

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	5	Maximum Rainfall (mm/hr)	250.0
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	0.200	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	1.00	Enforce best practice design rules	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
1	0.015	1.00	146.430	450	-80.264	21.190	1.350
Carpark 1			146.400		-78.637	17.555	1.387
2			146.400	1200	-79.738	13.967	2.731
3	0.017	1.00	146.400	450	-76.772	27.888	1.350
Carpark 2			146.450		-74.188	24.300	1.475
4			146.450	1200	-73.901	20.664	1.537
5	0.013	1.00	146.600	450	-72.199	33.373	1.300
Carpark 3			146.600		-69.028	30.249	1.375
6			146.600	1200	-68.936	26.894	1.432
7	0.017	1.00	146.400	450	-67.623	40.007	1.350
Carpark 4			146.400		-64.663	36.230	1.431
9			146.400	1200	-64.975	31.947	1.900
10	0.014	1.00	147.000	450	-62.503	44.680	1.350
Carpark 5			147.000		-60.393	41.773	1.411
11			147.000	1200	-60.222	38.010	1.475
12	0.019	1.00	147.400	450	-58.529	52.488	1.350
Carpark 6			147.400		-55.164	48.341	1.440
13			147.400	1200	-55.516	44.193	1.900
14	0.013	1.00	147.450	450	-53.681	58.260	1.300
Carpark 7			147.450		-50.285	54.435	1.386
16			147.450	1200	-50.285	50.968	1.445
17	0.016	1.00	147.300	450	-49.109	64.430	1.350
Carpark 8			147.300		-46.450	60.627	1.428
18			147.300	1200	-46.316	56.185	1.900
19	0.013	1.00	147.200	450	-45.668	69.477	1.300
Carpark 9			147.200		-41.598	65.589	1.395
20			147.200	1200	-41.547	62.141	1.453
21	0.012	1.00	147.500	450	-34.885	76.455	1.300
Carpark 10			147.500		-32.817	71.341	1.393
22			147.500	1200	-30.786	68.766	1.449
23	0.012	1.00	147.700	450	-30.097	78.704	1.300
Carpark 11			147.700		-27.812	73.336	1.399
24			147.700	1200	-27.595	70.072	1.454
25	0.017	1.00	147.900	450	-21.343	79.962	1.350
Carpark 12			147.900		-20.730	75.861	1.420
26			147.900	1200	-22.914	72.566	1.800
27	0.013	1.00	148.000	450	-14.926	81.960	1.300
Carpark 13			148.000		-13.468	78.878	1.358
28			148.000	1200	-15.621	75.731	1.423
29	0.013	1.00	148.300	450	-8.998	85.556	1.300
Carpark 14			148.300		-7.065	81.637	1.374

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
30			148.300	1200	-9.093	78.720	1.434
31	0.020	1.00	148.600	450	-1.265	89.321	1.450
Carpark 15			148.600		-0.190	85.471	1.518
32			148.600	1200	-2.966	81.711	2.100
33	0.017	1.00	148.600	450	5.515	92.517	1.350
Carpark 16			148.600		7.735	88.656	1.425
34			148.600	1200	4.984	85.230	1.499
35	0.013	1.00	149.000	450	11.740	95.219	1.300
36			149.000	1200	12.319	88.753	1.430
Carpark 17			149.000		14.105	91.745	1.371
37	0.018	1.00	149.670	450	33.085	94.302	1.350
38			149.670	1200	24.724	95.361	1.533
Carpark 18			149.670		26.935	91.770	1.462
39	0.018	1.00	149.300	450	36.533	85.969	1.350
Carpark 19			149.300		31.208	85.696	1.440
40			149.300	1200	28.213	87.784	1.800
41	0.020	1.00	149.300	450	39.602	78.333	1.500
42			149.300	1200	31.553	81.003	1.800
43	0.014	1.00	149.200	450	42.722	72.815	1.350
Carpark 20			149.300		34.461	77.439	1.588
Carpark 21			149.250		38.270	71.157	1.480
44			149.200	1200	35.011	72.688	1.491
45	0.012	1.00	149.600	450	23.007	56.040	1.300
Carpark 22			149.600		27.366	58.200	1.382
46			149.600	1200	30.815	59.413	1.444
47	0.012	1.00	149.570	450	21.282	59.748	1.300
Carpark 23			149.570		25.518	62.362	1.384
48			149.570	1200	29.457	62.561	1.451
49	0.015	1.00	149.200	450	18.741	68.562	1.550
Carpark 24			149.200		23.462	69.606	1.632
50			149.200	1200	24.324	73.328	1.697
51	0.020	1.00	148.750	450	14.659	74.665	1.350
Carpark 25			148.750		20.294	77.016	1.453
52			148.750	1200	18.689	81.084	1.527
53	0.018	1.00	148.000	450	-8.098	61.217	1.350
Carpark 26			148.000		-9.536	66.545	1.443
54			148.000	1200	-13.638	66.672	1.512
55	0.014	1.00	147.800	450	-17.401	58.722	1.350
Carpark 27			147.800		-17.021	62.951	1.422
56			147.800	1200	-19.939	63.162	1.472
57	0.017	1.00	147.500	450	-23.115	55.197	1.350
Carpark 28			147.500		-23.571	59.665	1.426
58			147.500	1200	-27.446	59.620	1.492
59	0.017	1.00	147.500	450	-35.900	39.382	1.350
Carpark 29			147.500		-36.494	43.872	1.427
60			147.500	1200	-41.132	47.546	2.100
61	0.014	1.00	147.200	450	-42.836	33.221	1.350
Carpark 30			147.200		-47.353	31.633	1.431
62			147.200	1200	-51.200	34.774	2.100
Depth/Area 1		1.00	146.920		-52.695	26.298	1.300
Depth/Area 2		1.00	147.500		-32.451	47.862	1.300
Depth/Area 3			146.480		-90.773	13.539	2.891

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
63			149.170	1200	21.338	88.703	1.893
64			147.850	1350	-6.356	75.867	2.050
65			147.300	1500	-33.542	63.347	1.874
66			147.100	1500	-42.120	55.700	2.004
67			146.920	1500	-58.447	34.332	2.720
68			146.400	1500	-78.728	10.220	2.760
69			146.500	1500	-83.640	13.071	2.900
70			146.400	1500	-97.645	13.635	2.927
J1			149.300		33.112	63.153	1.218
J2			149.500		31.603	66.195	1.556
J3			148.950		27.982	74.528	1.579
J4			149.000		26.383	77.849	1.651
J5			149.100		24.516	81.738	1.777
J7			148.580		9.677	83.274	1.523
J8			148.420		4.098	80.719	1.622
J9			148.000		-3.611	77.184	2.000
J10			147.790		-9.956	74.288	2.000
J11			147.800		-16.340	71.390	2.032
J12			147.720		-19.812	69.686	1.962
J13			147.620		-23.671	67.950	1.871
J14			147.570		-26.298	66.812	1.827
J15			147.300		-45.265	51.661	2.313
J17			147.150		-49.248	46.387	2.400
J18			147.200		-52.170	42.470	2.634
J19			147.150		-54.361	39.754	2.843
J20			146.740		-63.377	28.452	2.740
J21			146.610		-67.691	23.264	2.710
J22			146.550		-72.737	17.071	2.750
J23			148.610		-101.714	14.083	5.206
J24	0.062	1.00	149.170		19.263	98.654	1.425
Carpark 31			149.170		19.531	95.077	1.486
J25	0.033	1.00	147.850		1.126	76.189	1.350
Carpark 32			147.850		-2.403	74.886	1.414
J26	0.035	1.00	147.300		-25.882	63.600	1.350
Carpark 33			147.300		-29.071	63.210	1.404
J27	0.014	1.00	147.100		-35.501	58.680	1.350
Carpark 34			147.100		-38.380	57.164	1.405
J28	0.032	1.00	146.920		-50.264	40.378	1.350
Carpark 35			146.920		-52.946	37.966	1.411
J29	0.070	1.00	146.400		-86.144	2.281	1.425
Carpark 36			146.400		-81.172	6.236	1.532
15			146.920	1200	-54.982	35.193	1.920
8			146.400	1200	-77.876	8.127	2.400

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)
1.003	J1	J2	3.396	0.600	148.082	147.944	0.138	24.6	100	1.25	86.7
1.004	J2	J3	9.086	0.600	147.944	147.421	0.523	17.4	100	1.33	85.9
1.005	J3	J4	3.686	0.600	147.371	147.349	0.022	167.5	225	1.39	85.4
1.006	J4	J5	4.314	0.600	147.349	147.323	0.026	165.9	225	1.46	84.7
1.007	J5	63	7.656	0.600	147.323	147.277	0.046	166.4	225	1.59	83.6
1.008	63	J7	12.863	0.600	147.277	147.057	0.220	58.5	300	1.69	82.7
1.009	J7	J8	6.136	0.600	147.057	146.800	0.257	23.9	300	1.73	82.5
1.010	J8	J9	8.481	0.600	146.798	146.000	0.798	10.6	300	1.76	82.2
1.011	J9	64	3.045	0.600	146.000	145.800	0.200	15.2	300	1.77	82.1
1.012	64	J10	3.931	0.600	145.800	145.790	0.010	393.1	450	1.83	81.6
1.013	J10	J11	7.011	0.600	145.790	145.768	0.022	318.7	450	1.94	80.8
1.014	J11	J12	3.868	0.600	145.768	145.758	0.010	386.8	450	2.00	80.3
1.015	J12	J13	4.231	0.600	145.758	145.749	0.009	470.2	525	2.07	79.7
1.016	J13	J14	2.863	0.600	145.749	145.743	0.006	477.1	525	2.11	79.4
1.017	J14	65	8.030	0.600	145.743	145.426	0.317	25.3	525	2.14	79.2
1.018	65	66	11.492	0.600	145.426	145.096	0.330	34.8	525	2.19	78.8
1.019	66	J15	5.119	0.600	145.096	144.987	0.109	47.0	525	2.22	78.6
1.020	J15	J17	6.609	0.600	144.987	144.775	0.212	31.2	525	2.25	78.4
1.021	J17	J18	4.887	0.600	144.775	144.566	0.209	23.4	525	2.26	78.3
1.022	J18	J19	3.490	0.600	144.566	144.307	0.259	13.5	525	2.27	78.2
1.023	J19	67	6.789	0.600	144.307	144.200	0.107	63.5	525	2.31	77.9
1.024	67	J20	7.673	0.600	144.200	144.000	0.200	38.4	525	2.35	77.7
1.025	J20	J21	6.747	0.600	144.000	143.900	0.100	67.5	525	2.39	77.4
1.026	J21	J22	7.988	0.600	143.900	143.800	0.100	79.9	525	2.44	77.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.003	1.562	12.3	2.8	1.118	1.456	0.012	0.0
1.004	1.862	14.6	5.6	1.456	1.429	0.024	0.0
1.005	1.007	40.0	8.8	1.354	1.426	0.038	0.0
1.006	1.012	40.2	12.2	1.426	1.552	0.053	0.0
1.007	1.010	40.2	16.5	1.552	1.668	0.073	0.0
1.008	2.060	145.6	38.3	1.593	1.223	0.171	0.0
1.009	3.231	228.4	45.6	1.223	1.320	0.204	0.0
1.010	4.849	342.7	49.2	1.322	1.700	0.221	0.0
1.011	4.049	286.2	53.6	1.700	1.750	0.241	0.0
1.012	1.019	162.1	60.6	1.600	1.550	0.274	0.0
1.013	1.133	180.2	62.8	1.550	1.582	0.287	0.0
1.014	1.027	163.4	65.3	1.582	1.512	0.300	0.0
1.015	1.026	222.1	68.7	1.437	1.346	0.318	0.0
1.016	1.018	220.5	72.1	1.346	1.302	0.335	0.0
1.017	4.463	966.1	74.9	1.302	1.349	0.349	0.0
1.018	3.804	823.5	90.8	1.349	1.479	0.425	0.0
1.019	3.274	708.7	96.3	1.479	1.788	0.452	0.0
1.020	4.021	870.5	99.5	1.788	1.850	0.468	0.0
1.021	4.646	1005.6	105.7	1.850	2.109	0.498	0.0
1.022	6.124	1325.7	105.6	2.109	2.318	0.498	0.0
1.023	2.815	609.4	112.1	2.318	2.195	0.531	0.0
1.024	3.624	784.4	121.5	2.195	2.215	0.577	0.0
1.025	2.729	590.8	124.6	2.215	2.185	0.594	0.0
1.026	2.507	542.8	126.7	2.185	2.225	0.607	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)
1.027	J22	68	9.101	0.600	143.800	143.640	0.160	56.9	525	2.50	76.7
1.028	68	69	5.679	0.600	143.640	143.600	0.040	142.0	525	2.55	76.3
1.029	69	Depth/Area 3	7.148	0.600	143.600	143.589	0.011	649.8	675	2.66	75.5
1.030	Depth/Area 3	70	6.873	0.600	143.589	143.473	0.116	59.2	675	2.70	75.3
1.031	70	J23	4.094	0.600	143.473	143.404	0.069	59.3	675	2.72	75.2
38.000	1	Carpark 1	3.983	0.600	145.080	145.013	0.067	59.4	150	1.05	88.7
38.001	Carpark 1	2	3.753	0.600	145.013	143.669	1.344	2.8	150	1.06	88.6
38.002	2	69	4.004	0.600	143.669	143.600	0.069	58.0	150	1.11	88.1
36.000	3	Carpark 2	4.422	0.600	145.050	144.975	0.075	59.0	150	1.06	88.6
36.001	Carpark 2	4	3.647	0.600	144.975	144.913	0.062	58.8	150	1.10	88.1
36.002	4	J22	3.777	0.600	144.913	143.800	1.113	3.4	150	1.11	88.0
35.000	5	Carpark 3	4.451	0.600	145.300	145.225	0.075	59.4	100	1.07	88.4
35.001	Carpark 3	6	3.356	0.600	145.225	145.168	0.057	58.9	100	1.13	87.9
35.002	6	J21	3.838	0.600	145.168	143.900	1.268	3.0	100	1.14	87.7
34.000	7	Carpark 4	4.799	0.600	145.050	144.969	0.081	59.2	150	1.06	88.6
34.001	Carpark 4	9	4.294	0.600	144.969	144.500	0.469	9.2	150	1.08	88.3
34.002	9	J20	3.843	0.600	144.500	144.000	0.500	7.7	150	1.10	88.2
31.000	10	Carpark 5	3.592	0.600	145.650	145.589	0.061	58.9	150	1.05	88.7
31.001	Carpark 5	11	3.767	0.600	145.589	145.525	0.064	58.9	150	1.09	88.2
31.002	11	67	4.084	0.600	145.525	144.200	1.325	3.1	150	1.11	88.1
30.000	12	Carpark 6	5.340	0.600	146.050	145.960	0.090	59.3	150	1.07	88.5
30.001	Carpark 6	13	4.163	0.600	145.960	145.500	0.460	9.0	150	1.09	88.3
30.002	13	J19	4.587	0.600	145.500	144.307	1.193	3.8	150	1.10	88.1
28.000	14	Carpark 7	5.115	0.600	146.150	146.064	0.086	59.5	100	1.09	88.3

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
1.027	2.974	643.7	129.7	2.225	2.235	0.624	0.0
1.028	1.877	406.4	143.6	2.235	2.375	0.694	0.0
1.029	1.020	365.1	145.2	2.225	2.216	0.709	0.0
1.030	3.409	1219.7	144.7	2.216	2.252	0.709	0.0
1.031	3.406	1218.9	144.5	2.252	4.531	0.709	0.0
38.000	1.307	23.1	3.6	1.200	1.237	0.015	0.0
38.001	6.076	107.4	3.6	1.237	2.581	0.015	0.0
38.002	1.323	23.4	3.6	2.581	2.750	0.015	0.0
36.000	1.312	23.2	4.1	1.200	1.325	0.017	0.0
36.001	1.314	23.2	4.1	1.325	1.387	0.017	0.0
36.002	5.510	97.4	4.1	1.387	2.600	0.017	0.0
35.000	1.001	7.9	3.1	1.200	1.275	0.013	0.0
35.001	1.005	7.9	3.1	1.275	1.332	0.013	0.0
35.002	4.479	35.2	3.1	1.332	2.610	0.013	0.0
34.000	1.309	23.1	4.1	1.200	1.281	0.017	0.0
34.001	3.349	59.2	4.1	1.281	1.750	0.017	0.0
34.002	3.657	64.6	4.1	1.750	2.590	0.017	0.0
31.000	1.313	23.2	3.4	1.200	1.261	0.014	0.0
31.001	1.313	23.2	3.3	1.261	1.325	0.014	0.0
31.002	5.782	102.2	3.3	1.325	2.570	0.014	0.0
30.000	1.308	23.1	4.6	1.200	1.290	0.019	0.0
30.001	3.369	59.5	4.5	1.290	1.750	0.019	0.0
30.002	5.176	91.5	4.5	1.750	2.693	0.019	0.0
28.000	1.000	7.9	3.1	1.200	1.286	0.013	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)
28.001	Carpark 7	16	3.467	0.600	146.064	146.005	0.059	58.8	100	1.14	87.7
28.002	16	J17	4.697	0.600	146.005	144.775	1.230	3.8	100	1.16	87.6
26.000	17	Carpark 8	4.640	0.600	145.950	145.872	0.078	59.5	150	1.06	88.6
26.001	Carpark 8	18	4.444	0.600	145.872	145.400	0.472	9.4	150	1.08	88.4
26.002	18	J15	4.644	0.600	145.400	144.987	0.413	11.2	150	1.11	88.1
23.000	19	Carpark 9	5.629	0.600	145.900	145.805	0.095	59.2	100	1.09	88.2
23.001	Carpark 9	20	3.448	0.600	145.805	145.747	0.058	59.5	100	1.15	87.7
23.002	20	66	6.466	0.600	145.747	145.096	0.651	9.9	100	1.19	87.2
21.000	21	Carpark 10	5.516	0.600	146.200	146.107	0.093	59.3	100	1.09	88.3
21.001	Carpark 10	22	3.280	0.600	146.107	146.051	0.056	58.6	100	1.15	87.7
8.000	J24	Carpark 31	3.587	0.600	147.745	147.684	0.061	58.8	225	1.03	88.8
21.002	22	65	6.080	0.600	146.051	145.426	0.625	9.7	100	1.19	87.3
19.000	23	Carpark 11	5.834	0.600	146.400	146.301	0.099	58.9	100	1.10	88.2
19.001	Carpark 11	24	3.271	0.600	146.301	146.246	0.055	59.5	100	1.15	87.7
19.002	24	65	8.977	0.600	146.246	145.426	0.820	10.9	100	1.21	87.0
17.000	25	Carpark 12	4.147	0.600	146.550	146.480	0.070	59.2	150	1.05	88.6
17.001	Carpark 12	26	3.953	0.600	146.480	146.100	0.380	10.4	150	1.07	88.4
17.002	26	J13	4.678	0.600	146.100	145.749	0.351	13.3	150	1.10	88.2
15.000	27	Carpark 13	3.409	0.600	146.700	146.642	0.058	58.8	100	1.06	88.6
15.001	Carpark 13	28	3.813	0.600	146.642	146.577	0.065	58.7	100	1.12	88.0
15.002	28	J11	4.400	0.600	146.577	145.768	0.809	5.4	100	1.14	87.8
14.000	29	Carpark 14	4.370	0.600	147.000	146.926	0.074	59.1	100	1.07	88.4
14.001	Carpark 14	30	3.553	0.600	146.926	146.866	0.060	59.2	100	1.13	87.9
14.002	30	J10	4.515	0.600	146.866	145.790	1.076	4.2	100	1.15	87.7

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
28.001	1.006	7.9	3.1	1.286	1.345	0.013	0.0
28.002	3.986	31.3	3.1	1.345	2.275	0.013	0.0
26.000	1.306	23.1	3.8	1.200	1.278	0.016	0.0
26.001	3.303	58.4	3.8	1.278	1.750	0.016	0.0
26.002	3.021	53.4	3.8	1.750	2.163	0.016	0.0
23.000	1.002	7.9	3.1	1.200	1.295	0.013	0.0
23.001	1.001	7.9	3.1	1.295	1.353	0.013	0.0
23.002	2.466	19.4	3.1	1.353	1.904	0.013	0.0
21.000	1.002	7.9	2.9	1.200	1.293	0.012	0.0
21.001	1.008	7.9	2.9	1.293	1.349	0.012	0.0
8.000	1.708	67.9	14.9	1.200	1.261	0.062	0.0
21.002	2.492	19.6	2.8	1.349	1.774	0.012	0.0
19.000	1.005	7.9	2.9	1.200	1.299	0.012	0.0
19.001	1.000	7.9	2.9	1.299	1.354	0.012	0.0
19.002	2.349	18.4	2.8	1.354	1.774	0.012	0.0
17.000	1.309	23.1	4.1	1.200	1.270	0.017	0.0
17.001	3.141	55.5	4.1	1.270	1.650	0.017	0.0
17.002	2.774	49.0	4.1	1.650	1.721	0.017	0.0
15.000	1.006	7.9	3.1	1.200	1.258	0.013	0.0
15.001	1.007	7.9	3.1	1.258	1.323	0.013	0.0
15.002	3.338	26.2	3.1	1.323	1.932	0.013	0.0
14.000	1.004	7.9	3.1	1.200	1.274	0.013	0.0
14.001	1.003	7.9	3.1	1.274	1.334	0.013	0.0
14.002	3.802	29.9	3.1	1.334	1.900	0.013	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)
12.000	31	Carpark 15	3.997	0.600	147.150	147.082	0.068	58.8	150	1.05	88.7
12.001	Carpark 15	32	4.674	0.600	147.082	146.500	0.582	8.0	150	1.07	88.4
12.002	32	J9	4.573	0.600	146.500	146.000	0.500	9.1	150	1.10	88.2
11.000	33	Carpark 16	4.454	0.600	147.250	147.175	0.075	59.4	150	1.06	88.6
11.001	Carpark 16	34	4.394	0.600	147.175	147.101	0.074	59.4	150	1.11	88.0
11.002	34	J8	4.597	0.600	147.101	146.798	0.303	15.2	150	1.14	87.8
10.000	35	Carpark 17	4.203	0.600	147.700	147.629	0.071	59.2	100	1.07	88.5
10.001	Carpark 17	36	3.485	0.600	147.629	147.570	0.059	59.1	100	1.13	87.9
10.002	36	J7	6.083	0.600	147.570	147.057	0.513	11.9	100	1.17	87.5
6.000	37	Carpark 18	6.651	0.600	148.320	148.208	0.112	59.4	150	1.08	88.3
6.001	Carpark 18	38	4.217	0.600	148.208	148.137	0.071	59.4	150	1.14	87.8
6.002	38	63	7.470	0.600	148.137	147.277	0.860	8.7	150	1.17	87.4
7.000	39	Carpark 19	5.332	0.600	147.950	147.860	0.090	59.2	150	1.07	88.5
7.001	Carpark 19	40	3.651	0.600	147.860	147.500	0.360	10.1	150	1.09	88.3
7.002	40	63	6.936	0.600	147.500	147.277	0.223	31.1	150	1.15	87.7
5.000	41	Carpark 20	5.218	0.600	147.800	147.712	0.088	59.3	150	1.07	88.5
5.001	Carpark 20	42	4.600	0.600	147.712	147.500	0.212	21.7	150	1.10	88.2
5.002	42	J5	7.075	0.600	147.500	147.323	0.177	40.0	150	1.18	87.4
3.000	43	Carpark 21	4.751	0.600	147.850	147.770	0.080	59.4	150	1.06	88.6
3.001	Carpark 21	44	3.601	0.600	147.770	147.709	0.061	59.0	150	1.11	88.1
3.002	44	J3	7.266	0.600	147.709	147.371	0.338	21.5	150	1.16	87.6
1.000	45	Carpark 22	4.865	0.600	148.300	148.218	0.082	59.3	100	1.08	88.4
1.001	Carpark 22	46	3.656	0.600	148.218	148.156	0.062	59.0	100	1.14	87.8
1.002	46	J1	4.389	0.600	148.156	148.082	0.074	59.3	100	1.21	87.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
12.000	1.314	23.2	4.8	1.300	1.368	0.020	0.0
12.001	3.577	63.2	4.8	1.368	1.950	0.020	0.0
12.002	3.351	59.2	4.8	1.950	1.850	0.020	0.0
11.000	1.307	23.1	4.1	1.200	1.275	0.017	0.0
11.001	1.307	23.1	4.1	1.275	1.349	0.017	0.0
11.002	2.599	45.9	4.0	1.349	1.472	0.017	0.0
10.000	1.003	7.9	3.1	1.200	1.271	0.013	0.0
10.001	1.004	7.9	3.1	1.271	1.330	0.013	0.0
10.002	2.256	17.7	3.1	1.330	1.423	0.013	0.0
6.000	1.307	23.1	4.3	1.200	1.312	0.018	0.0
6.001	1.307	23.1	4.3	1.312	1.383	0.018	0.0
6.002	3.439	60.8	4.3	1.383	1.743	0.018	0.0
7.000	1.309	23.1	4.3	1.200	1.290	0.018	0.0
7.001	3.182	56.2	4.3	1.290	1.650	0.018	0.0
7.002	1.811	32.0	4.3	1.650	1.743	0.018	0.0
5.000	1.308	23.1	4.8	1.350	1.438	0.020	0.0
5.001	2.171	38.4	4.8	1.438	1.650	0.020	0.0
5.002	1.596	28.2	4.7	1.650	1.627	0.020	0.0
3.000	1.307	23.1	3.4	1.200	1.330	0.014	0.0
3.001	1.311	23.2	3.3	1.330	1.341	0.014	0.0
3.002	2.181	38.5	3.3	1.341	1.429	0.014	0.0
1.000	1.002	7.9	2.9	1.200	1.282	0.012	0.0
1.001	1.005	7.9	2.9	1.282	1.344	0.012	0.0
1.002	1.002	7.9	2.8	1.344	1.118	0.012	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)
2.000	47	Carpark 23	4.978	0.600	148.270	148.186	0.084	59.3	100	1.08	88.3
2.001	Carpark 23	48	3.944	0.600	148.186	148.119	0.067	58.9	100	1.15	87.7
2.002	48	J2	4.220	0.600	148.119	147.944	0.175	24.1	100	1.19	87.3
4.000	49	Carpark 24	4.835	0.600	147.650	147.568	0.082	59.0	150	1.06	88.6
4.001	Carpark 24	50	3.821	0.600	147.568	147.503	0.065	58.8	150	1.11	88.1
4.002	50	J4	4.968	0.600	147.503	147.349	0.154	32.3	150	1.16	87.6
9.000	51	Carpark 25	6.106	0.600	147.400	147.297	0.103	59.3	150	1.08	88.4
9.001	Carpark 25	52	4.373	0.600	147.297	147.223	0.074	59.1	150	1.13	87.8
9.002	52	J7	9.274	0.600	147.223	147.057	0.166	55.9	150	1.25	86.7
16.000	53	Carpark 26	5.519	0.600	146.650	146.557	0.093	59.3	150	1.07	88.5
16.001	Carpark 26	54	4.104	0.600	146.557	146.488	0.069	59.5	150	1.12	87.9
16.002	54	J12	6.870	0.600	146.488	145.758	0.730	9.4	150	1.16	87.6
18.000	55	Carpark 27	4.246	0.600	146.450	146.378	0.072	59.0	150	1.05	88.6
18.001	Carpark 27	56	2.926	0.600	146.378	146.328	0.050	58.5	150	1.09	88.3
18.002	56	J14	7.332	0.600	146.328	145.743	0.585	12.5	150	1.13	87.8
20.000	57	Carpark 28	4.491	0.600	146.150	146.074	0.076	59.1	150	1.06	88.6
20.001	Carpark 28	58	3.875	0.600	146.074	146.008	0.066	58.7	150	1.11	88.1
20.002	58	65	7.145	0.600	146.008	145.426	0.582	12.3	150	1.15	87.7
27.000	59	Carpark 29	4.529	0.600	146.150	146.073	0.077	58.8	150	1.06	88.6
27.001	Carpark 29	60	5.917	0.600	146.073	145.400	0.673	8.8	150	1.09	88.3
27.002	60	J17	8.198	0.600	145.400	144.750	0.650	12.6	150	1.13	87.8
29.000	61	Carpark 30	4.788	0.600	145.850	145.769	0.081	59.1	150	1.06	88.6
29.001	Carpark 30	62	4.966	0.600	145.769	145.100	0.669	7.4	150	1.08	88.3
29.002	62	J19	5.899	0.600	145.100	144.307	0.793	7.4	150	1.11	88.1

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
2.000	1.002	7.9	2.9	1.200	1.284	0.012	0.0
2.001	1.006	7.9	2.9	1.284	1.351	0.012	0.0
2.002	1.578	12.4	2.8	1.351	1.456	0.012	0.0
4.000	1.312	23.2	3.6	1.400	1.482	0.015	0.0
4.001	1.314	23.2	3.6	1.482	1.547	0.015	0.0
4.002	1.778	31.4	3.6	1.547	1.501	0.015	0.0
9.000	1.309	23.1	4.8	1.200	1.303	0.020	0.0
9.001	1.311	23.2	4.8	1.303	1.377	0.020	0.0
9.002	1.348	23.8	4.7	1.377	1.373	0.020	0.0
16.000	1.308	23.1	4.3	1.200	1.293	0.018	0.0
16.001	1.306	23.1	4.3	1.293	1.362	0.018	0.0
16.002	3.303	58.4	4.3	1.362	1.812	0.018	0.0
18.000	1.312	23.2	3.4	1.200	1.272	0.014	0.0
18.001	1.317	23.3	3.3	1.272	1.322	0.014	0.0
18.002	2.861	50.6	3.3	1.322	1.677	0.014	0.0
20.000	1.311	23.2	4.1	1.200	1.276	0.017	0.0
20.001	1.315	23.2	4.1	1.276	1.342	0.017	0.0
20.002	2.891	51.1	4.0	1.342	1.724	0.017	0.0
27.000	1.314	23.2	4.1	1.200	1.277	0.017	0.0
27.001	3.418	60.4	4.1	1.277	1.950	0.017	0.0
27.002	2.852	50.4	4.0	1.950	2.250	0.017	0.0
29.000	1.310	23.2	3.4	1.200	1.281	0.014	0.0
29.001	3.721	65.8	3.4	1.281	1.950	0.014	0.0
29.002	3.718	65.7	3.3	1.950	2.693	0.014	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)
33.000	Depth/Area 1	67	9.881	0.600	145.620	144.200	1.420	7.0	100	1.06	88.6
24.000	Depth/Area 2	66	12.447	0.600	146.200	145.096	1.104	11.3	100	1.09	88.3
8.001	Carpark 31	63	6.625	0.600	147.684	147.277	0.407	16.3	225	1.07	88.5
13.000	J25	Carpark 32	3.762	0.600	146.500	146.436	0.064	58.8	150	1.05	88.7
13.001	Carpark 32	64	4.073	0.600	146.436	145.800	0.636	6.4	150	1.06	88.5
22.000	J26	Carpark 33	3.213	0.600	145.950	145.896	0.054	59.5	150	1.04	88.8
22.001	Carpark 33	65	4.473	0.600	145.896	145.426	0.470	9.5	150	1.06	88.5
25.000	J27	Carpark 34	3.254	0.600	145.750	145.695	0.055	59.2	150	1.04	88.8
25.001	Carpark 34	66	4.016	0.600	145.695	145.096	0.599	6.7	150	1.06	88.6
32.000	J28	Carpark 35	3.607	0.600	145.570	145.509	0.061	59.1	150	1.05	88.7
32.001	Carpark 35	15	3.440	0.600	145.509	145.000	0.509	6.8	150	1.06	88.6
37.000	J29	Carpark 36	6.353	0.600	144.975	144.868	0.107	59.4	225	1.06	88.6
37.001	Carpark 36	8	3.800	0.600	144.868	144.000	0.868	4.4	225	1.07	88.4
32.002	15	67	3.570	0.600	145.000	144.700	0.300	11.9	150	1.08	88.4
37.002	8	68	2.260	0.600	144.000	143.640	0.360	6.3	150	1.08	88.4

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)
33.000	2.949	23.2	0.0	1.200	2.620	0.000	0.0
24.000	2.314	18.2	0.0	1.200	1.904	0.000	0.0
8.001	3.259	129.6	14.9	1.261	1.668	0.062	0.0
13.000	1.314	23.2	7.9	1.200	1.264	0.033	0.0
13.001	4.008	70.8	7.9	1.264	1.900	0.033	0.0
22.000	1.306	23.1	8.4	1.200	1.254	0.035	0.0
22.001	3.285	58.1	8.4	1.254	1.724	0.035	0.0
25.000	1.310	23.1	3.4	1.200	1.255	0.014	0.0
25.001	3.916	69.2	3.4	1.255	1.854	0.014	0.0
32.000	1.310	23.2	7.7	1.200	1.261	0.032	0.0
32.001	3.901	68.9	7.7	1.261	1.770	0.032	0.0
37.000	1.700	67.6	16.8	1.200	1.307	0.070	0.0
37.001	6.296	250.3	16.8	1.307	2.175	0.070	0.0
32.002	2.936	51.9	7.7	1.770	2.070	0.032	0.0
37.002	4.048	71.5	16.8	2.250	2.610	0.070	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)
1.003	3.396	24.6	100	Circular	149.300	148.082	1.118	149.500	147.944	1.456
1.004	9.086	17.4	100	Circular	149.500	147.944	1.456	148.950	147.421	1.429
1.005	3.686	167.5	225	Circular	148.950	147.371	1.354	149.000	147.349	1.426
1.006	4.314	165.9	225	Circular	149.000	147.349	1.426	149.100	147.323	1.552
1.007	7.656	166.4	225	Circular	149.100	147.323	1.552	149.170	147.277	1.668

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.003	J1		Junction		J2		Junction	
1.004	J2		Junction		J3		Junction	
1.005	J3		Junction		J4		Junction	
1.006	J4		Junction		J5		Junction	
1.007	J5		Junction		63	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)
1.008	12.863	58.5	300	Circular	149.170	147.277	1.593	148.580	147.057	1.223
1.009	6.136	23.9	300	Circular	148.580	147.057	1.223	148.420	146.800	1.320
1.010	8.481	10.6	300	Circular	148.420	146.798	1.322	148.000	146.000	1.700
1.011	3.045	15.2	300	Circular	148.000	146.000	1.700	147.850	145.800	1.750
1.012	3.931	393.1	450	Circular	147.850	145.800	1.600	147.790	145.790	1.550
1.013	7.011	318.7	450	Circular	147.790	145.790	1.550	147.800	145.768	1.582
1.014	3.868	386.8	450	Circular	147.800	145.768	1.582	147.720	145.758	1.512
1.015	4.231	470.2	525	Circular	147.720	145.758	1.437	147.620	145.749	1.346
1.016	2.863	477.1	525	Circular	147.620	145.749	1.346	147.570	145.743	1.302
1.017	8.030	25.3	525	Circular	147.570	145.743	1.302	147.300	145.426	1.349
1.018	11.492	34.8	525	Circular	147.300	145.426	1.349	147.100	145.096	1.479
1.019	5.119	47.0	525	Circular	147.100	145.096	1.479	147.300	144.987	1.788
1.020	6.609	31.2	525	Circular	147.300	144.987	1.788	147.150	144.775	1.850
1.021	4.887	23.4	525	Circular	147.150	144.775	1.850	147.200	144.566	2.109
1.022	3.490	13.5	525	Circular	147.200	144.566	2.109	147.150	144.307	2.318
1.023	6.789	63.5	525	Circular	147.150	144.307	2.318	146.920	144.200	2.195
1.024	7.673	38.4	525	Circular	146.920	144.200	2.195	146.740	144.000	2.215
1.025	6.747	67.5	525	Circular	146.740	144.000	2.215	146.610	143.900	2.185
1.026	7.988	79.9	525	Circular	146.610	143.900	2.185	146.550	143.800	2.225
1.027	9.101	56.9	525	Circular	146.550	143.800	2.225	146.400	143.640	2.235
1.028	5.679	142.0	525	Circular	146.400	143.640	2.235	146.500	143.600	2.375
1.029	7.148	649.8	675	Circular	146.500	143.600	2.225	146.480	143.589	2.216
1.030	6.873	59.2	675	Circular	146.480	143.589	2.216	146.400	143.473	2.252
1.031	4.094	59.3	675	Circular	146.400	143.473	2.252	148.610	143.404	4.531
38.000	3.983	59.4	150	Circular	146.430	145.080	1.200	146.400	145.013	1.237

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.008	63	1200	Manhole	Adoptable	J7		Junction	
1.009	J7		Junction		J8		Junction	
1.010	J8		Junction		J9		Junction	
1.011	J9		Junction		64	1350	Manhole	Adoptable
1.012	64	1350	Manhole	Adoptable	J10		Junction	
1.013	J10		Junction		J11		Junction	
1.014	J11		Junction		J12		Junction	
1.015	J12		Junction		J13		Junction	
1.016	J13		Junction		J14		Junction	
1.017	J14		Junction		65	1500	Manhole	Adoptable
1.018	65	1500	Manhole	Adoptable	66	1500	Manhole	Adoptable
1.019	66	1500	Manhole	Adoptable	J15		Junction	
1.020	J15		Junction		J17		Junction	
1.021	J17		Junction		J18		Junction	
1.022	J18		Junction		J19		Junction	
1.023	J19		Junction		67	1500	Manhole	Adoptable
1.024	67	1500	Manhole	Adoptable	J20		Junction	
1.025	J20		Junction		J21		Junction	
1.026	J21		Junction		J22		Junction	
1.027	J22		Junction		68	1500	Manhole	Adoptable
1.028	68	1500	Manhole	Adoptable	69	1500	Manhole	Adoptable
1.029	69	1500	Manhole	Adoptable	Depth/Area 3		Junction	
1.030	Depth/Area 3		Junction		70	1500	Manhole	Adoptable
1.031	70	1500	Manhole	Adoptable	J23		Junction	
38.000	1	450	Manhole	Adoptable	Carpark 1		Junction	

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
38.001	3.753	2.8	150	Circular	146.400	145.013	1.237	146.400	143.669	2.581
38.002	4.004	58.0	150	Circular	146.400	143.669	2.581	146.500	143.600	2.750
36.000	4.422	59.0	150	Circular	146.400	145.050	1.200	146.450	144.975	1.325
36.001	3.647	58.8	150	Circular	146.450	144.975	1.325	146.450	144.913	1.387
36.002	3.777	3.4	150	Circular	146.450	144.913	1.387	146.550	143.800	2.600
35.000	4.451	59.4	100	Circular	146.600	145.300	1.200	146.600	145.225	1.275
35.001	3.356	58.9	100	Circular	146.600	145.225	1.275	146.600	145.168	1.332
35.002	3.838	3.0	100	Circular	146.600	145.168	1.332	146.610	143.900	2.610
34.000	4.799	59.2	150	Circular	146.400	145.050	1.200	146.400	144.969	1.281
34.001	4.294	9.2	150	Circular	146.400	144.969	1.281	146.400	144.500	1.750
34.002	3.843	7.7	150	Circular	146.400	144.500	1.750	146.740	144.000	2.590
31.000	3.592	58.9	150	Circular	147.000	145.650	1.200	147.000	145.589	1.261
31.001	3.767	58.9	150	Circular	147.000	145.589	1.261	147.000	145.525	1.325
31.002	4.084	3.1	150	Circular	147.000	145.525	1.325	146.920	144.200	2.570
30.000	5.340	59.3	150	Circular	147.400	146.050	1.200	147.400	145.960	1.290
30.001	4.163	9.0	150	Circular	147.400	145.960	1.290	147.400	145.500	1.750
30.002	4.587	3.8	150	Circular	147.400	145.500	1.750	147.150	144.307	2.693
28.000	5.115	59.5	100	Circular	147.450	146.150	1.200	147.450	146.064	1.286
28.001	3.467	58.8	100	Circular	147.450	146.064	1.286	147.450	146.005	1.345
28.002	4.697	3.8	100	Circular	147.450	146.005	1.345	147.150	144.775	2.275
26.000	4.640	59.5	150	Circular	147.300	145.950	1.200	147.300	145.872	1.278
26.001	4.444	9.4	150	Circular	147.300	145.872	1.278	147.300	145.400	1.750
26.002	4.644	11.2	150	Circular	147.300	145.400	1.750	147.300	144.987	2.163
23.000	5.629	59.2	100	Circular	147.200	145.900	1.200	147.200	145.805	1.295
23.001	3.448	59.5	100	Circular	147.200	145.805	1.295	147.200	145.747	1.353

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
38.001	Carpark 1		Junction		2	1200	Manhole	Adoptable
38.002	2	1200	Manhole	Adoptable	69	1500	Manhole	Adoptable
36.000	3	450	Manhole	Adoptable	Carpark 2		Junction	
36.001	Carpark 2		Junction		4	1200	Manhole	Adoptable
36.002	4	1200	Manhole	Adoptable	J22		Junction	
35.000	5	450	Manhole	Adoptable	Carpark 3		Junction	
35.001	Carpark 3		Junction		6	1200	Manhole	Adoptable
35.002	6	1200	Manhole	Adoptable	J21		Junction	
34.000	7	450	Manhole	Adoptable	Carpark 4		Junction	
34.001	Carpark 4		Junction		9	1200	Manhole	Adoptable
34.002	9	1200	Manhole	Adoptable	J20		Junction	
31.000	10	450	Manhole	Adoptable	Carpark 5		Junction	
31.001	Carpark 5		Junction		11	1200	Manhole	Adoptable
31.002	11	1200	Manhole	Adoptable	67	1500	Manhole	Adoptable
30.000	12	450	Manhole	Adoptable	Carpark 6		Junction	
30.001	Carpark 6		Junction		13	1200	Manhole	Adoptable
30.002	13	1200	Manhole	Adoptable	J19		Junction	
28.000	14	450	Manhole	Adoptable	Carpark 7		Junction	
28.001	Carpark 7		Junction		16	1200	Manhole	Adoptable
28.002	16	1200	Manhole	Adoptable	J17		Junction	
26.000	17	450	Manhole	Adoptable	Carpark 8		Junction	
26.001	Carpark 8		Junction		18	1200	Manhole	Adoptable
26.002	18	1200	Manhole	Adoptable	J15		Junction	
23.000	19	450	Manhole	Adoptable	Carpark 9		Junction	
23.001	Carpark 9		Junction		20	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)
23.002	6.466	9.9	100	Circular	147.200	145.747	1.353	147.100	145.096	1.904
21.000	5.516	59.3	100	Circular	147.500	146.200	1.200	147.500	146.107	1.293
21.001	3.280	58.6	100	Circular	147.500	146.107	1.293	147.500	146.051	1.349
8.000	3.587	58.8	225	Circular	149.170	147.745	1.200	149.170	147.684	1.261
21.002	6.080	9.7	100	Circular	147.500	146.051	1.349	147.300	145.426	1.774
19.000	5.834	58.9	100	Circular	147.700	146.400	1.200	147.700	146.301	1.299
19.001	3.271	59.5	100	Circular	147.700	146.301	1.299	147.700	146.246	1.354
19.002	8.977	10.9	100	Circular	147.700	146.246	1.354	147.300	145.426	1.774
17.000	4.147	59.2	150	Circular	147.900	146.550	1.200	147.900	146.480	1.270
17.001	3.953	10.4	150	Circular	147.900	146.480	1.270	147.900	146.100	1.650
17.002	4.678	13.3	150	Circular	147.900	146.100	1.650	147.620	145.749	1.721
15.000	3.409	58.8	100	Circular	148.000	146.700	1.200	148.000	146.642	1.258
15.001	3.813	58.7	100	Circular	148.000	146.642	1.258	148.000	146.577	1.323
15.002	4.400	5.4	100	Circular	148.000	146.577	1.323	147.800	145.768	1.932
14.000	4.370	59.1	100	Circular	148.300	147.000	1.200	148.300	146.926	1.274
14.001	3.553	59.2	100	Circular	148.300	146.926	1.274	148.300	146.866	1.334
14.002	4.515	4.2	100	Circular	148.300	146.866	1.334	147.790	145.790	1.900
12.000	3.997	58.8	150	Circular	148.600	147.150	1.300	148.600	147.082	1.368
12.001	4.674	8.0	150	Circular	148.600	147.082	1.368	148.600	146.500	1.950
12.002	4.573	9.1	150	Circular	148.600	146.500	1.950	148.000	146.000	1.850
11.000	4.454	59.4	150	Circular	148.600	147.250	1.200	148.600	147.175	1.275
11.001	4.394	59.4	150	Circular	148.600	147.175	1.275	148.600	147.101	1.349
11.002	4.597	15.2	150	Circular	148.600	147.101	1.349	148.420	146.798	1.472
10.000	4.203	59.2	100	Circular	149.000	147.700	1.200	149.000	147.629	1.271
10.001	3.485	59.1	100	Circular	149.000	147.629	1.271	149.000	147.570	1.330

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
23.002	20	1200	Manhole	Adoptable	66	1500	Manhole	Adoptable
21.000	21	450	Manhole	Adoptable	Carpark 10		Junction	
21.001	Carpark 10		Junction		22	1200	Manhole	Adoptable
8.000	J24		Junction		Carpark 31		Junction	
21.002	22	1200	Manhole	Adoptable	65	1500	Manhole	Adoptable
19.000	23	450	Manhole	Adoptable	Carpark 11		Junction	
19.001	Carpark 11		Junction		24	1200	Manhole	Adoptable
19.002	24	1200	Manhole	Adoptable	65	1500	Manhole	Adoptable
17.000	25	450	Manhole	Adoptable	Carpark 12		Junction	
17.001	Carpark 12		Junction		26	1200	Manhole	Adoptable
17.002	26	1200	Manhole	Adoptable	J13		Junction	
15.000	27	450	Manhole	Adoptable	Carpark 13		Junction	
15.001	Carpark 13		Junction		28	1200	Manhole	Adoptable
15.002	28	1200	Manhole	Adoptable	J11		Junction	
14.000	29	450	Manhole	Adoptable	Carpark 14		Junction	
14.001	Carpark 14		Junction		30	1200	Manhole	Adoptable
14.002	30	1200	Manhole	Adoptable	J10		Junction	
12.000	31	450	Manhole	Adoptable	Carpark 15		Junction	
12.001	Carpark 15		Junction		32	1200	Manhole	Adoptable
12.002	32	1200	Manhole	Adoptable	J9		Junction	
11.000	33	450	Manhole	Adoptable	Carpark 16		Junction	
11.001	Carpark 16		Junction		34	1200	Manhole	Adoptable
11.002	34	1200	Manhole	Adoptable	J8		Junction	
10.000	35	450	Manhole	Adoptable	Carpark 17		Junction	
10.001	Carpark 17		Junction		36	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)
10.002	6.083	11.9	100	Circular	149.000	147.570	1.330	148.580	147.057	1.423
6.000	6.651	59.4	150	Circular	149.670	148.320	1.200	149.670	148.208	1.312
6.001	4.217	59.4	150	Circular	149.670	148.208	1.312	149.670	148.137	1.383
6.002	7.470	8.7	150	Circular	149.670	148.137	1.383	149.170	147.277	1.743
7.000	5.332	59.2	150	Circular	149.300	147.950	1.200	149.300	147.860	1.290
7.001	3.651	10.1	150	Circular	149.300	147.860	1.290	149.300	147.500	1.650
7.002	6.936	31.1	150	Circular	149.300	147.500	1.650	149.170	147.277	1.743
5.000	5.218	59.3	150	Circular	149.300	147.800	1.350	149.300	147.712	1.438
5.001	4.600	21.7	150	Circular	149.300	147.712	1.438	149.300	147.500	1.650
5.002	7.075	40.0	150	Circular	149.300	147.500	1.650	149.100	147.323	1.627
3.000	4.751	59.4	150	Circular	149.200	147.850	1.200	149.250	147.770	1.330
3.001	3.601	59.0	150	Circular	149.250	147.770	1.330	149.200	147.709	1.341
3.002	7.266	21.5	150	Circular	149.200	147.709	1.341	148.950	147.371	1.429
1.000	4.865	59.3	100	Circular	149.600	148.300	1.200	149.600	148.218	1.282
1.001	3.656	59.0	100	Circular	149.600	148.218	1.282	149.600	148.156	1.344
1.002	4.389	59.3	100	Circular	149.600	148.156	1.344	149.300	148.082	1.118
2.000	4.978	59.3	100	Circular	149.570	148.270	1.200	149.570	148.186	1.284
2.001	3.944	58.9	100	Circular	149.570	148.186	1.284	149.570	148.119	1.351
2.002	4.220	24.1	100	Circular	149.570	148.119	1.351	149.500	147.944	1.456
4.000	4.835	59.0	150	Circular	149.200	147.650	1.400	149.200	147.568	1.482
4.001	3.821	58.8	150	Circular	149.200	147.568	1.482	149.200	147.503	1.547
4.002	4.968	32.3	150	Circular	149.200	147.503	1.547	149.000	147.349	1.501
9.000	6.106	59.3	150	Circular	148.750	147.400	1.200	148.750	147.297	1.303
9.001	4.373	59.1	150	Circular	148.750	147.297	1.303	148.750	147.223	1.377
9.002	9.274	55.9	150	Circular	148.750	147.223	1.377	148.580	147.057	1.373

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
10.002	36	1200	Manhole	Adoptable	J7		Junction	
6.000	37	450	Manhole	Adoptable	Carpark 18		Junction	
6.001	Carpark 18		Junction		38	1200	Manhole	Adoptable
6.002	38	1200	Manhole	Adoptable	63	1200	Manhole	Adoptable
7.000	39	450	Manhole	Adoptable	Carpark 19		Junction	
7.001	Carpark 19		Junction		40	1200	Manhole	Adoptable
7.002	40	1200	Manhole	Adoptable	63	1200	Manhole	Adoptable
5.000	41	450	Manhole	Adoptable	Carpark 20		Junction	
5.001	Carpark 20		Junction		42	1200	Manhole	Adoptable
5.002	42	1200	Manhole	Adoptable	J5		Junction	
3.000	43	450	Manhole	Adoptable	Carpark 21		Junction	
3.001	Carpark 21		Junction		44	1200	Manhole	Adoptable
3.002	44	1200	Manhole	Adoptable	J3		Junction	
1.000	45	450	Manhole	Adoptable	Carpark 22		Junction	
1.001	Carpark 22		Junction		46	1200	Manhole	Adoptable
1.002	46	1200	Manhole	Adoptable	J1		Junction	
2.000	47	450	Manhole	Adoptable	Carpark 23		Junction	
2.001	Carpark 23		Junction		48	1200	Manhole	Adoptable
2.002	48	1200	Manhole	Adoptable	J2		Junction	
4.000	49	450	Manhole	Adoptable	Carpark 24		Junction	
4.001	Carpark 24		Junction		50	1200	Manhole	Adoptable
4.002	50	1200	Manhole	Adoptable	J4		Junction	
9.000	51	450	Manhole	Adoptable	Carpark 25		Junction	
9.001	Carpark 25		Junction		52	1200	Manhole	Adoptable
9.002	52	1200	Manhole	Adoptable	J7		Junction	

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
16.000	5.519	59.3	150	Circular	148.000	146.650	1.200	148.000	146.557	1.293
16.001	4.104	59.5	150	Circular	148.000	146.557	1.293	148.000	146.488	1.362
16.002	6.870	9.4	150	Circular	148.000	146.488	1.362	147.720	145.758	1.812
18.000	4.246	59.0	150	Circular	147.800	146.450	1.200	147.800	146.378	1.272
18.001	2.926	58.5	150	Circular	147.800	146.378	1.272	147.800	146.328	1.322
18.002	7.332	12.5	150	Circular	147.800	146.328	1.322	147.570	145.743	1.677
20.000	4.491	59.1	150	Circular	147.500	146.150	1.200	147.500	146.074	1.276
20.001	3.875	58.7	150	Circular	147.500	146.074	1.276	147.500	146.008	1.342
20.002	7.145	12.3	150	Circular	147.500	146.008	1.342	147.300	145.426	1.724
27.000	4.529	58.8	150	Circular	147.500	146.150	1.200	147.500	146.073	1.277
27.001	5.917	8.8	150	Circular	147.500	146.073	1.277	147.500	145.400	1.950
27.002	8.198	12.6	150	Circular	147.500	145.400	1.950	147.150	144.750	2.250
29.000	4.788	59.1	150	Circular	147.200	145.850	1.200	147.200	145.769	1.281
29.001	4.966	7.4	150	Circular	147.200	145.769	1.281	147.200	145.100	1.950
29.002	5.899	7.4	150	Circular	147.200	145.100	1.950	147.150	144.307	2.693
33.000	9.881	7.0	100	Circular	146.920	145.620	1.200	146.920	144.200	2.620
24.000	12.447	11.3	100	Circular	147.500	146.200	1.200	147.100	145.096	1.904
8.001	6.625	16.3	225	Circular	149.170	147.684	1.261	149.170	147.277	1.668
13.000	3.762	58.8	150	Circular	147.850	146.500	1.200	147.850	146.436	1.264
13.001	4.073	6.4	150	Circular	147.850	146.436	1.264	147.850	145.800	1.900
22.000	3.213	59.5	150	Circular	147.300	145.950	1.200	147.300	145.896	1.254
22.001	4.473	9.5	150	Circular	147.300	145.896	1.254	147.300	145.426	1.724
25.000	3.254	59.2	150	Circular	147.100	145.750	1.200	147.100	145.695	1.255
25.001	4.016	6.7	150	Circular	147.100	145.695	1.255	147.100	145.096	1.854
32.000	3.607	59.1	150	Circular	146.920	145.570	1.200	146.920	145.509	1.261

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
16.000	53	450	Manhole	Adoptable	Carpark 26		Junction	
16.001	Carpark 26		Junction		54	1200	Manhole	Adoptable
16.002	54	1200	Manhole	Adoptable	J12		Junction	
18.000	55	450	Manhole	Adoptable	Carpark 27		Junction	
18.001	Carpark 27		Junction		56	1200	Manhole	Adoptable
18.002	56	1200	Manhole	Adoptable	J14		Junction	
20.000	57	450	Manhole	Adoptable	Carpark 28		Junction	
20.001	Carpark 28		Junction		58	1200	Manhole	Adoptable
20.002	58	1200	Manhole	Adoptable	65	1500	Manhole	Adoptable
27.000	59	450	Manhole	Adoptable	Carpark 29		Junction	
27.001	Carpark 29		Junction		60	1200	Manhole	Adoptable
27.002	60	1200	Manhole	Adoptable	J17		Junction	
29.000	61	450	Manhole	Adoptable	Carpark 30		Junction	
29.001	Carpark 30		Junction		62	1200	Manhole	Adoptable
29.002	62	1200	Manhole	Adoptable	J19		Junction	
33.000	Depth/Area 1		Junction		67	1500	Manhole	Adoptable
24.000	Depth/Area 2		Junction		66	1500	Manhole	Adoptable
8.001	Carpark 31		Junction		63	1200	Manhole	Adoptable
13.000	J25		Junction		Carpark 32		Junction	
13.001	Carpark 32		Junction		64	1350	Manhole	Adoptable
22.000	J26		Junction		Carpark 33		Junction	
22.001	Carpark 33		Junction		65	1500	Manhole	Adoptable
25.000	J27		Junction		Carpark 34		Junction	
25.001	Carpark 34		Junction		66	1500	Manhole	Adoptable
32.000	J28		Junction		Carpark 35		Junction	

Pipeline Schedule

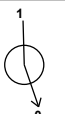
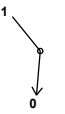
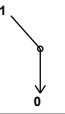
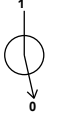
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
32.001	3.440	6.8	150	Circular	146.920	145.509	1.261	146.920	145.000	1.770
37.000	6.353	59.4	225	Circular	146.400	144.975	1.200	146.400	144.868	1.307
37.001	3.800	4.4	225	Circular	146.400	144.868	1.307	146.400	144.000	2.175
32.002	3.570	11.9	150	Circular	146.920	145.000	1.770	146.920	144.700	2.070
37.002	2.260	6.3	150	Circular	146.400	144.000	2.250	146.400	143.640	2.610

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
32.001	Carpark 35		Junction		15	1200	Manhole	Adoptable
37.000	J29		Junction		Carpark 36		Junction	
37.001	Carpark 36		Junction		8	1200	Manhole	Adoptable
32.002	15	1200	Manhole	Adoptable	67	1500	Manhole	Adoptable
37.002	8	1200	Manhole	Adoptable	68	1500	Manhole	Adoptable

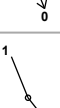
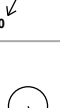
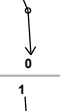
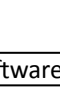
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
1	-80.264	21.190	146.430	1.350	450				
						0	38.000	145.080	150
Carpark 1	-78.637	17.555	146.400	1.387			1	38.000	145.013
						0	38.001	145.013	150
2	-79.738	13.967	146.400	2.731	1200		1	38.001	143.669
						0	38.002	143.669	150
3	-76.772	27.888	146.400	1.350	450		0	36.000	145.050
Carpark 2	-74.188	24.300	146.450	1.475			1	36.000	144.975
						0	36.001	144.975	150
4	-73.901	20.664	146.450	1.537	1200		1	36.001	144.913
						0	36.002	144.913	150
5	-72.199	33.373	146.600	1.300	450		0	35.000	145.300
Carpark 3	-69.028	30.249	146.600	1.375			1	35.000	145.225
						0	35.001	145.225	100

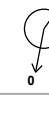
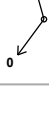
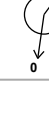
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
6	-68.936	26.894	146.600	1.432	1200		35.001	145.168	100
7	-67.623	40.007	146.400	1.350	450		35.002	145.168	100
Carpark 4	-64.663	36.230	146.400	1.431			34.000	144.969	150
9	-64.975	31.947	146.400	1.900	1200		34.001	144.500	150
10	-62.503	44.680	147.000	1.350	450		31.000	145.650	150
Carpark 5	-60.393	41.773	147.000	1.411			31.001	145.589	150
11	-60.222	38.010	147.000	1.475	1200		31.001	145.525	150
12	-58.529	52.488	147.400	1.350	450		30.000	146.050	150
Carpark 6	-55.164	48.341	147.400	1.440			30.001	145.960	150
13	-55.516	44.193	147.400	1.900	1200		30.001	145.500	150
14	-53.681	58.260	147.450	1.300	450		28.000	146.150	100
Carpark 7	-50.285	54.435	147.450	1.386			28.001	146.064	100
16	-50.285	50.968	147.450	1.445	1200		28.001	146.005	100

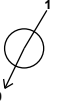
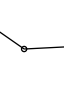
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
17	-49.109	64.430	147.300	1.350	450		0	26.000	145.950	150
Carpark 8	-46.450	60.627	147.300	1.428			1	26.000	145.872	150
							0	26.001	145.872	150
18	-46.316	56.185	147.300	1.900	1200		1	26.001	145.400	150
							0	26.002	145.400	150
19	-45.668	69.477	147.200	1.300	450		0	23.000	145.900	100
Carpark 9	-41.598	65.589	147.200	1.395			1	23.000	145.805	100
							0	23.001	145.805	100
20	-41.547	62.141	147.200	1.453	1200		1	23.001	145.747	100
							0	23.002	145.747	100
21	-34.885	76.455	147.500	1.300	450		0	21.000	146.200	100
Carpark 10	-32.817	71.341	147.500	1.393			1	21.000	146.107	100
							0	21.001	146.107	100
22	-30.786	68.766	147.500	1.449	1200		1	21.001	146.051	100
							0	21.002	146.051	100
23	-30.097	78.704	147.700	1.300	450		0	19.000	146.400	100
Carpark 11	-27.812	73.336	147.700	1.399			1	19.000	146.301	100
							0	19.001	146.301	100
24	-27.595	70.072	147.700	1.454	1200		1	19.001	146.246	100
							0	19.002	146.246	100
25	-21.343	79.962	147.900	1.350	450		0	17.000	146.550	150

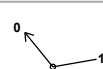
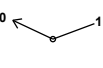
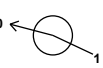
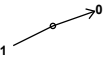
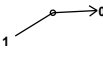
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
Carpark 12	-20.730	75.861	147.900	1.420			1	17.000	146.480	150
							0	17.001	146.480	150
26	-22.914	72.566	147.900	1.800	1200		1	17.001	146.100	150
							0	17.002	146.100	150
27	-14.926	81.960	148.000	1.300	450			15.000	146.700	100
Carpark 13	-13.468	78.878	148.000	1.358			1	15.000	146.642	100
							0	15.001	146.642	100
28	-15.621	75.731	148.000	1.423	1200		1	15.001	146.577	100
							0	15.002	146.577	100
29	-8.998	85.556	148.300	1.300	450			14.000	147.000	100
Carpark 14	-7.065	81.637	148.300	1.374			1	14.000	146.926	100
							0	14.001	146.926	100
30	-9.093	78.720	148.300	1.434	1200		1	14.001	146.866	100
							0	14.002	146.866	100
31	-1.265	89.321	148.600	1.450	450			12.000	147.150	150
Carpark 15	-0.190	85.471	148.600	1.518			1	12.000	147.082	150
							0	12.001	147.082	150
32	-2.966	81.711	148.600	2.100	1200		1	12.001	146.500	150
							0	12.002	146.500	150
33	5.515	92.517	148.600	1.350	450			11.000	147.250	150
Carpark 16	7.735	88.656	148.600	1.425			1	11.000	147.175	150
							0	11.001	147.175	150

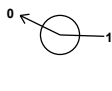
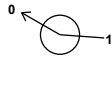
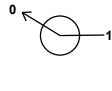
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
34	4.984	85.230	148.600	1.499	1200	 1 0	11.001 11.002	147.101 147.101	150 150
35	11.740	95.219	149.000	1.300	450	 0	10.000	147.700	100
36	12.319	88.753	149.000	1.430	1200	 1 0	10.001 10.002	147.570 147.570	100 100
Carpark 17	14.105	91.745	149.000	1.371		 1 0	10.000 10.001	147.629 147.629	100 100
37	33.085	94.302	149.670	1.350	450	 0	6.000	148.320	150
38	24.724	95.361	149.670	1.533	1200	 1 0	6.001 6.002	148.137 148.137	150 150
Carpark 18	26.935	91.770	149.670	1.462		 1 0	6.000 6.001	148.208 148.208	150 150
39	36.533	85.969	149.300	1.350	450	 0	7.000	147.950	150
Carpark 19	31.208	85.696	149.300	1.440		 1 0	7.000 7.001	147.860 147.860	150 150
40	28.213	87.784	149.300	1.800	1200	 1 0	7.001 7.002	147.500 147.500	150 150
41	39.602	78.333	149.300	1.500	450	 0	5.000	147.800	150
42	31.553	81.003	149.300	1.800	1200	 1 0	5.001 5.002	147.500 147.500	150 150
43	42.722	72.815	149.200	1.350	450	 0	3.000	147.850	150

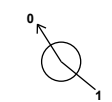
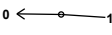
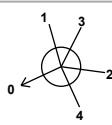
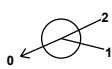
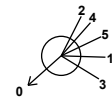
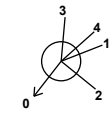
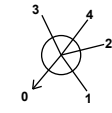
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections		Link	IL (m)	Dia (mm)
Carpark 20	34.461	77.439	149.300	1.588			1	5.000	147.712	150
							0	5.001	147.712	150
Carpark 21	38.270	71.157	149.250	1.480			1	3.000	147.770	150
							0	3.001	147.770	150
44	35.011	72.688	149.200	1.491	1200		1	3.001	147.709	150
							0	3.002	147.709	150
45	23.007	56.040	149.600	1.300	450					
							0	1.000	148.300	100
Carpark 22	27.366	58.200	149.600	1.382			1	1.000	148.218	100
							0	1.001	148.218	100
46	30.815	59.413	149.600	1.444	1200		1	1.001	148.156	100
							0	1.002	148.156	100
47	21.282	59.748	149.570	1.300	450					
							0	2.000	148.270	100
Carpark 23	25.518	62.362	149.570	1.384			1	2.000	148.186	100
							0	2.001	148.186	100
48	29.457	62.561	149.570	1.451	1200		1	2.001	148.119	100
							0	2.002	148.119	100
49	18.741	68.562	149.200	1.550	450					
							0	4.000	147.650	150
Carpark 24	23.462	69.606	149.200	1.632			1	4.000	147.568	150
							0	4.001	147.568	150
50	24.324	73.328	149.200	1.697	1200		1	4.001	147.503	150
							0	4.002	147.503	150
51	14.659	74.665	148.750	1.350	450					
							0	9.000	147.400	150

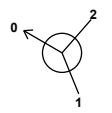
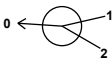
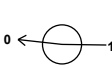
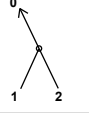
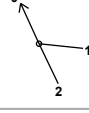
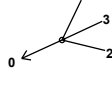
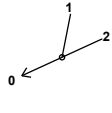
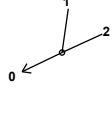
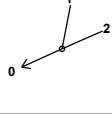
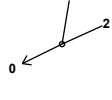
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
Carpark 25	20.294	77.016	148.750	1.453			1	9.000	147.297	150
							0	9.001	147.297	150
52	18.689	81.084	148.750	1.527	1200		1	9.001	147.223	150
							0	9.002	147.223	150
53	-8.098	61.217	148.000	1.350	450					
							0	16.000	146.650	150
Carpark 26	-9.536	66.545	148.000	1.443			1	16.000	146.557	150
							0	16.001	146.557	150
54	-13.638	66.672	148.000	1.512	1200		1	16.001	146.488	150
							0	16.002	146.488	150
55	-17.401	58.722	147.800	1.350	450					
							0	18.000	146.450	150
Carpark 27	-17.021	62.951	147.800	1.422			1	18.000	146.378	150
							0	18.001	146.378	150
56	-19.939	63.162	147.800	1.472	1200		1	18.001	146.328	150
							0	18.002	146.328	150
57	-23.115	55.197	147.500	1.350	450					
							0	20.000	146.150	150
Carpark 28	-23.571	59.665	147.500	1.426			1	20.000	146.074	150
							0	20.001	146.074	150
58	-27.446	59.620	147.500	1.492	1200		1	20.001	146.008	150
							0	20.002	146.008	150
59	-35.900	39.382	147.500	1.350	450					
							0	27.000	146.150	150
Carpark 29	-36.494	43.872	147.500	1.427			1	27.000	146.073	150
							0	27.001	146.073	150

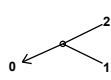
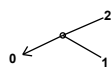
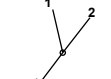
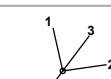
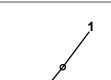
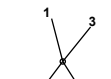
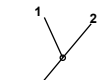
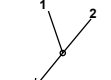
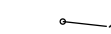
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
60	-41.132	47.546	147.500	2.100	1200		1 27.001	145.400	150
							0 27.002	145.400	150
61	-42.836	33.221	147.200	1.350	450		0 29.000	145.850	150
Carpark 30	-47.353	31.633	147.200	1.431			1 29.000	145.769	150
							0 29.001	145.769	150
62	-51.200	34.774	147.200	2.100	1200		1 29.001	145.100	150
							0 29.002	145.100	150
Depth/Area 1	-52.695	26.298	146.920	1.300			0 33.000	145.620	100
Depth/Area 2	-32.451	47.862	147.500	1.300			0 24.000	146.200	100
Depth/Area 3	-90.773	13.539	146.480	2.891			1 1.029	143.589	675
							0 1.030	143.589	675
63	21.338	88.703	149.170	1.893	1200		1 8.001	147.277	225
							2 7.002	147.277	150
							3 6.002	147.277	150
							4 1.007	147.277	225
							0 1.008	147.277	300
64	-6.356	75.867	147.850	2.050	1350		1 13.001	145.800	150
							2 1.011	145.800	300
							0 1.012	145.800	450
65	-33.542	63.347	147.300	1.874	1500		1 22.001	145.426	150
							2 21.002	145.426	100
							3 20.002	145.426	150
							4 19.002	145.426	100
							5 1.017	145.426	525
							0 1.018	145.426	525
66	-42.120	55.700	147.100	2.004	1500		1 25.001	145.096	150
							2 24.000	145.096	100
							3 23.002	145.096	100
							4 1.018	145.096	525
							0 1.019	145.096	525
67	-58.447	34.332	146.920	2.720	1500		1 33.000	144.200	100
							2 32.002	144.700	150
							3 31.002	144.200	150
							4 1.023	144.200	525
							0 1.024	144.200	525

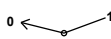
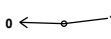
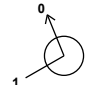
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
68	-78.728	10.220	146.400	2.760	1500		1	37.002	143.640	150
							2	1.027	143.640	525
							0	1.028	143.640	525
69	-83.640	13.071	146.500	2.900	1500		1	38.002	143.600	150
							2	1.028	143.600	525
							0	1.029	143.600	675
70	-97.645	13.635	146.400	2.927	1500		1	1.030	143.473	675
							0	1.031	143.473	675
J1	33.112	63.153	149.300	1.218			1	1.002	148.082	100
							0	1.003	148.082	100
J2	31.603	66.195	149.500	1.556			1	2.002	147.944	100
							2	1.003	147.944	100
							0	1.004	147.944	100
J3	27.982	74.528	148.950	1.579			1	3.002	147.371	150
							2	1.004	147.421	100
							0	1.005	147.371	225
J4	26.383	77.849	149.000	1.651			1	4.002	147.349	150
							2	1.005	147.349	225
							0	1.006	147.349	225
J5	24.516	81.738	149.100	1.777			1	5.002	147.323	150
							2	1.006	147.323	225
							0	1.007	147.323	225
J7	9.677	83.274	148.580	1.523			1	10.002	147.057	100
							2	9.002	147.057	150
							3	1.008	147.057	300
							0	1.009	147.057	300
J8	4.098	80.719	148.420	1.622			1	11.002	146.798	150
							2	1.009	146.800	300
							0	1.010	146.798	300
J9	-3.611	77.184	148.000	2.000			1	12.002	146.000	150
							2	1.010	146.000	300
							0	1.011	146.000	300
J10	-9.956	74.288	147.790	2.000			1	14.002	145.790	100
							2	1.012	145.790	450
							0	1.013	145.790	450
J11	-16.340	71.390	147.800	2.032			1	15.002	145.768	100
							2	1.013	145.768	450
							0	1.014	145.768	450

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
J12	-19.812	69.686	147.720	1.962			1 2 0	16.002 1.014 1.015	145.758 145.758 145.758	150 450 525
J13	-23.671	67.950	147.620	1.871			1 2 0	17.002 1.015 1.016	145.749 145.749 145.749	150 525 525
J14	-26.298	66.812	147.570	1.827			1 2 0	18.002 1.016 1.017	145.743 145.743 145.743	150 525 525
J15	-45.265	51.661	147.300	2.313			1 2 0	26.002 1.019 1.020	144.987 144.987 144.987	150 525 525
J17	-49.248	46.387	147.150	2.400			1 2 3 0	28.002 27.002 1.020 1.021	144.775 144.750 144.775 144.775	100 150 525 525
J18	-52.170	42.470	147.200	2.634			1 0	1.021 1.022	144.566 144.566	525 525
J19	-54.361	39.754	147.150	2.843			1 2 3 0	30.002 29.002 1.022 1.023	144.307 144.307 144.307 144.307	150 150 525 525
J20	-63.377	28.452	146.740	2.740			1 2 0	34.002 1.024 1.025	144.000 144.000 144.000	150 525 525
J21	-67.691	23.264	146.610	2.710			1 2 0	35.002 1.025 1.026	143.900 143.900 143.900	100 525 525
J22	-72.737	17.071	146.550	2.750			1 2 0	36.002 1.026 1.027	143.800 143.800 143.800	150 525 525
J23	-101.714	14.083	148.610	5.206			1	1.031	143.404	675
J24	19.263	98.654	149.170	1.425			0	8.000	147.745	225
Carpark 31	19.531	95.077	149.170	1.486			1 0	8.000 8.001	147.684 147.684	225 225

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
J25	1.126	76.189	147.850	1.350			0	13.000	146.500	150
Carpark 32	-2.403	74.886	147.850	1.414			1	13.000	146.436	150
							0	13.001	146.436	150
J26	-25.882	63.600	147.300	1.350			0	22.000	145.950	150
Carpark 33	-29.071	63.210	147.300	1.404			1	22.000	145.896	150
							0	22.001	145.896	150
J27	-35.501	58.680	147.100	1.350			0	25.000	145.750	150
Carpark 34	-38.380	57.164	147.100	1.405			1	25.000	145.695	150
							0	25.001	145.695	150
J28	-50.264	40.378	146.920	1.350			0	32.000	145.570	150
Carpark 35	-52.946	37.966	146.920	1.411			1	32.000	145.509	150
							0	32.001	145.509	150
J29	-86.144	2.281	146.400	1.425			0	37.000	144.975	225
Carpark 36	-81.172	6.236	146.400	1.532			1	37.000	144.868	225
							0	37.001	144.868	225
15	-54.982	35.193	146.920	1.920	1200		1	32.001	145.000	150
							0	32.002	145.000	150
8	-77.876	8.127	146.400	2.400	1200		1	37.001	144.000	225
							0	37.002	144.000	150

Simulation Settings

Rainfall Methodology	FSR	Drain Down Time (mins)	500
FSR Region	England and Wales	Additional Storage (m³/ha)	20.0
M5-60 (mm)	20.000	Check Discharge Rate(s)	✓
Ratio-R	0.200	1 year (l/s)	25.6
Summer CV	0.750	30 year (l/s)	52.4
Winter CV	0.840	100 year (l/s)	63.5
Analysis Speed	Normal	Check Discharge Volume	✓
Skip Steady State	x	100 year 360 minute (m³)	940

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

Pre-development Discharge Rate

Site Makeup	Greenfield	Growth Factor 30 years	1.80
Greenfield Method	IH124	Growth Factor 100 years	2.18
Positively Drained Area (ha)	2.154	Betterment (%)	0
SAAR (mm)	1687	QBar	29.1
Soil Index	4	Q 1 year (l/s)	25.6
SPR	0.47	Q 30 year (l/s)	52.4
Region	9	Q 100 year (l/s)	63.5
Growth Factor 1 year	0.88		

Pre-development Discharge Volume

Site Makeup	Greenfield	Return Period (years)	100
Greenfield Method	FSR/FEH	Climate Change (%)	0
Positively Drained Area (ha)	2.154	Storm Duration (mins)	360
Soil Index	4	Betterment (%)	0
SPR	0.47	PR	0.535
CWI	126.718	Runoff Volume (m³)	940

Node 2 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Downstream Link	38.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0028-3000-0600-3000
Invert Level (m)	143.669	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.3		

Node 4 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Downstream Link	36.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0028-3000-0600-3000
Invert Level (m)	144.913	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.3		

Node 6 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Downstream Link	35.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0028-3000-0600-3000
Invert Level (m)	145.168	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.3		

Node 9 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Downstream Link	34.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0028-3000-0600-3000
Invert Level (m)	144.500	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.3		

Node 11 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Downstream Link	31.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0028-3000-0600-3000
Invert Level (m)	145.525	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.3		

Node 13 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	30.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0032-4000-0600-4000
Invert Level (m)	145.500	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.4		

Node 16 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	28.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0028-3000-0600-3000
Invert Level (m)	146.005	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.3		

Node 18 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	26.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0028-3000-0600-3000
Invert Level (m)	145.400	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.3		

Node 20 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	23.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0028-3000-0600-3000
Invert Level (m)	145.747	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.3		

Node 22 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	21.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0028-3000-0600-3000
Invert Level (m)	146.051	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.3		

Node 24 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	19.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0028-3000-0600-3000
Invert Level (m)	146.246	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.3		

Node 26 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	17.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0028-3000-0600-3000
Invert Level (m)	146.100	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.3		

Node 28 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	15.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0028-3000-0600-3000
Invert Level (m)	146.577	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.3		

Node 30 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	14.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0028-3000-0600-3000
Invert Level (m)	146.866	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.3		

Node 32 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	12.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0028-3000-0600-3000
Invert Level (m)	146.500	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.3		

Node 34 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	11.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0032-4000-0600-4000
Invert Level (m)	147.101	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.4		

Node 36 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	10.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0028-3000-0600-3000
Invert Level (m)	147.570	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.3		

Node 38 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	6.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0032-4000-0600-4000
Invert Level (m)	148.137	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.4		

Node 40 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	7.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0032-4000-0600-4000
Invert Level (m)	147.500	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.4		

Node 42 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	5.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0032-4000-0600-4000
Invert Level (m)	147.500	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.4		

Node 44 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	3.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0028-3000-0600-3000
Invert Level (m)	147.709	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.3		

Node 46 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	1.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0028-3000-0600-3000
Invert Level (m)	148.156	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.3		

Node 48 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	2.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0028-3000-0600-3000
Invert Level (m)	148.119	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.3		

Node 50 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	4.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0028-3000-0600-3000
Invert Level (m)	147.503	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.3		

Node 52 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	9.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0032-4000-0600-4000
Invert Level (m)	147.223	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.4		

Node 54 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	16.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0032-4000-0600-4000
Invert Level (m)	146.488	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.4		

Node 56 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	18.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0028-3000-0600-3000
Invert Level (m)	146.328	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.3		

Node 58 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	20.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0032-4000-0600-4000
Invert Level (m)	146.008	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.4		

Node 60 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	27.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0028-3000-0600-3000
Invert Level (m)	145.400	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.3		

Node 62 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	29.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0022-2000-0600-2000
Invert Level (m)	145.100	Min Outlet Diameter (m)	0.075
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.2		

Node 63 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	1.008	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0084-3100-1000-3100
Invert Level (m)	147.277	Min Outlet Diameter (m)	0.100
Design Depth (m)	1.000	Min Node Diameter (mm)	1200
Design Flow (l/s)	3.1		

Node 64 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	1.012	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0103-4800-1000-4800
Invert Level (m)	145.800	Min Outlet Diameter (m)	0.150
Design Depth (m)	1.000	Min Node Diameter (mm)	1200
Design Flow (l/s)	4.8		

Node 65 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	1.018	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0130-7800-1000-7800
Invert Level (m)	145.426	Min Outlet Diameter (m)	0.150
Design Depth (m)	1.000	Min Node Diameter (mm)	1200
Design Flow (l/s)	7.8		

Node 66 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	1.019	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0138-8200-0600-8200
Invert Level (m)	145.096	Min Outlet Diameter (m)	0.150
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	8.2		

Node 8 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Downstream Link	37.002	Sump Available	✓
Replaces Downstream Link	✓	Product Number	CTL-SHE-0038-8000-1500-8000
Invert Level (m)	144.000	Min Outlet Diameter (m)	0.075
Design Depth (m)	1.500	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.8		

Node 70 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	1.031	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0165-1230-0600-1230
Invert Level (m)	143.473	Min Outlet Diameter (m)	0.225
Design Depth (m)	0.600	Min Node Diameter (mm)	1200
Design Flow (l/s)	12.3		

Node 15 Online Hydro-Brake® Control

Flap Valve	✓	Objective	(HE) Minimise upstream storage
Downstream Link	32.002	Sump Available	✓
Replaces Downstream Link	x	Product Number	CTL-SHE-0029-4000-1000-4000
Invert Level (m)	145.000	Min Outlet Diameter (m)	0.075
Design Depth (m)	1.000	Min Node Diameter (mm)	1200
Design Flow (l/s)	0.4		

Node Carpark 1 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	145.013	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	168	Depth (m)	0.600
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Carpark 2 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	144.975	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	392	Depth (m)	1.000
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Carpark 3 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	145.225	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	384	Depth (m)	0.600
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Carpark 4 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	144.969	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	360	Depth (m)	0.700
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Carpark 5 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	145.589	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	315	Depth (m)	1.000
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Carpark 6 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	145.960	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	272	Depth (m)	0.600
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	6.000		

Node Carpark 7 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	146.064	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	384	Depth (m)	0.600
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Carpark 8 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	145.872	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	328	Depth (m)	0.650
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Carpark 9 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	145.805	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	384	Depth (m)	0.600
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Carpark 10 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	146.107	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	284	Depth (m)	0.600
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Carpark 11 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	146.301	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	276	Depth (m)	0.600
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Carpark 12 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	146.480	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	392	Depth (m)	0.700
Safety Factor	2.0	Width (m)	5.500	Inf Depth (m)	
Porosity	0.30	Length (m)	5.500		

Node Carpark 13 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	146.642	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	376	Depth (m)	0.600
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Carpark 14 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	146.926	Slope (1:X)	202.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	272	Depth (m)	0.750
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Carpark 15 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	147.082	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	448	Depth (m)	0.750
Safety Factor	2.0	Width (m)	6.000	Inf Depth (m)	
Porosity	0.30	Length (m)	6.000		

Node Carpark 16 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	147.175	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	304	Depth (m)	0.750
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Carpark 17 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	147.629	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	384	Depth (m)	0.600
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Carpark 18 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	148.208	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	328	Depth (m)	0.800
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Carpark 19 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	147.860	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	384	Depth (m)	0.800
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Carpark 20 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	147.712	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	440	Depth (m)	0.800
Safety Factor	2.0	Width (m)	6.000	Inf Depth (m)	
Porosity	0.30	Length (m)	6.000		

Node Carpark 21 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	147.770	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	585	Depth (m)	0.600
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Carpark 22 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	148.218	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	272	Depth (m)	0.600
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Carpark 23 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	148.186	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	272	Depth (m)	0.600
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Carpark 24 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	147.568	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	648	Depth (m)	0.800
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Carpark 25 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	147.297	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	288	Depth (m)	1.100
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Carpark 26 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	146.557	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	336	Depth (m)	0.750
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Carpark 27 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	146.378	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	392	Depth (m)	0.600
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Carpark 28 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	146.074	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	328	Depth (m)	0.750
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Carpark 29 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	146.073	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	304	Depth (m)	0.750
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Carpark 30 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	145.769	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	435	Depth (m)	0.750
Safety Factor	2.0	Width (m)	5.000	Inf Depth (m)	
Porosity	0.30	Length (m)	5.000		

Node Depth/Area 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	145.620
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	1.2	0.0	0.895	1.2	0.0	0.896	4.0	0.0	1.295	113.0	0.0

Node Depth/Area 2 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	146.200
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	2.4	0.0	0.900	2.4	0.0	0.901	8.0	0.0	1.299	105.0	0.0

Node Depth/Area 3 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	143.589
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	450

Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	3.8	0.0	2.000	3.8	0.0	2.001	7.5	0.0	2.400	185.0	0.0

Node Carpark 31 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	147.684	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	375	Depth (m)	0.600
Safety Factor	2.0	Width (m)	5.500	Inf Depth (m)	
Porosity	0.30	Length (m)	65.500		

Node Carpark 32 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	146.436	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	390	Depth (m)	0.600
Safety Factor	2.0	Width (m)	5.500	Inf Depth (m)	
Porosity	0.30	Length (m)	36.927		

Node Carpark 33 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	145.896	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	192	Depth (m)	0.600
Safety Factor	2.0	Width (m)	5.500	Inf Depth (m)	
Porosity	0.30	Length (m)	37.326		

Node Carpark 34 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	145.695	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	104	Depth (m)	0.600
Safety Factor	2.0	Width (m)	5.500	Inf Depth (m)	
Porosity	0.30	Length (m)	14.700		

Node Carpark 35 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	145.509	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)	570	Depth (m)	0.600
Safety Factor	2.0	Width (m)	5.500	Inf Depth (m)	
Porosity	0.30	Length (m)	33.658		

Node Carpark 36 Carpark Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	144.868	Slope (1:X)	200.0
Side Inf Coefficient (m/hr)	0.00000	Time to half empty (mins)		Depth (m)	0.600
Safety Factor	2.0	Width (m)	5.500	Inf Depth (m)	
Porosity	0.30	Length (m)	74.425		

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
100 year +40% CC 15 minute summer	383.043	108.388	100 year +40% CC 120 minute summer	144.655	38.228
100 year +40% CC 15 minute winter	268.802	108.388	100 year +40% CC 120 minute winter	96.105	38.228
100 year +40% CC 30 minute summer	283.016	80.084	100 year +40% CC 180 minute summer	115.119	29.624
100 year +40% CC 30 minute winter	198.608	80.084	100 year +40% CC 180 minute winter	74.831	29.624
100 year +40% CC 60 minute summer	214.603	56.713	100 year +40% CC 240 minute summer	93.436	24.692
100 year +40% CC 60 minute winter	142.577	56.713	100 year +40% CC 240 minute winter	62.077	24.692

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
100 year +40% CC 360 minute summer	73.898	19.016	100 year +40% CC 720 minute summer	44.855	12.022
100 year +40% CC 360 minute winter	48.036	19.016	100 year +40% CC 720 minute winter	30.145	12.022
100 year +40% CC 480 minute summer	59.596	15.750	100 year +40% CC 960 minute summer	37.573	9.894
100 year +40% CC 480 minute winter	39.594	15.750	100 year +40% CC 960 minute winter	24.889	9.894
100 year +40% CC 600 minute summer	49.658	13.583	100 year +40% CC 1440 minute summer	27.987	7.501
100 year +40% CC 600 minute winter	33.930	13.583	100 year +40% CC 1440 minute winter	18.809	7.501

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.74%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	1	188	145.633	0.553	2.2	0.2106	0.0000	SURCHARGED
240 minute winter	Carpark 1	188	145.633	0.620	3.4	4.4113	0.0000	SURCHARGED
240 minute winter	2	188	145.633	1.964	3.6	2.2209	0.0000	SURCHARGED
480 minute winter	3	360	146.194	1.144	1.6	0.4703	0.0000	FLOOD RISK
480 minute winter	Carpark 2	360	146.194	1.219	1.5	7.4113	0.0000	FLOOD RISK
480 minute winter	4	360	146.194	1.281	1.6	1.4491	0.0000	FLOOD RISK
480 minute winter	5	352	146.243	0.943	1.2	0.3384	0.0000	SURCHARGED
480 minute winter	Carpark 3	352	146.242	1.017	1.2	4.4113	0.0000	SURCHARGED
480 minute winter	6	352	146.242	1.074	1.3	1.2150	0.0000	SURCHARGED
360 minute winter	7	272	146.370	1.320	1.9	0.5423	0.0000	FLOOD RISK
360 minute winter	Carpark 4	272	146.370	1.400	1.9	5.1613	0.0000	FLOOD RISK
360 minute winter	9	272	146.369	1.869	2.0	2.1143	0.0000	FLOOD RISK
600 minute winter	10	435	146.411	0.761	1.4	0.2786	0.0000	SURCHARGED
600 minute winter	Carpark 5	435	146.411	0.822	1.3	6.0739	0.0000	SURCHARGED
600 minute winter	11	435	146.411	0.886	1.7	1.0023	0.0000	SURCHARGED
240 minute winter	12	184	147.326	1.276	2.8	0.5628	0.0000	FLOOD RISK
240 minute winter	Carpark 6	184	147.326	1.366	2.8	5.2710	0.0000	FLOOD RISK
240 minute winter	13	184	147.326	1.826	2.2	2.0654	0.0000	FLOOD RISK
480 minute winter	14	352	147.081	0.931	1.2	0.3343	0.0000	SURCHARGED
480 minute winter	Carpark 7	352	147.081	1.017	1.1	4.4113	0.0000	SURCHARGED
480 minute winter	16	352	147.081	1.076	0.8	1.2168	0.0000	SURCHARGED
360 minute winter	17	272	147.113	1.163	1.8	0.4607	0.0000	FLOOD RISK
360 minute winter	Carpark 8	272	147.113	1.241	2.0	4.7863	0.0000	FLOOD RISK
360 minute winter	18	272	147.113	1.713	1.3	1.9378	0.0000	FLOOD RISK
480 minute winter	19	352	146.846	0.946	1.2	0.3395	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)
240 minute winter	1	38.000	Carpark 1	2.3	1.038	0.098	0.0701	
240 minute winter	Carpark 1	38.001	2	3.6	0.411	0.033	0.0661	
240 minute winter	2	38.002	69	-7.9	-0.463	-0.339	0.0705	
480 minute winter	3	36.000	Carpark 2	1.5	0.458	0.063	0.0778	
480 minute winter	Carpark 2	36.001	4	1.6	0.334	0.069	0.0642	
480 minute winter	4	36.002	J22	0.4	0.204	0.004	0.0338	
480 minute winter	5	35.000	Carpark 3	1.1	0.486	0.141	0.0348	
480 minute winter	Carpark 3	35.001	6	1.3	0.371	0.161	0.0263	
480 minute winter	6	35.002	J21	0.4	0.172	0.011	0.0155	
360 minute winter	7	34.000	Carpark 4	1.7	0.706	0.075	0.0845	
360 minute winter	Carpark 4	34.001	9	2.0	0.172	0.035	0.0756	
360 minute winter	9	34.002	J20	0.5	0.296	0.008	0.0347	
600 minute winter	10	31.000	Carpark 5	1.0	0.455	0.044	0.0632	
600 minute winter	Carpark 5	31.001	11	1.7	0.168	0.072	0.0663	
600 minute winter	11	31.002	67	0.4	0.189	0.003	0.0173	
240 minute winter	12	30.000	Carpark 6	2.8	0.741	0.121	0.0940	
240 minute winter	Carpark 6	30.001	13	2.2	0.420	0.036	0.0733	
240 minute winter	13	30.002	J19	0.6	0.618	0.007	0.0131	
480 minute winter	14	28.000	Carpark 7	1.1	0.487	0.141	0.0400	
480 minute winter	Carpark 7	28.001	16	0.8	0.372	0.100	0.0271	
480 minute winter	16	28.002	J17	0.4	0.289	0.012	0.0070	
360 minute winter	17	26.000	Carpark 8	2.0	0.666	0.088	0.0817	
360 minute winter	Carpark 8	26.001	18	1.3	0.171	0.022	0.0782	
360 minute winter	18	26.002	J15	0.5	0.444	0.009	0.0093	
480 minute winter	19	23.000	Carpark 9	1.1	0.487	0.140	0.0440	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.74%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	Carpark 9	352	146.845	1.040	1.1	4.4113	0.0000	SURCHARGED
480 minute winter	20	352	146.845	1.098	1.1	1.2420	0.0000	SURCHARGED
240 minute winter	21	192	146.902	0.702	1.7	0.2415	0.0000	SURCHARGED
240 minute winter	Carpark 10	192	146.902	0.795	1.6	4.4113	0.0000	SURCHARGED
240 minute winter	22	192	146.902	0.851	0.7	0.9622	0.0000	SURCHARGED
240 minute winter	23	192	147.091	0.691	1.7	0.2376	0.0000	SURCHARGED
240 minute winter	Carpark 11	192	147.091	0.790	1.6	4.4113	0.0000	SURCHARGED
240 minute winter	24	192	147.090	0.844	0.9	0.9551	0.0000	SURCHARGED
480 minute winter	25	352	147.689	1.139	2.1	0.4681	0.0000	FLOOD RISK
480 minute winter	Carpark 12	352	147.689	1.209	2.5	6.2314	0.0000	FLOOD RISK
480 minute winter	26	352	147.689	1.589	0.7	1.7969	0.0000	FLOOD RISK
480 minute winter	27	352	147.652	0.952	1.3	0.3417	0.0000	SURCHARGED
480 minute winter	Carpark 13	352	147.652	1.010	1.1	4.4113	0.0000	SURCHARGED
480 minute winter	28	352	147.651	1.074	1.0	1.2151	0.0000	SURCHARGED
480 minute winter	29	360	147.677	0.677	1.2	0.2431	0.0000	SURCHARGED
480 minute winter	Carpark 14	360	147.677	0.751	1.1	5.5363	0.0000	SURCHARGED
480 minute winter	30	360	147.677	0.811	0.9	0.9172	0.0000	SURCHARGED
360 minute winter	31	288	148.402	1.252	3.1	0.5444	0.0000	FLOOD RISK
360 minute winter	Carpark 15	288	148.402	1.320	2.1	7.9449	0.0000	FLOOD RISK
360 minute winter	32	288	148.402	1.901	1.9	2.1506	0.0000	FLOOD RISK
360 minute winter	33	264	148.401	1.151	1.9	0.4731	0.0000	FLOOD RISK
360 minute winter	Carpark 16	264	148.401	1.226	2.0	5.5363	0.0000	FLOOD RISK
360 minute winter	34	264	148.401	1.300	2.3	1.4703	0.0000	FLOOD RISK
480 minute winter	35	352	148.647	0.947	1.2	0.3398	0.0000	SURCHARGED
480 minute winter	36	352	148.646	1.076	1.2	1.2171	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)
480 minute winter	Carpark 9	23.001	20	1.1	0.371	0.136	0.0270	
480 minute winter	20	23.002	66	0.4	0.067	0.021	0.0477	
240 minute winter	21	21.000	Carpark 10	1.6	0.495	0.197	0.0432	
240 minute winter	Carpark 10	21.001	22	-0.9	0.308	-0.116	0.0257	
240 minute winter	22	21.002	65	1.4	0.182	0.073	0.0472	
240 minute winter	23	19.000	Carpark 11	1.6	0.495	0.197	0.0456	
240 minute winter	Carpark 11	19.001	24	0.9	0.309	0.110	0.0256	
240 minute winter	24	19.002	65	0.3	0.071	0.019	0.0368	
480 minute winter	25	17.000	Carpark 12	2.5	0.616	0.108	0.0730	
480 minute winter	Carpark 12	17.001	26	-1.4	0.364	-0.025	0.0696	
480 minute winter	26	17.002	J13	3.2	0.239	0.066	0.0567	
480 minute winter	27	15.000	Carpark 13	1.1	0.487	0.140	0.0267	
480 minute winter	Carpark 13	15.001	28	1.0	0.371	0.127	0.0298	
480 minute winter	28	15.002	J11	0.4	0.125	0.015	0.0179	
480 minute winter	29	14.000	Carpark 14	1.1	0.487	0.140	0.0342	
480 minute winter	Carpark 14	14.001	30	0.9	0.371	0.110	0.0278	
480 minute winter	30	14.002	J10	0.3	0.142	0.011	0.0183	
360 minute winter	31	12.000	Carpark 15	2.1	0.680	0.089	0.0704	
360 minute winter	Carpark 15	12.001	32	1.9	0.175	0.029	0.0823	
360 minute winter	32	12.002	J9	0.9	0.284	0.014	0.0805	
360 minute winter	33	11.000	Carpark 16	2.0	0.498	0.087	0.0784	
360 minute winter	Carpark 16	11.001	34	2.3	0.277	0.099	0.0774	
360 minute winter	34	11.002	J8	0.6	0.453	0.012	0.0418	
480 minute winter	35	10.000	Carpark 17	1.1	0.486	0.140	0.0329	
480 minute winter	36	10.002	J7	0.4	0.384	0.022	0.0065	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.74%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	Carpark 17	352	148.646	1.017	1.2	4.4113	0.0000	SURCHARGED
360 minute winter	37	264	149.546	1.226	2.0	0.5221	0.0000	FLOOD RISK
360 minute winter	38	264	149.545	1.408	2.4	1.5928	0.0000	FLOOD RISK
360 minute winter	Carpark 18	264	149.545	1.337	2.0	5.9113	0.0000	FLOOD RISK
360 minute winter	39	272	149.217	1.267	2.0	0.5399	0.0000	FLOOD RISK
360 minute winter	Carpark 19	272	149.217	1.357	2.1	5.9113	0.0000	FLOOD RISK
360 minute winter	40	272	149.217	1.717	2.6	1.9422	0.0000	FLOOD RISK
360 minute winter	41	288	148.944	1.144	2.2	0.4875	0.0000	SURCHARGED
360 minute winter	42	288	148.944	1.444	1.9	1.6334	0.0000	SURCHARGED
600 minute winter	43	435	149.117	1.267	1.8	0.4637	0.0000	FLOOD RISK
360 minute winter	Carpark 20	288	148.944	1.232	2.1	8.4849	0.0000	SURCHARGED
600 minute winter	Carpark 21	435	149.117	1.347	1.0	4.4113	0.0000	FLOOD RISK
600 minute winter	44	435	149.117	1.408	0.7	1.5923	0.0000	FLOOD RISK
240 minute winter	45	192	149.003	0.703	1.7	0.2418	0.0000	SURCHARGED
240 minute winter	Carpark 22	192	149.003	0.785	1.6	4.4113	0.0000	SURCHARGED
240 minute winter	46	192	149.003	0.846	1.1	0.9574	0.0000	SURCHARGED
240 minute winter	47	192	148.965	0.695	1.7	0.2391	0.0000	SURCHARGED
240 minute winter	Carpark 23	192	148.965	0.779	1.6	4.4113	0.0000	SURCHARGED
240 minute winter	48	192	148.965	0.846	1.3	0.9567	0.0000	SURCHARGED
480 minute winter	49	368	148.995	1.345	1.4	0.4748	0.0000	FLOOD RISK
480 minute winter	Carpark 24	368	148.995	1.427	1.9	5.9113	0.0000	FLOOD RISK
480 minute winter	50	368	148.995	1.492	1.6	1.6875	0.0000	FLOOD RISK
360 minute winter	51	272	148.514	1.114	2.2	0.5070	0.0000	FLOOD RISK
360 minute winter	Carpark 25	272	148.514	1.217	2.0	8.1613	0.0000	FLOOD RISK
360 minute winter	52	272	148.514	1.291	2.3	1.4604	0.0000	FLOOD RISK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	Carpark 17	10.001	36	1.2	0.371	0.157	0.0273	
360 minute winter	37	6.000	Carpark 18	1.8	0.499	0.079	0.1171	
360 minute winter	38	6.002	63	1.0	0.078	0.016	0.0931	
360 minute winter	Carpark 18	6.001	38	2.4	0.284	0.106	0.0742	
360 minute winter	39	7.000	Carpark 19	1.8	0.698	0.079	0.0939	
360 minute winter	Carpark 19	7.001	40	2.6	0.219	0.046	0.0643	
360 minute winter	40	7.002	63	0.7	0.045	0.023	0.1221	
360 minute winter	41	5.000	Carpark 20	2.1	0.567	0.089	0.0919	
360 minute winter	42	5.002	J5	0.7	0.421	0.026	0.1246	
600 minute winter	43	3.000	Carpark 21	1.0	0.455	0.044	0.0836	
360 minute winter	Carpark 20	5.001	42	1.9	0.172	0.050	0.0810	
600 minute winter	Carpark 21	3.001	44	0.7	0.143	0.030	0.0634	
600 minute winter	44	3.002	J3	1.8	0.368	0.048	0.1279	
240 minute winter	45	1.000	Carpark 22	1.6	0.494	0.197	0.0381	
240 minute winter	Carpark 22	1.001	46	1.1	0.307	0.141	0.0286	
240 minute winter	46	1.002	J1	0.4	0.550	0.057	0.0185	
240 minute winter	47	2.000	Carpark 23	1.6	0.494	0.197	0.0389	
240 minute winter	Carpark 23	2.001	48	1.3	0.309	0.168	0.0309	
240 minute winter	48	2.002	J2	0.4	0.518	0.036	0.0258	
480 minute winter	49	4.000	Carpark 24	1.9	0.458	0.081	0.0851	
480 minute winter	Carpark 24	4.001	50	1.6	0.336	0.069	0.0673	
480 minute winter	50	4.002	J4	0.6	0.224	0.019	0.0875	
360 minute winter	51	9.000	Carpark 25	2.0	0.499	0.087	0.1075	
360 minute winter	Carpark 25	9.001	52	2.3	0.249	0.097	0.0770	
360 minute winter	52	9.002	J7	0.6	0.361	0.023	0.0146	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.74%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	53	264	147.982	1.332	2.0	0.5676	0.0000	FLOOD RISK
360 minute winter	Carpark 26	264	147.982	1.425	2.3	5.5363	0.0000	FLOOD RISK
360 minute winter	54	264	147.982	1.494	2.2	1.6900	0.0000	FLOOD RISK
360 minute winter	55	272	147.607	1.157	1.6	0.4233	0.0000	FLOOD RISK
360 minute winter	Carpark 27	272	147.607	1.229	1.9	4.4113	0.0000	FLOOD RISK
360 minute winter	56	272	147.607	1.279	1.6	1.4460	0.0000	FLOOD RISK
360 minute winter	57	272	147.326	1.176	1.9	0.4832	0.0000	FLOOD RISK
360 minute winter	Carpark 28	272	147.326	1.252	1.7	5.5363	0.0000	FLOOD RISK
360 minute winter	58	272	147.326	1.318	2.6	1.4902	0.0000	FLOOD RISK
360 minute winter	59	272	147.220	1.070	1.9	0.4397	0.0000	FLOOD RISK
360 minute winter	Carpark 29	272	147.220	1.147	2.5	5.5363	0.0000	FLOOD RISK
360 minute winter	60	272	147.220	1.820	1.5	2.0580	0.0000	FLOOD RISK
600 minute winter	61	450	146.788	0.938	1.1	0.3432	0.0000	SURCHARGED
600 minute winter	Carpark 30	450	146.788	1.019	1.3	5.5363	0.0000	SURCHARGED
600 minute winter	62	450	146.788	1.688	0.9	1.9088	0.0000	SURCHARGED
15 minute summer	Depth/Area 1	1	145.620	0.000	0.0	0.0000	0.0000	OK
15 minute summer	Depth/Area 2	1	146.200	0.000	0.0	0.0000	0.0000	OK
600 minute winter	Depth/Area 3	525	144.276	0.687	65.5	2.6113	0.0000	SURCHARGED
600 minute winter	63	585	148.219	0.942	5.0	1.0659	0.0000	SURCHARGED
720 minute winter	64	720	147.045	1.245	16.6	1.7811	0.0000	SURCHARGED
480 minute winter	65	456	146.159	0.733	15.6	1.2943	0.0000	SURCHARGED
240 minute winter	66	172	145.845	0.749	13.7	1.3229	0.0000	SURCHARGED
480 minute winter	67	440	144.286	0.086	11.8	0.1513	0.0000	OK
600 minute winter	68	525	144.281	0.641	38.9	1.1332	0.0000	SURCHARGED
600 minute winter	69	510	144.270	0.670	53.1	1.1836	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)
360 minute winter	53	16.000	Carpark 26	1.8	0.498	0.079	0.0972	
360 minute winter	Carpark 26	16.001	54	2.2	0.253	0.097	0.0723	
360 minute winter	54	16.002	J12	0.6	0.492	0.010	0.0624	
360 minute winter	55	18.000	Carpark 27	1.8	0.458	0.079	0.0748	
360 minute winter	Carpark 27	18.001	56	1.6	-0.198	0.067	0.0515	
360 minute winter	56	18.002	J14	0.4	0.595	0.008	0.0663	
360 minute winter	57	20.000	Carpark 28	1.7	0.499	0.075	0.0791	
360 minute winter	Carpark 28	20.001	58	2.6	0.320	0.112	0.0682	
360 minute winter	58	20.002	65	-1.9	-0.111	-0.038	0.1234	
360 minute winter	59	27.000	Carpark 29	2.5	0.746	0.106	0.0797	
360 minute winter	Carpark 29	27.001	60	1.5	0.177	0.024	0.1042	
360 minute winter	60	27.002	J17	0.5	0.146	0.010	0.0308	
600 minute winter	61	29.000	Carpark 30	1.3	0.638	0.055	0.0843	
600 minute winter	Carpark 30	29.001	62	0.9	0.159	0.014	0.0874	
600 minute winter	62	29.002	J19	0.3	0.153	0.005	0.0164	
15 minute summer	Depth/Area 1	33.000	67	0.0	0.000	0.000	0.0154	
15 minute summer	Depth/Area 2	24.000	66	0.0	0.000	0.000	0.0487	
600 minute winter	Depth/Area 3	1.030	70	56.4	0.641	0.046	2.4534	
600 minute winter	63	1.008	J7	3.1	0.923	0.021	0.0442	
720 minute winter	64	1.012	J10	9.1	0.470	0.056	0.5220	
480 minute winter	65	1.018	66	20.3	0.254	0.025	2.2645	
240 minute winter	66	1.019	J15	8.9	1.175	0.013	0.0386	
480 minute winter	67	1.024	J20	29.0	1.192	0.037	0.5295	
600 minute winter	68	1.028	69	50.6	0.630	0.125	1.2268	
600 minute winter	69	1.029	Depth/Area 3	65.5	0.710	0.179	2.5495	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.74%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	70	510	144.272	0.799	56.4	1.4114	0.0000	SURCHARGED
600 minute winter	J1	585	148.221	0.139	0.4	0.0000	0.0000	SURCHARGED
600 minute winter	J2	585	148.221	0.277	0.8	0.0000	0.0000	SURCHARGED
600 minute winter	J3	570	148.220	0.849	2.3	0.0000	0.0000	SURCHARGED
600 minute winter	J4	585	148.222	0.872	3.5	0.0000	0.0000	SURCHARGED
600 minute winter	J5	585	148.220	0.897	4.3	0.0000	0.0000	SURCHARGED
480 minute winter	J7	384	147.084	0.027	3.8	0.0000	0.0000	OK
720 minute winter	J8	720	147.045	0.247	4.3	0.0000	0.0000	OK
720 minute winter	J9	720	147.046	1.046	7.1	0.0000	0.0000	SURCHARGED
480 minute winter	J10	472	146.164	0.373	9.0	0.0000	0.0000	OK
480 minute winter	J11	464	146.160	0.392	14.7	0.0000	0.0000	OK
600 minute winter	J12	555	146.183	0.425	12.4	0.0000	0.0000	OK
600 minute winter	J13	480	146.179	0.430	14.9	0.0000	0.0000	OK
600 minute winter	J14	555	146.181	0.438	19.0	0.0000	0.0000	OK
240 minute winter	J15	176	145.025	0.038	9.3	0.0000	0.0000	OK
240 minute winter	J17	180	144.813	0.063	10.2	0.0000	0.0000	OK
240 minute winter	J18	180	144.599	0.033	10.2	0.0000	0.0000	OK
360 minute winter	J19	264	144.358	0.051	11.1	0.0000	0.0000	OK
480 minute winter	J20	440	144.276	0.276	38.6	0.0000	0.0000	OK
480 minute winter	J21	424	144.274	0.374	45.2	0.0000	0.0000	OK
600 minute winter	J22	525	144.271	0.471	26.4	0.0000	0.0000	OK
600 minute winter	J23	525	143.454	0.050	13.7	0.0000	0.0000	OK
600 minute winter	J24	585	148.218	0.473	4.9	0.4118	0.0000	SURCHARGED
600 minute winter	Carpark 31	585	148.218	0.534	14.5	40.0400	0.0000	SURCHARGED
720 minute winter	J25	720	147.045	0.545	2.3	0.2665	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)
600 minute winter	70	1.031	J23	13.7	1.122	0.011	0.0499	731.6
600 minute winter	J1	1.003	J2	0.4	0.511	0.034	0.0266	
600 minute winter	J2	1.004	J3	0.9	0.808	0.060	0.0711	
600 minute winter	J3	1.005	J4	3.1	0.243	0.078	0.1466	
600 minute winter	J4	1.006	J5	3.9	0.168	0.096	0.1716	
600 minute winter	J5	1.007	63	4.5	0.114	0.113	0.3045	
480 minute winter	J7	1.009	J8	3.8	1.217	0.017	0.1754	
720 minute winter	J8	1.010	J9	7.1	1.475	0.021	0.5620	
720 minute winter	J9	1.011	64	15.7	0.384	0.055	0.2144	
480 minute winter	J10	1.013	J11	14.3	0.485	0.079	1.0006	
480 minute winter	J11	1.014	J12	13.7	0.476	0.084	0.5711	
600 minute winter	J12	1.015	J13	13.9	0.463	0.063	0.7505	
600 minute winter	J13	1.016	J14	12.5	0.765	0.057	0.5208	
600 minute winter	J14	1.017	65	12.2	0.239	0.013	1.6519	
240 minute winter	J15	1.020	J17	9.3	1.349	0.011	0.0457	
240 minute winter	J17	1.021	J18	10.2	1.660	0.010	0.0301	
240 minute winter	J18	1.022	J19	10.2	1.278	0.008	0.0282	
360 minute winter	J19	1.023	67	11.1	1.146	0.018	0.0968	
480 minute winter	J20	1.025	J21	44.8	1.073	0.076	0.9369	
480 minute winter	J21	1.026	J22	38.1	1.103	0.070	1.4683	
600 minute winter	J22	1.027	68	38.2	0.840	0.059	1.9094	
600 minute winter	J24	8.000	Carpark 31	14.5	0.980	0.214	0.1427	
600 minute winter	Carpark 31	8.001	63	2.4	0.122	0.018	0.2635	
720 minute winter	J25	13.000	Carpark 32	4.3	0.929	0.183	0.0662	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.74%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	Carpark 32	720	147.045	0.609	4.3	30.9617	0.0000	SURCHARGED
480 minute winter	J26	464	146.155	0.205	6.2	0.1065	0.0000	SURCHARGED
480 minute winter	Carpark 33	464	146.155	0.259	5.9	10.2132	0.0000	SURCHARGED
180 minute winter	J27	120	145.852	0.102	6.0	0.0212	0.0000	OK
240 minute winter	Carpark 34	168	145.845	0.150	6.5	2.7353	0.0000	OK
720 minute winter	J28	675	146.005	0.435	4.0	0.2061	0.0000	SURCHARGED
720 minute winter	Carpark 35	675	146.005	0.496	2.3	22.8527	0.0000	SURCHARGED
960 minute winter	J29	750	145.997	1.022	11.4	1.0035	0.0000	SURCHARGED
960 minute winter	Carpark 36	750	145.996	1.128	4.1	50.9073	0.0000	SURCHARGED
720 minute winter	15	675	146.005	1.005	0.7	1.1364	0.0000	SURCHARGED
960 minute winter	8	750	145.996	1.996	1.1	2.2575	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)
720 minute winter	Carpark 32	13.001	64	1.6	0.109	0.023	0.0717	
480 minute winter	J26	22.000	Carpark 33	3.4	1.164	0.146	0.0566	
480 minute winter	Carpark 33	22.001	65	4.1	0.374	0.071	0.0787	
180 minute winter	J27	25.000	Carpark 34	6.7	1.109	0.290	0.0487	
240 minute winter	Carpark 34	25.001	66	4.1	0.779	0.059	0.0707	
720 minute winter	J28	32.000	Carpark 35	-2.7	0.653	-0.116	0.0635	
720 minute winter	Carpark 35	32.001	15	-1.2	0.120	-0.017	0.0606	
960 minute winter	J29	37.000	Carpark 36	-9.0	0.752	-0.133	0.2527	
960 minute winter	Carpark 36	37.001	8	1.1	0.163	0.004	0.1511	
720 minute winter	15	32.002	67	0.4	0.856	0.008	0.0017	
960 minute winter	8	Hydro-Brake®	68	0.9				