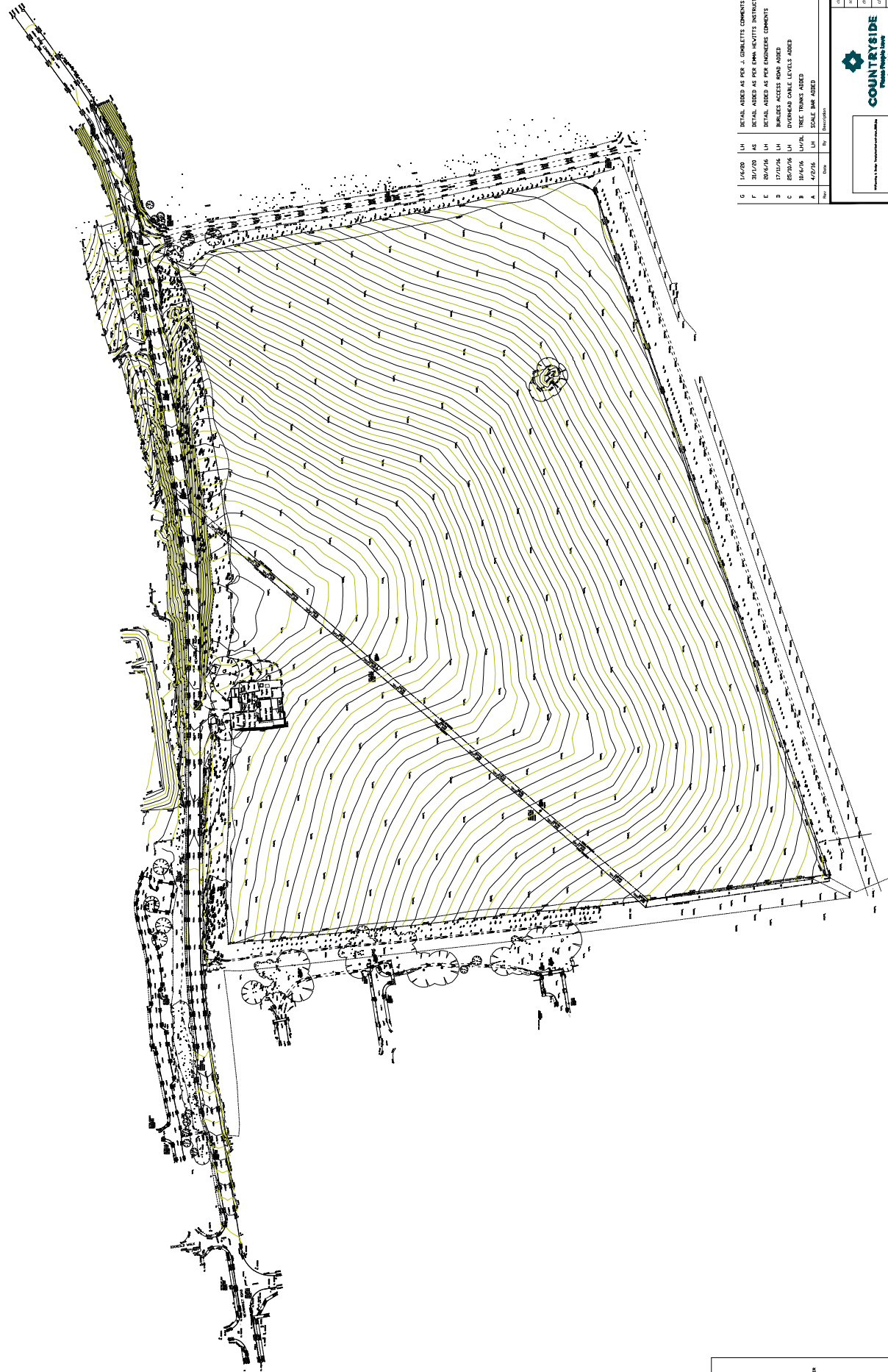


9. APPENDIX B – TOPOGRAPHICAL SURVEY

[illegible]

1:1250 @ A1



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10. APPENDIX C – HYDRALIC CALCULATIONS

Calculated by:	KIERAN KINCAID
Site name:	Newmarket Road
Site location:	Royston

Site Details

Latitude:	52.04732° N
Longitude:	0.00452° W
Reference:	2679319669
Date:	Mar 04 2025 09:25

This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013), the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Runoff estimation approach

IH124

Site characteristics

Total site area (ha):	14.77
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Methodology

Q _{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Notes

(1) Is $Q_{\text{BAR}} < 2.0 \text{ l/s/ha}$?

When Q_{BAR} is $< 2.0 \text{ l/s/ha}$ then limiting discharge rates are set at 2.0 l/s/ha .

Soil characteristics

	Default	Edited
SOIL type:	1	1
HOST class:	N/A	N/A
SPR/SPRHOST:	0.1	0.1

(2) Are flow rates $< 5.0 \text{ l/s}$?

Where flow rates are less than 5.0 l/s consent for discharge is usually set at 5.0 l/s if blockage from vegetation and other materials is possible. Lower consent flow rates may be set where the blockage risk is addressed by using appropriate drainage elements.

Hydrological characteristics

	Default	Edited
SAAR (mm):	588	588
Hydrological region:	5	5
Growth curve factor 1 year:	0.87	0.87
Growth curve factor 30 years:	2.45	2.45
Growth curve factor 100 years:	3.56	3.56
Growth curve factor 200 years:	4.21	4.21

(3) Is $\text{SPR/SPRHOST} \leq 0.3$?

Where groundwater levels are low enough the use of soakaways to avoid discharge offsite would normally be preferred for disposal of surface water runoff.

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MORE INFO

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Default

Edited

Q_{BAR} (l/s):	2.02	2.02
1 in 1 year (l/s):	1.76	1.76
1 in 30 years (l/s):	4.96	4.96
1 in 100 year (l/s):	7.2	7.2
1 in 200 years (l/s):	8.52	8.52

This report was produced using the greenfield runoff tool developed by HR Wallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement , which can both be found at www.uksuds.com/terms-and-conditions.htm. The outputs from this tool are estimates of greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of this data in the design or operational characteristics of any drainage scheme.

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Rainfall Methodology FEH-22
Return Period (years) 2
Additional Flow (%) 0
CV 1.000

Design Settings

Time of Entry (mins) 5.00
Maximum Time of Concentration (mins) 30.00
Minimum Velocity (m/s) 1.00
Minimum Backdrop Height (m) 9.99
Preferred Cover Depth (m) 1.200
Include Intermediate Ground ✓

Enforce best practice design rules x

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
1	0.034	5.00	99.702	1200	537135.192	240663.626	1.866
2	0.072	5.00	95.361	1200	537081.220	240626.764	1.425
3			94.173	1200	537064.863	240613.040	1.500
4	0.036	5.00	92.069	1200	537033.747	240649.050	1.500
5	0.068	5.00	91.707	1200	537057.281	240690.741	1.425
6	0.062	5.00	91.111	1200	537035.703	240672.100	1.500
7	0.041	5.00	91.441	1350	537023.486	240660.378	2.050
8	0.031	5.00	91.502	1350	537002.982	240649.119	2.169
9	0.088	5.00	90.500	1350	536982.438	240638.264	1.650
10	0.060	5.00	88.467	1350	536951.539	240629.995	1.650
11	0.070	5.00	86.101	1350	536913.972	240627.506	1.650
12	0.070	5.00	84.094	1350	536882.965	240634.212	1.650
13	0.034	5.00	83.018	1500	536856.747	240648.825	1.725
14	0.023	5.00	82.782	1500	536847.080	240658.529	1.725
15	0.023	5.00	81.484	1500	536867.719	240679.583	1.725
16	0.023	5.00	80.656	1500	536878.216	240694.585	1.725
17	0.057	5.00	81.535	1200	536961.892	240695.342	1.851
18	0.051	5.00	81.136	1200	536943.462	240690.569	1.640
19	0.077	5.00	80.787	1200	536922.689	240691.947	1.500
20	0.059	5.00	80.015	1500	536884.846	240707.631	1.725
21	0.052	5.00	78.680	1500	536892.028	240736.530	1.725
22	0.160	5.00	78.127	1500	536895.017	240748.417	1.725
23			75.000		536893.893	240768.797	0.600
24	0.042	5.00	96.104	1200	537118.929	240744.369	1.425
25	0.031	5.00	96.749	1200	537122.640	240734.510	2.133
26	0.049	5.00	95.468	1200	537105.286	240725.944	1.425
27	0.050	5.00	93.265	1200	537079.548	240707.764	1.848
28	0.016	5.00	91.718	1200	537066.487	240725.670	2.223
29			90.636	1200	537062.762	240740.306	2.400
30	0.026	5.00	89.627	1200	537064.730	240754.143	2.556
31	0.021	5.00	87.167	1200	537075.147	240787.553	3.012
32			86.497	1200	537074.616	240797.492	3.171
33	0.027	5.00	86.094	1350	537071.972	240803.949	3.424
34			85.452	1350	537061.469	240804.180	3.657
35	0.037	5.00	82.003	1350	537039.837	240801.986	1.575
36	0.048	5.00	83.000	1200	536993.526	240713.997	1.425
37	0.066	5.00	83.449	1200	537008.657	240736.320	2.108
38	0.062	5.00	82.159	1200	537011.861	240758.511	1.500
39	0.031	5.00	79.800	1350	537007.510	240798.078	2.275
40	0.048	5.00	77.190	1350	536974.292	240794.518	1.892
41			77.650	1350	536950.335	240793.896	2.411
42			77.300	1500	536942.176	240785.576	2.165
43			75.000		536920.228	240785.296	0.600
44	0.034	5.00	84.350	1200	536807.184	240632.358	1.300
45	0.044	5.00	83.431	1200	536812.102	240648.747	1.425

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Eastings (m)	Northings (m)	Depth (m)
46	0.023	5.00	82.881	1200	536823.232	240661.835	1.425
47	0.023	5.00	82.497	1200	536834.242	240672.920	1.500
48	0.064	5.00	81.941	1200	536824.000	240691.335	1.787
49	0.023	5.00	80.717	1200	536816.705	240716.655	2.759
50	0.033	5.00	79.621	1200	536815.468	240738.388	3.477
51	0.023	5.00	76.270	1350	536816.649	240806.310	1.552
52	0.023	5.00	78.046	1350	536815.377	240769.842	3.418
54	0.039	5.00	78.687	1500	536815.551	240756.973	4.166
55			78.392	1500	536836.950	240757.212	3.915
56			76.185	1500	536869.118	240768.713	1.778
57			75.000		536869.189	240771.724	0.600
BASIN 1			75.000		536889.803	240791.374	2.400
58_OUT			75.000	1500	536890.995	240797.263	2.400
59	0.046	5.00	96.755	1200	536731.467	240523.032	1.300
60			96.330	1200	536732.945	240531.918	1.425
61	0.032	5.00	94.708	1200	536725.248	240568.563	1.425
62	0.014	5.00	93.671	1200	536720.487	240592.618	1.425
63	0.017	5.00	92.460	1200	536724.314	240614.426	1.425
64			91.196	1200	536722.142	240633.522	1.425
65	0.017	5.00	90.301	1200	536717.925	240646.049	1.425
66	0.031	5.00	86.985	1200	536710.767	240694.930	1.500
67	0.023	5.00	86.141	1200	536709.830	240706.531	1.500
68	0.023	5.00	85.228	1200	536710.726	240719.456	1.500
69	0.014	5.00	83.200	1200	536701.661	240755.492	1.500
70			81.800	1200	536697.408	240781.679	2.250
71			79.300	1200	536697.729	240798.448	1.150
72	0.059	5.00	83.865	1200	536736.010	240728.539	1.965
73	0.055	5.00	81.837	1350	536773.134	240736.279	1.300
74	0.100	5.00	82.851	1350	536754.343	240734.613	2.373
75	0.009	5.00	82.042	1350	536752.649	240752.818	2.202
76	0.069	5.00	80.348	1350	536751.667	240787.860	3.348
77			79.300	1350	536751.762	240797.787	2.450
77_OUT			79.300	1350	536797.529	240798.177	2.550
78		5.00	100.505	1200	536743.950	240444.907	1.505
79			100.228	1200	536767.613	240450.203	2.440
80			98.785	1200	536796.534	240461.996	2.559
81	0.117	5.00	97.708	1200	536827.219	240472.259	2.686
82	0.023	5.00	94.350	1200	536816.277	240506.210	2.376
83	0.042	5.00	93.075	1200	536814.108	240519.131	2.193
84	0.089	5.00	92.280	1200	536803.785	240533.102	1.425
85	0.046	5.00	91.652	1350	536814.586	240533.702	1.575
86	0.023	5.00	90.663	1350	536816.407	240543.734	1.436
87	0.046	5.00	89.517	1350	536819.762	240554.652	1.242
88	0.076	5.00	94.907	1200	536980.283	240574.364	1.425
89	0.073	5.00	93.572	1200	536928.033	240559.094	1.500
90	0.093	5.00	91.759	1200	536868.400	240554.463	1.500
91	0.075	5.00	90.041	1500	536839.829	240554.331	1.725
92	0.036	5.00	88.983	1500	536825.207	240562.491	1.653
93	0.023	5.00	88.243	1500	536816.410	240570.701	1.725
94	0.023	5.00	87.297	1500	536808.983	240584.232	1.725

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
95	0.091	5.00	86.646	1500	536807.457	240594.507	1.940
96	0.023	5.00	85.187	1500	536807.491	240618.535	1.800
97	0.052	5.00	84.321	1500	536844.841	240619.089	1.800
BASIN 2			83.500	1500	536844.648	240630.774	1.100
98_OUT			83.400	1500	536834.494	240641.278	1.000
BASIN 3	0.046		95.700		536810.619	240475.928	0.600
BASIN 4	0.050		97.000		537075.871	240560.584	0.600
BASIN 5	0.055		96.500		537085.856	240583.325	0.600

Links

Name	US Node	DS Node	Length (m)	ks (mm)/ n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	1	2	65.359	0.600	97.836	93.936	3.900	16.8	225	5.34	51.3
1.001	2	3	21.352	0.600	93.936	92.748	1.188	18.0	225	5.45	50.9
1.002	3	4	47.591	0.600	92.673	90.569	2.104	22.6	300	5.69	50.0
1.003	4	7	15.284	0.600	90.569	89.541	1.028	14.9	300	5.76	49.8
2.000	5	6	28.515	0.600	90.282	89.686	0.596	47.8	225	5.25	51.7
2.001	6	7	16.931	0.600	89.611	89.541	0.070	241.9	300	5.53	50.6
1.004	7	8	23.392	0.600	89.391	89.333	0.058	403.3	450	6.14	48.3
1.005	8	9	23.235	0.600	89.333	88.850	0.483	48.1	450	6.27	47.9
1.006	9	10	31.986	0.600	88.850	86.817	2.033	15.7	450	6.38	47.5
1.007	10	11	37.649	0.600	86.817	84.451	2.366	15.9	450	6.50	47.0
1.008	11	12	31.724	0.600	84.451	82.444	2.007	15.8	450	6.60	46.7
1.009	12	13	30.015	0.600	82.444	81.368	1.076	27.9	450	6.73	46.2
1.010	13	14	13.697	0.600	81.293	81.057	0.236	58.0	525	6.81	45.9
1.011	14	15	29.483	0.600	81.057	79.759	1.298	22.7	525	6.92	45.5
1.012	15	16	18.310	0.600	79.759	78.931	0.828	22.1	525	6.98	45.3
1.013	16	20	14.634	0.600	78.931	78.290	0.641	22.8	525	7.03	45.1
3.000	17	18	19.038	0.600	79.684	79.571	0.113	168.5	225	5.32	51.4

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	3.212	127.7	6.3	1.641	1.200	0.034	0.0	34	1.686
1.001	3.101	123.3	19.5	1.200	1.200	0.106	0.0	60	2.280
1.002	3.319	234.6	19.2	1.200	1.200	0.106	0.0	58	2.031
1.003	4.097	289.6	25.6	1.200	1.600	0.142	0.0	59	2.552
2.000	1.895	75.4	12.7	1.200	1.200	0.068	0.0	62	1.415
2.001	1.006	71.1	23.8	1.200	1.600	0.130	0.0	119	0.908
1.004	1.006	160.0	54.6	1.600	1.719	0.313	0.0	181	0.913
1.005	2.936	467.0	59.6	1.719	1.200	0.344	0.0	108	2.044
1.006	5.145	818.2	74.2	1.200	1.200	0.432	0.0	90	3.241
1.007	5.115	813.6	83.6	1.200	1.200	0.492	0.0	96	3.346
1.008	5.133	816.3	94.9	1.200	1.200	0.562	0.0	102	3.477
1.009	3.860	614.0	105.5	1.200	1.200	0.632	0.0	125	2.918
1.010	2.944	637.3	110.5	1.200	1.200	0.666	0.0	147	2.233
1.011	4.713	1020.4	113.3	1.200	1.200	0.689	0.0	117	3.155
1.012	4.777	1034.2	116.6	1.200	1.200	0.712	0.0	118	3.214
1.013	4.701	1017.8	119.8	1.200	1.200	0.735	0.0	120	3.201
3.000	1.004	39.9	10.6	1.626	1.340	0.057	0.0	79	0.850

Links

Name	US Node	DS Node	Length (m)	ks (mm)/ n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
3.001	18	19	20.819	0.600	79.496	79.287	0.209	99.6	300	5.54	50.6
3.002	19	20	40.964	0.600	79.287	78.515	0.772	53.1	300	5.85	49.4
1.014	20	21	29.778	0.600	78.290	76.955	1.335	22.3	525	7.14	44.8
1.015	21	22	12.257	0.600	76.955	76.402	0.553	22.2	525	7.18	44.7
1.016	22	23	20.411	0.600	76.402	74.400	2.002	10.2	525	7.23	44.5
1.017	23	BASIN 1	22.944	0.600	74.400	72.600	1.800	12.7	525	7.29	43.9
4.000	24	25	10.534	0.600	94.679	94.616	0.063	167.2	225	5.17	52.0
4.001	25	26	19.353	0.600	94.616	94.043	0.573	33.8	225	5.32	51.4
4.002	26	27	31.511	0.600	94.043	91.417	2.626	12.0	225	5.46	50.9
4.003	27	28	22.163	0.600	91.417	89.570	1.847	12.0	225	5.55	50.5
4.004	28	29	15.103	0.600	89.495	88.236	1.259	12.0	300	5.61	50.3
4.005	29	30	13.976	0.600	88.236	87.071	1.165	12.0	300	5.66	50.1
4.006	30	31	34.996	0.600	87.071	84.155	2.916	12.0	300	5.79	49.7
4.007	31	32	9.953	0.600	84.155	83.326	0.829	12.0	300	5.82	49.5
4.008	32	33	6.977	0.600	83.326	82.745	0.581	12.0	300	5.85	49.4
4.009	33	34	10.506	0.600	82.670	81.795	0.875	12.0	375	5.88	49.3
4.010	34	35	21.743	0.600	81.795	80.428	1.367	15.9	375	5.96	49.0
4.011	35	39	32.562	0.600	80.428	77.600	2.828	11.5	375	6.06	48.6
5.000	36	37	26.968	0.600	81.575	81.416	0.159	169.6	225	5.45	50.9
5.001	37	38	22.421	0.600	81.341	80.659	0.682	32.9	300	5.58	50.4
5.002	38	39	39.806	0.600	80.659	77.675	2.984	13.3	300	5.74	49.8
4.012	39	40	33.408	0.600	77.525	75.298	2.227	15.0	450	6.17	48.2
4.013	40	41	23.965	0.600	75.298	75.239	0.059	406.2	450	6.57	46.8
4.014	41	42	11.653	0.600	75.239	75.210	0.029	401.8	450	6.76	46.1

Name	Vel (m/s)	Flow (l/s)	Cap (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
3.001	1.575	19.7	111.3	1.340	1.200	0.108	0.0	85	1.199
3.002	2.163	33.0	152.9	1.200	1.200	0.185	0.0	94	1.735
1.014	4.757	1029.7	158.5	1.200	1.200	0.979	0.0	138	3.495
1.015	4.772	1033.0	166.6	1.200	1.200	1.031	0.0	141	3.547
1.016	7.042	1524.4	191.5	1.200	0.075	1.191	0.0	124	4.886
1.017	6.296	1363.0	189.0	0.075	1.875	1.191	0.0	130	4.486
4.000	1.008	40.1	7.9	1.200	1.908	0.042	0.0	67	0.785
4.001	2.258	89.8	13.6	1.908	1.200	0.073	0.0	58	1.633
4.002	3.798	151.0	22.4	1.200	1.623	0.122	0.0	58	2.748
4.003	3.798	151.0	31.4	1.623	1.923	0.172	0.0	69	3.007
4.004	4.563	322.5	34.2	1.923	2.100	0.188	0.0	65	3.001
4.005	4.563	322.5	34.0	2.100	2.256	0.188	0.0	65	3.000
4.006	4.562	322.5	38.4	2.256	2.712	0.214	0.0	69	3.105
4.007	4.561	322.4	42.0	2.712	2.871	0.235	0.0	72	3.178
4.008	4.561	322.4	42.0	2.871	3.049	0.235	0.0	72	3.177
4.009	5.253	580.1	46.7	3.049	3.282	0.262	0.0	71	3.208
4.010	4.562	503.8	46.4	3.282	1.200	0.262	0.0	76	2.883
4.011	5.364	592.4	52.5	1.200	1.825	0.299	0.0	74	3.353
5.000	1.001	39.8	8.8	1.200	1.808	0.048	0.0	72	0.807
5.001	2.751	194.5	20.8	1.808	1.200	0.114	0.0	66	1.817
5.002	4.326	305.8	31.7	1.200	1.825	0.176	0.0	65	2.830
4.012	5.269	838.0	88.1	1.825	1.442	0.506	0.0	97	3.465
4.013	1.002	159.4	93.7	1.442	1.961	0.554	0.0	248	1.041
4.014	1.008	160.3	92.3	1.961	1.640	0.554	0.0	245	1.041

Links

Name	US Node	DS Node	Length (m)	ks (mm)/n	US IL (m)	DS IL (m)	Fall (1:X)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
4.015	42	43	21.950	0.600	75.135	74.400	0.735	29.9	525	6.85	45.8
4.016	43	BASIN 1	31.026	0.600	74.400	72.600	1.800	17.2	525	6.94	46.4
6.000	44	45	17.111	0.600	83.050	82.006	1.044	16.4	225	5.09	52.3
6.001	45	46	17.181	0.600	82.006	81.456	0.550	31.2	225	5.21	51.8
6.002	46	47	15.624	0.600	81.456	81.072	0.384	40.7	225	5.34	51.4
6.003	47	48	21.072	0.600	80.997	80.154	0.843	25.0	300	5.45	50.9
6.004	48	49	26.350	0.600	80.154	77.958	2.196	12.0	300	5.54	50.6
6.005	49	50	21.768	0.600	77.958	76.144	1.814	12.0	300	5.62	50.3
6.006	50	54	18.585	0.600	76.144	74.746	1.398	13.3	300	5.69	50.0
7.000	51	52	36.490	0.600	74.718	74.628	0.090	405.4	450	5.61	50.3
7.001	52	54	12.870	0.600	74.628	74.596	0.032	402.2	450	5.82	49.5
6.007	54	55	21.400	0.600	74.521	74.477	0.044	486.4	525	6.17	48.2
6.008	55	56	34.162	0.600	74.477	74.407	0.070	488.0	525	6.74	46.2
6.009	56	57	3.012	0.600	74.407	74.400	0.007	430.3	525	6.78	46.2
6.010	57	BASIN 1	28.479	0.600	74.400	72.600	1.800	15.8	525	6.87	45.7
1.018	BASIN 1	58_OUT	6.008	0.600	72.600	72.600	0.000	0.0	525	7.39	43.6
8.000	59	60	9.008	0.600	95.455	94.905	0.550	16.4	225	5.05	52.5
8.001	60	61	37.445	0.600	94.905	93.283	1.622	23.1	225	5.27	51.6
8.002	61	62	24.522	0.600	93.283	92.246	1.037	23.6	225	5.43	51.0
8.003	62	63	22.141	0.600	92.246	91.035	1.211	18.3	225	5.55	50.6
8.004	63	64	19.219	0.600	91.035	89.771	1.264	15.2	225	5.64	50.2
8.005	64	65	13.218	0.600	89.771	88.876	0.895	14.8	225	5.71	50.0
8.006	65	66	49.402	0.600	88.876	85.560	3.316	14.9	225	5.95	49.1
Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)		
4.015	4.109	889.5	91.7	1.640	0.075	0.554	0.0	113	2.695		
4.016	5.413	1171.7	92.9	0.075	1.875	0.554	0.0	99	3.296		
6.000	3.248	129.1	6.4	1.075	1.200	0.034	0.0	34	1.705		
6.001	2.349	93.4	14.6	1.200	1.200	0.078	0.0	60	1.727		
6.002	2.056	81.8	18.8	1.200	1.200	0.101	0.0	73	1.681		
6.003	3.157	223.2	22.8	1.200	1.487	0.124	0.0	64	2.053		
6.004	4.562	322.5	34.4	1.487	2.459	0.188	0.0	65	3.000		
6.005	4.562	322.5	38.4	2.459	3.177	0.211	0.0	69	3.105		
6.006	4.334	306.3	44.1	3.177	3.641	0.244	0.0	76	3.113		
7.000	1.003	159.6	4.2	1.102	2.968	0.023	0.0	50	0.438		
7.001	1.007	160.2	8.2	2.968	3.641	0.046	0.0	69	0.539		
6.007	1.009	218.4	57.3	3.641	3.390	0.329	0.0	183	0.855		
6.008	1.007	218.0	54.9	3.390	1.253	0.329	0.0	179	0.844		
6.009	1.073	232.3	54.9	1.253	0.075	0.329	0.0	173	0.885		
6.010	5.650	1223.1	54.3	0.075	1.875	0.329	0.0	74	2.908		
1.018	1.000	216.5	326.8	1.875	1.875	2.074	0.0	0	∞		
8.000	3.249	129.2	8.7	1.075	1.200	0.046	0.0	39	1.862		
8.001	2.734	108.7	8.6	1.200	1.200	0.046	0.0	43	1.649		
8.002	2.702	107.4	14.4	1.200	1.200	0.078	0.0	55	1.887		
8.003	3.074	122.2	16.8	1.200	1.200	0.092	0.0	56	2.167		
8.004	3.372	134.1	19.8	1.200	1.200	0.109	0.0	58	2.440		
8.005	3.422	136.1	19.7	1.200	1.200	0.109	0.0	58	2.455		
8.006	3.407	135.5	22.4	1.200	1.200	0.126	0.0	62	2.546		

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)
8.007	66	67	11.639	0.600	85.485	84.641	0.844	13.8	300	5.99	48.9
8.008	67	68	12.956	0.600	84.641	83.728	0.913	14.2	300	6.04	48.7
8.009	68	69	37.159	0.600	83.728	81.700	2.028	18.3	300	6.21	48.1
8.010	69	70	26.530	0.600	81.700	79.550	2.150	12.3	300	6.31	47.7
8.011	70	71	16.772	0.600	79.550	78.150	1.400	12.0	300	6.37	47.5
8.012	71	77	54.037	0.600	78.150	76.925	1.225	44.1	300	6.75	46.1
9.000	72	74	19.313	0.600	81.900	80.628	1.272	15.2	225	5.10	52.3
10.000	73	74	18.865	0.600	80.537	80.478	0.059	319.7	375	5.31	51.5
9.001	74	75	18.284	0.600	80.478	79.840	0.638	28.7	375	5.40	51.1
9.002	75	76	35.056	0.600	79.840	77.000	2.840	12.3	375	5.51	50.7
9.003	76	77	9.927	0.600	77.000	76.925	0.075	132.4	375	5.62	50.3
8.013	77	77_OUT	45.769	0.600	76.850	76.750	0.100	457.7	375	7.66	43.2
11.000	78	79	24.248	0.600	99.000	97.788	1.212	20.0	100	5.23	51.7
11.001	79	80	31.233	0.600	97.788	96.226	1.562	20.0	100	5.53	50.6
11.002	80	81	32.356	0.600	96.226	95.147	1.079	30.0	100	5.91	49.2
11.003	81	82	35.671	0.600	95.022	92.049	2.973	12.0	225	6.07	48.6
11.004	82	83	13.102	0.600	91.974	90.882	1.092	12.0	300	6.12	48.4
11.005	83	85	14.579	0.600	90.882	90.152	0.730	20.0	300	6.19	48.2
12.000	84	85	10.818	0.600	90.855	90.227	0.628	17.2	225	5.06	52.4
11.006	85	86	10.196	0.600	90.077	89.227	0.850	12.0	375	6.22	48.1
11.007	86	87	11.422	0.600	89.227	88.275	0.952	12.0	375	6.26	47.9
11.008	87	92	9.545	0.600	88.275	87.480	0.795	12.0	375	6.29	47.8
13.000	88	89	54.436	0.600	93.482	92.147	1.335	40.8	225	5.44	51.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
8.007	4.255	300.8	27.7	1.200	1.200	0.157	0.0	61	2.695
8.008	4.194	296.5	31.7	1.200	1.200	0.180	0.0	66	2.772
8.009	3.690	260.8	35.3	1.200	1.200	0.203	0.0	74	2.604
8.010	4.499	318.0	37.4	1.200	1.950	0.217	0.0	69	3.048
8.011	4.566	322.8	37.3	1.950	0.850	0.217	0.0	68	3.078
8.012	2.373	167.8	36.2	0.850	2.075	0.217	0.0	94	1.904
9.000	3.375	134.2	11.2	1.740	1.998	0.059	0.0	44	2.061
10.000	1.008	111.3	10.2	0.925	1.998	0.055	0.0	77	0.637
9.001	3.395	375.0	39.5	1.998	1.827	0.214	0.0	82	2.238
9.002	5.180	572.1	40.9	1.827	2.973	0.223	0.0	67	3.048
9.003	1.573	173.7	53.1	2.973	2.000	0.292	0.0	142	1.388
8.013	0.840	92.8	79.5	2.075	2.175	0.509	0.0	268	0.940
11.000	1.734	13.6	0.0	1.405	2.340	0.000	0.0	0	0.000
11.001	1.734	13.6	0.0	2.340	2.459	0.000	0.0	0	0.000
11.002	1.414	11.1	0.0	2.459	2.461	0.000	0.0	0	0.000
11.003	3.798	151.0	20.5	2.461	2.076	0.117	0.0	56	2.679
11.004	4.563	322.5	24.5	2.076	1.893	0.140	0.0	55	2.726
11.005	3.533	249.8	31.7	1.893	1.200	0.182	0.0	72	2.450
12.000	3.168	125.9	16.9	1.200	1.200	0.089	0.0	55	2.213
11.006	5.255	580.4	55.1	1.200	1.061	0.317	0.0	77	3.358
11.007	5.255	580.3	58.9	1.061	0.867	0.340	0.0	80	3.430
11.008	5.253	580.1	66.7	0.867	1.128	0.386	0.0	85	3.551
13.000	2.054	81.7	14.0	1.200	1.200	0.076	0.0	63	1.546

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)
13.001	89	90	59.813	0.600	92.072	90.259	1.813	33.0	300	5.80	49.6
13.002	90	91	28.571	0.600	90.259	88.541	1.718	16.6	300	5.93	49.1
13.003	91	92	16.745	0.600	88.316	87.330	0.986	17.0	525	5.98	48.9
11.009	92	93	12.033	0.600	87.330	86.518	0.812	14.8	525	6.32	47.7
11.010	93	94	15.435	0.600	86.518	85.572	0.946	16.3	525	6.37	47.5
11.011	94	95	10.388	0.600	85.572	84.706	0.866	12.0	525	6.39	47.4
11.012	95	96	24.028	0.600	84.706	83.462	1.244	19.3	525	6.47	47.1
11.013	96	97	37.354	0.600	83.387	82.521	0.866	43.1	600	6.64	46.4
11.014	97	BASIN 2	11.687	0.600	82.521	82.400	0.121	96.6	600	6.72	46.1
11.015	BASIN 2	98_OUT	14.610	0.600	82.400	82.400	0.000	0.0	600	6.96	45.2

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
13.001	2.746	194.1	26.7	1.200	1.200	0.149	0.0	75	1.946
13.002	3.873	273.8	42.9	1.200	1.200	0.242	0.0	80	2.851
13.003	5.453	1180.5	56.0	1.200	1.128	0.317	0.0	77	2.864
11.009	5.839	1263.9	127.4	1.128	1.200	0.739	0.0	111	3.802
11.010	5.564	1204.4	130.8	1.200	1.200	0.762	0.0	116	3.707
11.011	6.491	1405.2	134.5	1.200	1.415	0.785	0.0	108	4.172
11.012	5.113	1106.7	149.1	1.415	1.200	0.876	0.0	129	3.618
11.013	3.714	1050.2	150.8	1.200	1.200	0.899	0.0	152	2.676
11.014	2.478	700.6	158.4	1.200	0.500	0.951	0.0	192	2.020
11.015	1.000	282.7	155.3	0.500	0.400	0.951	0.0	0	∞

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	65.359	16.8	225	Circular	99.702	97.836	1.641	95.361	93.936	1.200
1.001	21.352	18.0	225	Circular	95.361	93.936	1.200	94.173	92.748	1.200
1.002	47.591	22.6	300	Circular	94.173	92.673	1.200	92.069	90.569	1.200
1.003	15.284	14.9	300	Circular	92.069	90.569	1.200	91.441	89.541	1.600
2.000	28.515	47.8	225	Circular	91.707	90.282	1.200	91.111	89.686	1.200
2.001	16.931	241.9	300	Circular	91.111	89.611	1.200	91.441	89.541	1.600
1.004	23.392	403.3	450	Circular	91.441	89.391	1.600	91.502	89.333	1.719
1.005	23.235	48.1	450	Circular	91.502	89.333	1.719	90.500	88.850	1.200
1.006	31.986	15.7	450	Circular	90.500	88.850	1.200	88.467	86.817	1.200
1.007	37.649	15.9	450	Circular	88.467	86.817	1.200	86.101	84.451	1.200

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	1	1200	Manhole	Adoptable	2	1200	Manhole	Adoptable
1.001	2	1200	Manhole	Adoptable	3	1200	Manhole	Adoptable
1.002	3	1200	Manhole	Adoptable	4	1200	Manhole	Adoptable
1.003	4	1200	Manhole	Adoptable	7	1350	Manhole	Adoptable
2.000	5	1200	Manhole	Adoptable	6	1200	Manhole	Adoptable
2.001	6	1200	Manhole	Adoptable	7	1350	Manhole	Adoptable
1.004	7	1350	Manhole	Adoptable	8	1350	Manhole	Adoptable
1.005	8	1350	Manhole	Adoptable	9	1350	Manhole	Adoptable
1.006	9	1350	Manhole	Adoptable	10	1350	Manhole	Adoptable
1.007	10	1350	Manhole	Adoptable	11	1350	Manhole	Adoptable

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.008	31.724	15.8	450	Circular	86.101	84.451	1.200	84.094	82.444	1.200
1.009	30.015	27.9	450	Circular	84.094	82.444	1.200	83.018	81.368	1.200
1.010	13.697	58.0	525	Circular	83.018	81.293	1.200	82.782	81.057	1.200
1.011	29.483	22.7	525	Circular	82.782	81.057	1.200	81.484	79.759	1.200
1.012	18.310	22.1	525	Circular	81.484	79.759	1.200	80.656	78.931	1.200
1.013	14.634	22.8	525	Circular	80.656	78.931	1.200	80.015	78.290	1.200
3.000	19.038	168.5	225	Circular	81.535	79.684	1.626	81.136	79.571	1.340
3.001	20.819	99.6	300	Circular	81.136	79.496	1.340	80.787	79.287	1.200
3.002	40.964	53.1	300	Circular	80.787	79.287	1.200	80.015	78.515	1.200
1.014	29.778	22.3	525	Circular	80.015	78.290	1.200	78.680	76.955	1.200
1.015	12.257	22.2	525	Circular	78.680	76.955	1.200	78.127	76.402	1.200
1.016	20.411	10.2	525	Circular	78.127	76.402	1.200	75.000	74.400	0.075
1.017	22.944	12.7	525	Circular	75.000	74.400	0.075	75.000	72.600	1.875
4.000	10.534	167.2	225	Circular	96.104	94.679	1.200	96.749	94.616	1.908
4.001	19.353	33.8	225	Circular	96.749	94.616	1.908	95.468	94.043	1.200
4.002	31.511	12.0	225	Circular	95.468	94.043	1.200	93.265	91.417	1.623
4.003	22.163	12.0	225	Circular	93.265	91.417	1.623	91.718	89.570	1.923
4.004	15.103	12.0	300	Circular	91.718	89.495	1.923	90.636	88.236	2.100
4.005	13.976	12.0	300	Circular	90.636	88.236	2.100	89.627	87.071	2.256
4.006	34.996	12.0	300	Circular	89.627	87.071	2.256	87.167	84.155	2.712
4.007	9.953	12.0	300	Circular	87.167	84.155	2.712	86.497	83.326	2.871
4.008	6.977	12.0	300	Circular	86.497	83.326	2.871	86.094	82.745	3.049
4.009	10.506	12.0	375	Circular	86.094	82.670	3.049	85.452	81.795	3.282
4.010	21.743	15.9	375	Circular	85.452	81.795	3.282	82.003	80.428	1.200
4.011	32.562	11.5	375	Circular	82.003	80.428	1.200	79.800	77.600	1.825

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.008	11	1350	Manhole	Adoptable	12	1350	Manhole	Adoptable
1.009	12	1350	Manhole	Adoptable	13	1500	Manhole	Adoptable
1.010	13	1500	Manhole	Adoptable	14	1500	Manhole	Adoptable
1.011	14	1500	Manhole	Adoptable	15	1500	Manhole	Adoptable
1.012	15	1500	Manhole	Adoptable	16	1500	Manhole	Adoptable
1.013	16	1500	Manhole	Adoptable	20	1500	Manhole	Adoptable
3.000	17	1200	Manhole	Adoptable	18	1200	Manhole	Adoptable
3.001	18	1200	Manhole	Adoptable	19	1200	Manhole	Adoptable
3.002	19	1200	Manhole	Adoptable	20	1500	Manhole	Adoptable
1.014	20	1500	Manhole	Adoptable	21	1500	Manhole	Adoptable
1.015	21	1500	Manhole	Adoptable	22	1500	Manhole	Adoptable
1.016	22	1500	Manhole	Adoptable	23	Junction		
1.017	23	Junction			BASIN 1			
4.000	24	1200	Manhole	Adoptable	25	1200	Manhole	Adoptable
4.001	25	1200	Manhole	Adoptable	26	1200	Manhole	Adoptable
4.002	26	1200	Manhole	Adoptable	27	1200	Manhole	Adoptable
4.003	27	1200	Manhole	Adoptable	28	1200	Manhole	Adoptable
4.004	28	1200	Manhole	Adoptable	29	1200	Manhole	Adoptable
4.005	29	1200	Manhole	Adoptable	30	1200	Manhole	Adoptable
4.006	30	1200	Manhole	Adoptable	31	1200	Manhole	Adoptable
4.007	31	1200	Manhole	Adoptable	32	1200	Manhole	Adoptable
4.008	32	1200	Manhole	Adoptable	33	1350	Manhole	Adoptable
4.009	33	1350	Manhole	Adoptable	34	1350	Manhole	Adoptable
4.010	34	1350	Manhole	Adoptable	35	1350	Manhole	Adoptable
4.011	35	1350	Manhole	Adoptable	39	1350	Manhole	Adoptable

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
5.000	26.968	169.6	225	Circular	83.000	81.575	1.200	83.449	81.416	1.808
5.001	22.421	32.9	300	Circular	83.449	81.341	1.808	82.159	80.659	1.200
5.002	39.806	13.3	300	Circular	82.159	80.659	1.200	79.800	77.675	1.825
4.012	33.408	15.0	450	Circular	79.800	77.525	1.825	77.190	75.298	1.442
4.013	23.965	406.2	450	Circular	77.190	75.298	1.442	77.650	75.239	1.961
4.014	11.653	401.8	450	Circular	77.650	75.239	1.961	77.300	75.210	1.640
4.015	21.950	29.9	525	Circular	77.300	75.135	1.640	75.000	74.400	0.075
6.000	17.111	16.4	225	Circular	75.000	74.400	0.075	75.000	72.600	1.875
6.001	17.181	31.2	225	Circular	84.350	83.050	1.075	83.431	82.006	1.200
6.002	15.624	40.7	225	Circular	83.431	82.006	1.200	82.881	81.456	1.200
6.003	21.072	25.0	300	Circular	82.881	81.456	1.200	82.497	81.072	1.200
6.004	26.350	12.0	300	Circular	82.497	80.997	1.200	81.941	80.154	1.487
6.005	21.768	12.0	300	Circular	81.941	80.154	1.487	80.717	77.958	2.459
6.006	18.585	13.3	300	Circular	80.717	77.958	2.459	79.621	76.144	3.177
7.000	36.490	405.4	450	Circular	79.621	76.144	3.177	78.687	74.746	3.641
7.001	12.870	402.2	450	Circular	76.270	74.718	1.102	78.046	74.628	2.968
6.007	21.400	486.4	525	Circular	78.046	74.628	2.968	78.687	74.596	3.641
6.008	34.162	488.0	525	Circular	78.687	74.521	3.641	78.392	74.477	3.390
6.009	3.012	430.3	525	Circular	78.392	74.477	3.390	76.185	74.407	1.253
6.010	28.479	15.8	525	Circular	76.185	74.407	1.253	75.000	74.400	0.075
1.018	6.008	0.0	525	Circular	75.000	74.400	0.075	75.000	72.600	1.875
8.000	9.008	16.4	225	Circular	96.755	95.455	1.075	96.330	94.905	1.200
8.001	37.445	23.1	225	Circular	96.330	94.905	1.200	94.708	93.283	1.200

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
5.000	36	1200	Manhole	Adoptable	37	1200	Manhole	Adoptable
5.001	37	1200	Manhole	Adoptable	38	1200	Manhole	Adoptable
5.002	38	1200	Manhole	Adoptable	39	1350	Manhole	Adoptable
4.012	39	1350	Manhole	Adoptable	40	1350	Manhole	Adoptable
4.013	40	1350	Manhole	Adoptable	41	1350	Manhole	Adoptable
4.014	41	1350	Manhole	Adoptable	42	1500	Manhole	Adoptable
4.015	42	1500	Manhole	Adoptable	43	Junction	Junction	
4.016	43		Junction		BASIN 1	Junction		
6.000	44	1200	Manhole	Adoptable	45	1200	Manhole	Adoptable
6.001	45	1200	Manhole	Adoptable	46	1200	Manhole	Adoptable
6.002	46	1200	Manhole	Adoptable	47	1200	Manhole	Adoptable
6.003	47	1200	Manhole	Adoptable	48	1200	Manhole	Adoptable
6.004	48	1200	Manhole	Adoptable	49	1200	Manhole	Adoptable
6.005	49	1200	Manhole	Adoptable	50	1200	Manhole	Adoptable
6.006	50	1200	Manhole	Adoptable	54	1500	Manhole	Adoptable
7.000	51	1350	Manhole	Adoptable	52	1350	Manhole	Adoptable
7.001	52	1350	Manhole	Adoptable	54	1500	Manhole	Adoptable
6.007	54	1500	Manhole	Adoptable	55	1500	Manhole	Adoptable
6.008	55	1500	Manhole	Adoptable	56	1500	Manhole	Adoptable
6.009	56	1500	Manhole	Adoptable	57	Junction	Junction	
6.010	57		Junction		BASIN 1	Junction		
1.018	BASIN 1		Junction		58_OUT	1500	Manhole	Adoptable
8.000	59	1200	Manhole	Adoptable	60	1200	Manhole	Adoptable
8.001	60	1200	Manhole	Adoptable	61	1200	Manhole	Adoptable

Pipeline Schedule

Link	Length	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)
8.002	24.522	23.6	225	Circular	94.708	93.283	1.200	93.671	92.246	1.200
8.003	22.141	18.3	225	Circular	93.671	92.246	1.200	92.460	91.035	1.200
8.004	19.219	15.2	225	Circular	92.460	91.035	1.200	91.196	89.771	1.200
8.005	13.218	14.8	225	Circular	91.196	89.771	1.200	90.301	88.876	1.200
8.006	49.402	14.9	225	Circular	90.301	88.876	1.200	86.985	85.560	1.200
8.007	11.639	13.8	300	Circular	86.985	85.485	1.200	86.141	84.641	1.200
8.008	12.956	14.2	300	Circular	86.141	84.641	1.200	85.228	83.728	1.200
8.009	37.159	18.3	300	Circular	85.228	83.728	1.200	83.200	81.700	1.200
8.010	26.530	12.3	300	Circular	83.200	81.700	1.200	81.800	79.550	1.950
8.011	16.772	12.0	300	Circular	81.800	79.550	1.950	79.300	78.150	0.850
8.012	54.037	44.1	300	Circular	79.300	78.150	0.850	79.300	76.925	2.075
9.000	19.313	15.2	225	Circular	83.865	81.900	1.740	82.851	80.628	1.998
10.000	18.865	319.7	375	Circular	81.837	80.537	0.925	82.851	80.478	1.998
9.001	18.284	28.7	375	Circular	82.851	80.478	1.998	82.042	79.840	1.827
9.002	35.056	12.3	375	Circular	82.042	79.840	1.827	80.348	77.000	2.973
9.003	9.927	132.4	375	Circular	80.348	77.000	2.973	79.300	76.925	2.000
8.013	45.769	457.7	375	Circular	79.300	76.850	2.075	79.300	76.750	2.175
11.000	24.248	20.0	100	Circular	100.505	99.000	1.405	100.228	97.788	2.340
11.001	31.233	20.0	100	Circular	100.228	97.788	2.340	98.785	96.226	2.459
11.002	32.356	30.0	100	Circular	98.785	96.226	2.459	97.708	95.147	2.461
11.003	35.671	12.0	225	Circular	97.708	95.022	2.461	94.350	92.049	2.076
11.004	13.102	12.0	300	Circular	94.350	91.974	2.076	93.075	90.882	1.893
11.005	14.579	20.0	300	Circular	93.075	90.882	1.893	91.652	90.152	1.200
12.000	10.818	17.2	225	Circular	92.280	90.855	1.200	91.652	90.227	1.200
Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type		
8.002	61	1200	Manhole	Adoptable	62	1200	Manhole	Adoptable		
8.003	62	1200	Manhole	Adoptable	63	1200	Manhole	Adoptable		
8.004	63	1200	Manhole	Adoptable	64	1200	Manhole	Adoptable		
8.005	64	1200	Manhole	Adoptable	65	1200	Manhole	Adoptable		
8.006	65	1200	Manhole	Adoptable	66	1200	Manhole	Adoptable		
8.007	66	1200	Manhole	Adoptable	67	1200	Manhole	Adoptable		
8.008	67	1200	Manhole	Adoptable	68	1200	Manhole	Adoptable		
8.009	68	1200	Manhole	Adoptable	69	1200	Manhole	Adoptable		
8.010	69	1200	Manhole	Adoptable	70	1200	Manhole	Adoptable		
8.011	70	1200	Manhole	Adoptable	71	1200	Manhole	Adoptable		
8.012	71	1200	Manhole	Adoptable	77	1350	Manhole	Adoptable		
9.000	72	1200	Manhole	Adoptable	74	1350	Manhole	Adoptable		
10.000	73	1350	Manhole	Adoptable	74	1350	Manhole	Adoptable		
9.001	74	1350	Manhole	Adoptable	75	1350	Manhole	Adoptable		
9.002	75	1350	Manhole	Adoptable	76	1350	Manhole	Adoptable		
9.003	76	1350	Manhole	Adoptable	77	1350	Manhole	Adoptable		
8.013	77	1350	Manhole	Adoptable	77_OUT	1350	Manhole	Adoptable		
11.000	78	1200	Manhole	Adoptable	79	1200	Manhole	Adoptable		
11.001	79	1200	Manhole	Adoptable	80	1200	Manhole	Adoptable		
11.002	80	1200	Manhole	Adoptable	81	1200	Manhole	Adoptable		
11.003	81	1200	Manhole	Adoptable	82	1200	Manhole	Adoptable		
11.004	82	1200	Manhole	Adoptable	83	1200	Manhole	Adoptable		
11.005	83	1200	Manhole	Adoptable	85	1350	Manhole	Adoptable		
12.000	84	1200	Manhole	Adoptable	85	1350	Manhole	Adoptable		

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
11.006	10.196	12.0	375	Circular	91.652	90.077	1.200	90.663	89.227	1.061
11.007	11.422	12.0	375	Circular	90.663	89.227	1.061	89.517	88.275	0.867
11.008	9.545	12.0	375	Circular	89.517	88.275	0.867	88.983	87.480	1.128
13.000	54.436	40.8	225	Circular	94.907	93.482	1.200	93.572	92.147	1.200
13.001	59.813	33.0	300	Circular	93.572	92.072	1.200	91.759	90.259	1.200
13.002	28.571	16.6	300	Circular	91.759	90.259	1.200	90.041	88.541	1.200
13.003	16.745	17.0	525	Circular	90.041	88.316	1.200	88.983	87.330	1.128
11.009	12.033	14.8	525	Circular	88.983	87.330	1.128	88.243	86.518	1.200
11.010	15.435	16.3	525	Circular	88.243	86.518	1.200	87.297	85.572	1.200
11.011	10.388	12.0	525	Circular	87.297	85.572	1.200	86.646	84.706	1.415
11.012	24.028	19.3	525	Circular	86.646	84.706	1.415	85.187	83.462	1.200
11.013	37.354	43.1	600	Circular	85.187	83.387	1.200	84.321	82.521	1.200
11.014	11.687	96.6	600	Circular	84.321	82.521	1.200	83.500	82.400	0.500
11.015	14.610	0.0	600	Circular	83.500	82.400	0.500	83.400	82.400	0.400

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
11.006	85	1350	Manhole	Adoptable	86	1350	Manhole	Adoptable
11.007	86	1350	Manhole	Adoptable	87	1350	Manhole	Adoptable
11.008	87	1350	Manhole	Adoptable	92	1500	Manhole	Adoptable
13.000	88	1200	Manhole	Adoptable	89	1200	Manhole	Adoptable
13.001	89	1200	Manhole	Adoptable	90	1200	Manhole	Adoptable
13.002	90	1200	Manhole	Adoptable	91	1500	Manhole	Adoptable
13.003	91	1500	Manhole	Adoptable	92	1500	Manhole	Adoptable
11.009	92	1500	Manhole	Adoptable	93	1500	Manhole	Adoptable
11.010	93	1500	Manhole	Adoptable	94	1500	Manhole	Adoptable
11.011	94	1500	Manhole	Adoptable	95	1500	Manhole	Adoptable
11.012	95	1500	Manhole	Adoptable	96	1500	Manhole	Adoptable
11.013	96	1500	Manhole	Adoptable	97	1500	Manhole	Adoptable
11.014	97	1500	Manhole	Adoptable	BASIN 2	1500	Manhole	Adoptable
11.015	BASIN 2	1500	Manhole	Adoptable	98_OUT	1500	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
1	537135.192	240663.626	99.702	1.866	1200				
2	537081.220	240626.764	95.361	1.425	1200		0 1	1.000 97.836 93.936	225 225
3	537064.863	240613.040	94.173	1.500	1200		0 1	1.001 93.936 92.748	225 225
4	537033.747	240649.050	92.069	1.500	1200		0 1 0	1.002 92.673 90.569 90.569	300 300 300