



Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	100	Connection Type	Level Soffits
Additional Flow (%)	40	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	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)
S8A			57.840	1200	476656.568	164284.283	1.390
S8.	0.030	5.00	57.611	1200	476660.907	164269.882	1.351
S9.	0.046	5.00	57.300	1200	476691.345	164279.496	1.425
S10.	0.117	5.00	56.300	1200	476721.336	164276.536	1.500
S11.	0.035	5.00	55.975	1200	476732.750	164269.324	1.500
S12.			55.750	1200	476730.008	164245.811	1.575
TANK 6			54.430		476726.017	164113.965	1.430
S13.	0.067	5.00	55.605	1200	476735.875	164231.644	2.344
TANK 2	0.148	5.00	56.220		476676.039	164200.451	1.500
S16.			56.582	1200	476676.416	164198.388	1.882
S17.			56.187	1200	476679.815	164179.784	1.597
EX-SW8	0.066	5.00	55.840	1350	476685.996	164163.498	1.440
EX-SW9	0.076	5.00	55.840	1200	476683.380	164177.819	1.730
EX-SW10	0.106	5.00	55.540	1200	476734.653	164191.490	1.430
EX-SW11	0.047	5.00	55.310	1800	476749.570	164198.020	2.800
EX-SW12	0.110	5.00	54.702	1800	476801.362	164219.911	2.302
S1.	0.075	5.00	57.350	1200	476702.794	164333.006	1.425
S2.	0.070	5.00	57.020	1200	476763.368	164327.138	1.464
S3A.			56.620	1200	476800.309	164321.640	0.920
S3.			56.912	1200	476762.236	164322.404	1.500
S4.	0.069	5.00	55.884	1200	476757.206	164273.811	1.575
S5.	0.089	5.00	55.378	1200	476794.873	164269.271	2.178
EX-SW1		5.00	56.150	1200	476854.663	164347.929	3.750
EX-SW2			55.610	1800	476856.887	164316.324	3.360
EX-SW3			55.250	1800	476850.884	164282.313	3.040
EX-SW4			54.980	1800	476838.166	164256.543	2.870
EX-SW5	0.000	5.00	54.810	1800	476827.278	164243.477	2.800
EX-SW6			54.730	1800	476820.119	164235.718	2.720
EX-SW7	0.010	5.00	53.720	1800	476850.854	164198.212	2.030
EX HEADWALL / PROPOSED CHAMBER			54.297	1350	476852.623	164190.491	2.607
S19B.	0.029	5.00	55.195	1200	476737.456	164172.425	1.462
S19A.	0.043	5.00	54.941	1200	476746.582	164149.377	1.526
S18.			54.930	1200	476743.691	164123.283	2.029
S19.	0.054	5.00	54.824	1200	476756.494	164130.615	2.085
S20.			54.616	1200	476804.763	164158.926	2.105
EX-SLUICE GATE	0.065	5.00	54.690	1800	476817.460	164232.445	2.465
SWALE_START		5.00	55.000		476687.220	164136.128	0.200
S28.			54.719	1200	476904.338	164287.101	1.779
S22.		5.00	55.173	1200	476860.048	164283.548	1.561
S23.	0.060	5.00	54.515	1200	476901.188	164274.312	1.669
S24.			54.279	1200	476894.702	164244.697	1.611
S25.			53.921	1200	476888.353	164231.412	1.932

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S26.	0.015	5.00	54.160	2100	476865.404	164199.467	1.808
227 to 228	0.038	5.00	54.220		476887.675	164246.695	2.280
TANK 5	0.097	5.00	54.700		476904.584	164292.117	1.730
235 to 236	0.041	5.00	54.040		476866.468	164212.784	1.440
237 to 240	0.092	5.00	54.310		476835.051	164192.027	1.524
TANK 7	0.090	5.00	54.700		476741.390	164120.994	1.770
TANK 3	0.044	5.00	58.000		476654.761	164290.079	1.400
302 to 305	0.093	5.00	56.600		476806.149	164323.217	0.730
252 to 254	0.084	5.00	54.510		476792.124	164149.541	1.270
dummy outlet			54.000	1800	476854.107	164183.285	2.400
264 to 266	0.028	5.00	55.150		476686.285	164144.676	0.580
S21.			54.488	1800	476843.566	164183.384	2.240
S6.	0.070	5.00	55.000	2100	476815.327	164253.498	2.500
S14.	0.060	5.00	55.400	3000	476744.737	164210.214	2.220
TANK 4	0.000	5.00	55.500		476741.892	164234.421	2.100
TANK 1		5.00	55.400		476812.874	164288.108	2.490
S5B.			55.420	1200	476811.092	164278.217	2.570
PP 218 to 221, 229 to 234, 320 to 323	0.155	5.00	54.900		476865.992	164303.669	0.650
SWALE_END			54.300		476705.199	164103.105	1.200
S5A.			55.258	1350	476802.767	164265.361	2.645
325-348	0.202	5.00	55.500		476752.161	164239.912	0.600

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	TANK 3	S8A	6.071	0.600	56.600	56.450	0.150	40.5	225	5.05	50.0
1.001	S8.	S9.	30.431	0.600	56.260	55.875	0.385	79.0	225	5.56	50.0
1.002	S9.	S10.	30.977	0.600	55.875	54.875	1.000	31.0	225	5.78	50.0
1.003	S10.	S11.	13.760	0.600	54.800	54.475	0.325	42.3	300	5.88	50.0
1.004	S11.	S12.	23.762	0.600	54.475	54.175	0.300	79.2	300	6.10	50.0
1.005	S12.	S13.	15.385	0.600	54.175	53.261	0.914	16.8	375	6.16	50.0
2.000	TANK 4	S13.	41.958	0.600	53.400	53.336	0.064	655.6	300	6.23	50.0
1.006	S14.	EX-SW11	36.316	0.600	53.180	52.510	0.670	54.2	375	6.84	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	2.062	82.0	11.1	1.175	1.165	0.044	0.0	56	1.452
1.001	1.472	58.5	18.7	1.126	1.200	0.074	0.0	87	1.314
1.002	2.359	93.8	30.4	1.200	1.200	0.120	0.0	87	2.106
1.003	2.423	171.3	60.0	1.200	1.200	0.237	0.0	122	2.214
1.004	1.768	125.0	68.8	1.200	1.275	0.272	0.0	159	1.809
1.005	4.434	489.7	68.8	1.200	1.969	0.272	0.0	94	3.165
2.000	0.607	42.9	51.1	1.800	1.969	0.202	0.0	300	0.614
1.006	2.465	272.3	152.0	1.845	2.425	0.601	0.0	200	2.530

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)
3.000	TANK 2	S16.	2.097	0.600	54.720	54.700	0.020	104.9	150	5.04	50.0
3.001	S16.	S17.	22.111	0.600	54.700	54.590	0.110	201.0	150	5.56	50.0
3.002	S17.	EX-SW9	4.084	0.600	54.837	54.110	0.727	5.6	150	5.57	50.0
4.000	EX-SW8	EX-SW9	14.392	0.600	54.400	54.110	0.290	49.6	150	5.18	50.0
3.003	EX-SW9	EX-SW10	53.064	0.600	54.147	54.110	0.037	1434.2	225	8.20	50.0
3.004	EX-SW10	EX-SW11	16.306	0.600	54.147	52.510	1.637	10.0	225	8.27	50.0
1.007	EX-SW11	EX-SW12	56.195	0.600	52.510	52.410	0.100	562.0	1200	8.86	50.0
3.000_1	EX-SW12	EX-SLUICE GATE	20.419	0.600	52.400	52.250	0.150	136.1	1200	8.97	50.0
5.000	S1.	S2.	60.996	0.600	55.925	55.556	0.369	165.3	225	6.00	50.0
5.001	S2.	S3.	4.803	0.600	55.556	55.412	0.144	33.4	225	6.04	50.0
6.000	S3A.	S3.	37.315	0.600	55.700	55.412	0.288	129.6	150	5.72	50.0
5.002	S3.	S4.	48.814	0.600	55.412	54.384	1.028	47.5	300	6.39	50.0
5.003	S4.	S5.	37.087	0.600	54.309	53.200	1.109	33.4	375	6.59	50.0
5.004	S6.	EX-SW5	41.466	0.600	52.500	52.100	0.400	103.7	300	7.27	50.0
7.000	EX-SW1	EX-SW2	31.633	0.600	52.400	52.250	0.150	210.9	750	5.27	50.0
7.001	EX-SW2	EX-SW3	34.688	0.600	52.250	52.210	0.040	867.2	750	5.89	50.0
7.002	EX-SW3	EX-SW4	28.645	0.600	52.210	52.110	0.100	286.5	750	6.18	50.0
7.003	EX-SW4	EX-SW5	17.036	0.600	52.110	52.010	0.100	170.4	750	6.31	50.0
5.005	EX-SW5	EX-SW6	10.577	0.600	52.110	52.010	0.100	105.8	750	7.33	50.0
1.009	EX-SW6	EX-SW7	48.408	0.600	52.110	51.690	0.420	115.3	900	9.30	50.0
11.000	S19B.	S19A.	18.493	0.600	53.733	53.490	0.243	76.1	150	5.27	50.0
11.001	S19A.	S19.	30.134	0.600	53.415	52.814	0.601	50.1	225	5.54	50.0
12.001	S18.	S19.	41.443	0.600	52.901	52.814	0.087	476.4	225	7.45	50.0
10.000	TANK 6	TANK 7	16.648	0.600	53.000	52.930	0.070	237.8	150	6.24	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)
3.000	0.981	17.3	37.4	1.350	1.732	0.148	0.0	150	0.999
3.001	0.705	12.5	37.4	1.732	1.447	0.148	0.0	150	0.718
3.002	4.280	75.6	37.4	1.200	1.580	0.148	0.0	75	4.273
4.000	1.431	25.3	23.8	1.290	1.580	0.094	0.0	116	1.622
3.003	0.337	13.4	80.4	1.468	1.205	0.318	0.0	225	0.343
3.004	4.170	165.8	107.3	1.168	2.575	0.424	0.0	132	4.429
1.007	1.571	1776.4	271.2	1.600	1.092	1.072	0.0	313	1.154
3.000_1	3.204	3624.2	299.0	1.102	1.240	1.182	0.0	229	1.985
5.000	1.014	40.3	19.0	1.200	1.239	0.075	0.0	109	0.999
5.001	2.273	90.4	36.7	1.239	1.275	0.145	0.0	100	2.158
6.000	0.881	15.6	23.5	0.770	1.350	0.093	0.0	150	0.898
5.002	2.287	161.7	60.2	1.200	1.200	0.238	0.0	127	2.127
5.003	3.142	347.0	77.7	1.200	1.803	0.307	0.0	120	2.549
5.004	1.544	109.1	117.9	2.200	2.410	0.466	0.0	300	1.564
7.000	1.923	849.5	0.0	3.000	2.610	0.000	0.0	0	0.000
7.001	0.942	416.1	0.0	2.610	2.290	0.000	0.0	0	0.000
7.002	1.648	728.1	0.0	2.290	2.120	0.000	0.0	0	0.000
7.003	2.141	945.8	39.2	2.120	2.050	0.155	0.0	102	1.082
5.005	2.720	1201.8	157.1	1.950	1.970	0.621	0.0	181	1.913
1.009	2.917	1856.0	472.6	1.720	1.130	1.868	0.0	308	2.461
11.000	1.153	20.4	7.3	1.312	1.301	0.029	0.0	62	1.062
11.001	1.851	73.6	18.2	1.301	1.785	0.072	0.0	76	1.541
12.001	0.592	23.6	22.8	1.804	1.785	0.090	0.0	179	0.673
10.000	0.647	11.4	0.0	1.280	1.620	0.000	0.0	0	0.000



Links

US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T (n)
	S23.	12.125	0.600	52.940	52.846	0.094	129.0	225	
	S23.	38.196	0.600	53.612	52.921	0.691	55.3	150	
	S24.	25.328	0.600	52.846	52.668	0.178	142.3	225	
	S25.	24.738	0.600	52.668	52.506	0.162	152.7	225	
	S26.	31.675	0.600	52.506	52.352	0.154	205.7	225	1
HEADWALL / PROPOSED CHAMBER	EX HEADWALL / PROPOSED CHAMBER	19.023	0.600	52.352	51.690	0.662	28.7	300	1
SLUICE GATE	dummy outlet	7.357	0.600	51.690	51.600	0.090	81.7	900	1
SW7	EX-SW6	4.166	0.600	52.225	52.210	0.015	277.7	450	
	EX HEADWALL / PROPOSED CHAMBER	7.921	0.600	51.720	51.690	0.030	264.0	900	
	EX HEADWALL / PROPOSED CHAMBER	11.513	0.600	52.248	51.690	0.558	20.6	300	
to 254	S20.	15.742	0.600	53.240	52.661	0.579	27.2	150	
to 240	S21.	5.000	0.600	52.786	52.398	0.388	12.9	150	
to 236	S26.	2.000	0.600	52.600	52.502	0.098	20.4	100	
to 228	S25.	15.298	0.600	51.940	51.989	-0.049	-312.2	750	1
K 5	S28.	2.000	0.600	52.970	52.940	0.030	66.7	150	
to 305	S3A.	2.000	0.600	55.870	55.700	0.170	11.8	150	
WALE_START	SWALE_END	37.600	0.600	54.800	54.100	0.700	53.7	500	
	S8.	15.040	0.600	56.450	56.260	0.190	79.2	225	
WALE_END	TANK 6	23.480	0.600	53.100	53.000	0.100	234.8	150	
K 7	S18.	3.246	0.600	52.930	52.901	0.029	111.9	225	
to 266	EX-SW8	2.000	0.600	54.570	54.400	0.170	11.8	150	
	S21.	36.811	0.600	52.511	52.248	0.263	140.0	300	
	S5A.	8.809	0.600	53.200	52.613	0.587	15.0	375	

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)
16.001	1.149	45.7	24.5	1.554	1.444	0.097	0.0	117	1.169
15.000	1.356	24.0	0.0	1.411	1.444	0.000	0.0	0	0.000
15.001	1.094	43.5	39.7	1.444	1.386	0.157	0.0	169	1.235
15.002	1.055	42.0	39.7	1.386	1.190	0.157	0.0	175	1.196
15.003	0.908	36.1	49.3	1.190	1.583	0.195	0.0	225	0.925
15.004	2.944	208.1	63.5	1.508	2.307	0.251	0.0	113	2.596
1.014	3.467	2205.3	637.8	1.707	1.500	2.521	0.0	329	3.021
3.001_1	1.215	193.2	315.5	2.015	2.070	1.247	0.0	450	1.230
1.013	1.923	1223.5	475.1	1.100	1.707	1.878	0.0	388	1.807
11.004	3.476	245.7	99.2	1.940	2.307	0.392	0.0	133	3.300
12.000_1	1.938	34.3	21.3	1.120	1.805	0.084	0.0	86	2.042
13.000	2.821	49.9	23.3	1.374	1.940	0.092	0.0	72	2.769
17.000	1.717	13.5	10.4	1.340	1.558	0.041	0.0	66	1.893
16.000_1	0.023	10.0	9.6	1.530	1.182	0.038	0.0	750	0.000
16.000	1.233	21.8	24.5	1.580	1.629	0.097	0.0	150	1.256
6.000_1	2.953	52.2	23.5	0.580	0.770	0.093	0.0	71	2.879
18.000	2.963	651.9	0.0	0.000	0.000	0.000	0.0	0	0.000
1.001_1	1.471	58.5	11.1	1.165	1.126	0.044	0.0	66	1.139
10.001_1	0.651	11.5	0.0	1.050	1.280	0.000	0.0	0	0.000
12.000	1.235	49.1	22.8	1.545	1.804	0.090	0.0	108	1.212
4.000_1	2.953	52.2	7.1	0.430	1.290	0.028	0.0	37	2.072
11.003	1.327	93.8	75.9	1.805	1.940	0.300	0.0	205	1.471
5.004_1	4.697	518.7	100.2	1.803	2.270	0.396	0.0	111	3.664



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)
1.007_1	S13.	S14.	23.190	0.600	53.261	53.180	0.081	286.3	375	6.59	50.0
7.000_1	TANK 1	S5B.	2.000	0.600	52.910	52.850	0.060	33.3	300	5.01	50.0
5.005_1	S5A.	S6.	17.277	0.600	52.613	52.500	0.113	152.9	375	6.82	50.0
11.002	S19.	S20.	55.959	0.600	52.739	52.511	0.228	245.4	300	8.38	50.0
9.000	PP 218 to 221, 229 to 234, 320 to 323	EX-SW4	20.000	0.600	54.250	52.110	2.140	9.3	225	5.08	50.0
7.001_1	S5B.	S5A.	15.316	0.600	52.850	52.688	0.162	94.5	300	5.17	50.0
2.000_1	325-348	TANK 4	11.645	0.600	54.900	54.150	0.750	15.5	150	5.08	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.007_1	1.066	117.7	136.9	1.969	1.845	0.541	0.0	375	1.079
7.000_1	2.732	193.1	0.0	2.190	2.270	0.000	0.0	0	0.000
5.005_1	1.463	161.5	100.2	2.270	2.125	0.396	0.0	214	1.538
11.002	0.999	70.6	54.6	1.785	1.805	0.216	0.0	199	1.099
9.000	4.305	171.2	39.2	0.425	2.645	0.155	0.0	73	3.522
7.001_1	1.617	114.3	0.0	2.270	2.270	0.000	0.0	0	0.000
2.000_1	2.569	45.4	51.1	0.450	1.200	0.202	0.0	150	2.617

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	6.071	40.5	225	Circular	58.000	56.600	1.175	57.840	56.450	1.165
1.001	30.431	79.0	225	Circular	57.611	56.260	1.126	57.300	55.875	1.200
1.002	30.977	31.0	225	Circular	57.300	55.875	1.200	56.300	54.875	1.200
1.003	13.760	42.3	300	Circular	56.300	54.800	1.200	55.975	54.475	1.200
1.004	23.762	79.2	300	Circular	55.975	54.475	1.200	55.750	54.175	1.275
1.005	15.385	16.8	375	Circular	55.750	54.175	1.200	55.605	53.261	1.969
2.000	41.958	655.6	300	Circular	55.500	53.400	1.800	55.605	53.336	1.969
1.006	36.316	54.2	375	Circular	55.400	53.180	1.845	55.310	52.510	2.425
3.000	2.097	104.9	150	Circular	56.220	54.720	1.350	56.582	54.700	1.732
3.001	22.111	201.0	150	Circular	56.582	54.700	1.732	56.187	54.590	1.447
3.002	4.084	5.6	150	Circular	56.187	54.837	1.200	55.840	54.110	1.580

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	TANK 3		Junction		S8A	1200	Manhole	Adoptable
1.001	S8.	1200	Manhole	Adoptable	S9.	1200	Manhole	Adoptable
1.002	S9.	1200	Manhole	Adoptable	S10.	1200	Manhole	Adoptable
1.003	S10.	1200	Manhole	Adoptable	S11.	1200	Manhole	Adoptable
1.004	S11.	1200	Manhole	Adoptable	S12.	1200	Manhole	Adoptable
1.005	S12.	1200	Manhole	Adoptable	S13.	1200	Manhole	Adoptable
2.000	TANK 4		Junction		S13.	1200	Manhole	Adoptable
1.006	S14.	3000	Manhole	Adoptable	EX-SW11	1800	Manhole	Adoptable
3.000	TANK 2		Junction		S16.	1200	Manhole	Adoptable
3.001	S16.	1200	Manhole	Adoptable	S17.	1200	Manhole	Adoptable
3.002	S17.	1200	Manhole	Adoptable	EX-SW9	1200	Manhole	Adoptable

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
4.000	14.392	49.6	150	Circular	55.840	54.400	1.290	55.840	54.110	1.580
3.003	53.064	1434.2	225	Circular	55.840	54.147	1.468	55.540	54.110	1.205
3.004	16.306	10.0	225	Circular	55.540	54.147	1.168	55.310	52.510	2.575
1.007	56.195	562.0	1200	Circular	55.310	52.510	1.600	54.702	52.410	1.092
3.000_1	20.419	136.1	1200	Circular	54.702	52.400	1.102	54.690	52.250	1.240
5.000	60.996	165.3	225	Circular	57.350	55.925	1.200	57.020	55.556	1.239
5.001	4.803	33.4	225	Circular	57.020	55.556	1.239	56.912	55.412	1.275
6.000	37.315	129.6	150	Circular	56.620	55.700	0.770	56.912	55.412	1.350
5.002	48.814	47.5	300	Circular	56.912	55.412	1.200	55.884	54.384	1.200
5.003	37.087	33.4	375	Circular	55.884	54.309	1.200	55.378	53.200	1.803
5.004	41.466	103.7	300	Circular	55.000	52.500	2.200	54.810	52.100	2.410
7.000	31.633	210.9	750	Circular	56.150	52.400	3.000	55.610	52.250	2.610
7.001	34.688	867.2	750	Circular	55.610	52.250	2.610	55.250	52.210	2.290
7.002	28.645	286.5	750	Circular	55.250	52.210	2.290	54.980	52.110	2.120
7.003	17.036	170.4	750	Circular	54.980	52.110	2.120	54.810	52.010	2.050
5.005	10.577	105.8	750	Circular	54.810	52.110	1.950	54.730	52.010	1.970
1.009	48.408	115.3	900	Circular	54.730	52.110	1.720	53.720	51.690	1.130
11.000	18.493	76.1	150	Circular	55.195	53.733	1.312	54.941	53.490	1.301
11.001	30.134	50.1	225	Circular	54.941	53.415	1.301	54.824	52.814	1.785
12.001	41.443	476.4	225	Circular	54.930	52.901	1.804	54.824	52.814	1.785
10.000	16.648	237.8	150	Circular	54.430	53.000	1.280	54.700	52.930	1.620
16.001	12.125	129.0	225	Circular	54.719	52.940	1.554	54.515	52.846	1.444
15.000	38.196	55.3	150	Circular	55.173	53.612	1.411	54.515	52.921	1.444
15.001	25.328	142.3	225	Circular	54.515	52.846	1.444	54.279	52.668	1.386
15.002	24.738	152.7	225	Circular	54.279	52.668	1.386	53.921	52.506	1.190

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
4.000	EX-SW8	1350	Manhole	Adoptable	EX-SW9	1200	Manhole	Adoptable
3.003	EX-SW9	1200	Manhole	Adoptable	EX-SW10	1200	Manhole	Adoptable
3.004	EX-SW10	1200	Manhole	Adoptable	EX-SW11	1800	Manhole	Adoptable
1.007	EX-SW11	1800	Manhole	Adoptable	EX-SW12	1800	Manhole	Adoptable
3.000_1	EX-SW12	1800	Manhole	Adoptable	EX-SLUICE GATE	1800	Manhole	Adoptable
5.000	S1.	1200	Manhole	Adoptable	S2.	1200	Manhole	Adoptable
5.001	S2.	1200	Manhole	Adoptable	S3.	1200	Manhole	Adoptable
6.000	S3A.	1200	Manhole	Adoptable	S3.	1200	Manhole	Adoptable
5.002	S3.	1200	Manhole	Adoptable	S4.	1200	Manhole	Adoptable
5.003	S4.	1200	Manhole	Adoptable	S5.	1200	Manhole	Adoptable
5.004	S6.	2100	Manhole	Adoptable	EX-SW5	1800	Manhole	Adoptable
7.000	EX-SW1	1200	Manhole	Adoptable	EX-SW2	1800	Manhole	Adoptable
7.001	EX-SW2	1800	Manhole	Adoptable	EX-SW3	1800	Manhole	Adoptable
7.002	EX-SW3	1800	Manhole	Adoptable	EX-SW4	1800	Manhole	Adoptable
7.003	EX-SW4	1800	Manhole	Adoptable	EX-SW5	1800	Manhole	Adoptable
5.005	EX-SW5	1800	Manhole	Adoptable	EX-SW6	1800	Manhole	Adoptable
1.009	EX-SW6	1800	Manhole	Adoptable	EX-SW7	1800	Manhole	Adoptable
11.000	S19B.	1200	Manhole	Adoptable	S19A.	1200	Manhole	Adoptable
11.001	S19A.	1200	Manhole	Adoptable	S19.	1200	Manhole	Adoptable
12.001	S18.	1200	Manhole	Adoptable	S19.	1200	Manhole	Adoptable
10.000	TANK 6		Junction		TANK 7		Junction	
16.001	S28.	1200	Manhole	Adoptable	S23.	1200	Manhole	Adoptable
15.000	S22.	1200	Manhole	Adoptable	S23.	1200	Manhole	Adoptable
15.001	S23.	1200	Manhole	Adoptable	S24.	1200	Manhole	Adoptable
15.002	S24.	1200	Manhole	Adoptable	S25.	1200	Manhole	Adoptable



Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
15.003	31.675	205.7	225	Circular	53.921	52.506	1.190	54.160	52.352	1.583
15.004	19.023	28.7	300	Circular	54.160	52.352	1.508	54.297	51.690	2.307
1.014	7.357	81.7	900	Circular	54.297	51.690	1.707	54.000	51.600	1.500
3.001_1	4.166	277.7	450	Circular	54.690	52.225	2.015	54.730	52.210	2.070
1.013	7.921	264.0	900	Circular	53.720	51.720	1.100	54.297	51.690	1.707
11.004	11.513	20.6	300	Circular	54.488	52.248	1.940	54.297	51.690	2.307
12.000_1	15.742	27.2	150	Circular	54.510	53.240	1.120	54.616	52.661	1.805
13.000	5.000	12.9	150	Circular	54.310	52.786	1.374	54.488	52.398	1.940
17.000	2.000	20.4	100	Circular	54.040	52.600	1.340	54.160	52.502	1.558
16.000_1	15.298	-312.2	750	Circular	54.220	51.940	1.530	53.921	51.989	1.182
16.000	2.000	66.7	150	Circular	54.700	52.970	1.580	54.719	52.940	1.629
6.000_1	2.000	11.8	150	Circular	56.600	55.870	0.580	56.620	55.700	0.770
18.000	37.600	53.7	500	SWALE	55.000	54.800	0.000	54.300	54.100	0.000
1.001_1	15.040	79.2	225	Circular	57.840	56.450	1.165	57.611	56.260	1.126
10.001_1	23.480	234.8	150	Circular	54.300	53.100	1.050	54.430	53.000	1.280
12.000	3.246	111.9	225	Circular	54.700	52.930	1.545	54.930	52.901	1.804
4.000_1	2.000	11.8	150	Circular	55.150	54.570	0.430	55.840	54.400	1.290
11.003	36.811	140.0	300	Circular	54.616	52.511	1.805	54.488	52.248	1.940
5.004_1	8.809	15.0	375	Circular	55.378	53.200	1.803	55.258	52.613	2.270
1.007_1	23.190	286.3	375	Circular	55.605	53.261	1.969	55.400	53.180	1.845
7.000_1	2.000	33.3	300	Circular	55.400	52.910	2.190	55.420	52.850	2.270
5.005_1	17.277	152.9	375	Circular	55.258	52.613	2.270	55.000	52.500	2.125
11.002	55.959	245.4	300	Circular	54.824	52.739	1.785	54.616	52.511	1.805

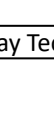
US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	M Type
S25.	1200	Manhole	Adoptable	S26.	2100	Manhole	Adoptable
S26.	2100	Manhole	Adoptable	EX HEADWALL / PROPOSED CHAMBER	1350	Manhole	Adoptable
EX HEADWALL / PROPOSED CHAMBER	1350	Manhole	Adoptable	dummy outlet	1800	Manhole	Adoptable
EX-SLUICE GATE	1800	Manhole	Adoptable	EX-SW6	1800	Manhole	Adoptable
EX-SW7	1800	Manhole	Adoptable	EX HEADWALL / PROPOSED CHAMBER	1350	Manhole	Adoptable
S21.	1800	Manhole	Adoptable	EX HEADWALL / PROPOSED CHAMBER	1350	Manhole	Adoptable
252 to 254		Junction		S20.	1200	Manhole	Adoptable
237 to 240		Junction		S21.	1800	Manhole	Adoptable
235 to 236		Junction		S26.	2100	Manhole	Adoptable
227 to 228		Junction		S25.	1200	Manhole	Adoptable
TANK 5		Junction		S28.	1200	Manhole	Adoptable
302 to 305		Junction		S3A.	1200	Manhole	Adoptable
SWALE_START		Junction		SWALE_END		Junction	
S8A	1200	Manhole	Adoptable	S8.	1200	Manhole	Adoptable
SWALE_END		Junction		TANK 6		Junction	
TANK 7		Junction		S18.	1200	Manhole	Adoptable
264 to 266		Junction		EX-SW8	1350	Manhole	Adoptable
S20.	1200	Manhole	Adoptable	S21.	1800	Manhole	Adoptable
S5.	1200	Manhole	Adoptable	S5A.	1350	Manhole	Adoptable
S13.	1200	Manhole	Adoptable	S14.	3000	Manhole	Adoptable
TANK 1		Junction		S5B.	1200	Manhole	Adoptable
S5A.	1350	Manhole	Adoptable	S6.	2100	Manhole	Adoptable
S19.	1200	Manhole	Adoptable	S20.	1200	Manhole	Adoptable

Pipeline Schedule

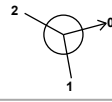
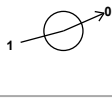
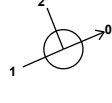
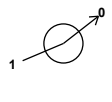
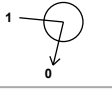
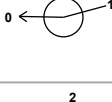
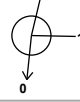
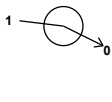
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
9.000	20.000	9.3	225	Circular	54.900	54.250	0.425	54.980	52.110	2.645
7.001_1	15.316	94.5	300	Circular	55.420	52.850	2.270	55.258	52.688	2.270
2.000_1	11.645	15.5	150	Circular	55.500	54.900	0.450	55.500	54.150	1.200

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
9.000	PP 218 to 221, 229 to 234, 320 to 323		Junction		EX-SW4	1800	Manhole	Adoptable
7.001_1	S5B.	1200	Manhole	Adoptable	S5A.	1350	Manhole	Adoptable
2.000_1	325-348		Junction		TANK 4		Junction	

Manhole Schedule

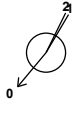
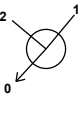
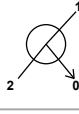
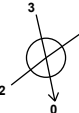
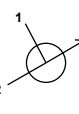
Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S8A	476656.568	164284.283	57.840	1.390	1200		1.000	56.450	225
S8.	476660.907	164269.882	57.611	1.351	1200		1.001_1	56.450	225
S9.	476691.345	164279.496	57.300	1.425	1200		1.001	56.260	225
S10.	476721.336	164276.536	56.300	1.500	1200		1.001	55.875	225
S11.	476732.750	164269.324	55.975	1.500	1200		1.002	55.875	225
S12.	476730.008	164245.811	55.750	1.575	1200		1.002	54.875	225
TANK 6	476726.017	164113.965	54.430	1.430			1.003	54.800	300
S13.	476735.875	164231.644	55.605	2.344	1200		1.003	54.475	300
TANK 2	476676.039	164200.451	56.220	1.500			1.004	54.175	300
							1.004	54.175	300
							1.005	54.175	375
							10.001_1	53.000	150
							10.000	53.000	150
							2.000	53.336	300
							1.005	53.261	375
							1.007_1	53.261	375
							3.000	54.720	150

Manhole Schedule

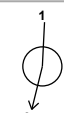
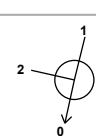
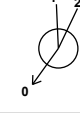
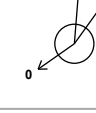
Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S16.	476676.416	164198.388	56.582	1.882	1200		1 3.000	54.700	150
							0 3.001	54.700	150
S17.	476679.815	164179.784	56.187	1.597	1200		1 3.001	54.590	150
							0 3.002	54.837	150
EX-SW8	476685.996	164163.498	55.840	1.440	1350		1 4.000_1	54.400	150
							0 4.000	54.400	150
EX-SW9	476683.380	164177.819	55.840	1.730	1200		1 4.000	54.110	150
							2 3.002	54.110	150
							0 3.003	54.147	225
EX-SW10	476734.653	164191.490	55.540	1.430	1200		1 3.003	54.110	225
							0 3.004	54.147	225
EX-SW11	476749.570	164198.020	55.310	2.800	1800		1 3.004	52.510	225
							2 1.006	52.510	375
							0 1.007	52.510	1200
EX-SW12	476801.362	164219.911	54.702	2.302	1800		1 1.007	52.410	1200
							0 3.000_1	52.400	1200
S1.	476702.794	164333.006	57.350	1.425	1200		0 5.000	55.925	225
S2.	476763.368	164327.138	57.020	1.464	1200		1 5.000	55.556	225
							0 5.001	55.556	225
S3A.	476800.309	164321.640	56.620	0.920	1200		1 6.000_1	55.700	150
							0 6.000	55.700	150
S3.	476762.236	164322.404	56.912	1.500	1200		1 6.000	55.412	150
							2 5.001	55.412	225
							0 5.002	55.412	300
S4.	476757.206	164273.811	55.884	1.575	1200		1 5.002	54.384	300
							0 5.003	54.309	375
S5.	476794.873	164269.271	55.378	2.178	1200		1 5.003	53.200	375
							0 5.004_1	53.200	375



Manhole Schedule

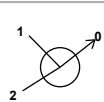
	Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
EX-SW1		476854.663	164347.929	56.150	3.750	1200	 0	0	7.000	52.400	750
EX-SW2		476856.887	164316.324	55.610	3.360	1800	 1 0	1 0	7.000 7.001	52.250 52.250	750 750
EX-SW3		476850.884	164282.313	55.250	3.040	1800	 1 0	1 0	7.001 7.002	52.210 52.210	750 750
EX-SW4		476838.166	164256.543	54.980	2.870	1800	 1 2 0	1 2 0	9.000 7.002 7.003	52.110 52.110 52.110	225 750 750
EX-SW5		476827.278	164243.477	54.810	2.800	1800	 2 1 0	1 2 0	7.003 5.004 5.005	52.010 52.100 52.110	750 300 750
EX-SW6		476820.119	164235.718	54.730	2.720	1800	 1 2 0	1 2 0	5.005 3.001_1 1.009	52.010 52.210 52.110	750 450 900
EX-SW7		476850.854	164198.212	53.720	2.030	1800	 1 0	1 0	1.009 1.013	51.690 51.720	900 900
EX HEADWALL / PROPOSED CHAMBER		476852.623	164190.491	54.297	2.607	1350	 3 1 2 0	1 2 3 0	15.004 11.004 1.013 1.014	51.690 51.690 51.690 51.690	300 300 900 900
S19B.		476737.456	164172.425	55.195	1.462	1200	 0	0	11.000	53.733	150
S19A.		476746.582	164149.377	54.941	1.526	1200	 1 0	1 0	11.000 11.001	53.490 53.415	150 225
S18.		476743.691	164123.283	54.930	2.029	1200	 1 0	1 0	12.000 12.001	52.901 52.901	225 225
S19.		476756.494	164130.615	54.824	2.085	1200	 1 2 0	1 2 0	11.001 12.001 11.002	52.814 52.814 52.739	225 225 300
S20.		476804.763	164158.926	54.616	2.105	1200	 1 2 0	1 2 0	12.000_1 11.002 11.003	52.661 52.511 52.511	150 300 300

Manhole Schedule

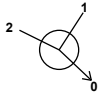
Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
EX-SLUICE GATE	476817.460	164232.445	54.690	2.465	1800		1 3.000_1	52.250	1200
							0 3.001_1	52.225	450
SWALE_START	476687.220	164136.128	55.000	0.200			0 18.000	54.800	500
S28.	476904.338	164287.101	54.719	1.779	1200		1 16.000	52.940	150
							0 16.001	52.940	225
S22.	476860.048	164283.548	55.173	1.561	1200		0 15.000	53.612	150
S23.	476901.188	164274.312	54.515	1.669	1200		1 16.001	52.846	225
							2 15.000	52.921	150
							0 15.001	52.846	225
S24.	476894.702	164244.697	54.279	1.611	1200		1 15.001	52.668	225
							0 15.002	52.668	225
S25.	476888.353	164231.412	53.921	1.932	1200		1 16.000_1	51.989	750
							2 15.002	52.506	225
							0 15.003	52.506	225
S26.	476865.404	164199.467	54.160	1.808	2100		1 17.000	52.502	100
							2 15.003	52.352	225
							0 15.004	52.352	300
227 to 228	476887.675	164246.695	54.220	2.280			0 16.000_1	51.940	750
TANK 5	476904.584	164292.117	54.700	1.730			0 16.000	52.970	150
235 to 236	476866.468	164212.784	54.040	1.440			0 17.000	52.600	100
237 to 240	476835.051	164192.027	54.310	1.524			0 13.000	52.786	150
TANK 7	476741.390	164120.994	54.700	1.770			1 10.000	52.930	150
							0 12.000	52.930	225



Manhole Schedule

	Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
	TANK 3	476654.761	164290.079	58.000	1.400			0	1.000	56.600	225
	302 to 305	476806.149	164323.217	56.600	0.730			0	6.000_1	55.870	150
	252 to 254	476792.124	164149.541	54.510	1.270			0	12.000_1	53.240	150
	dummy outlet	476854.107	164183.285	54.000	2.400	1800		1	1.014	51.600	900
	264 to 266	476686.285	164144.676	55.150	0.580			0	4.000_1	54.570	150
	S21.	476843.566	164183.384	54.488	2.240	1800		1 2	13.000 11.003	52.398 52.248	150 300
	S6.	476815.327	164253.498	55.000	2.500	2100		1	5.005_1	52.500	375
	S14.	476744.737	164210.214	55.400	2.220	3000		1	1.007_1	53.180	375
	TANK 4	476741.892	164234.421	55.500	2.100			1	2.000_1	54.150	150
	TANK 1	476812.874	164288.108	55.400	2.490			0	7.000_1	52.910	300
	S5B.	476811.092	164278.217	55.420	2.570	1200		1	7.000_1	52.850	300
	PP 218 to 221, 229 to 234, 320 to 323	476865.992	164303.669	54.900	0.650			0	9.000	54.250	225
	SWALE_END	476705.199	164103.105	54.300	1.200			1	18.000	54.100	500
								0	10.001_1	53.100	150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S5A.	476802.767	164265.361	55.258	2.645	1350		1 7.001_1	52.688	300
							2 5.004_1	52.613	375
							0 5.005_1	52.613	375
325-348	476752.161	164239.912	55.500	0.600					
							0 2.000_1	54.900	150

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)	5.0		

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 %)
2	0	0	0
30	0	0	0
100	40	0	0

Node 302 to 305 Online Hydro-Brake® Control

Flap Valve	x	Objective	(CU) Linear Discharge
Downstream Link	6.000_1	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SCU-0059-2500-0430-2500
Invert Level (m)	55.870	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.430	Min Node Diameter (mm)	1200
Design Flow (l/s)	2.5		

Node S14. Online Hydro-Brake® Control

Flap Valve	x	Objective	(CU) Linear Discharge
Downstream Link	1.006	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SCU-0156-3400-2000-3400
Invert Level (m)	53.180	Min Outlet Diameter (m)	0.225
Design Depth (m)	2.000	Min Node Diameter (mm)	1200
Design Flow (l/s)	34.0		

Node S6. Online Hydro-Brake® Control

Flap Valve	x	Objective	(CU) Linear Discharge
Downstream Link	5.004	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SCU-0152-3500-2400-3500
Invert Level (m)	52.500	Min Outlet Diameter (m)	0.225
Design Depth (m)	2.400	Min Node Diameter (mm)	1200
Design Flow (l/s)	35.0		

Node TANK 5 Online Orifice Control

Flap Valve	x	Invert Level (m)	52.970	Diameter (m)	0.056
Downstream Link	16.000	Design Depth (m)	0.600	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	5.0		

Node S21. Online Hydro-Brake® Control

Flap Valve	x	Objective	(CU) Linear Discharge
Downstream Link	11.004	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SCU-0197-4800-1600-4800
Invert Level (m)	52.248	Min Outlet Diameter (m)	0.225
Design Depth (m)	1.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	48.0		

Node EX-SW8 Online Hydro-Brake® Control

Flap Valve	x	Objective	(CU) Linear Discharge
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	54.400	Product Number	CTL-SCU-0070-6000-1430-6000
Design Depth (m)	1.430	Min Outlet Diameter (m)	0.100
Design Flow (l/s)	6.0	Min Node Diameter (mm)	1200

Node S17. Online Hydro-Brake® Control

Flap Valve	x	Objective	(CU) Linear Discharge
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	54.837	Product Number	CTL-SCU-0063-5000-1500-5000
Design Depth (m)	1.500	Min Outlet Diameter (m)	0.075
Design Flow (l/s)	5.0	Min Node Diameter (mm)	1200

Node TANK 7 Online Orifice Control

Flap Valve	x	Invert Level (m)	52.930	Diameter (m)	0.060
Downstream Link	12.000	Design Depth (m)	1.000	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	7.5		

Node 252 to 254 Online Orifice Control

Flap Valve	x	Invert Level (m)	53.240	Diameter (m)	0.047
Downstream Link	12.000_1	Design Depth (m)	0.600	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	3.5		

Node S26. Online Hydro-Brake® Control

Flap Valve	x	Objective	(CU) Linear Discharge
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	52.352	Product Number	CTL-SCU-0164-3500-1750-3500
Design Depth (m)	1.750	Min Outlet Diameter (m)	0.225
Design Flow (l/s)	35.0	Min Node Diameter (mm)	1200

Node EX-SLUICE GATE Online Hydroslide Control

Flap Valve	x	Design Depth (m)	2.400	Diameter (m)	0.350
Replaces Downstream Link	x	Design Flow (l/s)	135.0	Max Head (m)	2.450
Invert Level (m)	52.225	Model	CTL VN	Min Node Dia (mm)	1800

Node PP 218 to 221, 229 to 234, 320 to 323 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Downstream Link	9.000	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0100-4000-0650-4000
Invert Level (m)	54.250	Min Outlet Diameter (m)	0.150
Design Depth (m)	0.650	Min Node Diameter (mm)	1200
Design Flow (l/s)	4.0		

Node S8. Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Downstream Link	1.001	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0043-1000-1350-1000
Invert Level (m)	56.260	Min Outlet Diameter (m)	0.075
Design Depth (m)	1.350	Min Node Diameter (mm)	1200
Design Flow (l/s)	1.0		

Node TANK 5 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	52.970
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	100

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	89.5	89.5	0.800	89.5	116.3	0.801	0.0	116.3

Node 235 to 236 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	52.600	Slope (1:X)	1000.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	56	Depth (m)	0.300
Safety Factor	1.0	Width (m)	20.220	Inf Depth (m)	
Porosity	0.30	Length (m)	20.220		

Node 237 to 240 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	52.786	Slope (1:X)	1000.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	28	Depth (m)	0.600
Safety Factor	1.0	Width (m)	21.510	Inf Depth (m)	
Porosity	0.30	Length (m)	21.510		

Node TANK 7 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	52.930
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	48

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	18.0	18.0	0.800	18.0	30.0	0.801	0.0	30.0

Node 325-348 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	54.900	Slope (1:X)	1000.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	54	Depth (m)	0.600
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	1.00	Length (m)	52.500		

Node TANK 3 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	56.600
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	51.0	51.0	0.800	51.0	71.3	0.801	0.0	71.3

Node TANK 6 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	53.000
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	56

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	33.0	33.0	0.800	33.0	49.3	0.801	0.0	49.3

Node 302 to 305 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	55.870	Slope (1:X)	1000.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	240	Depth (m)	0.600
Safety Factor	1.0	Width (m)	23.300	Inf Depth (m)	
Porosity	0.30	Length (m)	23.300		

Node 252 to 254 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	53.240	Slope (1:X)	1000.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	110	Depth (m)	0.600
Safety Factor	1.0	Width (m)	19.740	Inf Depth (m)	
Porosity	0.30	Length (m)	19.740		

Node 227 to 228 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	52.040	Slope (1:X)	1000.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.500
Safety Factor	1.0	Width (m)	13.000	Inf Depth (m)	
Porosity	0.30	Length (m)	13.000		

Node 264 to 266 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	54.570	Slope (1:X)	1000.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	184	Depth (m)	0.700
Safety Factor	1.0	Width (m)	16.800	Inf Depth (m)	
Porosity	0.30	Length (m)	16.800		

Node TANK 2 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	54.720
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	220

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	98.0	98.0	1.200	98.0	140.1	1.201	0.0	140.1

Node TANK 4 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	53.400
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	62

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	120.0	120.0	1.200	120.0	166.6	1.201	0.0	166.6

Node TANK 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	52.910
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	29

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	162.5	162.5	1.600	162.5	234.8	1.601	0.0	234.8

Node PP 218 to 221, 229 to 234, 320 to 323 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	54.250	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.650
Safety Factor	1.0	Width (m)	25.700	Inf Depth (m)	
Porosity	0.30	Length (m)	25.700		

Node TANK 3 Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	56.600	Depth (m)	0.800
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Inf Depth (m)	
Safety Factor	1.0	Pit Width (m)	1.000	Number Required	1
Porosity	0.95	Pit Length (m)	25.000		

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.79%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute summer	S8A	184	56.707	0.257	5.2	0.2908	0.0000	SURCHARGED
600 minute winter	S8.	510	56.718	0.458	4.3	0.5689	0.0000	SURCHARGED
15 minute summer	S9.	10	55.921	0.046	8.7	0.0600	0.0000	OK
15 minute summer	S10.	10	54.885	0.085	28.9	0.1293	0.0000	OK
15 minute summer	S11.	10	54.594	0.119	34.9	0.1491	0.0000	OK
15 minute summer	S12.	10	54.242	0.067	34.5	0.0754	0.0000	OK
120 minute summer	TANK 6	78	53.099	0.099	4.2	3.1062	0.0000	OK
15 minute summer	S13.	12	53.625	0.364	46.0	0.4643	0.0000	OK
480 minute summer	TANK 2	304	54.980	0.260	5.2	24.3176	0.0000	SURCHARGED
480 minute summer	S16.	304	54.980	0.280	1.6	0.3161	0.0000	SURCHARGED
480 minute summer	S17.	304	54.977	0.387	1.6	0.4381	0.0000	OK
30 minute winter	EX-SW8	33	54.669	0.269	10.2	0.4472	0.0000	SURCHARGED
15 minute summer	EX-SW9	11	54.327	0.217	15.8	0.2925	0.0000	OK
15 minute summer	EX-SW10	11	54.215	0.105	33.0	0.1575	0.0000	OK
15 minute summer	EX-SW11	11	52.653	0.143	56.1	0.3761	0.0000	OK
15 minute summer	EX-SW12	13	52.610	0.210	75.9	0.5833	0.0000	OK
15 minute summer	S1.	10	56.012	0.087	13.1	0.1215	0.0000	OK
15 minute summer	S2.	11	55.650	0.094	25.0	0.1290	0.0000	OK
240 minute summer	S3A.	184	55.729	0.029	1.2	0.0323	0.0000	OK
15 minute summer	S3.	11	55.493	0.081	24.9	0.0911	0.0000	OK
15 minute summer	S4.	11	54.393	0.084	36.3	0.1133	0.0000	OK
15 minute summer	S5.	11	53.279	0.079	51.1	0.1050	0.0000	OK
15 minute summer	EX-SW1	1	52.400	0.000	0.0	0.0000	0.0000	OK
15 minute summer	EX-SW2	1	52.250	0.000	0.0	0.0000	0.0000	OK
15 minute summer	EX-SW3	14	52.243	0.033	1.7	0.0827	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)
240 minute summer	S8A	1.001_1	S8.	5.9	0.148	0.101	0.5982	
600 minute winter	S8.	1.001	S9.	0.7	0.562	0.012	0.0466	
15 minute summer	S9.	1.002	S10.	8.5	1.463	0.091	0.1804	
15 minute summer	S10.	1.003	S11.	28.8	1.360	0.168	0.2925	
15 minute summer	S11.	1.004	S12.	34.5	1.858	0.276	0.4486	
15 minute summer	S12.	1.005	S13.	34.4	0.994	0.070	0.9371	
120 minute summer	TANK 6	10.000	TANK 7	-4.2	-0.338	-0.364	0.2493	
15 minute summer	S13.	1.007_1	S14.	19.3	0.562	0.164	2.5474	
480 minute summer	TANK 2	3.000	S16.	1.6	0.310	0.093	0.0369	
480 minute summer	S16.	3.001	S17.	1.6	0.139	0.129	0.3893	
480 minute summer	S17.	3.002	EX-SW9	1.6	0.239	0.021	0.0374	
30 minute winter	EX-SW8	4.000	EX-SW9	2.5	0.317	0.101	0.1460	
15 minute summer	EX-SW9	3.003	EX-SW10	15.3	0.578	1.142	1.3820	
15 minute summer	EX-SW10	3.004	EX-SW11	33.1	1.893	0.200	0.2992	
15 minute summer	EX-SW11	1.007	EX-SW12	57.6	0.681	0.032	5.4405	
15 minute summer	EX-SW12	3.000_1	EX-SLUICE GATE	67.1	0.562	0.019	4.0711	
15 minute summer	S1.	5.000	S2.	12.8	0.859	0.317	0.9099	
15 minute summer	S2.	5.001	S3.	24.8	1.758	0.274	0.0684	
240 minute summer	S3A.	6.000	S3.	1.2	0.604	0.077	0.1269	
15 minute summer	S3.	5.002	S4.	24.8	1.658	0.154	0.7312	
15 minute summer	S4.	5.003	S5.	36.3	2.070	0.105	0.6509	
15 minute summer	S5.	5.004_1	S5A.	51.1	1.271	0.099	0.5596	
15 minute summer	EX-SW1	7.000	EX-SW2	0.0	0.000	0.000	0.0001	
15 minute summer	EX-SW2	7.001	EX-SW3	0.0	0.000	0.000	0.1114	
15 minute summer	EX-SW3	7.002	EX-SW4	-1.7	-0.079	-0.002	0.7794	



Results for 2 year Critical Storm Duration. Lowest mass balance: 99.79%

	Node Event		US	Peak	Level	Depth	Inflow	Node	Flood	Status	
			Node	(mins)	(m)	(m)	(l/s)	Vol (m³)	(m³)		
	30 minute summer	EX-SW4		21	52.237	0.127	6.4	0.3223	0.0000	OK	
	15 minute summer	EX-SW5		14	52.245	0.235	28.1	0.5983	0.0000	OK	
	30 minute summer	EX-SW6		21	52.237	0.227	86.8	0.5786	0.0000	OK	
	15 minute summer	EX-SW7		14	51.897	0.207	83.8	0.5311	0.0000	OK	
	15 minute summer	EX HEADWALL / PROPOSED CHAMBER		14	51.850	0.160	113.3	0.2296	0.0000	OK	
	15 minute summer	S19B.		10	53.785	0.052	5.1	0.0640	0.0000	OK	
	15 minute summer	S19A.		10	53.478	0.063	12.5	0.0807	0.0000	OK	
	30 minute summer	S18.		21	52.957	0.056	2.9	0.0628	0.0000	OK	
	15 minute summer	S19.		11	52.862	0.123	23.7	0.1546	0.0000	OK	
	15 minute summer	S20.		13	52.641	0.130	24.3	0.1474	0.0000	OK	
	30 minute summer	EX-SLUICE GATE		20	52.601	0.376	75.6	1.0054	0.0000	OK	
	15 minute summer	SWALE_START		1	54.800	0.000	0.0	0.0000	0.0000	OK	
	180 minute summer	S28.		124	52.972	0.032	2.0	0.0363	0.0000	OK	
	15 minute summer	S22.		1	53.612	0.000	0.0	0.0000	0.0000	OK	
	15 minute summer	S23.		11	52.924	0.078	10.9	0.1022	0.0000	OK	
	15 minute summer	S24.		11	52.748	0.080	10.8	0.0899	0.0000	OK	
	480 minute winter	S25.		312	52.549	0.560	2.9	0.6336	0.0000	OK	
	480 minute winter	S26.		312	52.453	0.101	3.8	0.3542	0.0000	OK	
	480 minute winter	227 to 228		312	52.549	0.609	3.4	25.0971	0.0000	OK	
	180 minute summer	TANK 5		120	53.098	0.128	6.5	10.9604	0.0000	OK	
	30 minute summer	235 to 236		22	52.629	0.029	6.3	2.3425	0.0000	OK	
	30 minute summer	237 to 240		21	52.827	0.041	14.1	4.1107	0.0000	OK	
	15 minute summer	TANK 7		12	53.114	0.184	15.7	3.1966	0.0000	OK	
		240 minute summer	TANK 3		184	56.707	0.107	3.5	7.7500	0.0000	OK
	ent (Depth)		US	Link		DS		Outflow	Velocity	Flow/Cap	Link
			Node			Node		(l/s)	(m/s)		Vol (m³)
ummer	EX-SW4		7.003	EX-SW5			10.4	0.205	0.011	1.3773	
ummer	EX-SW5		5.005	EX-SW6			30.8	0.515	0.026	0.8753	
ummer	EX-SW6		1.009	EX-SW7			84.7	1.055	0.046	3.9443	
ummer	EX-SW7		1.013	EX HEADWALL / PROPOSED CHAMBER			87.2	1.066	0.071	0.6493	
ummer	EX HEADWALL / PROPOSED CHAMBER		1.014	dummy outlet			114.1	1.682	0.052	0.4999	
ummer	S19B.		11.000	S19A.			5.0	0.939	0.244	0.0982	
ummer	S19A.		11.001	S19.			12.3	1.365	0.167	0.2711	
ummer	S18.		12.001	S19.			2.8	0.442	0.119	0.2647	
ummer	S19.		11.002	S20.			23.7	0.994	0.336	1.4128	
ummer	S20.		11.003	S21.			23.3	0.551	0.248	1.8361	
ummer	EX-SLUICE GATE		3.001_1	EX-SW6			65.9	1.033	0.341	0.2659	
ummer	SWALE_START		18.000	SWALE_END			0.0	0.000	0.000	0.0006	
summer	S28.		16.001	S23.			2.0	0.516	0.044	0.0643	
ummer	S22.		15.000	S23.			0.0	0.000	0.000	0.0014	
ummer	S23.		15.001	S24.			10.8	0.882	0.248	0.3131	
ummer	S24.		15.002	S25.			10.7	0.872	0.254	0.3026	
winter	S25.		15.003	S26.			3.0	0.270	0.082	0.3577	
winter	S26.		15.004	EX HEADWALL / PROPOSED CHAMBER			3.8	0.401	0.018	0.2096	
winter	227 to 228		16.000_1	S25.			-2.5	-0.021	-0.252	5.6295	
summer	TANK 5		16.000	S28.			2.0	0.724	0.093	0.0056	
ummer	235 to 236		17.000	S26.			2.2	1.216	0.165	0.0037	
ummer	237 to 240		13.000	S21.			7.9	1.661	0.159	0.0536	
ummer	TANK 7		12.000	S18.			2.9	0.615	0.058	0.0195	
summer	TANK 3		1.000	S8A			5.2	0.546	0.063	0.1773	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.83%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	S8A	236	56.963	0.513	2.0	0.5802	0.0000	SURCHARGED
240 minute winter	S8.	236	56.963	0.703	2.7	0.8730	0.0000	SURCHARGED
15 minute summer	S9.	10	55.952	0.077	23.8	0.0990	0.0000	OK
15 minute summer	S10.	10	54.966	0.166	82.7	0.2523	0.0000	OK
15 minute summer	S11.	10	54.705	0.230	99.8	0.2873	0.0000	OK
120 minute summer	S12.	90	54.301	0.126	43.6	0.1426	0.0000	OK
60 minute summer	TANK 6	47	53.388	0.388	15.2	12.1725	0.0000	SURCHARGED
120 minute summer	S13.	90	54.301	1.040	58.1	1.3254	0.0000	SURCHARGED
240 minute summer	TANK 2	184	55.295	0.575	19.8	53.8192	0.0000	SURCHARGED
240 minute summer	S16.	184	55.294	0.594	2.8	0.6720	0.0000	SURCHARGED
240 minute summer	S17.	184	55.288	0.698	2.8	0.7890	0.0000	SURCHARGED
60 minute winter	EX-SW8	58	54.849	0.449	16.0	0.7457	0.0000	SURCHARGED
15 minute summer	EX-SW9	11	54.597	0.487	40.7	0.6578	0.0000	SURCHARGED
15 minute summer	EX-SW10	11	54.265	0.155	90.7	0.2325	0.0000	OK
15 minute summer	EX-SW11	13	52.904	0.394	136.5	1.0362	0.0000	OK
15 minute summer	EX-SW12	13	52.896	0.496	161.3	1.3797	0.0000	OK
15 minute summer	S1.	10	56.095	0.170	37.9	0.2366	0.0000	OK
15 minute summer	S2.	11	55.756	0.200	72.5	0.2746	0.0000	OK
180 minute summer	S3A.	196	55.736	0.036	1.8	0.0409	0.0000	OK
15 minute summer	S3.	11	55.558	0.146	72.4	0.1646	0.0000	OK
15 minute summer	S4.	11	54.449	0.140	106.0	0.1896	0.0000	OK
15 minute summer	S5.	12	53.659	0.459	149.0	0.6123	0.0000	SURCHARGED
15 minute summer	EX-SW1	1	52.400	0.000	0.0	0.0000	0.0000	OK
30 minute winter	EX-SW2	23	52.293	0.043	1.7	0.1087	0.0000	OK
30 minute summer	EX-SW3	20	52.291	0.081	4.1	0.2055	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)
240 minute winter	S8A	1.001_1	S8.	-2.0	-0.049	-0.033	0.5982	
240 minute winter	S8.	1.001	S9.	0.7	0.572	0.013	0.0789	
15 minute summer	S9.	1.002	S10.	23.6	1.852	0.252	0.4169	
15 minute summer	S10.	1.003	S11.	82.1	1.665	0.480	0.6741	
15 minute summer	S11.	1.004	S12.	99.0	2.384	0.793	0.9771	
120 minute summer	S12.	1.005	S13.	43.6	0.696	0.089	1.0984	
60 minute summer	TANK 6	10.000	TANK 7	-15.2	-0.865	-1.332	0.2931	
120 minute summer	S13.	1.007_1	S14.	22.8	0.482	0.194	2.5578	
240 minute summer	TANK 2	3.000	S16.	2.8	0.434	0.163	0.0369	
240 minute summer	S16.	3.001	S17.	2.8	0.259	0.225	0.3893	
240 minute summer	S17.	3.002	EX-SW9	2.8	0.336	0.037	0.0387	
60 minute winter	EX-SW8	4.000	EX-SW9	3.4	0.296	0.133	0.1509	
15 minute summer	EX-SW9	3.003	EX-SW10	39.3	1.047	2.933	1.8280	
15 minute summer	EX-SW10	3.004	EX-SW11	90.5	2.748	0.546	0.4957	
15 minute summer	EX-SW11	1.007	EX-SW12	108.4	0.703	0.061	21.0523	
15 minute summer	EX-SW12	3.000_1	EX-SLUICE GATE	151.4	0.563	0.042	10.7530	
15 minute summer	S1.	5.000	S2.	37.1	1.064	0.920	2.1171	
15 minute summer	S2.	5.001	S3.	71.4	2.194	0.791	0.1550	
180 minute summer	S3A.	6.000	S3.	1.8	0.716	0.113	0.2265	
15 minute summer	S3.	5.002	S4.	72.7	2.203	0.450	1.6105	
15 minute summer	S4.	5.003	S5.	106.1	2.297	0.306	2.7430	
15 minute summer	S5.	5.004_1	S5A.	141.7	1.410	0.273	0.9716	
15 minute summer	EX-SW1	7.000	EX-SW2	0.0	0.000	0.000	0.1517	
30 minute winter	EX-SW2	7.001	EX-SW3	-1.7	-0.134	-0.004	0.5952	
30 minute summer	EX-SW3	7.002	EX-SW4	-4.1	-0.110	-0.006	1.5131	



Results for 30 year Critical Storm Duration. Lowest mass balance: 99.83%

	Node Event		US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
	15 minute winter	EX-SW4		14	52.290	0.180	11.8	0.4569	0.0000	OK
	15 minute summer	EX-SW5		12	52.292	0.282	31.6	0.7176	0.0000	OK
	15 minute winter	EX-SW6		14	52.292	0.282	163.4	0.7179	0.0000	OK
	30 minute summer	EX-SW7		21	51.967	0.277	162.5	0.7126	0.0000	OK
	15 minute summer	EX HEADWALL / PROPOSED CHAMBER		13	51.911	0.221	204.1	0.3161	0.0000	OK
	15 minute summer	S19B.		10	53.832	0.099	14.7	0.1217	0.0000	OK
	15 minute summer	S19A.		10	53.525	0.110	36.2	0.1404	0.0000	OK
	30 minute summer	S18.		20	53.216	0.315	13.3	0.3560	0.0000	SURCHARGED
	15 minute summer	S19.		12	53.234	0.495	65.9	0.6241	0.0000	SURCHARGED
	15 minute summer	S20.		12	53.077	0.566	54.9	0.6398	0.0000	SURCHARGED
	15 minute summer	EX-SLUICE GATE		14	52.903	0.678	165.0	1.8143	0.0000	SURCHARGED
	15 minute summer	SWALE_START		1	54.800	0.000	0.0	0.0000	0.0000	OK
	15 minute summer	S28.		10	52.997	0.057	2.8	0.0648	0.0000	OK
	15 minute summer	S22.		1	53.612	0.000	0.0	0.0000	0.0000	OK
	15 minute summer	S23.		11	52.996	0.150	31.8	0.1964	0.0000	OK
	15 minute summer	S24.		11	52.821	0.153	31.5	0.1731	0.0000	OK
	120 minute summer	S25.		74	52.681	0.692	18.5	0.7832	0.0000	OK
	180 minute summer	S26.		112	52.667	0.315	17.7	1.1029	0.0000	SURCHARGED
	120 minute summer	227 to 228		74	52.689	0.749	21.3	25.1087	0.0000	OK
	120 minute summer	TANK 5		90	53.304	0.334	21.1	28.4672	0.0000	SURCHARGED
	180 minute summer	235 to 236		112	52.668	0.068	6.6	7.0031	0.0000	OK
	30 minute summer	237 to 240		25	52.966	0.180	50.5	23.5682	0.0000	SURCHARGED
	30 minute summer	TANK 7		21	53.435	0.505	40.5	8.7680	0.0000	SURCHARGED
	240 minute winter	TANK 3		236	56.963	0.363	5.8	26.2631	0.0000	SURCHARGED
ent Depth)		US Node	Link		DS Node		Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
inter	EX-SW4		7.003	EX-SW5			13.1	0.250	0.014	1.9464
ummer	EX-SW5		5.005	EX-SW6			36.8	0.565	0.031	1.2210
inter	EX-SW6		1.009	EX-SW7			161.0	1.278	0.087	6.1936
ummer	EX-SW7		1.013	EX HEADWALL / PROPOSED CHAMBER			162.4	1.244	0.133	1.0367
ummer	EX HEADWALL / PROPOSED CHAMBER		1.014	dummy outlet			204.6	1.950	0.093	0.7740
ummer	S19B.		11.000	S19A.			14.5	1.215	0.710	0.2202
ummer	S19A.		11.001	S19.			36.1	1.591	0.490	0.8854
ummer	S18.		12.001	S19.			-13.3	0.505	-0.564	1.6482
ummer	S19.		11.002	S20.			53.5	1.137	0.757	3.9406
ummer	S20.		11.003	S21.			51.6	0.733	0.550	2.5922
ummer	EX-SLUICE GATE		3.001_1	EX-SW6			135.0	1.295	0.699	0.4336
ummer	SWALE_START		18.000	SWALE_END			0.0	0.000	0.000	0.0006
ummer	S28.		16.001	S23.			3.0	0.619	0.066	0.2180
ummer	S22.		15.000	S23.			0.0	0.000	0.000	0.1677
ummer	S23.		15.001	S24.			31.5	1.115	0.724	0.7197
ummer	S24.		15.002	S25.			31.3	1.131	0.747	0.6853
summer	S25.		15.003	S26.			14.5	0.377	0.402	1.1561
summer	S26.		15.004	EX HEADWALL / PROPOSED CHAMBER			14.2	0.665	0.068	0.5183
summer	227 to 228		16.000_1	S25.			-13.1	-0.049	-1.308	6.6133
summer	TANK 5		16.000	S28.			3.5	0.845	0.162	0.0084
summer	235 to 236		17.000	S26.			5.3	1.466	0.392	0.0135
summer	237 to 240		13.000	S21.			19.9	1.589	0.400	0.0880
ummer	TANK 7		12.000	S18.			6.7	0.583	0.136	0.1291
winter	TANK 3		1.000	S8A			-1.9	0.526	-0.023	0.2415

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute summer	302 to 305	152	56.086	0.216	14.9	33.1123	0.0000	SURCHARGED
180 minute summer	252 to 254	136	53.483	0.243	13.5	27.2978	0.0000	SURCHARGED
15 minute summer	dummy outlet	13	51.780	0.180	204.6	0.0000	0.0000	OK
60 minute winter	264 to 266	59	54.849	0.279	19.5	22.9781	0.0000	SURCHARGED
30 minute summer	S21.	20	52.989	0.741	49.6	1.8867	0.0000	SURCHARGED
15 minute summer	S6.	12	53.579	1.079	35.4	3.8905	0.0000	SURCHARGED
120 minute summer	S14.	90	54.297	1.117	26.9	8.0477	0.0000	SURCHARGED
120 minute summer	TANK 4	92	54.308	0.908	75.6	103.4874	0.0000	SURCHARGED
60 minute winter	TANK 1	51	53.360	0.450	69.6	69.4670	0.0000	SURCHARGED
60 minute winter	S5B.	51	53.360	0.510	69.9	0.5767	0.0000	SURCHARGED
120 minute winter	PP 218 to 221, 229 to 234, 320 to 323	114	54.601	0.351	23.2	44.5540	0.0000	FLOOD RISK
60 minute summer	SWALE_END	50	53.388	0.288	0.7	0.0000	0.0000	SURCHARGED
15 minute summer	S5A.	12	53.580	0.967	148.2	1.3839	0.0000	SURCHARGED
30 minute summer	325-348	21	55.026	0.126	91.0	26.1805	0.0000	OK

ent Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
summer	302 to 305	6.000_1	S3A.	1.8	0.843	0.034	0.0045
summer	252 to 254	12.000_1	S20.	2.1	1.078	0.063	0.1539
winter	264 to 266	4.000_1	EX-SW8	-12.7	0.786	-0.244	0.0352
summer	S21.	11.004	EX HEADWALL / PROPOSED CHAMBER	31.6	1.297	0.128	0.3945
summer	S6.	5.004	EX-SW5	22.9	1.105	0.210	1.3683
summer	S14.	1.006	EX-SW11	24.9	1.120	0.091	1.4534
summer	TANK 4	2.000	S13.	-44.7	-0.636	-1.044	2.9547
winter	TANK 1	7.000_1	S5B.	-69.6	-1.637	-0.361	0.1408
winter	S5B.	7.001_1	S5A.	-69.9	-0.993	-0.612	1.0785
winter	PP 218 to 221, 229 to 234, 320 to 323	9.000	EX-SW4	4.0	1.089	0.023	0.2816
summer	SWALE_END	10.001_1	TANK 6	-0.7	-0.081	-0.061	0.4134
summer	S5A.	5.005_1	S6.	26.0	0.513	0.161	1.9056
summer	325-348	2.000_1	TANK 4	47.1	2.922	1.037	0.1942

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	S8A	240	57.327	0.877	3.8	0.9914	0.0000	SURCHARGED
240 minute winter	S8.	240	57.326	1.066	4.7	1.3246	0.0000	FLOOD RISK
15 minute summer	S9.	12	56.195	0.320	42.6	0.4132	0.0000	SURCHARGED
15 minute summer	S10.	12	56.050	1.250	145.5	1.9019	0.0000	FLOOD RISK
15 minute summer	S11.	12	55.832	1.357	157.3	1.6929	0.0000	FLOOD RISK
60 minute winter	S12.	42	55.427	1.252	88.2	1.4155	0.0000	SURCHARGED
60 minute winter	TANK 6	53	54.203	1.203	29.3	25.0957	0.0000	FLOOD RISK
60 minute winter	S13.	42	55.412	2.151	112.0	2.7401	0.0000	FLOOD RISK
180 minute winter	TANK 2	176	55.772	1.052	28.9	98.4775	0.0000	SURCHARGED
180 minute winter	S16.	176	55.770	1.070	4.0	1.2107	0.0000	SURCHARGED
180 minute winter	S17.	176	55.758	1.168	3.9	1.3205	0.0000	SURCHARGED
15 minute summer	EX-SW8	11	55.199	0.799	60.3	1.3264	0.0000	SURCHARGED
15 minute summer	EX-SW9	12	55.391	1.281	69.2	1.7304	0.0000	SURCHARGED
15 minute summer	EX-SW10	11	54.750	0.640	148.1	0.9619	0.0000	SURCHARGED
30 minute summer	EX-SW11	23	53.544	1.034	206.3	2.7192	0.0000	OK
30 minute summer	EX-SW12	23	53.545	1.145	211.3	3.1886	0.0000	OK
15 minute summer	S1.	11	57.260	1.335	68.3	1.8611	0.0000	FLOOD RISK
15 minute summer	S2.	11	56.189	0.632	126.0	0.8665	0.0000	SURCHARGED
180 minute summer	S3A.	196	55.742	0.042	2.3	0.0476	0.0000	OK
15 minute summer	S3.	12	55.757	0.345	126.4	0.3904	0.0000	SURCHARGED
15 minute summer	S4.	12	55.177	0.868	187.2	1.1719	0.0000	SURCHARGED
15 minute summer	S5.	12	54.879	1.679	242.9	2.2416	0.0000	SURCHARGED
15 minute summer	EX-SW1	1	52.400	0.000	0.0	0.0000	0.0000	OK
15 minute summer	EX-SW2	14	52.297	0.047	2.8	0.1199	0.0000	OK
15 minute winter	EX-SW3	10	52.296	0.086	8.2	0.2187	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)
240 minute winter	S8A	1.001_1	S8.	-3.8	-0.095	-0.065	0.5982	
240 minute winter	S8.	1.001	S9.	0.9	0.605	0.015	0.1072	
15 minute summer	S9.	1.002	S10.	41.9	1.776	0.447	1.2320	
15 minute summer	S10.	1.003	S11.	125.4	1.781	0.732	0.9690	
15 minute summer	S11.	1.004	S12.	147.8	2.293	1.183	1.6733	
60 minute winter	S12.	1.005	S13.	82.9	0.959	0.169	1.6969	
60 minute winter	TANK 6	10.000	TANK 7	-29.3	-1.662	-2.559	0.2931	
60 minute winter	S13.	1.007_1	S14.	76.1	0.690	0.647	2.5578	
180 minute winter	TANK 2	3.000	S16.	4.0	0.510	0.230	0.0369	
180 minute winter	S16.	3.001	S17.	3.9	0.272	0.316	0.3893	
180 minute winter	S17.	3.002	EX-SW9	3.9	0.338	0.052	0.0395	
15 minute summer	EX-SW8	4.000	EX-SW9	8.3	0.473	0.329	0.2534	
15 minute summer	EX-SW9	3.003	EX-SW10	56.8	1.429	4.246	2.1104	
15 minute summer	EX-SW10	3.004	EX-SW11	141.7	3.584	0.855	0.6485	
30 minute summer	EX-SW11	1.007	EX-SW12	128.2	0.718	0.072	60.0463	
30 minute summer	EX-SW12	3.000_1	EX-SLUICE GATE	145.4	0.531	0.040	22.8221	
15 minute summer	S1.	5.000	S2.	65.2	1.639	1.616	2.4259	
15 minute summer	S2.	5.001	S3.	125.1	3.145	1.384	0.1910	
180 minute summer	S3A.	6.000	S3.	2.3	0.784	0.151	0.3109	
15 minute summer	S3.	5.002	S4.	124.4	2.341	0.770	3.4374	
15 minute summer	S4.	5.003	S5.	165.6	2.332	0.477	4.0906	
15 minute summer	S5.	5.004_1	S5A.	235.5	2.136	0.454	0.9716	
15 minute summer	EX-SW1	7.000	EX-SW2	0.0	0.000	0.000	0.1798	
15 minute summer	EX-SW2	7.001	EX-SW3	-2.8	-0.195	-0.007	0.6622	
15 minute winter	EX-SW3	7.002	EX-SW4	-8.2	-0.189	-0.011	1.5730	



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

Node Event		US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	EX-SW4		11	52.295	0.185	20.0	0.4701	0.0000	OK
15 minute winter	EX-SW5		15	52.294	0.284	43.2	0.7231	0.0000	OK
15 minute summer	EX-SW6		12	52.296	0.286	173.6	0.7281	0.0000	OK
30 minute summer	EX-SW7		22	51.984	0.294	176.7	0.7561	0.0000	OK
30 minute summer	EX HEADWALL / PROPOSED CHAMBER		22	51.929	0.239	235.4	0.3418	0.0000	OK
15 minute summer	S19B.		12	54.707	0.974	26.4	1.1977	0.0000	SURCHARGED
15 minute summer	S19A.		12	54.423	1.008	58.9	1.2826	0.0000	SURCHARGED
15 minute summer	S18.		12	54.098	1.197	31.2	1.3542	0.0000	SURCHARGED
15 minute summer	S19.		12	54.091	1.352	99.6	1.7041	0.0000	SURCHARGED
15 minute summer	S20.		13	53.683	1.172	91.4	1.3257	0.0000	SURCHARGED
30 minute summer	EX-SLUICE GATE		24	53.563	1.338	165.4	3.5813	0.0000	SURCHARGED
15 minute summer	SWALE_START		1	54.800	0.000	0.0	0.0000	0.0000	OK
60 minute summer	S28.		37	53.426	0.486	9.6	0.5500	0.0000	SURCHARGED
15 minute summer	S22.		1	53.612	0.000	0.0	0.0000	0.0000	OK
60 minute summer	S23.		37	53.426	0.580	40.2	0.7604	0.0000	SURCHARGED
60 minute summer	S24.		37	53.361	0.693	39.7	0.7838	0.0000	SURCHARGED
60 minute summer	S25.		37	53.307	1.318	54.2	1.4910	0.0000	SURCHARGED
60 minute summer	S26.		38	53.100	0.748	44.5	2.6209	0.0000	SURCHARGED
60 minute summer	227 to 228		37	53.289	1.349	58.0	25.1585	0.0000	SURCHARGED
120 minute summer	TANK 5		96	53.609	0.639	37.7	54.5255	0.0000	SURCHARGED
180 minute summer	235 to 236		120	52.895	0.295	24.3	34.7812	0.0000	SURCHARGED
60 minute summer	237 to 240		45	53.233	0.447	85.4	60.6997	0.0000	SURCHARGED
30 minute summer	TANK 7		19	54.700	1.770	73.9	14.1381	0.7870	FLOOD
240 minute winter	TANK 3		240	57.327	0.727	10.5	52.5756	0.0000	SURCHARGED

Event (Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
summer	EX-SW4	7.003	EX-SW5	-16.0	-0.274	-0.017	1.9968
winter	EX-SW5	5.005	EX-SW6	40.9	0.605	0.034	1.2422
summer	EX-SW6	1.009	EX-SW7	172.2	1.273	0.093	6.6267
summer	EX-SW7	1.013	EX HEADWALL / PROPOSED CHAMBER	175.2	1.235	0.143	1.1471
summer	EX HEADWALL / PROPOSED CHAMBER	1.014	dummy outlet	235.4	2.020	0.107	0.8601
summer	S19B.	11.000	S19A.	21.7	1.240	1.063	0.3256
summer	S19A.	11.001	S19.	52.7	1.633	0.716	1.1985
summer	S18.	12.001	S19.	-31.2	-0.785	-1.325	1.6482
summer	S19.	11.002	S20.	91.4	1.297	1.294	3.9406
summer	S20.	11.003	S21.	85.5	1.214	0.912	2.5922
summer	EX-SLUICE GATE	3.001_1	EX-SW6	135.0	1.295	0.699	0.4336
summer	SWALE_START	18.000	SWALE_END	0.0	0.000	0.000	0.0006
summer	S28.	16.001	S23.	-9.6	0.726	-0.211	0.4822
summer	S22.	15.000	S23.	0.0	0.000	0.000	0.3362
summer	S23.	15.001	S24.	39.7	1.146	0.913	1.0073
summer	S24.	15.002	S25.	36.7	1.154	0.873	0.9839
summer	S25.	15.003	S26.	37.8	0.950	1.047	1.2597
summer	S26.	15.004	EX HEADWALL / PROPOSED CHAMBER	22.3	0.683	0.107	0.6768
summer	227 to 228	16.000_1	S25.	-34.7	-0.132	-3.459	6.7330
summer	TANK 5	16.000	S28.	5.1	0.931	0.232	0.0352
summer	235 to 236	17.000	S26.	-12.7	-1.618	-0.939	0.0156
summer	237 to 240	13.000	S21.	-32.3	-1.835	-0.648	0.0880
summer	TANK 7	12.000	S18.	7.6	0.673	0.156	0.1291
winter	TANK 3	1.000	S8A	-3.6	0.535	-0.044	0.2415

Node Event		US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	302 to 305		176	56.269	0.399	18.1	62.7381	0.0000	SURCHARGED
120 minute winter	252 to 254		118	53.691	0.451	22.5	51.7294	0.0000	SURCHARGED
30 minute summer	dummy outlet		22	51.793	0.193	235.4	0.0000	0.0000	OK
120 minute winter	264 to 266		112	55.149	0.579	21.2	48.4491	0.0000	FLOOD RISK
30 minute summer	S21.		21	53.445	1.197	82.9	3.0473	0.0000	SURCHARGED
15 minute summer	S6.		12	54.661	2.161	63.7	7.7894	0.0000	SURCHARGED
120 minute summer	S14.		72	55.400	2.220	59.6	15.9929	2.6135	FLOOD
60 minute winter	TANK 4		42	55.394	1.994	141.4	136.8570	0.0000	FLOOD RISK
60 minute winter	TANK 1		59	53.919	1.009	131.1	155.7232	0.0000	SURCHARGED
60 minute winter	S5B.		59	53.919	1.069	132.0	1.2086	0.0000	SURCHARGED
120 minute winter	PP 218 to 221, 229 to 234, 320 to 323		120	54.858	0.608	41.5	95.6629	0.0000	FLOOD RISK
60 minute winter	SWALE_END		52	54.203	1.103	7.2	0.0000	0.0000	FLOOD RISK
15 minute summer	S5A.		12	54.661	2.048	250.9	2.9306	0.0000	SURCHARGED
120 minute winter	325-348		96	55.264	0.364	67.2	88.7271	0.0000	FLOOD RISK

ent Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
winter	302 to 305	6.000_1	S3A.	2.4	0.917	0.045	0.0056
winter	252 to 254	12.000_1	S20.	3.0	1.171	0.087	0.1583
winter	264 to 266	4.000_1	EX-SW8	-13.7	-0.780	-0.263	0.0352
summer	S21.	11.004	EX HEADWALL / PROPOSED CHAMBER	40.4	1.253	0.164	0.4349
summer	S6.	5.004	EX-SW5	32.4	1.151	0.297	1.4613
summer	S14.	1.006	EX-SW11	35.1	1.239	0.129	2.3701
winter	TANK 4	2.000	S13.	-96.2	-1.366	-2.243	2.9547
winter	TANK 1	7.000_1	S5B.	-131.1	-1.862	-0.679	0.1408
winter	S5B.	7.001_1	S5A.	-132.0	-1.875	-1.155	1.0785
winter	PP 218 to 221, 229 to 234, 320 to 323	9.000	EX-SW4	4.0	0.994	0.023	0.3598
winter	SWALE_END	10.001_1	TANK 6	-7.2	-0.408	-0.624	0.4134
summer	S5A.	5.005_1	S6.	25.4	0.520	0.157	1.9056
winter	325-348	2.000_1	TANK 4	43.1	2.906	0.950	0.2050