

Design Settings

Rainfall Methodology FSR
Return Period (years) 5
Additional Flow (%) 0
FSR Region England and Wales
M5-60 (mm) 19.000
Ratio-R 0.350
CV 0.750
Time of Entry (mins) 5.00
Maximum Time of Concentration (mins) 30.00
Maximum Rainfall (mm/hr) 50.0
Minimum Velocity (m/s) 1.00
Connection Type Level Soffits
Minimum Backdrop Height (m) 9.999
Preferred Cover Depth (m) 1.200
Include Intermediate Ground ✓
Enforce best practice design rules x

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
1	0.021	5.00	18.783	600	507604.297	104590.960	1.533
2	0.020	5.00	18.705	1200	507609.104	104590.317	1.579
3A	0.021	5.00	18.416	600	507600.356	104546.980	1.116
3			18.286	1200	507604.546	104544.871	1.429
4	0.020	5.00	18.220	1200	507598.499	104519.863	1.220
5	0.047	5.00	18.032	1200	507604.600	104519.441	1.642
6	0.019	5.00	17.985	600	507592.416	104481.388	1.582
7	0.057	5.00	17.794	1200	507604.682	104480.526	1.563
8	0.010	5.00	18.212	600	507603.259	104454.637	1.012
9	0.047	5.00	18.054	1200	507607.955	104454.471	1.931
10	0.029	5.00	18.376	600	507605.544	104431.716	1.326
11			18.203	1200	507612.443	104433.169	2.169
12	0.001	5.00	18.220	600	507611.772	104416.783	0.770
13	0.023	5.00	18.062	1200	507616.249	104415.101	2.104
14			17.995	1200	507614.301	104409.919	2.060
15	0.014	5.00	18.104	600	507609.485	104410.317	1.254
16			17.935	1200	507610.376	104406.067	2.023
17	0.070	5.00	17.589	600	507554.582	104428.791	1.389
18	0.039	5.00	17.398	600	507550.025	104413.026	1.298
19	0.042	5.00	17.317	1200	507558.318	104415.662	1.425
21A	0.024	5.00	17.646	600	507571.233	104393.677	1.496
20			17.561	1200	507574.752	104399.021	1.882
21	0.031	5.00	17.771	600	507581.516	104403.042	0.871
22			17.636	1350	507581.902	104397.450	2.076
23			17.133	1350	507579.084	104368.940	1.662
24			16.997		507592.222	104357.490	1.997
25	0.034	5.00	17.923	1200	507518.841	104520.178	1.373
26	0.039	5.00	17.760	600	507502.741	104517.634	1.310
27	0.047	5.00	17.692	1200	507509.813	104518.751	1.500
28	0.002	5.00	17.714	600	507496.093	104488.048	1.289
29	0.002	5.00	17.785	600	507498.786	104499.168	0.935
30	0.018	5.00	17.672	1200	507499.603	104493.999	1.425
31			17.975	1200	507514.237	104490.750	1.952
32	0.022	5.00	18.380	600	507530.251	104478.473	1.430
33	0.019	5.00	18.292	1200	507521.618	104479.484	1.538
34	0.030	5.00	18.168	600	507507.885	104481.373	1.118
35	0.032	5.00	18.077	1200	507513.924	104480.384	2.097
36	0.004	5.00	18.193	600	507517.347	104455.603	1.580
37	0.018	5.00	17.945	1200	507509.656	104454.313	2.073
38	0.020	5.00	17.905	600	507506.498	104439.028	1.305
39	0.017	5.00	17.763	1350	507512.512	104437.288	2.037
40	0.020	5.00	17.758	600	507506.085	104426.660	1.358
41			17.651	1350	507512.571	104426.097	1.960
42	0.007	5.00	17.795	600	507523.799	104426.598	0.945
43	0.101	5.00	17.526	1350	507517.200	104416.031	1.870
44	0.004	5.00	17.516	600	507520.072	104401.675	0.616
45	0.039	5.00	17.388	600	507510.412	104395.940	1.588
46			17.286	1350	507515.124	104395.392	1.759
47	0.010	5.00	17.297	600	507518.945	104386.749	1.197
48			17.200		507514.127	104386.824	1.700
49	0.010	5.00	17.249	600	507518.152	104378.370	1.049
50	0.034	5.00	17.192	600	507508.339	104376.130	1.292
51			17.097	1350	507512.902	104376.294	1.630

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
52	0.007	5.00	16.997	600	507496.195	104357.148	1.047
53		5.00	17.081	600	507509.292	104363.633	1.081
54	0.026	5.00	16.937	1350	507516.081	104359.555	1.575
55	0.001	5.00	16.999	600	507521.523	104359.381	0.799
56	0.031	5.00	16.865	1350	507519.788	104355.136	1.521
57	0.008	5.00	17.008	600	507532.542	104353.640	0.808
58			16.600	1350	507537.777	104343.378	1.323
59	0.063	5.00	17.116	1200	507559.503	104354.247	1.421
60			16.956	1350	507559.588	104343.552	1.747
61			17.043	1350	507576.803	104343.689	1.888
62			17.000		507589.571	104345.283	2.000
63	0.057	5.00	16.997		507598.585	104350.517	1.997
63_OUT			16.997		507600.120	104347.686	1.997

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	4.850	0.600	17.250	17.201	0.049	99.0	150	5.08	50.0
1.001	2	3	45.674	0.600	17.126	16.857	0.269	169.8	225	5.84	50.0
2.000	3A	3	4.691	0.600	17.300	16.982	0.318	14.8	100	5.04	50.0
1.002	3	5	25.430	0.600	16.857	16.465	0.392	64.9	225	6.10	50.0
3.000	4	5	6.116	0.600	17.000	16.540	0.460	13.3	150	5.04	50.0
1.003	5	7	38.915	0.600	16.390	16.231	0.159	244.7	300	6.75	50.0
4.000	6	7	12.296	0.600	16.403	16.306	0.097	127.3	225	5.18	50.0
1.004	7	9	26.260	0.600	16.231	16.123	0.108	243.1	300	7.19	50.0
5.000	8	9	4.699	0.600	17.200	16.273	0.927	5.1	150	5.02	50.0
1.005	9	11	21.770	0.600	16.123	16.034	0.089	244.6	300	7.55	50.0
6.000	10	11	7.050	0.600	17.050	16.184	0.866	8.1	150	5.03	50.0
1.006	11	13	18.465	0.600	16.034	15.958	0.076	243.0	300	7.86	50.0
7.000	12	13	4.783	0.600	17.450	16.108	1.342	3.6	150	5.01	50.0
1.007	13	14	5.536	0.600	15.958	15.935	0.023	240.7	300	7.95	50.0
1.008	14	16	5.499	0.600	15.935	15.912	0.023	239.1	300	8.04	50.0
8.000	15	16	4.342	0.600	16.850	16.062	0.788	5.5	150	5.02	50.0
1.009	16	22	29.749	0.600	15.912	15.635	0.277	107.2	300	8.36	50.0
9.000	17	19	13.650	0.600	16.200	15.967	0.233	58.6	150	5.17	50.0
10.000	18	19	8.702	0.600	16.100	15.967	0.133	65.4	150	5.12	50.0
9.001	19	20	23.388	0.600	15.892	15.754	0.138	169.5	225	5.56	50.0
11.000	21A	20	6.399	0.600	16.150	15.829	0.321	19.9	150	5.05	50.0
9.002	20	22	7.321	0.600	15.679	15.635	0.044	166.4	300	5.66	50.0
12.000	21	22	5.605	0.600	16.900	15.785	1.115	5.0	150	5.02	50.0
1.010	22	23	28.649	0.600	15.560	15.471	0.089	321.9	375	8.84	50.0
1.011	23	24	17.427	0.600	15.471	15.100	0.371	47.0	375	8.95	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	E Area (ha)	E Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	1.010	17.8	2.8	1.383	1.354	0.021	0.0	41	0.743
1.001	1.000	39.8	5.6	1.354	1.204	0.041	0.0	57	0.709
2.000	2.022	15.9	2.8	1.016	1.204	0.021	0.0	29	1.526
1.002	1.625	64.6	8.4	1.204	1.342	0.062	0.0	55	1.134
3.000	2.776	49.1	2.7	1.070	1.342	0.020	0.0	24	1.489
1.003	1.000	70.7	17.5	1.342	1.263	0.129	0.0	101	0.832
4.000	1.157	46.0	2.6	1.357	1.263	0.019	0.0	36	0.623
1.004	1.004	70.9	27.8	1.263	1.631	0.205	0.0	130	0.945
5.000	4.505	79.6	1.4	0.862	1.631	0.010	0.0	14	1.709
1.005	1.001	70.7	35.5	1.631	1.869	0.262	0.0	150	1.001
6.000	3.552	62.8	3.9	1.176	1.869	0.029	0.0	25	1.992
1.006	1.004	71.0	39.4	1.869	1.804	0.291	0.0	160	1.029
7.000	5.376	95.0	0.1	0.620	1.804	0.001	0.0	4	0.921
1.007	1.009	71.3	42.7	1.804	1.760	0.315	0.0	167	1.052
1.008	1.012	71.5	42.7	1.760	1.723	0.315	0.0	167	1.056
8.000	4.320	76.3	1.9	1.104	1.723	0.014	0.0	16	1.816
1.009	1.518	107.3	44.6	1.723	1.701	0.329	0.0	134	1.449
9.000	1.316	23.3	9.5	1.239	1.200	0.070	0.0	67	1.249
10.000	1.245	22.0	5.3	1.148	1.200	0.039	0.0	50	1.027
9.001	1.001	39.8	20.5	1.200	1.582	0.151	0.0	115	1.009
11.000	2.266	40.0	3.3	1.346	1.582	0.024	0.0	29	1.373
9.002	1.216	85.9	23.7	1.582	1.701	0.175	0.0	108	1.044
12.000	4.525	80.0	4.2	0.721	1.701	0.031	0.0	23	2.393
1.010	1.004	110.9	72.5	1.701	1.287	0.535	0.0	222	1.068
1.011	2.649	292.6	72.5	1.287	1.522	0.535	0.0	126	2.209

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)
1.012	24	63	1.000	0.600	15.000	15.000	0.000	0.0	375	9.28	50.0
13.000	25	27	9.140	0.600	16.550	16.267	0.283	32.3	225	5.07	50.0
14.000	26	27	7.160	0.600	16.450	16.342	0.108	66.3	150	5.10	50.0
13.001	27	31	28.348	0.600	16.192	16.023	0.169	167.7	300	5.49	50.0
15.000	28	30	6.909	0.600	16.425	16.322	0.103	67.1	150	5.09	50.0
16.000	29	30	5.233	0.600	16.850	16.322	0.528	9.9	150	5.03	50.0
15.001	30	31	14.990	0.600	16.247	16.098	0.149	100.6	225	5.29	50.0
13.002	31	35	10.371	0.600	16.023	15.980	0.043	241.2	300	5.66	50.0
17.000	32	33	8.692	0.600	16.950	16.754	0.196	44.4	150	5.10	50.0
17.001	33	35	7.746	0.600	16.754	16.130	0.624	12.4	150	5.14	50.0
18.000	34	35	6.119	0.600	17.050	16.130	0.920	6.7	150	5.03	50.0
13.003	35	37	26.418	0.600	15.980	15.872	0.108	244.6	300	6.10	50.0
19.000	36	37	7.798	0.600	16.613	16.022	0.591	13.2	150	5.05	50.0
13.004	37	39	17.263	0.600	15.872	15.801	0.071	243.1	300	6.38	50.0
20.000	38	39	6.261	0.600	16.600	15.951	0.649	9.6	150	5.03	50.0
13.005	39	41	11.191	0.600	15.726	15.691	0.035	319.7	375	6.57	50.0
21.000	40	41	6.510	0.600	16.400	15.916	0.484	13.5	150	5.04	50.0
13.006	41	43	11.079	0.600	15.691	15.656	0.035	316.6	375	6.75	50.0
22.000	42	43	12.458	0.600	16.850	15.881	0.969	12.9	150	5.07	50.0
13.007	43	46	20.743	0.600	15.656	15.527	0.129	160.8	375	6.99	50.0
23.000	44	46	7.997	0.600	16.900	15.752	1.148	7.0	150	5.03	50.0
24.000	45	46	4.744	0.600	15.800	15.752	0.048	98.8	150	5.08	50.0
13.008	46	48	8.626	0.600	15.527	15.500	0.027	320.0	375	7.14	50.0
25.000	47	48	4.819	0.600	16.100	15.725	0.375	12.8	150	5.03	50.0
13.009	48	51	10.601	0.600	15.500	15.467	0.033	320.0	375	7.31	50.0
26.000	49	51	5.646	0.600	16.200	15.692	0.508	11.1	150	5.03	50.0
27.000	50	51	4.566	0.600	15.900	15.692	0.208	22.0	150	5.04	50.0
13.010	51	54	17.038	0.600	15.467	15.362	0.105	162.3	375	7.51	50.0
28.000	52	54	20.031	0.600	15.950	15.587	0.363	55.2	150	5.25	50.0
29.000	53	54	7.920	0.600	16.000	15.587	0.413	19.2	150	5.06	50.0
13.011	54	56	5.768	0.600	15.362	15.344	0.018	320.0	375	7.61	50.0
30.000	55	56	4.586	0.600	16.200	15.569	0.631	7.3	150	5.02	50.0
13.012	56	58	21.491	0.600	15.344	15.277	0.067	320.8	375	7.96	50.0
31.000	57	58	11.520	0.600	16.200	15.502	0.698	16.5	150	5.08	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.012	1.000	110.4	72.5	1.622	1.622	0.535	0.0	0	∞
13.000	2.310	91.8	4.6	1.148	1.200	0.034	0.0	34	1.211
14.000	1.237	21.9	5.3	1.160	1.200	0.039	0.0	50	1.020
13.001	1.211	85.6	16.3	1.200	1.652	0.120	0.0	88	0.938
15.000	1.229	21.7	0.3	1.139	1.200	0.002	0.0	12	0.420
16.000	3.219	56.9	0.3	0.785	1.200	0.002	0.0	7	0.792
15.001	1.303	51.8	3.0	1.200	1.652	0.022	0.0	36	0.713
13.002	1.008	71.2	19.2	1.652	1.797	0.142	0.0	106	0.860
17.000	1.514	26.7	3.0	1.280	1.388	0.022	0.0	34	1.001
17.001	2.875	50.8	5.6	1.388	1.797	0.041	0.0	33	1.885
18.000	3.932	69.5	4.1	0.968	1.797	0.030	0.0	24	2.143
13.003	1.001	70.7	33.2	1.797	1.773	0.245	0.0	144	0.985
19.000	2.788	49.3	0.5	1.430	1.773	0.004	0.0	11	0.898
13.004	1.004	70.9	36.2	1.773	1.662	0.267	0.0	152	1.009
20.000	3.263	57.7	2.7	1.155	1.662	0.020	0.0	22	1.669
13.005	1.008	111.3	41.2	1.662	1.585	0.304	0.0	158	0.935
21.000	2.761	48.8	2.7	1.208	1.585	0.020	0.0	24	1.481
13.006	1.013	111.9	43.9	1.585	1.495	0.324	0.0	163	0.954
22.000	2.824	49.9	0.9	0.795	1.495	0.007	0.0	14	1.098
13.007	1.426	157.5	58.5	1.495	1.384	0.432	0.0	158	1.323
23.000	3.842	67.9	0.5	0.466	1.384	0.004	0.0	10	1.148
24.000	1.011	17.9	5.3	1.438	1.384	0.039	0.0	56	0.882
13.008	1.007	111.2	64.4	1.384	1.325	0.475	0.0	205	1.042
25.000	2.825	49.9	1.4	1.047	1.325	0.010	0.0	17	1.240
13.009	1.007	111.2	65.7	1.325	1.255	0.485	0.0	208	1.047
26.000	3.039	53.7	1.4	0.899	1.255	0.010	0.0	17	1.305
27.000	2.159	38.1	4.6	1.142	1.255	0.034	0.0	35	1.458
13.010	1.419	156.8	71.7	1.255	1.200	0.529	0.0	178	1.388
28.000	1.357	24.0	0.9	0.897	1.200	0.007	0.0	20	0.655
29.000	2.310	40.8	0.0	0.931	1.200	0.000	0.0	0	0.000
13.011	1.007	111.2	76.2	1.200	1.146	0.562	0.0	228	1.081
30.000	3.761	66.5	0.1	0.649	1.146	0.001	0.0	5	0.703
13.012	1.006	111.1	80.5	1.146	0.948	0.594	0.0	237	1.092
31.000	2.491	44.0	1.1	0.658	0.948	0.008	0.0	16	1.044



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)
13.013	58	60	21.812	0.600	15.277	15.209	0.068	320.8	375	8.33	50.0
32.000	59	60	10.695	0.600	15.695	15.434	0.261	41.0	150	5.11	50.0
13.014	60	61	17.216	0.600	15.209	15.155	0.054	320.0	375	8.61	50.0
13.015	61	62	12.867	0.600	15.155	15.115	0.040	320.0	375	8.82	50.0
13.016	62	63	1.000	0.600	15.000	15.000	0.000	0.0	375	8.77	50.0
1.013	63	63_OUT	1.000	0.600	15.000	15.000	0.000	0.0	450	9.30	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	E Area (ha)	E Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
13.013	1.006	111.1	81.6	0.948	1.372	0.602	0.0	239	1.095
32.000	1.576	27.9	8.5	1.271	1.372	0.063	0.0	57	1.391
13.014	1.007	111.2	90.1	1.372	1.513	0.665	0.0	257	1.116
13.015	1.007	111.2	90.1	1.513	1.510	0.665	0.0	257	1.116
13.016	1.000	110.4	90.1	1.625	1.622	0.665	0.0	0	∞
1.013	1.000	159.0	170.4	1.547	1.547	1.257	0.0	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	4.850	99.0	150	PH1	18.783	17.250	1.383	18.705	17.201	1.354
1.001	45.674	169.8	225	PH1	18.705	17.126	1.354	18.286	16.857	1.204
2.000	4.691	14.8	100	PH1	18.416	17.300	1.016	18.286	16.982	1.204
1.002	25.430	64.9	225	PH1	18.286	16.857	1.204	18.032	16.465	1.342
3.000	6.116	13.3	150	PH1	18.220	17.000	1.070	18.032	16.540	1.342
1.003	38.915	244.7	300	PH1	18.032	16.390	1.342	17.794	16.231	1.263
4.000	12.296	127.3	225	PH1	17.985	16.403	1.357	17.794	16.306	1.263
1.004	26.260	243.1	300	PH1	17.794	16.231	1.263	18.054	16.123	1.631
5.000	4.699	5.1	150	PH1	18.212	17.200	0.862	18.054	16.273	1.631
1.005	21.770	244.6	300	PH1	18.054	16.123	1.631	18.203	16.034	1.869
6.000	7.050	8.1	150	PH1	18.376	17.050	1.176	18.203	16.184	1.869
1.006	18.465	243.0	300	PH1	18.203	16.034	1.869	18.062	15.958	1.804
7.000	4.783	3.6	150	PH1	18.220	17.450	0.620	18.062	16.108	1.804
1.007	5.536	240.7	300	PH1	18.062	15.958	1.804	17.995	15.935	1.760
1.008	5.499	239.1	300	PH1	17.995	15.935	1.760	17.935	15.912	1.723
8.000	4.342	5.5	150	PH1	18.104	16.850	1.104	17.935	16.062	1.723
1.009	29.749	107.2	300	PH1	17.935	15.912	1.723	17.636	15.635	1.701
9.000	13.650	58.6	150	PH1	17.589	16.200	1.239	17.317	15.967	1.200
10.000	8.702	65.4	150	PH1	17.398	16.100	1.148	17.317	15.967	1.200
9.001	23.388	169.5	225	PH1	17.317	15.892	1.200	17.561	15.754	1.582
11.000	6.399	19.9	150	PH1	17.646	16.150	1.346	17.561	15.829	1.582
9.002	7.321	166.4	300	PH1	17.561	15.679	1.582	17.636	15.635	1.701
12.000	5.605	5.0	150	PH1	17.771	16.900	0.721	17.636	15.785	1.701
1.010	28.649	321.9	375	PH1	17.636	15.560	1.701	17.133	15.471	1.287

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	1	600	Manhole	Adoptable	2	1200	Manhole	Adoptable
1.001	2	1200	Manhole	Adoptable	3	1200	Manhole	Adoptable
2.000	3A	600	Manhole	Adoptable	3	1200	Manhole	Adoptable
1.002	3	1200	Manhole	Adoptable	5	1200	Manhole	Adoptable
3.000	4	1200	Manhole	Adoptable	5	1200	Manhole	Adoptable
1.003	5	1200	Manhole	Adoptable	7	1200	Manhole	Adoptable
4.000	6	600	Manhole	Adoptable	7	1200	Manhole	Adoptable
1.004	7	1200	Manhole	Adoptable	9	1200	Manhole	Adoptable
5.000	8	600	Manhole	Adoptable	9	1200	Manhole	Adoptable
1.005	9	1200	Manhole	Adoptable	11	1200	Manhole	Adoptable
6.000	10	600	Manhole	Adoptable	11	1200	Manhole	Adoptable
1.006	11	1200	Manhole	Adoptable	13	1200	Manhole	Adoptable
7.000	12	600	Manhole	Adoptable	13	1200	Manhole	Adoptable
1.007	13	1200	Manhole	Adoptable	14	1200	Manhole	Adoptable
1.008	14	1200	Manhole	Adoptable	16	1200	Manhole	Adoptable
8.000	15	600	Manhole	Adoptable	16	1200	Manhole	Adoptable
1.009	16	1200	Manhole	Adoptable	22	1350	Manhole	Adoptable
9.000	17	600	Manhole	Adoptable	19	1200	Manhole	Adoptable
10.000	18	600	Manhole	Adoptable	19	1200	Manhole	Adoptable
9.001	19	1200	Manhole	Adoptable	20	1200	Manhole	Adoptable
11.000	21A	600	Manhole	Adoptable	20	1200	Manhole	Adoptable
9.002	20	1200	Manhole	Adoptable	22	1350	Manhole	Adoptable
12.000	21	600	Manhole	Adoptable	22	1350	Manhole	Adoptable
1.010	22	1350	Manhole	Adoptable	23	1350	Manhole	Adoptable

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)
1.011	17.427	47.0	375	PH1	17.133	15.471	1.287	16.997	15.100	1.522
1.012	1.000	0.0	375	PH1	16.997	15.000	1.622	16.997	15.000	1.622
13.000	9.140	32.3	225	PH1	17.923	16.550	1.148	17.692	16.267	1.200
14.000	7.160	66.3	150	PH1	17.760	16.450	1.160	17.692	16.342	1.200
13.001	28.348	167.7	300	PH1	17.692	16.192	1.200	17.975	16.023	1.652
15.000	6.909	67.1	150	PH1	17.714	16.425	1.139	17.672	16.322	1.200
16.000	5.233	9.9	150	PH1	17.785	16.850	0.785	17.672	16.322	1.200
15.001	14.990	100.6	225	PH1	17.672	16.247	1.200	17.975	16.098	1.652
13.002	10.371	241.2	300	PH1	17.975	16.023	1.652	18.077	15.980	1.797
17.000	8.692	44.4	150	PH1	18.380	16.950	1.280	18.292	16.754	1.388
17.001	7.746	12.4	150	PH1	18.292	16.754	1.388	18.077	16.130	1.797
18.000	6.119	6.7	150	PH1	18.168	17.050	0.968	18.077	16.130	1.797
13.003	26.418	244.6	300	PH1	18.077	15.980	1.797	17.945	15.872	1.773
19.000	7.798	13.2	150	PH1	18.193	16.613	1.430	17.945	16.022	1.773
13.004	17.263	243.1	300	PH1	17.945	15.872	1.773	17.763	15.801	1.662
20.000	6.261	9.6	150	PH1	17.905	16.600	1.155	17.763	15.951	1.662
13.005	11.191	319.7	375	PH1	17.763	15.726	1.662	17.651	15.691	1.585
21.000	6.510	13.5	150	PH1	17.758	16.400	1.208	17.651	15.916	1.585
13.006	11.079	316.6	375	PH1	17.651	15.691	1.585	17.526	15.656	1.495
22.000	12.458	12.9	150	PH1	17.795	16.850	0.795	17.526	15.881	1.495
13.007	20.743	160.8	375	PH1	17.526	15.656	1.495	17.286	15.527	1.384
23.000	7.997	7.0	150	PH1	17.516	16.900	0.466	17.286	15.752	1.384
24.000	4.744	98.8	150	PH1	17.388	15.800	1.438	17.286	15.752	1.384
13.008	8.626	320.0	375	PH1	17.286	15.527	1.384	17.200	15.500	1.325
25.000	4.819	12.8	150	PH1	17.297	16.100	1.047	17.200	15.725	1.325
13.009	10.601	320.0	375	PH1	17.200	15.500	1.325	17.097	15.467	1.255
26.000	5.646	11.1	150	PH1	17.249	16.200	0.899	17.097	15.692	1.255
27.000	4.566	22.0	150	PH1	17.192	15.900	1.142	17.097	15.692	1.255
13.010	17.038	162.3	375	PH1	17.097	15.467	1.255	16.937	15.362	1.200
28.000	20.031	55.2	150	PH1	16.997	15.950	0.897	16.937	15.587	1.200
29.000	7.920	19.2	150	PH1	17.081	16.000	0.931	16.937	15.587	1.200
13.011	5.768	320.0	375	PH1	16.937	15.362	1.200	16.865	15.344	1.146
30.000	4.586	7.3	150	PH1	16.999	16.200	0.649	16.865	15.569	1.146
13.012	21.491	320.8	375	PH1	16.865	15.344	1.146	16.600	15.277	0.948
31.000	11.520	16.5	150	PH1	17.008	16.200	0.658	16.600	15.502	0.948

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.011	23	1350	Manhole	Adoptable	24		Junction	
1.012	24		Junction		63		Junction	
13.000	25	1200	Manhole	Adoptable	27	1200	Manhole	Adoptable
14.000	26	600	Manhole	Adoptable	27	1200	Manhole	Adoptable
13.001	27	1200	Manhole	Adoptable	31	1200	Manhole	Adoptable
15.000	28	600	Manhole	Adoptable	30	1200	Manhole	Adoptable
16.000	29	600	Manhole	Adoptable	30	1200	Manhole	Adoptable
15.001	30	1200	Manhole	Adoptable	31	1200	Manhole	Adoptable
13.002	31	1200	Manhole	Adoptable	35	1200	Manhole	Adoptable
17.000	32	600	Manhole	Adoptable	33	1200	Manhole	Adoptable
17.001	33	1200	Manhole	Adoptable	35	1200	Manhole	Adoptable
18.000	34	600	Manhole	Adoptable	35	1200	Manhole	Adoptable
13.003	35	1200	Manhole	Adoptable	37	1200	Manhole	Adoptable
19.000	36	600	Manhole	Adoptable	37	1200	Manhole	Adoptable
13.004	37	1200	Manhole	Adoptable	39	1350	Manhole	Adoptable
20.000	38	600	Manhole	Adoptable	39	1350	Manhole	Adoptable
13.005	39	1350	Manhole	Adoptable	41	1350	Manhole	Adoptable
21.000	40	600	Manhole	Adoptable	41	1350	Manhole	Adoptable
13.006	41	1350	Manhole	Adoptable	43	1350	Manhole	Adoptable
22.000	42	600	Manhole	Adoptable	43	1350	Manhole	Adoptable
13.007	43	1350	Manhole	Adoptable	46	1350	Manhole	Adoptable
23.000	44	600	Manhole	Adoptable	46	1350	Manhole	Adoptable
24.000	45	600	Manhole	Adoptable	46	1350	Manhole	Adoptable
13.008	46	1350	Manhole	Adoptable	48		Junction	
25.000	47	600	Manhole	Adoptable	48		Junction	
13.009	48		Junction		51	1350	Manhole	Adoptable
26.000	49	600	Manhole	Adoptable	51	1350	Manhole	Adoptable
27.000	50	600	Manhole	Adoptable	51	1350	Manhole	Adoptable
13.010	51	1350	Manhole	Adoptable	54	1350	Manhole	Adoptable
28.000	52	600	Manhole	Adoptable	54	1350	Manhole	Adoptable
29.000	53	600	Manhole	Adoptable	54	1350	Manhole	Adoptable
13.011	54	1350	Manhole	Adoptable	56	1350	Manhole	Adoptable
30.000	55	600	Manhole	Adoptable	56	1350	Manhole	Adoptable
13.012	56	1350	Manhole	Adoptable	58	1350	Manhole	Adoptable
31.000	57	600	Manhole	Adoptable	58	1350	Manhole	Adoptable

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)
13.013	21.812	320.8	375	PH1	16.600	15.277	0.948	16.956	15.209	1.372
32.000	10.695	41.0	150	PH1	17.116	15.695	1.271	16.956	15.434	1.372
13.014	17.216	320.0	375	PH1	16.956	15.209	1.372	17.043	15.155	1.513
13.015	12.867	320.0	375	PH1	17.043	15.155	1.513	17.000	15.115	1.510
13.016	1.000	0.0	375	PH1	17.000	15.000	1.625	16.997	15.000	1.622
1.013	1.000	0.0	450	PH1	16.997	15.000	1.547	16.997	15.000	1.547

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
13.013	58	1350	Manhole	Adoptable	60	1350	Manhole	Adoptable
32.000	59	1200	Manhole	Adoptable	60	1350	Manhole	Adoptable
13.014	60	1350	Manhole	Adoptable	61	1350	Manhole	Adoptable
13.015	61	1350	Manhole	Adoptable	62		Junction	
13.016	62		Junction		63		Junction	
1.013	63		Junction		63_OUT		Junction	

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
1	507604.297	104590.960	18.783	1.533	600		0	1.000	17.250	150
2	507609.104	104590.317	18.705	1.579	1200		1	1.000	17.201	150
							0	1.001	17.126	225
3A	507600.356	104546.980	18.416	1.116	600		0	2.000	17.300	100
3	507604.546	104544.871	18.286	1.429	1200		1	2.000	16.982	100
							2	1.001	16.857	225
							0	1.002	16.857	225
4	507598.499	104519.863	18.220	1.220	1200		0	3.000	17.000	150
5	507604.600	104519.441	18.032	1.642	1200		1	3.000	16.540	150
							2	1.002	16.465	225
							0	1.003	16.390	300
6	507592.416	104481.388	17.985	1.582	600		0	4.000	16.403	225
7	507604.682	104480.526	17.794	1.563	1200		1	4.000	16.306	225
							2	1.003	16.231	300
							0	1.004	16.231	300
8	507603.259	104454.637	18.212	1.012	600		0	5.000	17.200	150
9	507607.955	104454.471	18.054	1.931	1200		1	5.000	16.273	150
							2	1.004	16.123	300
							0	1.005	16.123	300
10	507605.544	104431.716	18.376	1.326	600		0	6.000	17.050	150
11	507612.443	104433.169	18.203	2.169	1200		1	6.000	16.184	150
							2	1.005	16.034	300
							0	1.006	16.034	300
12	507611.772	104416.783	18.220	0.770	600		0	7.000	17.450	150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
13	507616.249	104415.101	18.062	2.104	1200	2 1 0 1 2 0 7.000 1.006 1.007 16.108 15.958 15.958 150 300 300			
14	507614.301	104409.919	17.995	2.060	1200	1 0 1 0 1.007 1.008 15.935 15.935 300 300			
15	507609.485	104410.317	18.104	1.254	600	0 0 8.000 16.850 150			
16	507610.376	104406.067	17.935	2.023	1200	1 2 0 1 2 0 8.000 1.008 1.009 16.062 15.912 15.912 150 300 300			
17	507554.582	104428.791	17.589	1.389	600	0 0 9.000 16.200 150			
18	507550.025	104413.026	17.398	1.298	600	0 0 10.000 16.100 150			
19	507558.318	104415.662	17.317	1.425	1200	2 1 0 1 2 0 10.000 9.000 9.001 15.967 15.967 15.892 150 150 225			
21A	507571.233	104393.677	17.646	1.496	600	0 0 11.000 16.150 150			
20	507574.752	104399.021	17.561	1.882	1200	2 0 1 1 2 0 11.000 9.001 9.002 15.829 15.754 15.679 150 225 300			
21	507581.516	104403.042	17.771	0.871	600	0 0 12.000 16.900 150			
22	507581.902	104397.450	17.636	2.076	1350	1 2 3 0 1 2 3 0 12.000 9.002 1.009 1.010 15.785 15.635 15.635 15.560 150 300 300 375			
23	507579.084	104368.940	17.133	1.662	1350	1 0 1 0 1.010 1.011 15.471 15.471 375 375			
24	507592.222	104357.490	16.997	1.997		1 0 1 0 1.011 1.012 15.100 15.000 375 375			
25	507518.841	104520.178	17.923	1.373	1200	0 0 13.000 16.550 225			
26	507502.741	104517.634	17.760	1.310	600	0 0 14.000 16.450 150			
27	507509.813	104518.751	17.692	1.500	1200	1 2 0 1 2 0 14.000 13.000 13.001 16.342 16.267 16.192 150 225 300			
28	507496.093	104488.048	17.714	1.289	600	0 0 15.000 16.425 150			
29	507498.786	104499.168	17.785	0.935	600	0 0 16.000 16.850 150			

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
30	507499.603	104493.999	17.672	1.425	1200		1 16.000 2 15.000 0 15.001	16.322 16.322 16.247	150 150 225
31	507514.237	104490.750	17.975	1.952	1200		1 15.001 2 13.001 0 13.002	16.098 16.023 16.023	225 300 300
32	507530.251	104478.473	18.380	1.430	600		0 17.000	16.950	150
33	507521.618	104479.484	18.292	1.538	1200		1 17.000	16.754	150
34	507507.885	104481.373	18.168	1.118	600		0 17.001	16.754	150
35	507513.924	104480.384	18.077	2.097	1200		1 18.000 2 17.001 3 13.002 0 13.003	17.050 16.130 15.980 15.980	150 150 300 300
36	507517.347	104455.603	18.193	1.580	600		0 19.000	16.613	150
37	507509.656	104454.313	17.945	2.073	1200		1 19.000 2 13.003 0 13.004	16.022 15.872 15.872	150 300 300
38	507506.498	104439.028	17.905	1.305	600		0 20.000	16.600	150
39	507512.512	104437.288	17.763	2.037	1350		1 20.000 2 13.004 0 13.005	15.951 15.801 15.726	150 300 375
40	507506.085	104426.660	17.758	1.358	600		0 21.000	16.400	150
41	507512.571	104426.097	17.651	1.960	1350		1 21.000 2 13.005 0 13.006	15.916 15.691 15.691	150 375 375
42	507523.799	104426.598	17.795	0.945	600		0 22.000	16.850	150
43	507517.200	104416.031	17.526	1.870	1350		1 22.000 2 13.006 0 13.007	15.881 15.656 15.656	150 375 375
44	507520.072	104401.675	17.516	0.616	600		0 23.000	16.900	150
45	507510.412	104395.940	17.388	1.588	600		0 24.000	15.800	150
46	507515.124	104395.392	17.286	1.759	1350		1 24.000 2 23.000 3 13.007 0 13.008	15.752 15.752 15.527 15.527	150 150 375 375
47	507518.945	104386.749	17.297	1.197	600		0 25.000	16.100	150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
48	507514.127	104386.824	17.200	1.700			1 25.000 2 13.008 0 13.009	15.725 15.500 15.500	150 375 375
49	507518.152	104378.370	17.249	1.049	600		0 26.000	16.200	150
50	507508.339	104376.130	17.192	1.292	600		0 27.000	15.900	150
51	507512.902	104376.294	17.097	1.630	1350		1 27.000 2 26.000 3 13.009 0 13.010	15.692 15.692 15.467 15.467	150 150 375 375
52	507496.195	104357.148	16.997	1.047	600		0 28.000	15.950	150
53	507509.292	104363.633	17.081	1.081	600		0 29.000	16.000	150
54	507516.081	104359.555	16.937	1.575	1350		1 29.000 2 28.000 3 13.010 0 13.011	15.587 15.587 15.362 15.362	150 150 375 375
55	507521.523	104359.381	16.999	0.799	600		0 30.000	16.200	150
56	507519.788	104355.136	16.865	1.521	1350		1 30.000 2 13.011 0 13.012	15.569 15.344 15.344	150 375 375
57	507532.542	104353.640	17.008	0.808	600		0 31.000	16.200	150
58	507537.777	104343.378	16.600	1.323	1350		1 31.000 2 13.012 0 13.013	15.502 15.277 15.277	150 375 375
59	507559.503	104354.247	17.116	1.421	1200		0 32.000	15.695	150
60	507559.588	104343.552	16.956	1.747	1350		1 32.000 2 13.013 0 13.014	15.434 15.209 15.209	150 375 375
61	507576.803	104343.689	17.043	1.888	1350		1 13.014 0 13.015	15.155 15.155	375 375
62	507589.571	104345.283	17.000	2.000			1 13.015 0 13.016	15.115 15.000	375 375
63	507598.585	104350.517	16.997	1.997			1 13.016 2 1.012 0 1.013	15.000 15.000 15.000	375 375 450
63_OUT	507600.120	104347.686	16.997	1.997			1 1.013	15.000	450

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Detailed
FSR Region	England and Wales	Skip Steady State	x
M5-60 (mm)	19.000	Drain Down Time (mins)	240
Ratio-R	0.350	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 | 30

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
10	10	0	0
100	40	0	0

Node 63 OUT Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	15.000
Safety Factor	6.5	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	316.0	0.0	0.700	554.6	0.0	1.400	935.2	0.0	2.001	0.0	0.0
0.100	347.1	0.0	0.800	592.7	0.0	1.500	999.5	0.0	2.200	0.0	0.0
0.200	379.2	0.0	0.900	644.7	0.0	1.600	1065.8	0.0	2.300	0.0	0.0
0.300	412.3	0.0	1.000	698.7	0.0	1.700	1134.1	0.0	2.400	0.0	0.0
0.400	446.4	0.0	1.100	754.7	0.0	1.800	1204.5	0.0	2.500	0.0	0.0
0.500	481.5	0.0	1.200	812.8	0.0	1.900	1277.0	0.0			
0.600	517.6	0.0	1.300	873.0	0.0	2.000	1351.9	0.0			

Node 63 OUT Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.69480	Porosity	0.30
Side Inf Coefficient (m/hr)	0.69480	Invert Level (m)	13.900
Safety Factor	6.5	Time to half empty (mins)	15

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	802.5	802.5	0.800	802.5	906.5	0.801	0.0	906.5

Node 63 OUT Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	0.30
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	14.700
Safety Factor	6.5	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	316.0	0.0	0.300	316.0	0.0	0.301	0.0	0.0

Results for 10 year +10% CC Critical Storm Duration. Lowest mass balance: 99.84%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	1	10	17.313	0.063	5.7	0.0353	0.0000	OK
15 minute winter	2	10	17.208	0.082	11.0	0.1129	0.0000	OK
15 minute winter	3A	10	17.345	0.045	5.7	0.0298	0.0000	OK
15 minute winter	3	11	16.937	0.080	16.5	0.0900	0.0000	OK
15 minute winter	4	10	17.035	0.035	5.4	0.0517	0.0000	OK
15 minute winter	5	11	16.535	0.144	33.8	0.2455	0.0000	OK
15 minute winter	6	12	16.471	0.068	5.2	0.0358	0.0000	OK
15 minute winter	7	12	16.466	0.235	53.4	0.4364	0.0000	OK
15 minute winter	8	10	17.219	0.019	2.7	0.0091	0.0000	OK
15 minute winter	9	12	16.414	0.291	64.4	0.4705	0.0000	OK
15 minute winter	10	10	17.086	0.036	7.9	0.0259	0.0000	OK
15 minute winter	11	11	16.337	0.303	68.6	0.3427	0.0000	SURCHARGED
15 minute winter	12	11	17.456	0.006	0.3	0.0019	0.0000	OK
15 minute winter	13	11	16.251	0.293	74.0	0.3953	0.0000	OK
15 minute winter	14	11	16.190	0.255	73.5	0.2881	0.0000	OK
15 minute winter	15	9	16.873	0.023	3.8	0.0117	0.0000	OK
15 minute winter	16	11	16.116	0.204	76.7	0.2302	0.0000	OK
15 minute winter	17	10	16.312	0.112	19.1	0.1446	0.0000	OK
15 minute winter	18	10	16.178	0.078	10.6	0.0693	0.0000	OK
15 minute winter	19	11	16.092	0.200	40.9	0.3432	0.0000	OK
15 minute summer	21A	10	16.192	0.042	6.2	0.0256	0.0000	OK
15 minute winter	20	11	15.893	0.214	46.3	0.2415	0.0000	OK
15 minute winter	21	9	16.934	0.034	8.4	0.0337	0.0000	OK
15 minute winter	22	11	15.865	0.305	130.1	0.4366	0.0000	OK
15 minute winter	23	12	15.658	0.187	128.4	0.2680	0.0000	OK
15 minute winter	24	12	15.379	0.379	129.4	0.0000	0.0000	SURCHARGED
15 minute winter	25	10	16.600	0.050	9.3	0.0820	0.0000	OK
15 minute winter	26	10	16.531	0.081	10.6	0.0708	0.0000	OK
15 minute winter	27	10	16.318	0.126	32.5	0.2210	0.0000	OK
15 minute summer	28	11	16.441	0.016	0.5	0.0050	0.0000	OK
15 minute summer	29	11	16.860	0.010	0.5	0.0033	0.0000	OK
15 minute winter	30	10	16.298	0.051	5.9	0.0701	0.0000	OK
15 minute winter	31	11	16.246	0.223	37.9	0.2521	0.0000	OK
15 minute winter	32	10	17.001	0.051	6.0	0.0301	0.0000	OK
15 minute winter	33	10	16.802	0.048	11.1	0.0657	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute winter	1	1.000	2	5.6	0.847	0.316	0.0323
15 minute winter	2	1.001	3	10.8	0.857	0.272	0.5793
15 minute winter	3A	2.000	3	5.7	1.746	0.357	0.0152
15 minute winter	3	1.002	5	16.4	1.339	0.254	0.3116
15 minute winter	4	3.000	5	5.4	1.757	0.109	0.0187
15 minute winter	5	1.003	7	33.8	0.778	0.478	1.7604
15 minute winter	6	4.000	7	5.1	0.579	0.112	0.2478
15 minute winter	7	1.004	9	49.7	0.850	0.701	1.6925
15 minute winter	8	5.000	9	2.7	1.768	0.034	0.0429
15 minute winter	9	1.005	11	61.4	0.921	0.867	1.5261
15 minute winter	10	6.000	11	7.9	2.179	0.125	0.0730
15 minute winter	11	1.006	13	67.9	0.966	0.957	1.2961
15 minute winter	12	7.000	13	0.3	1.037	0.003	0.0420
15 minute winter	13	1.007	14	73.5	1.091	1.031	0.3702
15 minute winter	14	1.008	16	73.4	1.285	1.026	0.3152
15 minute winter	15	8.000	16	3.8	2.138	0.050	0.0157
15 minute winter	16	1.009	22	76.8	1.539	0.716	1.6193
15 minute winter	17	9.000	19	18.9	1.350	0.812	0.2011
15 minute winter	18	10.000	19	10.6	1.002	0.482	0.1073
15 minute winter	19	9.001	20	40.0	1.153	1.006	0.8071
15 minute summer	21A	11.000	20	6.2	1.560	0.154	0.0297
15 minute winter	20	9.002	22	46.0	0.966	0.536	0.4086
15 minute winter	21	12.000	22	8.4	2.780	0.105	0.0345
15 minute winter	22	1.010	23	128.4	1.687	1.158	2.1577
15 minute winter	23	1.011	24	129.4	1.798	0.442	1.2454
15 minute winter	24	1.012	63	129.7	1.177	1.174	0.1102
15 minute winter	25	13.000	27	9.2	1.397	0.101	0.0608
15 minute winter	26	14.000	27	10.5	1.156	0.480	0.0650
15 minute winter	27	13.001	31	32.1	0.821	0.375	1.1860
15 minute summer	28	15.000	30	0.5	0.503	0.023	0.0069
15 minute summer	29	16.000	30	0.5	0.980	0.009	0.0027
15 minute winter	30	15.001	31	5.8	0.661	0.112	0.2563
15 minute winter	31	13.002	35	36.9	0.622	0.518	0.6144
15 minute winter	32	17.000	33	5.9	1.182	0.222	0.0438
15 minute winter	33	17.001	35	11.1	2.030	0.218	0.0654

Results for 10 year +10% CC Critical Storm Duration. Lowest mass balance: 99.84%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	34	10	17.085	0.035	8.2	0.0285	0.0000	OK
15 minute winter	35	11	16.228	0.248	63.4	0.3566	0.0000	OK
15 minute winter	36	10	16.628	0.015	1.1	0.0052	0.0000	OK
15 minute winter	37	12	16.181	0.309	68.9	0.4029	0.0000	SURCHARGED
15 minute summer	38	10	16.632	0.032	5.2	0.0187	0.0000	OK
15 minute winter	39	12	16.113	0.387	77.2	0.6185	0.0000	SURCHARGED
15 minute summer	40	10	16.435	0.035	5.2	0.0201	0.0000	OK
15 minute winter	41	12	16.093	0.402	76.6	0.5752	0.0000	SURCHARGED
15 minute winter	42	10	16.870	0.020	1.9	0.0086	0.0000	OK
15 minute winter	43	12	16.071	0.415	102.6	1.0435	0.0000	SURCHARGED
15 minute winter	44	10	16.913	0.013	1.1	0.0055	0.0000	OK
15 minute winter	45	12	16.028	0.228	10.6	0.1763	0.0000	SURCHARGED
15 minute winter	46	12	16.012	0.485	108.6	0.6947	0.0000	SURCHARGED
15 minute winter	47	10	16.124	0.024	2.7	0.0107	0.0000	OK
15 minute winter	48	12	15.981	0.481	104.6	0.0000	0.0000	SURCHARGED
15 minute winter	49	10	16.223	0.023	2.7	0.0108	0.0000	OK
15 minute winter	50	9	15.954	0.054	9.3	0.0435	0.0000	OK
15 minute winter	51	12	15.943	0.476	111.9	0.6810	0.0000	SURCHARGED
15 minute winter	52	10	15.978	0.028	1.9	0.0118	0.0000	OK
15 minute summer	53	1	16.000	0.000	0.0	0.0000	0.0000	OK
15 minute winter	54	12	15.866	0.504	115.3	0.8878	0.0000	SURCHARGED
15 minute winter	55	11	16.207	0.007	0.3	0.0023	0.0000	OK
15 minute winter	56	12	15.819	0.475	120.8	0.8733	0.0000	SURCHARGED
15 minute winter	57	10	16.223	0.023	2.2	0.0110	0.0000	OK
15 minute winter	58	12	15.708	0.431	121.9	0.6166	0.0000	SURCHARGED
15 minute winter	59	10	15.786	0.091	17.2	0.1844	0.0000	OK
15 minute winter	60	12	15.596	0.387	135.0	0.5535	0.0000	SURCHARGED
15 minute winter	61	12	15.477	0.322	134.8	0.4604	0.0000	OK
15 minute winter	62	12	15.379	0.379	134.6	0.0000	0.0000	SURCHARGED
15 minute winter	63	12	15.375	0.375	276.3	0.2142	0.0000	OK
30 minute winter	63_OUT	35	14.580	-0.420	241.5	163.6565	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute winter	34	18.000	35	8.2	2.359	0.118	0.0465
15 minute winter	35	13.003	37	63.3	1.017	0.894	1.7312
15 minute winter	36	19.000	37	1.1	0.912	0.022	0.0719
15 minute winter	37	13.004	39	67.7	1.161	0.954	1.2156
15 minute summer	38	20.000	39	5.3	1.920	0.091	0.0455
15 minute winter	39	13.005	41	71.5	0.840	0.643	1.2343
15 minute summer	40	21.000	41	5.2	1.737	0.106	0.0558
15 minute winter	41	13.006	43	73.2	0.880	0.654	1.2220
15 minute winter	42	22.000	43	1.9	1.309	0.038	0.1172
15 minute winter	43	13.007	46	97.3	1.047	0.618	2.2879
15 minute winter	44	23.000	46	1.1	1.303	0.016	0.0733
15 minute winter	45	24.000	46	10.2	0.962	0.572	0.0835
15 minute winter	46	13.008	48	101.9	1.003	0.916	0.9514
15 minute winter	47	25.000	48	2.7	1.367	0.054	0.0466
15 minute winter	48	13.009	51	99.9	1.025	0.898	1.1693
15 minute winter	49	26.000	51	2.7	1.426	0.050	0.0544
15 minute winter	50	27.000	51	9.3	1.619	0.243	0.0515
15 minute winter	51	13.010	54	108.2	0.990	0.690	1.8792
15 minute winter	52	28.000	54	1.9	0.720	0.078	0.1994
15 minute summer	53	29.000	54	0.0	0.000	0.000	0.0697
15 minute winter	54	13.011	56	114.3	1.037	1.028	0.6362
15 minute winter	55	30.000	56	0.3	0.837	0.005	0.0411
15 minute winter	56	13.012	58	120.6	1.093	1.085	2.3704
15 minute winter	57	31.000	58	2.2	1.165	0.050	0.1109
15 minute winter	58	13.013	60	122.7	1.112	1.104	2.4058
15 minute winter	59	32.000	60	17.2	1.538	0.617	0.1513
15 minute winter	60	13.014	61	134.8	1.250	1.212	1.8159
15 minute winter	61	13.015	62	134.6	1.443	1.210	1.1954
15 minute winter	62	13.016	63	134.8	1.226	1.220	0.1102
15 minute winter	63	1.013	63_OUT	276.4	1.974	1.738	0.1400
30 minute winter	63_OUT	Infiltration		26.4			

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.84%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	1	13	17.717	0.467	14.3	0.2604	0.0000	SURCHARGED
15 minute winter	2	13	17.704	0.578	23.1	0.8005	0.0000	SURCHARGED
15 minute winter	3A	13	17.762	0.462	11.9	0.3048	0.0000	SURCHARGED
15 minute winter	3	13	17.662	0.805	33.3	0.9110	0.0000	SURCHARGED
15 minute winter	4	13	17.618	0.618	11.3	0.9018	0.0000	SURCHARGED
15 minute winter	5	13	17.601	1.211	63.9	2.0628	0.0000	SURCHARGED
15 minute winter	6	13	17.518	1.115	10.8	0.5829	0.0000	SURCHARGED
15 minute winter	7	13	17.514	1.283	75.4	2.3877	0.0000	FLOOD RISK
15 minute winter	8	13	17.368	0.168	5.7	0.0804	0.0000	SURCHARGED
15 minute winter	9	13	17.363	1.240	96.1	2.0058	0.0000	SURCHARGED
15 minute winter	10	13	17.180	0.130	16.4	0.0933	0.0000	OK
15 minute winter	11	13	17.150	1.115	106.3	1.2612	0.0000	SURCHARGED
15 minute winter	12	10	17.458	0.008	0.6	0.0026	0.0000	OK
15 minute winter	13	12	16.912	0.953	115.4	1.2871	0.0000	SURCHARGED
15 minute winter	14	12	16.783	0.848	116.0	0.9588	0.0000	SURCHARGED
15 minute winter	15	10	16.883	0.033	7.9	0.0165	0.0000	OK
15 minute winter	16	12	16.656	0.744	121.4	0.8409	0.0000	SURCHARGED
15 minute winter	17	11	17.498	1.298	39.7	1.6758	0.0000	FLOOD RISK
15 minute winter	18	12	16.993	0.893	22.1	0.7893	0.0000	SURCHARGED
15 minute winter	19	12	16.863	0.971	75.9	1.6699	0.0000	SURCHARGED
15 minute winter	21A	12	16.334	0.184	13.6	0.1112	0.0000	SURCHARGED
15 minute winter	20	12	16.299	0.620	84.6	0.7013	0.0000	SURCHARGED
15 minute winter	21	10	16.948	0.048	17.6	0.0474	0.0000	OK
15 minute winter	22	12	16.220	0.660	217.5	0.9440	0.0000	SURCHARGED
15 minute winter	23	12	15.749	0.278	217.7	0.3974	0.0000	OK
15 minute winter	24	12	15.457	0.457	217.8	0.0000	0.0000	SURCHARGED
15 minute winter	25	13	17.599	1.049	19.3	1.7062	0.0000	SURCHARGED
15 minute winter	26	13	17.646	1.196	22.1	1.0505	0.0000	FLOOD RISK
15 minute winter	27	13	17.593	1.401	52.4	2.4636	0.0000	FLOOD RISK
15 minute winter	28	13	17.561	1.136	12.2	0.3566	0.0000	FLOOD RISK
15 minute winter	29	13	17.560	0.710	7.3	0.2314	0.0000	FLOOD RISK
15 minute winter	30	13	17.559	1.312	21.0	1.8158	0.0000	FLOOD RISK
15 minute winter	31	13	17.552	1.529	55.9	1.7296	0.0000	SURCHARGED
15 minute winter	32	13	17.598	0.648	12.5	0.3822	0.0000	SURCHARGED
15 minute winter	33	13	17.580	0.826	21.7	1.1380	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute winter	1	1.000	2	11.8	1.007	0.660	0.0854
15 minute winter	2	1.001	3	22.8	1.018	0.573	1.8165
15 minute winter	3A	2.000	3	11.0	1.998	0.691	0.0367
15 minute winter	3	1.002	5	31.4	1.332	0.486	1.0114
15 minute winter	4	3.000	5	10.6	1.987	0.215	0.1077
15 minute winter	5	1.003	7	52.6	0.791	0.744	2.7404
15 minute winter	6	4.000	7	7.6	0.610	0.166	0.4890
15 minute winter	7	1.004	9	74.6	1.059	1.051	1.8492
15 minute winter	8	5.000	9	5.8	1.929	0.073	0.0827
15 minute winter	9	1.005	11	95.5	1.357	1.351	1.5330
15 minute winter	10	6.000	11	15.9	2.213	0.253	0.1191
15 minute winter	11	1.006	13	107.1	1.521	1.509	1.3003
15 minute winter	12	7.000	13	0.6	1.037	0.006	0.0430
15 minute winter	13	1.007	14	116.0	1.647	1.626	0.3898
15 minute winter	14	1.008	16	116.7	1.658	1.631	0.3872
15 minute winter	15	8.000	16	7.9	2.278	0.103	0.0443
15 minute winter	16	1.009	22	122.3	1.737	1.140	2.0949
15 minute winter	17	9.000	19	34.4	1.956	1.481	0.2403
15 minute winter	18	10.000	19	19.1	1.083	0.866	0.1532
15 minute winter	19	9.001	20	73.1	1.837	1.835	0.9302
15 minute winter	21A	11.000	20	12.7	1.653	0.316	0.1127
15 minute winter	20	9.002	22	84.0	1.193	0.978	0.5155
15 minute winter	21	12.000	22	17.6	2.947	0.220	0.0628
15 minute winter	22	1.010	23	217.7	2.051	1.963	2.8336
15 minute winter	23	1.011	24	217.8	2.189	0.744	1.7069
15 minute winter	24	1.012	63	217.8	1.975	1.972	0.1103
15 minute winter	25	13.000	27	14.8	1.354	0.161	0.3635
15 minute winter	26	14.000	27	16.6	1.261	0.757	0.1261
15 minute winter	27	13.001	31	48.3	0.862	0.564	1.9962
15 minute winter	28	15.000	30	-11.1	-0.630	-0.510	0.1216
15 minute winter	29	16.000	30	-6.2	1.158	-0.108	0.0921
15 minute winter	30	15.001	31	15.3	0.679	0.295	0.5962
15 minute winter	31	13.002	35	46.1	0.681	0.647	0.7303
15 minute winter	32	17.000	33	11.6	1.323	0.432	0.1530
15 minute winter	33	17.001	35	19.2	2.059	0.378	0.1364

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.84%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
15 minute winter	34	13	17.550	0.500	17.0	0.4092	0.0000	SURCHARGED
15 minute winter	35	13	17.524	1.544	80.3	2.2167	0.0000	SURCHARGED
15 minute winter	36	13	17.362	0.749	7.9	0.2494	0.0000	SURCHARGED
15 minute winter	37	13	17.361	1.489	83.8	1.9426	0.0000	SURCHARGED
15 minute winter	38	13	17.235	0.635	11.3	0.3740	0.0000	SURCHARGED
15 minute winter	39	13	17.223	1.497	95.3	2.3923	0.0000	SURCHARGED
15 minute winter	40	13	17.191	0.791	11.3	0.4565	0.0000	SURCHARGED
15 minute winter	41	13	17.178	1.487	102.6	2.1275	0.0000	SURCHARGED
15 minute winter	42	13	17.125	0.275	4.0	0.1185	0.0000	SURCHARGED
15 minute winter	43	13	17.126	1.470	140.6	3.6916	0.0000	SURCHARGED
15 minute winter	44	13	16.984	0.084	2.3	0.0349	0.0000	OK
15 minute winter	45	13	17.028	1.228	22.1	0.9508	0.0000	SURCHARGED
15 minute winter	46	13	16.988	1.461	152.5	2.0903	0.0000	FLOOD RISK
15 minute winter	47	13	16.917	0.817	9.4	0.3676	0.0000	SURCHARGED
15 minute winter	48	13	16.914	1.414	154.7	0.0000	0.0000	FLOOD RISK
15 minute winter	49	13	16.828	0.628	5.7	0.2971	0.0000	SURCHARGED
15 minute winter	50	13	16.853	0.953	19.3	0.7709	0.0000	SURCHARGED
15 minute winter	51	13	16.824	1.357	169.0	1.9422	0.0000	FLOOD RISK
15 minute winter	52	13	16.644	0.694	6.8	0.2888	0.0000	SURCHARGED
15 minute winter	53	13	16.641	0.641	4.7	0.1815	0.0000	SURCHARGED
15 minute winter	54	13	16.640	1.278	179.9	2.2519	0.0000	FLOOD RISK
15 minute winter	55	13	16.526	0.326	2.9	0.1003	0.0000	SURCHARGED
15 minute winter	56	13	16.525	1.181	189.4	2.1723	0.0000	SURCHARGED
15 minute winter	57	13	16.259	0.059	4.5	0.0283	0.0000	OK
15 minute winter	58	13	16.254	0.977	192.1	1.3978	0.0000	SURCHARGED
15 minute winter	59	12	16.349	0.654	35.7	1.3201	0.0000	SURCHARGED
15 minute winter	60	13	15.970	0.761	217.1	1.0889	0.0000	SURCHARGED
15 minute winter	61	13	15.664	0.509	217.2	0.7279	0.0000	SURCHARGED
15 minute winter	62	12	15.457	0.457	217.3	0.0000	0.0000	SURCHARGED
15 minute winter	63	12	15.445	0.445	457.7	0.2542	0.0000	OK
30 minute winter	63_OUT	36	15.428	0.428	424.2	385.9053	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m ³)
15 minute winter	34	18.000	35	16.2	2.395	0.233	0.1077
15 minute winter	35	13.003	37	77.0	1.093	1.089	1.8603
15 minute winter	36	19.000	37	-5.6	0.912	-0.113	0.1373
15 minute winter	37	13.004	39	84.8	1.205	1.196	1.2156
15 minute winter	38	20.000	39	10.6	2.063	0.184	0.1102
15 minute winter	39	13.005	41	96.7	0.877	0.869	1.2343
15 minute winter	40	21.000	41	9.6	1.826	0.197	0.1146
15 minute winter	41	13.006	43	105.2	0.954	0.941	1.2220
15 minute winter	42	22.000	43	4.0	1.395	0.080	0.2193
15 minute winter	43	13.007	46	136.8	1.241	0.869	2.2879
15 minute winter	44	23.000	46	2.7	1.303	0.039	0.1112
15 minute winter	45	24.000	46	17.5	1.006	0.981	0.0835
15 minute winter	46	13.008	48	151.4	1.372	1.361	0.9514
15 minute winter	47	25.000	48	4.3	1.398	0.086	0.0848
15 minute winter	48	13.009	51	154.7	1.403	1.391	1.1693
15 minute winter	49	26.000	51	5.2	1.456	0.098	0.0994
15 minute winter	50	27.000	51	14.8	1.707	0.389	0.0804
15 minute winter	51	13.010	54	168.9	1.531	1.077	1.8792
15 minute winter	52	28.000	54	5.6	0.727	0.235	0.3526
15 minute winter	53	29.000	54	-4.7	-0.364	-0.116	0.1394
15 minute winter	54	13.011	56	179.2	1.625	1.611	0.6362
15 minute winter	55	30.000	56	2.4	0.837	0.037	0.0807
15 minute winter	56	13.012	58	189.2	1.715	1.703	2.3704
15 minute winter	57	31.000	58	4.5	1.182	0.102	0.1383
15 minute winter	58	13.013	60	192.9	1.749	1.736	2.4058
15 minute winter	59	32.000	60	31.0	1.760	1.112	0.1883
15 minute winter	60	13.014	61	217.2	1.970	1.953	1.8989
15 minute winter	61	13.015	62	217.3	1.971	1.953	1.3884
15 minute winter	62	13.016	63	217.3	1.970	1.967	0.1103
15 minute winter	63	1.013	63_OUT	457.7	2.916	2.878	0.1567
30 minute winter	63_OUT	Infiltration		26.9			