

**Design Settings**

Rainfall Methodology	FEH-22	Time of Entry (mins)	5.00	Connection Type	Level Soffits	Enforce best practice design rules x
Return Period (years)	100	Maximum Time of Concentration (mins)	500.00	Minimum Backdrop Height (m)	0.200	
Additional Flow (%)	45	Maximum Rainfall (mm/hr)	500.0	Preferred Cover Depth (m)	1.200	
CV	1.000	Minimum Velocity (m/s)	0.75	Include Intermediate Ground	✓	

**Circular Link Type**

Shape Circular | Barrels 1 | Auto Increment (mm) 75 | Follow Ground x

**Available Diameters (mm)**

100 | 150

**Triple Link Type**

Shape Circular | Barrels 3 | Auto Increment (mm) 75 | Follow Ground x

**Available Diameters (mm)**

100 | 150

**Nodes**

Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Manhole Type	Diameter (mm)	Sump (m)	Easting (m)	Northing (m)	Depth (m)	Notes
1	0.030	5.00	28.968	Manhole	Type B	1200		608573.922	255212.095	1.608	
2 P Pave	0.004	5.00	28.896	Junction		1200		608589.043	255209.969	0.656	
3	0.033	5.00	28.842	Manhole	Type B	1200		608583.013	255221.266	1.805	
4 P Pave	0.064	5.00	29.107	Junction		1200		608580.977	255237.801	1.025	
5	0.024	5.00	28.677	Manhole	Type B	1350		608590.455	255228.788	1.746	
6 P Pave	0.004	5.00	28.822	Junction		1200		608597.508	255221.465	0.777	
7			28.512	Manhole	Type B	1350		608594.188	255232.595	1.647	
8 P Pave	0.004	5.00	28.352	Junction		1200		608608.270	255231.747	0.445	
9	0.027	5.00	28.245	Manhole	Type B	1350		608601.064	255239.577	1.625	
10 P Pave		5.00	27.841	Junction				608605.063	255246.572	0.430	Auto-design is off
11	0.051	5.00	28.129	Manhole	Type C	1350		608607.915	255245.499	1.961	
12 P Pave	0.014	5.00	28.303	Junction		1200		608622.661	255245.897	1.235	
13	0.010	5.00	28.221	Manhole	Type B	1350		608619.772	255254.247	2.421	
14 P Pave	0.064	5.00	28.313	Junction		1200		608628.180	255270.372	1.434	
15 Attenuation 2 Catchpit	0.042	5.00	28.286	Manhole	Catchpit	1350	0.300	608628.690	255264.363	2.956	
16 Hydrobrake	0.005	5.00	28.182	Manhole	Type B	1500		608629.792	255261.349	2.582	
17 P Pave	0.018	5.00	27.129	Junction				608643.822	255255.521	0.430	Auto-design is off
18	0.038	5.00	27.772	Manhole	Type B	1500		608641.129	255245.472	2.222	
Attenuation 3 Catchpit			27.265	Manhole	Catchpit	1200	0.300	608671.950	255251.002	1.837	
20	0.079	5.00	27.304	Manhole	Type B	1200		608671.210	255252.504	1.585	
21 Hydrobrake	0.008	5.00	27.574	Manhole	Type B	1800		608644.439	255237.304	2.049	
22	0.042	5.00	26.937	Manhole	Type B	1200		608619.710	255175.966	1.319	
23 P Pave	0.043	5.00	27.603	Junction		1200		608621.879	255196.444	0.846	
24	0.015	5.00	27.126	Manhole	Type B	1350		608631.002	255183.464	1.533	
25	0.018	5.00	27.128	Manhole	Type B	1500		608646.304	255193.543	1.569	
26 P Pave	0.011	5.00	27.304	Junction		1200		608645.723	255214.866	0.476	
27	0.053	5.00	27.354	Manhole	Type B	1800		608649.319	255221.356	1.864	
28			27.251	Manhole	Type B	1800		608655.028	255221.016	1.776	
29	0.045	5.00	26.937	Manhole	Type C	1800		608659.322	255213.436	1.478	
30			27.294	Manhole	Type B	1800		608691.729	255230.668	1.924	
31 Hydrobrake	0.099	5.00	27.282	Manhole	Type B	1500		608694.525	255232.250	1.920	

**Nodes**

Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Manhole Type	Diameter (mm)	Sump (m)	Easting (m)	Northing (m)	Depth (m)	Notes
32 D Defender			27.256	Manhole	Type B	1000		608693.225	255236.368	1.904	
32_OUT			26.960	Manhole	Type B	1800		608694.658	255245.521	1.630	
Attenuation 4 Catchpit			27.229	Manhole	Catchpit	1200	0.300	608693.864	255227.122	1.919	
Attenuation Tank 4		5.00	26.851	Junction				608691.367	255225.663	1.241	Auto-design is off
33	0.078	5.00	26.846	Manhole	Catchpit	1200	0.300	608647.364	255182.808	1.574	
Attenuation Tank 2		5.00	28.533	Junction				608621.559	255279.683	2.903	
Attenuation Tank 3		5.00	27.220	Junction				608672.888	255249.546	1.492	
4A			28.807	Manhole	Type C	450		608585.865	255232.640	1.071	
2A			28.876	Manhole	Type C	450		608585.236	255213.526	0.874	
6A			28.747	Manhole	Type C	450		608594.922	255224.058	1.020	
8A			28.262	Manhole	Type C	450		608605.285	255235.677	1.300	
10A			28.073	Manhole	Type B	450		608606.016	255246.971	1.647	
12A			28.260	Manhole	Type B	450		608623.521	255249.505	1.639	
14A			28.255	Manhole	Type B	450		608628.816	255267.227	2.355	
17A			27.760	Manhole	Type B	450		608644.648	255247.931	1.634	
26A			27.317	Manhole	Type B	450		608648.087	255218.648	1.367	
23A			27.182	Manhole	Type C	450		608627.953	255188.860	0.632	
Attenuation Tank 1		5.00	26.891	Junction				608642.988	255175.788	1.319	

**Links**

Name	US Node	DS Node	Length (m)	ks (mm) / n	Velocity Equation	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	Link Type	T of C (mins)	Rain (mm/hr)	Con Offset (m)
1.016	32 D Defender	32_OUT	9.264	0.600	Colebrook-White	25.352	25.330	0.022	421.1	300	Circular	7.45	137.5	
1.015	31 Hydrobrake	32 D Defender	4.318	0.600	Colebrook-White	25.362	25.352	0.010	431.8	300	Circular	7.25	139.2	
1.014	30	31 Hydrobrake	3.213	0.600	Colebrook-White	25.370	25.362	0.008	401.6	525	Circular	7.15	140.0	
1.013	29	30	36.704	0.600	Colebrook-White	25.459	25.370	0.089	412.4	525	Circular	7.10	140.3	
16.001	Attenuation 4 Catchpit	30	4.139	0.600	Colebrook-White	25.610	25.610	0.000	0.0	300	Circular	5.16	159.4	
16.000	Attenuation Tank 4	Attenuation 4 Catchpit	2.892	0.600	Colebrook-White	25.610	25.610	0.000	0.0	300	Circular	5.06	160.3	
1.012	28	29	8.712	0.600	Colebrook-White	25.475	25.459	0.016	544.5	525	Circular	6.55	145.4	
1.011	27	28	5.719	0.600	Colebrook-White	25.490	25.475	0.015	381.3	525	Circular	6.39	146.8	
1.010	21 Hydrobrake	27	16.678	0.600	Colebrook-White	25.525	25.490	0.035	476.5	525	Circular	6.31	147.6	
15.001	26A	27	2.975	0.600	Colebrook-White	25.950	25.644	0.306	9.7	100	Circular	5.08	160.2	
12.003	25	27	27.976	0.600	Colebrook-White	25.559	25.494	0.065	430.4	525	Circular	5.99	150.6	

Name	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.016	32 D Defender	32_OUT	0.760	53.7	664.9	1.604	1.330	1.330	1.604	0.923	0.0
1.015	31 Hydrobrake	32 D Defender	0.750	53.0	672.9	1.620	1.604	1.604	1.635	0.923	0.0
1.014	30	31 Hydrobrake	1.111	240.6	604.1	1.399	1.395	1.395	1.408	0.824	0.0
1.013	29	30	1.096	237.4	605.8	0.953	1.399	0.953	1.399	0.824	0.0
16.001	Attenuation 4 Catchpit	30	0.750	53.0	0.0	1.319	1.384	1.319	1.384	0.000	0.0
16.000	Attenuation Tank 4	Attenuation 4 Catchpit	0.750	53.0	0.0	0.941	1.319	0.941	1.319	0.000	0.0
1.012	28	29	0.953	206.2	593.1	1.251	0.953	0.953	1.251	0.778	0.0
1.011	27	28	1.141	247.0	598.9	1.339	1.251	1.251	1.384	0.778	0.0
1.010	21 Hydrobrake	27	1.019	220.6	400.2	1.524	1.339	1.339	1.524	0.517	0.0
15.001	26A	27	2.493	19.6	9.4	1.267	1.610	1.267	1.610	0.011	0.0
12.003	25	27	1.073	232.3	155.2	1.044	1.335	1.016	1.335	0.197	0.0

**Links**

Name	US Node	DS Node	Length (m)	ks (mm) / n	Velocity Equation	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	Link Type	T of C (mins)	Rain (mm/hr)	Con Offset (m)
14.001	33	25	10.787	0.600	Colebrook-White	25.572	25.559	0.013	829.8	525	Circular	5.42	156.6	
12.002	24	25	18.323	0.600	Colebrook-White	25.593	25.559	0.034	538.9	525	Circular	5.56	155.2	
12.001	23A	24	6.198	0.600	Colebrook-White	26.550	25.893	0.657	9.4	225	Circular	5.11	159.9	
13.000	22	24	13.555	0.600	Colebrook-White	25.618	25.593	0.025	542.2	525	Circular	5.24	158.5	
12.000	23 P Pave	23A	9.717	0.600	Colebrook-White	26.757	26.550	0.207	46.9	225	Circular	5.08	160.1	
14.000	Attenuation Tank 1	33	8.272	0.600	Colebrook-White	25.572	25.572	0.000	0.0	225	Triple	5.18	159.1	
15.000	26 P Pave	26A	4.460	0.600	Colebrook-White	26.828	26.716	0.112	39.8	100	Circular	5.06	160.4	
1.009	18	21 Hydrobrake	8.813	0.600	Colebrook-White	25.550	25.525	0.025	352.5	525	Circular	6.04	150.1	
11.002	20	21 Hydrobrake	30.785	0.600	Colebrook-White	25.719	25.616	0.103	298.9	300	Circular	5.66	154.1	
11.001	Attenuation 3 Catchpit	20	1.674	0.600	Colebrook-White	25.728	25.719	0.009	186.0	100	Circular	5.09	160.1	
11.000	Attenuation Tank 3	Attenuation 3 Catchpit	1.732	0.600	Colebrook-White	25.728	25.728	0.000	0.0	100	Circular	5.04	160.6	
1.008	16 Hydrobrake	18	19.509	0.600	Colebrook-White	25.600	25.550	0.050	390.2	525	Circular	5.91	151.4	
10.001	17A	18	4.293	0.600	Colebrook-White	26.126	25.716	0.410	10.5	100	Circular	5.09	160.1	
10.000	17 P Pave	17A	7.635	0.600	Colebrook-White	26.699	26.126	0.573	13.3	100	Circular	5.06	160.4	
1.007	13	16 Hydrobrake	12.282	0.600	Colebrook-White	25.800	25.600	0.200	61.4	525	Circular	5.63	154.4	
8.001	15 Attenuation 2 Catchpit	16 Hydrobrake	3.209	0.600	Colebrook-White	25.630	25.621	0.009	356.6	300	Circular	5.44	156.4	
9.001	14A	15 Attenuation 2 Catchpit	2.867	0.600	Colebrook-White	25.900	25.780	0.120	23.9	225	Circular	5.04	160.5	
8.000	Attenuation Tank 2	15 Attenuation 2 Catchpit	16.898	0.600	Colebrook-White	25.630	25.630	0.000	0.0	300	Circular	5.38	157.1	
9.000	14 P Pave	14A	3.209	0.600	Colebrook-White	26.879	26.799	0.080	40.1	225	Circular	5.03	160.7	
1.006	11	13	14.735	0.600	Colebrook-White	26.168	25.800	0.368	40.0	525	Circular	5.46	156.2	
6.002	12A	13	6.045	0.600	Colebrook-White	26.621	26.036	0.585	10.3	100	Circular	5.55	155.2	
6.001	8A	12A	22.886	0.600	Colebrook-White	26.962	26.621	0.341	67.1	100	Circular	5.51	155.6	0.896
7.000	12 P Pave	12A	3.709	0.600	Colebrook-White	27.068	26.621	0.447	8.3	100	Circular	5.02	160.8	
6.000	8 P Pave	8A	4.935	0.600	Colebrook-White	27.907	27.858	0.049	100.7	100	Circular	5.11	159.9	

Name	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
14.001	33	25	0.769	166.6	64.0	0.749	1.044	0.749	1.096	0.078	0.0
12.002	24	25	0.958	207.3	81.5	1.008	1.044	0.957	1.051	0.100	0.0
12.001	23A	24	4.285	170.4	35.9	0.407	1.008	0.407	1.008	0.043	0.0
13.000	22	24	0.955	206.7	34.9	0.794	1.008	0.794	1.008	0.042	0.0
12.000	23 P Pave	23A	1.914	76.1	35.9	0.621	0.407	0.407	0.621	0.043	0.0
14.000	Attenuation Tank 1	33	0.750	89.5	0.0	1.094	1.049	1.049	1.094	0.000	0.0
15.000	26 P Pave	26A	1.225	9.6	9.5	0.376	0.501	0.376	0.501	0.011	0.0
1.009	18	21 Hydrobrake	1.187	256.9	339.0	1.697	1.524	1.524	1.697	0.431	0.0
11.002	20	21 Hydrobrake	0.904	63.9	63.8	1.285	1.658	1.285	1.668	0.079	0.0
11.001	Attenuation 3 Catchpit	20	0.560	4.4	0.0	1.437	1.485	1.437	1.485	0.000	0.0
11.000	Attenuation Tank 3	Attenuation 3 Catchpit	0.750	5.9	0.0	1.392	1.437	1.392	1.437	0.000	0.0
1.008	16 Hydrobrake	18	1.128	244.1	297.5	2.057	1.697	1.697	2.057	0.375	0.0
10.001	17A	18	2.402	18.9	15.0	1.534	1.956	1.534	1.956	0.018	0.0
10.000	17 P Pave	17A	2.128	16.7	15.0	0.330	1.534	0.330	1.534	0.018	0.0
1.007	13	16 Hydrobrake	2.862	619.5	213.8	1.896	2.057	1.896	2.092	0.264	0.0
8.001	15 Attenuation 2 Catchpit	16 Hydrobrake	0.827	58.4	86.9	2.356	2.261	2.261	2.356	0.106	0.0
9.001	14A	15 Attenuation 2 Catchpit	2.688	106.9	53.8	2.130	2.281	2.130	2.281	0.064	0.0
8.000	Attenuation Tank 2	15 Attenuation 2 Catchpit	0.750	53.0	0.0	2.603	2.356	2.356	2.603	0.000	0.0
9.000	14 P Pave	14A	2.071	82.4	53.9	1.209	1.231	1.209	1.231	0.064	0.0
1.006	11	13	3.547	767.8	193.2	1.436	1.896	1.436	1.896	0.236	0.0
6.002	12A	13	2.418	19.0	14.6	1.539	2.085	1.539	2.085	0.018	0.0
6.001	8A	12A	0.941	7.4	3.5	1.200	1.539	1.200	1.539	0.004	0.0
7.000	12 P Pave	12A	2.700	21.2	11.5	1.135	1.539	1.135	1.539	0.014	0.0
6.000	8 P Pave	8A	0.766	6.0	3.6	0.345	0.304	0.304	0.354	0.004	0.0

**Links**

Name	US Node	DS Node	Length (m)	ks (mm) / n	Velocity Equation	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	Link Type	T of C (mins)	Rain (mm/hr)	Con Offset (m)
1.005	9	11	9.056	0.600	Colebrook-White	26.620	26.394	0.226	40.1	300	Circular	5.39	156.9	
5.001	10A	11	2.403	0.600	Colebrook-White	26.426	26.188	0.238	10.1	100	Circular	5.02	160.8	
5.000	10 P Pave	10A	1.033	0.600	Colebrook-White	27.411	26.426	0.985	1.0	100	Circular	5.00	161.0	
1.004	7	9	9.799	0.600	Colebrook-White	26.865	26.620	0.245	40.0	300	Circular	5.33	157.5	
1.003	5	7	5.332	0.600	Colebrook-White	26.931	26.865	0.066	80.8	300	Circular	5.26	158.2	
4.001	6A	7	8.568	0.600	Colebrook-White	27.727	27.015	0.712	12.0	100	Circular	5.14	159.5	
4.000	6 P Pave	6A	3.662	0.600	Colebrook-White	28.045	28.008	0.037	99.0	100	Circular	5.08	160.2	
1.002	3	5	10.581	0.600	Colebrook-White	27.037	26.931	0.106	99.8	300	Circular	5.21	158.8	
3.001	4A	5	5.992	0.600	Colebrook-White	27.736	27.222	0.514	11.7	300	Circular	5.10	160.0	
3.000	4 P Pave	4A	7.108	0.600	Colebrook-White	28.082	28.011	0.071	100.1	300	Circular	5.08	160.2	
2.000	1	3	12.913	0.600	Colebrook-White	27.360	27.037	0.323	40.0	300	Circular	5.09	160.1	
1.001	2A	3	8.053	0.600	Colebrook-White	28.002	27.187	0.815	9.9	150	Circular	5.10	159.9	
1.000	2 P Pave	2A	5.210	0.600	Colebrook-White	28.240	28.052	0.188	27.7	100	Circular	5.06	160.4	

Name	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.005	9	11	2.491	176.1	152.2	1.325	1.435	1.325	1.435	0.185	0.0
5.001	10A	11	2.446	19.2	0.0	1.547	1.841	1.547	1.841	0.000	0.0
5.000	10 P Pave	10A	7.617	59.8	0.0	0.330	1.547	0.330	1.547	0.000	0.0
1.004	7	9	2.493	176.2	130.5	1.347	1.325	1.310	1.347	0.158	0.0
1.003	5	7	1.750	123.7	127.9	1.446	1.347	1.347	1.446	0.154	0.0
4.001	6A	7	2.239	17.6	3.1	0.920	1.397	0.920	1.397	0.004	0.0
4.000	6 P Pave	6A	0.773	6.1	3.2	0.677	0.639	0.639	0.711	0.004	0.0
1.002	3	5	1.573	111.2	55.3	1.505	1.446	1.446	1.514	0.067	0.0
3.001	4A	5	4.629	327.2	53.5	0.771	1.155	0.771	1.155	0.064	0.0
3.000	4 P Pave	4A	1.571	111.0	53.6	0.725	0.496	0.496	0.725	0.064	0.0
2.000	1	3	2.494	176.3	25.2	1.308	1.505	1.308	1.505	0.030	0.0
1.001	2A	3	3.224	57.0	2.9	0.724	1.505	0.724	1.505	0.004	0.0
1.000	2 P Pave	2A	1.471	11.6	2.9	0.556	0.724	0.556	0.724	0.004	0.0

**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)
1.016	9.264	421.1	300	Circular	27.256	25.352	1.604	26.960	25.330	1.330
1.015	4.318	431.8	300	Circular	27.282	25.362	1.620	27.256	25.352	1.604
1.014	3.213	401.6	525	Circular	27.294	25.370	1.399	27.282	25.362	1.395
1.013	36.704	412.4	525	Circular	26.937	25.459	0.953	27.294	25.370	1.399
16.001	4.139	0.0	300	Circular	27.229	25.610	1.319	27.294	25.610	1.384
16.000	2.892	0.0	300	Circular	26.851	25.610	0.941	27.229	25.610	1.319
1.012	8.712	544.5	525	Circular	27.251	25.475	1.251	26.937	25.459	0.953

Link	US Node	Dia (mm)	Sump (m)	Node Type	MH Type	DS Node	Dia (mm)	Sump (m)	Node Type	MH Type
1.016	32 D Defender	1000		Manhole	Type B	32_OUT	1800		Manhole	Type B
1.015	31 Hydrobrake	1500		Manhole	Type B	32 D Defender	1000		Manhole	Type B
1.014	30	1800		Manhole	Type B	31 Hydrobrake	1500		Manhole	Type B
1.013	29	1800		Manhole	Type C	30	1800		Manhole	Type B
16.001	Attenuation 4 Catchpit	1200	0.300	Manhole	Catchpit	30	1800		Manhole	Type B
16.000	Attenuation Tank 4			Junction		Attenuation 4 Catchpit	1200	0.300	Manhole	Catchpit
1.012	28	1800		Manhole	Type B	29	1800		Manhole	Type C

**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)
1.011	5.719	381.3	525	Circular	27.354	25.490	1.339	27.251	25.475	1.251
1.010	16.678	476.5	525	Circular	27.574	25.525	1.524	27.354	25.490	1.339
15.001	2.975	9.7	100	Circular	27.317	25.950	1.267	27.354	25.644	1.610
12.003	27.976	430.4	525	Circular	27.128	25.559	1.044	27.354	25.494	1.335
14.001	10.787	829.8	525	Circular	26.846	25.572	0.749	27.128	25.559	1.044
12.002	18.323	538.9	525	Circular	27.126	25.593	1.008	27.128	25.559	1.044
12.001	6.198	9.4	225	Circular	27.182	26.550	0.407	27.126	25.893	1.008
13.000	13.555	542.2	525	Circular	26.937	25.618	0.794	27.126	25.593	1.008
12.000	9.717	46.9	225	Circular	27.603	26.757	0.621	27.182	26.550	0.407
14.000	8.272	0.0	225	Triple	26.891	25.572	1.094	26.846	25.572	1.049
15.000	4.460	39.8	100	Circular	27.304	26.828	0.376	27.317	26.716	0.501
1.009	8.813	352.5	525	Circular	27.772	25.550	1.697	27.574	25.525	1.524
11.002	30.785	298.9	300	Circular	27.304	25.719	1.285	27.574	25.616	1.658
11.001	1.674	186.0	100	Circular	27.265	25.728	1.437	27.304	25.719	1.485
11.000	1.732	0.0	100	Circular	27.220	25.728	1.392	27.265	25.728	1.437
1.008	19.509	390.2	525	Circular	28.182	25.600	2.057	27.772	25.550	1.697
10.001	4.293	10.5	100	Circular	27.760	26.126	1.534	27.772	25.716	1.956
10.000	7.635	13.3	100	Circular	27.129	26.699	0.330	27.760	26.126	1.534
1.007	12.282	61.4	525	Circular	28.221	25.800	1.896	28.182	25.600	2.057
8.001	3.209	356.6	300	Circular	28.286	25.630	2.356	28.182	25.621	2.261
9.001	2.867	23.9	225	Circular	28.255	25.900	2.130	28.286	25.780	2.281
8.000	16.898	0.0	300	Circular	28.533	25.630	2.603	28.286	25.630	2.356
9.000	3.209	40.1	225	Circular	28.313	26.879	1.209	28.255	26.799	1.231
1.006	14.735	40.0	525	Circular	28.129	26.168	1.436	28.221	25.800	1.896
6.002	6.045	10.3	100	Circular	28.260	26.621	1.539	28.221	26.036	2.085



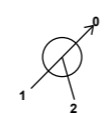
Link	US Node	Dia (mm)	Sump (m)	Node Type	MH Type	DS Node	Dia (mm)	Sump (m)	Node Type	MH Type
1.011	27	1800		Manhole	Type B	28	1800		Manhole	Type B
1.010	21 Hydrobrake	1800		Manhole	Type B	27	1800		Manhole	Type B
15.001	26A	450		Manhole	Type B	27	1800		Manhole	Type B
12.003	25	1500		Manhole	Type B	27	1800		Manhole	Type B
14.001	33	1200	0.300	Manhole	Catchpit	25	1500		Manhole	Type B
12.002	24	1350		Manhole	Type B	25	1500		Manhole	Type B
12.001	23A	450		Manhole	Type C	24	1350		Manhole	Type B
13.000	22	1200		Manhole	Type B	24	1350		Manhole	Type B
12.000	23 P Pave	1200		Junction		23A	450		Manhole	Type C
14.000	Attenuation Tank 1			Junction		33	1200	0.300	Manhole	Catchpit
15.000	26 P Pave	1200		Junction		26A	450		Manhole	Type B
1.009	18	1500		Manhole	Type B	21 Hydrobrake	1800		Manhole	Type B
11.002	20	1200		Manhole	Type B	21 Hydrobrake	1800		Manhole	Type B
11.001	Attenuation 3 Catchpit	1200	0.300	Manhole	Catchpit	20	1200		Manhole	Type B
11.000	Attenuation Tank 3			Junction		Attenuation 3 Catchpit	1200	0.300	Manhole	Catchpit
1.008	16 Hydrobrake	1500		Manhole	Type B	18	1500		Manhole	Type B
10.001	17A	450		Manhole	Type B	18	1500		Manhole	Type B
10.000	17 P Pave			Junction		17A	450		Manhole	Type B
1.007	13	1350		Manhole	Type B	16 Hydrobrake	1500		Manhole	Type B
8.001	15 Attenuation 2 Catchpit	1350	0.300	Manhole	Catchpit	16 Hydrobrake	1500		Manhole	Type B
9.001	14A	450		Manhole	Type B	15 Attenuation 2 Catchpit	1350	0.300	Manhole	Catchpit
8.000	Attenuation Tank 2			Junction		15 Attenuation 2 Catchpit	1350	0.300	Manhole	Catchpit
9.000	14 P Pave	1200		Junction		14A	450		Manhole	Type B
1.006	11	1350		Manhole	Type C	13	1350		Manhole	Type B
6.002	12A	450		Manhole	Type B	13	1350		Manhole	Type B

**Pipeline Schedule**


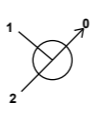

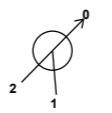

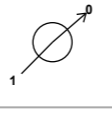

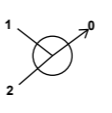

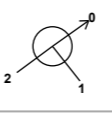

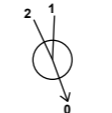
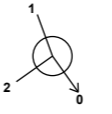

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
6.001	22.886	67.1	100	Circular	28.262	26.962	1.200	28.260	26.621	1.539
7.000	3.709	8.3	100	Circular	28.303	27.068	1.135	28.260	26.621	1.539
6.000	4.935	100.7	100	Circular	28.352	27.907	0.345	28.262	27.858	0.304
1.005	9.056	40.1	300	Circular	28.245	26.620	1.325	28.129	26.394	1.435
5.001	2.403	10.1	100	Circular	28.073	26.426	1.547	28.129	26.188	1.841
5.000	1.033	1.0	100	Circular	27.841	27.411	0.330	28.073	26.426	1.547
1.004	9.799	40.0	300	Circular	28.512	26.865	1.347	28.245	26.620	1.325
1.003	5.332	80.8	300	Circular	28.677	26.931	1.446	28.512	26.865	1.347
4.001	8.568	12.0	100	Circular	28.747	27.727	0.920	28.512	27.015	1.397
4.000	3.662	99.0	100	Circular	28.822	28.045	0.677	28.747	28.008	0.639
1.002	10.581	99.8	300	Circular	28.842	27.037	1.505	28.677	26.931	1.446
3.001	5.992	11.7	300	Circular	28.807	27.736	0.771	28.677	27.222	1.155
3.000	7.108	100.1	300	Circular	29.107	28.082	0.725	28.807	28.011	0.496
2.000	12.913	40.0	300	Circular	28.968	27.360	1.308	28.842	27.037	1.505
1.001	8.053	9.9	150	Circular	28.876	28.002	0.724	28.842	27.187	1.505
1.000	5.210	27.7	100	Circular	28.896	28.240	0.556	28.876	28.052	0.724

Link	US Node	Dia (mm)	Sump (m)	Node Type	MH Type	DS Node	Dia (mm)	Sump (m)	Node Type	MH Type
6.001	8A	450		Manhole	Type C	12A	450		Manhole	Type B
7.000	12 P Pave	1200		Junction		12A	450		Manhole	Type B
6.000	8 P Pave	1200		Junction		8A	450		Manhole	Type C
1.005	9	1350		Manhole	Type B	11	1350		Manhole	Type C
5.001	10A	450		Manhole	Type B	11	1350		Manhole	Type C
5.000	10 P Pave			Junction		10A	450		Manhole	Type B
1.004	7	1350		Manhole	Type B	9	1350		Manhole	Type B
1.003	5	1350		Manhole	Type B	7	1350		Manhole	Type B
4.001	6A	450		Manhole	Type C	7	1350		Manhole	Type B
4.000	6 P Pave	1200		Junction		6A	450		Manhole	Type C
1.002	3	1200		Manhole	Type B	5	1350		Manhole	Type B
3.001	4A	450		Manhole	Type C	5	1350		Manhole	Type B
3.000	4 P Pave	1200		Junction		4A	450		Manhole	Type C
2.000	1	1200		Manhole	Type B	3	1200		Manhole	Type B
1.001	2A	450		Manhole	Type C	3	1200		Manhole	Type B
1.000	2 P Pave	1200		Junction		2A	450		Manhole	Type C


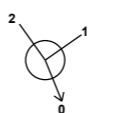
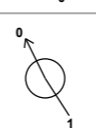

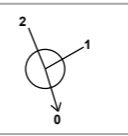


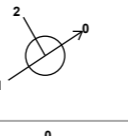
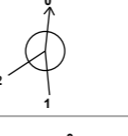

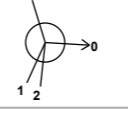
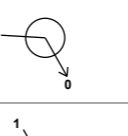
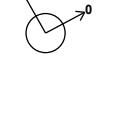
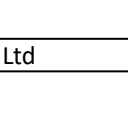

**Manhole Schedule**

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Sump (m)	Node Type	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type	
1	608573.922	255212.095	28.968	1.608	1200		Manhole	Type B						
									0	2.000	27.360	300	Circular	
2 P Pave	608589.043	255209.969	28.896	0.656	1200		Junction							
									0	1.000	28.240	100	Circular	
3	608583.013	255221.266	28.842	1.805	1200		Manhole	Type B		1	2.000	27.037	300	Circular
									2	1.001	27.187	150	Circular	
									0	1.002	27.037	300	Circular	

**Manhole Schedule**

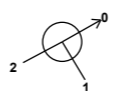
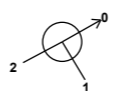
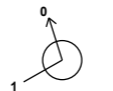
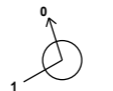
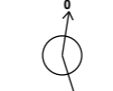
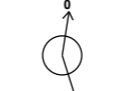






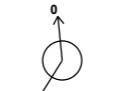
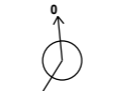
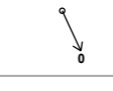
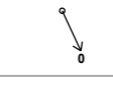
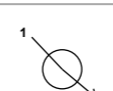
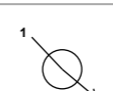
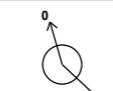
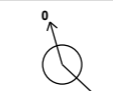
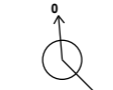
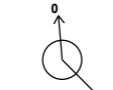


Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Sump (m)	Node Type	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type
4 P Pav	608580.977	255237.801	29.107	1.025	1200		Junction			0	3.000	28.082	300 Circular
5	608590.455	255228.788	28.677	1.746	1350		Manhole	Type B		1 2	3.001 1.002	27.222 26.931	300 300 Circular
6 P Pav	608597.508	255221.465	28.822	0.777	1200		Junction			0	1.003	26.931	300 Circular
7	608594.188	255232.595	28.512	1.647	1350		Manhole	Type B		1 2	4.001 1.003	27.015 26.865	100 300 Circular
8 P Pav	608608.270	255231.747	28.352	0.445	1200		Junction			0	1.004	26.865	300 Circular
9	608601.064	255239.577	28.245	1.625	1350		Manhole	Type B		1	4.000	27.907	100 Circular
10 P Pav	608605.063	255246.572	27.841	0.430			Junction			0	1.004	26.620	300 Circular
11	608607.915	255245.499	28.129	1.961	1350		Manhole	Type C		1 2	5.000 1.005	27.411 26.394	100 300 Circular
12 P Pav	608622.661	255245.897	28.303	1.235	1200		Junction			0	1.006	26.168	525 Circular
13	608619.772	255254.247	28.221	2.421	1350		Manhole	Type B		1 2	7.000 1.006	27.068 25.800	100 525 Circular
14 P Pav	608628.180	255270.372	28.313	1.434	1200		Junction			0	6.002	26.036	100 Circular
15 Attenuation 2 Catchpit	608628.690	255264.363	28.286	2.956	1350	0.300	Manhole	Catchpit		1 2	8.000 8.000	25.780 25.630	225 300 Circular
16 Hydrobrake	608629.792	255261.349	28.182	2.582	1500		Manhole	Type B		1 2	8.001 1.007	25.621 25.600	300 525 Circular
										0	1.007	25.600	525 Circular

**Manhole Schedule**


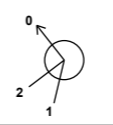
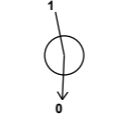

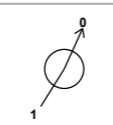
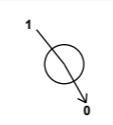

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Sump (m)	Node Type	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type	
17 P Pave	608643.822	255255.521	27.129	0.430			Junction			0	10.000	26.699	100	Circular
18	608641.129	255245.472	27.772	2.222	1500		Manhole	Type B		1 2	10.001 1.008	25.716 25.550	100 525	Circular Circular
Attenuation 3 Catchpit	608671.950	255251.002	27.265	1.837	1200	0.300	Manhole	Catchpit		1	1.009	25.550	525	Circular
20	608671.210	255252.504	27.304	1.585	1200		Manhole	Type B		0	11.000	25.728	100	Circular
21 Hydrobrake	608644.439	255237.304	27.574	2.049	1800		Manhole	Type B		1 2	11.001 1.009	25.728 25.719	100 100	Circular Circular
22	608619.710	255175.966	26.937	1.319	1200		Manhole	Type B		0	11.002	25.616	300	Circular
23 P Pave	608621.879	255196.444	27.603	0.846	1200		Junction			0	11.002	25.525	525	Circular
24	608631.002	255183.464	27.126	1.533	1350		Manhole	Type B		1 2	12.000 12.001	26.757 25.593	225 525	Circular Circular
25	608646.304	255193.543	27.128	1.569	1500		Manhole	Type B		1 2	12.002 12.002	25.593 25.559	525 525	Circular Circular
26 P Pave	608645.723	255214.866	27.304	0.476	1200		Junction			0	12.003	25.559	525	Circular
27	608649.319	255221.356	27.354	1.864	1800		Manhole	Type B		1 2 3	15.000 15.001 12.003	26.828 25.644 25.494	100 100 525	Circular Circular Circular
28	608655.028	255221.016	27.251	1.776	1800		Manhole	Type B		0	1.010	25.490	525	Circular
29	608659.322	255213.436	26.937	1.478	1800		Manhole	Type C		1	1.011	25.490	525	Circular
										0	1.011	25.475	525	Circular
										0	1.012	25.475	525	Circular
										0	1.012	25.459	525	Circular
										0	1.013	25.459	525	Circular



**Manhole Schedule**

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Sump (m)	Node Type	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type	
30	608691.729	255230.668	27.294	1.924	1800		Manhole	Type B		1	16.001	25.610	300	Circular
										2	1.013	25.370	525	Circular
31 Hydrobrake	608694.525	255232.250	27.282	1.920	1500		Manhole	Type B		1	1.014	25.362	525	Circular
										0	1.014	25.370	525	Circular
32 D Defender	608693.225	255236.368	27.256	1.904	1000		Manhole	Type B		1	1.015	25.352	300	Circular
										0	1.016	25.352	300	Circular
32_OUT	608694.658	255245.521	26.960	1.630	1800		Manhole	Type B		1	1.016	25.330	300	Circular
										0	1.016	25.330	300	Circular
Attenuation 4 Catchpit	608693.864	255227.122	27.229	1.919	1200	0.300	Manhole	Catchpit		1	16.000	25.610	300	Circular
										0	16.001	25.610	300	Circular
Attenuation Tank 4	608691.367	255225.663	26.851	1.241			Junction			0	16.000	25.610	300	Circular
										1	14.000	25.572	225	Triple
33	608647.364	255182.808	26.846	1.574	1200	0.300	Manhole	Catchpit		1	14.000	25.572	225	Triple
										0	14.001	25.572	525	Circular
Attenuation Tank 2	608621.559	255279.683	28.533	2.903			Junction			0	8.000	25.630	300	Circular
										0	11.000	25.728	100	Circular
4A	608585.865	255232.640	28.807	1.071	450		Manhole	Type C		1	3.000	28.011	300	Circular
										0	3.001	27.736	300	Circular
2A	608585.236	255213.526	28.876	0.874	450		Manhole	Type C		1	1.000	28.052	100	Circular
										0	1.001	28.002	150	Circular
6A	608594.922	255224.058	28.747	1.020	450		Manhole	Type C		1	4.000	28.008	100	Circular
										0	4.001	27.727	100	Circular
8A	608605.285	255235.677	28.262	1.300	450		Manhole	Type C		1	6.000	27.858	100	Circular
										0	6.001	26.962	100	Circular

**Manhole Schedule**

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Sump (m)	Node Type	MH Type	Connections	Link	IL (m)	Dia (mm)	Link Type
10A	608606.016	255246.971	28.073	1.647	450		Manhole	Type B		1 5.000	26.426	100	Circular
12A	608623.521	255249.505	28.260	1.639	450		Manhole	Type B		1 7.000 2 6.001	26.621	100	Circular
14A	608628.816	255267.227	28.255	2.355	450		Manhole	Type B		1 9.000	26.799	225	Circular
17A	608644.648	255247.931	27.760	1.634	450		Manhole	Type B		1 10.000	26.126	100	Circular
26A	608648.087	255218.648	27.317	1.367	450		Manhole	Type B		1 15.000	26.716	100	Circular
23A	608627.953	255188.860	27.182	0.632	450		Manhole	Type C		1 12.000	26.550	225	Circular
Attenuation Tank 1	608642.988	255175.788	26.891	1.319			Junction			0 14.000	25.572	225	Triple

**Simulation Settings**

Rainfall Methodology	FEH-22	Analysis Speed	Detailed	Additional Storage (m³/ha)	0.0	10 year (l/s)	0.0	Check Discharge Volume	x
Summer CV	1.000	Skip Steady State	x	Check Discharge Rate(s)	✓	30 year (l/s)	0.0		
Winter CV	1.000	Drain Down Time (mins)	1440	1 year (l/s)	0.0	100 year (l/s)	0.0		

**Storm Durations**

15 | 30 | 60 | 120 | 180 | 240 | 360 | 480 | 600 | 720 | 960 | 1440 | 2160 | 2880 | 4320 | 5760 | 7200 | 8640 | 10080

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)	Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)	Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
10	0	0	0	30	0	0	0	100	45	0	0

**Pre-development Discharge Rate**

Site Makeup	Greenfield	SAAR (mm)	Region	1	Growth Factor 30 year	1.95	QBar	Q 30 year (l/s)
Greenfield Method	IH124	Soil Index	1	Growth Factor 1 year	0.85	Growth Factor 100 year	2.48	Q 1 year (l/s)
Positively Drained Area (ha)		SPR	0.10	Growth Factor 10 year	1.45	Betterment (%)	0	Q 10 year (l/s)

**Node 2 P Pave Online Orifice Control**

Flap Valve	x	Replaces Downstream Link	✓	Design Depth (m)	0.430	Diameter (m)	0.027
Downstream Link	1.000	Invert Level (m)	28.240	Design Flow (l/s)	1.0	Discharge Coefficient	0.600

**Node 6 P Pave Online Orifice Control**

Flap Valve	x	Replaces Downstream Link	✓	Design Depth (m)	0.430	Diameter (m)	0.027
Downstream Link	4.000	Invert Level (m)	28.045	Design Flow (l/s)	1.0	Discharge Coefficient	0.600

**Node 4 P Pave Online Orifice Control**

Flap Valve	x	Replaces Downstream Link	✓	Design Depth (m)	0.430	Diameter (m)	0.027
Downstream Link	3.000	Invert Level (m)	28.082	Design Flow (l/s)	1.0	Discharge Coefficient	0.600

**Node 8 P Pave Online Orifice Control**

Flap Valve	x	Replaces Downstream Link	✓	Design Depth (m)	0.430	Diameter (m)	0.027
Downstream Link	6.000	Invert Level (m)	27.907	Design Flow (l/s)	1.0	Discharge Coefficient	0.600

**Node 12 P Pave Online Orifice Control**

Flap Valve	x	Replaces Downstream Link	✓	Design Depth (m)	0.430	Diameter (m)	0.027
Downstream Link	7.000	Invert Level (m)	27.068	Design Flow (l/s)	1.0	Discharge Coefficient	0.600

**Node 10 P Pave Online Orifice Control**

Flap Valve	x	Replaces Downstream Link	✓	Design Depth (m)	0.430	Diameter (m)	0.027
Downstream Link	5.000	Invert Level (m)	27.411	Design Flow (l/s)	1.0	Discharge Coefficient	0.600

**Node 14 P Pave Online Orifice Control**

Flap Valve	x	Replaces Downstream Link	✓	Design Depth (m)	0.430	Diameter (m)	0.027
Downstream Link	9.000	Invert Level (m)	26.879	Design Flow (l/s)	1.0	Discharge Coefficient	0.600

**Node 17 P Pave Online Orifice Control**

Flap Valve	x	Replaces Downstream Link	✓	Design Depth (m)	0.430	Diameter (m)	0.027
Downstream Link	10.000	Invert Level (m)	26.699	Design Flow (l/s)	1.0	Discharge Coefficient	0.600

**Node 23 P Pave Online Orifice Control**

Flap Valve	x	Replaces Downstream Link	✓	Design Depth (m)	0.430	Diameter (m)	0.027
Downstream Link	12.000	Invert Level (m)	26.757	Design Flow (l/s)	1.0	Discharge Coefficient	0.600

**Node 33 Online Hydro-Brake® Control**

Flap Valve	x	Invert Level (m)	25.572	Objective (HE)	Minimise upstream storage	Min Outlet Diameter (m)	0.075
Downstream Link	14.001	Design Depth (m)	1.574	Sump Available	✓	Min Node Diameter (mm)	1200
Replaces Downstream Link	✓	Design Flow (l/s)	0.3	Product Number	CTL-SHE-0022-3000-1574-3000		

**Node 31 Hydrobrake Online Hydro-Brake® Control**

Flap Valve	x	Invert Level (m)	25.362	Objective (HE)	Minimise upstream storage	Min Outlet Diameter (m)	0.225
Downstream Link	1.015	Design Depth (m)	1.920	Sump Available	✓	Min Node Diameter (mm)	1500
Replaces Downstream Link	✓	Design Flow (l/s)	16.8	Product Number	CTL-SHE-0170-1680-1920-1680		

**Node 16 Hydrobrake Online Hydro-Brake® Control**

Flap Valve	x	Design Depth (m)	2.582	Sump Available	✓	Min Node Diameter (mm)	1200
Replaces Downstream Link	✓	Design Flow (l/s)	10.0	Product Number	CTL-SHE-0123-1000-2582-1000		
Invert Level (m)	25.600	Objective (HE)	Minimise upstream storage	Min Outlet Diameter (m)	0.150		

**Node 21 Hydrobrake Online Hydro-Brake® Control**

Flap Valve	x	Design Depth (m)	2.049	Sump Available	✓	Min Node Diameter (mm)	1800
Replaces Downstream Link	✓	Design Flow (l/s)	30.0	Product Number	CTL-SHE-0222-3000-2049-3000		
Invert Level (m)	25.525	Objective	(HE) Minimise upstream storage	Min Outlet Diameter (m)	0.300		

**Node 2 P Pave Carpark Storage Structure**

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	28.240	Width (m)	3.500	Slope (1:X)	500.0	Inf Depth (m)	0.430
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	0	Length (m)	10.000	Depth (m)			

**Node 6 P Pave Carpark Storage Structure**

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	28.045	Width (m)	3.500	Slope (1:X)	500.0	Inf Depth (m)	0.430
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	0	Length (m)	10.000	Depth (m)			

**Node 4 P Pave Carpark Storage Structure**

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	28.082	Width (m)	16.000	Slope (1:X)	500.0	Inf Depth (m)	0.430
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	0	Length (m)	29.000	Depth (m)			

**Node 8 P Pave Carpark Storage Structure**

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	27.907	Width (m)	4.000	Slope (1:X)	500.0	Inf Depth (m)	0.430
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	36	Length (m)	10.000	Depth (m)			

**Node 12 P Pave Carpark Storage Structure**

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	27.068	Width (m)	6.000	Slope (1:X)	500.0	Inf Depth (m)	0.430
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	0	Length (m)	22.500	Depth (m)			

**Node 10 P Pave Carpark Storage Structure**

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	27.411	Width (m)	2.000	Slope (1:X)	500.0	Inf Depth (m)	0.430
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	0	Length (m)	13.000	Depth (m)			

**Node 14 P Pave Carpark Storage Structure**

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	26.879	Width (m)	11.000	Slope (1:X)	500.0	Inf Depth (m)	
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	276	Length (m)	37.000	Depth (m)	0.565		

**Node 17 P Pave Carpark Storage Structure**

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	26.699	Width (m)	24.500	Slope (1:X)	500.0	Inf Depth (m)	0.430
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	248	Length (m)	6.750	Depth (m)			

**Node 23 P Pave Carpark Storage Structure**

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	26.757	Width (m)	12.000	Slope (1:X)	500.0	Inf Depth (m)	0.430
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	16	Length (m)	28.800	Depth (m)			

**Node 26 P Pave Carpark Storage Structure**

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	26.828	Width (m)	5.000	Slope (1:X)	500.0	Inf Depth (m)	0.430
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	0	Length (m)	22.500	Depth (m)			

**Node Attenuation Tank 4 Depth/Area Storage Structure**

Base Inf Coefficient (m/hr) 0.00000 | Side Inf Coefficient (m/hr) 0.00000 | Safety Factor 2.0 | Porosity 0.95 | Invert Level (m) 25.610 | Time to half empty (mins) 52

Depth (m)	Area (m <sup>2</sup> )	Inf Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Inf Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Inf Area (m <sup>2</sup> )
0.000	250.0	0.0	0.800	250.0	0.0	0.801	0.0	0.0

**Node Attenuation Tank 1 Depth/Area Storage Structure**

Base Inf Coefficient (m/hr) 0.00000 | Side Inf Coefficient (m/hr) 0.00000 | Safety Factor 2.0 | Porosity 0.95 | Invert Level (m) 25.572 | Time to half empty (mins)

Depth (m)	Area (m <sup>2</sup> )	Inf Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Inf Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Inf Area (m <sup>2</sup> )
0.000	200.0	0.0	0.400	200.0	0.0	0.401	0.0	0.0

**Node Attenuation Tank 2 Depth/Area Storage Structure**

Base Inf Coefficient (m/hr) 0.00000 | Side Inf Coefficient (m/hr) 0.00000 | Safety Factor 2.0 | Porosity 0.95 | Invert Level (m) 25.630 | Time to half empty (mins) 316

Depth (m)	Area (m <sup>2</sup> )	Inf Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Inf Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Inf Area (m <sup>2</sup> )
0.000	150.0	0.0	0.800	150.0	0.0	0.801	0.0	0.0

**Node Attenuation Tank 3 Depth/Area Storage Structure**

Base Inf Coefficient (m/hr) 0.00000 | Side Inf Coefficient (m/hr) 0.00000 | Safety Factor 2.0 | Porosity 0.95 | Invert Level (m) 25.728 | Time to half empty (mins) 248

Depth (m)	Area (m <sup>2</sup> )	Inf Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Inf Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Inf Area (m <sup>2</sup> )
0.000	150.0	0.0	0.400	150.0	0.0	0.401	0.0	0.0

**Rainfall**

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
10 year 15 minute summer	209.213	59.200	10 year 960 minute summer	11.059	2.912	30 year 30 minute summer	177.711	50.286	30 year 1440 minute summer	9.337	2.503
10 year 15 minute winter	146.816	59.200	10 year 960 minute winter	7.326	2.912	30 year 30 minute winter	124.709	50.286	30 year 1440 minute winter	6.275	2.503
10 year 30 minute summer	134.414	38.034	10 year 1440 minute summer	7.707	2.065	30 year 60 minute summer	118.037	31.194	30 year 2160 minute summer	6.441	1.780
10 year 30 minute winter	94.325	38.034	10 year 1440 minute winter	5.179	2.065	30 year 60 minute winter	78.421	31.194	30 year 2160 minute winter	4.438	1.780
10 year 60 minute summer	89.368	23.617	10 year 2160 minute summer	5.332	1.474	30 year 120 minute summer	72.603	19.187	30 year 2880 minute summer	5.247	1.406
10 year 60 minute winter	59.374	23.617	10 year 2160 minute winter	3.674	1.474	30 year 120 minute winter	48.236	19.187	30 year 2880 minute winter	3.526	1.406
10 year 120 minute summer	57.020	15.069	10 year 2880 minute summer	4.357	1.168	30 year 180 minute summer	55.175	14.198	30 year 4320 minute summer	3.911	1.022
10 year 120 minute winter	37.883	15.069	10 year 2880 minute winter	2.928	1.168	30 year 180 minute winter	35.865	14.198	30 year 4320 minute winter	2.575	1.022
10 year 180 minute summer	43.920	11.302	10 year 4320 minute summer	3.273	0.856	30 year 240 minute summer	43.020	11.369	30 year 5760 minute summer	3.222	0.825
10 year 180 minute winter	28.549	11.302	10 year 4320 minute winter	2.155	0.856	30 year 240 minute winter	28.581	11.369	30 year 5760 minute winter	2.085	0.825
10 year 240 minute summer	34.489	9.114	10 year 5760 minute summer	2.718	0.696	30 year 360 minute summer	31.863	8.199	30 year 7200 minute summer	2.760	0.704
10 year 240 minute winter	22.914	9.114	10 year 5760 minute winter	1.759	0.696	30 year 360 minute winter	20.712	8.199	30 year 7200 minute winter	1.781	0.704
10 year 360 minute summer	25.737	6.623	10 year 7200 minute summer	2.345	0.598	30 year 480 minute summer	24.446	6.460	30 year 8640 minute summer	2.440	0.623
10 year 360 minute winter	16.730	6.623	10 year 7200 minute winter	1.514	0.598	30 year 480 minute winter	16.241	6.460	30 year 8640 minute winter	1.575	0.623
10 year 480 minute summer	19.786	5.229	10 year 8640 minute summer	2.088	0.533	30 year 600 minute summer	19.552	5.348	30 year 10080 minute summer	2.210	0.564
10 year 480 minute winter	13.146	5.229	10 year 8640 minute winter	1.347	0.533	30 year 600 minute winter	13.359	5.348	30 year 10080 minute winter	1.426	0.564
10 year 600 minute summer	15.863	4.339	10 year 10080 minute summer	1.902	0.485	30 year 720 minute summer	17.056	4.571	100 year +45% CC 15 minute summer	494.336	139.880
10 year 600 minute winter	10.838	4.339	10 year 10080 minute winter	1.228	0.485	30 year 720 minute winter	11.462	4.571	100 year +45% CC 15 minute winter	346.902	139.880
10 year 720 minute summer	13.878	3.719	30 year 15 minute summer	273.738	77.458	30 year 960 minute summer	13.469	3.547	100 year +45% CC 30 minute summer	325.520	92.111
10 year 720 minute winter	9.327	3.719	30 year 15 minute winter	192.097	77.458	30 year 960 minute winter	8.922	3.547	100 year +45% CC 30 minute winter	228.435	92.111

**Rainfall**

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
100 year +45% CC 60 minute summer	217.714	57.535	100 year +45% CC 360 minute winter	36.795	14.566	100 year +45% CC 1440 minute summer	16.756	4.491	100 year +45% CC 5760 minute winter	3.629	1.435
100 year +45% CC 60 minute winter	144.644	57.535	100 year +45% CC 480 minute summer	43.215	11.420	100 year +45% CC 1440 minute winter	11.261	4.491	100 year +45% CC 7200 minute summer	4.753	1.212
100 year +45% CC 120 minute summer	130.372	34.453	100 year +45% CC 480 minute winter	28.711	11.420	100 year +45% CC 2160 minute summer	11.539	3.189	100 year +45% CC 7200 minute winter	3.068	1.212
100 year +45% CC 120 minute winter	86.616	34.453	100 year +45% CC 600 minute summer	34.507	9.438	100 year +45% CC 2160 minute winter	7.951	3.189	100 year +45% CC 8640 minute summer	4.163	1.062
100 year +45% CC 180 minute summer	98.489	25.345	100 year +45% CC 600 minute winter	23.577	9.438	100 year +45% CC 2880 minute summer	9.360	2.509	100 year +45% CC 8640 minute winter	2.687	1.062
100 year +45% CC 180 minute winter	64.020	25.345	100 year +45% CC 720 minute summer	30.125	8.074	100 year +45% CC 2880 minute winter	6.290	2.509	100 year +45% CC 10080 minute summer	3.738	0.953
100 year +45% CC 240 minute summer	76.626	20.250	100 year +45% CC 720 minute winter	20.246	8.074	100 year +45% CC 4320 minute summer	6.890	1.801	100 year +45% CC 10080 minute winter	2.412	0.953
100 year +45% CC 240 minute winter	50.909	20.250	100 year +45% CC 960 minute summer	24.032	6.328	100 year +45% CC 4320 minute winter	4.537	1.801			
100 year +45% CC 360 minute summer	56.605	14.566	100 year +45% CC 960 minute winter	15.919	6.328	100 year +45% CC 5760 minute summer	5.606	1.435			

**Results for 10 year Critical Storm Duration. Lowest mass balance: 99.88%**

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	27.409	0.049	10.3	0.0552	0.0000	OK
30 minute summer	2 P Pav	23	28.290	0.050	1.1	0.4189	0.0000	OK
15 minute summer	3	10	27.136	0.099	21.7	0.1116	0.0000	OK
240 minute winter	4 P Pav	228	28.238	0.156	4.1	17.7101	0.0000	OK
15 minute summer	5	10	27.045	0.114	30.1	0.1637	0.0000	OK
30 minute winter	6 P Pav	25	28.096	0.051	0.9	0.4292	0.0000	OK
15 minute summer	7	10	26.954	0.089	30.0	0.1280	0.0000	OK
60 minute summer	8 P Pav	41	27.961	0.054	1.0	0.5309	0.0000	OK
15 minute summer	9	10	26.727	0.107	39.1	0.1533	0.0000	OK
15 minute summer	10 P Pav	1	27.411	0.000	0.0	0.0000	0.0000	OK
15 minute summer	11	10	26.269	0.101	56.2	0.1439	0.0000	OK
120 minute summer	12 P Pav	86	27.152	0.084	2.1	2.4930	0.0000	OK
180 minute winter	13	140	25.995	0.195	15.1	0.2797	0.0000	OK
240 minute winter	14 P Pav	228	27.057	0.178	4.1	17.2648	0.0000	OK
180 minute summer	15 Attenuation 2 Catchpit	132	25.997	0.367	25.9	0.5248	0.0000	SURCHARGED
180 minute summer	16 Hydrobrake	132	25.995	0.395	22.7	0.6973	0.0000	OK
180 minute summer	17 P Pav	128	26.783	0.084	2.0	3.8270	0.0000	OK
15 minute summer	18	12	26.036	0.486	13.8	0.8579	0.0000	OK
15 minute summer	Attenuation 3 Catchpit	12	25.911	0.183	11.7	0.2069	0.0000	SURCHARGED
15 minute summer	20	12	26.035	0.316	27.0	0.3571	0.0000	SURCHARGED
15 minute summer	21 Hydrobrake	12	26.036	0.511	24.7	1.2992	0.0000	OK
15 minute summer	22	13	25.877	0.259	14.4	0.2927	0.0000	OK
240 minute winter	23 P Pav	196	26.890	0.133	2.7	10.7796	0.0000	OK
15 minute summer	24	13	25.875	0.282	18.9	0.4038	0.0000	OK
30 minute summer	25	20	25.871	0.312	17.2	0.5515	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	1	2.000	3	10.2	0.764	0.058	0.1782	
30 minute summer	2 P Pav	Orifice	2A	0.3				
15 minute summer	3	1.002	5	21.5	0.961	0.194	0.2371	
240 minute winter	4 P Pav	Orifice	4A	0.6				
15 minute summer	5	1.003	7	29.9	1.417	0.241	0.1126	
30 minute winter	6 P Pav	Orifice	6A	0.3				
15 minute summer	7	1.004	9	29.9	1.495	0.170	0.1968	
60 minute summer	8 P Pav	Orifice	8A	0.3				
15 minute summer	9	1.005	11	38.8	1.869	0.221	0.1888	
15 minute summer	10 P Pav	Orifice	10A	0.0				
15 minute summer	11	1.006	13	56.2	1.807	0.073	0.4609	
120 minute summer	12 P Pav	Orifice	12A	0.4				
180 minute winter	13	1.007	16 Hydrobrake	15.0	0.338	0.024	1.4864	
240 minute winter	14 P Pav	Orifice	14A	0.6				
180 minute summer	15 Attenuation 2 Catchpit	8.001	16 Hydrobrake	-20.6	-0.382	-0.353	0.2260	
180 minute summer	16 Hydrobrake	Hydro-Brake®	18	6.8				
180 minute summer	17 P Pav	Orifice	17A	0.4				
15 minute summer	18	1.009	21 Hydrobrake	9.5	0.300	0.037	1.8639	
15 minute summer	Attenuation 3 Catchpit	11.001	20	-11.7	-1.490	-2.648	0.0131	
15 minute summer	20	11.002	21 Hydrobrake	15.5	0.532	0.242	2.1679	
15 minute summer	21 Hydrobrake	Hydro-Brake®	27	17.7				
15 minute summer	22	13.000	24	13.3	0.433	0.064	1.5194	
240 minute winter	23 P Pav	Orifice	23A	0.5				
15 minute summer	24	12.002	25	14.2	0.482	0.069	2.2953	
30 minute summer	25	12.003	27	19.9	0.232	0.086	4.1828	

**Results for 10 year Critical Storm Duration. Lowest mass balance: 99.88%**

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	26 P Pave	12	26.867	0.039	3.8	0.5595	0.0000	OK
30 minute summer	27	20	25.869	0.379	46.6	0.9658	0.0000	OK
30 minute summer	28	20	25.867	0.392	46.5	0.9981	0.0000	OK
30 minute summer	29	20	25.865	0.406	56.3	1.0321	0.0000	OK
30 minute summer	30	20	25.858	0.488	61.1	1.2412	0.0000	OK
30 minute summer	31 Hydrobrake	20	25.858	0.496	29.8	0.8756	0.0000	SURCHARGED
30 minute summer	32 D Defender	20	25.467	0.115	16.4	0.0906	0.0000	OK
30 minute summer	32_OUT	20	25.427	0.097	16.4	0.0000	0.0000	OK
15 minute summer	Attenuation 4 Catchpit	12	25.794	0.184	58.8	0.2076	0.0000	OK
120 minute summer	Attenuation Tank 4	86	25.742	0.132	32.0	31.4179	0.0000	OK
720 minute winter	33	720	25.731	0.159	2.0	0.1796	0.0000	OK
180 minute winter	Attenuation Tank 2	136	25.990	0.360	17.5	51.2903	0.0000	SURCHARGED
120 minute summer	Attenuation Tank 3	118	25.836	0.108	8.6	15.4532	0.0000	SURCHARGED
240 minute winter	4A	228	27.746	0.010	0.6	0.0016	0.0000	OK
30 minute summer	2A	23	28.010	0.008	0.3	0.0013	0.0000	OK
30 minute winter	6A	25	27.736	0.009	0.3	0.0015	0.0000	OK
30 minute summer	8A	25	26.976	0.014	0.3	0.0022	0.0000	OK
15 minute summer	10A	1	26.426	0.000	0.0	0.0000	0.0000	OK
120 minute summer	12A	78	26.634	0.013	0.7	0.0021	0.0000	OK
180 minute summer	14A	132	26.001	0.101	1.3	0.0160	0.0000	OK
180 minute summer	17A	128	26.136	0.010	0.4	0.0016	0.0000	OK
15 minute summer	26A	12	25.976	0.026	2.8	0.0041	0.0000	OK
240 minute winter	23A	196	26.559	0.009	0.5	0.0015	0.0000	OK
720 minute winter	Attenuation Tank 1	720	25.731	0.159	1.9	30.1729	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	26 P Pave	15.000	26A	2.8	1.037	0.292	0.0121	
30 minute summer	27	1.011	28	46.5	0.505	0.188	0.9728	
30 minute summer	28	1.012	29	46.8	0.512	0.227	1.5336	
30 minute summer	29	1.013	30	57.1	0.327	0.240	7.1250	
30 minute summer	30	1.014	31 Hydrobrake	15.2	-0.298	0.063	0.6755	
30 minute summer	31 Hydrobrake	Hydro-Brake®	32 D Defender	16.4				
30 minute summer	32 D Defender	1.016	32_OUT	16.4	0.737	0.306	0.2069	166.4
15 minute summer	Attenuation 4 Catchpit	16.001	30	-58.8	-1.111	-1.109	0.2221	
120 minute summer	Attenuation Tank 4	16.000	Attenuation 4 Catchpit	-32.0	-1.801	-0.603	0.0865	
720 minute winter	33	Hydro-Brake®	25	0.1				
180 minute winter	Attenuation Tank 2	8.000	15 Attenuation 2 Catchpit	-17.5	-0.531	-0.330	1.1899	
120 minute summer	Attenuation Tank 3	11.000	Attenuation 3 Catchpit	-8.6	-1.544	-1.459	0.0136	
240 minute winter	4A	3.001	5	0.6	0.890	0.002	0.0039	
30 minute summer	2A	1.001	3	0.3	0.834	0.005	0.0028	
30 minute winter	6A	4.001	7	0.3	0.834	0.017	0.0030	
30 minute summer	8A	6.001	12A	0.3	0.478	0.041	0.0147	
15 minute summer	10A	5.001	11	0.0	0.000	0.000	0.0081	
120 minute summer	12A	6.002	13	0.7	1.133	0.037	0.0037	
180 minute summer	14A	9.001	15 Attenuation 2 Catchpit	2.3	0.694	0.021	0.0810	
180 minute summer	17A	10.001	18	0.4	0.865	0.021	0.0177	
15 minute summer	26A	15.001	27	2.8	1.233	0.143	0.0140	
240 minute winter	23A	12.001	24	0.5	0.966	0.003	0.0034	
720 minute winter	Attenuation Tank 1	14.000	33	-1.9	-0.140	-0.021	0.7434	



**Results for 30 year Critical Storm Duration. Lowest mass balance: 99.88%**

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	27.416	0.056	13.4	0.0628	0.0000	OK
60 minute summer	2 P Pav	41	28.303	0.063	1.0	0.5538	0.0000	OK
15 minute summer	3	10	27.153	0.116	28.4	0.1314	0.0000	OK
240 minute winter	4 P Pav	232	28.275	0.193	5.1	22.8327	0.0000	OK
15 minute summer	5	10	27.064	0.133	39.2	0.1909	0.0000	OK
60 minute summer	6 P Pav	41	28.113	0.068	1.1	0.6084	0.0000	OK
15 minute summer	7	10	26.970	0.104	39.2	0.1495	0.0000	OK
60 minute summer	8 P Pav	41	27.979	0.072	1.3	0.7421	0.0000	OK
15 minute summer	9	10	26.746	0.126	51.1	0.1797	0.0000	OK
15 minute summer	10 P Pav	1	27.411	0.000	0.0	0.0000	0.0000	OK
15 minute summer	11	10	26.282	0.114	73.6	0.1625	0.0000	OK
120 minute summer	12 P Pav	88	27.173	0.105	2.6	3.3332	0.0000	SURCHARGED
180 minute summer	13	140	26.095	0.295	26.8	0.4215	0.0000	OK
240 minute winter	14 P Pav	232	27.099	0.220	5.1	22.3440	0.0000	OK
180 minute summer	15 Attenuation 2 Catchpit	136	26.095	0.465	29.7	0.6657	0.0000	SURCHARGED
180 minute summer	16 Hydrobrake	136	26.095	0.495	23.4	0.8747	0.0000	OK
180 minute summer	17 P Pav	128	26.806	0.107	2.6	4.9635	0.0000	SURCHARGED
15 minute summer	18	12	26.178	0.628	17.2	1.1092	0.0000	SURCHARGED
15 minute summer	Attenuation 3 Catchpit	12	25.988	0.260	14.6	0.2942	0.0000	SURCHARGED
15 minute summer	20	12	26.180	0.461	35.3	0.5216	0.0000	SURCHARGED
15 minute summer	21 Hydrobrake	12	26.178	0.653	31.5	1.6613	0.0000	SURCHARGED
15 minute summer	22	12	25.965	0.347	18.8	0.3922	0.0000	OK
180 minute winter	23 P Pav	176	26.921	0.164	4.2	13.9825	0.0000	OK
15 minute summer	24	12	25.965	0.372	21.4	0.5323	0.0000	OK
15 minute summer	25	12	25.954	0.395	26.8	0.6987	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	1	2.000	3	13.3	0.803	0.076	0.2203	
60 minute summer	2 P Pav	Orifice	2A	0.3				
15 minute summer	3	1.002	5	28.1	1.015	0.253	0.2933	
240 minute winter	4 P Pav	Orifice	4A	0.6				
15 minute summer	5	1.003	7	38.9	1.498	0.315	0.1388	
60 minute summer	6 P Pav	Orifice	6A	0.4				
15 minute summer	7	1.004	9	39.0	1.573	0.221	0.2438	
60 minute summer	8 P Pav	Orifice	8A	0.4				
15 minute summer	9	1.005	11	50.8	1.990	0.288	0.2316	
15 minute summer	10 P Pav	Orifice	10A	0.0				
15 minute summer	11	1.006	13	73.4	1.777	0.096	0.8042	
120 minute summer	12 P Pav	Orifice	12A	0.5				
180 minute summer	13	1.007	16 Hydrobrake	22.7	0.383	0.037	2.0619	
240 minute winter	14 P Pav	Orifice	14A	0.7				
180 minute summer	15 Attenuation 2 Catchpit	8.001	16 Hydrobrake	-23.2	-0.369	-0.397	0.2260	
180 minute summer	16 Hydrobrake	Hydro-Brake®	18	7.3				
180 minute summer	17 P Pav	Orifice	17A	0.5				
15 minute summer	18	1.009	21 Hydrobrake	9.7	0.345	0.038	1.9039	
15 minute summer	Attenuation 3 Catchpit	11.001	20	-14.6	-1.863	-3.311	0.0131	
15 minute summer	20	11.002	21 Hydrobrake	19.1	0.556	0.300	2.1679	
15 minute summer	21 Hydrobrake	Hydro-Brake®	27	26.5				
15 minute summer	22	13.000	24	14.1	0.465	0.068	2.1341	
180 minute winter	23 P Pav	Orifice	23A	0.6				
15 minute summer	24	12.002	25	22.8	0.468	0.110	3.0973	
15 minute summer	25	12.003	27	31.6	0.304	0.136	5.2390	

**Results for 30 year Critical Storm Duration. Lowest mass balance: 99.88%**

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	26 P Pave	12	26.872	0.044	5.0	0.7386	0.0000	OK
15 minute summer	27	12	25.952	0.462	65.3	1.1768	0.0000	OK
15 minute summer	28	12	25.950	0.475	66.8	1.2076	0.0000	OK
15 minute summer	29	12	25.947	0.487	80.2	1.2407	0.0000	OK
30 minute summer	30	20	25.930	0.560	92.7	1.4264	0.0000	SURCHARGED
30 minute summer	31 Hydrobrake	20	25.930	0.568	39.4	1.0044	0.0000	SURCHARGED
30 minute summer	32 D Defender	20	25.468	0.116	16.7	0.0913	0.0000	OK
30 minute summer	32_OUT	20	25.428	0.098	16.7	0.0000	0.0000	OK
15 minute summer	Attenuation 4 Catchpit	12	25.830	0.220	92.0	0.2488	0.0000	OK
60 minute summer	Attenuation Tank 4	55	25.808	0.198	72.2	46.9509	0.0000	OK
720 minute summer	33	735	25.772	0.200	3.8	0.2267	0.0000	OK
180 minute summer	Attenuation Tank 2	136	26.095	0.465	30.3	66.2434	0.0000	SURCHARGED
120 minute summer	Attenuation Tank 3	124	25.896	0.168	10.5	24.0044	0.0000	SURCHARGED
240 minute winter	4A	232	27.746	0.010	0.6	0.0016	0.0000	OK
60 minute summer	2A	41	28.010	0.008	0.3	0.0013	0.0000	OK
60 minute summer	6A	42	27.737	0.010	0.4	0.0016	0.0000	OK
60 minute summer	8A	42	26.977	0.015	0.4	0.0025	0.0000	OK
15 minute summer	10A	1	26.426	0.000	0.0	0.0000	0.0000	OK
60 minute summer	12A	45	26.635	0.014	0.8	0.0023	0.0000	OK
180 minute summer	14A	136	26.095	0.195	0.7	0.0311	0.0000	OK
15 minute summer	17A	12	26.176	0.050	1.5	0.0080	0.0000	OK
15 minute summer	26A	13	25.981	0.031	3.6	0.0049	0.0000	OK
180 minute winter	23A	176	26.560	0.010	0.6	0.0016	0.0000	OK
720 minute summer	Attenuation Tank 1	735	25.772	0.200	3.7	38.0910	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	26 P Pave	15.000	26A	3.6	1.104	0.373	0.0145	
15 minute summer	27	1.011	28	66.8	0.588	0.270	1.1634	
15 minute summer	28	1.012	29	70.4	0.567	0.341	1.8059	
15 minute summer	29	1.013	30	85.1	0.395	0.359	7.8032	
30 minute summer	30	1.014	31 Hydrobrake	-21.5	-0.355	-0.090	0.6941	
30 minute summer	31 Hydrobrake	Hydro-Brake®	32 D Defender	16.7				
30 minute summer	32 D Defender	1.016	32_OUT	16.7	0.740	0.311	0.2092	218.8
15 minute summer	Attenuation 4 Catchpit	16.001	30	-92.0	-1.387	-1.735	0.2603	
60 minute summer	Attenuation Tank 4	16.000	Attenuation 4 Catchpit	-72.2	-2.425	-1.361	0.1424	
720 minute summer	33	Hydro-Brake®	25	0.1				
180 minute summer	Attenuation Tank 2	8.000	15 Attenuation 2 Catchpit	-30.3	-0.512	-0.571	1.1899	
120 minute summer	Attenuation Tank 3	11.000	Attenuation 3 Catchpit	-10.5	-1.641	-1.783	0.0136	
240 minute winter	4A	3.001	5	0.6	0.920	0.002	0.0042	
60 minute summer	2A	1.001	3	0.3	0.873	0.006	0.0031	
60 minute summer	6A	4.001	7	0.4	0.881	0.020	0.0035	
60 minute summer	8A	6.001	12A	0.4	0.505	0.050	0.0167	
15 minute summer	10A	5.001	11	0.0	0.000	0.000	0.0091	
60 minute summer	12A	6.002	13	0.8	1.184	0.043	0.0041	
180 minute summer	14A	9.001	15 Attenuation 2 Catchpit	2.2	0.706	0.020	0.1095	
15 minute summer	17A	10.001	18	-1.2	0.856	-0.065	0.0253	
15 minute summer	26A	15.001	27	3.6	1.252	0.186	0.0147	
180 minute winter	23A	12.001	24	0.6	0.998	0.003	0.0037	
720 minute summer	Attenuation Tank 1	14.000	33	-3.7	-0.141	-0.041	0.9276	

**Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.88%**

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	1	10	27.434	0.074	24.2	0.0842	0.0000	OK
60 minute summer	2 P Pave	42	28.358	0.118	1.9	1.1334	0.0000	SURCHARGED
180 minute winter	3	172	27.339	0.302	11.5	0.3413	0.0000	SURCHARGED
240 minute winter	4 P Pave	236	28.423	0.341	9.0	43.4941	0.0000	SURCHARGED
180 minute winter	5	172	27.339	0.408	16.3	0.5835	0.0000	SURCHARGED
60 minute summer	6 P Pave	43	28.173	0.128	2.0	1.2360	0.0000	SURCHARGED
180 minute winter	7	172	27.339	0.474	16.7	0.6778	0.0000	SURCHARGED
60 minute summer	8 P Pave	44	28.040	0.133	2.3	1.4815	0.0000	SURCHARGED
180 minute winter	9	172	27.338	0.718	21.4	1.0281	0.0000	SURCHARGED
15 minute summer	10 P Pave	1	27.411	0.000	0.0	0.0000	0.0000	OK
180 minute winter	11	172	27.338	1.170	30.3	1.6745	0.0000	SURCHARGED
180 minute summer	12 P Pave	184	27.298	0.230	3.5	8.4199	0.0000	SURCHARGED
180 minute winter	13	172	27.338	1.538	33.0	2.2011	0.0000	SURCHARGED
240 minute summer	14 P Pave	244	27.297	0.418	13.6	46.5753	0.0000	SURCHARGED
180 minute winter	15 Attenuation 2 Catchpit	172	27.338	1.708	33.0	2.4443	0.0000	SURCHARGED
180 minute winter	16 Hydrobrake	172	27.338	1.738	32.1	3.0712	0.0000	SURCHARGED
180 minute summer	17 P Pave	140	26.899	0.200	4.6	9.5519	0.0000	FLOOD RISK
15 minute summer	18	12	27.253	1.703	30.7	3.0092	0.0000	SURCHARGED
15 minute summer	Attenuation 3 Catchpit	12	26.451	0.723	29.7	0.8175	0.0000	SURCHARGED
15 minute summer	20	12	27.256	1.537	63.8	1.7380	0.0000	FLOOD RISK
15 minute summer	21 Hydrobrake	12	27.252	1.727	45.6	4.3945	0.0000	SURCHARGED
15 minute summer	22	12	26.424	0.806	33.9	0.9113	0.0000	SURCHARGED
240 minute winter	23 P Pave	232	27.048	0.291	6.1	27.1577	0.0000	SURCHARGED
15 minute summer	24	12	26.413	0.820	46.2	1.1730	0.0000	SURCHARGED
15 minute summer	25	12	26.416	0.857	65.2	1.5151	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	1	2.000	3	24.1	0.893	0.137	0.3543	
60 minute summer	2 P Pave	Orifice	2A	0.5				
180 minute winter	3	1.002	5	11.5	0.831	0.103	0.7450	
240 minute winter	4 P Pave	Orifice	4A	0.9				
180 minute winter	5	1.003	7	16.3	1.230	0.132	0.3755	
60 minute summer	6 P Pave	Orifice	6A	0.5				
180 minute winter	7	1.004	9	16.7	1.324	0.095	0.6900	
60 minute summer	8 P Pave	Orifice	8A	0.5				
180 minute winter	9	1.005	11	21.4	1.608	0.121	0.6377	
15 minute summer	10 P Pave	Orifice	10A	0.0				
180 minute winter	11	1.006	13	30.3	1.313	0.039	3.1832	
180 minute summer	12 P Pave	Orifice	12A	0.7				
180 minute winter	13	1.007	16 Hydrobrake	31.3	0.331	0.050	2.6533	
240 minute summer	14 P Pave	Orifice	14A	1.0				
180 minute winter	15 Attenuation 2 Catchpit	8.001	16 Hydrobrake	-25.2	-0.358	-0.431	0.2260	
180 minute winter	16 Hydrobrake	Hydro-Brake®	18	8.5				
180 minute summer	17 P Pave	Orifice	17A	0.7				
15 minute summer	18	1.009	21 Hydrobrake	14.9	0.361	0.058	1.9039	
15 minute summer	Attenuation 3 Catchpit	11.001	20	-29.7	-3.796	-6.748	0.0131	
15 minute summer	20	11.002	21 Hydrobrake	33.9	0.584	0.531	2.1679	
15 minute summer	21 Hydrobrake	Hydro-Brake®	27	30.0				
15 minute summer	22	13.000	24	33.4	0.464	0.161	2.9283	
240 minute winter	23 P Pave	Orifice	23A	0.8				
15 minute summer	24	12.002	25	50.3	0.482	0.243	3.9584	
15 minute summer	25	12.003	27	67.3	0.334	0.290	6.0437	

**Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.88%**

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	26 P Pave	12	26.892	0.064	9.1	1.3930	0.0000	OK
15 minute summer	27	12	26.411	0.921	140.0	2.3430	0.0000	SURCHARGED
15 minute summer	28	12	26.399	0.924	122.9	2.3510	0.0000	SURCHARGED
15 minute summer	29	12	26.385	0.926	155.9	2.3565	0.0000	SURCHARGED
15 minute summer	30	12	26.333	0.963	205.8	2.4503	0.0000	SURCHARGED
15 minute summer	31 Hydrobrake	12	26.334	0.972	79.9	1.7174	0.0000	SURCHARGED
60 minute winter	32 D Defender	35	25.469	0.117	16.8	0.0916	0.0000	OK
60 minute winter	32_OUT	35	25.428	0.098	16.8	0.0000	0.0000	OK
120 minute winter	Attenuation 4 Catchpit	112	26.106	0.496	61.3	0.5610	0.0000	SURCHARGED
120 minute winter	Attenuation Tank 4	112	26.106	0.496	60.9	117.8081	0.0000	SURCHARGED
960 minute summer	33	975	25.959	0.387	5.2	0.4374	0.0000	OK
180 minute winter	Attenuation Tank 2	172	27.338	1.708	32.7	114.0713	0.0000	SURCHARGED
180 minute winter	Attenuation Tank 3	172	26.206	0.478	11.6	57.0713	0.0000	SURCHARGED
240 minute winter	4A	240	27.748	0.012	0.9	0.0019	0.0000	OK
60 minute summer	2A	42	28.012	0.010	0.5	0.0016	0.0000	OK
60 minute summer	6A	43	27.739	0.012	0.5	0.0019	0.0000	OK
180 minute summer	8A	160	27.339	0.377	1.1	0.0599	0.0000	SURCHARGED
180 minute winter	10A	172	27.338	0.912	2.3	0.1450	0.0000	SURCHARGED
180 minute winter	12A	172	27.338	0.717	2.8	0.1140	0.0000	SURCHARGED
180 minute winter	14A	172	27.338	1.438	2.4	0.2287	0.0000	SURCHARGED
15 minute summer	17A	12	27.239	1.113	6.5	0.1769	0.0000	SURCHARGED
15 minute summer	26A	12	26.465	0.515	9.0	0.0819	0.0000	SURCHARGED
240 minute winter	23A	232	26.561	0.011	0.8	0.0018	0.0000	OK
960 minute summer	Attenuation Tank 1	975	25.959	0.387	5.1	73.4833	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	26 P Pave	15.000	26A	6.4	1.261	0.664	0.0226	
15 minute summer	27	1.011	28	122.9	0.622	0.498	1.2355	
15 minute summer	28	1.012	29	124.4	0.582	0.603	1.8821	
15 minute summer	29	1.013	30	153.9	0.713	0.649	7.9293	
15 minute summer	30	1.014	31 Hydrobrake	-54.8	-0.459	-0.228	0.6941	
15 minute summer	31 Hydrobrake	Hydro-Brake®	32 D Defender	16.8				
60 minute winter	32 D Defender	1.016	32_OUT	16.8	0.742	0.313	0.2101	489.1
120 minute winter	Attenuation 4 Catchpit	16.001	30	-61.3	-0.993	-1.155	0.2915	
120 minute winter	Attenuation Tank 4	16.000	Attenuation 4 Catchpit	-60.9	-1.634	-1.149	0.2037	
960 minute summer	33	Hydro-Brake®	25	0.2				
180 minute winter	Attenuation Tank 2	8.000	15 Attenuation 2 Catchpit	-32.7	-0.625	-0.616	1.1899	
180 minute winter	Attenuation Tank 3	11.000	Attenuation 3 Catchpit	-11.6	-1.486	-1.973	0.0136	
240 minute winter	4A	3.001	5	0.9	1.004	0.003	0.0285	
60 minute summer	2A	1.001	3	0.5	0.980	0.009	0.0040	
60 minute summer	6A	4.001	7	0.5	0.984	0.029	0.0045	
180 minute summer	8A	6.001	12A	-0.6	0.548	-0.085	0.1791	
180 minute winter	10A	5.001	11	-2.3	-0.290	-0.118	0.0188	
180 minute winter	12A	6.002	13	-1.7	1.149	-0.091	0.0473	
180 minute winter	14A	9.001	15 Attenuation 2 Catchpit	2.4	0.749	0.023	0.1140	
15 minute summer	17A	10.001	18	-6.2	0.837	-0.330	0.0336	
15 minute summer	26A	15.001	27	8.8	1.325	0.451	0.0233	
240 minute winter	23A	12.001	24	0.8	1.050	0.005	0.1076	
960 minute summer	Attenuation Tank 1	14.000	33	-5.1	-0.163	-0.057	0.9870	