

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	240.00
Return Period (years)	2	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Inverts
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	1.000
Ratio-R	0.400	Preferred Cover Depth (m)	0.300
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S1	0.039	5.00	71.450	1350	566327.157	221496.078	1.650
S2	0.000		70.500	1350	566338.860	221524.301	1.500
S3	0.051	5.00	70.360	1200	566364.581	221515.271	1.910
S4	0.000		69.830	1200	566387.236	221503.124	1.895
S5	0.050	5.00	69.270	1200	566399.626	221489.558	1.705
S6	0.127	5.00	68.700	1350	566407.897	221472.053	1.520
S7	0.039	5.00	69.510	1200	566372.120	221454.836	2.730
S8	0.062	5.00	70.340	1200	566335.410	221437.187	3.965
S9	0.074	5.00	69.890	1200	566344.907	221413.664	3.770
S10	0.019	5.00	69.440	1200	566345.886	221388.365	3.570
S11	0.117	5.00	68.780	1200	566343.022	221351.864	3.290
S12	0.075	5.00	67.950	1350	566338.862	221299.249	2.975
S13	0.079	5.00	67.390	1350	566342.085	221280.062	2.610
S14	0.031	5.00	66.410	1350	566351.736	221249.207	1.950
S15	0.000		66.300	1350	566354.796	221238.463	2.300
Swale 1	0.000		66.300	1500	566331.699	221231.543	2.320
S16	0.000		66.300	1350	566308.602	221224.624	2.340
S17	0.000	5.00	66.300	1350	566299.962	221222.027	2.360
Detention Basin	0.000		66.240	1500	566251.396	221218.120	2.320
S18	0.000	5.00	66.240	1350	566202.831	221214.213	2.340
S19	0.000	5.00	66.300	1350	566191.474	221211.671	2.450
S20	0.000	5.00	64.000	1350	566156.365	221178.059	1.280
Outfall	0.000		64.000	1350	566149.804	221171.740	1.330
S23	0.032	5.00	68.607	1350	566412.695	221462.603	1.377
S24	0.000	5.00	71.853	1350	566278.939	221459.839	1.298
S25	0.048	5.00	71.555	1350	566297.782	221471.876	1.590
S26	0.039	5.00	71.200	1350	566311.673	221475.190	1.630
S27	0.030	5.00	71.002	1350	566322.093	221470.690	1.687
S28	0.039	5.00	70.780	1200	566324.860	221459.080	1.730
S29	0.011	5.00	71.159	1350	566321.845	221478.854	1.559
S30	0.000	5.00	70.357	1200	566315.200	221414.863	2.108
S31	0.053	5.00	70.244	1200	566313.492	221397.534	2.169
S32	0.026	5.00	69.663	1200	566337.172	221393.585	2.188
S33	0.000	5.00	68.730	1350	566373.453	221387.535	1.417
S34	0.056	5.00	69.306	1200	566350.731	221391.324	2.281
S35	0.037	5.00	68.771	1200	566310.421	221354.440	1.910
S36	0.014	5.00	71.402	1350	566264.517	221440.866	1.852
S37	0.057	5.00	70.996	1350	566257.927	221421.377	1.846
S38	0.014	5.00	70.660	1350	566260.388	221405.956	1.830
S39	0.013	5.00	70.208	1350	566272.255	221387.152	1.823
S40	0.188	5.00	69.767	1350	566271.614	221364.754	1.827

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S41	0.184	5.00	68.819	1200	566266.566	221304.972	2.304
S42	0.172	5.00	69.217	1350	566216.928	221308.893	2.267
S43	0.027	5.00	67.950	1350	566352.124	221302.577	1.500
S44	0.072	5.00	66.650	1350	566366.215	221257.420	1.295
S45	0.086	5.00	72.684	1350	566147.363	221413.093	1.429
S46	0.048	5.00	71.740	1200	566202.585	221408.732	2.410
S47	0.196	5.00	70.510	1350	566198.710	221359.673	1.950
S48	0.074	5.00	69.537	1200	566194.835	221310.596	2.437
S49	0.034	5.00	67.106	1350	566189.694	221245.301	1.686
S50	0.072	5.00	66.897	1350	566237.370	221241.191	1.647
S51	0.102	5.00	66.671	1350	566283.519	221237.727	1.576
S52	0.090	5.00	66.503	1350	566310.903	221237.683	1.503
S53	0.079	5.00	70.997	1350	566245.517	221405.342	1.377
S54	0.000	5.00	71.417	1350	566131.247	221375.943	1.427
S55	0.098	5.00	70.162	1350	566127.877	221334.287	1.487
S56	0.133	5.00	69.642	1350	566126.400	221316.040	1.502
S57	0.000	5.00	69.380	1350	566125.284	221301.394	3.077
S58	0.022	5.00	69.080	1350	566128.547	221291.991	2.843
S59	0.026	5.00	68.760	1350	566135.072	221285.325	2.586
S60	0.000		68.240	1350	566134.749	221267.724	2.183
S61	0.050	5.00	67.660	1350	566159.604	221247.890	1.890

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	S1	S2	30.553	0.600	69.800	69.000	0.800	38.2	225	5.24	50.0
1.001	S2	S3	27.260	0.600	69.000	68.450	0.550	49.6	225	5.48	50.0
1.002	S3	S4	25.706	0.600	68.450	67.935	0.515	49.9	225	5.71	50.0
1.003	S4	S5	18.372	0.600	67.935	67.565	0.370	49.7	225	5.88	50.0
1.004	S5	S6	19.361	0.600	67.565	67.180	0.385	50.3	225	6.05	50.0
2.000	S23	S6	10.599	0.600	67.230	67.180	0.050	212.0	300	5.16	50.0
1.005	S6	S7	39.704	0.600	67.180	66.780	0.400	99.3	375	6.42	50.0
1.006	S7	S8	40.733	0.600	66.780	66.375	0.405	100.6	375	6.79	50.0
3.000	S24	S25	22.359	0.600	70.555	69.965	0.590	37.9	225	5.17	50.0
3.001	S25	S26	14.281	0.600	69.965	69.570	0.395	36.2	225	5.28	50.0
3.002	S26	S27	11.349	0.600	69.570	69.315	0.255	44.5	225	5.38	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)
1.000	2.123	84.4	5.3	1.425	1.275	0.039	0.0
1.001	1.862	74.0	5.3	1.275	1.685	0.039	0.0
1.002	1.855	73.8	12.2	1.685	1.670	0.090	0.0
1.003	1.860	74.0	12.2	1.670	1.480	0.090	0.0
1.004	1.849	73.5	19.0	1.480	1.295	0.140	0.0
2.000	1.076	76.0	4.3	1.077	1.220	0.032	0.0
1.005	1.818	200.8	40.5	1.145	2.355	0.299	0.0
1.006	1.806	199.5	45.8	2.355	3.590	0.338	0.0
3.000	2.131	84.7	0.0	1.073	1.365	0.000	0.0
3.001	2.182	86.8	6.5	1.365	1.405	0.048	0.0
3.002	1.966	78.2	11.8	1.405	1.462	0.087	0.0

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
4.000	S29	S27	8.167	0.600	69.600	69.315	0.285	28.7	225	5.06	50.0
3.003	S27	S28	11.935	0.600	69.315	69.050	0.265	45.0	225	5.48	50.0
3.004	S28	S8	24.302	0.600	69.050	68.090	0.960	25.3	225	5.64	50.0
1.007	S8	S9	25.367	0.600	66.375	66.120	0.255	99.5	450	7.00	50.0
1.008	S9	S10	25.318	0.600	66.120	65.870	0.250	101.3	450	7.21	50.0
5.000	S30	S31	17.412	0.600	68.249	68.075	0.174	100.1	225	5.22	50.0
5.001	S31	S32	24.008	0.600	68.075	67.475	0.600	40.0	225	5.42	50.0
5.002	S32	S10	10.158	0.600	67.475	66.460	1.015	10.0	225	5.46	50.0
6.000	S33	S34	23.035	0.600	67.313	67.025	0.288	80.0	225	5.26	50.0
6.001	S34	S10	5.677	0.600	67.025	66.460	0.565	10.0	225	5.29	50.0
1.009	S10	S11	36.613	0.600	65.870	65.490	0.380	96.4	450	7.50	50.0
7.000	S35	S11	32.702	0.600	66.861	66.316	0.545	60.0	225	5.32	50.0
1.010	S11	S12	52.780	0.600	65.490	64.975	0.515	102.5	450	7.94	50.0
8.000	S36	S37	20.573	0.600	69.550	69.150	0.400	51.4	225	5.19	50.0
8.001	S37	S38	15.616	0.600	69.150	68.830	0.320	48.8	225	5.33	50.0
8.002	S38	S39	22.235	0.600	68.830	68.385	0.445	50.0	225	5.53	50.0
8.003	S39	S40	22.408	0.600	68.385	67.940	0.445	50.4	225	5.73	50.0
8.004	S40	S41	59.995	0.600	67.940	66.515	1.425	42.1	375	6.09	50.0
9.000	S42	S41	49.792	0.600	66.950	66.590	0.360	138.3	300	5.62	50.0
8.005	S41	S12	72.523	0.600	66.515	64.975	1.540	47.1	450	6.49	50.0
1.011	S12	S13	19.456	0.600	64.975	64.780	0.195	99.8	450	8.10	50.0
1.012	S13	S14	32.329	0.600	64.780	64.535	0.245	132.0	450	8.37	50.0
10.000	S43	S44	47.304	0.600	66.450	65.355	1.095	43.2	225	5.40	50.0
10.001	S44	S14	16.646	0.600	65.355	64.760	0.595	28.0	225	5.49	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)
4.000	2.453	97.5	1.5	1.334	1.462	0.011	0.0
3.003	1.954	77.7	17.3	1.462	1.505	0.128	0.0
3.004	2.611	103.8	22.6	1.505	2.025	0.167	0.0
1.007	2.038	324.1	76.8	3.515	3.320	0.567	0.0
1.008	2.020	321.2	86.9	3.320	3.120	0.641	0.0
5.000	1.307	52.0	0.0	1.883	1.944	0.000	0.0
5.001	2.074	82.5	7.2	1.944	1.963	0.053	0.0
5.002	4.160	165.4	10.7	1.963	2.755	0.079	0.0
6.000	1.463	58.2	0.0	1.192	2.056	0.000	0.0
6.001	4.152	165.1	7.6	2.056	2.755	0.056	0.0
1.009	2.071	329.4	107.7	3.120	2.840	0.795	0.0
7.000	1.691	67.2	5.0	1.685	2.239	0.037	0.0
1.010	2.008	319.3	128.6	2.840	2.525	0.949	0.0
8.000	1.828	72.7	1.9	1.627	1.621	0.014	0.0
8.001	1.877	74.6	9.6	1.621	1.605	0.071	0.0
8.002	1.854	73.7	11.5	1.605	1.598	0.085	0.0
8.003	1.847	73.4	13.3	1.598	1.602	0.098	0.0
8.004	2.799	309.1	38.8	1.452	1.929	0.286	0.0
9.000	1.335	94.3	23.3	1.967	1.929	0.172	0.0
8.005	2.968	472.0	87.0	1.854	2.525	0.642	0.0
1.011	2.035	323.7	225.8	2.525	2.160	1.666	0.0
1.012	1.768	281.2	236.5	2.160	1.425	1.745	0.0
10.000	1.995	79.3	3.7	1.275	1.070	0.027	0.0
10.001	2.483	98.7	13.4	1.070	1.425	0.099	0.0

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.013	S14	S15	11.171	0.600	64.460	64.000	0.460	24.3	525	8.41	50.0
1.014	S15	Swale 1	42.547	0.600	64.000	63.980	0.020	2127.4	750	9.60	50.0
1.015	Swale 1	S16	24.111	0.600	63.980	63.960	0.020	1205.6	1200	9.98	50.0
11.000	S45	S46	55.394	0.600	71.255	69.330	1.925	28.8	225	5.38	50.0
12.000	S53	S46	43.066	0.600	69.620	69.330	0.290	148.5	225	5.67	50.0
11.001	S46	S47	49.212	0.600	69.330	68.560	0.770	63.9	225	6.17	50.0
11.002	S47	S48	49.230	0.600	68.560	67.100	1.460	33.7	300	6.47	50.0
13.000	S54	S55	41.792	0.600	69.990	68.675	1.315	31.8	225	5.30	50.0
13.001	S55	S56	18.307	0.600	68.675	68.215	0.460	39.8	225	5.45	50.0
13.002	S56	S48	68.650	0.600	68.140	67.540	0.600	114.4	300	6.22	50.0
11.003	S48	S49	65.497	0.600	67.100	65.570	1.530	42.8	375	6.87	50.0
14.000	S57	S58	9.953	0.600	66.303	66.237	0.066	150.8	225	5.16	50.0
14.001	S58	S59	9.328	0.600	66.237	66.174	0.063	148.1	225	5.30	50.0
14.002	S59	S60	17.604	0.600	66.174	66.057	0.117	150.5	225	5.58	50.0
14.003	S60	S61	31.799	0.600	66.057	65.845	0.212	150.0	225	6.07	50.0
14.004	S61	S49	30.201	0.600	65.770	65.570	0.200	151.0	300	6.47	50.0
11.004	S49	S50	47.853	0.600	65.420	65.250	0.170	281.5	450	7.53	50.0
11.005	S50	S51	46.279	0.600	65.250	65.095	0.155	298.6	450	8.19	50.0
11.006	S51	S52	27.384	0.600	65.095	65.000	0.095	288.3	450	8.57	50.0
11.007	S52	S16	11.857	0.600	65.000	64.980	0.020	592.9	450	8.81	50.0
1.016	S16	S17	10.414	0.600	63.960	63.940	0.020	520.7	1000	10.10	50.0
1.017	S17	Detention Basin	94.015	0.600	63.940	63.920	0.020	4700.8	1200	13.02	43.5
1.018	Detention Basin	S18	13.526	0.600	63.920	63.900	0.020	676.3	1200	13.18	43.2
1.019	S18	S19	11.638	0.600	63.900	63.850	0.050	232.8	225	13.41	42.8

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.013	4.558	986.7	254.1	1.425	1.775	1.875	0.0
1.014	0.597	263.8	254.1	1.550	1.570	1.875	0.0
1.015	1.068	1208.4	254.1	1.120	1.140	1.875	0.0
11.000	2.448	97.3	11.7	1.204	2.185	0.086	0.0
12.000	1.070	42.6	10.7	1.152	2.185	0.079	0.0
11.001	1.638	65.1	28.9	2.185	1.725	0.213	0.0
11.002	2.716	192.0	55.4	1.650	2.137	0.409	0.0
13.000	2.329	92.6	0.0	1.202	1.262	0.000	0.0
13.001	2.079	82.7	13.3	1.262	1.202	0.098	0.0
13.002	1.469	103.8	31.3	1.202	1.697	0.231	0.0
11.003	2.776	306.6	96.8	2.062	1.161	0.714	0.0
14.000	1.062	42.2	0.0	2.852	2.618	0.000	0.0
14.001	1.072	42.6	3.0	2.618	2.361	0.022	0.0
14.002	1.063	42.3	6.5	2.361	1.958	0.048	0.0
14.003	1.065	42.3	6.5	1.958	1.590	0.048	0.0
14.004	1.277	90.3	13.3	1.590	1.236	0.098	0.0
11.004	1.206	191.9	114.7	1.236	1.197	0.846	0.0
11.005	1.171	186.3	124.4	1.197	1.126	0.918	0.0
11.006	1.192	189.6	138.2	1.126	1.053	1.020	0.0
11.007	0.828	131.6	150.4	1.053	0.870	1.110	0.0
1.016	1.458	1145.2	404.5	1.340	1.360	2.985	0.0
1.017	0.535	605.5	352.0	1.160	1.120	2.985	0.0
1.018	1.431	1618.0	349.5	1.120	1.140	2.985	0.0
1.019	0.853	33.9	346.3	2.115	2.225	2.985	0.0

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.020	S19	S20	48.604	0.600	63.850	62.720	1.130	43.0	225	13.81	42.0
1.021	S20	Outfall	9.110	0.600	62.720	62.670	0.050	182.2	225	13.97	41.8

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.020	2.000	79.5	339.8	2.225	1.055	2.985	0.0
1.021	0.965	38.4	338.2	1.055	1.105	2.985	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)
1.000	30.553	38.2	225	Circular	71.450	69.800	1.425	70.500	69.000	1.275
1.001	27.260	49.6	225	Circular	70.500	69.000	1.275	70.360	68.450	1.685
1.002	25.706	49.9	225	Circular	70.360	68.450	1.685	69.830	67.935	1.670
1.003	18.372	49.7	225	Circular	69.830	67.935	1.670	69.270	67.565	1.480
1.004	19.361	50.3	225	Circular	69.270	67.565	1.480	68.700	67.180	1.295
2.000	10.599	212.0	300	Circular	68.607	67.230	1.077	68.700	67.180	1.220
1.005	39.704	99.3	375	Circular	68.700	67.180	1.145	69.510	66.780	2.355
1.006	40.733	100.6	375	Circular	69.510	66.780	2.355	70.340	66.375	3.590
3.000	22.359	37.9	225	Circular	71.853	70.555	1.073	71.555	69.965	1.365
3.001	14.281	36.2	225	Circular	71.555	69.965	1.365	71.200	69.570	1.405
3.002	11.349	44.5	225	Circular	71.200	69.570	1.405	71.002	69.315	1.462
4.000	8.167	28.7	225	Circular	71.159	69.600	1.334	71.002	69.315	1.462
3.003	11.935	45.0	225	Circular	71.002	69.315	1.462	70.780	69.050	1.505
3.004	24.302	25.3	225	Circular	70.780	69.050	1.505	70.340	68.090	2.025
1.007	25.367	99.5	450	Circular	70.340	66.375	3.515	69.890	66.120	3.320
1.008	25.318	101.3	450	Circular	69.890	66.120	3.320	69.440	65.870	3.120
5.000	17.412	100.1	225	Circular	70.357	68.249	1.883	70.244	68.075	1.944
5.001	24.008	40.0	225	Circular	70.244	68.075	1.944	69.663	67.475	1.963

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	S1	1350	Manhole	Adoptable	S2	1350	Manhole	Adoptable
1.001	S2	1350	Manhole	Adoptable	S3	1200	Manhole	Adoptable
1.002	S3	1200	Manhole	Adoptable	S4	1200	Manhole	Adoptable
1.003	S4	1200	Manhole	Adoptable	S5	1200	Manhole	Adoptable
1.004	S5	1200	Manhole	Adoptable	S6	1350	Manhole	Adoptable
2.000	S23	1350	Manhole	Adoptable	S6	1350	Manhole	Adoptable
1.005	S6	1350	Manhole	Adoptable	S7	1200	Manhole	Adoptable
1.006	S7	1200	Manhole	Adoptable	S8	1200	Manhole	Adoptable
3.000	S24	1350	Manhole	Adoptable	S25	1350	Manhole	Adoptable
3.001	S25	1350	Manhole	Adoptable	S26	1350	Manhole	Adoptable
3.002	S26	1350	Manhole	Adoptable	S27	1350	Manhole	Adoptable
4.000	S29	1350	Manhole	Adoptable	S27	1350	Manhole	Adoptable
3.003	S27	1350	Manhole	Adoptable	S28	1200	Manhole	Adoptable
3.004	S28	1200	Manhole	Adoptable	S8	1200	Manhole	Adoptable
1.007	S8	1200	Manhole	Adoptable	S9	1200	Manhole	Adoptable
1.008	S9	1200	Manhole	Adoptable	S10	1200	Manhole	Adoptable
5.000	S30	1200	Manhole	Adoptable	S31	1200	Manhole	Adoptable
5.001	S31	1200	Manhole	Adoptable	S32	1200	Manhole	Adoptable

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
5.002	10.158	10.0	225	Circular	69.663	67.475	1.963	69.440	66.460	2.755
6.000	23.035	80.0	225	Circular	68.730	67.313	1.192	69.306	67.025	2.056
6.001	5.677	10.0	225	Circular	69.306	67.025	2.056	69.440	66.460	2.755
1.009	36.613	96.4	450	Circular	69.440	65.870	3.120	68.780	65.490	2.840
7.000	32.702	60.0	225	Circular	68.771	66.861	1.685	68.780	66.316	2.239
1.010	52.780	102.5	450	Circular	68.780	65.490	2.840	67.950	64.975	2.525
8.000	20.573	51.4	225	Circular	71.402	69.550	1.627	70.996	69.150	1.621
8.001	15.616	48.8	225	Circular	70.996	69.150	1.621	70.660	68.830	1.605
8.002	22.235	50.0	225	Circular	70.660	68.830	1.605	70.208	68.385	1.598
8.003	22.408	50.4	225	Circular	70.208	68.385	1.598	69.767	67.940	1.602
8.004	59.995	42.1	375	Circular	69.767	67.940	1.452	68.819	66.515	1.929
9.000	49.792	138.3	300	Circular	69.217	66.950	1.967	68.819	66.590	1.929
8.005	72.523	47.1	450	Circular	68.819	66.515	1.854	67.950	64.975	2.525
1.011	19.456	99.8	450	Circular	67.950	64.975	2.525	67.390	64.780	2.160
1.012	32.329	132.0	450	Circular	67.390	64.780	2.160	66.410	64.535	1.425
10.000	47.304	43.2	225	Circular	67.950	66.450	1.275	66.650	65.355	1.070
10.001	16.646	28.0	225	Circular	66.650	65.355	1.070	66.410	64.760	1.425
1.013	11.171	24.3	525	Circular	66.410	64.460	1.425	66.300	64.000	1.775
1.014	42.547	2127.4	750	Circular	66.300	64.000	1.550	66.300	63.980	1.570
1.015	24.111	1205.6	1200	Circular	66.300	63.980	1.120	66.300	63.960	1.140
11.000	55.394	28.8	225	Circular	72.684	71.255	1.204	71.740	69.330	2.185
12.000	43.066	148.5	225	Circular	70.997	69.620	1.152	71.740	69.330	2.185
11.001	49.212	63.9	225	Circular	71.740	69.330	2.185	70.510	68.560	1.725
11.002	49.230	33.7	300	Circular	70.510	68.560	1.650	69.537	67.100	2.137
13.000	41.792	31.8	225	Circular	71.417	69.990	1.202	70.162	68.675	1.262

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
5.002	S32	1200	Manhole	Adoptable	S10	1200	Manhole	Adoptable
6.000	S33	1350	Manhole	Adoptable	S34	1200	Manhole	Adoptable
6.001	S34	1200	Manhole	Adoptable	S10	1200	Manhole	Adoptable
1.009	S10	1200	Manhole	Adoptable	S11	1200	Manhole	Adoptable
7.000	S35	1200	Manhole	Adoptable	S11	1200	Manhole	Adoptable
1.010	S11	1200	Manhole	Adoptable	S12	1350	Manhole	Adoptable
8.000	S36	1350	Manhole	Adoptable	S37	1350	Manhole	Adoptable
8.001	S37	1350	Manhole	Adoptable	S38	1350	Manhole	Adoptable
8.002	S38	1350	Manhole	Adoptable	S39	1350	Manhole	Adoptable
8.003	S39	1350	Manhole	Adoptable	S40	1350	Manhole	Adoptable
8.004	S40	1350	Manhole	Adoptable	S41	1200	Manhole	Adoptable
9.000	S42	1350	Manhole	Adoptable	S41	1200	Manhole	Adoptable
8.005	S41	1200	Manhole	Adoptable	S12	1350	Manhole	Adoptable
1.011	S12	1350	Manhole	Adoptable	S13	1350	Manhole	Adoptable
1.012	S13	1350	Manhole	Adoptable	S14	1350	Manhole	Adoptable
10.000	S43	1350	Manhole	Adoptable	S44	1350	Manhole	Adoptable
10.001	S44	1350	Manhole	Adoptable	S14	1350	Manhole	Adoptable
1.013	S14	1350	Manhole	Adoptable	S15	1350	Manhole	Adoptable
1.014	S15	1350	Manhole	Adoptable	Swale 1	1500	Manhole	Adoptable
1.015	Swale 1	1500	Manhole	Adoptable	S16	1350	Manhole	Adoptable
11.000	S45	1350	Manhole	Adoptable	S46	1200	Manhole	Adoptable
12.000	S53	1350	Manhole	Adoptable	S46	1200	Manhole	Adoptable
11.001	S46	1200	Manhole	Adoptable	S47	1350	Manhole	Adoptable
11.002	S47	1350	Manhole	Adoptable	S48	1200	Manhole	Adoptable
13.000	S54	1350	Manhole	Adoptable	S55	1350	Manhole	Adoptable

Pipeline Schedule



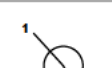
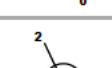
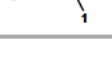
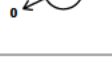




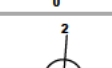
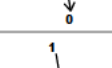
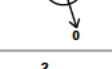
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
13.001	18.307	39.8	225	Circular	70.162	68.675	1.262	69.642	68.215	1.202
13.002	68.650	114.4	300	Circular	69.642	68.140	1.202	69.537	67.540	1.697
11.003	65.497	42.8	375	Circular	69.537	67.100	2.062	67.106	65.570	1.161
14.000	9.953	150.8	225	Circular	69.380	66.303	2.852	69.080	66.237	2.618
14.001	9.328	148.1	225	Circular	69.080	66.237	2.618	68.760	66.174	2.361
14.002	17.604	150.5	225	Circular	68.760	66.174	2.361	68.240	66.057	1.958
14.003	31.799	150.0	225	Circular	68.240	66.057	1.958	67.660	65.845	1.590
14.004	30.201	151.0	300	Circular	67.660	65.770	1.590	67.106	65.570	1.236
11.004	47.853	281.5	450	Circular	67.106	65.420	1.236	66.897	65.250	1.197
11.005	46.279	298.6	450	Circular	66.897	65.250	1.197	66.671	65.095	1.126
11.006	27.384	288.3	450	Circular	66.671	65.095	1.126	66.503	65.000	1.053
11.007	11.857	592.9	450	Circular	66.503	65.000	1.053	66.300	64.980	0.870
1.016	10.414	520.7	1000	Circular	66.300	63.960	1.340	66.300	63.940	1.360
1.017	94.015	4700.8	1200	Circular	66.300	63.940	1.160	66.240	63.920	1.120
1.018	13.526	676.3	1200	Circular	66.240	63.920	1.120	66.240	63.900	1.140
1.019	11.638	232.8	225	Circular	66.240	63.900	2.115	66.300	63.850	2.225
1.020	48.604	43.0	225	Circular	66.300	63.850	2.225	64.000	62.720	1.055
1.021	9.110	182.2	225	Circular	64.000	62.720	1.055	64.000	62.670	1.105

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
13.001	S55	1350	Manhole	Adoptable	S56	1350	Manhole	Adoptable
13.002	S56	1350	Manhole	Adoptable	S48	1200	Manhole	Adoptable
11.003	S48	1200	Manhole	Adoptable	S49	1350	Manhole	Adoptable
14.000	S57	1350	Manhole	Adoptable	S58	1350	Manhole	Adoptable
14.001	S58	1350	Manhole	Adoptable	S59	1350	Manhole	Adoptable
14.002	S59	1350	Manhole	Adoptable	S60	1350	Manhole	Adoptable
14.003	S60	1350	Manhole	Adoptable	S61	1350	Manhole	Adoptable
14.004	S61	1350	Manhole	Adoptable	S49	1350	Manhole	Adoptable
11.004	S49	1350	Manhole	Adoptable	S50	1350	Manhole	Adoptable
11.005	S50	1350	Manhole	Adoptable	S51	1350	Manhole	Adoptable
11.006	S51	1350	Manhole	Adoptable	S52	1350	Manhole	Adoptable
11.007	S52	1350	Manhole	Adoptable	S16	1350	Manhole	Adoptable
1.016	S16	1350	Manhole	Adoptable	S17	1350	Manhole	Adoptable
1.017	S17	1350	Manhole	Adoptable	Detention Basin	1500	Manhole	Adoptable
1.018	Detention Basin	1500	Manhole	Adoptable	S18	1350	Manhole	Adoptable
1.019	S18	1350	Manhole	Adoptable	S19	1350	Manhole	Adoptable
1.020	S19	1350	Manhole	Adoptable	S20	1350	Manhole	Adoptable
1.021	S20	1350	Manhole	Adoptable	Outfall	1350	Manhole	Adoptable







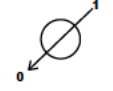





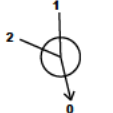
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S1	566327.157	221496.078	71.450	1.650	1350				
						0	1.000	69.800	225
S2	566338.860	221524.301	70.500	1.500	1350				
						1	1.000	69.000	225
						0	1.001	69.000	225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S3	566364.581	221515.271	70.360	1.910	1200		1 1.001	68.450	225
							0 1.002	68.450	225
S4	566387.236	221503.124	69.830	1.895	1200		1 1.002	67.935	225
							0 1.003	67.935	225
S5	566399.626	221489.558	69.270	1.705	1200		1 1.003	67.565	225
							0 1.004	67.565	225
S6	566407.897	221472.053	68.700	1.520	1350		1 2.000	67.180	300
							2 1.004	67.180	225
							0 1.005	67.180	375
S7	566372.120	221454.836	69.510	2.730	1200		1 1.005	66.780	375
							0 1.006	66.780	375
S8	566335.410	221437.187	70.340	3.965	1200		1 3.004	68.090	225
							2 1.006	66.375	375
							0 1.007	66.375	450
S9	566344.907	221413.664	69.890	3.770	1200		1 1.007	66.120	450
							0 1.008	66.120	450
S10	566345.886	221388.365	69.440	3.570	1200		1 6.001	66.460	225
							2 5.002	66.460	225
							3 1.008	65.870	450
							0 1.009	65.870	450
S11	566343.022	221351.864	68.780	3.290	1200		1 7.000	66.316	225
							2 1.009	65.490	450
							0 1.010	65.490	450
S12	566338.862	221299.249	67.950	2.975	1350		1 8.005	64.975	450
							2 1.010	64.975	450
							0 1.011	64.975	450
S13	566342.085	221280.062	67.390	2.610	1350		1 1.011	64.780	450
							0 1.012	64.780	450
S14	566351.736	221249.207	66.410	1.950	1350		1 10.001	64.760	225
							2 1.012	64.535	450
							0 1.013	64.460	525
S15	566354.796	221238.463	66.300	2.300	1350		1 1.013	64.000	525
							0 1.014	64.000	750

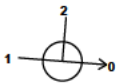




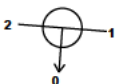

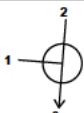
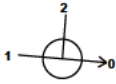




Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
Swale 1	566331.699	221231.543	66.300	2.320	1500	 1	1.014	63.980	750
						0	1.015	63.980	1200
S16	566308.602	221224.624	66.300	2.340	1350	 1	11.007	64.980	450
						2	1.015	63.960	1200
						0	1.016	63.960	1000
S17	566299.962	221222.027	66.300	2.360	1350	 1	1.016	63.940	1000
						0	1.017	63.940	1200
Detention Basin	566251.396	221218.120	66.240	2.320	1500	 1	1.017	63.920	1200
						0	1.018	63.920	1200
S18	566202.831	221214.213	66.240	2.340	1350	 1	1.018	63.900	1200
						0	1.019	63.900	225
S19	566191.474	221211.671	66.300	2.450	1350	 1	1.019	63.850	225
						0	1.020	63.850	225
S20	566156.365	221178.059	64.000	1.280	1350	 1	1.020	62.720	225
						0	1.021	62.720	225
Outfall	566149.804	221171.740	64.000	1.330	1350	 1	1.021	62.670	225
S23	566412.695	221462.603	68.607	1.377	1350	 0	2.000	67.230	300
S24	566278.939	221459.839	71.853	1.298	1350	 0	3.000	70.555	225
S25	566297.782	221471.876	71.555	1.590	1350	 1	3.000	69.965	225
						0	3.001	69.965	225
S26	566311.673	221475.190	71.200	1.630	1350	 1	3.001	69.570	225
						0	3.002	69.570	225
S27	566322.093	221470.690	71.002	1.687	1350	 1	4.000	69.315	225
						2	3.002	69.315	225
						0	3.003	69.315	225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S28	566324.860	221459.080	70.780	1.730	1200		1	3.003	69.050	225
							0	3.004	69.050	225
S29	566321.845	221478.854	71.159	1.559	1350					
							0	4.000	69.600	225
S30	566315.200	221414.863	70.357	2.108	1200					
							0	5.000	68.249	225
S31	566313.492	221397.534	70.244	2.169	1200		1	5.000	68.075	225
							0	5.001	68.075	225
S32	566337.172	221393.585	69.663	2.188	1200		1	5.001	67.475	225
							0	5.002	67.475	225
S33	566373.453	221387.535	68.730	1.417	1350					
							0	6.000	67.313	225
S34	566350.731	221391.324	69.306	2.281	1200		1	6.000	67.025	225
							0	6.001	67.025	225
S35	566310.421	221354.440	68.771	1.910	1200					
							0	7.000	66.861	225
S36	566264.517	221440.866	71.402	1.852	1350					
							0	8.000	69.550	225
S37	566257.927	221421.377	70.996	1.846	1350		1	8.000	69.150	225
							0	8.001	69.150	225
S38	566260.388	221405.956	70.660	1.830	1350		1	8.001	68.830	225
							0	8.002	68.830	225
S39	566272.255	221387.152	70.208	1.823	1350		1	8.002	68.385	225
							0	8.003	68.385	225
S40	566271.614	221364.754	69.767	1.827	1350		1	8.003	67.940	225
							0	8.004	67.940	375

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S41	566266.566	221304.972	68.819	2.304	1200		1 9.000 2 8.004 0 8.005	66.590 66.515 66.515	300 375 450
S42	566216.928	221308.893	69.217	2.267	1350		0 9.000	66.950	300
S43	566352.124	221302.577	67.950	1.500	1350		0 10.000	66.450	225
S44	566366.215	221257.420	66.650	1.295	1350		1 10.000 0 10.001	65.355 65.355	225 225
S45	566147.363	221413.093	72.684	1.429	1350		0 11.000	71.255	225
S46	566202.585	221408.732	71.740	2.410	1200		1 12.000 2 11.000 0 11.001	69.330 69.330 69.330	225 225 225
S47	566198.710	221359.673	70.510	1.950	1350		1 11.001 0 11.002	68.560 68.560	225 300
S48	566194.835	221310.596	69.537	2.437	1200		1 13.002 2 11.002 0 11.003	67.540 67.100 67.100	300 300 375
S49	566189.694	221245.301	67.106	1.686	1350		1 14.004 2 11.003 0 11.004	65.570 65.570 65.420	300 375 450
S50	566237.370	221241.191	66.897	1.647	1350		1 11.004 0 11.005	65.250 65.250	450 450
S51	566283.519	221237.727	66.671	1.576	1350		1 11.005 0 11.006	65.095 65.095	450 450
S52	566310.903	221237.683	66.503	1.503	1350		1 11.006 0 11.007	65.000 65.000	450 450
S53	566245.517	221405.342	70.997	1.377	1350		0 12.000	69.620	225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S54	566131.247	221375.943	71.417	1.427	1350		0	13.000	69.990	225
S55	566127.877	221334.287	70.162	1.487	1350		1	13.000	68.675	225
S56	566126.400	221316.040	69.642	1.502	1350		0	13.001	68.675	225
S57	566125.284	221301.394	69.380	3.077	1350		1	13.001	68.215	225
S58	566128.547	221291.991	69.080	2.843	1350		0	13.002	68.140	300
S59	566135.072	221285.325	68.760	2.586	1350		1	14.000	66.303	225
S60	566134.749	221267.724	68.240	2.183	1350		1	14.000	66.237	225
S61	566159.604	221247.890	67.660	1.890	1350		0	14.001	66.237	225
							1	14.001	66.174	225
							0	14.002	66.174	225
							1	14.002	66.057	225
							0	14.003	66.057	225
							1	14.003	65.845	225
							0	14.004	65.770	300

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Detailed
FSR Region	England and Wales	Skip Steady State	x
M5-60 (mm)	20.000	Drain Down Time (mins)	2160
Ratio-R	0.400	Additional Storage (m ³ /ha)	0.0
Summer CV	0.750	Check Discharge Rate(s)	x
Winter CV	0.840	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 %)
100	40	0	0

Node S19 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	63.850	Product Number	CTL-SHE-0159-1210-1000-1210
Design Depth (m)	1.000	Min Outlet Diameter (m)	0.225
Design Flow (l/s)	12.1	Min Node Diameter (mm)	1200

Node S15 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	65.500
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	375

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	144.0	0.0	0.800	895.0	0.0

Node S18 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	64.940
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	930

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	899.0	0.0	1.300	1900.0	0.0

Node S23 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	67.230
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	8

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	60.0	0.0	0.800	60.0	0.0	0.801	0.0	0.0

Node S49 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	65.420
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	20

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	130.0	0.0	0.400	130.0	0.0	0.401	0.0	0.0

Node S50 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	65.250
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	161

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	130.0	0.0	0.400	130.0	0.0	0.401	0.0	0.0

Node S15 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	64.000
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	2175

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	232.5	0.0	1.500	232.5	0.0	1.501	0.0	0.0

Node S18 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	63.900
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	2445

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	225.0	0.0	1.040	225.0	0.0	1.041	0.0	0.0

Node S1 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	70.700	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.450
Safety Factor	2.0	Width (m)	10.000	Inf Depth (m)	
Porosity	0.30	Length (m)	8.320		

Node S5 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	68.520	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	2	Depth (m)	0.450
Safety Factor	2.0	Width (m)	10.000	Inf Depth (m)	
Porosity	0.30	Length (m)	12.730		

Node S11 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	68.030	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	1	Depth (m)	0.450
Safety Factor	2.0	Width (m)	6.260	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node S12 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	67.200	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	4	Depth (m)	0.450
Safety Factor	2.0	Width (m)	5.760	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node S23 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	67.850	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	3	Depth (m)	0.450
Safety Factor	2.0	Width (m)	9.390	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node S24 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	71.100	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.450
Safety Factor	2.0	Width (m)	6.050	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node S31 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	69.500	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.450
Safety Factor	2.0	Width (m)	16.940	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node S34 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	68.550	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.450
Safety Factor	2.0	Width (m)	6.380	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node S35 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	68.020	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	1	Depth (m)	0.450
Safety Factor	2.0	Width (m)	12.760	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node S37 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	70.245	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.450
Safety Factor	2.0	Width (m)	6.170	Inf Depth (m)	
Porosity	1.00	Length (m)	10.000		

Node S40 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	69.015	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.450
Safety Factor	2.0	Width (m)	9.570	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node S41 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	68.070	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	2	Depth (m)	0.450
Safety Factor	2.0	Width (m)	22.251	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node S44 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	65.900	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	45	Depth (m)	0.450
Safety Factor	2.0	Width (m)	27.370	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node S45 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	71.930	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.450
Safety Factor	2.0	Width (m)	29.520	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node S53 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	70.245	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	4	Depth (m)	0.450
Safety Factor	2.0	Width (m)	22.780	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node S47 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	69.760	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	1	Depth (m)	0.450
Safety Factor	2.0	Width (m)	28.700	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node S48 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	68.785	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.450
Safety Factor	2.0	Width (m)	9.580	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node S55 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	69.410	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	1	Depth (m)	0.450
Safety Factor	2.0	Width (m)	31.330	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node S49 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	66.355	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	6	Depth (m)	0.450
Safety Factor	2.0	Width (m)	6.380	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node S50 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	66.145	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	4	Depth (m)	0.450
Safety Factor	2.0	Width (m)	25.800	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node S51 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	65.920	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	2	Depth (m)	0.450
Safety Factor	2.0	Width (m)	20.815	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Node S52 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	65.750	Slope (1:X)	100.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	165	Depth (m)	0.450
Safety Factor	2.0	Width (m)	20.875	Inf Depth (m)	
Porosity	0.30	Length (m)	10.000		

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.53%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
15 minute winter	S1	10	69.884	0.084	24.5	0.1205	0.0000	OK
15 minute winter	S2	10	69.087	0.087	24.3	0.1251	0.0000	OK
15 minute winter	S3	12	68.994	0.544	56.0	0.6156	0.0000	SURCHARGED
15 minute winter	S4	12	68.759	0.824	51.1	0.9319	0.0000	SURCHARGED
15 minute winter	S5	13	68.604	1.039	77.0	2.2296	0.0000	SURCHARGED
15 minute winter	S6	15	68.325	1.145	196.9	1.6380	0.0000	SURCHARGED
15 minute winter	S7	12	68.323	1.543	172.8	1.7452	0.0000	SURCHARGED
15 minute winter	S8	12	68.326	1.951	206.4	2.2066	0.0000	SURCHARGED
15 minute winter	S9	12	68.298	2.178	227.1	2.4637	0.0000	SURCHARGED
15 minute winter	S10	12	68.247	2.377	218.3	2.6883	0.0000	SURCHARGED
15 minute winter	S11	12	68.080	2.590	278.5	3.1635	0.0000	SURCHARGED
15 minute winter	S12	12	67.688	2.713	606.9	10.8076	0.0000	FLOOD RISK
30 minute winter	S13	21	66.844	2.064	547.3	2.9534	0.0000	SURCHARGED
600 minute winter	S14	585	65.922	1.462	103.9	2.0919	0.0000	SURCHARGED
600 minute winter	S15	585	65.922	1.922	103.8	251.6864	0.0000	SURCHARGED
600 minute winter	Swale 1	585	65.922	1.942	96.9	3.4310	0.0000	SURCHARGED
600 minute winter	S16	585	65.922	1.962	144.9	2.8072	0.0000	SURCHARGED
600 minute winter	S17	585	65.922	1.982	143.7	2.8358	0.0000	SURCHARGED
600 minute winter	Detention Basin	585	65.922	2.002	143.6	3.5370	0.0000	SURCHARGED
600 minute winter	S18	585	65.922	2.022	143.4	1327.1690	0.0000	SURCHARGED
600 minute winter	S19	585	65.904	2.054	17.0	2.9392	0.0000	SURCHARGED
600 minute winter	S20	585	62.833	0.113	17.0	0.1619	0.0000	OK
600 minute winter	Outfall	585	62.774	0.104	17.0	0.0000	0.0000	OK
15 minute winter	S23	15	68.340	1.110	214.5	58.5041	0.0000	FLOOD RISK
15 minute summer	S24	1	70.555	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 (m ³)	Discharge Vol (m ³)
15 minute winter	S1	1.000	S2	24.3	1.748	0.288	0.4248	
15 minute winter	S2	1.001	S3	23.9	1.090	0.323	0.7347	
15 minute winter	S3	1.002	S4	51.1	1.855	0.693	1.0224	
15 minute winter	S4	1.003	S5	47.4	1.379	0.641	0.7307	
15 minute winter	S5	1.004	S6	70.8	1.782	0.963	0.7700	
15 minute winter	S6	1.005	S7	172.8	1.816	0.861	4.3792	
15 minute winter	S7	1.006	S8	189.4	1.905	0.950	4.4927	
15 minute winter	S8	1.007	S9	215.2	1.717	0.664	4.0192	
15 minute winter	S9	1.008	S10	213.3	1.818	0.664	4.0115	
15 minute winter	S10	1.009	S11	236.8	1.837	0.719	5.8011	
15 minute winter	S11	1.010	S12	275.4	1.739	0.863	8.3626	
15 minute winter	S12	1.011	S13	556.1	3.510	1.718	3.0827	
30 minute winter	S13	1.012	S14	543.5	3.430	1.933	5.1223	
600 minute winter	S14	1.013	S15	103.8	1.239	0.105	2.4133	
600 minute winter	S15	1.014	Swale 1	96.9	0.383	0.367	18.7258	
600 minute winter	Swale 1	1.015	S16	96.7	0.300	0.080	27.1661	
600 minute winter	S16	1.016	S17	143.7	0.361	0.126	8.1483	
600 minute winter	S17	1.017	Detention Basin	143.6	0.345	0.237	105.9276	
600 minute winter	Detention Basin	1.018	S18	143.4	0.670	0.089	15.2399	
600 minute winter	S18	1.019	S19	17.0	0.428	0.503	0.4629	
600 minute winter	S19	Hydro-Brake®	S20	17.0				
600 minute winter	S20	1.021	Outfall	17.0	0.899	0.444	0.1726	2360.1
15 minute winter	S23	2.000	S6	-195.6	-2.778	-2.572	0.7464	
15 minute summer	S24	3.000	S25	0.0	0.000	0.000	0.1629	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.53%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
15 minute winter	S25	10	70.057	0.092	30.2	0.1312	0.0000	OK
15 minute winter	S26	11	69.754	0.184	54.4	0.2640	0.0000	OK
15 minute winter	S27	11	69.624	0.309	77.9	0.4428	0.0000	SURCHARGED
15 minute winter	S28	11	69.258	0.208	100.4	0.2352	0.0000	OK
15 minute winter	S29	10	69.640	0.040	6.9	0.0577	0.0000	OK
15 minute winter	S30	12	68.380	0.131	1.6	0.1476	0.0000	OK
15 minute winter	S31	12	68.361	0.286	33.3	0.3235	0.0000	SURCHARGED
15 minute winter	S32	12	68.304	0.829	49.3	0.9380	0.0000	SURCHARGED
15 minute winter	S33	12	68.280	0.967	25.2	1.3839	0.0000	SURCHARGED
15 minute winter	S34	12	68.278	1.253	35.2	1.4173	0.0000	SURCHARGED
15 minute winter	S35	13	68.095	1.234	26.7	2.4866	0.0000	SURCHARGED
15 minute winter	S36	10	69.602	0.052	8.8	0.0750	0.0000	OK
15 minute winter	S37	10	69.285	0.135	44.5	0.1929	0.0000	OK
15 minute winter	S38	12	69.091	0.261	52.8	0.3728	0.0000	SURCHARGED
15 minute winter	S39	12	68.883	0.498	60.4	0.7132	0.0000	SURCHARGED
15 minute winter	S40	11	68.625	0.685	176.0	0.9797	0.0000	SURCHARGED
15 minute winter	S41	13	68.264	1.749	367.7	11.6285	0.0000	SURCHARGED
15 minute winter	S42	11	68.655	1.705	108.1	2.4402	0.0000	SURCHARGED
15 minute winter	S43	10	66.520	0.070	17.0	0.1000	0.0000	OK
600 minute winter	S44	585	65.922	0.567	5.6	1.0099	0.0000	SURCHARGED
15 minute winter	S45	10	71.388	0.133	54.1	0.1904	0.0000	OK
15 minute winter	S46	11	70.456	1.126	110.1	1.2733	0.0000	SURCHARGED
15 minute winter	S47	11	69.765	1.205	193.2	1.7351	0.0000	SURCHARGED
15 minute winter	S48	12	68.392	1.292	339.4	1.4612	0.0000	SURCHARGED
30 minute winter	S49	22	66.878	1.458	335.5	59.2193	0.0000	FLOOD RISK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m ³)	Discharge Vol (m ³)
15 minute winter	S25	3.001	S26	30.0	1.286	0.345	0.3523	
15 minute winter	S26	3.002	S27	52.4	1.452	0.671	0.4234	
15 minute winter	S27	3.003	S28	77.1	1.958	0.992	0.4663	
15 minute winter	S28	3.004	S8	101.1	2.790	0.974	0.9493	
15 minute winter	S29	4.000	S27	6.9	0.305	0.070	0.1820	
15 minute winter	S30	5.000	S31	4.6	0.138	0.089	0.5541	
15 minute winter	S31	5.001	S32	33.0	1.881	0.401	0.9548	
15 minute winter	S32	5.002	S10	42.6	2.906	0.258	0.4040	
15 minute winter	S33	6.000	S34	-25.2	-0.635	-0.434	0.9161	
15 minute winter	S34	6.001	S10	30.0	2.605	0.182	0.2258	
15 minute winter	S35	7.000	S11	27.6	1.304	0.411	1.3006	
15 minute winter	S36	8.000	S37	8.7	0.579	0.120	0.3274	
15 minute winter	S37	8.001	S38	44.0	1.669	0.590	0.4610	
15 minute winter	S38	8.002	S39	52.2	1.753	0.709	0.8843	
15 minute winter	S39	8.003	S40	57.9	1.639	0.788	0.8912	
15 minute winter	S40	8.004	S41	158.9	1.995	0.514	6.6173	
15 minute winter	S41	8.005	S12	300.1	1.894	0.636	11.4908	
15 minute winter	S42	9.000	S41	101.5	1.442	1.076	3.5063	
15 minute winter	S43	10.000	S44	16.8	0.914	0.211	1.0508	
600 minute winter	S44	10.001	S14	5.4	1.024	0.055	0.6620	
15 minute winter	S45	11.000	S46	51.9	1.449	0.534	1.7781	
15 minute winter	S46	11.001	S47	82.1	2.074	1.260	1.9572	
15 minute winter	S47	11.002	S48	185.9	2.651	0.968	3.4667	
15 minute winter	S48	11.003	S49	326.1	3.002	1.064	7.2241	
30 minute winter	S49	11.004	S50	307.8	1.943	1.604	7.5820	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.53%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
30 minute winter	S50	24	66.413	1.163	333.2	67.9759	0.0000	SURCHARGED
30 minute winter	S51	23	65.968	0.873	306.6	1.9812	0.0000	SURCHARGED
600 minute winter	S52	585	65.922	0.922	55.8	8.9509	0.0000	SURCHARGED
15 minute winter	S53	13	70.461	0.841	68.0	12.5773	0.0000	SURCHARGED
15 minute summer	S54	1	69.990	0.000	0.0	0.0000	0.0000	OK
15 minute winter	S55	12	69.428	0.753	61.6	1.2263	0.0000	SURCHARGED
15 minute winter	S56	12	69.218	1.078	134.0	1.5422	0.0000	SURCHARGED
30 minute winter	S57	22	66.967	0.664	11.2	0.9498	0.0000	SURCHARGED
30 minute winter	S58	22	66.969	0.732	18.1	1.0481	0.0000	SURCHARGED
30 minute winter	S59	22	66.966	0.792	23.0	1.1331	0.0000	SURCHARGED
30 minute winter	S60	22	66.938	0.881	22.6	1.2604	0.0000	SURCHARGED
30 minute winter	S61	22	66.907	1.137	42.5	1.6267	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m ³)	Discharge Vol (m ³)
30 minute winter	S50	11.005	S51	285.1	1.800	1.531	7.3326	
30 minute winter	S51	11.006	S52	307.4	1.940	1.621	4.3388	
600 minute winter	S52	11.007	S16	56.2	0.889	0.427	1.8787	
15 minute winter	S53	12.000	S46	54.4	1.368	1.278	1.7128	
15 minute summer	S54	13.000	S55	0.0	0.000	0.000	0.8311	
15 minute winter	S55	13.001	S56	55.3	1.797	0.669	0.7281	
15 minute winter	S56	13.002	S48	115.0	1.634	1.108	4.8343	
30 minute winter	S57	14.000	S58	-11.2	-0.280	-0.264	0.3958	
30 minute winter	S58	14.001	S59	14.5	0.584	0.341	0.3710	
30 minute winter	S59	14.002	S60	22.6	1.024	0.536	0.7001	
30 minute winter	S60	14.003	S61	30.6	1.211	0.722	1.2647	
30 minute winter	S61	14.004	S49	47.2	1.046	0.523	2.1267	