

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	1	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	1.000	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	✓
Maximum Rainfall (mm/hr)	50.0		

1 Link Type

Template	Freeform Carrier	Auto Increment (mm)	75
Shape	Circular	Follow Ground	x
Barrels	1		

Available Diameters (mm)

100

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)	Invert Level (m)
S1	0.130	5.00	88.941	1200	523165.209	234151.045	1.821	87.120
S2	0.130	5.00	88.841	1200	523196.724	234158.348	2.027	86.814
S3	0.130	5.00	88.778	1350	523187.020	234168.308	2.085	86.693
S4	0.130	5.00	88.324	1350	523166.921	234194.702	1.717	86.607
S5	0.140	5.00	88.080	1350	523184.471	234207.102	1.529	86.551
BASIN-01			87.989	1350	523185.552	234232.735	1.489	86.500
S6-FC			88.000	1350	523204.890	234228.980	1.530	86.470
S7			87.600	1350	523232.930	234206.208	1.280	86.320
S8			87.610	1350	523249.020	234192.930	1.365	86.245
S9	0.080	5.00	88.525	1350	523234.235	234161.180	1.650	86.875
S10	0.080	5.00	88.059	1200	523247.224	234180.279	1.868	86.191
S11	0.080	5.00	87.595	1350	523270.533	234166.130	1.595	86.000
S12	0.080	5.00	86.072	1350	523306.653	234140.724	2.097	83.975
S13	0.080	5.00	88.758	1200	523198.718	234100.741	1.808	86.950
S14	0.060	5.00	88.830	1200	523211.913	234110.339	1.989	86.841
S15	0.060	5.00	88.723	1350	523216.833	234139.077	1.773	86.950
S16	0.050	5.00	88.492	1200	523228.331	234130.535	2.152	86.340
S17	0.050	5.00	87.453	1200	523258.683	234109.577	1.809	85.644
S18	0.050	5.00	87.161	1200	523233.894	234051.272	1.791	85.370
S19	0.050	5.00	86.814	1200	523254.506	234068.187	1.794	85.020
S20			86.353	1200	523278.198	234093.152	1.913	84.440
S21	0.060	5.00	85.809	1350	523286.679	234085.271	1.884	83.925
S22	0.060	5.00	85.693	1350	523306.762	234103.174	2.053	83.640
S23	0.050	5.00	85.010	1350	523323.404	234124.884	2.270	82.740
S24	0.050	5.00	84.185	1350	523335.480	234116.919	2.055	82.130
S25	0.050	5.00	82.676	1350	523352.711	234100.878	2.146	80.530
S26	0.050	5.00	81.373	1350	523368.658	234089.412	2.133	79.240
S27	0.050	5.00	80.047	1350	523387.457	234082.512	2.172	77.875
S28	0.050	5.00	79.711	1350	523391.397	234076.737	2.041	77.670
BASIN-02			78.800	1350	523402.451	234051.044	1.600	77.200
S29-FC			78.800	1350	523394.821	234031.228	1.800	77.000
S30			79.319	1350	523385.643	234021.044	2.362	76.957
S31			79.823	1350	523367.687	234020.074	2.922	76.901

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)	Invert Level (m)
S32	0.070	5.00	85.018	1200	523296.928	234070.524	1.883	83.135
S33	0.070	5.00	84.506	1200	523302.864	234061.134	2.482	82.024
S34	0.070	5.00	83.487	1200	523309.723	234039.387	3.743	79.744
S35	0.070	5.00	83.473	1350	523285.943	234004.353	3.721	79.752
TANK 01		5.00	81.794	1350	523327.078	234027.913	4.839	76.955
S36	0.070	5.00	82.169	1500	523314.740	234010.461	5.529	76.640
S37	0.070	5.00	81.444	1500	523318.933	233989.884	4.856	76.588
S38	0.070	5.00	81.055	1500	523327.676	233959.783	4.546	76.509
S39-FC	0.070	5.00	80.704	1800	523335.724	233942.263	4.243	76.461
Ex S3951			80.130	1350	523343.015	233941.174	3.710	76.420

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	S3	27.816	0.600	87.120	86.768	0.352	79.0	375	5.23	30.6
2.000	S2	S3	13.906	0.600	86.814	86.768	0.046	302.3	375	5.22	30.6
1.001	S3	S4	33.175	0.600	86.693	86.607	0.086	385.8	450	5.76	29.3
1.002	S4	S5	21.489	0.600	86.607	86.551	0.056	383.7	450	6.11	28.4
1.003	S5	BASIN-01	25.656	0.600	86.551	86.500	0.051	500.0	450	6.59	27.4
1.004	BASIN-01	S6-FC	19.699	0.600	86.500	86.470	0.030	656.6	450	7.00	26.5
1.005	S6-FC	S7	36.122	0.600	86.470	86.320	0.150	240.8	300	7.60	25.5
1.006	S7	S8	20.861	0.600	86.320	86.245	0.075	278.1	300	7.97	24.8
1.007	S8	S10	12.778	0.600	86.245	86.191	0.054	236.6	300	8.18	24.5
3.000	S9	S10	23.098	0.600	86.875	86.191	0.684	33.8	300	5.14	30.8
1.008	S10	S11	27.267	0.600	86.191	86.075	0.116	235.1	300	8.63	23.8
1.009	S11	S12	44.160	0.600	86.000	83.975	2.025	21.8	375	8.81	23.5
1.010	S12	S23	23.055	0.600	83.975	82.815	1.160	19.9	375	8.91	23.3
4.000	S13	S14	16.317	0.600	86.950	86.841	0.109	149.7	300	5.21	30.7
4.001	S14	S16	26.027	0.600	86.841	86.340	0.501	52.0	300	5.41	30.2
5.000	S15	S16	14.324	0.600	86.950	86.340	0.610	23.5	300	5.07	31.0

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	2.039	225.3	14.4	1.446	1.635	0.130	0.0	62	1.017
2.000	1.037	114.5	14.4	1.652	1.635	0.130	0.0	77	0.750
1.001	1.029	163.6	41.2	1.635	1.267	0.390	0.0	119	1.176
1.002	1.032	164.1	53.4	1.267	1.079	0.520	0.0	162	1.001
1.003	0.902	143.5	65.4	1.079	1.039	0.660	0.0	215	0.835
1.004	0.786	125.0	63.3	1.039	1.080	0.660	0.0	228	0.751
1.005	1.009	71.3	60.7	1.230	0.980	0.660	0.0	187	1.092
1.006	0.938	66.3	59.1	0.980	1.065	0.660	0.0	194	1.025
1.007	1.018	71.9	58.3	1.065	1.568	0.660	0.0	181	1.091
3.000	2.714	191.9	8.9	1.350	1.568	0.080	0.0	38	1.285
1.008	1.021	72.2	70.5	1.568	1.220	0.820	0.0	204	1.130
1.009	3.894	430.1	76.4	1.220	1.722	0.900	0.0	96	2.803
1.010	4.080	450.6	82.7	1.722	1.820	0.980	0.0	97	2.961
4.000	1.282	90.7	8.9	1.508	1.689	0.080	0.0	55	0.758
4.001	2.186	154.5	15.3	1.689	1.852	0.140	0.0	58	1.344
5.000	3.258	230.3	6.7	1.473	1.852	0.060	0.0	35	1.468

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)
4.002	S16	S17	36.885	0.600	86.340	85.644	0.696	53.0	300	5.69	29.4
4.003	S17	S20	25.507	0.600	85.644	84.440	1.204	21.2	300	5.82	29.1
6.000	S18	S19	26.664	0.600	85.370	85.020	0.350	76.2	300	5.25	30.6
6.001	S19	S20	34.417	0.600	85.020	84.440	0.580	59.3	300	5.53	29.9
4.004	S20	S21	11.577	0.600	84.440	84.000	0.440	26.3	300	5.88	29.0
4.005	S21	S22	26.904	0.600	83.925	83.640	0.285	94.4	375	6.12	28.4
4.006	S22	S23	27.355	0.600	83.640	82.815	0.825	33.2	375	6.27	28.1
1.011	S23	S24	14.466	0.600	82.740	82.130	0.610	23.7	450	8.97	23.3
1.012	S24	S25	23.542	0.600	82.130	80.530	1.600	14.7	450	9.04	23.2
1.013	S25	S26	19.641	0.600	80.530	79.240	1.290	15.2	450	9.10	23.1
1.014	S26	S27	20.025	0.600	79.240	77.950	1.290	15.5	450	9.17	23.0
1.015	S27	S28	6.991	0.600	77.875	77.670	0.205	34.1	525	9.20	22.9
1.016	S28	BASIN-02	27.970	0.600	77.670	77.200	0.470	59.5	525	9.36	22.7
1.017	BASIN-02	S29-FC	21.234	0.600	77.200	77.000	0.200	106.2	525	9.52	22.5
1.018	S29-FC	S30	13.709	0.600	77.000	76.957	0.043	318.8	450	9.72	22.2
1.019	S30	S31	17.982	0.600	76.957	76.901	0.056	321.1	450	9.99	21.9
1.020	S31	S36	53.813	0.600	76.901	76.715	0.186	289.3	450	10.74	21.0
7.000	S32	S33	11.109	0.600	83.135	82.024	1.111	10.0	300	5.04	31.1
7.001	S33	S34	22.803	0.600	82.024	79.744	2.280	10.0	300	5.11	30.9
7.002	S34	S36	29.358	0.600	79.744	76.865	2.879	10.2	300	5.21	30.7
8.000	S35	S36	29.438	0.600	79.752	76.865	2.887	10.2	300	5.10	30.9
9.000	TANK 01	S36	21.373	0.600	76.955	76.865	0.090	237.5	300	5.35	30.3
1.021	S36	S37	21.000	0.600	76.640	76.588	0.052	403.8	525	11.06	20.7
1.022	S37	S38	31.345	0.600	76.588	76.509	0.079	396.8	525	11.53	20.2

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)
4.002	2.164	153.0	26.6	1.852	1.509	0.250	0.0	82	1.617
4.003	3.430	242.5	31.6	1.509	1.613	0.300	0.0	72	2.389
6.000	1.803	127.4	5.5	1.491	1.494	0.050	0.0	46	0.961
6.001	2.044	144.5	10.8	1.494	1.613	0.100	0.0	58	1.249
4.004	3.077	217.5	41.9	1.613	1.509	0.400	0.0	90	2.412
4.005	1.865	206.0	47.2	1.509	1.678	0.460	0.0	121	1.522
4.006	3.156	348.5	52.8	1.678	1.820	0.520	0.0	97	2.289
1.011	4.188	666.1	130.3	1.820	1.605	1.550	0.0	124	3.154
1.012	5.320	846.1	133.9	1.605	1.696	1.600	0.0	112	3.788
1.013	5.230	831.8	137.6	1.696	1.683	1.650	0.0	115	3.771
1.014	5.179	823.7	141.2	1.683	1.647	1.700	0.0	117	3.781
1.015	3.844	832.2	145.1	1.647	1.516	1.750	0.0	135	3.209
1.016	2.907	629.3	147.9	1.516	1.075	1.800	0.0	162	2.320
1.017	2.173	470.4	146.5	1.075	1.275	1.800	0.0	188	1.870
1.018	1.133	180.2	144.7	1.350	1.912	1.800	0.0	321	1.191
1.019	1.129	179.5	142.4	1.912	2.472	1.800	0.0	317	1.186
1.020	1.190	189.2	136.7	2.472	5.004	1.800	0.0	303	1.183
7.000	4.999	353.4	7.9	1.583	2.182	0.070	0.0	31	2.086
7.001	4.999	353.3	15.6	2.182	3.443	0.140	0.0	42	2.549
7.002	4.950	349.9	23.3	3.443	5.004	0.210	0.0	52	2.874
8.000	4.950	349.9	7.8	3.421	5.004	0.070	0.0	31	2.086
9.000	1.016	71.8	0.0	4.539	5.004	0.000	0.0	0	0.000
1.021	1.108	239.9	160.5	5.004	4.331	2.150	0.0	285	1.301
1.022	1.118	242.0	161.8	4.331	4.021	2.220	0.0	340	1.136

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)
1.023	S38	S39-FC	19.280	0.600	76.509	76.461	0.048	401.7	525	11.81	19.9
1.024	S39-FC	Ex S3951	7.372	0.600	76.461	76.420	0.041	179.8	375	11.91	19.8

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)
1.023	1.111	240.5	164.5	4.021	3.718	2.290	0.0	345	1.138
1.024	1.348	148.9	168.7	3.868	3.335	2.360	0.0	261	1.599

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	27.816	79.0	375	1	88.941	87.120	1.446	88.778	86.768	1.635
2.000	13.906	302.3	375	1	88.841	86.814	1.652	88.778	86.768	1.635
1.001	33.175	385.8	450	1	88.778	86.693	1.635	88.324	86.607	1.267
1.002	21.489	383.7	450	1	88.324	86.607	1.267	88.080	86.551	1.079
1.003	25.656	500.0	450	1	88.080	86.551	1.079	87.989	86.500	1.039
1.004	19.699	656.6	450	1	87.989	86.500	1.039	88.000	86.470	1.080
1.005	36.122	240.8	300	1	88.000	86.470	1.230	87.600	86.320	0.980
1.006	20.861	278.1	300	1	87.600	86.320	0.980	87.610	86.245	1.065
1.007	12.778	236.6	300	1	87.610	86.245	1.065	88.059	86.191	1.568
3.000	23.098	33.8	300	1	88.525	86.875	1.350	88.059	86.191	1.568
1.008	27.267	235.1	300	1	88.059	86.191	1.568	87.595	86.075	1.220
1.009	44.160	21.8	375	1	87.595	86.000	1.220	86.072	83.975	1.722
1.010	23.055	19.9	375	1	86.072	83.975	1.722	85.010	82.815	1.820
4.000	16.317	149.7	300	1	88.758	86.950	1.508	88.830	86.841	1.689
4.001	26.027	52.0	300	1	88.830	86.841	1.689	88.492	86.340	1.852
5.000	14.324	23.5	300	1	88.723	86.950	1.473	88.492	86.340	1.852
4.002	36.885	53.0	300	1	88.492	86.340	1.852	87.453	85.644	1.509
4.003	25.507	21.2	300	1	87.453	85.644	1.509	86.353	84.440	1.613

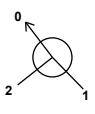
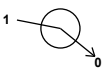
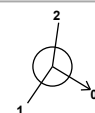
Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	S1	1200	Manhole	1	S3	1350	Manhole	1
2.000	S2	1200	Manhole	1	S3	1350	Manhole	1
1.001	S3	1350	Manhole	1	S4	1350	Manhole	1
1.002	S4	1350	Manhole	1	S5	1350	Manhole	1
1.003	S5	1350	Manhole	1	BASIN-01	1350	Manhole	1
1.004	BASIN-01	1350	Manhole	1	S6-FC	1350	Manhole	1
1.005	S6-FC	1350	Manhole	1	S7	1350	Manhole	1
1.006	S7	1350	Manhole	1	S8	1350	Manhole	1
1.007	S8	1350	Manhole	1	S10	1200	Manhole	1
3.000	S9	1350	Manhole	1	S10	1200	Manhole	1
1.008	S10	1200	Manhole	1	S11	1350	Manhole	1
1.009	S11	1350	Manhole	1	S12	1350	Manhole	1
1.010	S12	1350	Manhole	1	S23	1350	Manhole	1
4.000	S13	1200	Manhole	1	S14	1200	Manhole	1
4.001	S14	1200	Manhole	1	S16	1200	Manhole	1
5.000	S15	1350	Manhole	1	S16	1200	Manhole	1
4.002	S16	1200	Manhole	1	S17	1200	Manhole	1
4.003	S17	1200	Manhole	1	S20	1200	Manhole	1

Pipeline Schedule

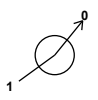
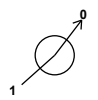
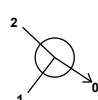
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
6.000	26.664	76.2	300	1	87.161	85.370	1.491	86.814	85.020	1.494
6.001	34.417	59.3	300	1	86.814	85.020	1.494	86.353	84.440	1.613
4.004	11.577	26.3	300	1	86.353	84.440	1.613	85.809	84.000	1.509
4.005	26.904	94.4	375	1	85.809	83.925	1.509	85.693	83.640	1.678
4.006	27.355	33.2	375	1	85.693	83.640	1.678	85.010	82.815	1.820
1.011	14.466	23.7	450	1	85.010	82.740	1.820	84.185	82.130	1.605
1.012	23.542	14.7	450	1	84.185	82.130	1.605	82.676	80.530	1.696
1.013	19.641	15.2	450	1	82.676	80.530	1.696	81.373	79.240	1.683
1.014	20.025	15.5	450	1	81.373	79.240	1.683	80.047	77.950	1.647
1.015	6.991	34.1	525	1	80.047	77.875	1.647	79.711	77.670	1.516
1.016	27.970	59.5	525	1	79.711	77.670	1.516	78.800	77.200	1.075
1.017	21.234	106.2	525	1	78.800	77.200	1.075	78.800	77.000	1.275
1.018	13.709	318.8	450	1	78.800	77.000	1.350	79.319	76.957	1.912
1.019	17.982	321.1	450	1	79.319	76.957	1.912	79.823	76.901	2.472
1.020	53.813	289.3	450	1	79.823	76.901	2.472	82.169	76.715	5.004
7.000	11.109	10.0	300	1	85.018	83.135	1.583	84.506	82.024	2.182
7.001	22.803	10.0	300	1	84.506	82.024	2.182	83.487	79.744	3.443
7.002	29.358	10.2	300	1	83.487	79.744	3.443	82.169	76.865	5.004
8.000	29.438	10.2	300	1	83.473	79.752	3.421	82.169	76.865	5.004
9.000	21.373	237.5	300	1	81.794	76.955	4.539	82.169	76.865	5.004
1.021	21.000	403.8	525	1	82.169	76.640	5.004	81.444	76.588	4.331
1.022	31.345	396.8	525	1	81.444	76.588	4.331	81.055	76.509	4.021
1.023	19.280	401.7	525	1	81.055	76.509	4.021	80.704	76.461	3.718
1.024	7.372	179.8	375	1	80.704	76.461	3.868	80.130	76.420	3.335

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
6.000	S18	1200	Manhole	1	S19	1200	Manhole	1
6.001	S19	1200	Manhole	1	S20	1200	Manhole	1
4.004	S20	1200	Manhole	1	S21	1350	Manhole	1
4.005	S21	1350	Manhole	1	S22	1350	Manhole	1
4.006	S22	1350	Manhole	1	S23	1350	Manhole	1
1.011	S23	1350	Manhole	1	S24	1350	Manhole	1
1.012	S24	1350	Manhole	1	S25	1350	Manhole	1
1.013	S25	1350	Manhole	1	S26	1350	Manhole	1
1.014	S26	1350	Manhole	1	S27	1350	Manhole	1
1.015	S27	1350	Manhole	1	S28	1350	Manhole	1
1.016	S28	1350	Manhole	1	BASIN-02	1350	Manhole	1
1.017	BASIN-02	1350	Manhole	1	S29-FC	1350	Manhole	1
1.018	S29-FC	1350	Manhole	1	S30	1350	Manhole	1
1.019	S30	1350	Manhole	1	S31	1350	Manhole	1
1.020	S31	1350	Manhole	1	S36	1500	Manhole	1
7.000	S32	1200	Manhole	1	S33	1200	Manhole	1
7.001	S33	1200	Manhole	1	S34	1200	Manhole	1
7.002	S34	1200	Manhole	1	S36	1500	Manhole	1
8.000	S35	1350	Manhole	1	S36	1500	Manhole	1
9.000	TANK 01	1350	Manhole	1	S36	1500	Manhole	1
1.021	S36	1500	Manhole	1	S37	1500	Manhole	1
1.022	S37	1500	Manhole	1	S38	1500	Manhole	1
1.023	S38	1500	Manhole	1	S39-FC	1800	Manhole	1
1.024	S39-FC	1800	Manhole	1	Ex S3951	1350	Manhole	1

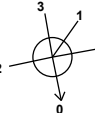
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S1	523165.209	234151.045	88.941	1.821	1200		0	1.000	87.120	375
S2	523196.724	234158.348	88.841	2.027	1200		0	2.000	86.814	375
S3	523187.020	234168.308	88.778	2.085	1350		1 2	2.000 1.000	86.768 86.768	375 375
S4	523166.921	234194.702	88.324	1.717	1350		1	1.001	86.607	450
S5	523184.471	234207.102	88.080	1.529	1350		1	1.002	86.551	450
BASIN-01	523185.552	234232.735	87.989	1.489	1350		1	1.003	86.500	450
S6-FC	523204.890	234228.980	88.000	1.530	1350		1	1.004	86.470	450
S7	523232.930	234206.208	87.600	1.280	1350		1	1.005	86.320	300
S8	523249.020	234192.930	87.610	1.365	1350		1	1.006	86.245	300
S9	523234.235	234161.180	88.525	1.650	1350		0	3.000	86.875	300
S10	523247.224	234180.279	88.059	1.868	1200		1 2	3.000 1.007	86.191 86.191	300 300
S11	523270.533	234166.130	87.595	1.595	1350		1	1.008	86.075	300
S12	523306.653	234140.724	86.072	2.097	1350		1	1.009	83.975	375
							0	1.010	83.975	375

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S13	523198.718	234100.741	88.758	1.808	1200		0	4.000	86.950	300
S14	523211.913	234110.339	88.830	1.989	1200		1	4.000	86.841	300
						0	4.001	86.841	300	
S15	523216.833	234139.077	88.723	1.773	1350		0	5.000	86.950	300
S16	523228.331	234130.535	88.492	2.152	1200		1	5.000	86.340	300
						2	4.001	86.340	300	
						0	4.002	86.340	300	
S17	523258.683	234109.577	87.453	1.809	1200		1	4.002	85.644	300
						0	4.003	85.644	300	
S18	523233.894	234051.272	87.161	1.791	1200		0	6.000	85.370	300
S19	523254.506	234068.187	86.814	1.794	1200		1	6.000	85.020	300
						0	6.001	85.020	300	
S20	523278.198	234093.152	86.353	1.913	1200		1	6.001	84.440	300
						2	4.003	84.440	300	
						0	4.004	84.440	300	
S21	523286.679	234085.271	85.809	1.884	1350		1	4.004	84.000	300
						0	4.005	83.925	375	
S22	523306.762	234103.174	85.693	2.053	1350		1	4.005	83.640	375
						0	4.006	83.640	375	
S23	523323.404	234124.884	85.010	2.270	1350		1	4.006	82.815	375
						2	1.010	82.815	375	
						0	1.011	82.740	450	
S24	523335.480	234116.919	84.185	2.055	1350		1	1.011	82.130	450
						0	1.012	82.130	450	
S25	523352.711	234100.878	82.676	2.146	1350		1	1.012	80.530	450
						0	1.013	80.530	450	

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S26	523368.658	234089.412	81.373	2.133	1350		1	1.013	79.240	450
						0	1.014	79.240	450	
S27	523387.457	234082.512	80.047	2.172	1350		1	1.014	77.950	450
						0	1.015	77.875	525	
S28	523391.397	234076.737	79.711	2.041	1350		1	1.015	77.670	525
						0	1.016	77.670	525	
BASIN-02	523402.451	234051.044	78.800	1.600	1350		1	1.016	77.200	525
						0	1.017	77.200	525	
S29-FC	523394.821	234031.228	78.800	1.800	1350		1	1.017	77.000	525
						0	1.018	77.000	450	
S30	523385.643	234021.044	79.319	2.362	1350		1	1.018	76.957	450
						0	1.019	76.957	450	
S31	523367.687	234020.074	79.823	2.922	1350		1	1.019	76.901	450
						0	1.020	76.901	450	
S32	523296.928	234070.524	85.018	1.883	1200		0	7.000	83.135	300
S33	523302.864	234061.134	84.506	2.482	1200		1	7.000	82.024	300
						0	7.001	82.024	300	
S34	523309.723	234039.387	83.487	3.743	1200		1	7.001	79.744	300
						0	7.002	79.744	300	
S35	523285.943	234004.353	83.473	3.721	1350		0	8.000	79.752	300
TANK 01	523327.078	234027.913	81.794	4.839	1350		0	9.000	76.955	300
S36	523314.740	234010.461	82.169	5.529	1500		1	9.000	76.865	300
						2	8.000	76.865	300	
						3	7.002	76.865	300	
						4	1.020	76.715	450	
						0	1.021	76.640	525	

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S37	523318.933	233989.884	81.444	4.856	1500	 1	1.021	76.588	525
						0	1.022	76.588	525
S38	523327.676	233959.783	81.055	4.546	1500	 1	1.022	76.509	525
						0	1.023	76.509	525
S39-FC	523335.724	233942.263	80.704	4.243	1800	 1	1.023	76.461	525
						0	1.024	76.461	375
Ex S3951	523343.015	233941.174	80.130	3.710	1350	 1	1.024	76.420	375

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	1.000	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	1.000	Additional Storage (m³/ha)	20.0		

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 %)
100	40	0	0

Node S6-FC Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	86.470	Product Number	CTL-SHE-0049-1200-1230-1200
Design Depth (m)	1.230	Min Outlet Diameter (m)	0.075
Design Flow (l/s)	1.2	Min Node Diameter (mm)	1200

Node S39-FC Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	76.461	Product Number	CTL-SHE-0114-8000-2200-8000
Design Depth (m)	2.200	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	8.0	Min Node Diameter (mm)	1500

Node BASIN-02 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	77.200
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	252.0	0.0	1.600	646.0	411.0

Node BASIN-01 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	86.500
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

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	166.9	0.0	0.400	253.2	0.0	0.800	353.5	0.0	1.200	643.2	0.0
0.100	186.9	0.0	0.500	277.0	0.0	0.900	380.6	0.0	1.300	806.7	0.0
0.200	208.2	0.0	0.600	301.6	0.0	1.000	410.6	0.0	1.400	971.7	0.0
0.300	230.3	0.0	0.700	327.1	0.0	1.100	499.8	0.0	1.489	1120.0	0.0

Node TANK 01 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	76.955
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

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	410.0	0.0	1.600	410.0	0.0	1.601	0.0	0.0

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.22%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	11	88.706	1.586	106.1	4.0596	0.0000	FLOOD RISK
15 minute summer	S2	11	88.673	1.859	106.1	4.4883	0.0000	FLOOD RISK
15 minute summer	S3	11	88.619	1.926	295.7	5.1590	0.0000	FLOOD RISK
15 minute summer	S4	11	88.258	1.651	392.6	4.8629	0.0000	FLOOD RISK
1440 minute winter	S5	1410	87.936	1.385	20.4	4.5182	0.0000	FLOOD RISK
1440 minute winter	BASIN-01	1410	87.936	1.436	20.2	582.5746	0.0000	FLOOD RISK
1440 minute winter	S6-FC	1410	87.936	1.466	1.3	2.0974	0.0000	FLOOD RISK
15 minute summer	S7	12	86.687	0.367	20.5	0.5247	0.0000	SURCHARGED
15 minute summer	S8	12	86.680	0.435	28.9	0.6221	0.0000	SURCHARGED
15 minute summer	S9	10	86.994	0.119	65.3	0.2866	0.0000	OK
15 minute summer	S10	12	86.676	0.485	130.3	0.9641	0.0000	SURCHARGED
15 minute summer	S11	11	86.165	0.165	173.5	0.4009	0.0000	OK
15 minute summer	S12	12	84.200	0.225	234.5	0.4930	0.0000	OK
15 minute summer	S13	12	87.950	1.000	65.3	2.0168	0.0000	SURCHARGED
15 minute summer	S14	12	87.905	1.064	106.4	1.8445	0.0000	SURCHARGED
15 minute summer	S15	12	87.729	0.778	48.9	1.6411	0.0000	SURCHARGED
15 minute summer	S16	12	87.706	1.366	180.9	2.1797	0.0000	SURCHARGED
15 minute summer	S17	12	86.869	1.225	197.8	2.0633	0.0000	SURCHARGED
15 minute summer	S18	12	86.131	0.761	40.8	1.2857	0.0000	SURCHARGED
15 minute summer	S19	12	86.107	1.087	76.6	1.8353	0.0000	SURCHARGED
15 minute summer	S20	12	85.990	1.550	240.5	1.7532	0.0000	SURCHARGED
15 minute summer	S21	12	85.141	1.216	281.2	2.5138	0.0000	SURCHARGED
15 minute summer	S22	12	84.464	0.824	319.5	1.6607	0.0000	SURCHARGED
15 minute summer	S23	12	83.583	0.843	583.0	1.5779	0.0000	SURCHARGED
15 minute summer	S24	12	82.815	0.685	604.4	1.3132	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 summer	S1	1.000	S3	97.1	0.992	0.431	3.0680	
15 minute summer	S2	2.000	S3	97.1	0.880	0.848	1.5338	
15 minute summer	S3	1.001	S4	291.1	1.838	1.779	5.2564	
15 minute summer	S4	1.002	S5	388.0	2.449	2.365	3.4048	
1440 minute winter	S5	1.003	BASIN-01	20.2	0.574	0.141	4.0650	
1440 minute winter	BASIN-01	1.004	S6-FC	1.3	0.094	0.010	3.1212	
1440 minute winter	S6-FC	1.005	S7	1.3	0.379	0.018	0.1232	
15 minute summer	S7	1.006	S8	21.2	0.389	0.320	1.4690	
15 minute summer	S8	1.007	S10	29.2	0.433	0.405	0.8998	
15 minute summer	S9	3.000	S10	65.0	1.154	0.339	1.1148	
15 minute summer	S10	1.008	S11	114.7	1.635	1.589	1.8438	
15 minute summer	S11	1.009	S12	172.1	3.188	0.400	2.5144	
15 minute summer	S12	1.010	S23	231.2	2.663	0.513	2.0659	
15 minute summer	S13	4.000	S14	59.9	1.195	0.660	1.1490	
15 minute summer	S14	4.001	S16	96.1	1.557	0.622	1.8328	
15 minute summer	S15	5.000	S16	46.0	0.954	0.200	1.0087	
15 minute summer	S16	4.002	S17	159.0	2.439	1.040	2.5974	
15 minute summer	S17	4.003	S20	181.5	2.596	0.748	1.7962	
15 minute summer	S18	6.000	S19	37.8	1.192	0.297	1.8777	
15 minute summer	S19	6.001	S20	59.4	1.081	0.411	2.4236	
15 minute summer	S20	4.004	S21	243.2	3.453	1.118	0.8152	
15 minute summer	S21	4.005	S22	279.6	2.535	1.358	2.9674	
15 minute summer	S22	4.006	S23	317.0	3.335	0.910	3.0172	
15 minute summer	S23	1.011	S24	565.3	3.990	0.849	2.2920	
15 minute summer	S24	1.012	S25	594.3	4.604	0.702	3.7301	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.22%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S25	12	81.648	1.118	631.1	2.1210	0.0000	SURCHARGED
15 minute summer	S26	12	80.506	1.266	661.5	2.4061	0.0000	SURCHARGED
30 minute summer	S27	20	79.305	1.430	662.9	2.7062	0.0000	SURCHARGED
30 minute summer	S28	21	78.962	1.292	692.0	2.4813	0.0000	SURCHARGED
720 minute winter	BASIN-02	720	78.792	1.592	68.0	715.8262	0.0000	FLOOD RISK
720 minute winter	S29-FC	720	78.792	1.792	23.2	2.5649	0.0000	FLOOD RISK
720 minute winter	S30	720	78.792	1.835	22.5	2.6262	0.0000	SURCHARGED
720 minute winter	S31	720	78.792	1.891	21.9	2.7061	0.0000	SURCHARGED
15 minute summer	S32	10	83.217	0.082	57.1	0.1544	0.0000	OK
15 minute summer	S33	10	82.140	0.116	114.1	0.1968	0.0000	OK
15 minute summer	S34	11	79.953	0.209	171.0	0.3150	0.0000	OK
15 minute summer	S35	10	79.833	0.081	57.1	0.1469	0.0000	OK
720 minute winter	TANK 01	720	78.792	1.837	41.9	626.0230	0.0000	SURCHARGED
15 minute summer	S36	11	79.042	2.402	432.8	4.8518	0.0000	SURCHARGED
15 minute summer	S37	11	79.089	2.501	157.8	5.1386	0.0000	SURCHARGED
15 minute summer	S38	11	79.110	2.601	102.3	5.3975	0.0000	SURCHARGED
15 minute summer	S39-FC	11	79.108	2.647	57.1	7.6097	0.0000	SURCHARGED
15 minute summer	Ex S3951	11	76.481	0.061	8.6	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 summer	S25	1.013	S26	624.9	4.349	0.751	3.1120	
15 minute summer	S26	1.014	S27	657.6	4.151	0.798	3.1728	
30 minute summer	S27	1.015	S28	659.1	3.051	0.792	1.5103	
30 minute summer	S28	1.016	BASIN-02	688.3	3.186	1.094	6.0424	
720 minute winter	BASIN-02	1.017	S29-FC	23.2	0.709	0.049	4.5872	
720 minute winter	S29-FC	1.018	S30	22.5	0.619	0.125	2.1721	
720 minute winter	S30	1.019	S31	21.9	0.628	0.122	2.8491	
720 minute winter	S31	1.020	S36	20.9	0.585	0.111	8.5263	
15 minute summer	S32	7.000	S33	57.0	2.805	0.161	0.2269	
15 minute summer	S33	7.001	S34	113.8	3.532	0.322	0.8776	
15 minute summer	S34	7.002	S36	165.5	3.422	0.473	1.8043	
15 minute summer	S35	8.000	S36	57.0	2.297	0.163	1.2630	
720 minute winter	TANK 01	9.000	S36	-41.9	-0.595	-0.584	1.5051	
15 minute summer	S36	1.021	S37	-161.6	-0.748	-0.674	4.5367	
15 minute summer	S37	1.022	S38	-108.1	0.665	-0.447	6.7715	
15 minute summer	S38	1.023	S39-FC	-52.8	0.333	-0.220	4.1651	
15 minute summer	S39-FC	1.024	Ex S3951	8.6	0.716	0.058	0.0890	93.9