

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	2	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	9.900
Ratio-R	0.400	Preferred Cover Depth (m)	1.500
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	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	0.034	5.00	117.858	1200	442543.692	292070.502	1.358
1A	0.018	5.00	118.250	1200	442549.684	292043.113	2.157
18	0.118	5.00	118.867	1200	442583.701	292024.196	2.280
2	0.194	5.00	118.096	1200	442555.265	292017.603	2.455
2A	0.122	5.00	117.750	1200	442561.689	291983.520	2.754
19	0.068	5.00	118.039	1200	442609.459	291969.648	1.919
20	0.082	5.00	117.711	1200	442586.971	291963.090	2.199
3	0.027	5.00	117.423	1200	442567.670	291961.582	2.923
4	0.043	5.00	116.747	1200	442565.426	291941.482	2.747
5A	0.075	5.00	115.452	1200	442531.014	291925.132	2.271
5	0.012	5.00	115.271	1200	442555.936	291929.955	1.471
6	0.071	5.00	114.569	1500	442507.184	291920.531	1.969
6A	0.102	5.00	112.950	1500	442473.167	291916.331	2.300
7	0.065	5.00	112.051	1500	442443.660	291912.688	2.051
8	0.150	5.00	110.061	1500	442447.199	291867.277	2.111
9	0.109	5.00	108.890	1500	442443.659	291836.262	2.390
21	0.125	5.00	115.157	1200	442572.711	291903.705	2.357
21A	0.093	5.00	113.750	1200	442589.762	291877.894	2.285
22	0.029	5.00	113.125	1200	442605.739	291849.721	2.325
23	0.092	5.00	112.000	1500	442579.827	291843.947	1.900
24	0.040	5.00	110.650	1500	442526.697	291831.449	2.250
26	0.103	5.00	113.301	1200	442507.019	291887.368	2.801
26A	0.072	5.00	112.298	1200	442508.059	291864.575	2.508
27	0.027	5.00	111.519	1500	442509.409	291839.277	3.719
25	0.046	5.00	109.800	1500	442495.963	291826.381	2.217
25A	0.037	5.00	108.500	1500	442462.556	291818.656	2.174
10	0.014	5.00	108.318	1500	442437.280	291813.247	2.885
11	0.000		108.243	1500	442389.304	291806.111	3.318
28A	0.065	5.00	111.588	1200	442404.275	291914.001	1.813
28	0.114	5.00	111.400	1200	442385.631	291913.591	1.900
29	0.037	5.00	111.050	1200	442368.989	291908.199	2.050
30	0.056	5.00	110.600	1200	442371.589	291878.590	2.200
12	0.000		107.997	1500	442335.519	291829.025	3.497
13	0.000		105.500	1500	442317.961	291800.790	1.400
14	0.000		105.500	1500	442326.815	291777.109	1.500
15	0.000		105.500	1500	442324.487	291766.573	1.700
16	0.000		103.800	1500	442331.838	291751.075	0.700
17			103.800	1500	442337.517	291747.588	0.800
31	0.233	5.00	113.000	1200	442661.783	291880.328	1.200
32	0.064	5.00	112.600	1200	442627.885	291859.867	1.400

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	1A	28.037	0.600	116.500	116.093	0.407	68.9	225	5.30	50.0
1.000A	1A	2	26.113	0.600	116.093	115.641	0.452	57.8	225	5.55	50.0
2.000	18	2	29.190	0.600	116.587	115.642	0.945	30.9	225	5.21	50.0
1.001	2	2A	34.683	0.600	115.641	114.996	0.645	53.8	225	5.87	50.0
1.002	2A	3	22.739	0.600	114.996	114.574	0.422	53.9	225	6.08	50.0
3.000	19	20	23.425	0.600	116.120	115.512	0.608	38.5	225	5.18	50.0
3.001	20	3	19.360	0.600	115.512	114.500	1.012	19.1	225	5.29	50.0
1.003	3	4	20.225	0.600	114.500	114.000	0.500	40.4	300	6.22	50.0
1.004	4	5	14.931	0.600	114.000	113.800	0.200	74.7	300	6.36	50.0
1.005	5	5A	25.384	0.600	113.800	113.181	0.619	41.0	300	6.53	50.0
1.006	5A	6	24.270	0.600	113.181	112.750	0.431	56.3	300	6.72	50.0
1.007	6	6A	34.275	0.600	112.600	110.650	1.950	17.6	450	6.84	50.0
1.007A	6A	7	29.731	0.600	110.650	110.000	0.650	45.7	450	7.00	50.0
1.008	7	8	45.549	0.600	110.000	107.950	2.050	22.2	450	7.18	50.0
1.009	8	9	31.216	0.600	107.950	106.500	1.450	21.5	450	7.30	50.0
1.010	9	10	23.883	0.600	106.500	105.433	1.067	22.4	450	7.39	50.0
4.000	21	21A	30.935	0.600	112.800	111.465	1.335	23.2	225	5.19	50.0
4.001	21A	22	32.388	0.600	111.465	110.875	0.590	54.9	225	5.49	50.0
4.002	22	23	26.548	0.600	110.800	110.100	0.700	37.9	300	5.71	50.0
4.003	23	24	54.580	0.600	110.100	108.400	1.700	32.1	375	6.00	50.0
4.004	24	27	18.978	0.600	108.400	107.800	0.600	31.6	375	6.10	50.0
5.000	26	26A	22.817	0.600	110.500	109.790	0.710	32.1	225	5.16	50.0
5.000A	26A	27	25.334	0.600	109.790	107.800	1.990	12.7	225	5.28	50.0
5.001	27	25	18.631	0.600	107.800	107.658	0.142	131.2	375	6.29	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)
1.000	1.578	62.7	4.6	1.133	1.932	0.034	0.0	41	0.926
1.000A	1.724	68.5	7.0	1.932	2.230	0.052	0.0	49	1.124
2.000	2.362	93.9	16.0	2.055	2.229	0.118	0.0	63	1.778
1.001	1.787	71.1	49.3	2.230	2.529	0.364	0.0	138	1.927
1.002	1.785	71.0	65.9	2.529	2.624	0.486	0.0	172	2.018
3.000	2.114	84.0	9.2	1.694	1.974	0.068	0.0	50	1.393
3.001	3.005	119.5	20.3	1.974	2.698	0.150	0.0	63	2.262
1.003	2.479	175.2	89.9	2.623	2.447	0.663	0.0	152	2.493
1.004	1.821	128.7	95.7	2.447	1.171	0.706	0.0	193	1.988
1.005	2.462	174.0	97.3	1.171	1.971	0.718	0.0	160	2.527
1.006	2.099	148.4	107.5	1.971	1.519	0.793	0.0	190	2.279
1.007	4.867	774.0	117.1	1.519	1.850	0.864	0.0	117	3.553
1.007A	3.012	479.0	130.9	1.850	1.601	0.966	0.0	160	2.585
1.008	4.327	688.2	139.7	1.601	1.661	1.031	0.0	137	3.426
1.009	4.396	699.2	160.1	1.661	1.940	1.181	0.0	145	3.594
1.010	4.311	685.6	174.8	1.940	2.435	1.290	0.0	154	3.630
4.000	2.729	108.5	16.9	2.132	2.060	0.125	0.0	60	2.007
4.001	1.769	70.3	29.5	2.060	2.025	0.218	0.0	102	1.693
4.002	2.561	181.0	73.7	2.025	1.600	0.544	0.0	133	2.435
4.003	3.207	354.2	86.2	1.525	1.875	0.636	0.0	126	2.667
4.004	3.231	356.9	91.6	1.875	3.344	0.676	0.0	129	2.726
5.000	2.316	92.1	14.0	2.576	2.283	0.103	0.0	59	1.688
5.000A	3.687	146.6	23.7	2.283	3.494	0.175	0.0	61	2.734
5.001	1.580	174.5	119.0	3.344	1.767	0.878	0.0	227	1.694

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)
4.005	25	25A	34.289	0.600	107.583	106.401	1.182	29.0	375	6.46	50.0
4.005A	25A	10	25.848	0.600	106.326	105.433	0.893	28.9	450	6.58	50.0
1.011	10	11	48.504	0.600	105.433	105.000	0.433	112.0	525	7.77	50.0
1.012	11	12	58.463	0.600	104.925	104.500	0.425	137.6	525	8.28	50.0
6.000A	28A	28	18.649	0.600	109.775	109.500	0.275	67.8	225	5.20	50.0
6.000	28	29	17.494	0.600	109.500	109.000	0.500	35.0	225	5.33	50.0
6.001	29	30	29.723	0.600	109.000	108.400	0.600	49.5	225	5.59	50.0
6.002	30	12	61.300	0.600	108.400	104.800	3.600	17.0	225	5.91	50.0
1.013	12	13	33.249	0.600	104.500	104.100	0.400	83.1	525	8.51	50.0
1.014	13	14	25.282	0.600	104.100	104.000	0.100	252.8	600	8.78	50.0
1.015	14	15	10.790	0.600	104.000	103.800	0.200	54.0	600	8.84	50.0
1.016	15	16	17.153	0.600	103.800	103.100	0.700	24.5	600	8.90	50.0
1.017	16	17	6.664	0.600	103.100	103.000	0.100	66.6	600	8.93	50.0
7.000	31	32	39.595	0.600	111.800	111.200	0.600	66.0	300	5.34	50.0
7.001	32	22	24.360	0.600	111.200	110.800	0.400	60.9	300	5.54	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)
4.005	3.375	372.7	125.2	1.842	1.724	0.924	0.0	149	3.051
4.005A	3.789	602.7	130.2	1.724	2.435	0.961	0.0	141	3.049
1.011	2.115	457.9	307.0	2.360	2.718	2.265	0.0	316	2.260
1.012	1.908	413.0	307.0	2.793	2.972	2.265	0.0	339	2.081
6.000A	1.590	63.2	8.8	1.588	1.675	0.065	0.0	57	1.129
6.000	2.219	88.2	24.3	1.675	1.825	0.179	0.0	80	1.901
6.001	1.863	74.1	29.3	1.825	1.975	0.216	0.0	98	1.754
6.002	3.186	126.7	36.9	1.975	2.972	0.272	0.0	83	2.775
1.013	2.458	532.0	343.8	2.972	0.875	2.537	0.0	308	2.605
1.014	1.527	431.6	343.8	0.800	0.900	2.537	0.0	406	1.685
1.015	3.320	938.6	343.8	0.900	1.100	2.537	0.0	250	3.074
1.016	4.932	1394.5	343.8	1.100	0.100	2.537	0.0	202	4.120
1.017	2.986	844.2	343.8	0.100	0.200	2.537	0.0	266	2.841
7.000	1.938	137.0	31.6	0.900	1.100	0.233	0.0	98	1.584
7.001	2.018	142.6	40.3	1.100	2.025	0.297	0.0	109	1.743

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	28.037	68.9	225	Circular_Default Sewer Type	117.858	116.500	1.133	118.250	116.093	1.932
1.000A	26.113	57.8	225	Circular_Default Sewer Type	118.250	116.093	1.932	118.096	115.641	2.230
2.000	29.190	30.9	225	Circular_Default Sewer Type	118.867	116.587	2.055	118.096	115.642	2.229
1.001	34.683	53.8	225	Circular_Default Sewer Type	118.096	115.641	2.230	117.750	114.996	2.529
1.002	22.739	53.9	225	Circular_Default Sewer Type	117.750	114.996	2.529	117.423	114.574	2.624

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	1	1200	Manhole	Adoptable	1A	1200	Manhole	Adoptable
1.000A	1A	1200	Manhole	Adoptable	2	1200	Manhole	Adoptable
2.000	18	1200	Manhole	Adoptable	2	1200	Manhole	Adoptable
1.001	2	1200	Manhole	Adoptable	2A	1200	Manhole	Adoptable
1.002	2A	1200	Manhole	Adoptable	3	1200	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)
3.000	23.425	38.5	225	Circular_Default Sewer Type	118.039	116.120	1.694	117.711	115.512	1.974
3.001	19.360	19.1	225	Circular_Default Sewer Type	117.711	115.512	1.974	117.423	114.500	2.698
1.003	20.225	40.4	300	Circular_Default Sewer Type	117.423	114.500	2.623	116.747	114.000	2.447
1.004	14.931	74.7	300	Circular_Default Sewer Type	116.747	114.000	2.447	115.271	113.800	1.171
1.005	25.384	41.0	300	Circular_Default Sewer Type	115.271	113.800	1.171	115.452	113.181	1.971
1.006	24.270	56.3	300	Circular_Default Sewer Type	115.452	113.181	1.971	114.569	112.750	1.519
1.007	34.275	17.6	450	Circular_Default Sewer Type	114.569	112.600	1.519	112.950	110.650	1.850
1.007A	29.731	45.7	450	Circular_Default Sewer Type	112.950	110.650	1.850	112.051	110.000	1.601
1.008	45.549	22.2	450	Circular_Default Sewer Type	112.051	110.000	1.601	110.061	107.950	1.661
1.009	31.216	21.5	450	Circular_Default Sewer Type	110.061	107.950	1.661	108.890	106.500	1.940
1.010	23.883	22.4	450	Circular_Default Sewer Type	108.890	106.500	1.940	108.318	105.433	2.435
4.000	30.935	23.2	225	Circular_Default Sewer Type	115.157	112.800	2.132	113.750	111.465	2.060
4.001	32.388	54.9	225	Circular_Default Sewer Type	113.750	111.465	2.060	113.125	110.875	2.025
4.002	26.548	37.9	300	Circular_Default Sewer Type	113.125	110.800	2.025	112.000	110.100	1.600
4.003	54.580	32.1	375	Circular_Default Sewer Type	112.000	110.100	1.525	110.650	108.400	1.875
4.004	18.978	31.6	375	Circular_Default Sewer Type	110.650	108.400	1.875	111.519	107.800	3.344
5.000	22.817	32.1	225	Circular_Default Sewer Type	113.301	110.500	2.576	112.298	109.790	2.283
5.000A	25.334	12.7	225	Circular_Default Sewer Type	112.298	109.790	2.283	111.519	107.800	3.494
5.001	18.631	131.2	375	Circular_Default Sewer Type	111.519	107.800	3.344	109.800	107.658	1.767
4.005	34.289	29.0	375	Circular_Default Sewer Type	109.800	107.583	1.842	108.500	106.401	1.724
4.005A	25.848	28.9	450	Circular_Default Sewer Type	108.500	106.326	1.724	108.318	105.433	2.435
1.011	48.504	112.0	525	Circular_Default Sewer Type	108.318	105.433	2.360	108.243	105.000	2.718
1.012	58.463	137.6	525	Circular_Default Sewer Type	108.243	104.925	2.793	107.997	104.500	2.972
6.000A	18.649	67.8	225	Circular_Default Sewer Type	111.588	109.775	1.588	111.400	109.500	1.675
6.000	17.494	35.0	225	Circular_Default Sewer Type	111.400	109.500	1.675	111.050	109.000	1.825

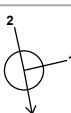
Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
3.000	19	1200	Manhole	Adoptable	20	1200	Manhole	Adoptable
3.001	20	1200	Manhole	Adoptable	3	1200	Manhole	Adoptable
1.003	3	1200	Manhole	Adoptable	4	1200	Manhole	Adoptable
1.004	4	1200	Manhole	Adoptable	5	1200	Manhole	Adoptable
1.005	5	1200	Manhole	Adoptable	5A	1200	Manhole	Adoptable
1.006	5A	1200	Manhole	Adoptable	6	1500	Manhole	Adoptable
1.007	6	1500	Manhole	Adoptable	6A	1500	Manhole	Adoptable
1.007A	6A	1500	Manhole	Adoptable	7	1500	Manhole	Adoptable
1.008	7	1500	Manhole	Adoptable	8	1500	Manhole	Adoptable
1.009	8	1500	Manhole	Adoptable	9	1500	Manhole	Adoptable
1.010	9	1500	Manhole	Adoptable	10	1500	Manhole	Adoptable
4.000	21	1200	Manhole	Adoptable	21A	1200	Manhole	Adoptable
4.001	21A	1200	Manhole	Adoptable	22	1200	Manhole	Adoptable
4.002	22	1200	Manhole	Adoptable	23	1500	Manhole	Adoptable
4.003	23	1500	Manhole	Adoptable	24	1500	Manhole	Adoptable
4.004	24	1500	Manhole	Adoptable	27	1500	Manhole	Adoptable
5.000	26	1200	Manhole	Adoptable	26A	1200	Manhole	Adoptable
5.000A	26A	1200	Manhole	Adoptable	27	1500	Manhole	Adoptable
5.001	27	1500	Manhole	Adoptable	25	1500	Manhole	Adoptable
4.005	25	1500	Manhole	Adoptable	25A	1500	Manhole	Adoptable
4.005A	25A	1500	Manhole	Adoptable	10	1500	Manhole	Adoptable
1.011	10	1500	Manhole	Adoptable	11	1500	Manhole	Adoptable
1.012	11	1500	Manhole	Adoptable	12	1500	Manhole	Adoptable
6.000A	28A	1200	Manhole	Adoptable	28	1200	Manhole	Adoptable
6.000	28	1200	Manhole	Adoptable	29	1200	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)
6.001	29.723	49.5	225	Circular_Default Sewer Type	111.050	109.000	1.825	110.600	108.400	1.975
6.002	61.300	17.0	225	Circular_Default Sewer Type	110.600	108.400	1.975	107.997	104.800	2.972
1.013	33.249	83.1	525	Circular_Default Sewer Type	107.997	104.500	2.972	105.500	104.100	0.875
1.014	25.282	252.8	600	Circular_Default Sewer Type	105.500	104.100	0.800	105.500	104.000	0.900
1.015	10.790	54.0	600	Circular_Default Sewer Type	105.500	104.000	0.900	105.500	103.800	1.100
1.016	17.153	24.5	600	Circular_Default Sewer Type	105.500	103.800	1.100	103.800	103.100	0.100
1.017	6.664	66.6	600	Circular_Default Sewer Type	103.800	103.100	0.100	103.800	103.000	0.200
7.000	39.595	66.0	300	Circular_Default Sewer Type	113.000	111.800	0.900	112.600	111.200	1.100
7.001	24.360	60.9	300	Circular_Default Sewer Type	112.600	111.200	1.100	113.125	110.800	2.025

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
6.001	29	1200	Manhole	Adoptable	30	1200	Manhole	Adoptable
6.002	30	1200	Manhole	Adoptable	12	1500	Manhole	Adoptable
1.013	12	1500	Manhole	Adoptable	13	1500	Manhole	Adoptable
1.014	13	1500	Manhole	Adoptable	14	1500	Manhole	Adoptable
1.015	14	1500	Manhole	Adoptable	15	1500	Manhole	Adoptable
1.016	15	1500	Manhole	Adoptable	16	1500	Manhole	Adoptable
1.017	16	1500	Manhole	Adoptable	17	1500	Manhole	Adoptable
7.000	31	1200	Manhole	Adoptable	32	1200	Manhole	Adoptable
7.001	32	1200	Manhole	Adoptable	22	1200	Manhole	Adoptable

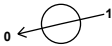
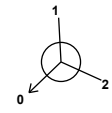
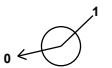
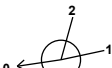
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
1	442543.692	292070.502	117.858	1.358	1200					
						0	1.000	116.500	225	
1A	442549.684	292043.113	118.250	2.157	1200		1	1.000	116.093	225
						0	1.000A	116.093	225	
18	442583.701	292024.196	118.867	2.280	1200					
						0	2.000	116.587	225	
2	442555.265	292017.603	118.096	2.455	1200		1	2.000	115.642	225
						2	1.000A	115.641	225	
						0	1.001	115.641	225	
2A	442561.689	291983.520	117.750	2.754	1200		1	1.001	114.996	225
						0	1.002	114.996	225	
19	442609.459	291969.648	118.039	1.919	1200					
						0	3.000	116.120	225	

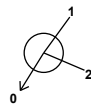
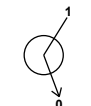
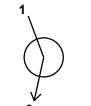
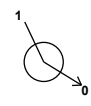
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
20	442586.971	291963.090	117.711	2.199	1200		1	3.000	115.512	225
							0	3.001	115.512	225
3	442567.670	291961.582	117.423	2.923	1200		1	3.001	114.500	225
							2	1.002	114.574	225
							0	1.003	114.500	300
4	442565.426	291941.482	116.747	2.747	1200		1	1.003	114.000	300
							0	1.004	114.000	300
5A	442531.014	291925.132	115.452	2.271	1200		1	1.005	113.181	300
							0	1.006	113.181	300
5	442555.936	291929.955	115.271	1.471	1200		1	1.004	113.800	300
							0	1.005	113.800	300
6	442507.184	291920.531	114.569	1.969	1500		1	1.006	112.750	300
							0	1.007	112.600	450
6A	442473.167	291916.331	112.950	2.300	1500		1	1.007	110.650	450
							0	1.007A	110.650	450
7	442443.660	291912.688	112.051	2.051	1500		1	1.007A	110.000	450
							0	1.008	110.000	450
8	442447.199	291867.277	110.061	2.111	1500		1	1.008	107.950	450
							0	1.009	107.950	450
9	442443.659	291836.262	108.890	2.390	1500		1	1.009	106.500	450
							0	1.010	106.500	450
21	442572.711	291903.705	115.157	2.357	1200		0	4.000	112.800	225
21A	442589.762	291877.894	113.750	2.285	1200		1	4.000	111.465	225
							0	4.001	111.465	225
22	442605.739	291849.721	113.125	2.325	1200		1	4.001	110.875	225
							2	7.001	110.800	300
							0	4.002	110.800	300

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
23	442579.827	291843.947	112.000	1.900	1500	 1	4.002	110.100	300
						0	4.003	110.100	375
24	442526.697	291831.449	110.650	2.250	1500	 1	4.003	108.400	375
						0	4.004	108.400	375
26	442507.019	291887.368	113.301	2.801	1200	 0	5.000	110.500	225
26A	442508.059	291864.575	112.298	2.508	1200	 1	5.000	109.790	225
						0	5.000A	109.790	225
27	442509.409	291839.277	111.519	3.719	1500	 1	5.000A	107.800	225
						2	4.004	107.800	375
						0	5.001	107.800	375
25	442495.963	291826.381	109.800	2.217	1500	 1	5.001	107.658	375
						0	4.005	107.583	375
25A	442462.556	291818.656	108.500	2.174	1500	 1	4.005	106.401	375
						0	4.005A	106.326	450
10	442437.280	291813.247	108.318	2.885	1500	 2	4.005A	105.433	450
						1	1.010	105.433	450
						0	1.011	105.433	525
11	442389.304	291806.111	108.243	3.318	1500	 1	1.011	105.000	525
						0	1.012	104.925	525
28A	442404.275	291914.001	111.588	1.813	1200	 0	6.000A	109.775	225
28	442385.631	291913.591	111.400	1.900	1200	 1	6.000A	109.500	225
						0	6.000	109.500	225
29	442368.989	291908.199	111.050	2.050	1200	 1	6.000	109.000	225
						0	6.001	109.000	225
30	442371.589	291878.590	110.600	2.200	1200	 1	6.001	108.400	225
						0	6.002	108.400	225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
12	442335.519	291829.025	107.997	3.497	1500		1	6.002	104.800	225
							2	1.012	104.500	525
							0	1.013	104.500	525
13	442317.961	291800.790	105.500	1.400	1500		1	1.013	104.100	525
							0	1.014	104.100	600
14	442326.815	291777.109	105.500	1.500	1500		1	1.014	104.000	600
							0	1.015	104.000	600
15	442324.487	291766.573	105.500	1.700	1500		1	1.015	103.800	600
							0	1.016	103.800	600
16	442331.838	291751.075	103.800	0.700	1500		1	1.016	103.100	600
							0	1.017	103.100	600
17	442337.517	291747.588	103.800	0.800	1500		1	1.017	103.000	600
31	442661.783	291880.328	113.000	1.200	1200					
							0	7.000	111.800	300
32	442627.885	291859.867	112.600	1.400	1200		1	7.000	111.200	300
							0	7.001	111.200	300

Simulation Settings

Rainfall Methodology	FSR	Skip Steady State	✓
FSR Region	England and Wales	Drain Down Time (mins)	240
M5-60 (mm)	20.000	Additional Storage (m³/ha)	20.0
Ratio-R	0.400	Check Discharge Rate(s)	✓
Summer CV	0.750	Check Discharge Volume	✓
Winter CV	0.840	100 year 360 minute (m³)	
Analysis Speed	Normal		

Storm Durations

15 | 30 | 60 | 120 | 180 | 240 | 360 | 480 | 600 | 720 | 960 | 1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0
2	0	0	0
30	0	0	0
40	0	0	0
100	40	0	0

Pre-development Discharge Rate

Site Makeup	Greenfield	Growth Factor 30 year	1.95
Greenfield Method	IH124	Growth Factor 100 year	2.48
Positively Drained Area (ha)		Betterment (%)	0
SAAR (mm)		QBar	
Soil Index	1	Q 1 year (l/s)	
SPR	0.10	Q 30 year (l/s)	
Region	1	Q 100 year (l/s)	
Growth Factor 1 year	0.85		

Pre-development Discharge Volume

Site Makeup	Greenfield	Return Period (years)	100
Greenfield Method	FSR/FEH	Climate Change (%)	0
Positively Drained Area (ha)		Storm Duration (mins)	360
Soil Index	1	Betterment (%)	0
SPR	0.10	PR	
CWI		Runoff Volume (m³)	

Node 15 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	103.800	Product Number	CTL-SHE-0156-1350-1700-1350
Design Depth (m)	1.700	Min Outlet Diameter (m)	0.225
Design Flow (l/s)	13.5	Min Node Diameter (mm)	1500

Node 15 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	104.000
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	1508.0	0.0	1.500	2443.0	0.0

Results for 1 year Critical Storm Duration. Lowest mass balance: 92.45%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	1	10	116.542	0.042	4.8	0.0679	0.0000	OK
15 minute winter	1A	11	116.142	0.049	7.2	0.0631	0.0000	OK
15 minute winter	18	10	116.651	0.063	16.6	0.1375	0.0000	OK
15 minute winter	2	10	115.781	0.140	50.8	0.3798	0.0000	OK
15 minute winter	2A	11	115.189	0.193	66.7	0.3894	0.0000	OK
15 minute winter	19	10	116.171	0.051	9.6	0.0936	0.0000	OK
15 minute winter	20	10	115.576	0.063	21.1	0.1191	0.0000	OK
15 minute winter	3	11	114.663	0.162	90.4	0.2138	0.0000	OK
15 minute winter	4	11	114.219	0.219	96.4	0.3166	0.0000	OK
15 minute winter	5A	11	113.390	0.209	108.3	0.3747	0.0000	OK
15 minute winter	5	11	113.969	0.169	98.2	0.2192	0.0000	OK
15 minute winter	6	11	112.717	0.117	117.2	0.2901	0.0000	OK
15 minute winter	6A	11	110.824	0.174	130.4	0.4611	0.0000	OK
15 minute winter	7	11	110.138	0.138	138.3	0.3301	0.0000	OK
15 minute winter	8	11	108.101	0.151	157.4	0.4827	0.0000	OK
15 minute winter	9	11	106.651	0.151	171.0	0.4034	0.0000	OK
15 minute winter	21	10	112.861	0.061	17.6	0.1333	0.0000	OK
15 minute winter	21A	10	111.571	0.106	30.5	0.2059	0.0000	OK
15 minute winter	22	11	110.944	0.143	74.4	0.1980	0.0000	OK
15 minute winter	23	11	110.229	0.129	87.2	0.3524	0.0000	OK
15 minute winter	24	11	108.531	0.131	93.2	0.2786	0.0000	OK
15 minute winter	26	10	110.562	0.061	14.5	0.1147	0.0000	OK
15 minute winter	26A	10	109.852	0.062	24.6	0.1055	0.0000	OK
15 minute winter	27	11	108.054	0.254	120.7	0.4849	0.0000	OK
15 minute winter	25	11	107.742	0.159	126.6	0.3460	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	1	1.000	1A	4.7	0.836	0.075	0.1582	
15 minute winter	1A	1.000A	2	7.1	0.453	0.103	0.4209	
15 minute winter	18	2.000	2	16.4	0.956	0.175	0.5099	
15 minute winter	2	1.001	2A	49.8	1.604	0.701	1.0748	
15 minute winter	2A	1.002	3	66.6	1.939	0.938	0.7806	
15 minute winter	19	3.000	20	9.5	1.198	0.113	0.1861	
15 minute winter	20	3.001	3	20.9	1.071	0.175	0.3838	
15 minute winter	3	1.003	4	90.7	1.918	0.518	0.9518	
15 minute winter	4	1.004	5	96.6	2.002	0.751	0.7180	
15 minute winter	5A	1.006	6	107.8	2.184	0.727	1.1981	
15 minute winter	5	1.005	5A	98.4	2.100	0.565	1.1862	
15 minute winter	6	1.007	6A	117.0	2.648	0.151	1.5247	
15 minute winter	6A	1.007A	7	129.7	2.669	0.271	1.4479	
15 minute winter	7	1.008	8	137.5	3.144	0.200	1.9989	
15 minute winter	8	1.009	9	156.5	3.358	0.224	1.4555	
15 minute winter	9	1.010	10	170.3	1.979	0.248	2.0458	
15 minute winter	21	4.000	21A	17.4	1.306	0.161	0.4174	
15 minute winter	21A	4.001	22	29.7	1.671	0.423	0.5774	
15 minute winter	22	4.002	23	75.0	2.414	0.414	0.8250	
15 minute winter	23	4.003	24	87.9	2.593	0.248	1.8500	
15 minute winter	24	4.004	27	93.5	1.642	0.262	1.0783	
15 minute winter	26	5.000	26A	14.4	1.632	0.156	0.2011	
15 minute winter	26A	5.000A	27	24.4	1.305	0.166	0.6159	
15 minute winter	27	5.001	25	120.6	1.625	0.691	1.3810	
15 minute winter	25	4.005	25A	126.2	2.976	0.339	1.4542	

Results for 1 year Critical Storm Duration. Lowest mass balance: 92.45%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	25A	11	106.466	0.140	131.1	0.2958	0.0000	OK
15 minute winter	10	12	105.765	0.332	303.0	0.6195	0.0000	OK
15 minute winter	11	12	105.281	0.356	302.9	0.6291	0.0000	OK
15 minute winter	28A	10	109.832	0.057	9.2	0.1060	0.0000	OK
15 minute winter	28	10	109.583	0.083	25.2	0.1926	0.0000	OK
15 minute winter	29	10	109.106	0.106	30.1	0.1578	0.0000	OK
15 minute winter	30	11	108.485	0.085	37.6	0.1392	0.0000	OK
15 minute winter	12	12	104.848	0.348	338.8	0.6146	0.0000	OK
15 minute winter	13	12	104.499	0.399	338.0	0.7055	0.0000	OK
15 minute winter	14	12	104.305	0.305	335.8	0.5389	0.0000	OK
180 minute winter	15	176	104.160	0.360	88.0	250.1890	0.0000	OK
180 minute winter	16	176	103.156	0.056	13.3	0.0987	0.0000	OK
180 minute winter	17	176	103.052	0.052	13.3	0.0000	0.0000	OK
15 minute winter	31	10	111.900	0.100	32.9	0.5007	0.0000	OK
15 minute winter	32	10	111.312	0.112	41.3	0.2287	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	25A	4.005A	10	130.8	1.566	0.217	2.1559	
15 minute winter	10	1.011	11	302.9	2.214	0.661	6.6341	
15 minute winter	11	1.012	12	304.5	1.980	0.737	8.9954	
15 minute winter	28A	6.000A	28	9.1	0.864	0.144	0.1973	
15 minute winter	28	6.000	29	24.9	1.580	0.282	0.2757	
15 minute winter	29	6.001	30	29.7	1.869	0.401	0.4724	
15 minute winter	30	6.002	12	37.5	2.767	0.296	0.8299	
15 minute winter	12	1.013	13	338.0	2.057	0.635	5.4537	
15 minute winter	13	1.014	14	335.8	1.957	0.778	4.3358	
15 minute winter	14	1.015	15	334.9	2.728	0.357	1.3608	
180 minute winter	15	Hydro-Brake®	16	13.3				
180 minute winter	16	1.017	17	13.3	1.073	0.016	0.0826	309.3
15 minute winter	31	7.000	32	32.3	1.457	0.236	0.8794	
15 minute winter	32	7.001	22	40.8	1.434	0.286	0.6941	

Results for 2 year Critical Storm Duration. Lowest mass balance: 92.45%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	1	10	116.547	0.047	6.2	0.0770	0.0000	OK
15 minute winter	1A	10	116.148	0.055	9.4	0.0718	0.0000	OK
15 minute winter	18	10	116.660	0.073	21.5	0.1572	0.0000	OK
15 minute winter	2	12	115.866	0.225	65.8	0.6109	0.0000	SURCHARGED
15 minute winter	2A	11	115.407	0.410	82.0	0.8279	0.0000	SURCHARGED
15 minute winter	19	10	116.178	0.058	12.4	0.1066	0.0000	OK
15 minute winter	20	10	115.584	0.072	27.2	0.1359	0.0000	OK
15 minute winter	3	11	114.688	0.188	109.5	0.2469	0.0000	OK
15 minute winter	4	11	114.261	0.261	117.6	0.3763	0.0000	OK
15 minute winter	5A	11	113.431	0.250	133.1	0.4476	0.0000	OK
15 minute winter	5	11	113.996	0.196	120.1	0.2537	0.0000	OK
15 minute winter	6	11	112.729	0.129	143.8	0.3218	0.0000	OK
15 minute winter	6A	11	110.846	0.196	160.9	0.5202	0.0000	OK
15 minute winter	7	11	110.154	0.154	170.6	0.3691	0.0000	OK
15 minute winter	8	11	108.121	0.171	194.8	0.5446	0.0000	OK
15 minute winter	9	11	106.669	0.169	212.6	0.4534	0.0000	OK
15 minute winter	21	10	112.869	0.069	22.8	0.1522	0.0000	OK
15 minute winter	21A	10	111.589	0.124	39.6	0.2416	0.0000	OK
15 minute winter	22	11	110.969	0.169	96.5	0.2333	0.0000	OK
15 minute winter	23	11	110.248	0.148	112.9	0.4040	0.0000	OK
15 minute winter	24	11	108.556	0.156	120.8	0.3314	0.0000	OK
15 minute winter	26	10	110.571	0.071	18.8	0.1318	0.0000	OK
15 minute winter	26A	10	109.861	0.071	31.7	0.1204	0.0000	OK
15 minute winter	27	11	108.111	0.311	156.3	0.5937	0.0000	OK
15 minute winter	25	11	107.768	0.185	163.9	0.4042	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	1	1.000	1A	6.1	0.898	0.097	0.1904	
15 minute winter	1A	1.000A	2	9.2	0.448	0.134	0.6122	
15 minute winter	18	2.000	2	21.3	0.989	0.227	0.7289	
15 minute winter	2	1.001	2A	59.8	1.621	0.841	1.3788	
15 minute winter	2A	1.002	3	78.7	1.983	1.109	0.8952	
15 minute winter	19	3.000	20	12.3	1.291	0.146	0.2236	
15 minute winter	20	3.001	3	27.0	1.154	0.226	0.4467	
15 minute winter	3	1.003	4	110.2	1.951	0.629	1.1259	
15 minute winter	4	1.004	5	118.0	2.051	0.917	0.8492	
15 minute winter	5A	1.006	6	131.6	2.251	0.887	1.4221	
15 minute winter	5	1.005	5A	120.2	2.141	0.691	1.4149	
15 minute winter	6	1.007	6A	143.4	2.778	0.185	1.7800	
15 minute winter	6A	1.007A	7	159.4	2.806	0.333	1.6955	
15 minute winter	7	1.008	8	169.1	3.306	0.246	2.3448	
15 minute winter	8	1.009	9	194.0	3.549	0.277	1.7110	
15 minute winter	9	1.010	10	212.5	2.075	0.310	2.4158	
15 minute winter	21	4.000	21A	22.6	1.384	0.208	0.5084	
15 minute winter	21A	4.001	22	38.5	1.778	0.548	0.7044	
15 minute winter	22	4.002	23	97.1	2.575	0.537	1.0012	
15 minute winter	23	4.003	24	113.9	2.724	0.322	2.2825	
15 minute winter	24	4.004	27	121.2	1.682	0.340	1.3375	
15 minute winter	26	5.000	26A	18.6	1.752	0.202	0.2428	
15 minute winter	26A	5.000A	27	31.5	1.337	0.215	0.6385	
15 minute winter	27	5.001	25	156.0	1.704	0.894	1.7001	
15 minute winter	25	4.005	25A	163.4	3.166	0.438	1.7696	

Results for 2 year Critical Storm Duration. Lowest mass balance: 92.45%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	25A	11	106.487	0.161	169.7	0.3386	0.0000	OK
15 minute winter	10	11	105.829	0.396	384.2	0.7389	0.0000	OK
15 minute winter	11	12	105.363	0.438	382.7	0.7737	0.0000	OK
15 minute winter	28A	10	109.840	0.065	11.8	0.1205	0.0000	OK
15 minute winter	28	10	109.596	0.096	32.5	0.2236	0.0000	OK
15 minute winter	29	10	109.124	0.124	38.9	0.1845	0.0000	OK
15 minute winter	30	11	108.497	0.097	48.6	0.1591	0.0000	OK
15 minute winter	12	12	104.924	0.424	426.9	0.7496	0.0000	OK
15 minute winter	13	12	104.566	0.466	426.1	0.8239	0.0000	OK
15 minute winter	14	12	104.354	0.354	425.0	0.6251	0.0000	OK
180 minute winter	15	180	104.213	0.412	121.7	335.9956	0.0000	OK
180 minute winter	16	180	103.156	0.056	13.4	0.0993	0.0000	OK
180 minute winter	17	180	103.052	0.052	13.4	0.0000	0.0000	OK
15 minute winter	31	10	111.915	0.115	42.5	0.5762	0.0000	OK
15 minute winter	32	10	111.331	0.131	53.6	0.2670	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	25A	4.005A	10	169.4	1.647	0.281	2.5665	
15 minute winter	10	1.011	11	382.7	2.289	0.836	8.1019	
15 minute winter	11	1.012	12	383.6	2.031	0.929	11.0913	
15 minute winter	28A	6.000A	28	11.7	0.917	0.185	0.2392	
15 minute winter	28	6.000	29	32.2	1.673	0.364	0.3364	
15 minute winter	29	6.001	30	38.4	1.986	0.519	0.5753	
15 minute winter	30	6.002	12	49.3	2.934	0.389	1.1432	
15 minute winter	12	1.013	13	426.1	2.183	0.801	6.4784	
15 minute winter	13	1.014	14	425.0	2.071	0.985	5.1555	
15 minute winter	14	1.015	15	423.6	2.978	0.451	1.5838	
180 minute winter	15	Hydro-Brake®	16	13.4				
180 minute winter	16	1.017	17	13.4	1.076	0.016	0.0832	315.8
15 minute winter	31	7.000	32	41.9	1.544	0.306	1.0738	
15 minute winter	32	7.001	22	52.7	1.507	0.370	0.8533	

Results for 30 year Critical Storm Duration. Lowest mass balance: 92.45%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	1	13	117.525	1.025	19.0	1.6720	0.0000	SURCHARGED
15 minute winter	1A	13	117.509	1.416	41.6	1.8381	0.0000	SURCHARGED
15 minute winter	18	13	117.574	0.987	40.8	2.1373	0.0000	SURCHARGED
15 minute winter	2	13	117.495	1.854	99.6	5.0252	0.0000	SURCHARGED
15 minute winter	2A	12	116.623	1.627	107.9	3.2811	0.0000	SURCHARGED
15 minute winter	19	10	116.201	0.081	23.5	0.1483	0.0000	OK
15 minute winter	20	12	115.666	0.154	51.7	0.2886	0.0000	OK
15 minute winter	3	12	115.542	1.042	152.2	1.3709	0.0000	SURCHARGED
15 minute winter	4	12	115.045	1.045	161.0	1.5089	0.0000	SURCHARGED
15 minute winter	5A	12	113.875	0.694	183.7	1.2428	0.0000	SURCHARGED
15 minute winter	5	12	114.587	0.787	163.7	1.0183	0.0000	SURCHARGED
15 minute winter	6	11	112.755	0.155	204.3	0.3863	0.0000	OK
15 minute winter	6A	11	110.899	0.249	237.1	0.6597	0.0000	OK
15 minute winter	7	11	110.193	0.193	257.1	0.4644	0.0000	OK
15 minute winter	8	12	108.218	0.268	308.9	0.8554	0.0000	OK
15 minute winter	9	13	107.753	1.253	337.9	3.3556	0.0000	SURCHARGED
15 minute winter	21	10	112.898	0.098	43.2	0.2145	0.0000	OK
15 minute winter	21A	11	111.834	0.369	75.1	0.7184	0.0000	SURCHARGED
15 minute winter	22	11	111.198	0.398	179.8	0.5487	0.0000	SURCHARGED
15 minute winter	23	11	110.300	0.200	202.2	0.5466	0.0000	OK
15 minute winter	24	13	109.031	0.631	214.9	1.3390	0.0000	SURCHARGED
15 minute winter	26	10	110.601	0.101	35.6	0.1887	0.0000	OK
15 minute winter	26A	10	109.890	0.100	60.2	0.1699	0.0000	OK
15 minute winter	27	13	108.763	0.963	271.4	1.8405	0.0000	SURCHARGED
15 minute winter	25	13	108.368	0.785	281.0	1.7133	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	1	1.000	1A	13.7	1.000	0.218	1.1151	
15 minute winter	1A	1.000A	2	33.1	0.832	0.483	1.0385	
15 minute winter	18	2.000	2	36.4	1.105	0.388	1.1609	
15 minute winter	2	1.001	2A	79.6	2.003	1.121	1.3794	
15 minute winter	2A	1.002	3	104.0	2.616	1.465	0.9044	
15 minute winter	19	3.000	20	23.3	1.504	0.277	0.4670	
15 minute winter	20	3.001	3	48.1	1.444	0.403	0.6648	
15 minute winter	3	1.003	4	149.4	2.122	0.853	1.4242	
15 minute winter	4	1.004	5	160.5	2.280	1.247	1.0514	
15 minute winter	5A	1.006	6	183.9	2.612	1.240	1.6924	
15 minute winter	5	1.005	5A	164.0	2.329	0.943	1.7875	
15 minute winter	6	1.007	6A	203.9	2.985	0.263	2.3689	
15 minute winter	6A	1.007A	7	235.9	3.096	0.492	2.3027	
15 minute winter	7	1.008	8	260.1	3.653	0.378	3.6433	
15 minute winter	8	1.009	9	300.2	3.595	0.429	4.0113	
15 minute winter	9	1.010	10	305.7	2.181	0.446	3.7841	
15 minute winter	21	4.000	21A	42.9	1.538	0.395	0.8687	
15 minute winter	21A	4.001	22	67.3	1.997	0.957	1.2881	
15 minute winter	22	4.002	23	172.2	2.948	0.951	1.5961	
15 minute winter	23	4.003	24	201.9	2.832	0.570	4.6381	
15 minute winter	24	4.004	27	205.0	1.859	0.574	2.0932	
15 minute winter	26	5.000	26A	35.3	2.064	0.384	0.3906	
15 minute winter	26A	5.000A	27	59.9	1.818	0.408	0.7185	
15 minute winter	27	5.001	25	266.0	2.412	1.525	2.0549	
15 minute winter	25	4.005	25A	283.6	3.385	0.761	3.7820	

Results for 30 year Critical Storm Duration. Lowest mass balance: 92.45%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	25A	13	107.688	1.362	296.4	2.8711	0.0000	SURCHARGED
15 minute winter	10	13	107.450	2.017	564.4	3.7593	0.0000	SURCHARGED
15 minute winter	11	13	106.614	1.689	566.0	2.9846	0.0000	SURCHARGED
15 minute winter	28A	10	109.869	0.094	22.5	0.1744	0.0000	OK
15 minute winter	28	10	109.647	0.147	61.6	0.3431	0.0000	OK
15 minute winter	29	11	109.219	0.219	73.8	0.3267	0.0000	OK
15 minute winter	30	11	108.540	0.140	91.3	0.2293	0.0000	OK
15 minute winter	12	12	105.644	1.144	638.2	2.0222	0.0000	SURCHARGED
15 minute winter	13	12	104.849	0.749	635.7	1.3232	0.0000	SURCHARGED
15 minute winter	14	13	104.468	0.468	636.1	0.8262	0.0000	OK
360 minute winter	15	352	104.451	0.651	167.0	745.7336	0.0000	SURCHARGED
60 minute winter	16	229	103.156	0.056	13.5	0.0996	0.0000	OK
60 minute winter	17	43	103.052	0.052	13.5	0.0000	0.0000	OK
15 minute winter	31	10	111.968	0.168	80.5	0.8444	0.0000	OK
15 minute winter	32	11	111.411	0.211	101.6	0.4314	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	25A	4.005A	10	260.5	1.764	0.432	4.0954	
15 minute winter	10	1.011	11	566.0	2.620	1.236	10.4785	
15 minute winter	11	1.012	12	567.4	2.627	1.374	12.6299	
15 minute winter	28A	6.000A	28	22.3	1.028	0.352	0.4036	
15 minute winter	28	6.000	29	61.0	1.835	0.691	0.5772	
15 minute winter	29	6.001	30	72.3	2.230	0.976	0.9715	
15 minute winter	30	6.002	12	90.7	3.098	0.716	2.0133	
15 minute winter	12	1.013	13	635.7	2.943	1.195	7.1829	
15 minute winter	13	1.014	14	636.1	2.315	1.474	6.5395	
15 minute winter	14	1.015	15	636.4	3.381	0.678	2.2049	
360 minute winter	15	Hydro-Brake®	16	13.5				
60 minute winter	16	1.017	17	13.5	1.077	0.016	0.0836	234.4
15 minute winter	31	7.000	32	79.5	1.726	0.580	1.8218	
15 minute winter	32	7.001	22	102.6	1.619	0.719	1.5026	

Results for 40 year Critical Storm Duration. Lowest mass balance: 92.45%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	1	13	117.809	1.309	25.9	2.1361	0.0000	FLOOD RISK
15 minute winter	1A	13	117.802	1.709	38.1	2.2182	0.0000	SURCHARGED
15 minute winter	18	13	117.864	1.276	43.4	2.7648	0.0000	SURCHARGED
15 minute winter	2	13	117.776	2.135	104.7	5.7873	0.0000	SURCHARGED
15 minute winter	2A	13	116.847	1.851	111.2	3.7341	0.0000	SURCHARGED
15 minute winter	19	10	116.203	0.083	25.0	0.1534	0.0000	OK
15 minute winter	20	12	115.823	0.311	55.0	0.5838	0.0000	SURCHARGED
15 minute winter	3	12	115.669	1.169	155.6	1.5388	0.0000	SURCHARGED
15 minute winter	4	12	115.148	1.148	165.3	1.6576	0.0000	SURCHARGED
15 minute winter	5A	12	113.921	0.740	188.8	1.3260	0.0000	SURCHARGED
15 minute winter	5	12	114.667	0.867	167.8	1.1225	0.0000	SURCHARGED
15 minute winter	6	11	112.758	0.158	211.4	0.3933	0.0000	OK
15 minute winter	6A	11	110.906	0.256	246.4	0.6783	0.0000	OK
15 minute winter	7	10	110.197	0.197	267.6	0.4725	0.0000	OK
15 minute winter	8	12	108.261	0.311	322.4	0.9918	0.0000	OK
15 minute winter	9	13	107.954	1.454	350.0	3.8963	0.0000	SURCHARGED
15 minute winter	21	10	112.901	0.101	46.0	0.2222	0.0000	OK
15 minute winter	21A	11	111.985	0.520	79.9	1.0107	0.0000	SURCHARGED
15 minute winter	22	11	111.263	0.463	179.2	0.6388	0.0000	SURCHARGED
15 minute winter	23	12	110.311	0.211	210.7	0.5766	0.0000	OK
15 minute winter	24	13	109.296	0.896	224.4	1.9025	0.0000	SURCHARGED
15 minute winter	26	10	110.605	0.105	37.9	0.1959	0.0000	OK
15 minute winter	26A	10	109.893	0.103	64.1	0.1760	0.0000	OK
15 minute winter	27	13	109.015	1.214	269.4	2.3221	0.0000	SURCHARGED
15 minute winter	25	13	108.597	1.014	287.8	2.2134	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	1	1.000	1A	15.1	1.019	0.241	1.1151	
15 minute winter	1A	1.000A	2	31.9	0.822	0.465	1.0385	
15 minute winter	18	2.000	2	37.5	1.108	0.400	1.1609	
15 minute winter	2	1.001	2A	81.3	2.043	1.144	1.3794	
15 minute winter	2A	1.002	3	107.1	2.692	1.508	0.9044	
15 minute winter	19	3.000	20	24.8	1.525	0.295	0.6001	
15 minute winter	20	3.001	3	50.7	1.492	0.425	0.7700	
15 minute winter	3	1.003	4	153.6	2.181	0.876	1.4242	
15 minute winter	4	1.004	5	164.7	2.339	1.279	1.0514	
15 minute winter	5A	1.006	6	188.9	2.683	1.273	1.6924	
15 minute winter	5	1.005	5A	168.6	2.395	0.969	1.7875	
15 minute winter	6	1.007	6A	211.1	3.002	0.273	2.4431	
15 minute winter	6A	1.007A	7	245.1	3.121	0.512	2.3491	
15 minute winter	7	1.008	8	270.4	3.719	0.393	4.1012	
15 minute winter	8	1.009	9	309.9	3.559	0.443	4.2977	
15 minute winter	9	1.010	10	316.2	2.260	0.461	3.7841	
15 minute winter	21	4.000	21A	45.7	1.552	0.421	0.8833	
15 minute winter	21A	4.001	22	71.1	1.876	1.011	1.2881	
15 minute winter	22	4.002	23	178.8	2.805	0.988	1.6368	
15 minute winter	23	4.003	24	210.5	2.825	0.594	4.7497	
15 minute winter	24	4.004	27	201.0	1.822	0.563	2.0932	
15 minute winter	26	5.000	26A	37.6	2.096	0.409	0.4097	
15 minute winter	26A	5.000A	27	63.8	1.917	0.435	0.7287	
15 minute winter	27	5.001	25	270.9	2.457	1.553	2.0549	
15 minute winter	25	4.005	25A	270.5	3.424	0.726	3.7820	

Results for 40 year Critical Storm Duration. Lowest mass balance: 92.45%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	25A	13	107.883	1.557	284.1	3.2821	0.0000	SURCHARGED
15 minute winter	10	13	107.635	2.202	578.2	4.1042	0.0000	SURCHARGED
15 minute winter	11	13	106.761	1.836	578.9	3.2440	0.0000	SURCHARGED
15 minute winter	28A	10	109.873	0.098	23.9	0.1813	0.0000	OK
15 minute winter	28	11	109.666	0.166	65.6	0.3873	0.0000	OK
15 minute winter	29	11	109.345	0.345	77.2	0.5148	0.0000	SURCHARGED
15 minute winter	30	11	108.543	0.143	93.6	0.2341	0.0000	OK
15 minute winter	12	13	105.739	1.239	659.7	2.1895	0.0000	SURCHARGED
15 minute winter	13	13	104.885	0.785	661.3	1.3866	0.0000	SURCHARGED
360 minute winter	14	360	104.486	0.486	127.1	0.8594	0.0000	OK
360 minute winter	15	360	104.486	0.686	239.6	809.1241	0.0000	SURCHARGED
120 minute winter	16	72	103.156	0.056	13.5	0.0996	0.0000	OK
120 minute winter	17	72	103.052	0.052	13.5	0.0000	0.0000	OK
15 minute winter	31	10	111.976	0.176	85.7	0.8810	0.0000	OK
15 minute winter	32	12	111.469	0.269	108.3	0.5502	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	25A	4.005A	10	269.6	1.771	0.447	4.0954	
15 minute winter	10	1.011	11	578.9	2.680	1.264	10.4785	
15 minute winter	11	1.012	12	581.3	2.691	1.408	12.6299	
15 minute winter	28A	6.000A	28	23.6	1.019	0.374	0.4366	
15 minute winter	28	6.000	29	63.6	1.839	0.721	0.6229	
15 minute winter	29	6.001	30	74.2	2.233	1.002	0.9857	
15 minute winter	30	6.002	12	93.4	3.146	0.738	2.0328	
15 minute winter	12	1.013	13	661.3	3.061	1.243	7.1829	
15 minute winter	13	1.014	14	661.9	2.392	1.533	6.6234	
360 minute winter	14	1.015	15	239.6	1.073	0.255	2.8398	
360 minute winter	15	Hydro-Brake®	16	13.5				
120 minute winter	16	1.017	17	13.5	1.077	0.016	0.0836	277.8
15 minute winter	31	7.000	32	84.7	1.723	0.618	2.1116	
15 minute winter	32	7.001	22	101.2	1.612	0.710	1.6690	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 92.45%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	1	17	117.858	1.358	51.9	2.2163	20.6236	FLOOD
15 minute winter	1A	10	118.028	1.935	36.8	2.5113	0.0000	FLOOD RISK
15 minute winter	18	11	118.744	2.157	74.2	4.6727	0.0000	FLOOD RISK
15 minute winter	2	10	118.096	2.455	188.4	6.6555	21.3169	FLOOD
15 minute winter	2A	10	117.750	2.754	140.1	5.5548	3.0982	FLOOD
15 minute winter	19	12	117.470	1.350	42.7	2.4835	0.0000	SURCHARGED
15 minute winter	20	12	117.339	1.827	79.7	3.4291	0.0000	SURCHARGED
15 minute winter	3	12	116.803	2.303	185.2	3.0310	0.0000	SURCHARGED
15 minute winter	4	12	116.035	2.035	207.7	2.9387	0.0000	SURCHARGED
15 minute winter	5A	11	114.354	1.173	233.7	2.1004	0.0000	SURCHARGED
15 minute winter	5	11	115.271	1.471	213.5	1.9035	4.1890	FLOOD
15 minute winter	6	11	112.781	0.181	272.5	0.4514	0.0000	OK
15 minute winter	6A	10	110.964	0.314	335.3	0.8334	0.0000	OK
15 minute winter	7	11	110.355	0.355	373.6	0.8532	0.0000	OK
15 minute winter	8	11	109.712	1.762	455.3	5.6162	0.0000	SURCHARGED
15 minute winter	9	11	108.890	2.390	511.0	6.4028	12.5233	FLOOD
15 minute winter	21	12	114.334	1.534	78.6	3.3621	0.0000	SURCHARGED
15 minute winter	21A	11	113.750	2.285	115.1	4.4443	2.2012	FLOOD
15 minute winter	22	11	112.479	1.679	219.2	2.3174	0.0000	SURCHARGED
15 minute winter	23	11	111.561	1.461	265.1	3.9977	0.0000	SURCHARGED
15 minute winter	24	11	110.650	2.250	264.7	4.7768	6.8447	FLOOD
15 minute winter	26	12	111.497	0.997	64.7	1.8606	0.0000	SURCHARGED
15 minute winter	26A	12	111.221	1.431	102.8	2.4392	0.0000	SURCHARGED
15 minute winter	27	12	110.349	2.549	308.4	4.8741	0.0000	SURCHARGED
15 minute winter	25	11	109.703	2.120	332.7	4.6253	0.0000	FLOOD RISK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	1	1.000	1A	-35.3	0.961	-0.563	1.1151	
15 minute winter	1A	1.000A	2	-28.6	-0.719	-0.417	1.0385	
15 minute winter	18	2.000	2	70.9	1.783	0.755	1.1609	
15 minute winter	2	1.001	2A	78.0	1.961	1.097	1.3794	
15 minute winter	2A	1.002	3	108.6	2.732	1.530	0.9044	
15 minute winter	19	3.000	20	34.9	1.532	0.415	0.9316	
15 minute winter	20	3.001	3	76.7	1.928	0.642	0.7700	
15 minute winter	3	1.003	4	185.9	2.640	1.061	1.4242	
15 minute winter	4	1.004	5	207.6	2.949	1.613	1.0514	
15 minute winter	5A	1.006	6	230.4	3.273	1.553	1.6918	
15 minute winter	5	1.005	5A	195.5	2.777	1.123	1.7875	
15 minute winter	6	1.007	6A	272.7	3.160	0.352	3.0460	
15 minute winter	6A	1.007A	7	334.6	3.205	0.699	3.7247	
15 minute winter	7	1.008	8	366.5	3.658	0.533	6.6665	
15 minute winter	8	1.009	9	446.5	3.622	0.639	4.9460	
15 minute winter	9	1.010	10	414.0	2.613	0.604	3.7841	
15 minute winter	21	4.000	21A	66.0	1.668	0.608	1.2303	
15 minute winter	21A	4.001	22	95.6	2.404	1.359	1.2881	
15 minute winter	22	4.002	23	210.7	2.997	1.164	1.8695	
15 minute winter	23	4.003	24	241.1	2.879	0.681	6.0200	
15 minute winter	24	4.004	27	230.4	2.089	0.646	2.0932	
15 minute winter	26	5.000	26A	60.2	2.172	0.654	0.9075	
15 minute winter	26A	5.000A	27	92.6	2.372	0.632	1.0076	
15 minute winter	27	5.001	25	309.5	2.807	1.774	2.0549	
15 minute winter	25	4.005	25A	332.5	3.299	0.892	3.7820	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 92.45%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	25A	18	108.500	2.174	341.3	4.5828	36.0848	FLOOD
15 minute winter	10	11	108.318	2.885	649.6	5.3776	3.6228	FLOOD
15 minute winter	11	13	107.292	2.367	636.8	4.1832	0.0000	SURCHARGED
15 minute winter	28A	12	111.333	1.557	40.9	2.8782	0.0000	FLOOD RISK
15 minute winter	28	12	111.265	1.765	97.6	4.1136	0.0000	FLOOD RISK
15 minute winter	29	12	110.753	1.753	101.5	2.6160	0.0000	FLOOD RISK
15 minute winter	30	12	109.620	1.220	123.4	2.0014	0.0000	SURCHARGED
15 minute winter	12	13	106.100	1.600	745.0	2.8274	0.0000	SURCHARGED
30 minute winter	13	24	105.064	0.964	737.2	1.7040	0.0000	SURCHARGED
600 minute winter	14	600	104.906	0.906	151.4	1.6002	0.0000	SURCHARGED
600 minute winter	15	600	104.906	1.106	203.2	1624.1290	0.0000	SURCHARGED
60 minute winter	16	34	103.156	0.056	13.5	0.0996	0.0000	OK
60 minute winter	17	34	103.052	0.052	13.5	0.0000	0.0000	OK
15 minute winter	31	11	113.000	1.200	146.4	6.0168	2.9056	FLOOD
15 minute winter	32	11	112.600	1.400	139.7	2.8630	10.0313	FLOOD

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	25A	4.005A	10	297.0	1.874	0.493	4.0954	
15 minute winter	10	1.011	11	636.8	2.948	1.391	10.4785	
15 minute winter	11	1.012	12	628.7	2.911	1.523	12.6299	
15 minute winter	28A	6.000A	28	31.1	1.014	0.493	0.7417	
15 minute winter	28	6.000	29	78.2	1.966	0.886	0.6958	
15 minute winter	29	6.001	30	93.7	2.355	1.265	1.1821	
15 minute winter	30	6.002	12	117.7	3.197	0.929	2.4380	
15 minute winter	12	1.013	13	744.8	3.448	1.400	7.1829	
30 minute winter	13	1.014	14	736.9	2.618	1.707	7.1214	
600 minute winter	14	1.015	15	203.2	0.878	0.216	3.0393	
600 minute winter	15	Hydro-Brake®	16	13.5				
60 minute winter	16	1.017	17	13.5	1.077	0.016	0.0836	224.9
15 minute winter	31	7.000	32	106.8	1.728	0.779	2.7883	
15 minute winter	32	7.001	22	115.0	1.633	0.806	1.7154	