Design Settings

Rainfall Methodology	FEH-13	Minimum Velocity (m/s)	1.00
Return Period (years)	100	Connection Type	Level Soffits
Additional Flow (%)	40	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
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)
MH1			68.524	1200	356773.723	173893.768	1.274
MH2			68.614	1200	356745.521	173926.767	1.798
HG1	0.028	5.00	68.700	450	356773.484	173887.887	1.300
HG2	0.013	5.00	68.620	450	356760.528	173903.157	1.300
HG4	0.006	5.00	68.750	450	356747.015	173919.206	1.350
HG3	0.006	5.00	68.500	450	356744.693	173911.907	1.350
TANK 2			68.750	100	356737.334	173935.345	4.053
SW14	0.022	5.00	68.458		356738.434	173928.676	1.071
SW11			68.496	600	356728.345	173938.933	1.588
SW10	0.025	5.00	68.741		356733.080	173942.982	1.604
PP 2	0.036	5.00	68.900		356750.016	173927.563	1.440
SW07	0.033	5.00	68.765	450	356760.951	173916.127	1.147
SW09	0.035	5.00	68.466	1200	356723.476	173954.184	1.091
TANK 1			68.750	1200	356730.975	173940.853	1.713
PP 1	0.020	5.00	68.900	1200	356738.125	173939.394	1.608
SW08	0.003	5.00	68.723	1200	356745.853	173931.957	1.324
SW12	0.019	5.00	68.500	450	356731.223	173931.000	1.000
SW15	0.019	5.00	68.500	450	356739.214	173923.114	0.771
PP 3	0.073		68.000		356713.754	173929.359	0.250
SW06	0.012	5.00	68.577	450	356774.980	173880.498	0.677
SW05	0.016	5.00	68.581	450	356752.634	173907.913	1.030
SW04	0.007	5.00	68.399	450	356738.668	173896.688	1.029
SW03	0.007	5.00	68.367	450	356736.750	173888.102	1.730
TANK 3	0.017	5.00	68.550		356742.343	173883.506	3.550
SW01	0.018	5.00	68.639	450	356739.224	173879.197	1.361
SW02	0.009	5.00	68.431	450	356745.404	173884.448	1.175
SW03B	0.004	5.00	68.350	450	356737.391	173903.502	1.078
SW03A	0.005	5.00	68.110	450	356732.905	173895.266	1.050
SW13		5.00	68.500	450	356735.172	173927.013	0.935
DUMMY OUTFALL 2			68.550	1200	356744.340	173881.184	3.581
DUMMY OUTFALL 1			68.750	1200	356728.304	173943.316	1.728

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)
5.001	MH1	MH2	43.408	0.600	67.250	66.816	0.434	100.0	150	5.81	50.0
5.002	MH2	TANK 2	11.858	0.600	66.816	66.697	0.119	100.0	150	6.00	50.0
10.000	SW09	SW10	14.755	0.600	67.375	67.212	0.163	90.5	150	5.23	50.0
5.000	HG1	MH1	5.886	0.600	67.400	67.270	0.130	45.3	100	5.09	50.0
6.000	HG2	MH2	27.976	0.600	67.320	66.981	0.339	82.5	150	5.42	50.0
7.000	HG3	MH2	14.883	0.600	67.150	66.981	0.169	88.1	150	5.23	50.0
8.000	HG4	MH2	7.707	0.600	67.400	66.981	0.419	18.4	150	5.05	50.0
11.000	SW15	SW14	5.616	0.600	67.729	67.462	0.267	21.0	150	5.04	50.0
11.001	SW14	SW11	14.387	0.600	67.387	67.208	0.179	80.4	225	5.21	50.0
13.000	SW12	SW11	8.439	0.600	67.500	67.208	0.292	28.9	150	5.07	50.0
1.004	TANK 3	DUMMY OUTFALL 2	3.063	0.600	65.000	64.969	0.031	100.0	225	6.23	50.0
9.005	TANK 1	DUMMY OUTFALL 1	3.633	0.600	67.037	67.022	0.015	242.2	300	5.73	50.0
9.004	SW10	TANK 1	2.994	0.600	67.137	67.112	0.025	119.8	225	5.67	50.0
11.002	SW11	TANK 1	3.256	0.600	67.208	67.112	0.096	33.9	225	5.23	50.0
9.000	SW07	PP 2	15.823	0.600	67.618	67.460	0.158	100.0	150	5.26	50.0
9.001	PP 2	SW08	6.053	0.600	67.460	67.399	0.061	100.0	150	5.36	50.0
1.000	SW06	SW05	35.368	0.600	67.900	67.551	0.349	101.3	150	5.59	50.0
1.001	SW05	SW04	17.918	0.600	67.551	67.370	0.181	99.0	150	5.89	50.0
1.002	SW04	SW03	8.798	0.600	67.370	67.290	0.080	110.0	150	6.04	50.0
1.003	SW03	TANK 3	7.239	0.600	66.937	66.890	0.047	154.0	150	6.19	50.0
4.000	SW02	TANK 3	3.203	0.600	67.256	67.244	0.012	266.9	150	5.09	50.0
3.000	SW01	TANK 3	5.319	0.600	67.278	67.244	0.034	156.5	150	5.11	50.0
9.003	PP 1	SW10	6.191	0.600	67.292	67.212	0.080	77.4	150	5.63	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)
5.001	1.005	17.8	5.2	1.124	1.648	0.028	0.0	56	0.877
5.002	1.005	17.8	10.0	1.648	1.903	0.053	0.0	81	1.034
10.000	1.057	18.7	6.6	0.941	1.379	0.035	0.0	61	0.964
5.000	1.148	9.0	5.2	1.200	1.154	0.028	0.0	55	1.194
6.000	1.107	19.6	2.5	1.150	1.483	0.013	0.0	36	0.760
7.000	1.071	18.9	1.1	1.200	1.483	0.006	0.0	24	0.580
8.000	2.359	41.7	1.2	1.200	1.483	0.006	0.0	17	1.034
11.000	2.205	39.0	3.5	0.621	0.846	0.019	0.0	30	1.368
11.001	1.459	58.0	7.8	0.846	1.063	0.041	0.0	56	1.027
13.000	1.880	33.2	3.6	0.850	1.138	0.019	0.0	34	1.244
1.004	1.307	52.0	17.9	3.325	3.356	0.094	0.0	91	1.189
9.005	1.006	71.1	40.3	1.413	1.428	0.212	0.0	162	1.036
9.004	1.193	47.5	28.9	1.379	1.413	0.152	0.0	127	1.250
11.002	2.254	89.6	11.4	1.063	1.413	0.060	0.0	54	1.559
9.000	1.005	17.8	6.3	0.997	1.290	0.033	0.0	62	0.921
9.001	1.005	17.8	13.2	1.290	1.174	0.069	0.0	96	1.099
1.000	0.998	17.6	2.2	0.527	0.880	0.012	0.0	36	0.685
1.001	1.010	17.8	5.2	0.880	0.879	0.027	0.0	55	0.877
1.002	0.957	16.9	6.6	0.879	0.927	0.035	0.0	65	0.897
1.003	0.807	14.3	9.7	1.280	1.510	0.051	0.0	91	0.866
4.000	0.610	10.8	1.7	1.025	1.156	0.009	0.0	40	0.444
3.000	0.801	14.1	3.3	1.211	1.156	0.018	0.0	50	0.656
9.003	1.144	20.2	17.6	1.458	1.379	0.093	0.0	109	1.286

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)
9.002	SW08	PP 1	10.725	0.600	67.399	67.292	0.107	100.0	150	5.54	50.0
2.000	SW03B	SW03A	9.378	0.600	67.272	67.060	0.212	44.2	150	5.10	50.0
2.001	SW03A	SW03	8.131	0.600	67.060	66.937	0.123	66.1	150	5.21	50.0
12.000	SW13	SW14	3.661	0.600	67.565	67.437	0.128	28.6	100	5.04	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)
9.002	1.005	17.8	13.8	1.174	1.458	0.073	0.0	100	1.109
2.000	1.517	26.8	0.7	0.928	0.900	0.004	0.0	17	0.663
2.001	1.238	21.9	1.8	0.900	1.280	0.009	0.0	28	0.739
12.000	1.448	11.4	0.0	0.835	0.921	0.000	0.0	0	0.000

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)
5.001	43.408	100.0	150	Circular	68.524	67.250	1.124	68.614	66.816	1.648
5.002	11.858	100.0	150	Circular	68.614	66.816	1.648	68.750	66.697	1.903
10.000	14.755	90.5	150	Circular	68.466	67.375	0.941	68.741	67.212	1.379
5.000	5.886	45.3	100	Circular	68.700	67.400	1.200	68.524	67.270	1.154
6.000	27.976	82.5	150	Circular	68.620	67.320	1.150	68.614	66.981	1.483
7.000	14.883	88.1	150	Circular	68.500	67.150	1.200	68.614	66.981	1.483
8.000	7.707	18.4	150	Circular	68.750	67.400	1.200	68.614	66.981	1.483
11.000	5.616	21.0	150	Circular	68.500	67.729	0.621	68.458	67.462	0.846
11.001	14.387	80.4	225	Circular	68.458	67.387	0.846	68.496	67.208	1.063
13.000	8.439	28.9	150	Circular	68.500	67.500	0.850	68.496	67.208	1.138
1.004	3.063	100.0	225	Circular	68.550	65.000	3.325	68.550	64.969	3.356
9.005	3.633	242.2	300	Circular	68.750	67.037	1.413	68.750	67.022	1.428
9.004	2.994	119.8	225	Circular	68.741	67.137	1.379	68.750	67.112	1.413
11.002	3.256	33.9	225	Circular	68.496	67.208	1.063	68.750	67.112	1.413
9.000	15.823	100.0	150	Circular	68.765	67.618	0.997	68.900	67.460	1.290

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
5.001	MH1	1200	Manhole	Adoptable	MH2	1200	Manhole	Adoptable
5.002	MH2	1200	Manhole	Adoptable	TANK 2	100	Manhole	Adoptable
10.000	SW09	1200	Manhole	Adoptable	SW10		Junction	
5.000	HG1	450	Manhole	Adoptable	MH1	1200	Manhole	Adoptable
6.000	HG2	450	Manhole	Adoptable	MH2	1200	Manhole	Adoptable
7.000	HG3	450	Manhole	Adoptable	MH2	1200	Manhole	Adoptable
8.000	HG4	450	Manhole	Adoptable	MH2	1200	Manhole	Adoptable
11.000	SW15	450	Manhole	Adoptable	SW14		Junction	
11.001	SW14		Junction		SW11	600	Manhole	Adoptable
13.000	SW12	450	Manhole	Adoptable	SW11	600	Manhole	Adoptable
1.004	TANK 3		Junction		DUMMY OUTFALL 2	1200	Manhole	Adoptable
9.005	TANK 1	1200	Manhole	Adoptable	DUMMY OUTFALL 1	1200	Manhole	Adoptable
9.004	SW10		Junction		TANK 1	1200	Manhole	Adoptable
11.002	SW11	600	Manhole	Adoptable	TANK 1	1200	Manhole	Adoptable
9.000	SW07	450	Manhole	Adoptable	PP 2		Junction	

Pipeline Schedule

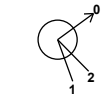
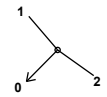
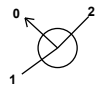
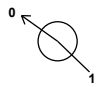
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
9.001	6.053	100.0	150	Circular	68.900	67.460	1.290	68.723	67.399	1.174
1.000	35.368	101.3	150	Circular	68.577	67.900	0.527	68.581	67.551	0.880
1.001	17.918	99.0	150	Circular	68.581	67.551	0.880	68.399	67.370	0.879
1.002	8.798	110.0	150	Circular	68.399	67.370	0.879	68.367	67.290	0.927
1.003	7.239	154.0	150	Circular	68.367	66.937	1.280	68.550	66.890	1.510
4.000	3.203	266.9	150	Circular	68.431	67.256	1.025	68.550	67.244	1.156
3.000	5.319	156.5	150	Circular	68.639	67.278	1.211	68.550	67.244	1.156
9.003	6.191	77.4	150	Circular	68.900	67.292	1.458	68.741	67.212	1.379
9.002	10.725	100.0	150	Circular	68.723	67.399	1.174	68.900	67.292	1.458
2.000	9.378	44.2	150	Circular	68.350	67.272	0.928	68.110	67.060	0.900
2.001	8.131	66.1	150	Circular	68.110	67.060	0.900	68.367	66.937	1.280
12.000	3.661	28.6	100	Circular	68.500	67.565	0.835	68.458	67.437	0.921

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
9.001	PP 2		Junction		SW08	1200	Manhole	Adoptable
1.000	SW06	450	Manhole	Adoptable	SW05	450	Manhole	Adoptable
1.001	SW05	450	Manhole	Adoptable	SW04	450	Manhole	Adoptable
1.002	SW04	450	Manhole	Adoptable	SW03	450	Manhole	Adoptable
1.003	SW03	450	Manhole	Adoptable	TANK 3		Junction	
4.000	SW02	450	Manhole	Adoptable	TANK 3		Junction	
3.000	SW01	450	Manhole	Adoptable	TANK 3		Junction	
9.003	PP 1	1200	Manhole	Adoptable	SW10		Junction	
9.002	SW08	1200	Manhole	Adoptable	PP 1	1200	Manhole	Adoptable
2.000	SW03B	450	Manhole	Adoptable	SW03A	450	Manhole	Adoptable
2.001	SW03A	450	Manhole	Adoptable	SW03	450	Manhole	Adoptable
12.000	SW13	450	Manhole	Adoptable	SW14		Junction	

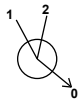
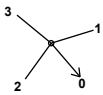
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
MH1	356773.723	173893.768	68.524	1.274	1200	1	5.000	67.270	100
						0	5.001	67.250	150
MH2	356745.521	173926.767	68.614	1.798	1200	1	8.000	66.981	150
						2	7.000	66.981	150
						3	6.000	66.981	150
						4	5.001	66.816	150
						0	5.002	66.816	150
HG1	356773.484	173887.887	68.700	1.300	450	0	5.000	67.400	100
HG2	356760.528	173903.157	68.620	1.300	450	0	6.000	67.320	150
HG4	356747.015	173919.206	68.750	1.350	450	0	8.000	67.400	150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
HG3	356744.693	173911.907	68.500	1.350	450		0	7.000	67.150	150
TANK 2	356737.334	173935.345	68.750	4.053	100		1	5.002	66.697	150
SW14	356738.434	173928.676	68.458	1.071			1	12.000	67.437	100
							2	11.000	67.462	150
							0	11.001	67.387	225
SW11	356728.345	173938.933	68.496	1.588	600		1	13.000	67.208	150
							2	11.001	67.208	225
							0	11.002	67.208	225
SW10	356733.080	173942.982	68.741	1.604			1	10.000	67.212	150
							2	9.003	67.212	150
							0	9.004	67.137	225
PP 2	356750.016	173927.563	68.900	1.440			1	9.000	67.460	150
							0	9.001	67.460	150
SW07	356760.951	173916.127	68.765	1.147	450		0	9.000	67.618	150
SW09	356723.476	173954.184	68.466	1.091	1200		0	10.000	67.375	150
TANK 1	356730.975	173940.853	68.750	1.713	1200		1	11.002	67.112	225
							2	9.004	67.112	225
							0	9.005	67.037	300
PP 1	356738.125	173939.394	68.900	1.608	1200		1	9.002	67.292	150
							0	9.003	67.292	150
SW08	356745.853	173931.957	68.723	1.324	1200		1	9.001	67.399	150
							0	9.002	67.399	150
SW12	356731.223	173931.000	68.500	1.000	450		0	13.000	67.500	150
SW15	356739.214	173923.114	68.500	0.771	450		0	11.000	67.729	150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
PP 3	356713.754	173929.359	68.000	0.250					
SW06	356774.980	173880.498	68.577	0.677	450		0	1.000	67.900	150
SW05	356752.634	173907.913	68.581	1.030	450		1	1.000	67.551	150
							0	1.001	67.551	150
SW04	356738.668	173896.688	68.399	1.029	450		1	1.001	67.370	150
							0	1.002	67.370	150
SW03	356736.750	173888.102	68.367	1.730	450		1	2.001	66.937	150
							2	1.002	67.290	150
							0	1.003	66.937	150
TANK 3	356742.343	173883.506	68.550	3.550			1	4.000	67.244	150
							2	3.000	67.244	150
							3	1.003	66.890	150
							0	1.004	65.000	225
SW01	356739.224	173879.197	68.639	1.361	450		0	3.000	67.278	150
SW02	356745.404	173884.448	68.431	1.175	450		0	4.000	67.256	150
SW03B	356737.391	173903.502	68.350	1.078	450		0	2.000	67.272	150
SW03A	356732.905	173895.266	68.110	1.050	450		1	2.000	67.060	150
							0	2.001	67.060	150
SW13	356735.172	173927.013	68.500	0.935	450		0	12.000	67.565	100
DUMMY OUTFALL 2	356744.340	173881.184	68.550	3.581	1200		1	1.004	64.969	225
DUMMY OUTFALL 1	356728.304	173943.316	68.750	1.728	1200		1	9.005	67.022	300

Simulation Settings

Rainfall Methodology	FEH-13	Skip Steady State	x	1 year (l/s)	0.1
Summer CV	1.000	Drain Down Time (mins)	240	30 year (l/s)	0.2
Winter CV	1.000	Additional Storage (m³/ha)	0.0	100 year (l/s)	0.2
Analysis Speed	Detailed	Check Discharge Rate(s)	✓	Check Discharge Volume	x

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

Pre-development Discharge Rate

Site Makeup	Greenfield	Growth Factor 30 year	1.95
Greenfield Method	IH124	Growth Factor 100 year	2.48
Positively Drained Area (ha)	0.420	Betterment (%)	0
SAAR (mm)	837	QBar	0.1
Soil Index	1	Q 1 year (l/s)	
SPR	0.10	Q 30 year (l/s)	
Region	8	Q 100 year (l/s)	
Growth Factor 1 year	0.85		

Node TANK 3 Online Pump Control

Flap Valve	x	Invert Level (m)	65.000	Switch off depth (m)	0.010
Replaces Downstream Link	✓	Switch on depth (m)	0.100		

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.000	1.000	0.000

Node TANK 1 Online Pump Control

Flap Valve	x	Invert Level (m)	67.037	Switch off depth (m)	0.010
Replaces Downstream Link	✓	Switch on depth (m)	0.100		

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	0.000	1.000	0.000

Node TANK 2 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.04800	Safety Factor	2.0	Invert Level (m)	64.855
Side Inf Coefficient (m/hr)	0.04800	Porosity	0.95	Time to half empty (mins)	650

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	20.0	16.0	2.000	20.0	88.0	2.001	0.0	88.0

Node SW07 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	67.750	Slope (1:X)	80.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	248	Depth (m)	1.000
Safety Factor	2.0	Width (m)	8.400	Inf Depth (m)	
Porosity	0.30	Length (m)	4.800		

Node PP 2 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	67.750	Slope (1:X)	80.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	216	Depth (m)	1.000
Safety Factor	2.0	Width (m)	6.000	Inf Depth (m)	
Porosity	0.30	Length (m)	4.800		

Node SW08 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	67.750	Slope (1:X)	80.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	264	Depth (m)	1.000
Safety Factor	2.0	Width (m)	7.200	Inf Depth (m)	
Porosity	0.30	Length (m)	4.800		

Node PP 1 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	67.750	Slope (1:X)	80.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	216	Depth (m)	1.000
Safety Factor	2.0	Width (m)	7.200	Inf Depth (m)	
Porosity	0.30	Length (m)	4.800		

Node SW10 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	67.750	Slope (1:X)	80.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	256	Depth (m)	1.000
Safety Factor	2.0	Width (m)	6.000	Inf Depth (m)	
Porosity	0.30	Length (m)	4.800		

Node SW09 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	67.750	Slope (1:X)	80.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	328	Depth (m)	1.000
Safety Factor	2.0	Width (m)	10.800	Inf Depth (m)	
Porosity	0.30	Length (m)	4.800		

Node SW14 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	67.550	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	1.000
Safety Factor	2.0	Width (m)	8.000	Inf Depth (m)	
Porosity	0.30	Length (m)	17.000		

Node TANK 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.17000	Safety Factor	2.0	Invert Level (m)	65.912
Side Inf Coefficient (m/hr)	0.17000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	54.0	54.0	1.200	54.0	158.0	1.201	0.0	158.0

Node PP 3 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.17000	Invert Level (m)	67.750	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.250
Safety Factor	2.0	Width (m)	23.800	Inf Depth (m)	
Porosity	0.30	Length (m)	23.800		

Node TANK 3 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.07100	Safety Factor	2.0	Invert Level (m)	65.440
Side Inf Coefficient (m/hr)	0.07100	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	28.0	24.0	1.600	28.0	72.0	1.601	0.0	72.0

Node TANK 3 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	67.500	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.750
Safety Factor	2.0	Width (m)	26.000	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Results for 2 year Critical Storm Duration. Lowest mass balance: 98.14%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	MH1	11	67.303	0.053	4.8	0.0594	0.0000	OK
15 minute summer	MH2	11	66.895	0.079	8.8	0.0892	0.0000	OK
15 minute summer	HG1	10	67.456	0.056	4.8	0.0089	0.0000	OK
15 minute summer	HG2	11	67.354	0.034	2.2	0.0054	0.0000	OK
15 minute summer	HG4	10	67.417	0.017	1.1	0.0027	0.0000	OK
15 minute summer	HG3	10	67.173	0.023	1.0	0.0037	0.0000	OK
960 minute winter	TANK 2	690	65.410	-1.287	0.8	10.5503	0.0000	OK
15 minute summer	SW14	10	67.440	0.053	7.1	0.0000	0.0000	OK
15 minute summer	SW11	10	67.267	0.059	10.3	0.0167	0.0000	OK
15 minute summer	SW10	11	67.265	0.128	25.6	0.0000	0.0000	OK
15 minute summer	PP 2	10	67.557	0.097	12.0	0.0000	0.0000	OK
15 minute summer	SW07	10	67.676	0.058	5.7	0.0092	0.0000	OK
15 minute summer	SW09	10	67.434	0.059	6.0	0.0669	0.0000	OK
360 minute summer	TANK 1	240	66.420	-0.617	9.4	26.0776	0.0000	OK
15 minute summer	PP 1	11	67.398	0.106	15.7	0.1200	0.0000	OK
15 minute summer	SW08	11	67.500	0.101	12.4	0.1143	0.0000	OK
15 minute summer	SW12	10	67.532	0.032	3.3	0.0051	0.0000	OK
15 minute summer	SW15	10	67.759	0.030	3.2	0.0047	0.0000	OK
30 minute summer	PP 3	22	67.840	0.090	11.3	2.9305	0.0000	OK
15 minute summer	SW06	10	67.934	0.034	2.0	0.0053	0.0000	OK
15 minute summer	SW05	11	67.603	0.052	4.6	0.0083	0.0000	OK
15 minute summer	SW04	11	67.434	0.064	5.8	0.0102	0.0000	OK
15 minute summer	SW03	11	67.024	0.087	8.6	0.0138	0.0000	OK
960 minute summer	TANK 3	645	66.095	1.095	2.3	17.4452	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	MH1	5.001	MH2	4.7	0.647	0.264	0.3228	
15 minute summer	MH2	5.002	TANK 2	8.8	0.971	0.494	0.1071	
15 minute summer	HG1	5.000	MH1	4.8	1.106	0.528	0.0253	
15 minute summer	HG2	6.000	MH2	2.1	0.726	0.109	0.0824	
15 minute summer	HG4	8.000	MH2	1.1	0.997	0.026	0.0083	
15 minute summer	HG3	7.000	MH2	0.9	0.557	0.050	0.0253	
960 minute winter	TANK 2	Infiltration		0.2				
15 minute summer	SW14	11.001	SW11	7.0	0.915	0.121	0.1107	
15 minute summer	SW11	11.002	TANK 1	10.3	1.364	0.114	0.0245	
15 minute summer	SW10	9.004	TANK 1	25.7	1.162	0.542	0.0662	
15 minute summer	PP 2	9.001	SW08	11.8	0.956	0.665	0.0748	
15 minute summer	SW07	9.000	PP 2	5.7	0.615	0.319	0.1456	
15 minute summer	SW09	10.000	SW10	5.9	0.930	0.316	0.0938	
360 minute summer	TANK 1	Pump	DUMMY OUTFALL 1	0.0				0.0
360 minute summer	TANK 1	Infiltration		2.3				
15 minute summer	PP 1	9.003	SW10	15.7	1.226	0.779	0.0795	
15 minute summer	SW08	9.002	PP 1	12.4	0.953	0.696	0.1391	
15 minute summer	SW12	13.000	SW11	3.3	0.738	0.099	0.0387	
15 minute summer	SW15	11.000	SW14	3.2	1.311	0.082	0.0137	
30 minute summer	PP 3	Infiltration		5.1				
15 minute summer	SW06	1.000	SW05	1.9	0.472	0.110	0.1475	
15 minute summer	SW05	1.001	SW04	4.6	0.728	0.257	0.1130	
15 minute summer	SW04	1.002	SW03	5.8	0.840	0.344	0.0609	
15 minute summer	SW03	1.003	TANK 3	8.5	0.830	0.599	0.0746	
960 minute summer	TANK 3	Pump	DUMMY OUTFALL 2	0.0				0.0

Results for 2 year Critical Storm Duration. Lowest mass balance: 98.14%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	SW01	10	67.326	0.048	3.0	0.0076	0.0000	OK
15 minute summer	SW02	11	67.294	0.038	1.5	0.0060	0.0000	OK
15 minute summer	SW03B	10	67.288	0.016	0.7	0.0026	0.0000	OK
15 minute summer	SW03A	11	67.087	0.027	1.6	0.0043	0.0000	OK
15 minute summer	SW13	1	67.565	0.000	0.0	0.0000	0.0000	OK
15 minute summer	DUMMY OUTFALL 2	1	64.969	0.000	0.0	0.0000	0.0000	OK
15 minute summer	DUMMY OUTFALL 1	1	67.022	0.000	0.0	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)
960 minute summer	TANK 3	Infiltration		0.4				
15 minute summer	SW01	3.000	TANK 3	3.0	0.626	0.210	0.0253	
15 minute summer	SW02	4.000	TANK 3	1.5	0.459	0.139	0.0105	
15 minute summer	SW03B	2.000	SW03A	0.7	0.428	0.025	0.0149	
15 minute summer	SW03A	2.001	SW03	1.5	0.269	0.071	0.0517	
15 minute summer	SW13	12.000	SW14	0.0	0.000	0.000	0.0001	

Results for 30 year Critical Storm Duration. Lowest mass balance: 98.14%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	MH1	11	67.336	0.086	11.3	0.0976	0.0000	OK
15 minute summer	MH2	12	67.019	0.203	21.5	0.2292	0.0000	SURCHARGED
15 minute summer	HG1	11	67.630	0.230	11.7	0.0365	0.0000	SURCHARGED
15 minute summer	HG2	10	67.375	0.055	5.5	0.0087	0.0000	OK
15 minute summer	HG4	10	67.427	0.027	2.7	0.0042	0.0000	OK
15 minute summer	HG3	10	67.187	0.037	2.4	0.0058	0.0000	OK
720 minute winter	TANK 2	555	66.068	-0.629	1.9	23.0547	0.0000	OK
360 minute summer	SW14	248	67.479	0.092	3.8	0.0000	0.0000	OK
360 minute summer	SW11	248	67.479	0.271	5.6	0.0766	0.0000	SURCHARGED
360 minute summer	SW10	248	67.479	0.342	14.0	0.0000	0.0000	SURCHARGED
15 minute summer	PP 2	12	67.838	0.378	22.2	0.5024	0.0000	SURCHARGED
15 minute summer	SW07	13	67.880	0.262	14.0	1.2497	0.0000	SURCHARGED
360 minute summer	SW09	248	67.479	0.104	3.2	0.1172	0.0000	OK
360 minute summer	TANK 1	248	67.479	0.442	19.5	62.0857	0.0000	SURCHARGED
15 minute summer	PP 1	11	67.554	0.262	28.1	0.2968	0.0000	SURCHARGED
15 minute summer	SW08	12	67.741	0.342	21.0	0.3867	0.0000	SURCHARGED
15 minute summer	SW12	10	67.550	0.050	8.1	0.0080	0.0000	OK
15 minute summer	SW15	10	67.777	0.048	7.9	0.0076	0.0000	OK
30 minute summer	PP 3	23	67.911	0.161	27.9	9.2662	0.0000	OK
15 minute summer	SW06	10	67.954	0.054	5.0	0.0086	0.0000	OK
15 minute summer	SW05	10	67.640	0.089	11.4	0.0141	0.0000	OK
15 minute summer	SW04	11	67.487	0.117	14.2	0.0185	0.0000	OK
15 minute summer	SW03	11	67.136	0.199	20.6	0.0316	0.0000	SURCHARGED
960 minute winter	TANK 3	735	66.983	1.983	2.9	41.0517	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	MH1	5.001	MH2	11.2	0.749	0.633	0.6098	
15 minute summer	MH2	5.002	TANK 2	20.6	1.174	1.161	0.2010	
15 minute summer	HG1	5.000	MH1	11.3	1.440	1.249	0.0456	
15 minute summer	HG2	6.000	MH2	5.3	0.936	0.273	0.1598	
15 minute summer	HG4	8.000	MH2	2.7	1.299	0.064	0.0207	
15 minute summer	HG3	7.000	MH2	2.4	0.722	0.124	0.0497	
720 minute winter	TANK 2	Infiltration		0.4				
360 minute summer	SW14	11.001	SW11	3.8	0.783	0.065	0.3960	
360 minute summer	SW11	11.002	TANK 1	5.6	1.171	0.062	0.1295	
360 minute summer	SW10	9.004	TANK 1	13.9	0.993	0.294	0.1191	
15 minute summer	PP 2	9.001	SW08	20.2	1.150	1.141	0.1066	
15 minute summer	SW07	9.000	PP 2	13.5	0.769	0.762	0.2786	
360 minute summer	SW09	10.000	SW10	3.2	0.786	0.170	0.2256	
360 minute summer	TANK 1	Pump	DUMMY OUTFALL 1	0.0				0.0
360 minute summer	TANK 1	Infiltration		3.7				
15 minute summer	PP 1	9.003	SW10	28.1	1.594	1.388	0.1090	
15 minute summer	SW08	9.002	PP 1	21.5	1.219	1.209	0.1888	
15 minute summer	SW12	13.000	SW11	8.1	0.912	0.243	0.0746	
15 minute summer	SW15	11.000	SW14	7.9	1.682	0.202	0.0263	
30 minute summer	PP 3	Infiltration		9.0				
15 minute summer	SW06	1.000	SW05	4.9	0.593	0.277	0.2920	
15 minute summer	SW05	1.001	SW04	11.2	0.881	0.629	0.2280	
15 minute summer	SW04	1.002	SW03	14.3	1.024	0.845	0.1227	
15 minute summer	SW03	1.003	TANK 3	20.5	1.168	1.436	0.1226	
960 minute winter	TANK 3	Pump	DUMMY OUTFALL 2	0.0				0.0

Results for 30 year Critical Storm Duration. Lowest mass balance: 98.14%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	SW01	10	67.358	0.080	7.4	0.0127	0.0000	OK
15 minute summer	SW02	10	67.317	0.061	3.8	0.0097	0.0000	OK
15 minute summer	SW03B	11	67.297	0.025	1.6	0.0040	0.0000	OK
15 minute summer	SW03A	11	67.138	0.078	3.9	0.0124	0.0000	OK
15 minute summer	SW13	1	67.565	0.000	0.0	0.0000	0.0000	OK
15 minute summer	DUMMY OUTFALL 2	1	64.969	0.000	0.0	0.0000	0.0000	OK
15 minute summer	DUMMY OUTFALL 1	1	67.022	0.000	0.0	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)
960 minute winter	TANK 3	Infiltration		0.7				
15 minute summer	SW01	3.000	TANK 3	7.3	0.792	0.519	0.0493	
15 minute summer	SW02	4.000	TANK 3	3.8	0.594	0.348	0.0203	
15 minute summer	SW03B	2.000	SW03A	1.6	0.543	0.060	0.0522	
15 minute summer	SW03A	2.001	SW03	4.0	0.325	0.182	0.1091	
15 minute summer	SW13	12.000	SW14	0.0	0.000	0.000	0.0046	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.14%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	MH1	885	68.166	0.916	1.6	1.0360	0.0000	SURCHARGED
960 minute winter	MH2	885	68.166	1.350	3.0	1.5267	0.0000	SURCHARGED
15 minute summer	HG1	12	68.400	1.000	21.4	0.1590	0.0000	SURCHARGED
960 minute winter	HG2	885	68.166	0.846	0.7	0.1345	0.0000	SURCHARGED
960 minute winter	HG4	885	68.166	0.766	0.4	0.1218	0.0000	SURCHARGED
960 minute winter	HG3	885	68.166	1.016	0.3	0.1615	0.0000	SURCHARGED
960 minute winter	TANK 2	885	68.166	1.469	3.0	38.0213	0.0000	OK
480 minute summer	SW14	384	68.443	1.056	15.3	32.9628	0.0000	FLOOD RISK
480 minute summer	SW11	384	68.443	1.235	11.0	0.3494	0.0000	FLOOD RISK
480 minute summer	SW10	384	68.443	1.306	16.0	5.7293	0.0000	FLOOD RISK
480 minute summer	PP 2	384	68.445	0.985	7.4	5.7454	0.0000	SURCHARGED
480 minute summer	SW07	384	68.445	0.827	4.7	8.1765	0.0000	SURCHARGED
480 minute summer	SW09	384	68.443	1.068	4.9	11.5216	0.0000	FLOOD RISK
480 minute summer	TANK 1	384	68.443	1.406	22.4	63.1760	0.0000	SURCHARGED
480 minute summer	PP 1	384	68.443	1.151	9.8	8.1840	0.0000	SURCHARGED
480 minute summer	SW08	384	68.444	1.045	7.7	8.0722	0.0000	FLOOD RISK
480 minute summer	SW12	384	68.443	0.943	2.7	0.1499	0.0000	FLOOD RISK
480 minute summer	SW15	384	68.443	0.714	2.6	0.1135	0.0000	FLOOD RISK
60 minute summer	PP 3	41	67.985	0.235	39.3	19.6761	0.0000	OK
960 minute winter	SW06	915	68.093	0.193	0.7	0.0306	0.0000	SURCHARGED
960 minute winter	SW05	915	68.092	0.541	1.6	0.0861	0.0000	SURCHARGED
960 minute winter	SW04	915	68.092	0.722	1.9	0.1149	0.0000	SURCHARGED
960 minute winter	SW03	915	68.092	1.155	2.7	0.1837	0.0000	FLOOD RISK
960 minute winter	TANK 3	915	68.092	3.092	5.0	84.8979	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)
960 minute winter	MH1	5.001	MH2	1.6	0.480	0.090	0.7642	
960 minute winter	MH2	5.002	TANK 2	3.0	0.737	0.169	0.2088	
15 minute summer	HG1	5.000	MH1	18.0	2.298	1.993	0.0461	
960 minute winter	HG2	6.000	MH2	0.7	0.523	0.036	0.4925	
960 minute winter	HG4	8.000	MH2	0.4	0.740	0.010	0.1357	
960 minute winter	HG3	7.000	MH2	0.3	0.396	0.016	0.2620	
960 minute winter	TANK 2	Infiltration		0.6				
480 minute summer	SW14	11.001	SW11	-10.3	0.817	-0.177	0.5722	
480 minute summer	SW11	11.002	TANK 1	-9.0	1.210	-0.101	0.1295	
480 minute summer	SW10	9.004	TANK 1	16.0	1.030	0.338	0.1191	
480 minute summer	PP 2	9.001	SW08	7.3	0.876	0.414	0.1066	
480 minute summer	SW07	9.000	PP 2	3.5	0.555	0.196	0.2786	
480 minute summer	SW09	10.000	SW10	3.7	0.818	0.197	0.2598	
480 minute summer	TANK 1	Pump	DUMMY OUTFALL 1	0.0				0.0
480 minute summer	TANK 1	Infiltration		3.7				
480 minute summer	PP 1	9.003	SW10	9.8	1.104	0.483	0.1090	
480 minute summer	SW08	9.002	PP 1	7.7	0.870	0.435	0.1888	
480 minute summer	SW12	13.000	SW11	2.5	0.638	0.074	0.1486	
480 minute summer	SW15	11.000	SW14	2.6	1.146	0.067	0.0989	
60 minute summer	PP 3	Infiltration		13.2				
960 minute winter	SW06	1.000	SW05	0.7	0.348	0.040	0.6226	
960 minute winter	SW05	1.001	SW04	1.5	0.556	0.084	0.3154	
960 minute winter	SW04	1.002	SW03	1.9	0.614	0.112	0.1549	
960 minute winter	SW03	1.003	TANK 3	2.7	0.614	0.189	0.1274	
960 minute winter	TANK 3	Pump	DUMMY OUTFALL 2	0.0				0.0

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.14%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	SW01	915	68.092	0.814	1.0	0.1295	0.0000	SURCHARGED
960 minute winter	SW02	915	68.092	0.836	0.7	0.1330	0.0000	SURCHARGED
960 minute winter	SW03B	915	68.092	0.820	0.2	0.1304	0.0000	FLOOD RISK
960 minute winter	SW03A	915	68.092	1.032	0.8	0.1642	0.0000	FLOOD RISK
480 minute summer	SW13	384	68.443	0.878	0.8	0.1396	0.0000	FLOOD RISK
15 minute summer	DUMMY OUTFALL 2	1	64.969	0.000	0.0	0.0000	0.0000	OK
15 minute summer	DUMMY OUTFALL 1	1	67.022	0.000	0.0	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)
960 minute winter	TANK 3	Infiltration		0.7				
960 minute winter	SW01	3.000	TANK 3	0.9	0.446	0.067	0.0936	
960 minute winter	SW02	4.000	TANK 3	0.5	0.334	0.046	0.0564	
960 minute winter	SW03B	2.000	SW03A	0.2	0.315	0.007	0.1651	
960 minute winter	SW03A	2.001	SW03	-0.5	0.209	-0.024	0.1431	
480 minute summer	SW13	12.000	SW14	-0.8	-0.099	-0.066	0.0286	