

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	30	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.000
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	x
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S1	0.136	5.00	118.865	1350	442122.178	295627.520	1.517
S2	0.028	5.00	119.197	1200	442140.118	295593.093	2.151
S3	0.031	5.00	118.919	1200	442154.399	295592.342	2.096
S4	0.030	5.00	117.785	1350	442177.287	295548.340	1.503
S5	0.115	5.00	117.684	1350	442174.379	295539.959	1.592
S6	0.102	5.00	116.751	1350	442110.693	295503.544	1.635
S7	0.000	5.00	115.674	1350	442054.332	295478.120	1.563
S8			115.537	1350	442047.649	295479.163	1.592
S9	0.130	5.00	115.458	1350	442042.931	295484.521	1.531
S10	0.000	5.00	115.784	1350	442030.888	295523.114	1.970
S100	0.108	5.00	118.197	1350	442050.051	295658.109	1.667
S101	0.200	5.00	117.895	1350	442057.553	295627.637	1.765
S102	0.027	5.00	118.264	1350	442073.202	295597.499	2.285
S103	0.073	5.00	118.887	1350	442083.516	295577.633	3.054
S5B	0.034	5.00	119.061	1200	442099.238	295567.254	2.081
S28a	0.009	5.00	119.060	1200	442092.081	295566.009	2.500
S24			119.070	1350	442083.653	295566.603	3.388
S25a	0.125	5.00	118.797	1350	442076.465	295557.634	3.346
S29a	0.151	5.00	115.749	1350	442006.742	295602.107	1.349
S30a	0.021	5.00	116.115	1350	442013.754	295592.296	1.915
S31a	0.121	5.00	117.047	1350	442031.876	295557.218	2.947
S26	0.078	5.00	116.831	1350	442041.476	295539.466	2.831
S11	0.019	5.00	116.056	1500	442026.334	295531.583	2.417
S12	0.042	5.00	114.962	1500	442007.613	295522.925	1.952
S13	0.126	5.00	112.883	1500	441966.222	295510.041	2.038
S31	0.206	5.00	110.801	1350	441937.069	295457.767	1.611
S32	0.011	5.00	111.119	1200	441940.810	295478.715	2.019
S14	0.182	5.00	111.289	1500	441936.772	295501.574	2.589
S33a	0.134	5.00	108.959	1350	441894.268	295561.300	1.389
S28	0.009	5.00	109.652	1200	441906.734	295522.229	2.252
S34a	0.069	5.00	110.068	1200	441911.470	295507.223	2.768
S15	0.049	5.00	110.127	1800	441912.063	295497.840	3.327
S16	0.178	5.00	107.852	1800	441868.150	295491.235	2.552
S17	0.043	5.00	107.135	1800	441855.220	295498.861	2.286
S35	0.072	5.00	107.009	1350	441806.412	295586.706	1.489
S36	0.069	5.00	107.263	1200	441820.210	295555.182	1.942
S37	0.013	5.00	107.154	1350	441834.268	295541.068	1.916
S18	0.112	5.00	106.922	1800	441841.079	295527.619	2.218
HW1			106.700	2082	441828.339	295521.638	2.046
HW2			106.204	2082	441805.376	295527.578	1.600
HW3			106.700	2082	441795.957	295555.711	2.146
HW4			106.060	2082	441781.318	295589.520	1.531

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S38	0.127	5.00	118.196	1350	442011.576	295798.440	1.653
S39a	0.017	5.00	118.384	1200	442018.182	295784.375	2.056
S40	0.016	5.00	118.648	1200	442032.252	295764.331	2.381
S41	0.057	5.00	118.806	1200	442038.844	295751.177	2.640
S42a	0.109	5.00	119.119	1200	442047.057	295726.624	4.618
S42	0.030	5.00	118.759	1350	442030.864	295718.632	4.479
S104	0.035	5.00	118.435	1200	442031.868	295700.241	3.174
S105	0.036	5.00	118.295	1350	442022.412	295711.808	4.173
S51	0.142	5.00	115.638	1350	441954.799	295759.978	1.440
S52	0.137	5.00	117.277	1350	441980.777	295727.265	3.622
S43	0.042	5.00	117.317	1350	442004.701	295697.554	3.887
S44	0.191	5.00	115.771	1350	441981.944	295678.971	3.336
S45	0.401	5.00	114.468	1350	441956.937	295670.222	2.943
S46	0.022	5.00	112.165	1350	441909.609	295670.236	2.272
S47	0.150	5.00	111.378	1500	441896.171	295664.227	2.178
S48	0.324	5.00	107.181	1500	441831.251	295614.343	2.158
S49	0.273	5.00	106.859	1800	441812.456	295608.565	2.297
S50a	0.044	5.00	106.573	1800	441784.819	295608.729	2.061
S19	0.023	5.00	106.257	2100	441774.589	295604.017	1.765
HW5			106.400	2480	441760.586	295620.651	2.020
HW6			106.060	1200	441736.747	295608.129	1.750
S20			106.300	3000	441723.363	295605.968	2.028
HW7	0.000		105.000		441709.095	295601.667	0.790

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	S1	S2	38.821	0.600	117.348	117.046	0.302	128.5	300	5.47	50.0
1.001	S2	S3	14.301	0.600	117.046	116.823	0.223	64.1	300	5.59	50.0
1.002	S3	S4	49.599	0.600	116.823	116.282	0.541	91.7	300	6.09	50.0
1.003	S4	S5	8.872	0.600	116.282	116.167	0.115	77.1	300	6.17	50.0
1.004	S5	S6	73.362	0.600	116.092	115.116	0.976	75.2	375	6.76	50.0
1.005	S6	S7	61.830	0.600	115.116	114.186	0.930	66.5	375	7.22	50.0
1.006	S7	S8	6.763	0.600	114.111	113.945	0.166	40.7	450	7.26	50.0
1.007	S8	S9	7.140	0.600	113.945	113.927	0.018	396.7	450	7.37	50.0
1.008	S9	S10	40.428	0.600	113.927	113.814	0.113	357.8	450	8.01	50.0
1.009	S10	S11	9.616	0.600	113.814	113.789	0.025	384.6	450	8.16	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	1.385	97.9	18.4	1.217	1.851	0.136	0.0	88	1.069
1.001	1.966	139.0	22.2	1.851	1.796	0.164	0.0	81	1.452
1.002	1.642	116.1	26.4	1.796	1.203	0.195	0.0	97	1.338
1.003	1.791	126.6	30.5	1.203	1.217	0.225	0.0	100	1.482
1.004	2.091	231.0	46.1	1.217	1.260	0.340	0.0	113	1.647
1.005	2.225	245.7	59.9	1.260	1.113	0.442	0.0	126	1.849
1.006	3.192	507.7	59.9	1.113	1.142	0.442	0.0	103	2.171
1.007	1.014	161.3	59.9	1.142	1.081	0.442	0.0	189	0.942
1.008	1.069	170.0	77.5	1.081	1.520	0.572	0.0	213	1.045
1.009	1.030	163.9	77.5	1.520	1.817	0.572	0.0	218	1.016

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)
2.000	S100	S101	31.382	0.600	116.530	116.280	0.250	125.5	300	5.37	50.0
2.001	S101	S102	33.959	0.600	116.130	115.979	0.151	224.9	450	5.79	50.0
2.002	S102	S103	22.384	0.600	115.979	115.833	0.146	153.3	450	6.02	50.0
2.003	S103	S24	11.031	0.600	115.833	115.682	0.151	73.1	450	6.10	50.0
3.000	S5B	S28a	7.264	0.600	116.980	116.560	0.420	17.3	225	5.04	50.0
3.001	S28a	S24	8.449	0.600	116.560	115.907	0.653	12.9	225	5.08	50.0
2.004	S24	S25a	11.494	0.600	115.682	115.451	0.231	49.8	450	6.16	50.0
2.005	S25a	S26	39.425	0.600	115.451	114.000	1.451	27.2	450	6.33	50.0
4.000	S29a	S30a	12.059	0.600	114.400	114.350	0.050	241.2	300	5.20	50.0
4.001	S30a	S31a	39.483	0.600	114.200	114.100	0.100	394.8	450	5.85	50.0
4.002	S31a	S26	20.182	0.600	114.100	114.000	0.100	201.8	450	6.08	50.0
2.006	S26	S11	17.072	0.600	114.000	113.789	0.211	80.9	450	6.46	50.0
1.010	S11	S12	20.626	0.600	113.639	113.010	0.629	32.8	600	8.24	50.0
1.011	S12	S13	43.350	0.600	113.010	110.845	2.165	20.0	600	8.37	50.0
1.012	S13	S14	30.643	0.600	110.845	108.700	2.145	14.3	600	8.45	50.0
5.000	S31	S32	21.279	0.600	109.190	109.100	0.090	236.4	300	5.35	50.0
5.001	S32	S14	23.213	0.600	109.100	109.000	0.100	232.1	300	5.72	50.0
1.013	S14	S15	24.989	0.600	108.700	106.950	1.750	14.3	600	8.52	50.0
6.000	S33a	S28	41.012	0.600	107.570	107.400	0.170	241.2	300	5.68	50.0
6.001	S28	S34a	15.735	0.600	107.400	107.300	0.100	157.4	300	5.89	50.0
6.002	S34a	S15	9.401	0.600	107.300	107.250	0.050	188.0	300	6.03	50.0
1.014	S15	S16	44.406	0.600	106.800	105.300	1.500	29.6	750	8.66	50.0
1.015	S16	S17	15.012	0.600	105.300	104.849	0.451	33.3	750	8.71	50.0
1.016	S17	S18	32.046	0.600	104.849	104.704	0.145	221.0	750	9.00	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)
2.000	1.402	99.1	14.6	1.367	1.315	0.108	0.0	78	1.013
2.001	1.351	214.9	41.7	1.315	1.835	0.308	0.0	134	1.057
2.002	1.639	260.7	45.4	1.835	2.604	0.335	0.0	126	1.242
2.003	2.380	378.6	55.3	2.604	2.938	0.408	0.0	116	1.722
3.000	3.161	125.7	4.6	1.856	2.275	0.034	0.0	29	1.523
3.001	3.657	145.4	5.8	2.275	2.938	0.043	0.0	30	1.795
2.004	2.887	459.2	61.1	2.938	2.896	0.451	0.0	110	2.036
2.005	3.912	622.1	78.1	2.896	2.381	0.576	0.0	107	2.711
4.000	1.008	71.2	20.5	1.049	1.465	0.151	0.0	110	0.874
4.001	1.017	161.7	23.3	1.465	2.497	0.172	0.0	115	0.731
4.002	1.427	227.0	39.7	2.497	2.381	0.293	0.0	126	1.081
2.006	2.261	359.6	128.3	2.381	1.817	0.947	0.0	185	2.078
1.010	4.262	1205.0	208.4	1.817	1.352	1.538	0.0	167	3.232
1.011	5.458	1543.1	214.1	1.352	1.438	1.580	0.0	149	3.892
1.012	6.464	1827.6	231.2	1.438	1.989	1.706	0.0	143	4.500
5.000	1.018	72.0	27.9	1.311	1.719	0.206	0.0	130	0.956
5.001	1.027	72.6	29.4	1.719	1.989	0.217	0.0	133	0.975
1.013	6.465	1828.0	285.3	1.989	2.577	2.105	0.0	158	4.765
6.000	1.008	71.2	18.2	1.089	1.952	0.134	0.0	103	0.845
6.001	1.251	88.4	19.4	1.952	2.468	0.143	0.0	95	1.009
6.002	1.143	80.8	28.7	2.468	2.577	0.212	0.0	123	1.049
1.014	5.154	2276.9	320.7	2.577	1.802	2.366	0.0	188	3.698
1.015	4.860	2146.9	344.8	1.802	1.536	2.544	0.0	201	3.615
1.016	1.878	829.7	350.6	1.536	1.468	2.587	0.0	339	1.802

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)
7.000	S35	S36	34.412	0.600	105.520	105.321	0.199	172.9	300	5.48	50.0
7.001	S36	S37	19.921	0.600	105.321	105.238	0.083	240.0	300	5.81	50.0
7.002	S37	S18	15.075	0.600	105.238	105.154	0.084	179.5	300	6.02	50.0
1.017	S18	HW1	14.074	0.600	104.704	104.654	0.050	281.5	750	9.14	50.0
1.018	HW1	HW2	23.719	0.600	104.654	104.604	0.050	474.4	1182	9.37	50.0
1.019	HW2	HW3	29.668	0.600	104.604	104.554	0.050	593.4	750	9.80	50.0
1.020	HW3	HW4	36.842	0.600	104.554	104.529	0.025	1473.7	1182	10.45	50.0
1.021	HW4	S19	15.983	0.600	104.529	104.492	0.037	432.0	750	10.65	50.0
8.000	S38	S39a	15.540	0.600	116.543	116.457	0.086	180.0	300	5.22	50.0
8.001	S39a	S40	24.489	0.600	116.328	116.267	0.061	400.0	450	5.63	50.0
8.002	S40	S41	14.713	0.600	116.267	116.166	0.101	145.7	450	5.77	50.0
8.003	S41	S42a	25.891	0.600	116.166	114.501	1.665	15.6	450	5.85	50.0
8.004	S42a	S42	18.058	0.600	114.501	114.280	0.221	81.7	450	5.99	50.0
8.005	S42	S105	10.863	0.600	114.280	114.122	0.158	68.8	450	6.06	50.0
9.000	S104	S105	14.940	0.600	115.261	114.347	0.914	16.3	225	5.08	50.0
8.006	S105	S43	22.734	0.600	114.122	113.430	0.692	32.9	450	6.17	50.0
10.000	S51	S52	41.773	0.600	114.198	113.805	0.393	106.3	300	5.46	50.0
10.001	S52	S43	38.147	0.600	113.655	113.505	0.150	254.3	450	5.96	50.0
8.007	S43	S44	29.381	0.600	113.430	112.435	0.995	29.5	450	6.30	50.0
8.008	S44	S45	26.493	0.600	112.435	111.525	0.910	29.1	450	6.42	50.0
8.009	S45	S46	47.328	0.600	111.525	109.893	1.632	29.0	450	6.62	50.0
8.010	S46	S47	14.720	0.600	109.893	109.275	0.618	23.8	450	6.68	50.0
8.011	S47	S48	81.872	0.600	109.200	105.098	4.102	20.0	525	6.95	50.0
8.012	S48	S49	19.663	0.600	105.023	104.737	0.286	68.8	600	7.07	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)
7.000	1.192	84.3	9.8	1.189	1.642	0.072	0.0	68	0.801
7.001	1.010	71.4	19.1	1.642	1.616	0.141	0.0	106	0.860
7.002	1.170	82.7	20.8	1.616	1.468	0.154	0.0	102	0.979
1.017	1.663	734.5	386.6	1.468	1.296	2.853	0.0	387	1.683
1.018	1.695	1859.7	386.6	0.864	0.418	2.853	0.0	363	1.354
1.019	1.141	504.2	386.6	0.850	1.396	2.853	0.0	495	1.252
1.020	0.956	1049.3	386.6	0.964	0.349	2.853	0.0	495	0.887
1.021	1.340	591.9	386.6	0.781	1.015	2.853	0.0	443	1.423
8.000	1.168	82.6	17.2	1.353	1.627	0.127	0.0	92	0.927
8.001	1.010	160.7	19.5	1.606	1.931	0.144	0.0	105	0.691
8.002	1.682	267.5	21.7	1.931	2.190	0.160	0.0	86	1.027
8.003	5.175	823.0	29.4	2.190	4.168	0.217	0.0	58	2.502
8.004	2.250	357.9	44.2	4.168	4.029	0.326	0.0	106	1.551
8.005	2.454	390.3	48.2	4.029	3.723	0.356	0.0	106	1.692
9.000	3.252	129.3	4.7	2.949	3.723	0.035	0.0	29	1.567
8.006	3.556	565.6	57.9	3.723	3.437	0.427	0.0	96	2.325
10.000	1.524	107.7	19.2	1.140	3.172	0.142	0.0	85	1.160
10.001	1.270	202.0	37.8	3.172	3.362	0.279	0.0	131	0.983
8.007	3.752	596.7	101.4	3.437	2.886	0.748	0.0	124	2.825
8.008	3.778	600.9	127.3	2.886	2.493	0.939	0.0	139	3.021
8.009	3.786	602.1	181.6	2.493	1.822	1.340	0.0	169	3.336
8.010	4.179	664.6	184.6	1.822	1.653	1.362	0.0	161	3.597
8.011	5.029	1088.7	204.9	1.653	1.558	1.512	0.0	153	3.901
8.012	2.939	831.1	248.8	1.558	1.522	1.836	0.0	224	2.584

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)
8.013	S49	S50a	27.637	0.600	104.562	104.512	0.050	552.7	750	7.46	50.0
8.014	S50a	S19	11.263	0.600	104.512	104.492	0.020	563.2	750	7.62	50.0
1.022	S19	HW5	21.743	0.600	104.492	104.380	0.112	194.1	750	10.83	50.0
1.023	HW5	HW6	26.928	0.600	104.380	104.310	0.070	384.7	1580	11.03	50.0
1.024	HW6	S20	13.557	0.600	104.310	104.272	0.038	356.8	750	11.18	50.0
1.025	S20	HW7	14.902	0.600	104.272	104.210	0.062	240.4	300	11.42	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)
8.013	1.183	522.6	285.8	1.547	1.311	2.109	0.0	396	1.208
8.014	1.172	517.7	291.8	1.311	1.015	2.153	0.0	403	1.205
1.022	2.005	885.6	681.5	1.015	1.270	5.029	0.0	495	2.199
1.023	2.251	4413.6	681.5	0.440	0.170	5.029	0.0	415	1.662
1.024	1.475	651.8	681.5	1.000	1.278	5.029	0.0	660	1.655
1.025	1.010	71.4	681.5	1.728	0.490	5.029	0.0	300	1.023

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	38.821	128.5	300	Circular	118.865	117.348	1.217	119.197	117.046	1.851
1.001	14.301	64.1	300	Circular	119.197	117.046	1.851	118.919	116.823	1.796
1.002	49.599	91.7	300	Circular	118.919	116.823	1.796	117.785	116.282	1.203
1.003	8.872	77.1	300	Circular	117.785	116.282	1.203	117.684	116.167	1.217
1.004	73.362	75.2	375	Circular	117.684	116.092	1.217	116.751	115.116	1.260
1.005	61.830	66.5	375	Circular	116.751	115.116	1.260	115.674	114.186	1.113
1.006	6.763	40.7	450	Circular	115.674	114.111	1.113	115.537	113.945	1.142
1.007	7.140	396.7	450	Circular	115.537	113.945	1.142	115.458	113.927	1.081
1.008	40.428	357.8	450	Circular	115.458	113.927	1.081	115.784	113.814	1.520
1.009	9.616	384.6	450	Circular	115.784	113.814	1.520	116.056	113.789	1.817
2.000	31.382	125.5	300	Circular	118.197	116.530	1.367	117.895	116.280	1.315
2.001	33.959	224.9	450	Circular	117.895	116.130	1.315	118.264	115.979	1.835
2.002	22.384	153.3	450	Circular	118.264	115.979	1.835	118.887	115.833	2.604
2.003	11.031	73.1	450	Circular	118.887	115.833	2.604	119.070	115.682	2.938

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	S1	1350	Manhole	Adoptable	S2	1200	Manhole	Adoptable
1.001	S2	1200	Manhole	Adoptable	S3	1200	Manhole	Adoptable
1.002	S3	1200	Manhole	Adoptable	S4	1350	Manhole	Adoptable
1.003	S4	1350	Manhole	Adoptable	S5	1350	Manhole	Adoptable
1.004	S5	1350	Manhole	Adoptable	S6	1350	Manhole	Adoptable
1.005	S6	1350	Manhole	Adoptable	S7	1350	Manhole	Adoptable
1.006	S7	1350	Manhole	Adoptable	S8	1350	Manhole	Adoptable
1.007	S8	1350	Manhole	Adoptable	S9	1350	Manhole	Adoptable
1.008	S9	1350	Manhole	Adoptable	S10	1350	Manhole	Adoptable
1.009	S10	1350	Manhole	Adoptable	S11	1500	Manhole	Adoptable
2.000	S100	1350	Manhole	Adoptable	S101	1350	Manhole	Adoptable
2.001	S101	1350	Manhole	Adoptable	S102	1350	Manhole	Adoptable
2.002	S102	1350	Manhole	Adoptable	S103	1350	Manhole	Adoptable
2.003	S103	1350	Manhole	Adoptable	S24	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)
3.000	7.264	17.3	225	Circular	119.061	116.980	1.856	119.060	116.560	2.275
3.001	8.449	12.9	225	Circular	119.060	116.560	2.275	119.070	115.907	2.938
2.004	11.494	49.8	450	Circular	119.070	115.682	2.938	118.797	115.451	2.896
2.005	39.425	27.2	450	Circular	118.797	115.451	2.896	116.831	114.000	2.381
4.000	12.059	241.2	300	Circular	115.749	114.400	1.049	116.115	114.350	1.465
4.001	39.483	394.8	450	Circular	116.115	114.200	1.465	117.047	114.100	2.497
4.002	20.182	201.8	450	Circular	117.047	114.100	2.497	116.831	114.000	2.381
2.006	17.072	80.9	450	Circular	116.831	114.000	2.381	116.056	113.789	1.817
1.010	20.626	32.8	600	Circular	116.056	113.639	1.817	114.962	113.010	1.352
1.011	43.350	20.0	600	Circular	114.962	113.010	1.352	112.883	110.845	1.438
1.012	30.643	14.3	600	Circular	112.883	110.845	1.438	111.289	108.700	1.989
5.000	21.279	236.4	300	Circular	110.801	109.190	1.311	111.119	109.100	1.719
5.001	23.213	232.1	300	Circular	111.119	109.100	1.719	111.289	109.000	1.989
1.013	24.989	14.3	600	Circular	111.289	108.700	1.989	110.127	106.950	2.577
6.000	41.012	241.2	300	Circular	108.959	107.570	1.089	109.652	107.400	1.952
6.001	15.735	157.4	300	Circular	109.652	107.400	1.952	110.068	107.300	2.468
6.002	9.401	188.0	300	Circular	110.068	107.300	2.468	110.127	107.250	2.577
1.014	44.406	29.6	750	Circular	110.127	106.800	2.577	107.852	105.300	1.802
1.015	15.012	33.3	750	Circular	107.852	105.300	1.802	107.135	104.849	1.536
1.016	32.046	221.0	750	Circular	107.135	104.849	1.536	106.922	104.704	1.468
7.000	34.412	172.9	300	Circular	107.009	105.520	1.189	107.263	105.321	1.642
7.001	19.921	240.0	300	Circular	107.263	105.321	1.642	107.154	105.238	1.616
7.002	15.075	179.5	300	Circular	107.154	105.238	1.616	106.922	105.154	1.468
1.017	14.074	281.5	750	Circular	106.922	104.704	1.468	106.700	104.654	1.296
1.018	23.719	474.4	1182	Circular	106.700	104.654	0.864	106.204	104.604	0.418

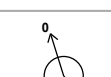
Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
3.000	S5B	1200	Manhole	Adoptable	S28a	1200	Manhole	Adoptable
3.001	S28a	1200	Manhole	Adoptable	S24	1350	Manhole	Adoptable
2.004	S24	1350	Manhole	Adoptable	S25a	1350	Manhole	Adoptable
2.005	S25a	1350	Manhole	Adoptable	S26	1350	Manhole	Adoptable
4.000	S29a	1350	Manhole	Adoptable	S30a	1350	Manhole	Adoptable
4.001	S30a	1350	Manhole	Adoptable	S31a	1350	Manhole	Adoptable
4.002	S31a	1350	Manhole	Adoptable	S26	1350	Manhole	Adoptable
2.006	S26	1350	Manhole	Adoptable	S11	1500	Manhole	Adoptable
1.010	S11	1500	Manhole	Adoptable	S12	1500	Manhole	Adoptable
1.011	S12	1500	Manhole	Adoptable	S13	1500	Manhole	Adoptable
1.012	S13	1500	Manhole	Adoptable	S14	1500	Manhole	Adoptable
5.000	S31	1350	Manhole	Adoptable	S32	1200	Manhole	Adoptable
5.001	S32	1200	Manhole	Adoptable	S14	1500	Manhole	Adoptable
1.013	S14	1500	Manhole	Adoptable	S15	1800	Manhole	Adoptable
6.000	S33a	1350	Manhole	Adoptable	S28	1200	Manhole	Adoptable
6.001	S28	1200	Manhole	Adoptable	S34a	1200	Manhole	Adoptable
6.002	S34a	1200	Manhole	Adoptable	S15	1800	Manhole	Adoptable
1.014	S15	1800	Manhole	Adoptable	S16	1800	Manhole	Adoptable
1.015	S16	1800	Manhole	Adoptable	S17	1800	Manhole	Adoptable
1.016	S17	1800	Manhole	Adoptable	S18	1800	Manhole	Adoptable
7.000	S35	1350	Manhole	Adoptable	S36	1200	Manhole	Adoptable
7.001	S36	1200	Manhole	Adoptable	S37	1350	Manhole	Adoptable
7.002	S37	1350	Manhole	Adoptable	S18	1800	Manhole	Adoptable
1.017	S18	1800	Manhole	Adoptable	HW1	2082	Manhole	Adoptable
1.018	HW1	2082	Manhole	Adoptable	HW2	2082	Manhole	Adoptable

Pipeline Schedule

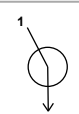
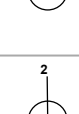
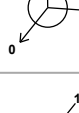
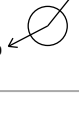
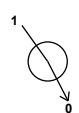
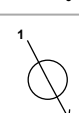
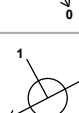
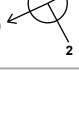
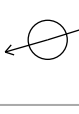
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.019	29.668	593.4	750	Circular	106.204	104.604	0.850	106.700	104.554	1.396
1.020	36.842	1473.7	1182	Circular	106.700	104.554	0.964	106.060	104.529	0.349
1.021	15.983	432.0	750	Circular	106.060	104.529	0.781	106.257	104.492	1.015
8.000	15.540	180.0	300	Circular	118.196	116.543	1.353	118.384	116.457	1.627
8.001	24.489	400.0	450	Circular	118.384	116.328	1.606	118.648	116.267	1.931
8.002	14.713	145.7	450	Circular	118.648	116.267	1.931	118.806	116.166	2.190
8.003	25.891	15.6	450	Circular	118.806	116.166	2.190	119.119	114.501	4.168
8.004	18.058	81.7	450	Circular	119.119	114.501	4.168	118.759	114.280	4.029
8.005	10.863	68.8	450	Circular	118.759	114.280	4.029	118.295	114.122	3.723
9.000	14.940	16.3	225	Circular	118.435	115.261	2.949	118.295	114.347	3.723
8.006	22.734	32.9	450	Circular	118.295	114.122	3.723	117.317	113.430	3.437
10.000	41.773	106.3	300	Circular	115.638	114.198	1.140	117.277	113.805	3.172
10.001	38.147	254.3	450	Circular	117.277	113.655	3.172	117.317	113.505	3.362
8.007	29.381	29.5	450	Circular	117.317	113.430	3.437	115.771	112.435	2.886
8.008	26.493	29.1	450	Circular	115.771	112.435	2.886	114.468	111.525	2.493
8.009	47.328	29.0	450	Circular	114.468	111.525	2.493	112.165	109.893	1.822
8.010	14.720	23.8	450	Circular	112.165	109.893	1.822	111.378	109.275	1.653
8.011	81.872	20.0	525	Circular	111.378	109.200	1.653	107.181	105.098	1.558
8.012	19.663	68.8	600	Circular	107.181	105.023	1.558	106.859	104.737	1.522
8.013	27.637	552.7	750	Circular	106.859	104.562	1.547	106.573	104.512	1.311
8.014	11.263	563.2	750	Circular	106.573	104.512	1.311	106.257	104.492	1.015
1.022	21.743	194.1	750	Circular	106.257	104.492	1.015	106.400	104.380	1.270
1.023	26.928	384.7	1580	Circular	106.400	104.380	0.440	106.060	104.310	0.170
1.024	13.557	356.8	750	Circular	106.060	104.310	1.000	106.300	104.272	1.278
1.025	14.902	240.4	300	Circular	106.300	104.272	1.728	105.000	104.210	0.490

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.019	HW2	2082	Manhole	Adoptable	HW3	2082	Manhole	Adoptable
1.020	HW3	2082	Manhole	Adoptable	HW4	2082	Manhole	Adoptable
1.021	HW4	2082	Manhole	Adoptable	S19	2100	Manhole	Adoptable
8.000	S38	1350	Manhole	Adoptable	S39a	1200	Manhole	Adoptable
8.001	S39a	1200	Manhole	Adoptable	S40	1200	Manhole	Adoptable
8.002	S40	1200	Manhole	Adoptable	S41	1200	Manhole	Adoptable
8.003	S41	1200	Manhole	Adoptable	S42a	1200	Manhole	Adoptable
8.004	S42a	1200	Manhole	Adoptable	S42	1350	Manhole	Adoptable
8.005	S42	1350	Manhole	Adoptable	S105	1350	Manhole	Adoptable
9.000	S104	1200	Manhole	Adoptable	S105	1350	Manhole	Adoptable
8.006	S105	1350	Manhole	Adoptable	S43	1350	Manhole	Adoptable
10.000	S51	1350	Manhole	Adoptable	S52	1350	Manhole	Adoptable
10.001	S52	1350	Manhole	Adoptable	S43	1350	Manhole	Adoptable
8.007	S43	1350	Manhole	Adoptable	S44	1350	Manhole	Adoptable
8.008	S44	1350	Manhole	Adoptable	S45	1350	Manhole	Adoptable
8.009	S45	1350	Manhole	Adoptable	S46	1350	Manhole	Adoptable
8.010	S46	1350	Manhole	Adoptable	S47	1500	Manhole	Adoptable
8.011	S47	1500	Manhole	Adoptable	S48	1500	Manhole	Adoptable
8.012	S48	1500	Manhole	Adoptable	S49	1800	Manhole	Adoptable
8.013	S49	1800	Manhole	Adoptable	S50a	1800	Manhole	Adoptable
8.014	S50a	1800	Manhole	Adoptable	S19	2100	Manhole	Adoptable
1.022	S19	2100	Manhole	Adoptable	HW5	2480	Manhole	Adoptable
1.023	HW5	2480	Manhole	Adoptable	HW6	1200	Manhole	Adoptable
1.024	HW6	1200	Manhole	Adoptable	S20	3000	Manhole	Adoptable
1.025	S20	3000	Manhole	Adoptable	HW7		Junction	

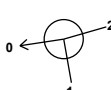
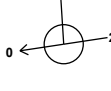
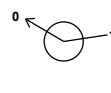
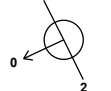
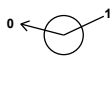
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S1	442122.178	295627.520	118.865	1.517	1350		0	1.000	117.348	300
S2	442140.118	295593.093	119.197	2.151	1200		1	1.000	117.046	300
							0	1.001	117.046	300
S3	442154.399	295592.342	118.919	2.096	1200		1	1.001	116.823	300
							0	1.002	116.823	300
S4	442177.287	295548.340	117.785	1.503	1350		1	1.002	116.282	300
							0	1.003	116.282	300
S5	442174.379	295539.959	117.684	1.592	1350		1	1.003	116.167	300
							0	1.004	116.092	375
S6	442110.693	295503.544	116.751	1.635	1350		1	1.004	115.116	375
							0	1.005	115.116	375
S7	442054.332	295478.120	115.674	1.563	1350		1	1.005	114.186	375
							0	1.006	114.111	450
S8	442047.649	295479.163	115.537	1.592	1350		1	1.006	113.945	450
							0	1.007	113.945	450
S9	442042.931	295484.521	115.458	1.531	1350		1	1.007	113.927	450
							0	1.008	113.927	450
S10	442030.888	295523.114	115.784	1.970	1350		1	1.008	113.814	450
							0	1.009	113.814	450
S100	442050.051	295658.109	118.197	1.667	1350		0	2.000	116.530	300
S101	442057.553	295627.637	117.895	1.765	1350		1	2.000	116.280	300
							0	2.001	116.130	450
S102	442073.202	295597.499	118.264	2.285	1350		1	2.001	115.979	450
							0	2.002	115.979	450

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S103	442083.516	295577.633	118.887	3.054	1350	1  0 1	2.002	115.833	450
S5B	442099.238	295567.254	119.061	2.081	1200	0  0 0	2.003	115.833	450
S28a	442092.081	295566.009	119.060	2.500	1200	0  1 1	3.000	116.980	225
						0  0 0	3.000	116.560	225
						0  0 0	3.001	116.560	225
S24	442083.653	295566.603	119.070	3.388	1350	2  1 0 1	3.001	115.907	225
						2  0 0	2.003	115.682	450
						0  0 0	2.004	115.682	450
S25a	442076.465	295557.634	118.797	3.346	1350	0  1 1	2.004	115.451	450
						0  0 0	2.005	115.451	450
S29a	442006.742	295602.107	115.749	1.349	1350	0  0 0	4.000	114.400	300
S30a	442013.754	295592.296	116.115	1.915	1350	1  0 1	4.000	114.350	300
						0  0 0	4.001	114.200	450
S31a	442031.876	295557.218	117.047	2.947	1350	1  0 1	4.001	114.100	450
						0  0 0	4.002	114.100	450
S26	442041.476	295539.466	116.831	2.831	1350	1  2 0 1	4.002	114.000	450
						2  0 0	2.005	114.000	450
						0 0 0	2.006	114.000	450
S11	442026.334	295531.583	116.056	2.417	1500	0 2 1 1	2.006	113.789	450
						2 0 0	1.009	113.789	450
						0 0 0	1.010	113.639	600
S12	442007.613	295522.925	114.962	1.952	1500	0 1 1	1.010	113.010	600
						0 0 0	1.011	113.010	600
S13	441966.222	295510.041	112.883	2.038	1500	0 1 1	1.011	110.845	600
						0 0 0	1.012	110.845	600
S31	441937.069	295457.767	110.801	1.611	1350	0 0 0	5.000	109.190	300

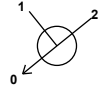
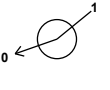
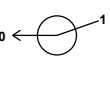
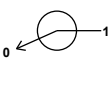
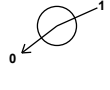
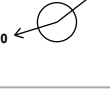
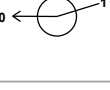
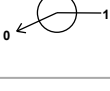
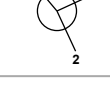
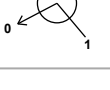
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections		Link	IL (m)	Dia (mm)
S32	441940.810	295478.715	111.119	2.019	1200		1	5.000	109.100	300
S14	441936.772	295501.574	111.289	2.589	1500		0	5.001	109.100	300
							1	5.001	109.000	300
							2	1.012	108.700	600
							0	1.013	108.700	600
S33a	441894.268	295561.300	108.959	1.389	1350		0	6.000	107.570	300
S28	441906.734	295522.229	109.652	2.252	1200		1	6.000	107.400	300
S34a	441911.470	295507.223	110.068	2.768	1200		0	6.001	107.400	300
							1	6.001	107.300	300
S15	441912.063	295497.840	110.127	3.327	1800		0	6.002	107.300	300
							1	6.002	107.250	300
							2	1.013	106.950	600
S16	441868.150	295491.235	107.852	2.552	1800		0	1.014	106.800	750
							1	1.014	105.300	750
S17	441855.220	295498.861	107.135	2.286	1800		0	1.015	105.300	750
							1	1.015	104.849	750
S35	441806.412	295586.706	107.009	1.489	1350		0	7.000	105.520	300
							1	7.000	105.321	300
S36	441820.210	295555.182	107.263	1.942	1200		0	7.001	105.321	300
							1	7.001	105.238	300
S37	441834.268	295541.068	107.154	1.916	1350		0	7.002	105.238	300
							1	7.002	105.154	300
S18	441841.079	295527.619	106.922	2.218	1800		2	1.016	104.704	750
							0	1.017	104.704	750
HW1	441828.339	295521.638	106.700	2.046	2082		1	1.017	104.654	750
							0	1.018	104.654	1182

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
HW2	441805.376	295527.578	106.204	1.600	2082		1	1.018	104.604	1182
							0	1.019	104.604	750
HW3	441795.957	295555.711	106.700	2.146	2082		1	1.019	104.554	750
							0	1.020	104.554	1182
HW4	441781.318	295589.520	106.060	1.531	2082		1	1.020	104.529	1182
							0	1.021	104.529	750
S38	442011.576	295798.440	118.196	1.653	1350		0	8.000	116.543	300
S39a	442018.182	295784.375	118.384	2.056	1200		1	8.000	116.457	300
							0	8.001	116.328	450
S40	442032.252	295764.331	118.648	2.381	1200		1	8.001	116.267	450
							0	8.002	116.267	450
S41	442038.844	295751.177	118.806	2.640	1200		1	8.002	116.166	450
							0	8.003	116.166	450
S42a	442047.057	295726.624	119.119	4.618	1200		1	8.003	114.501	450
							0	8.004	114.501	450
S42	442030.864	295718.632	118.759	4.479	1350		1	8.004	114.280	450
							0	8.005	114.280	450
S104	442031.868	295700.241	118.435	3.174	1200		0	9.000	115.261	225
S105	442022.412	295711.808	118.295	4.173	1350		1	9.000	114.347	225
							2	8.005	114.122	450
							0	8.006	114.122	450
S51	441954.799	295759.978	115.638	1.440	1350		0	10.000	114.198	300
S52	441980.777	295727.265	117.277	3.622	1350		1	10.000	113.805	300
							0	10.001	113.655	450

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S43	442004.701	295697.554	117.317	3.887	1350		1	10.001	113.505	450
							2	8.006	113.430	450
							0	8.007	113.430	450
S44	441981.944	295678.971	115.771	3.336	1350		1	8.007	112.435	450
							0	8.008	112.435	450
S45	441956.937	295670.222	114.468	2.943	1350		1	8.008	111.525	450
							0	8.009	111.525	450
S46	441909.609	295670.236	112.165	2.272	1350		1	8.009	109.893	450
							0	8.010	109.893	450
S47	441896.171	295664.227	111.378	2.178	1500		1	8.010	109.275	450
							0	8.011	109.200	525
S48	441831.251	295614.343	107.181	2.158	1500		1	8.011	105.098	525
							0	8.012	105.023	600
S49	441812.456	295608.565	106.859	2.297	1800		1	8.012	104.737	600
							0	8.013	104.562	750
S50a	441784.819	295608.729	106.573	2.061	1800		1	8.013	104.512	750
							0	8.014	104.512	750
S19	441774.589	295604.017	106.257	1.765	2100		1	8.014	104.492	750
							2	1.021	104.492	750
							0	1.022	104.492	750
HW5	441760.586	295620.651	106.400	2.020	2480		1	1.022	104.380	750
							0	1.023	104.380	1580
HW6	441736.747	295608.129	106.060	1.750	1200		1	1.023	104.310	1580
							0	1.024	104.310	750
S20	441723.363	295605.968	106.300	2.028	3000		1	1.024	104.272	750
							0	1.025	104.272	300
HW7	441709.095	295601.667	105.000	0.790			1	1.025	104.210	300

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	1440	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	0.0		

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
100	40	0	0

Node S20 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	104.272	Product Number	CTL-SHE-0240-3280-1500-3280
Design Depth (m)	1.500	Min Outlet Diameter (m)	0.300
Design Flow (l/s)	32.8	Min Node Diameter (mm)	1800

Node HW6 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	104.310
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	792

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	139.4	0.0	0.500	266.7	0.0	1.000	408.5	0.0	1.500	564.4	0.0
0.100	163.3	0.0	0.600	294.0	0.0	1.100	438.6	0.0	1.600	597.2	0.0
0.200	188.3	0.0	0.700	321.8	0.0	1.200	469.2	0.0	1.700	630.6	0.0
0.300	213.9	0.0	0.800	350.1	0.0	1.300	500.3	0.0	1.750	647.5	0.0
0.400	240.0	0.0	0.900	379.0	0.0	1.400	532.1	0.0			

Node HW4 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	104.529
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	848

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	984.2	0.0	0.500	1178.4	0.0	1.000	1387.5	0.0	1.500	1610.7	0.0
0.100	1021.4	0.0	0.600	1219.1	0.0	1.100	1431.0	0.0	1.580	1647.7	0.0
0.200	1059.8	0.0	0.700	1260.4	0.0	1.200	1475.1	0.0			
0.300	1098.8	0.0	0.800	1302.2	0.0	1.300	1519.7	0.0			
0.400	1138.3	0.0	0.900	1344.6	0.0	1.400	1564.9	0.0			

Node HW2 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	104.604
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	608

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	571.8	0.0	0.500	768.5	0.0	1.000	980.1	0.0	1.500	1205.7	0.0
0.100	609.4	0.0	0.600	809.7	0.0	1.100	1024.1	0.0	1.600	1252.6	0.0
0.200	648.4	0.0	0.700	851.5	0.0	1.200	1068.7	0.0			
0.300	687.9	0.0	0.800	893.8	0.0	1.300	1113.8	0.0			
0.400	727.9	0.0	0.900	936.7	0.0	1.400	1159.5	0.0			

Other (defaults)

Entry Loss (manhole)	0.250	Entry Loss (junction)	0.000	Apply Recommended Losses	x
Exit Loss (manhole)	0.250	Exit Loss (junction)	0.000	Flood Risk (m)	0.300

Results for 1 year Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	10	117.422	0.074	12.6	0.1056	0.0000	OK
15 minute winter	S2	10	117.114	0.068	15.0	0.0766	0.0000	OK
15 minute winter	S3	11	116.902	0.079	17.6	0.0888	0.0000	OK
15 minute winter	S4	11	116.370	0.088	20.3	0.1264	0.0000	OK
15 minute winter	S5	11	116.183	0.091	30.3	0.1297	0.0000	OK
15 minute winter	S6	12	115.216	0.100	39.2	0.1432	0.0000	OK
15 minute winter	S7	12	114.207	0.096	37.8	0.1368	0.0000	OK
15 minute winter	S8	12	114.119	0.174	37.9	0.2491	0.0000	OK
15 minute winter	S9	12	114.096	0.169	47.7	0.2416	0.0000	OK
15 minute winter	S10	12	113.987	0.173	48.2	0.2475	0.0000	OK
15 minute winter	S100	10	116.594	0.064	10.0	0.0922	0.0000	OK
15 minute winter	S101	10	116.242	0.112	28.2	0.1606	0.0000	OK
15 minute winter	S102	11	116.087	0.108	30.3	0.1541	0.0000	OK
15 minute winter	S103	11	115.936	0.103	36.9	0.1472	0.0000	OK
15 minute winter	S5B	10	117.005	0.025	3.2	0.0285	0.0000	OK
15 minute winter	S28a	10	116.586	0.026	4.0	0.0297	0.0000	OK
15 minute winter	S24	11	115.781	0.099	40.9	0.1410	0.0000	OK
15 minute winter	S25a	11	115.538	0.087	51.9	0.1241	0.0000	OK
15 minute winter	S29a	10	114.495	0.095	14.0	0.1353	0.0000	OK
15 minute winter	S30a	11	114.294	0.094	15.7	0.1341	0.0000	OK
15 minute winter	S31a	11	114.203	0.102	26.4	0.1466	0.0000	OK
15 minute winter	S26	11	114.162	0.162	85.2	0.2324	0.0000	OK
15 minute winter	S11	12	113.784	0.145	130.8	0.2558	0.0000	OK
15 minute winter	S12	12	113.133	0.123	134.2	0.2177	0.0000	OK
15 minute winter	S13	12	110.959	0.114	144.0	0.2013	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	S1	1.000	S2	12.4	0.980	0.127	0.4915	
15 minute winter	S2	1.001	S3	14.8	1.119	0.107	0.1896	
15 minute winter	S3	1.002	S4	17.7	1.111	0.153	0.7929	
15 minute winter	S4	1.003	S5	20.3	1.249	0.160	0.1441	
15 minute winter	S5	1.004	S6	30.3	1.376	0.131	1.6148	
15 minute winter	S6	1.005	S7	37.8	1.625	0.154	1.4373	
15 minute winter	S7	1.006	S8	37.9	0.950	0.075	0.2743	
15 minute winter	S8	1.007	S9	38.1	0.687	0.236	0.3959	
15 minute winter	S9	1.008	S10	48.2	0.874	0.284	2.2317	
15 minute winter	S10	1.009	S11	47.6	0.933	0.290	0.4904	
15 minute winter	S100	2.000	S101	9.7	0.894	0.098	0.3408	
15 minute winter	S101	2.001	S102	27.8	0.935	0.129	1.0091	
15 minute winter	S102	2.002	S103	30.5	1.084	0.117	0.6300	
15 minute winter	S103	2.003	S24	37.1	1.402	0.098	0.2915	
15 minute winter	S5B	3.000	S28a	3.2	1.272	0.025	0.0182	
15 minute winter	S28a	3.001	S24	3.9	1.564	0.027	0.0213	
15 minute winter	S24	2.004	S25a	41.0	1.746	0.089	0.2699	
15 minute winter	S25a	2.005	S26	51.9	1.458	0.083	1.4362	
15 minute winter	S29a	4.000	S30a	13.8	0.759	0.193	0.2189	
15 minute winter	S30a	4.001	S31a	15.6	0.614	0.097	1.0055	
15 minute winter	S31a	4.002	S26	26.4	0.680	0.117	0.7932	
15 minute winter	S26	2.006	S11	84.7	1.763	0.236	0.8205	
15 minute winter	S11	1.010	S12	131.2	2.803	0.109	0.9675	
15 minute winter	S12	1.011	S13	134.9	3.432	0.087	1.7062	
15 minute winter	S13	1.012	S14	144.5	3.466	0.079	1.2797	

Results for 1 year Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S31	10	109.300	0.110	19.1	0.1570	0.0000	OK
15 minute winter	S32	11	109.210	0.110	19.8	0.1249	0.0000	OK
15 minute winter	S14	12	108.833	0.133	175.9	0.2351	0.0000	OK
15 minute winter	S33a	10	107.656	0.086	12.4	0.1225	0.0000	OK
15 minute winter	S28	11	107.479	0.079	12.9	0.0893	0.0000	OK
15 minute winter	S34a	11	107.406	0.106	18.9	0.1201	0.0000	OK
15 minute winter	S15	12	106.949	0.149	198.4	0.3785	0.0000	OK
15 minute winter	S16	12	105.475	0.175	211.7	0.4443	0.0000	OK
15 minute winter	S17	11	105.231	0.382	217.2	0.9712	0.0000	OK
15 minute winter	S35	10	105.576	0.056	6.7	0.0801	0.0000	OK
15 minute winter	S36	11	105.409	0.088	12.9	0.0999	0.0000	OK
15 minute winter	S37	11	105.325	0.087	13.8	0.1240	0.0000	OK
15 minute summer	S18	11	105.194	0.490	250.4	1.2478	0.0000	OK
15 minute winter	HW1	10	105.162	0.508	293.6	1.7295	0.0000	OK
120 minute winter	HW2	78	104.801	0.197	102.4	120.7553	0.0000	OK
360 minute winter	HW3	264	104.755	0.201	50.0	0.6839	0.0000	OK
360 minute winter	HW4	264	104.753	0.224	52.5	230.9401	0.0000	OK
15 minute winter	S38	10	116.622	0.079	11.8	0.1133	0.0000	OK
15 minute winter	S39a	10	116.416	0.088	13.2	0.1000	0.0000	OK
15 minute winter	S40	11	116.342	0.075	14.5	0.0853	0.0000	OK
15 minute winter	S41	11	116.214	0.048	19.6	0.0538	0.0000	OK
15 minute winter	S42a	11	114.591	0.090	29.2	0.1019	0.0000	OK
15 minute winter	S42	11	114.374	0.094	32.0	0.1351	0.0000	OK
15 minute winter	S104	10	115.286	0.025	3.2	0.0280	0.0000	OK
15 minute winter	S105	11	114.200	0.078	38.3	0.1122	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	S31	5.000	S32	18.8	0.810	0.262	0.4947	
15 minute winter	S32	5.001	S14	19.7	0.865	0.271	0.5293	
15 minute winter	S14	1.013	S15	177.0	4.016	0.097	1.1014	
15 minute winter	S33a	6.000	S28	12.1	0.787	0.170	0.6346	
15 minute winter	S28	6.001	S34a	12.9	0.701	0.146	0.2917	
15 minute winter	S34a	6.002	S15	19.0	0.900	0.235	0.1986	
15 minute winter	S15	1.014	S16	198.8	2.858	0.087	3.0948	
15 minute winter	S16	1.015	S17	214.1	1.812	0.100	2.2589	
15 minute winter	S17	1.016	S18	233.3	1.310	0.281	8.0443	
15 minute winter	S35	7.000	S36	6.5	0.504	0.077	0.4517	
15 minute winter	S36	7.001	S37	12.7	0.744	0.178	0.3399	
15 minute winter	S37	7.002	S18	13.8	0.852	0.167	0.2444	
15 minute summer	S18	1.017	HW1	289.1	1.488	0.394	4.2774	
15 minute winter	HW1	1.018	HW2	348.3	2.653	0.187	5.3567	
120 minute winter	HW2	1.019	HW3	74.3	0.887	0.147	2.5506	
360 minute winter	HW3	1.020	HW4	49.7	0.746	0.047	4.9160	
360 minute winter	HW4	1.021	S19	26.9	0.702	0.045	1.9674	
15 minute winter	S38	8.000	S39a	11.6	0.809	0.140	0.2224	
15 minute winter	S39a	8.001	S40	13.1	0.668	0.082	0.4808	
15 minute winter	S40	8.002	S41	14.6	1.128	0.055	0.1939	
15 minute winter	S41	8.003	S42a	19.7	1.289	0.024	0.4070	
15 minute winter	S42a	8.004	S42	29.4	1.258	0.082	0.4213	
15 minute winter	S42	8.005	S105	32.1	1.510	0.082	0.2312	
15 minute winter	S104	9.000	S105	3.2	1.364	0.025	0.0348	
15 minute winter	S105	8.006	S43	38.3	1.685	0.068	0.5198	

Results for 1 year Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S51	10	114.269	0.071	13.2	0.1010	0.0000	OK
15 minute winter	S52	11	113.764	0.109	25.3	0.1558	0.0000	OK
15 minute winter	S43	11	113.533	0.103	67.2	0.1474	0.0000	OK
15 minute winter	S44	11	112.550	0.115	84.0	0.1641	0.0000	OK
15 minute winter	S45	11	111.663	0.138	119.0	0.1968	0.0000	OK
15 minute winter	S46	11	110.038	0.145	121.2	0.2068	0.0000	OK
15 minute winter	S47	11	109.325	0.125	134.3	0.2215	0.0000	OK
15 minute winter	S48	11	105.221	0.198	162.7	0.3494	0.0000	OK
15 minute winter	S49	11	104.887	0.324	185.3	0.8258	0.0000	OK
15 minute winter	S50a	11	104.807	0.295	188.2	0.7515	0.0000	OK
360 minute winter	S19	264	104.752	0.260	63.2	0.9021	0.0000	OK
360 minute winter	HW5	264	104.752	0.372	62.2	1.7979	0.0000	OK
360 minute winter	HW6	264	104.752	0.442	59.4	86.3508	0.0000	OK
360 minute winter	S20	264	104.752	0.480	33.8	3.3905	0.0000	SURCHARGED
15 minute summer	HW7	1	104.210	0.000	31.8	0.0000	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	S51	10.000	S52	12.8	1.030	0.118	0.5176	
15 minute winter	S52	10.001	S43	25.2	0.872	0.125	1.1008	
15 minute winter	S43	8.007	S44	67.3	2.282	0.113	0.8675	
15 minute winter	S44	8.008	S45	84.0	2.315	0.140	0.9635	
15 minute winter	S45	8.009	S46	119.3	2.811	0.198	2.0081	
15 minute winter	S46	8.010	S47	121.2	2.992	0.182	0.5965	
15 minute winter	S47	8.011	S48	134.4	3.457	0.123	3.1825	
15 minute winter	S48	8.012	S49	161.4	2.164	0.194	1.4683	
15 minute winter	S49	8.013	S50a	184.4	1.074	0.353	4.7444	
15 minute winter	S50a	8.014	S19	186.4	1.310	0.360	1.6069	
360 minute winter	S19	1.022	HW5	62.2	0.961	0.070	3.8454	
360 minute winter	HW5	1.023	HW6	59.4	0.729	0.013	10.7307	
360 minute winter	HW6	1.024	S20	33.8	0.309	0.052	3.8451	
360 minute winter	S20	Hydro-Brake®	HW7	32.8				825.9

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	10	117.439	0.091	18.9	0.1302	0.0000	OK
15 minute winter	S2	10	117.131	0.085	22.5	0.0956	0.0000	OK
15 minute winter	S3	11	116.920	0.097	26.4	0.1099	0.0000	OK
15 minute winter	S4	11	116.393	0.111	30.6	0.1593	0.0000	OK
15 minute winter	S5	11	116.204	0.112	45.6	0.1601	0.0000	OK
15 minute winter	S6	11	115.242	0.125	59.1	0.1795	0.0000	OK
15 minute winter	S7	11	114.233	0.122	57.1	0.1744	0.0000	OK
15 minute winter	S8	12	114.168	0.223	57.2	0.3194	0.0000	OK
15 minute winter	S9	12	114.142	0.215	73.2	0.3083	0.0000	OK
15 minute winter	S10	12	114.032	0.218	73.2	0.3125	0.0000	OK
15 minute winter	S100	10	116.610	0.080	15.0	0.1139	0.0000	OK
15 minute winter	S101	10	116.269	0.139	42.3	0.1991	0.0000	OK
15 minute winter	S102	11	116.112	0.133	45.4	0.1908	0.0000	OK
15 minute winter	S103	11	115.962	0.128	55.1	0.1839	0.0000	OK
15 minute winter	S5B	10	117.010	0.030	4.7	0.0344	0.0000	OK
15 minute winter	S28a	10	116.592	0.032	5.9	0.0360	0.0000	OK
15 minute winter	S24	11	115.805	0.123	61.1	0.1758	0.0000	OK
15 minute winter	S25a	11	115.557	0.106	77.5	0.1515	0.0000	OK
15 minute winter	S29a	10	114.518	0.118	21.0	0.1694	0.0000	OK
15 minute winter	S30a	10	114.315	0.115	23.6	0.1648	0.0000	OK
15 minute winter	S31a	11	114.234	0.134	39.8	0.1919	0.0000	OK
15 minute winter	S26	11	114.206	0.206	127.4	0.2950	0.0000	OK
15 minute winter	S11	11	113.821	0.182	197.1	0.3213	0.0000	OK
15 minute winter	S12	12	113.163	0.153	202.4	0.2695	0.0000	OK
15 minute winter	S13	12	110.986	0.141	217.4	0.2496	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	S1	1.000	S2	18.6	1.086	0.190	0.6656	
15 minute winter	S2	1.001	S3	22.2	1.240	0.160	0.2568	
15 minute winter	S3	1.002	S4	26.7	1.228	0.230	1.0790	
15 minute winter	S4	1.003	S5	30.6	1.386	0.242	0.1959	
15 minute winter	S5	1.004	S6	45.8	1.533	0.198	2.1939	
15 minute winter	S6	1.005	S7	57.1	1.820	0.233	1.9515	
15 minute winter	S7	1.006	S8	57.2	1.025	0.113	0.3819	
15 minute winter	S8	1.007	S9	57.7	0.753	0.358	0.5475	
15 minute winter	S9	1.008	S10	73.2	0.968	0.430	3.0561	
15 minute winter	S10	1.009	S11	73.1	1.057	0.446	0.6652	
15 minute winter	S100	2.000	S101	14.6	1.001	0.147	0.4584	
15 minute winter	S101	2.001	S102	41.7	1.035	0.194	1.3684	
15 minute winter	S102	2.002	S103	45.6	1.192	0.175	0.8565	
15 minute winter	S103	2.003	S24	55.4	1.534	0.146	0.3987	
15 minute winter	S5B	3.000	S28a	4.7	1.413	0.037	0.0240	
15 minute winter	S28a	3.001	S24	5.8	1.751	0.040	0.0281	
15 minute winter	S24	2.004	S25a	61.2	1.935	0.133	0.3643	
15 minute winter	S25a	2.005	S26	77.7	1.602	0.125	1.9551	
15 minute winter	S29a	4.000	S30a	20.7	0.844	0.290	0.2953	
15 minute winter	S30a	4.001	S31a	23.4	0.658	0.145	1.4075	
15 minute winter	S31a	4.002	S26	39.5	0.720	0.174	1.1138	
15 minute winter	S26	2.006	S11	127.2	1.947	0.354	1.1154	
15 minute winter	S11	1.010	S12	197.8	3.094	0.164	1.3209	
15 minute winter	S12	1.011	S13	203.7	3.817	0.132	2.3144	
15 minute winter	S13	1.012	S14	218.5	3.831	0.120	1.7505	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S31	10	109.329	0.139	28.6	0.1986	0.0000	OK
15 minute winter	S32	11	109.239	0.139	29.7	0.1569	0.0000	OK
15 minute winter	S14	11	108.867	0.167	268.2	0.2951	0.0000	OK
15 minute winter	S33a	10	107.676	0.106	18.6	0.1517	0.0000	OK
15 minute winter	S28	11	107.500	0.100	19.4	0.1127	0.0000	OK
15 minute winter	S34a	11	107.434	0.134	28.4	0.1511	0.0000	OK
15 minute winter	S15	12	106.983	0.183	301.1	0.4651	0.0000	OK
15 minute winter	S16	11	105.536	0.236	322.7	0.6005	0.0000	OK
15 minute winter	S17	10	105.338	0.489	332.9	1.2442	0.0000	OK
15 minute winter	S35	10	105.588	0.068	10.0	0.0978	0.0000	OK
15 minute winter	S36	11	105.431	0.110	19.4	0.1247	0.0000	OK
15 minute winter	S37	11	105.346	0.108	20.6	0.1547	0.0000	OK
15 minute summer	S18	10	105.272	0.568	366.0	1.4462	0.0000	OK
15 minute summer	HW1	10	105.246	0.591	412.1	2.0134	0.0000	OK
120 minute summer	HW2	74	104.846	0.242	179.3	150.4455	0.0000	OK
360 minute winter	HW3	272	104.839	0.285	63.6	0.9701	0.0000	OK
360 minute winter	HW4	272	104.839	0.310	68.9	323.8261	0.0000	OK
15 minute winter	S38	10	116.641	0.098	17.6	0.1406	0.0000	OK
15 minute winter	S39a	10	116.436	0.108	19.7	0.1222	0.0000	OK
15 minute winter	S40	11	116.359	0.092	21.6	0.1038	0.0000	OK
15 minute winter	S41	11	116.224	0.057	29.2	0.0650	0.0000	OK
15 minute winter	S42a	11	114.613	0.112	43.8	0.1263	0.0000	OK
15 minute winter	S42	11	114.397	0.117	47.8	0.1678	0.0000	OK
15 minute winter	S104	10	115.291	0.030	4.9	0.0344	0.0000	OK
15 minute winter	S105	11	114.218	0.096	57.3	0.1374	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	S31	5.000	S32	28.2	0.889	0.392	0.6753	
15 minute winter	S32	5.001	S14	29.4	0.958	0.405	0.7133	
15 minute winter	S14	1.013	S15	267.2	4.465	0.146	1.4965	
15 minute winter	S33a	6.000	S28	18.2	0.865	0.256	0.8650	
15 minute winter	S28	6.001	S34a	19.4	0.767	0.220	0.3994	
15 minute winter	S34a	6.002	S15	28.6	1.001	0.354	0.2686	
15 minute winter	S15	1.014	S16	300.4	3.090	0.132	4.4639	
15 minute winter	S16	1.015	S17	327.3	1.942	0.152	2.9784	
15 minute winter	S17	1.016	S18	333.8	1.465	0.402	10.5957	
15 minute winter	S35	7.000	S36	9.8	0.558	0.116	0.6096	
15 minute winter	S36	7.001	S37	19.0	0.822	0.266	0.4613	
15 minute winter	S37	7.002	S18	20.8	0.951	0.252	0.3601	
15 minute summer	S18	1.017	HW1	412.1	1.731	0.561	5.1408	
15 minute summer	HW1	1.018	HW2	460.8	2.788	0.248	6.5478	
120 minute summer	HW2	1.019	HW3	112.8	1.025	0.224	3.3629	
360 minute winter	HW3	1.020	HW4	62.7	0.743	0.060	7.9277	
360 minute winter	HW4	1.021	S19	27.1	0.702	0.046	2.9565	
15 minute winter	S38	8.000	S39a	17.3	0.902	0.210	0.2985	
15 minute winter	S39a	8.001	S40	19.5	0.751	0.121	0.6372	
15 minute winter	S40	8.002	S41	21.9	1.271	0.082	0.2568	
15 minute winter	S41	8.003	S42a	29.4	1.426	0.036	0.5481	
15 minute winter	S42a	8.004	S42	43.9	1.385	0.123	0.5721	
15 minute winter	S42	8.005	S105	48.0	1.674	0.123	0.3122	
15 minute winter	S104	9.000	S105	4.8	1.545	0.038	0.0469	
15 minute winter	S105	8.006	S43	57.5	1.877	0.102	0.7005	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S51	10	114.285	0.087	19.7	0.1248	0.0000	OK
15 minute winter	S52	11	113.790	0.134	38.0	0.1925	0.0000	OK
15 minute winter	S43	11	113.558	0.128	100.8	0.1827	0.0000	OK
15 minute winter	S44	11	112.579	0.143	126.2	0.2053	0.0000	OK
15 minute winter	S45	11	111.697	0.172	178.9	0.2454	0.0000	OK
15 minute winter	S46	11	110.077	0.184	182.4	0.2639	0.0000	OK
15 minute winter	S47	11	109.351	0.151	202.3	0.2661	0.0000	OK
15 minute winter	S48	11	105.275	0.252	244.7	0.4458	0.0000	OK
15 minute winter	S49	11	104.974	0.412	280.6	1.0482	0.0000	OK
15 minute winter	S50a	11	104.884	0.372	285.1	0.9461	0.0000	OK
360 minute winter	S19	272	104.838	0.346	70.1	1.1992	0.0000	OK
360 minute winter	HW5	272	104.838	0.458	69.0	2.2123	0.0000	OK
360 minute winter	HW6	272	104.838	0.528	65.5	108.9998	0.0000	OK
360 minute winter	S20	272	104.838	0.566	34.1	3.9981	0.0000	SURCHARGED
15 minute summer	HW7	1	104.210	0.000	32.7	0.0000	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	S51	10.000	S52	19.1	1.153	0.177	0.6948	
15 minute winter	S52	10.001	S43	37.8	0.976	0.187	1.4761	
15 minute winter	S43	8.007	S44	101.2	2.519	0.170	1.1811	
15 minute winter	S44	8.008	S45	126.5	2.562	0.211	1.3103	
15 minute winter	S45	8.009	S46	179.5	3.081	0.298	2.7589	
15 minute winter	S46	8.010	S47	182.7	3.293	0.275	0.8175	
15 minute winter	S47	8.011	S48	202.5	3.529	0.186	4.7130	
15 minute winter	S48	8.012	S49	244.9	2.300	0.295	2.1215	
15 minute winter	S49	8.013	S50a	279.4	1.201	0.535	6.4295	
15 minute winter	S50a	8.014	S19	283.2	1.464	0.547	2.1800	
360 minute winter	S19	1.022	HW5	69.0	0.970	0.078	5.2202	
360 minute winter	HW5	1.023	HW6	65.5	0.758	0.015	14.0105	
360 minute winter	HW6	1.024	S20	34.1	0.319	0.052	4.6600	
360 minute winter	S20	Hydro-Brake®	HW7	32.8				1067.7

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	10	117.497	0.149	46.0	0.2137	0.0000	OK
15 minute winter	S2	10	117.190	0.144	54.9	0.1625	0.0000	OK
15 minute winter	S3	10	116.985	0.162	64.6	0.1829	0.0000	OK
15 minute winter	S4	11	116.475	0.193	74.5	0.2768	0.0000	OK
15 minute winter	S5	11	116.276	0.184	111.4	0.2629	0.0000	OK
15 minute winter	S6	11	115.330	0.214	144.7	0.3057	0.0000	OK
15 minute winter	S7	11	114.377	0.266	143.1	0.3805	0.0000	OK
15 minute winter	S8	11	114.375	0.430	142.0	0.6147	0.0000	OK
15 minute winter	S9	11	114.340	0.413	182.1	0.5912	0.0000	OK
15 minute winter	S10	12	114.187	0.373	179.2	0.5343	0.0000	OK
15 minute winter	S100	10	116.660	0.130	36.6	0.1862	0.0000	OK
15 minute winter	S101	10	116.363	0.233	103.5	0.3340	0.0000	OK
15 minute winter	S102	10	116.203	0.224	111.3	0.3209	0.0000	OK
15 minute winter	S103	11	116.052	0.219	134.4	0.3138	0.0000	OK
15 minute winter	S5B	10	117.028	0.048	11.5	0.0544	0.0000	OK
15 minute winter	S28a	10	116.611	0.051	14.5	0.0574	0.0000	OK
15 minute winter	S24	11	115.889	0.207	149.2	0.2962	0.0000	OK
15 minute winter	S25a	11	115.619	0.168	189.6	0.2403	0.0000	OK
15 minute winter	S29a	10	114.602	0.202	51.1	0.2886	0.0000	OK
15 minute winter	S30a	11	114.420	0.220	57.6	0.3153	0.0000	OK
15 minute winter	S31a	11	114.399	0.299	94.3	0.4274	0.0000	OK
15 minute winter	S26	11	114.379	0.379	306.1	0.5420	0.0000	OK
15 minute winter	S11	11	113.953	0.313	486.4	0.5539	0.0000	OK
15 minute winter	S12	11	113.261	0.251	498.8	0.4428	0.0000	OK
15 minute winter	S13	11	111.077	0.232	536.8	0.4105	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	S1	1.000	S2	45.4	1.329	0.464	1.3263	
15 minute winter	S2	1.001	S3	54.1	1.505	0.389	0.5150	
15 minute winter	S3	1.002	S4	64.9	1.494	0.559	2.1511	
15 minute winter	S4	1.003	S5	74.9	1.711	0.591	0.3878	
15 minute winter	S5	1.004	S6	112.2	1.894	0.486	4.3460	
15 minute winter	S6	1.005	S7	143.1	2.286	0.583	3.8767	
15 minute winter	S7	1.006	S8	142.0	1.107	0.280	0.8569	
15 minute winter	S8	1.007	S9	141.9	0.921	0.880	1.1006	
15 minute winter	S9	1.008	S10	179.2	1.226	1.054	5.9177	
15 minute winter	S10	1.009	S11	180.8	1.422	1.103	1.2153	
15 minute winter	S100	2.000	S101	35.8	1.270	0.361	0.8874	
15 minute winter	S101	2.001	S102	102.2	1.263	0.476	2.7490	
15 minute winter	S102	2.002	S103	111.1	1.430	0.426	1.7387	
15 minute winter	S103	2.003	S24	135.4	1.832	0.358	0.8152	
15 minute winter	S5B	3.000	S28a	11.5	1.780	0.091	0.0468	
15 minute winter	S28a	3.001	S24	14.4	2.248	0.099	0.0540	
15 minute winter	S24	2.004	S25a	149.8	2.398	0.326	0.7186	
15 minute winter	S25a	2.005	S26	190.1	1.924	0.306	3.8692	
15 minute winter	S29a	4.000	S30a	50.5	1.087	0.709	0.5596	
15 minute winter	S30a	4.001	S31a	54.0	0.706	0.334	3.7273	
15 minute winter	S31a	4.002	S26	91.5	0.781	0.403	2.5639	
15 minute winter	S26	2.006	S11	305.1	2.343	0.848	2.2105	
15 minute winter	S11	1.010	S12	485.4	3.746	0.403	2.6850	
15 minute winter	S12	1.011	S13	496.8	4.712	0.322	4.5982	
15 minute winter	S13	1.012	S14	534.7	4.618	0.293	3.5870	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S31	10	109.457	0.267	69.7	0.3814	0.0000	OK
15 minute winter	S32	11	109.353	0.253	72.2	0.2865	0.0000	OK
15 minute winter	S14	11	108.988	0.288	664.1	0.5081	0.0000	OK
15 minute winter	S33a	10	107.750	0.180	45.4	0.2571	0.0000	OK
15 minute winter	S28	11	107.585	0.185	47.6	0.2096	0.0000	OK
15 minute winter	S34a	11	107.541	0.241	69.4	0.2727	0.0000	OK
15 minute winter	S15	11	107.103	0.303	747.1	0.7701	0.0000	OK
15 minute winter	S16	11	105.754	0.454	802.5	1.1561	0.0000	OK
15 minute winter	S17	11	105.604	0.755	809.3	1.9206	0.0000	SURCHARGED
15 minute winter	S35	10	105.628	0.108	24.4	0.1550	0.0000	OK
15 minute winter	S36	9	105.550	0.229	47.4	0.2592	0.0000	OK
15 minute winter	S37	8	105.497	0.259	64.4	0.3701	0.0000	OK
15 minute winter	S18	8	105.497	0.793	887.5	2.0176	0.0000	SURCHARGED
15 minute winter	HW1	8	105.460	0.806	895.0	2.7435	0.0000	OK
360 minute winter	HW2	352	105.202	0.598	136.0	414.0506	0.0000	OK
360 minute winter	HW3	344	105.204	0.650	92.5	2.2125	0.0000	OK
360 minute winter	HW4	352	105.203	0.674	114.7	752.8994	0.0000	OK
15 minute winter	S38	10	116.708	0.165	43.0	0.2356	0.0000	OK
15 minute winter	S39a	10	116.500	0.171	48.2	0.1940	0.0000	OK
15 minute winter	S40	10	116.411	0.144	53.1	0.1630	0.0000	OK
15 minute winter	S41	11	116.255	0.089	71.8	0.1001	0.0000	OK
15 minute winter	S42a	10	114.688	0.187	108.3	0.2119	0.0000	OK
15 minute winter	S42	11	114.475	0.195	116.9	0.2787	0.0000	OK
15 minute winter	S104	10	115.308	0.047	11.8	0.0534	0.0000	OK
15 minute winter	S105	11	114.280	0.158	140.1	0.2254	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	S31	5.000	S32	68.5	1.060	0.952	1.3748	
15 minute winter	S32	5.001	S14	71.4	1.227	0.983	1.3432	
15 minute winter	S14	1.013	S15	661.8	5.498	0.362	3.0101	
15 minute winter	S33a	6.000	S28	44.6	1.012	0.627	1.8110	
15 minute winter	S28	6.001	S34a	47.4	0.885	0.536	0.8369	
15 minute winter	S34a	6.002	S15	69.7	1.238	0.863	0.5278	
15 minute winter	S15	1.014	S16	745.8	3.385	0.328	9.8849	
15 minute winter	S16	1.015	S17	795.6	2.092	0.371	5.3960	
15 minute winter	S17	1.016	S18	805.5	1.851	0.971	13.9409	
15 minute winter	S35	7.000	S36	24.0	0.665	0.285	1.3629	
15 minute winter	S36	7.001	S37	60.4	1.011	0.846	1.1897	
15 minute winter	S37	7.002	S18	60.3	1.189	0.729	1.0154	
15 minute winter	S18	1.017	HW1	895.0	2.324	1.218	6.1943	
15 minute winter	HW1	1.018	HW2	876.7	3.268	0.471	9.5075	
360 minute winter	HW2	1.019	HW3	92.5	0.772	0.184	11.5967	
360 minute winter	HW3	1.020	HW4	89.9	0.826	0.086	23.1779	
360 minute winter	HW4	1.021	S19	59.1	0.687	0.100	6.8118	
15 minute winter	S38	8.000	S39a	42.4	1.132	0.513	0.5823	
15 minute winter	S39a	8.001	S40	47.7	0.966	0.297	1.2146	
15 minute winter	S40	8.002	S41	53.2	1.640	0.199	0.4834	
15 minute winter	S41	8.003	S42a	71.7	1.751	0.087	1.0923	
15 minute winter	S42a	8.004	S42	107.3	1.681	0.300	1.1549	
15 minute winter	S42	8.005	S105	117.4	2.044	0.301	0.6252	
15 minute winter	S104	9.000	S105	11.7	1.987	0.091	0.0880	
15 minute winter	S105	8.006	S43	140.6	2.288	0.249	1.4007	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S51	10	114.342	0.144	48.1	0.2058	0.0000	OK
15 minute winter	S52	10	113.878	0.223	93.3	0.3185	0.0000	OK
15 minute winter	S43	11	113.643	0.213	246.4	0.3047	0.0000	OK
15 minute winter	S44	11	112.683	0.248	308.4	0.3543	0.0000	OK
15 minute winter	S45	11	111.825	0.300	437.9	0.4295	0.0000	OK
15 minute winter	S46	11	110.238	0.345	447.3	0.4937	0.0000	OK
15 minute winter	S47	11	109.444	0.244	496.7	0.4308	0.0000	OK
15 minute winter	S48	11	105.555	0.532	600.6	0.9396	0.0000	OK
15 minute winter	S49	11	105.328	0.766	688.9	1.9491	0.0000	SURCHARGED
360 minute winter	S50a	328	105.231	0.719	103.4	1.8293	0.0000	OK
360 minute winter	S19	344	105.218	0.726	102.9	2.5157	0.0000	OK
360 minute winter	HW5	344	105.210	0.830	73.6	4.0080	0.0000	OK
360 minute winter	HW6	352	105.202	0.892	74.1	227.8600	0.0000	SURCHARGED
360 minute winter	S20	352	105.202	0.930	34.1	6.5761	0.0000	SURCHARGED
15 minute summer	HW7	1	104.210	0.000	32.8	0.0000	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	S51	10.000	S52	46.9	1.458	0.435	1.3498	
15 minute winter	S52	10.001	S43	92.4	1.232	0.457	2.8605	
15 minute winter	S43	8.007	S44	247.6	3.035	0.415	2.3972	
15 minute winter	S44	8.008	S45	310.1	3.076	0.516	2.6715	
15 minute winter	S45	8.009	S46	440.3	3.621	0.731	5.7444	
15 minute winter	S46	8.010	S47	448.9	3.921	0.675	1.6765	
15 minute winter	S47	8.011	S48	497.5	3.463	0.457	12.1817	
15 minute winter	S48	8.012	S49	601.9	2.212	0.724	5.3567	
15 minute winter	S49	8.013	S50a	689.7	1.591	1.320	11.8104	
360 minute winter	S50a	8.014	S19	101.8	0.824	0.197	4.8992	
360 minute winter	S19	1.022	HW5	73.6	0.962	0.083	9.5261	
360 minute winter	HW5	1.023	HW6	74.1	0.808	0.017	29.2668	
360 minute winter	HW6	1.024	S20	34.1	0.404	0.052	5.9667	
360 minute winter	S20	Hydro-Brake®	HW7	32.8				2069.6

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	10	117.567	0.219	80.5	0.3133	0.0000	OK
15 minute winter	S2	10	117.264	0.218	95.9	0.2467	0.0000	OK
15 minute winter	S3	11	117.142	0.319	112.7	0.3604	0.0000	SURCHARGED
15 minute summer	S4	11	116.618	0.336	124.2	0.4806	0.0000	SURCHARGED
15 minute winter	S5	12	116.400	0.308	188.8	0.4404	0.0000	OK
15 minute winter	S6	12	115.876	0.759	247.7	1.0868	0.0000	SURCHARGED
15 minute winter	S7	12	114.947	0.836	227.8	1.1969	0.0000	SURCHARGED
15 minute winter	S8	12	114.860	0.915	228.8	1.3090	0.0000	SURCHARGED
15 minute winter	S9	11	114.774	0.847	290.6	1.2125	0.0000	SURCHARGED
15 minute winter	S10	12	114.354	0.540	290.9	0.7732	0.0000	SURCHARGED
15 minute winter	S100	10	116.716	0.186	64.0	0.2667	0.0000	OK
15 minute winter	S101	10	116.479	0.349	181.6	0.4988	0.0000	OK
15 minute winter	S102	11	116.314	0.335	194.4	0.4789	0.0000	OK
15 minute winter	S103	11	116.158	0.325	234.9	0.4656	0.0000	OK
15 minute winter	S5B	10	117.045	0.065	20.1	0.0738	0.0000	OK
15 minute summer	S28a	10	116.627	0.067	24.2	0.0760	0.0000	OK
15 minute winter	S24	11	115.987	0.305	260.3	0.4361	0.0000	OK
15 minute winter	S25a	11	115.736	0.285	330.8	0.4078	0.0000	OK
15 minute winter	S29a	11	115.232	0.832	89.4	1.1903	0.0000	SURCHARGED
15 minute winter	S30a	11	115.122	0.922	96.5	1.3194	0.0000	SURCHARGED
15 minute winter	S31a	11	115.077	0.977	164.8	1.3978	0.0000	SURCHARGED
15 minute winter	S26	11	114.997	0.997	540.4	1.4260	0.0000	SURCHARGED
15 minute winter	S11	11	114.106	0.467	840.3	0.8254	0.0000	OK
15 minute winter	S12	11	113.363	0.353	862.8	0.6240	0.0000	OK
15 minute winter	S13	11	111.176	0.331	929.7	0.5850	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	S1	1.000	S2	79.3	1.443	0.810	2.1346	
15 minute winter	S2	1.001	S3	94.5	1.605	0.680	0.8954	
15 minute winter	S3	1.002	S4	111.1	1.617	0.957	3.4927	
15 minute summer	S4	1.003	S5	123.6	1.845	0.976	0.5753	
15 minute winter	S5	1.004	S6	187.3	2.013	0.811	7.5965	
15 minute winter	S6	1.005	S7	227.8	2.221	0.927	6.8197	
15 minute winter	S7	1.006	S8	228.8	1.444	0.451	1.0716	
15 minute winter	S8	1.007	S9	229.8	1.451	1.424	1.1313	
15 minute winter	S9	1.008	S10	290.9	1.836	1.712	6.4056	
15 minute winter	S10	1.009	S11	291.4	1.856	1.778	1.4439	
15 minute winter	S100	2.000	S101	63.2	1.405	0.637	1.4983	
15 minute winter	S101	2.001	S102	178.4	1.383	0.830	4.3799	
15 minute winter	S102	2.002	S103	194.2	1.559	0.745	2.7888	
15 minute winter	S103	2.003	S24	236.2	1.993	0.624	1.3072	
15 minute winter	S5B	3.000	S28a	20.0	2.067	0.159	0.0706	
15 minute summer	S28a	3.001	S24	24.3	2.537	0.167	0.0820	
15 minute winter	S24	2.004	S25a	261.2	2.569	0.569	1.2648	
15 minute winter	S25a	2.005	S26	332.1	2.276	0.534	5.2092	
15 minute winter	S29a	4.000	S30a	84.8	1.204	1.190	0.8492	
15 minute winter	S30a	4.001	S31a	97.3	0.716	0.602	6.2558	
15 minute winter	S31a	4.002	S26	164.8	1.040	0.726	3.1977	
15 minute winter	S26	2.006	S11	541.6	3.419	1.506	2.6776	
15 minute winter	S11	1.010	S12	839.4	4.102	0.697	4.2067	
15 minute winter	S12	1.011	S13	859.6	5.200	0.557	7.1943	
15 minute winter	S13	1.012	S14	924.8	5.192	0.506	5.5174	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S31	10	109.974	0.784	121.9	1.1220	0.0000	SURCHARGED
15 minute winter	S32	10	109.639	0.539	126.2	0.6094	0.0000	SURCHARGED
15 minute winter	S14	10	109.113	0.413	1150.5	0.7292	0.0000	OK
15 minute winter	S33a	10	108.086	0.516	79.4	0.7388	0.0000	SURCHARGED
15 minute winter	S28	12	107.874	0.474	82.4	0.5360	0.0000	SURCHARGED
15 minute winter	S34a	11	107.788	0.488	122.3	0.5515	0.0000	SURCHARGED
15 minute winter	S15	11	107.636	0.835	1273.6	2.1263	0.0000	SURCHARGED
15 minute winter	S16	11	106.947	1.647	1366.7	4.1909	0.0000	SURCHARGED
15 minute winter	S17	12	106.523	1.674	1380.2	4.2607	0.0000	SURCHARGED
15 minute winter	S35	11	106.210	0.690	42.6	0.9876	0.0000	SURCHARGED
15 minute winter	S36	11	106.151	0.830	85.8	0.9392	0.0000	SURCHARGED
15 minute winter	S37	11	106.015	0.777	83.6	1.1125	0.0000	SURCHARGED
15 minute winter	S18	12	105.886	1.182	1515.5	3.0078	0.0000	SURCHARGED
480 minute winter	HW1	472	105.712	1.058	186.3	3.6027	0.0000	OK
480 minute winter	HW2	472	105.712	1.108	183.8	883.2769	0.0000	SURCHARGED
480 minute winter	HW3	472	105.712	1.158	88.7	3.9420	0.0000	OK
480 minute winter	HW4	472	105.712	1.183	145.9	1446.2030	0.0000	SURCHARGED
15 minute winter	S38	10	116.790	0.247	75.2	0.3538	0.0000	OK
15 minute winter	S39a	10	116.562	0.234	84.3	0.2650	0.0000	OK
15 minute winter	S40	10	116.461	0.194	93.0	0.2199	0.0000	OK
15 minute winter	S41	10	116.283	0.117	126.0	0.1324	0.0000	OK
15 minute winter	S42a	12	114.836	0.335	190.0	0.3791	0.0000	OK
15 minute winter	S42	12	114.792	0.511	205.3	0.7319	0.0000	SURCHARGED
15 minute winter	S104	10	115.325	0.063	20.7	0.0718	0.0000	OK
15 minute winter	S105	12	114.720	0.598	244.4	0.8557	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	S31	5.000	S32	119.7	1.700	1.663	1.4985	
15 minute winter	S32	5.001	S14	124.7	1.772	1.717	1.5872	
15 minute winter	S14	1.013	S15	1141.2	5.752	0.624	6.0228	
15 minute winter	S33a	6.000	S28	77.1	1.096	1.083	2.8880	
15 minute winter	S28	6.001	S34a	81.4	1.156	0.921	1.1080	
15 minute winter	S34a	6.002	S15	121.6	1.729	1.505	0.6620	
15 minute winter	S15	1.014	S16	1271.3	3.323	0.558	19.5440	
15 minute winter	S16	1.015	S17	1360.3	3.091	0.634	6.6071	
15 minute winter	S17	1.016	S18	1385.6	3.149	1.670	14.1041	
15 minute winter	S35	7.000	S36	42.2	0.640	0.501	2.4233	
15 minute winter	S36	7.001	S37	76.6	1.088	1.073	1.4028	
15 minute winter	S37	7.002	S18	84.0	1.192	1.015	1.0616	
15 minute winter	S18	1.017	HW1	1519.4	3.454	2.069	6.1943	
480 minute winter	HW1	1.018	HW2	183.8	1.161	0.099	24.8800	
480 minute winter	HW2	1.019	HW3	88.7	0.702	0.176	13.0575	
480 minute winter	HW3	1.020	HW4	85.1	0.893	0.081	40.1492	
480 minute winter	HW4	1.021	S19	-63.2	0.445	-0.107	7.0344	
15 minute winter	S38	8.000	S39a	74.2	1.280	0.898	0.8974	
15 minute winter	S39a	8.001	S40	83.5	1.125	0.520	1.8239	
15 minute winter	S40	8.002	S41	92.6	1.913	0.346	0.7230	
15 minute winter	S41	8.003	S42a	125.4	1.914	0.152	2.0264	
15 minute winter	S42a	8.004	S42	187.5	1.850	0.524	2.5740	
15 minute winter	S42	8.005	S105	202.6	2.169	0.519	1.7212	
15 minute winter	S104	9.000	S105	20.6	2.318	0.159	0.3589	
15 minute winter	S105	8.006	S43	265.6	2.436	0.470	3.6021	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.65%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S51	11	114.854	0.656	84.1	0.9390	0.0000	SURCHARGED
15 minute winter	S52	12	114.627	0.971	163.2	1.3902	0.0000	SURCHARGED
15 minute winter	S43	12	114.552	1.121	394.6	1.6049	0.0000	SURCHARGED
15 minute winter	S44	11	114.021	1.586	472.7	2.2691	0.0000	SURCHARGED
15 minute winter	S45	11	113.301	1.776	664.4	2.5412	0.0000	SURCHARGED
15 minute winter	S46	11	110.827	0.934	676.1	1.3369	0.0000	SURCHARGED
15 minute winter	S47	11	109.539	0.339	760.8	0.5982	0.0000	OK
15 minute winter	S48	11	106.508	1.485	939.1	2.6239	0.0000	SURCHARGED
15 minute winter	S49	11	105.866	1.304	1085.7	3.3185	0.0000	SURCHARGED
480 minute winter	S50a	472	105.712	1.200	141.2	3.0527	0.0000	SURCHARGED
480 minute winter	S19	472	105.712	1.220	141.3	4.2266	0.0000	SURCHARGED
480 minute winter	HW5	472	105.712	1.332	84.2	6.4338	0.0000	OK
480 minute winter	HW6	472	105.712	1.402	76.1	459.4546	0.0000	SURCHARGED
480 minute winter	S20	472	105.712	1.439	33.7	10.1757	0.0000	SURCHARGED
15 minute summer	HW7	1	104.210	0.000	32.8	0.0000	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	S51	10.000	S52	82.1	1.596	0.762	2.9416	
15 minute winter	S52	10.001	S43	157.0	1.426	0.777	6.0441	
15 minute winter	S43	8.007	S44	403.4	2.995	0.676	4.6552	
15 minute winter	S44	8.008	S45	477.2	3.012	0.794	4.1976	
15 minute winter	S45	8.009	S46	663.8	4.190	1.103	7.4988	
15 minute winter	S46	8.010	S47	677.3	4.275	1.019	2.3322	
15 minute winter	S47	8.011	S48	758.6	3.793	0.697	14.8689	
15 minute winter	S48	8.012	S49	933.5	3.315	1.123	5.5386	
15 minute winter	S49	8.013	S50a	1085.3	2.466	2.077	12.1636	
480 minute winter	S50a	8.014	S19	139.8	0.789	0.270	4.9571	
480 minute winter	S19	1.022	HW5	84.2	0.904	0.095	9.5695	
480 minute winter	HW5	1.023	HW6	76.1	0.818	0.017	48.3400	
480 minute winter	HW6	1.024	S20	33.7	0.399	0.052	5.9667	
480 minute winter	S20	Hydro-Brake®	HW7	32.8				3427.1