STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for S Net 1 Catch 1

« - Indicates pipe capacity < flow

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
1.000	110.003	0.224	491.1	0.339	5.00	0.0	0.600		o	600	Pipe/Conduit	
1.001	31.287	0.068	460.1	0.339	0.00	0.0	0.600		o	600	Pipe/Conduit	
1.002	59.691	0.194	307.7	0.000	0.00	0.0		0.032	\/	-1	Pipe/Conduit	
2.000	59.604	0.143	416.8	0.000	5.00	0.0	0.600		o	600	Pipe/Conduit	
2.001	57.049	0.177	322.3	0.339	0.00	0.0	0.600		o	600	Pipe/Conduit	
2.002	51.493	0.103	499.9	0.339	0.00	0.0	0.600		o	600	Pipe/Conduit	
1.003	87.623	0.097	903.3	0.000	0.00	0.0		0.032	\/	-1	Pipe/Conduit	
1.004	5.239	0.097	54.0	0.000	0.00	0.0		0.032	o	225	Pipe/Conduit	
3.000	19.414	0.184	105.5	0.000	5.00	0.0	0.600		o	600	Pipe/Conduit	
3.001	66.751	0.146	457.2	0.339	0.00	0.0	0.600		o	600	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	50.00	6.68	130.406	0.339	0.0	0.0	0.0	1.09	308.8	45.9
1.001	50.00	7.14	130.182	0.678	0.0	0.0	0.0	1.13	319.1	91.8
1.002	50.00	7.98	130.114	0.678	0.0	0.0	0.0	1.19	4851.3	91.8
2.000	50.00	5.84	130.343	0.000	0.0	0.0	0.0	1.19	335.5	0.0
2.001	50.00	6.54	130.200	0.339	0.0	0.0	0.0	1.35	382.0	45.9
2.002	50.00	7.33	130.023	0.678	0.0	0.0	0.0	1.08	306.0	91.8
1.003	50.00	10.08	129.920	1.356	0.0	0.0	0.0	0.69	2831.3	183.6
1.004	50.00	10.22	129.823	1.356	0.0	0.0	0.0	0.62	24.8«	183.6
3.000	50.00	5.14	130.258	0.000	0.0	0.0	0.0	2.37	670.3	0.0
3.001	50.00	6.12	130.074	0.339	0.0	0.0	0.0	1.13	320.1	45.9

STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for S Net 1 Catch 1

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
3.002	79.319	0.155	511.7	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
3.003	35.335	0.047	751.8	0.340	0.00	0.0	0.600		o	600	Pipe/Conduit	
1.005	27.169	0.348	78.1	0.000	0.00	0.0	0.600		o	225	Pipe/Conduit	
4.000	29.882	0.178	167.9	0.062	5.00	0.0	0.600		o	225	Pipe/Conduit	
4.001	51.509	0.221	233.1	0.075	0.00	0.0	0.600		o	300	Pipe/Conduit	
4.002	31.731	0.137	231.6	0.047	0.00	0.0	0.600		o	300	Pipe/Conduit	
5.000	42.300	0.250	169.2	0.000	5.00	0.0	0.600		o	300	Pipe/Conduit	
5.001	70.131	0.410	171.1	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	
5.002	26.227	0.536	48.9	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	
4.003	15.841	0.061	259.7	0.027	0.00	0.0	0.600		o	450	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
3.002	50.00	7.36	129.928	0.339	0.0	0.0	0.0	1.07	302.4	45.9
3.003	50.00	8.02	129.773	0.679	0.0	0.0	0.0	0.88	248.9	91.9
1.005	50.00	10.53	129.726	2.035	0.0	0.0	0.0	1.48	58.9«	275.6
4.000	50.00	5.49	129.975	0.062	0.0	0.0	0.0	1.01	40.0	8.4
4.001	50.00	6.33	129.722	0.137	0.0	0.0	0.0	1.03	72.5	18.6
4.002	50.00	6.85	129.501	0.184	0.0	0.0	0.0	1.03	72.7	24.9
5.000	50.00	5.58	130.560	0.000	0.0	0.0	0.0	1.21	85.2	0.0
5.001	50.00	6.56	130.310	0.000	0.0	0.0	0.0	1.20	84.8	0.0
5.002	50.00	6.75	129.900	0.000	0.0	0.0	0.0	2.25	159.3	0.0
4.003	50.00	7.06	129.214	0.211	0.0	0.0	0.0	1.26	199.9	28.6

STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for S Net 1 Catch 1

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
1.006	5.808	0.024	242.0	0.000	0.00	0.0	0.600		o	450	Pipe/Conduit	
1.007	51.460	0.103	499.6	0.000	0.00	0.0		0.032		-5	Pipe/Conduit	
6.000	66.224	0.130	509.4	0.517	5.00	0.0	0.600		o	600	Pipe/Conduit	
6.001	65.841	0.174	378.4	0.517	0.00	0.0	0.600		o	600	Pipe/Conduit	
1.008	98.751	0.565	174.8	0.000	0.00	0.0		0.032		-5	Pipe/Conduit	
7.000	64.583	0.040	1614.6	1.034	5.00	0.0	0.600		o	600	Pipe/Conduit	
8.000	44.952	0.189	237.8	0.057	5.00	0.0	0.600		o	300	Pipe/Conduit	
8.001	74.045	0.312	237.3	0.077	0.00	0.0	0.600		o	300	Pipe/Conduit	
8.002	25.856	0.109	237.2	0.023	0.00	0.0	0.600		o	300	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.006	50.00	10.60	129.153	2.246	0.0	0.0	0.0	1.30	207.1«	304.1
1.007	50.00	11.37	129.129	2.246	0.0	0.0	0.0	1.12	16472.0	304.1
6.000	50.00	6.03	129.710	0.517	0.0	0.0	0.0	1.07	303.1	70.0
6.001	50.00	6.91	129.580	1.034	0.0	0.0	0.0	1.25	352.3	140.0
1.008	50.00	12.23	129.029	3.280	0.0	0.0	0.0	1.89	27849.4	444.2
7.000	50.00	6.80	129.373	1.034	0.0	0.0	0.0	0.60	168.8	140.0
8.000	50.00	5.74	130.100	0.057	0.0	0.0	0.0	1.02	71.8	7.7
8.001	50.00	6.95	129.911	0.134	0.0	0.0	0.0	1.02	71.8	18.1
8.002	50.00	7.38	129.599	0.157	0.0	0.0	0.0	1.02	71.9	21.3

STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for S Net 1 Catch 1

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
8.003	26.185	0.111	235.9	0.027	0.00	0.0	0.600		o	300	Pipe/Conduit	
8.004	28.942	0.122	237.2	0.031	0.00	0.0	0.600		o	300	Pipe/Conduit	
8.005	64.553	0.272	237.3	0.066	0.00	0.0	0.600		o	300	Pipe/Conduit	
9.000	16.387	1.140	14.4	0.023	5.00	0.0	0.600		o	225	Pipe/Conduit	
8.006	41.921	0.177	236.8	0.024	0.00	0.0	0.600		o	300	Pipe/Conduit	
7.001	19.823	0.040	495.6	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
1.009	11.563	0.029	398.7	0.000	0.00	0.0		0.032		-5	Pipe/Conduit	
1.010	27.046	0.054	500.9	0.000	0.00	0.0		0.032		-5	Pipe/Conduit	
10.000	70.869	0.142	499.1	0.371	5.00	0.0	0.600		o	600	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
8.003	50.00	7.80	129.490	0.184	0.0	0.0	0.0	1.02	72.1	24.9
8.004	50.00	8.28	129.379	0.215	0.0	0.0	0.0	1.02	71.8	29.1
8.005	50.00	9.34	129.257	0.281	0.0	0.0	0.0	1.02	71.8	38.1
9.000	50.00	5.08	130.200	0.023	0.0	0.0	0.0	3.47	137.9	3.1
8.006	50.00	10.02	128.985	0.328	0.0	0.0	0.0	1.02	71.9	44.4
7.001	50.00	10.33	128.508	1.362	0.0	0.0	0.0	1.09	307.4	184.4
1.009	50.00	12.39	128.464	4.642	0.0	0.0	0.0	1.25	18438.5	628.6
1.010	50.00	12.79	128.435	4.642	0.0	0.0	0.0	1.12	16451.6	628.6
10.000	50.00	6.09	129.351	0.371	0.0	0.0	0.0	1.08	306.3	50.2

STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for S Net 1 Catch 1

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
10.001	67.414	0.828	81.4	0.371	0.00	0.0	0.600		o	600	Pipe/Conduit	
1.011	40.366	0.101	399.7	0.000	0.00	0.0		0.032		-5	Pipe/Conduit	
11.000	51.141	0.110	464.9	0.371	5.00	0.0	0.600		o	600	Pipe/Conduit	
11.001	37.134	0.080	464.2	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
11.002	81.296	0.157	517.8	0.371	0.00	0.0	0.600		o	600	Pipe/Conduit	
1.012	145.561	0.283	514.3	0.000	0.00	0.0		0.032		-5	Pipe/Conduit	
12.000	57.073	0.038	1501.9	0.373	5.00	0.0	0.600		o	600	Pipe/Conduit	
12.001	18.603	0.038	489.6	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
12.002	80.219	0.157	510.9	0.371	0.00	0.0	0.600		o	600	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
10.001	50.00	6.51	129.209	0.742	0.0	0.0	0.0	2.70	763.5	100.5
1.011	50.00	13.33	128.381	5.384	0.0	0.0	0.0	1.25	18416.8	729.1
11.000	50.00	5.76	129.210	0.371	0.0	0.0	0.0	1.12	317.4	50.2
11.001	50.00	6.31	129.100	0.371	0.0	0.0	0.0	1.12	317.7	50.2
11.002	50.00	7.58	129.020	0.742	0.0	0.0	0.0	1.06	300.6	100.5
1.012	50.00	15.52	128.280	6.126	0.0	0.0	0.0	1.10	16234.3	829.5
12.000	50.00	6.54	128.888	0.373	0.0	0.0	0.0	0.62	175.1	50.5
12.001	50.00	6.82	128.774	0.373	0.0	0.0	0.0	1.09	309.3	50.5
12.002	50.00	8.07	128.737	0.744	0.0	0.0	0.0	1.07	302.7	100.7

STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for S Net 1 Catch 1

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
1.013	119.235	0.298	400.1	0.000	0.00	0.0		0.032		-5	Pipe/Conduit	
13.000	85.973	0.154	558.3	0.303	5.00	0.0	0.600		o	600	Pipe/Conduit	
13.001	57.805	0.189	305.8	0.303	0.00	0.0	0.600		o	600	Pipe/Conduit	
14.000	112.108	0.975	115.0	0.190	5.00	0.0	0.600		o	300	Pipe/Conduit	
14.001	32.933	0.180	183.0	0.190	0.00	0.0	0.600		o	450	Pipe/Conduit	
13.002	33.840	0.077	439.5	0.000	0.00	0.0		0.032		-5	Pipe/Conduit	
13.003	39.375	0.078	504.8	0.000	0.00	0.0		0.032		-5	Pipe/Conduit	
15.000	89.836	0.180	499.1	0.303	5.00	0.0	0.600		o	600	Pipe/Conduit	
15.001	104.628	0.216	484.4	0.303	0.00	0.0	0.600		o	600	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.013	50.00	17.11	127.997	6.870	0.0	0.0	0.0	1.25	18406.4	930.3
13.000	50.00	6.40	129.933	0.303	0.0	0.0	0.0	1.02	289.4	41.0
13.001	50.00	7.09	129.779	0.606	0.0	0.0	0.0	1.39	392.2	82.1
14.000	50.00	6.28	129.925	0.190	0.0	0.0	0.0	1.47	103.6	25.7
14.001	50.00	6.64	128.800	0.380	0.0	0.0	0.0	1.50	238.5	51.5
13.002	50.00	7.57	128.620	0.986	0.0	0.0	0.0	1.19	17562.7	133.5
13.003	50.00	8.16	128.543	0.986	0.0	0.0	0.0	1.11	16387.0	133.5
15.000	50.00	6.38	129.832	0.303	0.0	0.0	0.0	1.08	306.3	41.0
15.001	50.00	7.97	129.652	0.606	0.0	0.0	0.0	1.10	310.9	82.1

STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for S Net 1 Catch 1

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
16.000	82.412	0.165	499.5	0.570	5.00	0.0	0.600		o	600	Pipe/Conduit	
16.001	68.684	0.151	454.9	0.570	0.00	0.0	0.600		o	600	Pipe/Conduit	
13.004	63.251	0.073	866.5	0.000	0.00	0.0		0.032		-5	Pipe/Conduit	
13.005	9.269	0.073	127.0	0.000	0.00	0.0		0.032	o	225	Pipe/Conduit	
17.000	63.994	0.133	481.2	0.000	5.00	0.0	0.600		o	600	Pipe/Conduit	
17.001	135.674	0.316	429.3	0.303	0.00	0.0	0.600		o	600	Pipe/Conduit	
17.002	51.129	0.084	608.7	0.303	0.00	0.0	0.600		o	600	Pipe/Conduit	
13.006	24.165	0.090	268.5	0.000	0.00	0.0	0.600		o	225	Pipe/Conduit	
18.000	97.169	0.400	242.9	0.175	5.00	0.0	0.600		o	300	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
16.000	50.00	6.27	129.962	0.570	0.0	0.0	0.0	1.08	306.2	77.2
16.001	50.00	7.28	128.616	1.140	0.0	0.0	0.0	1.14	321.0	154.4
13.004	50.00	9.39	128.465	2.732	0.0	0.0	0.0	0.85	12508.1	369.9
13.005	50.00	9.77	128.393	2.732	0.0	0.0	0.0	0.41	16.2«	369.9
17.000	50.00	5.97	129.816	0.000	0.0	0.0	0.0	1.10	312.0	0.0
17.001	50.00	7.90	129.683	0.303	0.0	0.0	0.0	1.17	330.5	41.0
17.002	50.00	8.77	129.367	0.606	0.0	0.0	0.0	0.98	277.0	82.1
13.006	50.00	10.28	128.320	3.338	0.0	0.0	0.0	0.79	31.5«	452.0
18.000	50.00	6.61	129.270	0.175	0.0	0.0	0.0	1.00	71.0	23.7

STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for S Net 1 Catch 1

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
19.000	77.627	0.390	199.0	0.115	5.00	0.0	0.600		o	300	Pipe/Conduit	
19.001	17.499	1.490	11.7	0.114	0.00	0.0	0.600		o	300	Pipe/Conduit	
18.001	91.035	0.255	357.0	0.135	0.00	0.0	0.600		o	450	Pipe/Conduit	
20.000	67.415	0.560	120.4	0.151	5.00	0.0	0.600		o	300	Pipe/Conduit	
20.001	20.866	0.905	23.1	0.152	0.00	0.0	0.600		o	300	Pipe/Conduit	
18.002	59.967	0.130	461.3	0.085	0.00	0.0	0.600		o	525	Pipe/Conduit	
18.003	12.846	0.030	428.2	0.035	0.00	0.0	0.600		o	525	Pipe/Conduit	
13.007	19.748	0.050	395.0	0.000	0.00	0.0		0.032		-5	Pipe/Conduit	
13.008	83.269	0.167	498.6	0.000	0.00	0.0		0.032		-5	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
19.000	50.00	6.16	130.750	0.115	0.0	0.0	0.0	1.11	78.5	15.6
19.001	50.00	6.23	130.360	0.229	0.0	0.0	0.0	4.61	326.0	31.0
18.001	50.00	8.03	128.720	0.539	0.0	0.0	0.0	1.07	170.2	73.0
20.000	50.00	5.78	130.080	0.151	0.0	0.0	0.0	1.43	101.2	20.4
20.001	50.00	5.89	129.520	0.303	0.0	0.0	0.0	3.29	232.4	41.0
18.002	50.00	8.99	128.390	0.927	0.0	0.0	0.0	1.04	224.3	125.5
18.003	50.00	9.19	128.260	0.962	0.0	0.0	0.0	1.08	232.9	130.3
13.007	50.00	10.54	128.230	4.300	0.0	0.0	0.0	1.26	18526.2	582.3
13.008	50.00	11.78	128.180	4.300	0.0	0.0	0.0	1.12	16488.4	582.3

STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for S Net 1 Catch 1

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
21.000	47.151	0.094	501.6	0.371	5.00	0.0	0.600		o	600	Pipe/Conduit	
21.001	60.295	0.145	415.8	0.371	0.00	0.0	0.600		o	600	Pipe/Conduit	
13.009	43.449	0.314	138.4	0.000	0.00	0.0		0.032		-5	Pipe/Conduit	
1.014	33.510	0.084	398.9	0.000	0.00	0.0		0.032		-6	Pipe/Conduit	
1.015	51.333	0.103	498.4	0.000	0.00	0.0		0.032		-6	Pipe/Conduit	
22.000	71.702	0.143	501.4	0.833	5.00	0.0	0.600		o	600	Pipe/Conduit	
22.001	65.051	0.145	448.6	0.832	0.00	0.0	0.600		o	600	Pipe/Conduit	
1.016	72.773	0.132	551.3	0.000	0.00	0.0		0.032		-6	Pipe/Conduit	
23.000	11.520	0.933	12.3	0.077	5.00	0.0		0.032	o	225	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
21.000	50.00	5.73	128.739	0.371	0.0	0.0	0.0	1.08	305.5	50.2
21.001	50.00	6.57	128.645	0.742	0.0	0.0	0.0	1.19	335.9	100.5
13.009	50.00	12.12	128.013	5.042	0.0	0.0	0.0	2.13	31299.5	682.7
1.014	50.00	17.55	127.699	11.912	0.0	0.0	0.0	1.28	19383.8	1613.0
1.015	50.00	18.30	127.615	11.912	0.0	0.0	0.0	1.14	17342.3	1613.0
22.000	50.00	6.11	127.800	0.833	0.0	0.0	0.0	1.08	305.5	112.8
22.001	50.00	7.05	127.657	1.665	0.0	0.0	0.0	1.14	323.2	225.5
1.016	50.00	19.41	127.512	13.577	0.0	0.0	0.0	1.09	16488.8	1838.5
23.000	50.00	5.15	128.875	0.077	0.0	0.0	0.0	1.31	51.9	10.4

STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for S Net 1 Catch 1

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
23.001	75.353	0.147	512.6	0.081	0.00	0.0	0.600		o	600	Pipe/Conduit	
23.002	53.157	0.110	483.2	0.093	0.00	0.0	0.600		o	600	Pipe/Conduit	
23.003	21.365	0.040	534.1	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
1.017	22.973	0.060	382.9	0.000	0.00	0.0		0.032		-7	Pipe/Conduit	
1.018	48.298	0.097	497.9	0.000	0.00	0.0		0.032		-7	Pipe/Conduit	
24.000	90.622	0.181	500.7	0.833	5.00	0.0	0.600		o	600	Pipe/Conduit	
24.001	76.157	0.167	456.0	0.832	0.00	0.0	0.600		o	600	Pipe/Conduit	
1.019	27.123	0.062	437.5	0.000	0.00	0.0		0.032		-7	Pipe/Conduit	
1.020	12.321	0.061	202.0	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	
1.021	39.334	0.500	78.7	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
1.022	69.753	0.300	232.5	0.000	0.00	0.0	0.600		o	1050	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
23.001	50.00	6.32	127.567	0.158	0.0	0.0	0.0	1.07	302.2	21.4
23.002	50.00	7.13	127.420	0.251	0.0	0.0	0.0	1.10	311.3	34.0
23.003	50.00	7.47	127.310	0.251	0.0	0.0	0.0	1.05	295.9	34.0
1.017	50.00	19.69	127.380	13.828	0.0	0.0	0.0	1.36	21783.4	1872.5
1.018	50.00	20.37	127.320	13.828	0.0	0.0	0.0	1.19	19102.0	1872.5
24.000	50.00	6.40	127.571	0.833	0.0	0.0	0.0	1.08	305.8	112.8
24.001	50.00	7.52	127.390	1.665	0.0	0.0	0.0	1.13	320.6	225.5
1.019	50.00	20.72	127.223	15.493	0.0	0.0	0.0	1.27	20379.1	2097.9
1.020	50.00	20.91	127.161	15.493	0.0	0.0	0.0	1.10	77.9«	2097.9
1.021	50.00	21.15	127.100	15.493	0.0	0.0	0.0	2.75	776.8«	2097.9
1.022	50.00	21.66	126.600	15.493	0.0	0.0	0.0	2.26	1953.3«	2097.9

STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for S Net 1 Catch 1

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
25.000	50.606	0.143	353.9	0.000	5.00	0.0	0.600		o	600	Pipe/Conduit	
25.001	57.511	0.150	383.4	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
25.002	64.141	0.471	136.2	0.000	0.00	0.0		0.032	\/	-2	Pipe/Conduit	
26.000	46.461	0.160	290.4	0.000	5.00	0.0	0.600		o	600	Pipe/Conduit	
26.001	63.247	0.156	405.4	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
25.003	57.754	0.061	946.8	0.000	0.00	0.0		0.032	\/	-2	Pipe/Conduit	
25.004	3.388	0.061	55.5	0.000	0.00	0.0		0.032	o	600	Pipe/Conduit	
27.000	45.850	0.167	274.6	0.460	5.00	0.0	0.600		o	600	Pipe/Conduit	
27.001	36.748	0.147	250.0	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
27.002	24.754	0.042	589.4	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
25.000	50.00	5.65	127.813	0.000	0.0	0.0	0.0	1.29	364.4	0.0
25.001	50.00	6.43	127.670	0.000	0.0	0.0	0.0	1.24	349.9	0.0
25.002	50.00	6.90	127.520	0.000	0.0	0.0	0.0	2.28	19227.1	0.0
26.000	50.00	5.54	127.365	0.000	0.0	0.0	0.0	1.42	402.6	0.0
26.001	50.00	6.42	127.205	0.000	0.0	0.0	0.0	1.20	340.2	0.0
25.003	50.00	8.01	127.049	0.000	0.0	0.0	0.0	0.87	7292.0	0.0
25.004	50.00	8.06	126.988	0.000	0.0	0.0	0.0	1.18	334.7	0.0
27.000	50.00	5.52	127.283	0.460	0.0	0.0	0.0	1.46	414.2	62.3
27.001	50.00	5.92	127.116	0.460	0.0	0.0	0.0	1.54	434.2	62.3
27.002	50.00	6.33	126.969	0.460	0.0	0.0	0.0	1.00	281.6	62.3

STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for S Net 1 Catch 1

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
25.005	26.219	0.159	164.9	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
25.006	17.126	0.103	166.3	0.000	0.00	0.0	0.600		o	600	Pipe/Conduit	
28.000	31.733	0.127	249.9	0.025	5.00	0.0	0.600		o	450	Pipe/Conduit	
28.001	18.972	0.076	249.6	0.035	0.00	0.0	0.600		o	450	Pipe/Conduit	
28.002	60.736	0.118	514.7	0.137	0.00	0.0	0.600		o	750	Pipe/Conduit	
29.000	55.597	0.225	247.1	0.720	5.00	0.0	0.600		o	450	Pipe/Conduit	
28.003	74.969	0.151	496.5	0.093	0.00	0.0	0.600		o	750	Pipe/Conduit	
30.000	94.479	0.667	141.6	0.128	5.00	0.0	0.600		o	300	Pipe/Conduit	
30.001	8.379	0.131	64.0	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
25.005	50.00	8.29	126.927	0.460	0.0	0.0	0.0	1.89	535.4	62.3
25.006	50.00	8.44	126.768	0.460	0.0	0.0	0.0	1.89	533.2	62.3
28.000	50.00	5.41	128.317	0.025	0.0	0.0	0.0	1.28	203.8	3.4
28.001	50.00	5.66	128.190	0.060	0.0	0.0	0.0	1.28	203.9	8.1
28.002	50.00	6.48	127.814	0.197	0.0	0.0	0.0	1.23	541.9	26.7
29.000	50.00	5.72	128.221	0.720	0.0	0.0	0.0	1.29	205.0	97.5
28.003	50.00	7.48	127.696	1.010	0.0	0.0	0.0	1.25	551.8	136.8
30.000	50.00	6.19	129.129	0.128	0.0	0.0	0.0	1.32	93.2	17.3
30.001	50.00	6.26	128.462	0.128	0.0	0.0	0.0	1.97	139.2	17.3

STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for S Net 1 Catch 1

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
31.000	108.731	0.722	150.6	0.151	5.00	0.0	0.600		o	300	Pipe/Conduit	
30.002	50.345	0.427	117.9	0.097	0.00	0.0	0.600		o	300	Pipe/Conduit	
28.004	25.427	0.051	498.6	0.000	0.00	0.0	0.600		o	750	Pipe/Conduit	
28.005	64.150	0.160	400.9	0.196	0.00	0.0	0.600		o	750	Pipe/Conduit	
28.006	39.398	0.080	492.5	0.069	0.00	0.0	0.600		o	900	Pipe/Conduit	
32.000	38.410	0.300	128.0	0.715	5.00	0.0	0.600		o	750	Pipe/Conduit	
32.001	36.887	0.080	461.1	0.071	0.00	0.0	0.600		o	750	Pipe/Conduit	
32.002	21.766	0.040	544.2	0.358	0.00	0.0	0.600		o	750	Pipe/Conduit	
32.003	58.244	0.120	485.4	0.357	0.00	0.0	0.600		o	750	Pipe/Conduit	
32.004	59.283	0.120	494.0	0.357	0.00	0.0	0.600		o	750	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
31.000	50.00	6.42	129.053	0.151	0.0	0.0	0.0	1.28	90.4	20.4
30.002	50.00	7.00	128.331	0.376	0.0	0.0	0.0	1.45	102.3	50.9
28.004	50.00	7.82	127.545	1.386	0.0	0.0	0.0	1.25	550.7	187.7
28.005	50.00	8.59	127.494	1.582	0.0	0.0	0.0	1.39	614.7	214.2
28.006	50.00	9.06	127.184	1.651	0.0	0.0	0.0	1.41	893.9	223.6
32.000	50.00	5.26	127.990	0.715	0.0	0.0	0.0	2.47	1092.1	96.8
32.001	50.00	5.73	127.690	0.786	0.0	0.0	0.0	1.30	572.8	106.4
32.002	50.00	6.04	127.610	1.144	0.0	0.0	0.0	1.19	526.9	154.9
32.003	50.00	6.81	127.570	1.501	0.0	0.0	0.0	1.26	558.2	203.3
32.004	50.00	7.59	127.450	1.858	0.0	0.0	0.0	1.25	553.2	251.6

STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for S Net 1 Catch 1

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
33.000	86.535	0.385	224.8	0.358	5.00	0.0	0.600		o	600	Pipe/Conduit	
32.005	22.713	0.050	454.3	0.356	0.00	0.0	0.600		o	825	Pipe/Conduit	
32.006	66.076	0.176	375.4	0.358	0.00	0.0	0.600		o	825	Pipe/Conduit	
28.007	63.947	0.126	507.5	0.100	0.00	0.0	0.600		o	900	Pipe/Conduit	
34.000	79.823	0.234	341.1	0.000	5.00	0.0	0.600		o	750	Pipe/Conduit	
34.001	35.574	0.111	320.5	0.000	0.00	0.0	0.600		o	750	Pipe/Conduit	
34.002	13.359	0.027	494.8	0.000	0.00	0.0	0.600		o	750	Pipe/Conduit	
28.008	45.741	0.091	502.6	0.055	0.00	0.0	0.600		o	900	Pipe/Conduit	
28.009	55.369	0.111	498.8	0.076	0.00	0.0	0.600		o	900	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
33.000	50.00	5.89	127.865	0.358	0.0	0.0	0.0	1.62	458.1	48.5
32.005	50.00	7.87	127.330	2.572	0.0	0.0	0.0	1.39	741.1	348.3
32.006	50.00	8.59	127.280	2.930	0.0	0.0	0.0	1.53	815.9	396.8
28.007	50.00	9.83	127.104	4.681	0.0	0.0	0.0	1.38	880.4	633.9
34.000	50.00	5.88	127.500	0.000	0.0	0.0	0.0	1.51	666.9	0.0
34.001	50.00	6.26	127.266	0.000	0.0	0.0	0.0	1.56	688.2	0.0
34.002	50.00	6.44	127.155	0.000	0.0	0.0	0.0	1.25	552.8	0.0
28.008	50.00	10.38	126.978	4.736	0.0	0.0	0.0	1.39	884.7	641.3
28.009	50.00	11.04	126.887	4.812	0.0	0.0	0.0	1.40	888.1	651.6

STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for S Net 1 Catch 1

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
35.000	12.750	0.031	411.3	0.460	5.00	0.0	0.600		o	450	Pipe/Conduit	
35.001	14.271	0.039	365.9	0.000	0.00	0.0	0.600		o	450	Pipe/Conduit	
28.010	15.881	0.105	151.2	0.000	0.00	0.0	0.600		o	900	Pipe/Conduit	
25.007	17.122	0.070	244.6	0.000	0.00	0.0	0.600		o	900	Pipe/Conduit	
25.008	134.998	0.295	457.6	0.000	0.00	0.0	0.600		o	900	Pipe/Conduit	
1.023	29.561	0.131	225.0	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	
1.024	10.612	0.047	225.8	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
35.000	50.00	5.21	127.290	0.460	0.0	0.0	0.0	1.00	158.4	62.3
35.001	50.00	5.44	127.259	0.460	0.0	0.0	0.0	1.06	168.1	62.3
28.010	50.00	11.14	126.770	5.272	0.0	0.0	0.0	2.55	1619.4	713.9
25.007	50.00	11.29	126.665	5.732	0.0	0.0	0.0	2.00	1271.7	776.2
25.008	50.00	12.83	126.595	5.732	0.0	0.0	0.0	1.46	927.6	776.2
1.023	50.00	22.14	126.300	21.225	0.0	0.0	0.0	1.04	73.8«	2874.1
1.024	50.00	22.31	126.169	21.225	0.0	0.0	0.0	1.04	73.7«	2874.1

Area Summary for S Net 1 Catch 1

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	-	-	100	0.339	0.339	0.339
1.001	-	-	100	0.339	0.339	0.339
1.002	-	-	100	0.000	0.000	0.000
2.000	-	-	100	0.000	0.000	0.000
2.001	-	-	100	0.339	0.339	0.339
2.002	-	-	100	0.339	0.339	0.339
1.003	-	-	100	0.000	0.000	0.000
1.004	-	-	100	0.000	0.000	0.000
3.000	-	-	100	0.000	0.000	0.000
3.001	-	-	100	0.339	0.339	0.339
3.002	-	-	100	0.000	0.000	0.000
3.003	-	-	100	0.340	0.340	0.340
1.005	-	-	100	0.000	0.000	0.000
4.000	-	-	100	0.062	0.062	0.062
4.001	-	-	100	0.075	0.075	0.075
4.002	-	-	100	0.047	0.047	0.047
5.000	-	-	100	0.000	0.000	0.000
5.001	-	-	100	0.000	0.000	0.000
5.002	-	-	100	0.000	0.000	0.000
4.003	-	-	100	0.027	0.027	0.027
1.006	-	-	100	0.000	0.000	0.000
1.007	-	-	100	0.000	0.000	0.000
6.000	-	-	100	0.517	0.517	0.517
6.001	-	-	100	0.517	0.517	0.517
1.008	-	-	100	0.000	0.000	0.000
7.000	-	-	100	1.034	1.034	1.034
8.000	-	-	100	0.057	0.057	0.057
8.001	-	-	100	0.077	0.077	0.077
8.002	-	-	100	0.023	0.023	0.023
8.003	-	-	100	0.027	0.027	0.027
8.004	-	-	100	0.031	0.031	0.031
8.005	-	-	100	0.066	0.066	0.066
9.000	-	-	100	0.023	0.023	0.023
8.006	-	-	100	0.024	0.024	0.024
7.001	-	-	100	0.000	0.000	0.000
1.009	-	-	100	0.000	0.000	0.000
1.010	-	-	100	0.000	0.000	0.000
10.000	-	-	100	0.371	0.371	0.371

Area Summary for S Net 1 Catch 1

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
10.001	-	-	100	0.371	0.371	0.371
1.011	-	-	100	0.000	0.000	0.000
11.000	-	-	100	0.371	0.371	0.371
11.001	-	-	100	0.000	0.000	0.000
11.002	-	-	100	0.371	0.371	0.371
1.012	-	-	100	0.000	0.000	0.000
12.000	-	-	100	0.373	0.373	0.373
12.001	-	-	100	0.000	0.000	0.000
12.002	-	-	100	0.371	0.371	0.371
1.013	-	-	100	0.000	0.000	0.000
13.000	-	-	100	0.303	0.303	0.303
13.001	-	-	100	0.303	0.303	0.303
14.000	-	-	100	0.190	0.190	0.190
14.001	-	-	100	0.190	0.190	0.190
13.002	-	-	100	0.000	0.000	0.000
13.003	-	-	100	0.000	0.000	0.000
15.000	-	-	100	0.303	0.303	0.303
15.001	-	-	100	0.303	0.303	0.303
16.000	-	-	100	0.570	0.570	0.570
16.001	-	-	100	0.570	0.570	0.570
13.004	-	-	100	0.000	0.000	0.000
13.005	-	-	100	0.000	0.000	0.000
17.000	-	-	100	0.000	0.000	0.000
17.001	-	-	100	0.303	0.303	0.303
17.002	-	-	100	0.303	0.303	0.303
13.006	-	-	100	0.000	0.000	0.000
18.000	-	-	100	0.175	0.175	0.175
19.000	-	-	100	0.115	0.115	0.115
19.001	-	-	100	0.114	0.114	0.114
18.001	-	-	100	0.135	0.135	0.135
20.000	-	-	100	0.151	0.151	0.151
20.001	-	-	100	0.152	0.152	0.152
18.002	-	-	100	0.085	0.085	0.085
18.003	-	-	100	0.035	0.035	0.035
13.007	-	-	100	0.000	0.000	0.000
13.008	-	-	100	0.000	0.000	0.000
21.000	-	-	100	0.371	0.371	0.371
21.001	-	-	100	0.371	0.371	0.371

Area Summary for S Net 1 Catch 1

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
13.009	-	-	100	0.000	0.000	0.000
1.014	-	-	100	0.000	0.000	0.000
1.015	-	-	100	0.000	0.000	0.000
22.000	-	-	100	0.833	0.833	0.833
22.001	-	-	100	0.832	0.832	0.832
1.016	-	-	100	0.000	0.000	0.000
23.000	-	-	100	0.077	0.077	0.077
23.001	-	-	100	0.081	0.081	0.081
23.002	-	-	100	0.093	0.093	0.093
23.003	-	-	100	0.000	0.000	0.000
1.017	-	-	100	0.000	0.000	0.000
1.018	-	-	100	0.000	0.000	0.000
24.000	-	-	100	0.833	0.833	0.833
24.001	-	-	100	0.832	0.832	0.832
1.019	-	-	100	0.000	0.000	0.000
1.020	-	-	100	0.000	0.000	0.000
1.021	-	-	100	0.000	0.000	0.000
1.022	-	-	100	0.000	0.000	0.000
25.000	-	-	100	0.000	0.000	0.000
25.001	-	-	100	0.000	0.000	0.000
25.002	-	-	100	0.000	0.000	0.000
26.000	-	-	100	0.000	0.000	0.000
26.001	-	-	100	0.000	0.000	0.000
25.003	-	-	100	0.000	0.000	0.000
25.004	-	-	100	0.000	0.000	0.000
27.000	-	-	100	0.460	0.460	0.460
27.001	-	-	100	0.000	0.000	0.000
27.002	-	-	100	0.000	0.000	0.000
25.005	-	-	100	0.000	0.000	0.000
25.006	-	-	100	0.000	0.000	0.000
28.000	-	-	100	0.025	0.025	0.025
28.001	-	-	100	0.035	0.035	0.035
28.002	-	-	100	0.137	0.137	0.137
29.000	-	-	100	0.720	0.720	0.720
28.003	-	-	100	0.093	0.093	0.093
30.000	-	-	100	0.128	0.128	0.128
30.001	-	-	100	0.000	0.000	0.000
31.000	-	-	100	0.151	0.151	0.151

Area Summary for S Net 1 Catch 1

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
30.002	-	-	100	0.097	0.097	0.097
28.004	-	-	100	0.000	0.000	0.000
28.005	-	-	100	0.196	0.196	0.196
28.006	-	-	100	0.069	0.069	0.069
32.000	-	-	100	0.715	0.715	0.715
32.001	-	-	100	0.071	0.071	0.071
32.002	-	-	100	0.358	0.358	0.358
32.003	-	-	100	0.357	0.357	0.357
32.004	-	-	100	0.357	0.357	0.357
33.000	-	-	100	0.358	0.358	0.358
32.005	-	-	100	0.356	0.356	0.356
32.006	-	-	100	0.358	0.358	0.358
28.007	-	-	100	0.100	0.100	0.100
34.000	-	-	100	0.000	0.000	0.000
34.001	-	-	100	0.000	0.000	0.000
34.002	-	-	100	0.000	0.000	0.000
28.008	-	-	100	0.055	0.055	0.055
28.009	-	-	100	0.076	0.076	0.076
35.000	-	-	100	0.460	0.460	0.460
35.001	-	-	100	0.000	0.000	0.000
28.010	-	-	100	0.000	0.000	0.000
25.007	-	-	100	0.000	0.000	0.000
25.008	-	-	100	0.000	0.000	0.000
1.023	-	-	100	0.000	0.000	0.000
1.024	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				21.225	21.225	21.225

Free Flowing Outfall Details for S Net 1 Catch 1

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
1.024	HW12	126.916	126.122	126.150	0	0

Simulation Criteria for S Net 1 Catch 1

Volumetric Runoff Coeff	0.750	Manhole Headloss Coeff (Global)	0.500	Inlet Coeffiecient	0.800
Areal Reduction Factor	1.000	Foul Sewage per hectare (l/s)	0.000	Flow per Person per Day (l/per/day)	0.000
Hot Start (mins)	0	Additional Flow - % of Total Flow	0.000	Run Time (mins)	60
Hot Start Level (mm)	0	MADD Factor * 10m³/ha Storage	2.000	Output Interval (mins)	1

Number of Input Hydrographs 0	Number of Offline Controls 0	Number of Time/Area Diagrams 0
Number of Online Controls 1	Number of Storage Structures 1	Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FSR	M5-60 (mm)	19.700	Cv (Summer)	0.750
Return Period (years)	100	Ratio R	0.408	Cv (Winter)	0.840
Region	England and Wales	Profile Type	Summer	Storm Duration (mins)	30

Online Controls for S Net 1 Catch 1

Hydro-Brake® Optimum Manhole: 47, DS/PN: 1.024, Volume (m³): 9.3

Unit Reference	MD-SHE-0251-3700-1595-3700	Sump Available	Yes
Design Head (m)	1.595	Diameter (mm)	251
Design Flow (l/s)	37.0	Invert Level (m)	126.169
Flush-Flo™	Calculated	Minimum Outlet Pipe Diameter (mm)	300
Objective	Minimise upstream storage	Suggested Manhole Diameter (mm)	1800
Application	Surface		

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.595	37.0	Kick-Flo®	1.087	30.8
Flush-Flo™	0.497	37.0	Mean Flow over Head Range	-	31.6

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	8.2	0.600	36.7	1.600	37.0	2.600	46.8	5.000	64.2	7.500	78.2
0.200	25.7	0.800	35.7	1.800	39.2	3.000	50.1	5.500	67.3	8.000	80.7
0.300	35.4	1.000	33.2	2.000	41.2	3.500	54.0	6.000	70.2	8.500	83.1
0.400	36.7	1.200	32.3	2.200	43.2	4.000	57.6	6.500	72.9	9.000	85.5
0.500	37.0	1.400	34.7	2.400	45.0	4.500	61.0	7.000	75.6	9.500	87.7

Storage Structures for S Net 1 Catch 1

Tank or Pond Manhole: HW11, DS/PN: 1.023

Invert Level (m) 126.300

Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	9000.0	0.400	9546.1	0.800	10108.3	1.200	10686.6	1.600	11281.0	2.000	11891.5	2.400	12518.0
0.100	9135.0	0.500	9685.2	0.900	10251.4	1.300	10833.7	1.700	11432.1	2.100	12046.6	2.500	12677.2
0.200	9271.1	0.600	9825.2	1.000	10395.5	1.400	10981.8	1.800	11584.2	2.200	12202.7		
0.300	9408.1	0.700	9966.3	1.100	10540.5	1.500	11130.9	1.900	11737.3	2.300	12359.9		

1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for S Net 1 Catch 1

Simulation Criteria

Areal Reduction Factor 1.000 Manhole Headloss Coeff (Global) 0.500 MADD Factor * 10m³/ha Storage 2.000
Hot Start (mins) 0 Foul Sewage per hectare (l/s) 0.000 Inlet Coeffiecient 0.800
Hot Start Level (mm) 0 Additional Flow - % of Total Flow 0.000 Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 19.700 Cv (Summer) 0.750
Region England and Wales Ratio R 0.408 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 450.0 DVD Status ON
Analysis Timestep 2.5 Second Increment (Extended) Inertia Status ON
DTS Status OFF

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160
Return Period(s) (years) 1, 30, 100
Climate Change (%) 0, 0, 40

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	L	15 Winter	1	+0%	100/60 Winter				130.568	-0.438	0.000	0.14		41.1	OK	
1.001	L	15 Winter	1	+0%	100/15 Summer				130.401	-0.381	0.000	0.28		74.5	OK	
1.002	S	15 Winter	1	+0%					130.258	-0.856	0.000	0.01		72.3	OK	
2.000	L	120 Winter	1	+0%					130.343	-0.600	0.000	0.00		0.0	OK	
2.001	L	15 Winter	1	+0%	100/30 Winter				130.342	-0.458	0.000	0.11		37.1	OK	
2.002	L	15 Winter	1	+0%	100/15 Summer				130.241	-0.382	0.000	0.26		69.7	OK	
1.003	S	30 Winter	1	+0%					130.214	-0.706	0.000	0.03		91.5	OK	
1.004	HW1	30 Winter	1	+0%	1/15 Summer				130.202	0.154	0.000	1.56		38.8	SURCHARGED*	
3.000	L	120 Winter	1	+0%	100/15 Summer				130.258	-0.600	0.000	0.00		0.0	OK	
3.001	L	15 Winter	1	+0%	100/15 Summer				130.222	-0.452	0.000	0.13		37.5	OK	
3.002	L	30 Winter	1	+0%	100/15 Summer				130.100	-0.428	0.000	0.10		28.8	OK	
3.003	L	30 Winter	1	+0%	30/30 Winter				130.072	-0.301	0.000	0.23		47.3	OK	
1.005	5	30 Winter	1	+0%	1/15 Summer				130.048	0.097	0.000	1.14		62.6	SURCHARGED	

1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for S Net 1 Catch 1

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
4.000	1	15 Winter	1	+0%	100/15 Summer				130.048	-0.152	0.000	0.23		8.4	OK	
4.001	2	15 Winter	1	+0%	100/15 Summer				129.824	-0.198	0.000	0.24		16.6	OK	
4.002	3	15 Winter	1	+0%	100/15 Summer				129.620	-0.181	0.000	0.33		21.7	OK	
5.000	L	120 Winter	1	+0%					130.560	-0.300	0.000	0.00		0.0	OK	
5.001	L	120 Winter	1	+0%					130.310	-0.300	0.000	0.00		0.0	OK	
5.002	L	120 Winter	1	+0%					129.900	-0.300	0.000	0.00		0.0	OK	
4.003	4	15 Winter	1	+0%	30/15 Winter				129.433	-0.231	0.000	0.15		23.6	OK	
1.006	6	15 Winter	1	+0%	100/15 Summer				129.417	-0.186	0.000	0.65		79.8	OK	
1.007	HW2	15 Winter	1	+0%					129.284	-1.345	0.000	0.00		79.6	OK	
6.000	L	15 Winter	1	+0%	100/15 Summer				129.932	-0.378	0.000	0.24		66.4	OK	
6.001	L	15 Winter	1	+0%	100/15 Summer				129.835	-0.345	0.000	0.38		120.1	OK	
1.008	S	15 Winter	1	+0%					129.189	-1.340	0.000	0.01		190.9	OK	
7.000	L	15 Winter	1	+0%	30/15 Summer				129.759	-0.214	0.000	0.73		141.3	OK	
8.000	7	15 Winter	1	+0%	100/15 Summer				130.168	-0.232	0.000	0.11		7.6	OK	
8.001	8	15 Winter	1	+0%	100/15 Summer				130.010	-0.201	0.000	0.23		15.6	OK	
8.002	9	15 Winter	1	+0%	100/15 Summer				129.706	-0.193	0.000	0.28		17.7	OK	
8.003	10	15 Winter	1	+0%	100/15 Summer				129.605	-0.185	0.000	0.31		20.2	OK	
8.004	11	15 Winter	1	+0%	30/15 Winter				129.502	-0.177	0.000	0.35		22.8	OK	
8.005	12	15 Winter	1	+0%	30/15 Winter				129.392	-0.165	0.000	0.40		27.7	OK	
9.000	13	15 Winter	1	+0%					130.224	-0.201	0.000	0.03		3.2	OK	
8.006	14	15 Winter	1	+0%	30/15 Summer				129.128	-0.157	0.000	0.46		30.7	OK	
7.001	15	15 Winter	1	+0%	30/15 Summer				128.917	-0.191	0.000	0.80		164.6	OK	
1.009	HW3	15 Winter	1	+0%					128.751	-1.213	0.000	0.02		315.2	OK	
1.010	S	15 Winter	1	+0%					128.731	-1.204	0.000	0.02		313.6	OK	
10.000	L	15 Winter	1	+0%					129.525	-0.426	0.000	0.17		47.9	OK	
10.001	L	15 Winter	1	+0%					129.353	-0.456	0.000	0.13		88.7	OK	
1.011	S	15 Winter	1	+0%					128.678	-1.203	0.000	0.02		365.3	OK	
11.000	L	15 Winter	1	+0%	100/15 Summer				129.396	-0.414	0.000	0.18		48.9	OK	
11.001	L	15 Winter	1	+0%	100/15 Summer				129.303	-0.397	0.000	0.17		45.6	OK	
11.002	L	15 Winter	1	+0%	100/15 Summer				129.246	-0.374	0.000	0.30		83.0	OK	
1.012	S	15 Winter	1	+0%					128.591	-1.189	0.000	0.02		400.7	OK	
12.000	L	15 Winter	1	+0%	100/15 Summer				129.108	-0.380	0.000	0.25		47.7	OK	
12.001	L	15 Winter	1	+0%	100/15 Summer				128.999	-0.375	0.000	0.23		45.9	OK	
12.002	L	15 Winter	1	+0%	100/15 Summer				128.963	-0.374	0.000	0.30		84.2	OK	
1.013	S	15 Winter	1	+0%					128.282	-1.215	0.000	0.02		409.8	OK	
13.000	L	15 Winter	1	+0%					130.095	-0.438	0.000	0.14		37.4	OK	

1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for S Net 1 Catch 1

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
13.001	L	15 Winter	1	+0%					129.960	-0.419	0.000	0.20		69.2	OK	
14.000	L	15 Winter	1	+0%	100/15 Summer				130.029	-0.196	0.000	0.26		25.8	OK	
14.001	L	60 Winter	1	+0%	30/15 Summer				129.062	-0.188	0.000	0.13		26.6	OK	
13.002	S	60 Winter	1	+0%					129.060	-1.060	0.000	0.00		63.5	OK	
13.003	S	60 Winter	1	+0%					129.058	-0.985	0.000	0.00		36.8	OK	
15.000	L	15 Winter	1	+0%					129.989	-0.443	0.000	0.13		37.5	OK	
15.001	L	15 Winter	1	+0%					129.851	-0.401	0.000	0.24		69.2	OK	
16.000	L	15 Winter	1	+0%	100/15 Summer				130.179	-0.383	0.000	0.28		77.7	OK	
16.001	L	60 Winter	1	+0%	30/15 Summer				129.110	-0.106	0.000	0.27		78.7	OK	
13.004	S	60 Winter	1	+0%					129.055	-0.910	0.000	0.01		97.4	OK	
13.005	HW4	60 Winter	1	+0%	1/15 Summer				129.040	0.422	0.000	2.36		38.3	SURCHARGED*	
17.000	L	120 Winter	1	+0%					129.816	-0.600	0.000	0.00		0.0	OK	
17.001	L	15 Winter	1	+0%					129.815	-0.468	0.000	0.10		30.7	OK	
17.002	L	15 Winter	1	+0%	100/15 Summer				129.569	-0.398	0.000	0.25		60.2	OK	
13.006	16	30 Winter	1	+0%	1/15 Summer				128.872	0.327	0.000	2.17		63.1	SURCHARGED	
18.000	17	15 Winter	1	+0%	100/15 Summer				129.393	-0.177	0.000	0.33		22.7	OK	
19.000	L	15 Winter	1	+0%					130.843	-0.207	0.000	0.20		14.9	OK	
19.001	L	15 Winter	1	+0%					130.423	-0.237	0.000	0.10		27.9	OK	
18.001	18	15 Winter	1	+0%	30/15 Winter				128.920	-0.250	0.000	0.38		60.6	OK	
20.000	L	15 Winter	1	+0%	100/15 Winter				130.174	-0.206	0.000	0.21		20.2	OK	
20.001	L	15 Winter	1	+0%	100/15 Summer				129.607	-0.213	0.000	0.19		37.7	OK	
18.002	19	15 Winter	1	+0%	30/15 Summer				128.670	-0.245	0.000	0.48		97.5	OK	
18.003	20	15 Winter	1	+0%	30/15 Summer				128.586	-0.199	0.000	0.70		96.6	OK	
13.007	21	15 Winter	1	+0%					128.415	-1.315	0.000	0.01		155.4	OK	
13.008	HW5	15 Winter	1	+0%					128.363	-1.317	0.000	0.01		153.0	OK	
21.000	L	15 Winter	1	+0%	100/15 Summer				128.942	-0.397	0.000	0.18		49.1	OK	
21.001	L	15 Winter	1	+0%	100/15 Summer				128.870	-0.375	0.000	0.30		89.7	OK	
13.009	S	15 Winter	1	+0%					128.170	-1.343	0.000	0.01		210.5	OK	
1.014	S	120 Winter	1	+0%					128.123	-1.076	0.000	0.02		344.8	OK	
1.015	S	120 Winter	1	+0%					128.113	-1.002	0.000	0.02		330.1	OK	
22.000	L	120 Winter	1	+0%	30/15 Summer				128.132	-0.268	0.000	0.13		37.4	OK	
22.001	L	120 Winter	1	+0%	30/15 Summer				128.126	-0.131	0.000	0.24		70.3	OK	
1.016	S	120 Winter	1	+0%					128.097	-0.915	0.000	0.02		346.7	OK	
23.000	22	15 Winter	1	+0%					128.945	-0.155	0.000	0.21		10.6	OK	
23.001	23	120 Winter	1	+0%	30/15 Summer				128.075	-0.092	0.000	0.02		6.5	OK	
23.002	24	120 Winter	1	+0%	1/60 Winter				128.075	0.055	0.000	0.02		5.1	SURCHARGED	

1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for S Net 1 Catch 1

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
23.003	25	120 Winter	1	+0%	1/15 Winter				128.075	0.165	0.000	0.04		8.9	SURCHARGED	
1.017	HW6	120 Winter	1	+0%					128.075	-0.805	0.000	0.01		267.5	OK	
1.018	S	120 Winter	1	+0%					128.063	-0.757	0.000	0.01		240.1	OK	
24.000	L	120 Winter	1	+0%	30/15 Summer				128.067	-0.104	0.000	0.13		35.9	OK	
24.001	L	120 Winter	1	+0%	1/60 Winter				128.043	0.053	0.000	0.19		56.1	SURCHARGED	
1.019	HW4	120 Winter	1	+0%					128.039	-0.684	0.000	0.01		219.1	OK	
1.020	HW9	120 Winter	1	+0%	1/15 Summer				128.023	0.562	0.000	3.23		200.1	SURCHARGED	
1.021	27	120 Winter	1	+0%	100/360 Summer				127.325	-0.375	0.000	0.30		200.1	OK	
1.022	HW10	120 Winter	1	+0%	100/600 Summer				126.843	-0.807	0.000	0.12		200.1	OK	
25.000	L	120 Winter	1	+0%					127.813	-0.600	0.000	0.00		0.0	OK	
25.001	L	120 Winter	1	+0%					127.670	-0.600	0.000	0.00		0.0	OK	
25.002	S	120 Winter	1	+0%					127.520	-1.500	0.000	0.00		0.0	OK	
26.000	L	120 Winter	1	+0%					127.365	-0.600	0.000	0.00		0.0	OK	
26.001	L	120 Winter	1	+0%	100/1440 Winter				127.205	-0.600	0.000	0.00		0.0	OK	
25.003	S	30 Winter	1	+0%					127.079	-1.470	0.000	0.00		1.5	OK	
25.004	HW7	30 Winter	1	+0%	100/15 Winter				127.079	-0.509	0.000	0.01		4.7	OK*	
27.000	L	15 Winter	1	+0%	100/15 Winter				127.453	-0.430	0.000	0.17		62.3	OK	
27.001	L	15 Winter	1	+0%	100/15 Summer				127.288	-0.428	0.000	0.16		59.9	OK	
27.002	L	15 Winter	1	+0%	100/15 Summer				127.189	-0.380	0.000	0.29		58.3	OK	
25.005	28	30 Winter	1	+0%	100/15 Summer				127.105	-0.422	0.000	0.11		43.6	OK	
25.006	29	30 Winter	1	+0%	100/15 Summer				127.099	-0.269	0.000	0.11		37.9	OK	
28.000	30	15 Winter	1	+0%	100/15 Summer				128.359	-0.408	0.000	0.02		3.4	OK	
28.001	31	15 Winter	1	+0%	100/15 Summer				128.252	-0.388	0.000	0.05		7.5	OK	
28.002	32	15 Winter	1	+0%	100/15 Summer				127.995	-0.569	0.000	0.05		21.8	OK	
29.000	L	15 Winter	1	+0%	30/15 Summer				128.455	-0.216	0.000	0.53		99.7	OK	
28.003	33	15 Winter	1	+0%	100/15 Summer				127.976	-0.470	0.000	0.24		116.3	OK	
30.000	34	15 Winter	1	+0%	100/15 Summer				129.219	-0.210	0.000	0.18		16.5	OK	
30.001	35	15 Winter	1	+0%	100/15 Summer				128.548	-0.214	0.000	0.18		16.4	OK	
31.000	36	15 Winter	1	+0%	100/15 Summer				129.152	-0.201	0.000	0.22		19.0	OK	
30.002	37	15 Winter	1	+0%	30/15 Summer				128.478	-0.153	0.000	0.48		46.3	OK	
28.004	38	15 Winter	1	+0%	100/15 Summer				127.865	-0.430	0.000	0.37		154.1	OK	
28.005	39	15 Winter	1	+0%	100/15 Summer				127.782	-0.462	0.000	0.31		165.3	OK	
28.006	40	15 Winter	1	+0%	100/15 Summer				127.620	-0.464	0.000	0.22		155.4	OK	
32.000	L	15 Winter	1	+0%	100/15 Summer				128.159	-0.581	0.000	0.11		97.2	OK	
32.001	L	15 Winter	1	+0%	100/15 Summer				128.003	-0.437	0.000	0.21		98.6	OK	
32.002	L	15 Winter	1	+0%	100/15 Summer				127.966	-0.394	0.000	0.39		131.5	OK	

1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for S Net 1 Catch 1

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
32.003	L	15 Winter	1	+0%	100/15 Summer				127.916	-0.404	0.000	0.33		160.3	OK	
32.004	L	15 Winter	1	+0%	30/15 Winter				127.825	-0.375	0.000	0.38		180.4	OK	
33.000	L	15 Winter	1	+0%	100/15 Summer	100/30 Winter			128.002	-0.463	0.000	0.11		47.5	OK	1
32.005	L	15 Winter	1	+0%	100/15 Summer	100/30 Winter			127.733	-0.422	0.000	0.43		227.2	OK	1
32.006	L	15 Winter	1	+0%	100/15 Summer				127.679	-0.426	0.000	0.35		245.7	OK	
28.007	41	15 Winter	1	+0%	100/15 Summer				127.592	-0.412	0.000	0.50		376.7	OK	
34.000	L	120 Winter	1	+0%	100/15 Summer				127.500	-0.750	0.000	0.00		0.0	OK	
34.001	L	30 Winter	1	+0%	100/15 Summer				127.443	-0.573	0.000	0.01		5.7	OK	
34.002	L	30 Winter	1	+0%	100/15 Summer				127.443	-0.462	0.000	0.05		12.5	OK	
28.008	42	15 Winter	1	+0%	100/15 Summer				127.448	-0.430	0.000	0.49		347.8	OK	
28.009	43	30 Winter	1	+0%	100/15 Summer				127.324	-0.463	0.000	0.46		341.4	OK	
35.000	S	15 Winter	1	+0%	30/15 Summer				127.551	-0.189	0.000	0.62		62.4	OK	
35.001	S28	15 Winter	1	+0%	100/15 Summer				127.494	-0.215	0.000	0.54		62.4	OK	
28.010	44	30 Winter	1	+0%	100/15 Summer				127.149	-0.521	0.000	0.37		354.5	OK	
25.007	45	30 Winter	1	+0%	100/15 Summer				127.093	-0.472	0.000	0.46		371.1	OK	
25.008	HW8	30 Winter	1	+0%					126.990	-0.505	0.000	0.40		371.2	OK*	
1.023	HW11	1440 Winter	1	+0%	1/240 Winter				126.688	0.088	0.000	0.68		45.5	SURCHARGED	
1.024	47	1440 Winter	1	+0%	1/120 Summer				126.693	0.224	0.000	0.63		36.9	SURCHARGED	

30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for S Net 1 Catch 1

Simulation Criteria

Areal Reduction Factor 1.000 Manhole Headloss Coeff (Global) 0.500 MADD Factor * 10m³/ha Storage 2.000
Hot Start (mins) 0 Foul Sewage per hectare (l/s) 0.000 Inlet Coeffiecient 0.800
Hot Start Level (mm) 0 Additional Flow - % of Total Flow 0.000 Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 19.700 Cv (Summer) 0.750
Region England and Wales Ratio R 0.408 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 450.0 DVD Status ON
Analysis Timestep 2.5 Second Increment (Extended) Inertia Status ON
DTS Status OFF

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160
Return Period(s) (years) 1, 30, 100
Climate Change (%) 0, 0, 40

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	L 15	Winter	30	+0%	100/60 Winter				130.691	-0.315	0.000	0.35		100.4	OK	
1.001	L 15	Winter	30	+0%	100/15 Summer				130.569	-0.213	0.000	0.73		190.7	OK	
1.002	S 60	Winter	30	+0%					130.518	-0.596	0.000	0.02		107.8	OK	
2.000	L 60	Winter	30	+0%					130.572	-0.371	0.000	0.00		0.3	OK	
2.001	L 60	Winter	30	+0%	100/30 Winter				130.572	-0.228	0.000	0.16		55.7	OK	
2.002	L 60	Winter	30	+0%	100/15 Summer				130.565	-0.058	0.000	0.39		106.1	OK	
1.003	S 60	Winter	30	+0%					130.502	-0.418	0.000	0.05		143.6	OK	
1.004	HW1 60	Winter	30	+0%	1/15 Summer				130.474	0.426	0.000	2.03		50.5	SURCHARGED*	
3.000	L 30	Winter	30	+0%	100/15 Summer				130.535	-0.323	0.000	0.00		0.7	OK	
3.001	L 30	Winter	30	+0%	100/15 Summer				130.535	-0.139	0.000	0.29		84.2	OK	
3.002	L 30	Winter	30	+0%	100/15 Summer				130.476	-0.052	0.000	0.19		52.3	OK	
3.003	L 30	Winter	30	+0%	30/30 Winter				130.387	0.014	0.000	0.50		100.2	SURCHARGED	
1.005	5 30	Winter	30	+0%	1/15 Summer				130.374	0.423	0.000	1.50		81.8	SURCHARGED	

30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for S Net 1 Catch 1

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
4.000	1	15 Winter	30	+0%	100/15 Summer				130.097	-0.103	0.000	0.55		20.6	OK	
4.001	2	15 Winter	30	+0%	100/15 Summer				129.908	-0.114	0.000	0.66		45.2	OK	
4.002	3	15 Winter	30	+0%	100/15 Summer				129.723	-0.078	0.000	0.88		58.1	OK	
5.000	L	120 Winter	30	+0%					130.560	-0.300	0.000	0.00		0.0	OK	
5.001	L	120 Winter	30	+0%					130.310	-0.300	0.000	0.00		0.0	OK	
5.002	L	120 Winter	30	+0%					129.900	-0.300	0.000	0.00		0.0	OK	
4.003	4	15 Winter	30	+0%	30/15 Winter				129.669	0.005	0.000	0.37		57.7	SURCHARGED	
1.006	6	15 Winter	30	+0%	100/15 Summer				129.595	-0.008	0.000	1.00		123.0	OK	
1.007	HW2	15 Winter	30	+0%					129.327	-1.302	0.000	0.01		123.1	OK	
6.000	L	15 Winter	30	+0%	100/15 Summer				130.122	-0.188	0.000	0.59		162.6	OK	
6.001	L	15 Winter	30	+0%	100/15 Summer				130.042	-0.138	0.000	0.94		297.4	OK	
1.008	S	15 Winter	30	+0%					129.255	-1.274	0.000	0.01		410.2	OK	
7.000	L	15 Winter	30	+0%	30/15 Summer				130.119	0.146	0.000	1.79		346.7	SURCHARGED	
8.000	7	15 Winter	30	+0%	100/15 Summer				130.210	-0.190	0.000	0.28		18.7	OK	
8.001	8	15 Winter	30	+0%	100/15 Summer				130.090	-0.121	0.000	0.60		41.5	OK	
8.002	9	15 Winter	30	+0%	100/15 Summer				129.794	-0.105	0.000	0.74		47.5	OK	
8.003	10	15 Winter	30	+0%	100/15 Summer				129.746	-0.044	0.000	0.77		49.5	OK	
8.004	11	15 Winter	30	+0%	30/15 Winter				129.689	0.010	0.000	0.83		54.1	SURCHARGED	
8.005	12	15 Winter	30	+0%	30/15 Winter				129.608	0.051	0.000	0.91		62.3	SURCHARGED	
9.000	13	15 Winter	30	+0%					130.237	-0.188	0.000	0.06		7.8	OK	
8.006	14	15 Winter	30	+0%	30/15 Summer				129.381	0.096	0.000	1.12		74.9	SURCHARGED	
7.001	15	15 Winter	30	+0%	30/15 Summer				129.204	0.096	0.000	1.94		400.7	SURCHARGED	
1.009	HW3	15 Winter	30	+0%					128.936	-1.028	0.000	0.05		726.8	OK	
1.010	S	15 Winter	30	+0%					128.917	-1.018	0.000	0.04		719.3	OK	
10.000	L	15 Winter	30	+0%					129.635	-0.316	0.000	0.42		117.9	OK	
10.001	L	15 Winter	30	+0%					129.455	-0.354	0.000	0.34		237.8	OK	
1.011	S	15 Winter	30	+0%					128.862	-1.019	0.000	0.05		832.6	OK	
11.000	L	15 Winter	30	+0%	100/15 Summer				129.541	-0.269	0.000	0.43		119.8	OK	
11.001	L	15 Winter	30	+0%	100/15 Summer				129.471	-0.229	0.000	0.43		116.3	OK	
11.002	L	15 Winter	30	+0%	100/15 Summer				129.425	-0.195	0.000	0.77		213.3	OK	
1.012	S	15 Winter	30	+0%					128.778	-1.002	0.000	0.06		906.4	OK	
12.000	L	15 Winter	30	+0%	100/15 Summer				129.272	-0.216	0.000	0.61		116.4	OK	
12.001	L	15 Winter	30	+0%	100/15 Summer				129.174	-0.200	0.000	0.60		120.1	OK	
12.002	L	15 Winter	30	+0%	100/15 Summer				129.143	-0.194	0.000	0.77		212.8	OK	
1.013	S	120 Winter	30	+0%					128.602	-0.895	0.000	0.03		488.2	OK	
13.000	L	15 Winter	30	+0%					130.210	-0.323	0.000	0.35		92.2	OK	

30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for S Net 1 Catch 1

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
13.001	L	15 Winter	30	+0%					130.090	-0.289	0.000	0.53		184.2	OK	
14.000	L	15 Winter	30	+0%	100/15 Summer				130.101	-0.124	0.000	0.59		59.8	OK	
14.001	L	60 Winter	30	+0%	30/15 Summer				129.529	0.279	0.000	0.27		56.6	SURCHARGED	
13.002	S	120 Winter	30	+0%					129.510	-0.610	0.000	0.01		100.0	OK	
13.003	S	120 Winter	30	+0%					129.504	-0.539	0.000	0.00		49.0	OK	
15.000	L	15 Winter	30	+0%					130.106	-0.326	0.000	0.33		92.2	OK	
15.001	L	15 Winter	30	+0%					129.998	-0.254	0.000	0.62		181.2	OK	
16.000	L	15 Winter	30	+0%	100/15 Summer				130.331	-0.231	0.000	0.68		190.2	OK	
16.001	L	120 Winter	30	+0%	30/15 Summer				129.501	0.285	0.000	0.41		118.9	SURCHARGED	
13.004	S	120 Winter	30	+0%					129.496	-0.469	0.000	0.01		162.9	OK	
13.005	HW4	120 Winter	30	+0%	1/15 Summer				129.469	0.851	0.000	2.87		46.4	SURCHARGED*	
17.000	L	15 Winter	30	+0%					129.924	-0.492	0.000	0.00		0.7	OK	
17.001	L	15 Winter	30	+0%					129.924	-0.359	0.000	0.28		88.6	OK	
17.002	L	15 Winter	30	+0%	100/15 Summer				129.733	-0.234	0.000	0.67		162.3	OK	
13.006	16	15 Winter	30	+0%	1/15 Summer				129.561	1.016	0.000	3.42		99.4	SURCHARGED	
18.000	17	15 Winter	30	+0%	100/15 Summer				129.487	-0.083	0.000	0.77		52.8	OK	
19.000	L	15 Winter	30	+0%					130.904	-0.146	0.000	0.48		36.5	OK	
19.001	L	15 Winter	30	+0%					130.467	-0.193	0.000	0.27		74.0	OK	
18.001	18	15 Winter	30	+0%	30/15 Winter				129.187	0.017	0.000	0.89		143.9	SURCHARGED	
20.000	L	15 Winter	30	+0%	100/15 Winter				130.236	-0.144	0.000	0.51		49.5	OK	
20.001	L	15 Winter	30	+0%	100/15 Summer				129.673	-0.147	0.000	0.50		101.1	OK	
18.002	19	15 Winter	30	+0%	30/15 Summer				128.978	0.063	0.000	1.16		235.8	SURCHARGED	
18.003	20	15 Winter	30	+0%	30/15 Summer				128.793	0.008	0.000	1.74		239.4	SURCHARGED	
13.007	21	120 Winter	30	+0%					128.627	-1.103	0.000	0.01		181.9	OK	
13.008	HW5	120 Winter	30	+0%					128.623	-1.057	0.000	0.01		178.2	OK	
21.000	L	15 Winter	30	+0%	100/15 Summer				129.115	-0.224	0.000	0.45		120.6	OK	
21.001	L	15 Winter	30	+0%	100/15 Summer				129.057	-0.188	0.000	0.80		239.6	OK	
13.009	S	120 Winter	30	+0%					128.606	-0.907	0.000	0.01		228.0	OK	
1.014	S	120 Winter	30	+0%					128.576	-0.623	0.000	0.03		511.9	OK	
1.015	S	120 Winter	30	+0%					128.559	-0.556	0.000	0.03		462.3	FLOOD RISK	
22.000	L	15 Winter	30	+0%	30/15 Summer				128.615	0.215	0.000	0.90		250.4	SURCHARGED	
22.001	L	120 Winter	30	+0%	30/15 Summer				128.536	0.279	0.000	0.57		166.9	SURCHARGED	
1.016	S	120 Winter	30	+0%					128.531	-0.481	0.000	0.03		520.2	OK	
23.000	22	15 Winter	30	+0%					128.990	-0.110	0.000	0.51		26.0	OK	
23.001	23	120 Winter	30	+0%	30/15 Summer				128.491	0.324	0.000	0.06		16.5	SURCHARGED	
23.002	24	120 Winter	30	+0%	1/60 Winter				128.491	0.471	0.000	0.09		24.2	SURCHARGED	

30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for S Net 1 Catch 1

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
23.003	25	120 Winter	30	+0%	1/15 Winter				128.491	0.581	0.000	0.12		23.5	SURCHARGED	
1.017	HW6	120 Winter	30	+0%					128.491	-0.389	0.000	0.02		381.5	FLOOD RISK*	
1.018	S	120 Winter	30	+0%					128.467	-0.353	0.000	0.02		310.9	FLOOD RISK*	
24.000	L	120 Winter	30	+0%	30/15 Summer				128.434	0.263	0.000	0.31		87.6	SURCHARGED	
24.001	L	120 Winter	30	+0%	1/60 Winter				128.429	0.439	0.000	0.58		168.4	SURCHARGED	
1.019	HW4	120 Winter	30	+0%					128.421	-0.302	0.000	0.02		321.8	OK	
1.020	HW9	120 Winter	30	+0%	1/15 Summer				128.388	0.927	0.000	4.06		250.9	FLOOD RISK	
1.021	27	120 Winter	30	+0%	100/360 Summer				127.356	-0.344	0.000	0.38		250.9	OK	
1.022	HW10	1440 Winter	30	+0%	100/600 Summer				127.296	-0.354	0.000	0.12		195.9	OK	
25.000	L	120 Winter	30	+0%					127.813	-0.600	0.000	0.00		0.0	OK	
25.001	L	120 Winter	30	+0%					127.670	-0.600	0.000	0.00		0.0	OK	
25.002	S	120 Winter	30	+0%					127.520	-1.500	0.000	0.00		0.0	OK	
26.000	L	120 Winter	30	+0%					127.365	-0.600	0.000	0.00		0.0	OK	
26.001	L	30 Winter	30	+0%	100/1440 Winter				127.326	-0.479	0.000	0.00		1.3	OK	
25.003	S	30 Winter	30	+0%					127.326	-1.223	0.000	0.00		26.6	OK	
25.004	HW7	30 Winter	30	+0%	100/15 Winter				127.326	-0.262	0.000	0.18		60.2	OK*	
27.000	L	15 Winter	30	+0%	100/15 Winter				127.560	-0.323	0.000	0.42		152.6	OK	
27.001	L	30 Winter	30	+0%	100/15 Summer				127.435	-0.281	0.000	0.31		113.5	OK	
27.002	L	30 Winter	30	+0%	100/15 Summer				127.390	-0.179	0.000	0.50		101.5	OK	
25.005	28	30 Winter	30	+0%	100/15 Summer				127.363	-0.164	0.000	0.20		79.9	OK	
25.006	29	30 Winter	30	+0%	100/15 Summer				127.358	-0.010	0.000	0.25		86.2	OK	
28.000	30	15 Winter	30	+0%	100/15 Summer				128.382	-0.385	0.000	0.05		8.3	OK	
28.001	31	15 Winter	30	+0%	100/15 Summer				128.353	-0.287	0.000	0.12		20.3	OK	
28.002	32	15 Winter	30	+0%	100/15 Summer				128.353	-0.211	0.000	0.13		61.7	OK	
29.000	L	15 Winter	30	+0%	30/15 Summer				128.806	0.135	0.000	1.25		235.1	SURCHARGED	
28.003	33	15 Winter	30	+0%	100/15 Summer				128.350	-0.096	0.000	0.57		279.4	OK	
30.000	34	15 Winter	30	+0%	100/15 Summer				129.276	-0.153	0.000	0.45		40.5	OK	
30.001	35	15 Winter	30	+0%	100/15 Summer				128.755	-0.007	0.000	0.42		38.4	OK	
31.000	36	15 Winter	30	+0%	100/15 Summer				129.219	-0.134	0.000	0.53		46.6	OK	
30.002	37	15 Winter	30	+0%	30/15 Summer				128.674	0.043	0.000	1.05		101.5	SURCHARGED	
28.004	38	15 Winter	30	+0%	100/15 Summer				128.284	-0.011	0.000	0.84		347.3	OK	
28.005	39	15 Winter	30	+0%	100/15 Summer				128.207	-0.037	0.000	0.65		346.8	OK	
28.006	40	15 Winter	30	+0%	100/15 Summer				128.084	0.000	0.000	0.39		270.5	OK	
32.000	L	15 Winter	30	+0%	100/15 Summer				128.523	-0.217	0.000	0.27		233.1	OK	
32.001	L	30 Winter	30	+0%	100/15 Summer				128.440	0.000	0.000	0.39		181.8	OK	
32.002	L	15 Winter	30	+0%	100/15 Summer				128.360	0.000	0.000	0.88		299.4	OK	

30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for S Net 1 Catch 1

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
32.003	L	15 Winter	30	+0%	100/15 Summer				128.320	0.000	0.000	0.77		372.6	OK	
32.004	L	15 Winter	30	+0%	30/15 Winter				128.209	0.009	0.000	0.87		416.0	SURCHARGED	
33.000	L	15 Winter	30	+0%	100/15 Summer	100/30 Winter			128.231	-0.234	0.000	0.27		114.9	OK	1
32.005	L	15 Winter	30	+0%	100/15 Summer	100/30 Winter			128.155	0.000	0.000	1.00		522.3	OK	1
32.006	L	15 Winter	30	+0%	100/15 Summer				128.105	0.000	0.000	0.80		564.0	OK	
28.007	41	15 Winter	30	+0%	100/15 Summer				127.978	-0.026	0.000	1.00		744.8	OK	
34.000	L	30 Winter	30	+0%	100/15 Summer				127.720	-0.530	0.000	0.00		1.0	OK	
34.001	L	30 Winter	30	+0%	100/15 Summer				127.720	-0.296	0.000	0.04		21.8	OK	
34.002	L	30 Winter	30	+0%	100/15 Summer				127.720	-0.185	0.000	0.12		33.6	OK	
28.008	42	30 Winter	30	+0%	100/15 Summer				127.725	-0.153	0.000	0.97		692.0	OK	
28.009	43	30 Winter	30	+0%	100/15 Summer				127.581	-0.206	0.000	0.94		694.9	OK	
35.000	S	15 Winter	30	+0%	30/15 Summer				127.765	0.025	0.000	1.54		154.0	SURCHARGED	
35.001	S28	30 Summer	30	+0%	100/15 Summer				127.709	0.000	0.000	1.13		130.5	OK	
28.010	44	30 Winter	30	+0%	100/15 Summer				127.398	-0.272	0.000	0.77		736.5	OK	
25.007	45	30 Winter	30	+0%	100/15 Summer				127.342	-0.223	0.000	0.92		744.2	OK	
25.008	HW8	1440 Winter	30	+0%					127.221	-0.274	0.000	0.10		89.3	OK*	
1.023	HW11	1440 Winter	30	+0%	1/240 Winter				127.215	0.615	0.000	0.69		46.4	SURCHARGED	
1.024	47	1440 Winter	30	+0%	1/120 Summer				127.252	0.783	0.000	0.63		36.9	SURCHARGED	

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for S Net 1 Catch 1

Simulation Criteria

Areal Reduction Factor 1.000 Manhole Headloss Coeff (Global) 0.500 MADD Factor * 10m³/ha Storage 2.000
Hot Start (mins) 0 Foul Sewage per hectare (l/s) 0.000 Inlet Coeffiecient 0.800
Hot Start Level (mm) 0 Additional Flow - % of Total Flow 0.000 Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 19.700 Cv (Summer) 0.750
Region England and Wales Ratio R 0.408 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 450.0 DVD Status ON
Analysis Timestep 2.5 Second Increment (Extended) Inertia Status ON
DTS Status OFF

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160
Return Period(s) (years) 1, 30, 100
Climate Change (%) 0, 0, 40

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	L	60 Winter	100	+40%	100/60 Winter				131.049	0.043	0.000	0.36		104.9	SURCHARGED	
1.001	L	60 Winter	100	+40%	100/15 Summer				131.043	0.261	0.000	0.72		187.5	SURCHARGED	
1.002	S	60 Winter	100	+40%					131.036	-0.078	0.000	0.04		174.6	OK	
2.000	L	60 Winter	100	+40%					130.932	-0.011	0.000	0.00		0.1	OK	
2.001	L	60 Winter	100	+40%	100/30 Winter				130.932	0.132	0.000	0.26		89.3	SURCHARGED	
2.002	L	60 Winter	100	+40%	100/15 Summer				130.928	0.305	0.000	0.66		178.8	SURCHARGED	
1.003	S	120 Winter	100	+40%					130.920	0.000	0.000	0.04		119.6	OK	
1.004	HW1	60 Winter	100	+40%	1/15 Summer				130.835	0.787	0.000	2.40		59.7	SURCHARGED*	
3.000	L	15 Winter	100	+40%	100/15 Summer				131.823	0.965	0.000	0.02		7.5	SURCHARGED	
3.001	L	15 Winter	100	+40%	100/15 Summer				131.827	1.153	0.000	0.58		167.3	SURCHARGED	
3.002	L	15 Winter	100	+40%	100/15 Summer				131.792	1.264	0.000	0.41		114.4	SURCHARGED	
3.003	L	15 Winter	100	+40%	30/30 Winter				131.753	1.380	0.000	1.10		222.9	FLOOD RISK	
1.005	5	15 Winter	100	+40%	1/15 Summer				131.692	1.741	0.000	2.37		129.7	FLOOD RISK	

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for S Net 1 Catch 1

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
4.000	1	15 Winter	100	+40%	100/15 Summer				130.482	0.282	0.000	0.90		33.5	SURCHARGED	
4.001	2	15 Winter	100	+40%	100/15 Summer				130.345	0.323	0.000	1.03		70.3	SURCHARGED	
4.002	3	15 Winter	100	+40%	100/15 Summer				130.099	0.298	0.000	1.38		91.9	SURCHARGED	
5.000	L	120 Winter	100	+40%					130.560	-0.300	0.000	0.00		0.0	OK	
5.001	L	120 Winter	100	+40%					130.310	-0.300	0.000	0.00		0.0	OK	
5.002	L	120 Winter	100	+40%					129.900	-0.300	0.000	0.00		0.0	OK	
4.003	4	15 Winter	100	+40%	30/15 Winter				129.815	0.151	0.000	0.67		103.1	SURCHARGED	
1.006	6	15 Winter	100	+40%	100/15 Summer				129.723	0.120	0.000	1.85		228.0	SURCHARGED	
1.007	HW2	15 Winter	100	+40%					129.407	-1.222	0.000	0.01		222.5	OK	
6.000	L	15 Winter	100	+40%	100/15 Summer				130.665	0.355	0.000	1.05		287.5	SURCHARGED	
6.001	L	15 Winter	100	+40%	100/15 Summer				130.508	0.328	0.000	1.73		549.8	SURCHARGED	
1.008	S	15 Winter	100	+40%					129.341	-1.188	0.000	0.03		732.2	OK	
7.000	L	15 Winter	100	+40%	30/15 Summer				130.606	0.633	0.000	3.16		612.9	SURCHARGED	
8.000	7	15 Winter	100	+40%	100/15 Summer				131.035	0.635	0.000	0.43		29.1	FLOOD RISK	
8.001	8	15 Winter	100	+40%	100/15 Summer				130.969	0.758	0.000	0.79		54.6	SURCHARGED	
8.002	9	15 Winter	100	+40%	100/15 Summer				130.811	0.912	0.000	0.90		57.8	SURCHARGED	
8.003	10	15 Winter	100	+40%	100/15 Summer				130.724	0.934	0.000	1.02		65.8	SURCHARGED	
8.004	11	15 Winter	100	+40%	30/15 Winter				130.611	0.932	0.000	1.16		75.2	SURCHARGED	
8.005	12	15 Winter	100	+40%	30/15 Winter				130.454	0.897	0.000	1.32		90.8	SURCHARGED	
9.000	13	15 Winter	100	+40%					130.251	-0.174	0.000	0.12		14.2	OK	
8.006	14	15 Winter	100	+40%	30/15 Summer				129.951	0.666	0.000	1.56		104.6	SURCHARGED	
7.001	15	15 Winter	100	+40%	30/15 Summer				129.522	0.414	0.000	3.33		689.9	SURCHARGED	
1.009	HW3	15 Winter	100	+40%					129.083	-0.881	0.000	0.08		1273.3	OK	
1.010	S	240 Winter	100	+40%					129.073	-0.862	0.000	0.02		373.0	OK	
10.000	L	15 Winter	100	+40%					129.770	-0.181	0.000	0.77		214.2	OK	
10.001	L	15 Winter	100	+40%					129.560	-0.249	0.000	0.63		432.7	OK	
1.011	S	240 Winter	100	+40%					129.062	-0.819	0.000	0.02		450.4	OK	
11.000	L	15 Winter	100	+40%	100/15 Summer				129.896	0.086	0.000	0.76		213.3	SURCHARGED	
11.001	L	15 Winter	100	+40%	100/15 Summer				129.831	0.131	0.000	0.80		212.9	SURCHARGED	
11.002	L	15 Winter	100	+40%	100/15 Summer				129.781	0.161	0.000	1.42		390.6	SURCHARGED	
1.012	S	240 Winter	100	+40%					129.043	-0.737	0.000	0.03		520.5	OK	
12.000	L	15 Winter	100	+40%	100/15 Summer				129.601	0.113	0.000	1.09		208.6	SURCHARGED	
12.001	L	15 Winter	100	+40%	100/15 Summer				129.529	0.155	0.000	1.08		216.6	SURCHARGED	
12.002	L	15 Winter	100	+40%	100/15 Summer				129.489	0.152	0.000	1.40		387.7	SURCHARGED	
1.013	S	240 Winter	100	+40%					129.015	-0.482	0.000	0.03		487.1	OK	
13.000	L	15 Winter	100	+40%					130.352	-0.181	0.000	0.63		167.2	OK	

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for S Net 1 Catch 1

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
13.001	L	15 Winter	100	+40%					130.246	-0.133	0.000	0.96		333.8	OK	
14.000	L	15 Winter	100	+40%	100/15 Summer				130.374	0.149	0.000	1.01		102.3	FLOOD RISK	
14.001	L	120 Winter	100	+40%	30/15 Summer				129.931	0.681	0.000	0.34		70.7	SURCHARGED	
13.002	S	120 Winter	100	+40%					129.925	-0.195	0.000	0.01		188.0	OK	
13.003	S	180 Winter	100	+40%					129.900	-0.143	0.000	0.00		65.6	OK	
15.000	L	15 Winter	100	+40%					130.320	-0.112	0.000	0.58		165.5	OK	
15.001	L	15 Winter	100	+40%					130.242	-0.010	0.000	1.00		290.7	OK	
16.000	L	15 Winter	100	+40%	100/15 Summer				130.629	0.067	0.000	1.23		346.3	SURCHARGED	
16.001	L	180 Winter	100	+40%	30/15 Summer				129.884	0.668	0.000	0.56		163.2	SURCHARGED	
13.004	S	180 Winter	100	+40%					129.881	-0.084	0.000	0.02		207.2	OK	
13.005	HW4	180 Winter	100	+40%	1/15 Summer				129.807	1.189	0.000	2.81		45.4	SURCHARGED*	
17.000	L	15 Winter	100	+40%					130.197	-0.219	0.000	0.01		1.4	OK	
17.001	L	15 Winter	100	+40%					130.197	-0.086	0.000	0.48		150.1	OK	
17.002	L	15 Winter	100	+40%	100/15 Summer				130.114	0.147	0.000	0.97		236.0	SURCHARGED	
13.006	16	15 Winter	100	+40%	1/15 Summer				130.172	1.627	0.000	3.95		114.7	FLOOD RISK	
18.000	17	15 Winter	100	+40%	100/15 Summer				131.104	1.534	0.000	1.26		86.4	SURCHARGED	
19.000	L	15 Winter	100	+40%					130.981	-0.069	0.000	0.88		66.4	OK	
19.001	L	15 Winter	100	+40%					130.569	-0.091	0.000	0.48		133.2	OK	
18.001	18	15 Winter	100	+40%	30/15 Winter				130.320	1.150	0.000	1.57		252.6	SURCHARGED	
20.000	L	15 Winter	100	+40%	100/15 Winter				130.460	0.080	0.000	0.88		85.5	SURCHARGED	
20.001	L	15 Winter	100	+40%	100/15 Summer				130.060	0.240	0.000	0.79		160.9	SURCHARGED	
18.002	19	15 Winter	100	+40%	30/15 Summer				129.623	0.708	0.000	2.05		418.4	SURCHARGED	
18.003	20	240 Winter	100	+40%	30/15 Summer				129.056	0.271	0.000	0.77		106.3	SURCHARGED	
13.007	21	240 Winter	100	+40%					129.055	-0.675	0.000	0.01		190.4	OK	
13.008	HW5	240 Winter	100	+40%					129.047	-0.633	0.000	0.01		179.1	OK	
21.000	L	15 Winter	100	+40%	100/15 Summer				129.475	0.136	0.000	0.83		219.4	SURCHARGED	
21.001	L	15 Winter	100	+40%	100/15 Summer				129.406	0.161	0.000	1.48		443.0	SURCHARGED	
13.009	S	240 Winter	100	+40%					129.014	-0.499	0.000	0.01		197.2	OK	
1.014	S	240 Winter	100	+40%					128.974	-0.225	0.000	0.03		459.9	FLOOD RISK	
1.015	S	180 Winter	100	+40%					128.938	-0.177	0.000	0.03		465.7	FLOOD RISK	
22.000	L	15 Winter	100	+40%	30/15 Summer				129.773	1.373	0.000	1.62		450.1	SURCHARGED	
22.001	L	15 Winter	100	+40%	30/15 Summer				129.358	1.101	0.000	2.83		823.1	SURCHARGED	
1.016	S	180 Winter	100	+40%					128.873	-0.139	0.000	0.03		555.5	FLOOD RISK*	
23.000	22	15 Winter	100	+40%					129.047	-0.053	0.000	0.93		47.2	OK	
23.001	23	180 Winter	100	+40%	30/15 Summer				128.788	0.621	0.000	0.08		22.2	SURCHARGED	
23.002	24	180 Winter	100	+40%	1/60 Winter				128.788	0.768	0.000	0.13		34.9	SURCHARGED	

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for S Net 1 Catch 1

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
23.003	25	180 Winter	100	+40%	1/15 Winter				128.788	0.878	0.000	0.17		34.6	SURCHARGED	
1.017	HW6	180 Winter	100	+40%					128.788	-0.092	0.000	0.02		507.6	FLOOD RISK*	
1.018	S	180 Winter	100	+40%					128.735	-0.085	0.000	0.02		452.6	FLOOD RISK*	
24.000	L	15 Winter	100	+40%	30/15 Summer				129.666	1.495	0.000	1.54		437.3	SURCHARGED	
24.001	L	15 Winter	100	+40%	1/60 Winter				129.168	1.178	0.000	2.71		793.0	FLOOD RISK	
1.019	HW4	180 Winter	100	+40%					128.637	-0.086	0.000	0.02		354.5	FLOOD RISK*	
1.020	HW9	120 Winter	100	+40%	1/15 Summer				128.575	1.114	0.000	4.42		273.3	FLOOD RISK	
1.021	27	2160 Winter	100	+40%	100/360 Summer				128.063	0.363	0.000	0.35		230.6	FLOOD RISK	
1.022	HW10	2160 Winter	100	+40%	100/600 Summer				127.889	0.239	0.000	0.14		230.1	SURCHARGED	
25.000	L	2160 Winter	100	+40%					127.885	-0.528	0.000	0.00		0.0	OK	
25.001	L	2160 Winter	100	+40%					127.885	-0.385	0.000	0.00		0.1	OK	
25.002	S	2160 Winter	100	+40%					127.885	-1.135	0.000	0.00		0.2	OK	
26.000	L	2160 Winter	100	+40%					127.885	-0.080	0.000	0.00		0.0	OK	
26.001	L	2160 Winter	100	+40%	100/1440 Winter				127.885	0.080	0.000	0.00		0.1	SURCHARGED	
25.003	S	2160 Winter	100	+40%					127.885	-0.664	0.000	0.00		1.0	OK	
25.004	HW7	2160 Winter	100	+40%	100/15 Winter				127.885	0.297	0.000	0.01		1.9	SURCHARGED*	
27.000	L	15 Winter	100	+40%	100/15 Winter				127.957	0.074	0.000	0.76		271.9	SURCHARGED	
27.001	L	2160 Winter	100	+40%	100/15 Summer				127.885	0.169	0.000	0.03		9.2	SURCHARGED	
27.002	L	2160 Winter	100	+40%	100/15 Summer				127.885	0.316	0.000	0.04		8.8	FLOOD RISK	
25.005	28	2160 Winter	100	+40%	100/15 Summer				127.885	0.358	0.000	0.02		8.5	SURCHARGED	
25.006	29	2160 Winter	100	+40%	100/15 Summer				127.885	0.517	0.000	0.02		8.1	FLOOD RISK	
28.000	30	30 Winter	100	+40%	100/15 Summer				129.707	0.940	0.000	0.06		11.3	SURCHARGED	
28.001	31	30 Winter	100	+40%	100/15 Summer				129.706	1.066	0.000	0.15		24.8	SURCHARGED	
28.002	32	30 Winter	100	+40%	100/15 Summer				129.703	1.139	0.000	0.16		75.0	SURCHARGED	
29.000	L	30 Winter	100	+40%	30/15 Summer				129.922	1.251	0.000	1.76		331.0	SURCHARGED	
28.003	33	30 Winter	100	+40%	100/15 Summer				129.697	1.251	0.000	0.70		343.8	SURCHARGED	
30.000	34	30 Winter	100	+40%	100/15 Summer				130.255	0.826	0.000	0.65		58.4	FLOOD RISK	
30.001	35	30 Winter	100	+40%	100/15 Summer				130.156	1.394	0.000	0.45		40.7	FLOOD RISK	
31.000	36	30 Winter	100	+40%	100/15 Summer				130.188	0.835	0.000	0.73		64.5	FLOOD RISK	
30.002	37	30 Winter	100	+40%	30/15 Summer				130.056	1.425	0.000	1.19		114.3	FLOOD RISK	
28.004	38	30 Winter	100	+40%	100/15 Summer				129.652	1.357	0.000	1.04		427.1	SURCHARGED	
28.005	39	30 Winter	100	+40%	100/15 Summer				129.607	1.363	0.000	0.86		463.3	SURCHARGED	
28.006	40	30 Winter	100	+40%	100/15 Summer				129.508	1.424	0.000	0.67		466.9	SURCHARGED	
32.000	L	30 Winter	100	+40%	100/15 Summer				130.306	1.566	0.000	0.33		286.5	FLOOD RISK	
32.001	L	30 Winter	100	+40%	100/15 Summer				130.155	1.715	0.000	0.66		304.2	FLOOD RISK	
32.002	L	30 Winter	100	+40%	100/15 Summer				130.120	1.760	0.000	1.29		438.8	FLOOD RISK	

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for S Net 1 Catch 1

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m^3)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
32.003	L	30 Winter	100	+40%	100/15 Summer				130.076	1.756	0.000	1.15		554.8	FLOOD RISK	
32.004	L	30 Winter	100	+40%	30/15 Winter				129.959	1.759	0.000	1.39		667.3	FLOOD RISK	
33.000	L	30 Winter	100	+40%	100/15 Summer	100/30 Winter			129.865	1.400	0.860	0.32		134.7	FLOOD	1
32.005	L	30 Winter	100	+40%	100/15 Summer	100/30 Winter			129.801	1.646	0.915	1.72		901.3	FLOOD	1
32.006	L	30 Winter	100	+40%	100/15 Summer				129.717	1.612	0.000	1.43		1006.8	FLOOD RISK	
28.007	41	30 Winter	100	+40%	100/15 Summer				129.469	1.465	0.000	1.92		1431.3	SURCHARGED	
34.000	L	30 Winter	100	+40%	100/15 Summer				129.087	0.837	0.000	0.01		6.1	FLOOD RISK	
34.001	L	30 Winter	100	+40%	100/15 Summer				129.087	1.071	0.000	0.12		68.0	SURCHARGED	
34.002	L	30 Winter	100	+40%	100/15 Summer				129.089	1.184	0.000	0.43		117.1	SURCHARGED	
28.008	42	30 Winter	100	+40%	100/15 Summer				129.091	1.213	0.000	1.92		1362.6	SURCHARGED	
28.009	43	30 Winter	100	+40%	100/15 Summer				128.735	0.948	0.000	1.84		1357.8	SURCHARGED	
35.000	S	30 Winter	100	+40%	30/15 Summer				128.413	0.673	0.000	2.19		219.4	FLOOD RISK	
35.001	S28	30 Winter	100	+40%	100/15 Summer				128.382	0.673	0.000	1.89		218.1	SURCHARGED	
28.010	44	30 Winter	100	+40%	100/15 Summer				128.349	0.679	0.000	1.51		1449.1	SURCHARGED	
25.007	45	30 Winter	100	+40%	100/15 Summer				127.933	0.368	0.000	1.49		1203.3	FLOOD RISK	
25.008	HW8	30 Winter	100	+40%					127.495	0.000	0.000	1.30		1202.8	SURCHARGED*	
1.023	HW11	2160 Winter	100	+40%	1/240 Winter				127.885	1.285	0.000	0.68		45.5	FLOOD RISK	
1.024	47	2160 Winter	100	+40%	1/120 Summer				127.887	1.418	0.000	0.65		37.8	FLOOD RISK	