
15 minute winter	11	10	20.657	0.119	26.8	0.2925	0.0000	OK
15 minute winter	12	11	20.616	0.178	58.6	0.4322	0.0000	OK
15 minute winter	13	11	20.524	0.256	100.9	0.6889	0.0000	OK
15 minute winter	14	11	20.297	0.294	144.9	0.8341	0.0000	OK
15 minute winter	15	10	21.499	0.149	49.2	0.4574	0.0000	OK
15 minute winter	16	10	21.137	0.212	107.5	0.7889	0.0000	OK
15 minute winter	17	11	20.572	0.147	105.7	0.2099	0.0000	OK
15 minute winter	18	11	20.137	0.234	279.4	0.5331	0.0000	OK
15 minute winter	19	12	18.921	0.834	697.6	4.0603	0.0000	SURCHARGED
15 minute winter	20	12	18.683	0.716	747.2	3.6896	0.0000	OK
15 minute winter	21	10	18.661	0.197	64.7	0.6769	0.0000	OK
15 minute winter	22	13	18.481	0.842	880.0	5.4128	0.0000	OK
15 minute winter	24	13	18.382	0.861	860.4	2.4413	0.0000	OK
15 minute winter	25	13	18.274	0.975	784.9	3.2995	0.0000	SURCHARGED
15 minute winter	26	13	18.200	0.950	788.2	2.4187	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m <sup>3</sup> )	Discharge Vol (m <sup>3</sup> )
15 minute winter	1	1.000	2	45.7	1.456	0.876	1.1699	
15 minute winter	2	1.001	3	56.7	1.469	0.513	0.3707	
15 minute winter	3	1.002	5	79.3	0.867	0.302	3.0514	
15 minute winter	4	2.000	5	79.4	2.015	0.527	2.4370	
15 minute winter	5	1.003	7	184.8	1.490	0.909	5.8919	
15 minute winter	6	3.000	7	38.3	1.492	0.326	1.7775	
15 minute winter	7	1.004	8	290.5	1.368	0.671	11.7749	
15 minute winter	8	1.005	9	290.0	1.335	0.675	10.7635	
15 minute winter	9	1.006	10	326.5	1.166	0.749	14.9973	
15 minute winter	10	1.007	19	374.1	1.328	1.217	8.7906	
15 minute winter	11	4.000	12	26.2	0.646	0.220	1.1357	
15 minute winter	12	4.001	13	57.7	0.880	0.464	2.8777	
15 minute winter	13	4.002	14	99.2	1.307	0.760	3.3596	
15 minute winter	14	4.003	18	145.0	1.499	0.775	2.8552	
15 minute winter	15	5.000	16	47.7	1.419	0.463	1.3744	
15 minute winter	16	5.001	17	105.7	2.048	0.548	2.7912	
15 minute winter	17	5.002	18	106.6	2.554	0.262	0.4588	
15 minute winter	18	4.004	19	279.6	2.738	0.552	7.4987	
15 minute winter	19	1.008	20	684.0	1.554	1.240	26.0228	
15 minute winter	20	1.009	22	741.0	1.844	1.122	26.3982	
15 minute winter	21	6.000	22	62.8	1.346	0.704	1.6355	
15 minute winter	22	1.010	24	851.6	1.635	0.957	36.3612	
15 minute winter	24	1.011	25	773.2	1.457	0.614	34.8125	
15 minute winter	25	1.012	26	788.2	1.244	0.885	15.3887	
15 minute winter	26	1.013	27	789.7	1.246	0.876	6.7478	

**Results for 30 year Critical Storm Duration. Lowest mass balance: 99.54%**

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m <sup>3</sup> )	Flood (m <sup>3</sup> )	Status
15 minute winter	27	13	18.147	0.919	792.3	2.4919	0.0000	SURCHARGED
15 minute winter	28	13	18.085	0.894	806.6	4.7673	0.0000	OK
180 minute winter	29	180	17.590	0.495	383.8	1220.3930	0.0000	OK
15 minute winter	30	13	17.934	0.877	1253.8	2.2318	0.0000	SURCHARGED
15 minute winter	31	13	18.037	1.249	812.5	8.8289	0.0000	SURCHARGED
60 minute winter	32	48	16.924	0.163	54.1	0.0000	0.0000	OK
15 minute winter	35	10	18.287	0.137	27.1	0.3131	0.0000	OK
15 minute winter	36	13	18.187	0.318	68.4	1.0555	0.0000	SURCHARGED
15 minute winter	37	13	18.105	0.406	79.6	0.9485	0.0000	SURCHARGED
15 minute winter	38	13	18.019	0.614	117.4	2.0242	0.0000	SURCHARGED
15 minute winter	39	13	18.004	0.859	543.7	2.1870	0.0000	SURCHARGED
15 minute winter	41	11	20.674	0.174	47.2	0.4901	0.0000	OK
15 minute winter	42	11	20.084	0.114	49.7	0.1479	0.0000	OK
15 minute winter	43	11	19.835	0.185	94.7	0.4530	0.0000	OK
15 minute winter	44	11	19.230	0.560	245.9	3.7161	0.0000	SURCHARGED
15 minute winter	45	11	18.909	0.538	327.1	2.2655	0.0000	OK
15 minute winter	46	12	18.757	0.525	372.3	1.8793	0.0000	OK
15 minute winter	47	11	18.516	0.420	424.3	2.0078	0.0000	OK
15 minute winter	48	12	18.187	0.307	452.9	1.1217	0.0000	OK
15 minute winter	50	10	20.184	0.091	26.4	0.2061	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m <sup>3</sup> )	Discharge Vol (m <sup>3</sup> )
15 minute winter	27	1.014	28	795.1	1.328	0.844	10.4049	
15 minute winter	28	1.015	31	812.5	1.374	0.169	3.3007	
180 minute winter	29	Orifice	30	61.6				
15 minute winter	30	7.001	31	-766.2	-1.741	-1.309	3.6922	
15 minute winter	31	1.016	32	54.0	1.080	0.405	0.3025	648.9
15 minute winter	35	8.000	36	26.8	0.957	0.674	1.0714	
15 minute winter	36	8.001	37	65.6	1.063	0.921	2.8851	
15 minute winter	37	8.002	38	73.8	1.278	0.899	1.8471	
15 minute winter	38	8.003	39	101.1	1.059	0.623	2.1731	
15 minute winter	39	8.004	30	532.2	1.491	1.302	2.4139	
15 minute winter	41	9.000	42	45.7	1.425	0.904	1.5408	
15 minute winter	42	9.001	43	49.9	1.423	0.273	0.4180	
15 minute winter	43	9.002	44	94.1	1.603	0.711	3.4015	
15 minute winter	44	9.003	45	237.2	1.504	1.407	8.2238	
15 minute winter	45	9.004	46	321.6	1.219	0.994	16.4236	
15 minute winter	46	9.005	47	365.0	1.571	1.275	7.9802	
15 minute winter	47	9.006	48	426.1	2.183	0.700	9.9473	
15 minute winter	48	9.007	39	455.7	1.542	0.446	15.9693	
15 minute winter	50	10.000	43	26.2	1.614	0.324	0.2580	

**Results for 100 year +30% CC Critical Storm Duration. Lowest mass balance: 99.54%**

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m <sup>3</sup> )	Flood (m <sup>3</sup> )	Status
15 minute winter	1	12	21.475	1.375	79.6	4.4151	4.5987	FLOOD
15 minute winter	2	13	21.450	1.800	78.1	2.5796	0.0000	SURCHARGED
15 minute winter	3	13	21.441	2.036	113.4	4.7191	0.0000	SURCHARGED
15 minute winter	4	13	21.834	1.459	134.0	7.3440	0.0000	FLOOD RISK
15 minute winter	5	13	21.426	2.236	260.5	7.1013	0.0000	SURCHARGED
15 minute winter	6	13	21.325	1.480	66.8	5.0157	0.5230	FLOOD
15 minute winter	7	12	21.252	2.402	407.5	9.4270	0.0000	SURCHARGED
15 minute winter	8	12	21.146	2.481	343.1	7.6018	0.0000	SURCHARGED
15 minute winter	9	12	21.035	2.520	378.2	8.3620	0.0000	SURCHARGED
15 minute winter	10	12	20.835	2.535	471.7	10.0956	0.0000	SURCHARGED
15 minute winter	11	13	21.657	1.119	45.1	2.7522	0.0000	SURCHARGED
15 minute winter	12	13	21.643	1.205	91.1	2.9255	0.0000	SURCHARGED
15 minute winter	13	13	21.579	1.311	149.7	3.5219	0.0000	SURCHARGED
15 minute winter	14	13	21.398	1.395	209.8	3.9527	0.0000	SURCHARGED
15 minute winter	15	13	21.679	0.329	82.9	1.0085	0.0000	SURCHARGED
15 minute winter	16	13	21.564	0.639	182.1	2.3748	0.0000	SURCHARGED
15 minute winter	17	13	21.354	0.929	177.8	1.3297	0.0000	SURCHARGED
15 minute winter	18	13	21.289	1.386	391.1	3.1543	0.0000	SURCHARGED
15 minute winter	19	12	20.624	2.537	904.8	12.3578	0.0000	SURCHARGED
15 minute winter	20	12	20.248	2.281	941.7	11.7571	0.0000	FLOOD RISK
15 minute winter	21	12	20.006	1.542	109.0	5.3062	0.0000	FLOOD RISK
15 minute winter	22	12	19.771	2.132	1143.8	13.7045	2.6011	FLOOD
15 minute winter	24	12	19.525	2.004	1124.4	5.6789	0.0000	SURCHARGED
15 minute winter	25	12	19.281	1.982	1162.3	6.7045	0.0000	FLOOD RISK
15 minute winter	26	12	19.117	1.867	1157.6	4.7502	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m <sup>3</sup> )	Discharge Vol (m <sup>3</sup> )
15 minute winter	1	1.000	2	60.3	1.518	1.156	1.4798	
15 minute winter	2	1.001	3	76.3	1.557	0.690	0.6767	
15 minute winter	3	1.002	5	90.7	0.921	0.346	5.1665	
15 minute winter	4	2.000	5	121.0	2.034	0.804	3.9871	
15 minute winter	5	1.003	7	232.1	1.524	1.141	7.5475	
15 minute winter	6	3.000	7	60.7	1.513	0.516	4.3659	
15 minute winter	7	1.004	8	303.8	1.393	0.702	13.1056	
15 minute winter	8	1.005	9	335.2	1.361	0.780	10.7668	
15 minute winter	9	1.006	10	382.0	1.356	0.876	14.9973	
15 minute winter	10	1.007	19	469.9	1.668	1.529	8.7906	
15 minute winter	11	4.000	12	39.3	0.668	0.329	3.0755	
15 minute winter	12	4.001	13	79.7	0.887	0.641	4.8162	
15 minute winter	13	4.002	14	132.9	1.384	1.017	4.8843	
15 minute winter	14	4.003	18	190.8	1.595	1.019	4.6818	
15 minute winter	15	5.000	16	81.4	1.449	0.790	2.8566	
15 minute winter	16	5.001	17	177.8	2.182	0.921	5.9222	
15 minute winter	17	5.002	18	160.7	2.521	0.395	1.1987	
15 minute winter	18	4.004	19	354.4	2.797	0.700	9.8268	
15 minute winter	19	1.008	20	864.4	1.964	1.567	26.2325	
15 minute winter	20	1.009	22	940.8	2.138	1.425	27.2435	
15 minute winter	21	6.000	22	91.4	1.404	1.025	2.4520	
15 minute winter	22	1.010	24	1109.6	1.751	1.247	37.1315	
15 minute winter	24	1.011	25	1123.6	1.773	0.892	35.0692	
15 minute winter	25	1.012	26	1157.6	1.827	1.299	15.3887	
15 minute winter	26	1.013	27	1153.4	1.820	1.279	6.7478	

**Results for 100 year +30% CC Critical Storm Duration. Lowest mass balance: 99.54%**

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m <sup>3</sup> )	Flood (m <sup>3</sup> )	Status
15 minute winter	27	12	18.997	1.769	1162.1	4.7967	0.0000	SURCHARGED
15 minute winter	28	12	18.856	1.665	1195.2	8.8799	0.0000	SURCHARGED
240 minute winter	29	240	18.018	0.923	568.2	2399.3590	0.0000	SURCHARGED
15 minute winter	30	12	18.512	1.455	1910.9	3.7028	0.0000	FLOOD RISK
15 minute winter	31	13	18.748	1.960	1186.0	13.8558	0.0000	SURCHARGED
15 minute summer	32	24	16.924	0.163	54.1	0.0000	0.0000	OK
15 minute winter	35	12	19.431	1.281	45.6	2.9182	0.0000	FLOOD RISK
15 minute winter	36	12	19.274	1.405	101.0	4.6644	0.0000	FLOOD RISK
15 minute winter	37	12	19.005	1.306	106.0	3.0519	0.0000	FLOOD RISK
15 minute winter	38	12	18.739	1.334	164.0	4.3997	0.0000	SURCHARGED
15 minute winter	39	12	18.682	1.537	789.8	3.9123	0.0000	SURCHARGED
15 minute winter	41	12	21.893	1.393	79.6	3.9315	0.0000	FLOOD RISK
15 minute winter	42	12	21.220	1.250	65.4	1.6165	0.0000	SURCHARGED
15 minute winter	43	12	21.164	1.514	124.1	3.7172	0.0000	FLOOD RISK
15 minute winter	44	12	20.493	1.823	352.3	12.0943	0.0000	FLOOD RISK
15 minute winter	45	12	19.887	1.516	481.1	6.3860	0.0000	SURCHARGED
15 minute winter	46	12	19.584	1.352	561.4	4.8385	0.0000	SURCHARGED
15 minute winter	47	12	19.314	1.218	671.9	5.8237	0.0000	SURCHARGED
15 minute winter	48	12	19.036	1.156	691.1	4.2222	0.0000	SURCHARGED
15 minute winter	50	12	21.230	1.137	44.5	2.5620	0.0000	FLOOD RISK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m <sup>3</sup> )	Discharge Vol (m <sup>3</sup> )
15 minute winter	27	1.014	28	1157.4	1.826	1.229	10.4110	
15 minute winter	28	1.015	31	1186.0	1.872	0.246	3.3026	
240 minute winter	29	Orifice	30	166.8				
15 minute winter	30	7.001	31	-1140.6	-2.592	-1.948	3.6922	
15 minute winter	31	1.016	32	54.1	1.078	0.405	0.3026	796.6
15 minute winter	35	8.000	36	32.8	0.959	0.825	1.3908	
15 minute winter	36	8.001	37	82.1	1.166	1.152	2.8851	
15 minute winter	37	8.002	38	99.7	1.416	1.214	1.8471	
15 minute winter	38	8.003	39	153.4	1.097	0.945	2.1731	
15 minute winter	39	8.004	30	787.5	2.206	1.927	2.4139	
15 minute winter	41	9.000	42	58.6	1.475	1.158	1.9108	
15 minute winter	42	9.001	43	66.1	1.404	0.362	0.8397	
15 minute winter	43	9.002	44	132.0	1.874	0.997	4.1343	
15 minute winter	44	9.003	45	320.4	2.022	1.900	8.5808	
15 minute winter	45	9.004	46	470.7	1.671	1.456	17.5423	
15 minute winter	46	9.005	47	552.8	1.969	1.931	9.7919	
15 minute winter	47	9.006	48	633.2	2.232	1.040	18.2070	
15 minute winter	48	9.007	39	636.4	1.783	0.623	22.1441	
15 minute winter	50	10.000	43	37.6	1.654	0.463	0.6051	