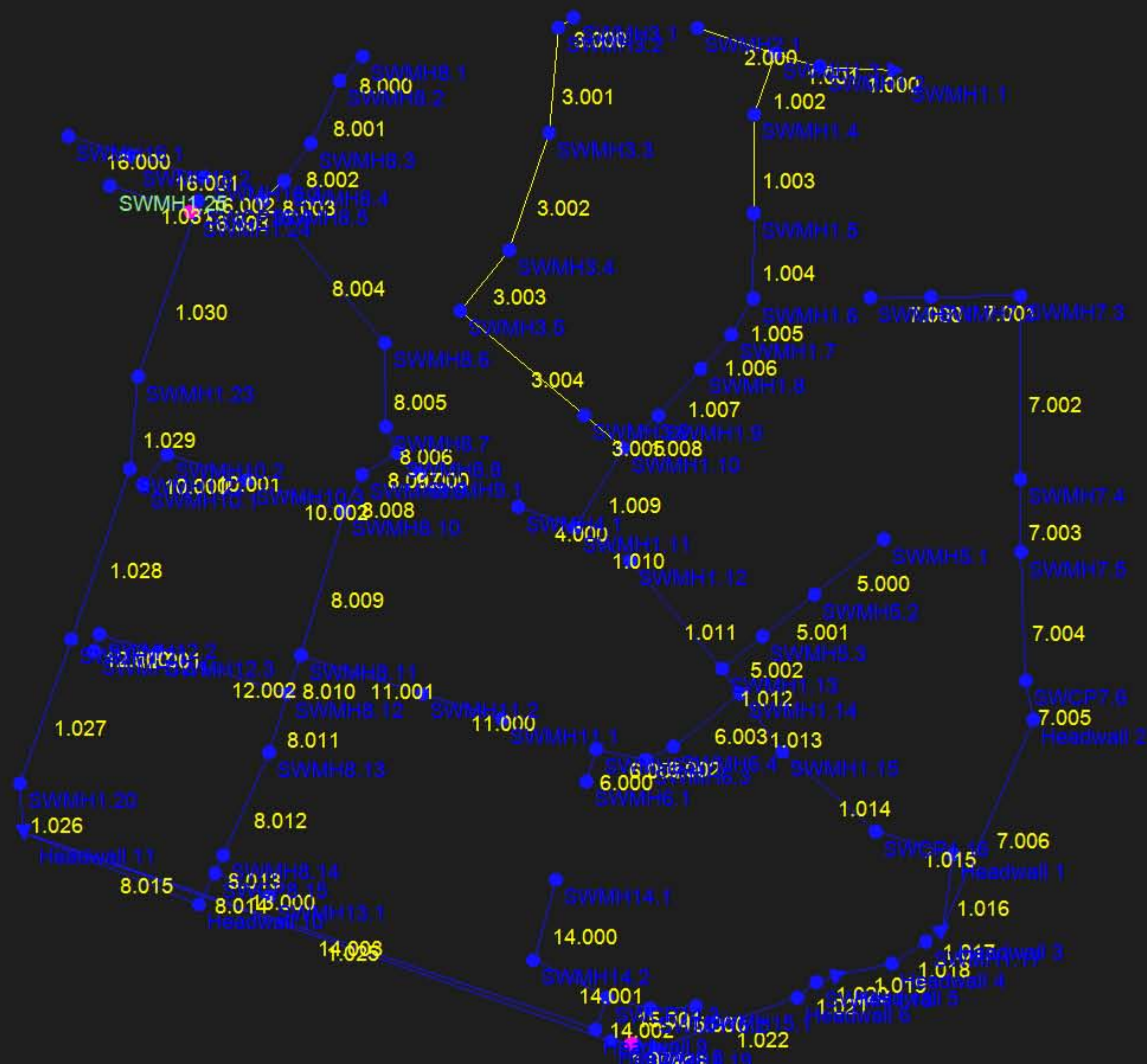




GTA Civils Ltd

Gloucester House

66a Church Walk

Burgess Hill, BN43 6LB

Date 14/04/2022

File 10768_NETWORK 1_REVB.MDX

XP Solutions

10768-Sefter Road

Simulation Network 1

Revision B

Designed by DT

Checked by MR

Network 2020.1.3

Page 0



STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Surface Network 1

Pipe Sizes STANDARD Manhole Sizes STANDARD

FEH Rainfall Model

Return Period (years)

2

Maximum Time of Concentration (mins)

30

Maximum Backdrop Height (m)

1.500

Foul Sewage (l/s/ha)

0.000

Min Design Depth for Optimisation (m)

1.200

FEH Rainfall Version

2013

Volumetric Runoff Coeff.

1.000

Min Vel for Auto Design only (m/s)

1.00

Site Location

GB 490175 99535 SZ 90175 99535

PIMP (%)

100

Min Slope for Optimisation (1:X)

500

Data Type

Point

Add Flow / Climate Change (%)

0

Maximum Rainfall (mm/hr)

50

Minimum Backdrop Height (m)

0.200

Designed with Level Soffits

Time Area Diagram for Surface Network 1

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.122	4-8	0.526	8-12	1.491	12-16	1.608	16-20	0.413

Total Area Contributing (ha) = 4.161

Total Pipe Volume (m³) = 911.924

Network Design Table for Surface Network 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)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.000	22.604	0.100	226.0	0.081	5.00	0.0	0.600	o	300	Pipe/Conduit	
1.001	13.797	0.060	230.0	0.031	0.00	0.0	0.600	o	300	Pipe/Conduit	
2.000	24.197	0.110	220.0	0.051	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)
1.000	50.00	5.36	6.420	0.081	0.0	0.0	0.0	1.04	73.6	14.6
1.001	50.00	5.58	6.320	0.112	0.0	0.0	0.0	1.03	73.0	20.2
2.000	50.00	5.38	6.370	0.051	0.0	0.0	0.0	1.06	74.6	9.1

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Network Design Table for Surface Network 1

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.002	19.031	0.085	223.9	0.015	0.00	0.0	0.600	o	300	Pipe/Conduit	
1.003	29.271	0.125	234.2	0.032	0.00	0.0	0.600	o	300	Pipe/Conduit	
1.004	25.240	0.115	219.5	0.133	0.00	0.0	0.600	o	300	Pipe/Conduit	
1.005	12.549	0.050	251.0	0.019	0.00	0.0	0.600	o	375	Pipe/Conduit	
1.006	13.582	0.050	271.6	0.061	0.00	0.0	0.600	o	375	Pipe/Conduit	
1.007	18.730	0.040	468.3	0.046	0.00	0.0	0.600	o	525	Pipe/Conduit	
1.008	14.188	0.030	472.9	0.078	0.00	0.0	0.600	o	525	Pipe/Conduit	
3.000	5.329	0.025	213.2	0.074	5.00	0.0	0.600	oo	300	Double Pipe	
3.001	31.286	0.140	223.5	0.026	0.00	0.0	0.600	oo	300	Double Pipe	
3.002	36.716	0.160	229.5	0.051	0.00	0.0	0.600	oo	300	Double Pipe	
3.003	23.147	0.075	308.6	0.148	0.00	0.0	0.600	oo	375	Double Pipe	
3.004	48.068	0.160	300.4	0.094	0.00	0.0	0.600	oo	375	Double Pipe	
3.005	15.078	0.050	301.6	0.124	0.00	0.0	0.600	oo	375	Double Pipe	
1.009	27.493	0.040	687.3	0.016	0.00	0.0	0.600	o	825	Pipe/Conduit	
4.000	18.021	0.085	212.0	0.081	5.00	0.0	0.600	o	300	Pipe/Conduit	
1.010	19.037	0.025	761.5	0.019	0.00	0.0	0.600	o	825	Pipe/Conduit	
1.011	41.994	0.055	763.5	0.047	0.00	0.0	0.600	o	825	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)
1.002	50.00	5.89	6.260	0.178	0.0	0.0	0.0	1.05	74.0	32.1
1.003	50.00	6.36	6.175	0.210	0.0	0.0	0.0	1.02	72.3	37.9
1.004	50.00	6.76	6.050	0.343	0.0	0.0	0.0	1.06	74.7	62.0
1.005	50.00	6.95	5.860	0.362	0.0	0.0	0.0	1.14	125.8	65.4
1.006	50.00	7.15	5.810	0.424	0.0	0.0	0.0	1.09	120.9	76.5
1.007	50.00	7.46	5.610	0.469	0.0	0.0	0.0	1.03	222.6	84.8
1.008	50.00	7.69	5.570	0.547	0.0	0.0	0.0	1.02	221.5	98.8
3.000	50.00	5.08	6.375	0.074	0.0	0.0	0.0	1.07	151.7	13.3
3.001	50.00	5.58	6.350	0.100	0.0	0.0	0.0	1.05	148.1	18.0
3.002	50.00	6.17	6.210	0.151	0.0	0.0	0.0	1.03	146.1	27.2
3.003	50.00	6.55	5.975	0.299	0.0	0.0	0.0	1.03	226.6	53.9
3.004	50.00	7.32	5.900	0.393	0.0	0.0	0.0	1.04	229.7	70.9
3.005	50.00	7.56	5.740	0.517	0.0	0.0	0.0	1.04	229.3	93.3
1.009	50.00	8.09	5.240	1.081	0.0	0.0	0.0	1.12	601.3	195.1
4.000	50.00	5.28	5.810	0.081	0.0	0.0	0.0	1.08	76.1	14.6
1.010	50.00	8.39	5.200	1.181	0.0	0.0	0.0	1.07	570.9	213.1
1.011	49.88	9.05	5.175	1.227	0.0	0.0	0.0	1.07	570.1	221.0

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)
5.000	50.00	5.42	5.470	0.102	0.0	0.0	0.0	1.05	298.2	18.5
5.001	50.00	5.70	5.420	0.149	0.0	0.0	0.0	1.16	326.6	26.8
5.002	50.00	5.94	5.375	0.196	0.0	0.0	0.0	1.07	302.7	35.5
1.012	49.57	9.16	5.120	1.472	0.0	0.0	0.0	1.39	741.6	263.5
6.000	50.00	5.16	5.820	0.043	0.0	0.0	0.0	1.04	73.7	7.8
6.001	50.00	5.36	5.700	0.043	0.0	0.0	0.0	1.28	141.0	7.8
6.002	50.00	5.50	5.550	0.060	0.0	0.0	0.0	1.06	168.7	10.8
6.003	50.00	5.89	5.375	0.118	0.0	0.0	0.0	1.08	304.3	21.4
1.013	48.68	9.48	5.100	1.590	0.0	0.0	0.0	1.11	591.0	279.5
1.014	47.22	10.03	5.070	1.727	0.0	0.0	0.0	1.09	584.1	294.4
1.015	46.27	10.42	5.020	1.727	0.0	0.0	0.0	1.04	558.0	294.4
1.016	44.43	11.21	4.990	1.727	0.0	0.0	0.0	0.46	293.3	294.4
7.000	50.00	5.28	5.610	0.097	0.0	0.0	0.0	1.07	302.0	17.5
7.001	50.00	5.68	5.575	0.214	0.0	0.0	0.0	1.10	311.6	38.6
7.002	50.00	6.55	5.520	0.271	0.0	0.0	0.0	1.04	293.5	48.9
7.003	50.00	6.88	5.420	0.330	0.0	0.0	0.0	1.10	312.4	59.5
7.004	50.00	7.49	5.375	0.347	0.0	0.0	0.0	1.04	292.7	62.6
7.005	50.00	7.65	5.080	0.500	0.0	0.0	0.0	1.22	651.2	90.4

Network Design Table for Surface Network 1												
PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section	Type	Auto Design
7.006	67.496	0.075	899.9	0.000	0.00	0.0	0.600	o	900	Pipe/Conduit		
1.017	6.376	0.010	637.6	0.000	0.00	0.0	0.600	o	900	Pipe/Conduit		
1.018	11.936	0.010	1193.6	0.000	0.00	0.0	0.600	o	900	Pipe/Conduit		
1.019	15.943	0.020	797.1	0.000	0.00	0.0	0.600	o	900	Pipe/Conduit		
1.020	7.207	0.015	480.5	0.000	0.00	0.0	0.600	o	900	Pipe/Conduit		
1.021	7.183	0.010	718.3	0.000	0.00	0.0	0.600	o	900	Pipe/Conduit		
1.022	44.051	0.050	881.0	0.000	0.00	0.0	0.600	o	900	Pipe/Conduit		
1.023	6.836	0.010	683.6	0.000	0.00	0.0	0.600	o	900	Pipe/Conduit		
1.024	7.118	0.020	355.9	0.000	0.00	0.0	0.600	o	900	Pipe/Conduit		
1.025	184.623	0.190	971.7	0.000	0.00	0.0	0.600	o	900	Pipe/Conduit		
8.000	9.974	0.025	399.0	0.071	5.00	0.0	0.600	o	450	Pipe/Conduit		
8.001	20.411	0.055	371.1	0.073	0.00	0.0	0.600	o	450	Pipe/Conduit		
8.002	13.745	0.035	392.7	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit		
8.003	8.450	0.025	338.0	0.050	0.00	0.0	0.600	o	450	Pipe/Conduit		
8.004	55.649	0.140	397.5	0.093	0.00	0.0	0.600	o	450	Pipe/Conduit		
8.005	24.842	0.035	709.8	0.074	0.00	0.0	0.600	o	750	Pipe/Conduit		
8.006	8.430	0.015	562.0	0.020	0.00	0.0	0.600	o	750	Pipe/Conduit		
9.000	8.883	0.120	74.0	0.067	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)		
7.006	50.00	8.74	5.060	0.500	0.0	0.0	0.0	1.04	659.2	90.4		
1.017	44.24	11.30	4.985	2.227	0.0	0.0	0.0	1.23	784.6	355.8		
1.018	43.76	11.52	4.975	2.227	0.0	0.0	0.0	0.90	571.4	355.8		
1.019	43.26	11.76	4.965	2.227	0.0	0.0	0.0	1.10	700.9	355.8		
1.020	43.09	11.85	4.945	2.227	0.0	0.0	0.0	1.42	905.1	355.8		
1.021	42.88	11.95	4.930	2.227	0.0	0.0	0.0	1.16	738.8	355.8		
1.022	41.51	12.65	4.920	2.227	0.0	0.0	0.0	1.05	666.3	355.8		
1.023	41.33	12.75	4.870	2.227	0.0	0.0	0.0	1.19	757.5	355.8		
1.024	41.20	12.82	4.860	2.227	0.0	0.0	0.0	1.66	1052.9	355.8		
1.025	36.31	15.91	4.840	2.227	0.0	0.0	0.0	1.00	634.1	355.8		
8.000	50.00	5.16	5.560	0.071	0.0	0.0	0.0	1.01	160.9	12.8		
8.001	50.00	5.49	5.535	0.144	0.0	0.0	0.0	1.05	166.9	25.9		
8.002	50.00	5.71	5.480	0.144	0.0	0.0	0.0	1.02	162.2	25.9		
8.003	50.00	5.84	5.445	0.193	0.0	0.0	0.0	1.10	175.0	34.9		
8.004	50.00	6.76	5.420	0.286	0.0	0.0	0.0	1.01	161.2	51.6		
8.005	50.00	7.15	4.980	0.360	0.0							

GTA Civils Ltd		Page 4
Gloucester House	10768-Sefter Road	
66a Church Walk	Simulation Network 1	
Burgess Hill, BN43 6LB	Revision B	
Date 14/04/2022	Designed by DT	
File 10768_NETWORK 1_REVB.MDX	Checked by MR	
XP Solutions	Network 2020.1.3	



Network Design Table for Surface Network 1

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow	k (l/s)	HYD SECT	DIA (mm)	Section Type	Auto Design
8.007	12.254	0.020	612.7	0.000	0.00	0.0	0.600	o	750	Pipe/Conduit	
8.008	11.965	0.020	598.3	0.025	0.00	0.0	0.600	o	750	Pipe/Conduit	
10.000	11.364	0.050	227.3	0.053	5.00	0.0	0.600	o	300	Pipe/Conduit	
10.001	24.994	0.050	499.9	0.115	0.00	0.0	0.600	o	600	Pipe/Conduit	
10.002	29.967	0.100	299.7	0.077	0.00	0.0	0.600	o	600	Pipe/Conduit	
8.009	44.684	0.060	744.7	0.039	0.00	0.0	0.600	o	750	Pipe/Conduit	
11.000	24.755	0.050	495.1	0.071	5.00	0.0	0.600	o	600	Pipe/Conduit	
11.001	37.821	0.090	420.2	0.208	0.00	0.0	0.600	o	600	Pipe/Conduit	
8.010	12.070	0.020	603.5	0.056	0.00	0.0	0.600	o	750	Pipe/Conduit	
12.000	5.289	0.030	176.3	0.097	5.00	0.0	0.600	o	300	Pipe/Conduit	
12.001	18.105	0.085	213.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
12.002	40.357	0.075	538.1	0.072	0.00	0.0	0.600	o	675	Pipe/Conduit	
8.011	18.207	0.030	606.9	0.002	0.00	0.0	0.600	o	750	Pipe/Conduit	
8.012	33.378	0.045	741.7	0.044	0.00	0.0	0.600	o	750	Pipe/Conduit	
8.013	5.866	0.010	586.6	0.073	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)
8.007	50.00	7.45	4.930	0.447	0.0	0.0	0.0	1.12	496.2	80.7
8.008	50.00	7.63	4.910	0.472	0.0	0.0	0.0	1.14	502.2	85.2
10.000	50.00	5.18	5.540	0.053	0.0	0.0	0.0	1.04	73.4	9.6
10.001	50.00	5.57	5.190	0.168	0.0	0.0	0.0	1.08	306.0	30.3
10.002	50.00	5.92	5.140	0.245	0.0	0.0	0.0	1.40	396.3	44.2
8.009	50.00	8.36	4.890	0.756	0.0	0.0	0.0	1.02	449.6	136.4
11.000	50.00	5.38	5.120	0.071	0.0	0.0	0.0	1.09	307.5	12.9
11.001	50.00	5.91	5.070	0.280	0.0	0.0	0.0	1.18	334.1	50.5
8.010	50.00	8.54	4.830	1.091	0.0	0.0	0.0	1.13	500.0	197.0
12.000	50.00	5.07	5.450	0.097	0.0	0.0	0.0	1.18	83.5	17.5
12.001	50.00	5.36	5.420	0.097	0.0	0.0	0.0	1.07	75.9	17.5
12.002	50.00	5.95	4.960	0.169	0.0	0.0	0.0	1.12	401.8	30.6
8.011	50.00	8.81	4.810	1.263	0.0	0.0	0.0	1.13	498.6	228.0
8.012	49.02	9.35	4.780	1.307	0.0	0.0	0.0	1.02	450.5	231.4
8.013	48.78	9.44	4.735	1.380	0.0	0.0	0.0	1.15	507.3	243.1

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)
13.000	50.00	5.27	5.260	0.107	0.0	0.0	0.0	1.09	77.3	19.4
8.014	48.34	9.60	4.725	1.487	0.0	0.0	0.0	1.05	465.8	259.6
8.015	46.01	10.52	4.710	1.487	0.0	0.0	0.0	1.02	646.6	259.6
14.000	50.00	5.38	4.960	0.039	0.0	0.0	0.0	1.09	307.2	7.0
14.001	50.00	5.75	4.910	0.126	0.0	0.0	0.0	1.10	309.7	22.8
15.000	50.00	5.22	5.280	0.081	0.0	0.0	0.0	1.04	73.6	14.6
15.001	50.00	5.43	5.220	0.124	0.0	0.0	0.0	1.05	74.3	22.5
14.002	50.00	5.91	4.860	0.279	0.0	0.0	0.0	1.08	304.2	50.4
14.003	50.00	8.86	4.840	0.279	0.0	0.0	0.0	1.01	643.8	50.4
1.026	35.98	16.15	4.650	3.993	0.0	0.0	0.0	1.00	633.7	518.8
1.027	34.98	16.92	4.635	3.993	0.0	0.0	0.0	0.98	622.6	518.8
1.028	33.91	17.82	4.590	3.993	0.0	0.0	0.0	1.00	634.4	518.8
1.029	33.35	18.30	4.535	3.993	0.0	0.0	0.0	0.94	596.0	518.8
1.030	32.40	19.18	4.510	3.993	0.0	0.0	0.0	0.97	616.9	518.8
16.000	50.00	5.28	5.430	0.030	0.0	0.0	0.0	1.06	42.2	5.3
16.001	50.00	5.67	5.310	0.149	0.0	0.0	0.0	1.03	41.0	26.9

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
16.002	7.419	0.050	148.4	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
16.003	3.679	0.025	147.1	0.018	0.00	0.0	0.600	o	225	Pipe/Conduit	
1.031	26.274	0.110	238.9	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	E I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
16.002	50.00	5.79	5.160	0.149	0.0	0.0	0.0	1.07	42.6	26.9
16.003	50.00	5.85	5.110	0.168	0.0	0.0	0.0	1.08	42.8	30.2
1.031	31.95	19.62	4.460	4.161	0.0	0.0	0.0	1.01	71.6	518.8

Manhole Schedules for Surface Network 1											
MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
SWMH1.1	7.729	1.309	Open Manhole	1350	1.000	6.420	300				
SWMH1.2	7.631	1.311	Open Manhole	1350	1.001	6.320	300	1.000	6.320	300	
SWMH2.1	7.675	1.305	Open Manhole	1350	2.000	6.370	300				
SWMH1.3	7.485	1.225	Open Manhole	1350	1.002	6.260	300	1.001	6.260	300	
								2.000	6.260	300	
SWMH1.4	7.637	1.462	Open Manhole	1350	1.003	6.175	300	1.002	6.175	300	
SWMH1.5	7.364	1.314	Open Manhole	1350	1.004	6.050	300	1.003	6.050	300	
SWMH1.6	7.404	1.544	Open Manhole	1350	1.005	5.860	375	1.004	5.935	300	
SWMH1.7	7.544	1.734	Open Manhole	1350	1.006	5.810	375	1.005	5.810	375	
SWMH1.8	7.400	1.790	Open Manhole	1500	1.007	5.610	525	1.006	5.760	375	
SWMH1.9	7.211	1.641	Open Manhole	1500	1.008	5.570	525	1.007	5.570	525	
SWMH3.1	7.608	1.233	Open Manhole	1350	3.000	6.375	300				
SWMH3.2	7.621	1.271	Open Manhole	1350	3.001	6.350	300	3.000	6.350	300	
SWMH3.3	7.577	1.367	Open Manhole	1350	3.002	6.210	300	3.001	6.210	300	
SWMH3.4	7.403	1.428	Open Manhole	1500	3.003	5.975	375	3.002	6.050	300	
SWMH3.5	7.246	1.346	Open Manhole	1500	3.004	5.900	375	3.003	5.900	375	
SWMH3.6	7.109	1.369	Open Manhole	1500	3.005	5.740	375	3.004	5.740	375	
SWMH1.10	7.079	1.839	Open Manhole	1800	1.009	5.240	825	1.008	5.540	525	
								3.005	5.690	375	
SWMH4.1	7.086	1.276	Open Manhole	1350	4.000	5.810	300				
SWMH1.11	7.152	1.952	Open Manhole	1800	1.010	5.200	825	1.009	5.200	825	
								4.000	5.725	300	
SWMH1.12	7.270	2.095	Open Manhole	1800	1.011	5.175	825	1.010	5.175	825	
SWMH5.1	7.167	1.697	Open Manhole	1500	5.000	5.470	600				
SWMH5.2	6.987	1.567	Open Manhole	1500	5.001	5.420	600	5.000	5.420	600	
SWMH5.3	7.256	1.881	Open Manhole	1500	5.002	5.375	600	5.001	5.375	600	
SWMH1.13	7.168	2.048	Open Manhole	1800	1.012	5.120	825	1.011	5.120	825	
								5.002	5.345	600	
SWMH6.1	7.318	1.498	Open Manhole	1350	6.000	5.820	300				
SWMH6.2	7.335	1.635	Open Manhole	1350	6.001	5.700	375	6.000	5.775	300	
SWMH6.3	7.299	1.749	Open Manhole	1350	6.002	5.550	450	6.001	5.625	375	
SWMH6.4	7.236	1.861	Open Manhole	1500	6.003	5.375	600	6.002	5.525	450	
SWMH1.14	7.077	1.977	Open Manhole	1800	1.013	5.100	825	1.012	5.100	825	
								6.003	5.325	600	
SWMH1.15	6.863	1.793	Open Manhole	1800	1.014	5.070	825	1.013	5.070	825	
SWCP1.16	6.635	1.615	Open Manhole	1800	1.015	5.020	825	1.014	5.020	825	
Headwall 1	6.400	1.410	Open Manhole	1800	1.016	4.990	900	1.015	4.990	825	

10768-Sefter Road
Simulation Network 1
Revision B



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Network 2020.1.3

Manhole Schedules for Surface Network 1

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	Pipe Out			Pipes In			Backdrop (mm)
					PN	Invert Level (m)	Diameter (mm)	PN	Invert Level (m)	Diameter (mm)	
SWMH7.1	7.223	1.613	Open Manhole	1500	7.000	5.610	600				
SWMH7.2	7.310	1.735	Open Manhole	1500	7.001	5.575	600	7.000	5.575	600	
SWMH7.3	7.230	1.710	Open Manhole	1500	7.002	5.520	600	7.001	5.520	600	
SWMH7.4	7.117	1.697	Open Manhole	1500	7.003	5.420	600	7.002	5.420	600	
SWMH7.5	6.900	1.525	Open Manhole	1500	7.004	5.375	600	7.003	5.375	600	
SWCP7.6	6.500	1.420	Open Manhole	1800	7.005	5.080	825	7.004	5.305	600	
Headwall 2	6.400	1.340	Open Manhole	1800	7.006	5.060	900	7.005	5.060	825	
Headwall 3	6.400	1.415	Open Manhole	1800	1.017	4.985	900	1.016	4.985	900	
								7.006	4.985	900	
SWMH1.17	6.400	1.425	Open Manhole	1800	1.018	4.975	900	1.017	4.975	900	
Headwall 4	6.400	1.435	Open Manhole	1800	1.019	4.965	900	1.018	4.965	900	
Headwall 5	6.400	1.455	Open Manhole	1800	1.020	4.945	900	1.019	4.945	900	
SWMH1.18	6.400	1.470	Open Manhole	1800	1.021	4.930	900	1.020	4.930	900	
Headwall 6	6.400	1.480	Open Manhole	1800	1.022	4.920	900	1.021	4.920	900	
Headwall 7	6.400	1.530	Open Manhole	1800	1.023	4.870	900	1.022	4.870	900	
SWMH1.19	6.450	1.590	Open Manhole	2100	1.024	4.860	900	1.023	4.860	900	
Headwall 8	6.200	1.360	Open Manhole	1800	1.025	4.840	900	1.024	4.840	900	
SWMH8.1	7.343	1.783	Open Manhole	1350	8.000	5.560	450				
SWMH8.2	7.235	1.700	Open Manhole	1350	8.001	5.535	450	8.000	5.535	450	
SWMH8.3	7.030	1.550	Open Manhole	1350	8.002	5.480	450	8.001	5.480	450	
SWMH8.4	7.031	1.586	Open Manhole	1350	8.003	5.445	450	8.002	5.445	450	
SWMH8.5	7.089	1.669	Open Manhole	1350	8.004	5.420	450	8.003	5.420	450	
SWMH8.6	7.641	2.661	Open Manhole	1800	8.005	4.980	750	8.004	5.280	450	
SWMH8.7	7.512	2.567	Open Manhole	1800	8.006	4.945	750	8.005	4.945	750	
SWMH9.1	7.319	1.819	Open Manhole	1200	9.000	5.500	300				
SWMH8.8	7.412	2.482	Open Manhole	1800	8.007	4.930	750	8.006	4.930	750	
								9.000	5.380	300	
SWMH8.9	7.251	2.341	Open Manhole	1800	8.008	4.910	750	8.007	4.910	750	
SWMH10.1	6.774	1.234	Open Manhole	1350	10.000	5.540	300				
SWMH10.2	6.797	1.607	Open Manhole	1500	10.001	5.190	600	10.000	5.490	300	
SWMH10.3	6.818	1.678	Open Manhole	1500	10.002	5.140	600	10.001	5.140	600	
SWMH8.10	7.025	2.135	Open Manhole	1800	8.009	4.890	750	8.008	4.890	750	
								10.002	5.040	600	
SWMH11.1	7.098	1.978	Open Manhole	1500	11.000	5.120	600				
SWMH11.2	6.848	1.778	Open Manhole	1500	11.001	5.070	600	11.000	5.070	600	
SWMH8.11	6.648	1.818	Open Manhole	1800	8.010	4.830	750	8.009	4.830	750	
								11.001	4.980	600	

GTA Civils Ltd		Page 9
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	10768-Sefter Road Simulation Network 1 Revision B	
Date 14/04/2022 File 10768_NETWORK 1_REVB.MDX	Designed by DT Checked by MR	

Manhole Schedules for Surface Network 1

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
SWMH12.1	7.089	1.639	Open Manhole	1350	12.000	5.450	300				
SWMH12.2	7.142	1.722	Open Manhole	1350	12.001	5.420	300	12.000	5.420	300	
SWMH12.3	6.925	1.965	Open Manhole	1500	12.002	4.960	675	12.001	5.335	300	
SWMH8.12	6.679	1.869	Open Manhole	1800	8.011	4.810	750	8.010	4.810	750	
								12.002	4.885	675	
SWMH8.13	6.730	1.950	Open Manhole	1800	8.012	4.780	750	8.011	4.780	750	
SWMH8.14	6.407	1.672	Open Manhole	1800	8.013	4.735	750	8.012	4.735	750	
SWMH13.1	6.533	1.273	Open Manhole	1350	13.000	5.260	300				
SWCP8.15	6.424	1.699	Open Manhole	1800	8.014	4.725	750	8.013	4.725	750	
								13.000	5.175	300	
Headwall 10	6.100	1.390	Open Manhole	1800	8.015	4.710	900	8.014	4.710	750	
SWMH14.1	7.276	2.316	Open Manhole	1500	14.000	4.960	600				
SWMH14.2	7.076	2.166	Open Manhole	1500	14.001	4.910	600	14.000	4.910	600	
SWMH15.1	6.568	1.288	Open Manhole	1350	15.000	5.280	300				
SWMH15.2	6.695	1.475	Open Manhole	1350	15.001	5.220	300	15.000	5.220	300	
SWCP14.3	6.831	1.971	Open Manhole	1800	14.002	4.860	600	14.001	4.860	600	
								15.001	5.160	300	
Headwall 9	6.100	1.260	Open Manhole	1800	14.003	4.840	900	14.002	4.840	600	
Headwall 11	6.200	1.550	Open Manhole	1800	1.026	4.650	900	1.025	4.650	900	
								8.015	4.650	900	
								14.003	4.650	900	
SWMH1.20	6.112	1.477	Open Manhole	1800	1.027	4.635	900	1.026	4.635	900	
SWMH1.21	6.953	2.363	Open Manhole	1800	1.028	4.590	900	1.027	4.590	900	
SWMH1.22	6.572	2.037	Open Manhole	1800	1.029	4.535	900	1.028	4.535	900	
SWMH1.23	6.778	2.268	Open Manhole	1800	1.030	4.510	900	1.029	4.510	900	
SWMH16.1	6.683	1.253	Open Manhole	1350	16.000	5.430	225				
SWMH16.2	6.703	1.393	Open Manhole	1350	16.001	5.310	225	16.000	5.310	225	
SWMH16.3	6.956	1.796	Open Manhole	1200	16.002	5.160	225	16.001	5.160	225	
SWCP16.4	7.000	1.890	Open Manhole	1200	16.003	5.110	225	16.002	5.110	225	
SWMH1.24	6.850	2.390	Open Manhole	2400	1.031	4.460	300	1.030	4.460	900	
								16.003	5.085	225	550
SWMH1.25	6.700	2.350	Open Manhole	1500		OUTFALL		1.031	4.350	300	

10768-Sefter Road
Simulation Network 1
Revision B



Designed by DT
Checked by MR

Network 2020.1.3

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SWMH1.1	490290.541	99688.787	490290.541	99688.787	Required	
SWMH1.2	490267.968	99689.967	490267.968	99689.967	Required	
SWMH2.1	490231.729	99701.358	490231.729	99701.358	Required	
SWMH1.3	490254.701	99693.756	490254.701	99693.756	Required	
SWMH1.4	490248.538	99675.750	490248.538	99675.750	Required	
SWMH1.5	490248.394	99646.479	490248.394	99646.479	Required	
SWMH1.6	490248.271	99621.239	490248.271	99621.239	Required	
SWMH1.7	490241.749	99610.518	490241.749	99610.518	Required	
SWMH1.8	490232.667	99600.418	490232.667	99600.418	Required	
SWMH1.9	490220.143	99586.491	490220.143	99586.491	Required	
SWMH3.1	490194.925	99704.472	490194.925	99704.472	Required	
SWMH3.2	490190.516	99701.478	490190.516	99701.478	Required	
SWMH3.3	490187.759	99670.314	490187.759	99670.314	Required	
SWMH3.4	490175.993	99635.534	490175.993	99635.534	Required	
SWMH3.5	490161.447	99617.529	490161.447	99617.529	Required	
SWMH3.6	490198.208	99586.559	490198.208	99586.559	Required	

	MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
	SWMH1.10	490209.739	99576.844	490209.739	99576.844	Required	
	SWMH4.1	490178.570	99559.438	490178.570	99559.438	Required	
	SWMH1.11	490195.519	99553.314	490195.519	99553.314	Required	
	SWMH1.12	490211.813	99543.468	490211.813	99543.468	Required	
	SWMH5.1	490286.935	99549.911	490286.935	99549.911	Required	
	SWMH5.2	490266.409	99533.459	490266.409	99533.459	Required	
	SWMH5.3	490250.985	99521.082	490250.985	99521.082	Required	
	SWMH1.13	490239.036	99511.493	490239.036	99511.493	Required	
	SWMH6.1	490198.793	99478.035	490198.793	99478.035	Required	
	SWMH6.2	490201.719	99487.748	490201.719	99487.748	Required	
	SWMH6.3	490216.391	99484.548	490216.391	99484.548	Required	
	SWMH6.4	490224.590	99488.453	490224.590	99488.453	Required	
	SWMH1.14	490244.386	99504.164	490244.386	99504.164	Required	
	SWMH1.15	490256.913	99486.897	490256.913	99486.897	Required	
	SWCP1.16	490284.559	99463.227	490284.559	99463.227	Required	
	Headwall 1	490307.461	99456.400	490307.461	99456.400	Required	

Manhole Schedules for Surface Network 1						
MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SWMH7.1	490282.937	99621.483	490282.937	99621.483	Required	
SWMH7.2	490300.896	99621.683	490300.896	99621.683	Required	
SWMH7.3	490327.431	99621.993	490327.431	99621.993	Required	
SWMH7.4	490327.442	99567.715	490327.442	99567.715	Required	
SWMH7.5	490327.627	99546.124	490327.627	99546.124	Required	
SWCP7.6	490329.052	99507.946	490329.052	99507.946	Required	
Headwall 2	490331.290	99496.421	490331.290	99496.421	Required	
Headwall 3	490304.472	99434.481	490304.472	99434.481	Required	
SWMH1.17	490299.390	99430.631	490299.390	99430.631	Required	
Headwall 4	490289.357	99424.165	490289.357	99424.165	Required	
Headwall 5	490273.723	99421.043	490273.723	99421.043	Required	
SWMH1.18	490266.942	99418.602	490266.942	99418.602	Required	
Headwall 6	490261.360	99414.081	490261.360	99414.081	Required	
Headwall 7	490219.894	99399.213	490219.894	99399.213	Required	
SWMH1.19	490213.140	99400.265	490213.140	99400.265	Required	
Headwall 8	490206.090	99401.242	490206.090	99401.242	Required	

10768-Sefter Road
Simulation Network 1
Revision B

Designed by DT
Checked by MR

Network 2020.1.3



MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SWMH8.1	490132.564	99692.967	490132.564	99692.967	Required	
SWMH8.2	490125.665	99685.764	490125.665	99685.764	Required	
SWMH8.3	490117.180	99667.201	490117.180	99667.201	Required	
SWMH8.4	490109.260	99655.967	490109.260	99655.967	Required	
SWMH8.5	490102.958	99650.338	490102.958	99650.338	Required	
SWMH8.6	490139.123	99608.042	490139.123	99608.042	Required	
SWMH8.7	490139.402	99583.202	490139.402	99583.202	Required	
SWMH9.1	490149.232	99569.394	490149.232	99569.394	Required	
SWMH8.8	490142.746	99575.464	490142.746	99575.464	Required	
SWMH8.9	490132.311	99569.040	490132.311	99569.040	Required	
SWMH10.1	490067.381	99566.232	490067.381	99566.232	Required	
SWMH10.2	490074.598	99575.011	490074.598	99575.011	Required	
SWMH10.3	490098.414	99567.427	490098.414	99567.427	Required	
SWMH8.10	490126.968	99558.334	490126.968	99558.334	Required	
SWMH11.1	490173.864	99496.580	490173.864	99496.580	Required	
SWMH11.2	490150.268	99504.067	490150.268	99504.067	Required	

10768-Sefter Road
Simulation Network 1
Revision B



Designed by D
Checked by MR

Network 2020.1.3

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SWMH8.11	490114.219	99515.506	490114.219	99515.506	Required	
SWMH12.1	490052.883	99516.724	490052.883	99516.724	Required	
SWMH12.2	490054.455	99521.774	490054.455	99521.774	Required	
SWMH12.3	490071.742	99516.394	490071.742	99516.394	Required	
SWMH8.12	490110.191	99504.129	490110.191	99504.129	Required	
SWMH8.13	490104.780	99486.744	490104.780	99486.744	Required	
SWMH8.14	490091.170	99456.267	490091.170	99456.267	Required	
SWMH13.1	490104.805	99443.979	490104.805	99443.979	Required	
SWCP8.15	490088.778	99450.911	490088.778	99450.911	Required	
Headwall 10	490083.987	99441.665	490083.987	99441.665	Required	
SWMH14.1	490189.807	99448.987	490189.807	99448.987	Required	
SWMH14.2	490183.071	99425.110	490183.071	99425.110	Required	
SWMH15.1	490231.312	99411.515	490231.312	99411.515	Required	
SWMH15.2	490217.776	99410.812	490217.776	99410.812	Required	
SWCP14.3	490204.872	99414.129	490204.872	99414.129	Required	
Headwall 9	490201.484	99404.593	490201.484	99404.593	Required	

GTA Civils Ltd		Page 15
Gloucester House	10768-Sefter Road	
66a Church Walk	Simulation Network 1	
Burgess Hill, BN43 6LB	Revision B	
Date 14/04/2022	Designed by DT	
File 10768_NETWORK 1_REVB.MDX	Checked by MR	
XP Solutions	Network 2020.1.3	

Manhole Schedules for Surface Network 1

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
Headwall 11	490032.089	99462.961	490032.089	99462.961	Required	
SWMH1.20	490030.950	99477.513	490030.950	99477.513	Required	
SWMH1.21	490046.153	99520.224	490046.153	99520.224	Required	
SWMH1.22	490063.537	99570.705	490063.537	99570.705	Required	
SWMH1.23	490066.029	99598.047	490066.029	99598.047	Required	
SWMH16.1	490045.324	99669.278	490045.324	99669.278	Required	
SWMH16.2	490062.636	99663.887	490062.636	99663.887	Required	
SWMH16.3	490085.714	99657.239	490085.714	99657.239	Required	
SWCP16.4	490083.663	99650.109	490083.663	99650.109	Required	
SWMH1.24	490082.647	99646.573	490082.647	99646.573	Required	
SWMH1.25	490057.623	99654.584			No Entry	

Free Flowing Outfall Details for Surface Network 1

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
1.031	SWMH1.25	6.700	4.350	0.000	1500	0

GTA Civils Ltd		Page 16
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	10768-Sefter Road	
	Simulation Network 1	
Date 14/04/2022	Revision B	
File 10768_NETWORK 1_REVB.MDX	Designed by DT	
	Checked by MR	
XP Solutions	Network 2020.1.3	
Simulation Criteria for Surface Network 1 Volumetric Runoff Coeff 1.000Hot Start Level (mm) 0Additional Flow - % of Total Flow 0.000Flow per Person per Day (l/per/day) 0.000 Areal Reduction Factor 1.000Manhole Headloss Coeff (Global) 0.500MADD Factor * 10m³/ha Storage 2.000Run Time (mins) 60 Hot Start (mins) 0Foul Sewage per hectare (l/s) 0.000Inlet Coeffiecient 0.800Output Interval (mins) 1 Number of Input Hydrographs 0Number of Online Controls 2Number of Offline Controls 0Number of Storage Structures 6Number of Time/Area Diagrams 0Number of Real Time Controls 0 Synthetic Rainfall Details Rainfall Model FEHSite Location GB 490175 99535 SZ 90175 99535Winter Storms YesStorm Duration (mins) 30 Return Period (years) 2Data TypePointCv (Summer) 1.000 FEH Rainfall Version 2013Summer StormsYesCv (Winter) 0.840		
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GTA Civils Ltd		Page 18																																																																																																																																																																																																																																
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Storage Structures for Surface Network 1 Porous Car Park Manhole: SWMH1.1, DS/PN: 1.000 Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0 Width (m) 4.8 Depression Storage (mm) 5 Membrane Percolation (mm/hr) 1000 Porosity 0.30 Length (m) 63.0 Evaporation (mm/day) 3 Max Percolation (l/s) 84.0 Invert Level (m) 6.755 Slope (1:X) 0.0 Cap Volume Depth (m) 0.450 Tank or Pond Manhole: Headwall 3, DS/PN: 1.017 Invert Level (m) 4.985 <table><tr><td>Depth (m)</td><td>Area (m²)</td><td>Depth (m)</td><td>Area (m²)</td><td>Depth (m)</td><td>Area (m²)</td><td>Depth (m)</td><td>Area (m²)</td><td>Depth (m)</td><td>Area (m²)</td><td>Depth (m)</td><td>Area (m²)</td><td>Depth (m)</td><td>Area (m²)</td><td>Depth (m)</td><td>Area (m²)</td></tr><tr><td>0.000</td><td>569.8</td><td>0.201</td><td>656.7</td><td>0.401</td><td>745.9</td><td>0.601</td><td>837.3</td><td>0.801</td><td>931.0</td><td>1.001</td><td>1026.9</td><td>1.201</td><td>1125.2</td><td>1.401</td><td>1225.6</td></tr><tr><td>0.101</td><td>613.0</td><td>0.301</td><td>701.0</td><td>0.501</td><td>791.3</td><td>0.701</td><td>883.9</td><td>0.901</td><td>978.7</td><td>1.101</td><td>1075.8</td><td>1.301</td><td>1175.1</td><td>1.415</td><td>1232.8</td></tr></table> Tank or Pond Manhole: Headwall 5, DS/PN: 1.020 Invert Level (m) 4.945 <table><tr><td>Depth (m)</td><td>Area (m²)</td><td>Depth (m)</td><td>Area (m²)</td><td>Depth (m)</td><td>Area (m²)</td><td>Depth (m)</td><td>Area (m²)</td><td>Depth (m)</td><td>Area (m²)</td><td>Depth (m)</td><td>Area (m²)</td><td>Depth (m)</td><td>Area (m²)</td><td>Depth (m)</td><td>Area 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(m²)</td></tr><tr><td>0.000</td><td>271.0</td><td>0.101</td><td>301.5</td><td>0.301</td><td>364.1</td><td>0.501</td><td>429.1</td><td>0.701</td><td>496.2</td><td>0.901</td><td>565.7</td><td>1.101</td><td>637.4</td><td>1.301</td><td>711.3</td></tr><tr><td>0.001</td><td>271.0</td><td>0.201</td><td>332.5</td><td>0.401</td><td>396.3</td><td>0.601</td><td>462.4</td><td>0.801</td><td>530.7</td><td>1.001</td><td>601.2</td><td>1.201</td><td>674.1</td><td>1.401</td><td>749.2</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>1.530</td><td>798.8</td></tr></table> Tank or Pond Manhole: Headwall 11, DS/PN: 1.026 Invert Level (m) 4.650 <table><tr><td>Depth (m)</td><td>Area (m²)</td><td>Depth (m)</td><td>Area (m²)</td><td>Depth (m)</td><td>Area (m²)</td><td>Depth (m)</td><td>Area (m²)</td><td>Depth (m)</td><td>Area (m²)</td><td>Depth (m)</td><td>Area (m²)</td><td>Depth (m)</td><td>Area (m²)</td><td>Depth (m)</td><td>Area (m²)</td></tr><tr><td>0.000</td><td>756.6</td><td>0.201</td><td>984.6</td><td>0.401</td><td>1215.1</td><td>0.601</td><td>1448.1</td><td>0.801</td><td>1683.6</td><td>1.001</td><td>1921.6</td><td>1.201</td><td>2162.2</td><td>1.401</td><td>2405.2</td></tr><tr><td>0.101</td><td>870.3</td><td>0.301</td><td>1099.6</td><td>0.501</td><td>1331.3</td><td>0.701</td><td>1565.5</td><td>0.901</td><td>1802.3</td><td>1.101</td><td>2041.6</td><td>1.301</td><td>2283.4</td><td>1.501</td><td>2527.7</td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>1.550</td><td>2587.9</td></tr></table> Porous Car Park Manhole: SWMH16.2, DS/PN: 16.001 Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0 Width (m) 4.8 Depression Storage (mm) 5 Membrane Percolation (mm/hr) 1000 Porosity 0.30 Length (m) 93.0 Evaporation (mm/day) 3 Max Percolation (l/s) 124.0 Invert Level (m) 5.900 Slope (1:X) 0.0 Cap Volume Depth (m) 0.375 ©1982-2020 Innovyze			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)	Depth (m)	Area (m²)	0.000	569.8	0.201	656.7	0.401	745.9	0.601	837.3	0.801	931.0	1.001	1026.9	1.201	1125.2	1.401	1225.6	0.101	613.0	0.301	701.0	0.501	791.3	0.701	883.9	0.901	978.7	1.101	1075.8	1.301	1175.1	1.415	1232.8	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)	Depth (m)	Area (m²)	0.000	311.2	0.201	353.5	0.401	398.0	0.601	444.8	0.801	493.9	1.001	545.3	1.201	598.9	1.401	654.8	0.101	332.0	0.301	375.5	0.501	421.1	0.701	469.1	0.901	519.3	1.101	571.8	1.301	626.6	1.455	670.3	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)	Depth (m)	Area (m²)	0.000	271.0	0.101	301.5	0.301	364.1	0.501	429.1	0.701	496.2	0.901	565.7	1.101	637.4	1.301	711.3	0.001	271.0	0.201	332.5	0.401	396.3	0.601	462.4	0.801	530.7	1.001	601.2	1.201	674.1	1.401	749.2															1.530	798.8	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)	Depth (m)	Area (m²)	0.000	756.6	0.201	984.6	0.401	1215.1	0.601	1448.1	0.801	1683.6	1.001	1921.6	1.201	2162.2	1.401	2405.2	0.101	870.3	0.301	1099.6	0.501	1331.3	0.701	1565.5	0.901	1802.3	1.101	2041.6	1.301	2283.4	1.501	2527.7															1.550	2587.9
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Summary of Critical Results by Maximum Level (Rank 1) for Surface Network 1

Simulation Criteria

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

Number of Input Hydrographs 0 Number of Online Controls 2 Number of Offline Controls 0 Number of Storage Structures 6 Number of Time/Area Diagrams 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FEH Site Location	GB 490175 99535 SZ 90175 99535	Cv (Summer)	1.000
FEH Rainfall Version 2013	Data Type		Point Cv (Winter)	1.000

Margin for Flood Risk Warning (mm)	300.0	DTS Status	OFF	Inertia Status	ON
Analysis Timestep 2.5 Second Increment (Extended)		DVD Status	ON		

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years)	10
Climate Change (%)	0

										Water	Surcharged	Flooded	Half Drain		Pipe			
	PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	Status	Level Exceeded
	1.000	SWMH1.1	15	Summer	10	+0%	10/15	Summer		6.757	0.037	0.000	0.40		3	26.2	SURCHARGED	
	1.001	SWMH1.2	15	Summer	10	+0%	10/15	Summer		6.714	0.094	0.000	0.52			31.5	SURCHARGED	
	2.000	SWMH2.1	15	Summer	10	+0%				6.669	-0.001	0.000	0.23			15.0	OK	
	1.002	SWMH1.3	15	Summer	10	+0%	10/15	Summer		6.624	0.064	0.000	0.72			46.2	SURCHARGED	
	1.003	SWMH1.4	15	Summer	10	+0%	10/15	Summer		6.543	0.068	0.000	0.80			52.3	SURCHARGED	
	1.004	SWMH1.5	15	Summer	10	+0%	10/15	Summer		6.463	0.113	0.000	1.28			85.2	SURCHARGED	
	1.005	SWMH1.6	15	Summer	10	+0%	10/15	Summer		6.301	0.066	0.000	0.87			84.4	SURCHARGED	
	1.006	SWMH1.7	15	Summer	10	+0%	10/15	Summer		6.215	0.030	0.000	1.05			99.5	SURCHARGED	
	1.007	SWMH1.8	15	Summer	10	+0%				6.053	-0.082	0.000	0.72			110.2	OK	
	1.008	SWMH1.9	15	Summer	10	+0%				6.018	-0.077	0.000	1.00			127.7	OK	
	3.000	SWMH3.1	15	Summer	10	+0%				6.473	-0.202	0.000	0.25			26.0	OK	
	3.001	SWMH3.2	15	Summer	10	+0%				6.455	-0.195	0.000	0.26			35.3	OK	
	3.002	SWMH3.3	15	Summer	10	+0%				6.343	-0.167	0.000	0.39			53.1	OK	
	3.003	SWMH3.4	15	Summer	10	+0%				6.187	-0.163	0.000	0.54			104.0	OK	
	3.004	SWMH3.5	15	Summer	10	+0%				6.122	-0.153	0.000	0.61			128.8	OK	
	3.005	SWMH3.6	15	Summer	10	+0%				6.028	-0.087	0.000	0.87			160.7	OK	
	1.009	SWMH1.10	30	Summer	10	+0%				5.916	-0.149	0.000	0.67			269.0	OK	
	4.000	SWMH4.1	15	Summer	10	+0%				5.949	-0.161	0.000	0.43			28.2	OK	
	1.010	SWMH1.11	30	Summer	10	+0%				5.882	-0.143	0.000	1.02			279.0	OK	
	1.011	SWMH1.12	30	Summer	10	+0%				5.853	-0.147	0.000	0.60			274.6	OK	
	5.000	SWMH5.1	30	Summer	10	+0%				5.820	-0.250	0.000	0.13			31.3	OK	
	5.001	SWMH5.2	30	Summer	10	+0%				5.815	-0.205	0.000	0.16			37.6	OK	
	5.002	SWMH5.3	30	Summer	10	+0%				5.807	-0.168	0.000	0.27			45.0	OK	
	1.012	SWMH1.13	30	Summer	10	+0%				5.797	-0.148	0.000	0.88			285.0	OK	
	6.000	SWMH6.1	15	Summer	10	+0%				5.925	-0.195	0.000	0.26			15.2	OK	
	6.001	SWMH6.2	15	Summer	10	+0%				5.794	-0.281	0.000	0.14			15.0	OK	
	6.002	SWMH6.3	30	Summer	10	+0%				5.790	-0.210	0.000	0.18			19.2	OK	
	6.003	SWMH6.4	30	Summer	10	+0%				5.789	-0.186	0.000	0.14			34.7	OK	

Summary of Critical Results by Maximum Level (Rank 1) for Surface Network 1																	
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water	Surcharged	Flooded	Flow / Cap.	Overflow (l/s)	Half Drain	Pipe	Status	Level Exceeded
									Level (m)	Depth (m)	Volume (m³)			Time (mins)	Flow (l/s)		
1.013	SWMH1.14	30 Summer	10	+0%					5.782	-0.143	0.000	0.91			291.9	OK	
1.014	SWMH1.15	30 Summer	10	+0%					5.736	-0.159	0.000	0.65			296.8	OK	
1.015	SWCP1.16	30 Summer	10	+0%					5.688	-0.157	0.000	0.93			289.7	OK	
1.016	Headwall 1	30 Summer	10	+0%					5.627	-0.263	0.000	1.01			287.9	OK	
7.000	SWMH7.1	15 Summer	10	+0%					5.854	-0.356	0.000	0.18			33.4	OK	
7.001	SWMH7.2	15 Summer	10	+0%					5.838	-0.337	0.000	0.30			74.0	OK	
7.002	SWMH7.3	15 Summer	10	+0%					5.790	-0.330	0.000	0.33			86.0	OK	
7.003	SWMH7.4	15 Summer	10	+0%					5.701	-0.319	0.000	0.42			95.9	OK	
7.004	SWMH7.5	15 Summer	10	+0%					5.639	-0.336	0.000	0.39			96.6	OK	
7.005	SWCP7.6	120 Summer	10	+0%					5.481	-0.424	0.000	0.28			75.5	OK	
7.006	Headwall 2	480 Winter	10	+0%					5.481	-0.479	0.000	0.03			19.3	OK	
1.017	Headwall 3	480 Winter	10	+0%					5.481	-0.404	0.000	0.13			62.6	OK	
1.018	SWMH1.17	480 Winter	10	+0%					5.480	-0.395	0.000	0.19			62.4	OK	
1.019	Headwall 4	480 Winter	10	+0%					5.479	-0.386	0.000	0.22			62.1	OK	
1.020	Headwall 5	480 Winter	10	+0%					5.479	-0.366	0.000	0.09			40.1	OK	
1.021	SWMH1.18	480 Winter	10	+0%					5.478	-0.352	0.000	0.09			39.7	OK	
1.022	Headwall 6	480 Winter	10	+0%					5.478	-0.342	0.000	0.07			39.3	OK	
1.023	Headwall 7	480 Winter	10	+0%					5.474	-0.296	0.000	0.02			8.7	OK	
1.024	SWMH1.19	480 Winter	10	+0%					5.474	-0.286	0.000	0.02			7.7	OK	
1.025	Headwall 8	1440 Winter	10	+0%					5.220	-0.520	0.000	0.01			7.5	OK	
8.000	SWMH8.1	15 Summer	10	+0%					5.783	-0.227	0.000	0.25			24.5	OK	
8.001	SWMH8.2	15 Summer	10	+0%					5.774	-0.211	0.000	0.37			50.4	OK	
8.002	SWMH8.3	15 Summer	10	+0%					5.740	-0.190	0.000	0.47			50.4	OK	
8.003	SWMH8.4	15 Summer	10	+0%					5.715	-0.180	0.000	0.61			67.0	OK	
8.004	SWMH8.5	15 Summer	10	+0%					5.692	-0.178	0.000	0.63			92.5	OK	
8.005	SWMH8.6	30 Summer	10	+0%					5.526	-0.204	0.000	0.32			91.2	OK	
8.006	SWMH8.7	30 Summer	10	+0%					5.504	-0.191	0.000	0.31			84.1	OK	
9.000	SWMH9.1	15 Summer	10	+0%					5.607	-0.193	0.000	0.27			23.8	OK	
8.007	SWMH8.8	30 Summer	10	+0%					5.498	-0.182	0.000	0.46			97.7	OK	
8.008	SWMH8.9	30 Summer	10	+0%					5.489	-0.171	0.000	0.45			98.3	OK	
10.000	SWMH10.1	15 Summer	10	+0%					5.657	-0.183	0.000	0.32			18.7	OK	
10.001	SWMH10.2	30 Summer	10	+0%					5.540	-0.250	0.000	0.22			53.7	OK	
10.002	SWMH10.3	30 Summer	10	+0%					5.519	-0.221	0.000	0.21			69.4	OK	
8.009	SWMH8.10	30 Summer	10	+0%					5.480	-0.160	0.000	0.39			145.1	OK	
11.000	SWMH11.1	30 Summer	10	+0%					5.479	-0.241	0.000	0.09			21.1	OK	
11.001	SWMH11.2	30 Summer	10	+0%					5.472	-0.198	0.000	0.28			79.5	OK	
8.010	SWMH8.11	30 Summer	10	+0%					5.424	-0.156	0.000	0.92			197.6	OK	
12.000	SWMH12.1	15 Summer	10	+0%					5.621	-0.129	0.000	0.61			34.2	OK	
12.001	SWMH12.2	15 Summer	10	+0%					5.576	-0.144	0.000	0.52			34.2	OK	
12.002	SWMH12.3	30 Summer	10	+0%					5.453	-0.182	0.000	0.15			50.5	OK	
8.011	SWMH8.12	30 Summer	10	+0%					5.402	-0.158	0.000	0.86			229.0	OK	
8.012	SWMH8.13	30 Summer	10	+0%					5.357	-0.173	0.000	0.69			231.6	OK	
8.013	SWMH8.14	30 Summer	10	+0%					5.298	-0.187	0.000	0.70			240.1	OK	
13.000	SWMH13.1	15 Summer	10	+0%					5.424	-0.136	0.000	0.57			37.6	OK	
8.014	SWCP8.15	30 Summer	10	+0%					5.284	-0.191	0.000	1.07			256.3	OK	
8.015	Headwall 10	1440 Winter	10	+0%					5.218	-0.392	0.000	0.04			22.2	OK	
14.000	SWMH14.1	15 Summer	10	+0%					5.229	-0.331	0.000	0.05			12.7	OK	
14.001	SWMH14.2	15 Summer	10	+0%					5.223	-0.287	0.000	0.16			38.3	OK	
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GTA Civils Ltd		Page 2
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	10768-Sefter Road Simulation Network 1 Revision B	
Date 14/04/2022 File 10768_NETWORK 1_REVB.MDX	Designed by DT Checked by MR	
XP Solutions		Network 2020.1.3

Summary of Critical Results by Maximum Level (Rank 1) for Surface Network 1

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water	Surcharged	Flooded	Flow / Cap.	Overflow (l/s)	Half Drain	Pipe	Status	Level Exceeded
									Level (m)	Depth (m)	Volume (m³)			Time (mins)	Flow (l/s)		
15.000	SWMH15.1	15 Summer	10	+0%					5.445	-0.135	0.000	0.47			28.5	OK	
15.001	SWMH15.2	15 Summer	10	+0%					5.415	-0.105	0.000	0.74			44.9	OK	
14.002	SWCP14.3	1440 Winter	10	+0%					5.217	-0.243	0.000	0.03			4.2	OK	
14.003	Headwall 9	1440 Winter	10	+0%					5.217	-0.523	0.000	0.01			4.1	OK	
1.026	Headwall 11	1440 Winter	10	+0%					5.217	-0.333	0.000	0.03			9.6	OK	
1.027	SWMH1.20	1440 Winter	10	+0%					5.217	-0.318	0.000	0.02			9.5	OK	
1.028	SWMH1.21	1440 Winter	10	+0%					5.212	-0.278	0.000	0.02			9.2	OK	
1.029	SWMH1.22	1440 Winter	10	+0%					5.206	-0.229	0.000	0.03			8.7	OK	
1.030	SWMH1.23	1440 Winter	10	+0%					5.204	-0.206	0.000	0.02			8.8	OK	
16.000	SWMH16.1	15 Summer	10	+0%	10/15 Summer				5.826	0.171	0.000	0.31			11.8	SURCHARGED	
16.001	SWMH16.2	15 Summer	10	+0%	10/15 Summer				5.807	0.272	0.000	1.27		4	47.7	SURCHARGED	
16.002	SWMH16.3	15 Summer	10	+0%	10/15 Summer				5.562	0.177	0.000	1.50			47.3	SURCHARGED	
16.003	SWCP16.4	15 Summer	10	+0%	10/15 Summer				5.446	0.111	0.000	1.82			52.4	SURCHARGED	
1.031	SWMH1.24	1440 Winter	10	+0%	10/15 Summer				5.196	0.436	0.000	0.14			8.9	SURCHARGED	

Summary of Critical Results by Maximum Level (Rank 1) for Surface Network 1

Simulation Criteria

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

Number of Input Hydrographs 0 Number of Online Controls 2 Number of Offline Controls 0 Number of Storage Structures 6 Number of Time/Area Diagrams 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FEH Site Location	GB 490175 99535 SZ 90175 99535	Cv (Summer)	1.000
FEH Rainfall Version 2013	Data Type		Point Cv (Winter)	1.000

Margin for Flood Risk Warning (mm)	300.0	DTS Status	OFF	Inertia Status	ON
Analysis Timestep 2.5 Second Increment (Extended)		DVD Status	ON		

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years)	30
Climate Change (%)	0

										Water	Surcharged	Flooded	Half Drain		Pipe			
	PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	Status	Level Exceeded
	1.000	SWMH1.1	15	Summer	30	+0%	30/15	Summer		6.816	0.096	0.000	0.47		5	30.3	SURCHARGED	
	1.001	SWMH1.2	15	Summer	30	+0%	30/15	Summer		6.816	0.196	0.000	0.56			33.6	SURCHARGED	
	2.000	SWMH2.1	15	Summer	30	+0%	30/15	Summer		6.877	0.207	0.000	0.33			21.6	SURCHARGED	
	1.002	SWMH1.3	15	Summer	30	+0%	30/15	Summer		6.810	0.250	0.000	0.79			50.6	SURCHARGED	
	1.003	SWMH1.4	15	Summer	30	+0%	30/15	Summer		6.740	0.265	0.000	0.85			56.0	SURCHARGED	
	1.004	SWMH1.5	15	Summer	30	+0%	30/15	Summer		6.655	0.305	0.000	1.54			102.7	SURCHARGED	
	1.005	SWMH1.6	15	Summer	30	+0%	30/15	Summer		6.369	0.134	0.000	1.14			110.4	SURCHARGED	
	1.006	SWMH1.7	15	Summer	30	+0%	30/15	Summer		6.274	0.089	0.000	1.43			136.1	SURCHARGED	
	1.007	SWMH1.8	15	Summer	30	+0%	30/15	Summer		6.136	0.001	0.000	0.96			147.9	SURCHARGED	
	1.008	SWMH1.9	15	Summer	30	+0%	30/15	Summer		6.101	0.006	0.000	1.36			174.2	SURCHARGED	
	3.000	SWMH3.1	15	Summer	30	+0%				6.489	-0.186	0.000	0.33			33.4	OK	
	3.001	SWMH3.2	15	Summer	30	+0%				6.471	-0.179	0.000	0.34			45.5	OK	
	3.002	SWMH3.3	15	Summer	30	+0%				6.365	-0.145	0.000	0.51			68.3	OK	
	3.003	SWMH3.4	15	Summer	30	+0%				6.241	-0.109	0.000	0.66			128.6	OK	
	3.004	SWMH3.5	30	Summer	30	+0%				6.196	-0.079	0.000	0.70			148.6	OK	
	3.005	SWMH3.6	30	Summer	30	+0%	30/15	Summer		6.138	0.023	0.000	1.00			184.1	SURCHARGED	
	1.009	SWMH1.10	15	Summer	30	+0%				6.065	0.000	0.000	0.84			333.8	OK	
	4.000	SWMH4.1	30	Summer	30	+0%				6.060	-0.050	0.000	0.51			33.5	OK	
	1.010	SWMH1.11	30	Summer	30	+0%	30/30	Summer		6.028	0.003	0.000	1.23			335.2	SURCHARGED	
	1.011	SWMH1.12	30	Summer	30	+0%				6.000	0.000	0.000	0.70			322.7	OK	
	5.000	SWMH5.1	30	Summer	30	+0%				6.018	-0.052	0.000	0.17			39.4	OK	
	5.001	SWMH5.2	30	Summer	30	+0%				5.995	-0.025	0.000	0.19			44.4	OK	
	5.002	SWMH5.3	30	Summer	30	+0%				5.961	-0.014	0.000	0.32			52.5	OK	
	1.012	SWMH1.13	30	Summer	30	+0%				5.924	-0.021	0.000	1.04			334.7	OK	
	6.000	SWMH6.1	15	Summer	30	+0%				5.941	-0.179	0.000	0.34			19.5	OK	
	6.001	SWMH6.2	30	Summer	30	+0%				5.931	-0.144	0.000	0.17			17.9	OK	
	6.002	SWMH6.3	30	Summer	30	+0%				5.928	-0.072	0.000	0.22			23.4	OK	
	6.003	SWMH6.4	30	Summer	30	+0%				5.926	-0.049	0.000	0.18			43.2	OK	

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GTA Civils Ltd		Page 2
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	10768-Sefter Road Simulation Network 1 Revision B	
Date 14/04/2022 File 10768_NETWORK 1_REVB.MDX	Designed by DT Checked by MR	
XP Solutions		Network 2020.1.3

Summary of Critical Results by Maximum Level (Rank 1) for Surface Network 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. (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
15.000	SWMH15.1	15 Summer	30	+0%					5.487	-0.093	0.000	0.60		36.6	OK	
15.001	SWMH15.2	15 Summer	30	+0%					5.454	-0.066	0.000	0.94		57.7	OK	
14.002	SWCP14.3	1440 Winter	30	+0%					5.315	-0.145	0.000	0.03		4.9	OK	
14.003	Headwall 9	1440 Winter	30	+0%					5.315	-0.425	0.000	0.01		4.8	OK	
1.026	Headwall 11	1440 Winter	30	+0%					5.315	-0.235	0.000	0.03		9.7	OK	
1.027	SWMH1.20	1440 Winter	30	+0%					5.315	-0.220	0.000	0.02		9.5	OK	
1.028	SWMH1.21	1440 Winter	30	+0%					5.307	-0.183	0.000	0.02		9.1	OK	
1.029	SWMH1.22	1440 Winter	30	+0%					5.299	-0.136	0.000	0.03		8.6	OK	
1.030	SWMH1.23	1440 Winter	30	+0%					5.296	-0.114	0.000	0.02		8.7	OK	
16.000	SWMH16.1	15 Summer	30	+0%	30/15 Summer				5.939	0.284	0.000	0.34		12.9	SURCHARGED	
16.001	SWMH16.2	15 Summer	30	+0%	30/15 Summer				5.913	0.378	0.000	1.41	3	53.1	SURCHARGED	
16.002	SWMH16.3	15 Summer	30	+0%	30/15 Summer				5.625	0.240	0.000	1.69		53.1	SURCHARGED	
16.003	SWCP16.4	15 Summer	30	+0%	30/15 Summer				5.490	0.155	0.000	2.09		60.3	SURCHARGED	
1.031	SWMH1.24	1440 Winter	30	+0%	30/15 Summer				5.283	0.523	0.000	0.14		8.9	SURCHARGED	

Summary of Critical Results by Maximum Level (Rank 1) for Surface Network 1

Simulation Criteria

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

Number of Input Hydrographs 0 Number of Online Controls 2 Number of Offline Controls 0 Number of Storage Structures 6 Number of Time/Area Diagrams 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FEH Site Location	GB 490175 99535 SZ 90175 99535	Cv (Summer)	1.000
FEH Rainfall Version 2013	Data Type		Point Cv (Winter)	1.000

Margin for Flood Risk Warning (mm)	300.0	DTS Status	OFF	Inertia Status	ON
Analysis Timestep 2.5 Second Increment (Extended)		DVD Status	ON		

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

										Water	Surcharged	Flooded	Half Drain		Pipe			
	PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	Status	Level Exceeded
	1.000	SWMH1.1	30	Summer	100	+40%	100/15	Summer		7.143	0.423	0.000	0.69		12	44.9	SURCHARGED	
	1.001	SWMH1.2	15	Summer	100	+40%	100/15	Summer		7.153	0.533	0.000	0.82			49.7	SURCHARGED	
	2.000	SWMH2.1	15	Summer	100	+40%	100/15	Summer		7.336	0.666	0.000	0.60			39.8	SURCHARGED	
	1.002	SWMH1.3	15	Summer	100	+40%	100/15	Summer		7.251	0.691	0.000	0.90			57.4	FLOOD RISK	
	1.003	SWMH1.4	15	Summer	100	+40%	100/15	Summer		7.276	0.801	0.000	0.93			61.1	SURCHARGED	
	1.004	SWMH1.5	15	Summer	100	+40%	100/15	Summer		7.258	0.908	0.000	2.05			137.2	FLOOD RISK	
	1.005	SWMH1.6	30	Summer	100	+40%	100/15	Summer		6.872	0.637	0.000	1.44			139.7	SURCHARGED	
	1.006	SWMH1.7	30	Summer	100	+40%	100/15	Summer		6.783	0.598	0.000	1.91			181.3	SURCHARGED	
	1.007	SWMH1.8	30	Summer	100	+40%	100/15	Summer		6.629	0.494	0.000	1.38			211.2	SURCHARGED	
	1.008	SWMH1.9	30	Summer	100	+40%	100/15	Summer		6.590	0.495	0.000	2.05			261.5	SURCHARGED	
	3.000	SWMH3.1	30	Summer	100	+40%	100/15	Summer		7.116	0.441	0.000	0.49			50.5	SURCHARGED	
	3.001	SWMH3.2	30	Summer	100	+40%	100/15	Summer		7.043	0.393	0.000	0.50			67.0	SURCHARGED	
	3.002	SWMH3.3	30	Summer	100	+40%	100/15	Summer		7.005	0.495	0.000	0.57			77.3	SURCHARGED	
	3.003	SWMH3.4	30	Summer	100	+40%	100/15	Summer		6.917	0.567	0.000	0.84			162.8	SURCHARGED	
	3.004	SWMH3.5	30	Summer	100	+40%	100/15	Summer		6.803	0.528	0.000	1.01			214.7	SURCHARGED	
	3.005	SWMH3.6	30	Summer	100	+40%	100/15	Summer		6.647	0.532	0.000	1.54			283.3	SURCHARGED	
	1.009	SWMH1.10	30	Summer	100	+40%	100/15	Summer		6.545	0.480	0.000	1.35			538.0	SURCHARGED	
	4.000	SWMH4.1	30	Summer	100	+40%	100/15	Summer		6.594	0.484	0.000	0.80			52.1	SURCHARGED	
	1.010	SWMH1.11	30	Summer	100	+40%	100/15	Summer		6.499	0.474	0.000	2.14			583.5	SURCHARGED	
	1.011	SWMH1.12	30	Summer	100	+40%	100/15	Summer		6.451	0.451	0.000	1.27			584.5	SURCHARGED	
	5.000	SWMH5.1	30	Summer	100	+40%	100/15	Summer		6.412	0.342	0.000	0.29			68.6	SURCHARGED	
	5.001	SWMH5.2	30	Summer	100	+40%	100/15	Summer		6.402	0.382	0.000	0.36			84.2	SURCHARGED	
	5.002	SWMH5.3	30	Summer	100	+40%	100/15	Summer		6.391	0.416	0.000	0.65			107.8	SURCHARGED	
	1.012	SWMH1.13	30	Summer	100	+40%	100/15	Summer		6.376	0.431	0.000	2.18			703.8	SURCHARGED	
	6.000	SWMH6.1	30	Summer	100	+40%	100/15	Summer		6.400	0.280	0.000	0.51			29.4	SURCHARGED	
	6.001	SWMH6.2	30	Summer	100	+40%	100/15	Summer		6.355	0.280	0.000	0.23			24.6	SURCHARGED	
	6.002	SWMH6.3	30	Summer	100	+40%	100/15	Summer		6.342	0.342	0.000	0.27			27.7	SURCHARGED	
	6.003	SWMH6.4	30	Summer	100	+40%	100/15	Summer		6.335	0.360	0.000	0.26			61.8	SURCHARGED	

XP Solutions			Network 2020.1.3														
Summary of Critical Results by Maximum Level (Rank 1) for Surface Network 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 / Overflow Cap. (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded	
1.013	SWMH1.14	30 Summer	100	+40%	100/15 Summer				6.325	0.400	0.000	2.31		738.0	SURCHARGED		
1.014	SWMH1.15	30 Summer	100	+40%	100/15 Summer				6.238	0.343	0.000	1.70		780.0	SURCHARGED		
1.015	SWCP1.16	30 Summer	100	+40%	100/15 Summer				6.081	0.236	0.000	2.49		772.2	SURCHARGED		
1.016	Headwall 1	960 Winter	100	+40%	100/15 Summer				5.960	0.070	0.000	0.24		68.8	SURCHARGED		
7.000	SWMH7.1	15 Summer	100	+40%					6.047	-0.163	0.000	0.40		74.7	OK		
7.001	SWMH7.2	15 Summer	100	+40%					6.026	-0.149	0.000	0.66		164.7	OK		
7.002	SWMH7.3	480 Winter	100	+40%					5.993	-0.127	0.000	0.09		22.4	OK		
7.003	SWMH7.4	480 Winter	100	+40%					5.986	-0.034	0.000	0.12		26.3	OK		
7.004	SWMH7.5	480 Winter	100	+40%					5.973	-0.002	0.000	0.11		27.1	OK		
7.005	SWCP7.6	960 Winter	100	+40%	100/240 Summer				5.960	0.055	0.000	0.08		20.6	SURCHARGED		
7.006	Headwall 2	960 Summer	100	+40%					5.960	0.000	0.000	0.05		30.3	OK		
1.017	Headwall 3	960 Winter	100	+40%	100/240 Winter				5.959	0.074	0.000	0.10		49.3	SURCHARGED		
1.018	SWMH1.17	960 Winter	100	+40%	100/360 Summer				5.959	0.084	0.000	0.15		49.0	SURCHARGED		
1.019	Headwall 4	960 Winter	100	+40%	100/360 Summer				5.959	0.094	0.000	0.18		48.5	SURCHARGED		
1.020	Headwall 5	960 Winter	100	+40%	100/240 Summer				5.958	0.113	0.000	0.10		46.4	SURCHARGED		
1.021	SWMH1.18	960 Winter	100	+40%	100/240 Summer				5.958	0.128	0.000	0.10		46.7	SURCHARGED		
1.022	Headwall 6	960 Winter	100	+40%	100/240 Summer				5.958	0.138	0.000	0.09		45.8	SURCHARGED		
1.023	Headwall 7	960 Winter	100	+40%	100/240 Summer				5.958	0.188	0.000	0.03		12.1	SURCHARGED		
1.024	SWMH1.19	960 Winter	100	+40%	100/240 Summer				5.972	0.212	0.000	0.02		7.7	SURCHARGED		
1.025	Headwall 8	1440 Winter	100	+40%					5.740	0.000	0.000	0.01		7.6	OK		
8.000	SWMH8.1	30 Summer	100	+40%	100/15 Summer				6.607	0.597	0.000	0.47		46.1	SURCHARGED		
8.001	SWMH8.2	30 Summer	100	+40%	100/15 Summer				6.598	0.613	0.000	0.67		90.4	SURCHARGED		
8.002	SWMH8.3	30 Summer	100	+40%	100/15 Summer				6.571	0.641	0.000	0.81		86.1	SURCHARGED		
8.003	SWMH8.4	30 Summer	100	+40%	100/15 Summer				6.548	0.653	0.000	1.05		115.3	SURCHARGED		
8.004	SWMH8.5	30 Summer	100	+40%	100/15 Summer				6.530	0.660	0.000	1.10		162.1	SURCHARGED		
8.005	SWMH8.6	30 Summer	100	+40%	100/15 Summer				6.416	0.686	0.000	0.68		194.9	SURCHARGED		
8.006	SWMH8.7	30 Summer	100	+40%	100/15 Summer				6.393	0.698	0.000	0.71		193.5	SURCHARGED		
9.000	SWMH9.1	30 Summer	100	+40%	100/15 Summer				6.502	0.702	0.000	0.49		42.9	SURCHARGED		
8.007	SWMH8.8	30 Summer	100	+40%	100/15 Summer				6.379	0.699	0.000	1.06		225.5	SURCHARGED		
8.008	SWMH8.9	30 Summer	100	+40%	100/15 Summer				6.358	0.698	0.000	1.08		234.0	SURCHARGED		
10.000	SWMH10.1	30 Summer	100	+40%	100/15 Summer				6.464	0.624	0.000	0.57		33.3	SURCHARGED		
10.001	SWMH10.2	30 Summer	100	+40%	100/15 Summer				6.383	0.593	0.000	0.46		111.4	SURCHARGED		
10.002	SWMH10.3	30 Summer	100	+40%	100/15 Summer				6.364	0.624	0.000	0.48		154.5	SURCHARGED		
8.009	SWMH8.10	30 Summer	100	+40%	100/15 Summer				6.337	0.697	0.000	0.96		359.7	SURCHARGED		
11.000	SWMH11.1	30 Summer	100	+40%	100/15 Summer				6.335	0.615	0.000	0.19		44.9	SURCHARGED		
11.001	SWMH11.2	30 Summer	100	+40%	100/15 Summer				6.324	0.654	0.000	0.65		183.6	SURCHARGED		
8.010	SWMH8.11	30 Summer	100	+40%	100/15 Summer				6.285	0.705	0.000	2.43		524.2	SURCHARGED		
12.000	SWMH12.1	30 Summer	100	+40%	100/15 Summer				6.412	0.662	0.000	1.23		69.1	SURCHARGED		
12.001	SWMH12.2	30 Summer	100	+40%	100/15 Summer				6.330	0.610	0.000	0.97		63.1	SURCHARGED		
12.002	SWMH12.3	30 Summer	100	+40%	100/15 Summer				6.241	0.606	0.000	0.32		108.2	SURCHARGED		
8.011	SWMH8.12	30 Summer	100	+40%	100/15 Summer				6.225	0.665	0.000	2.26		601.7	SURCHARGED		
8.012	SWMH8.13	30 Summer	100	+40%	100/15 Summer				6.134	0.604	0.000	1.81		610.3	SURCHARGED		
8.013	SWMH8.14	30 Summer	100	+40%	100/15 Summer				5.979	0.494	0.000	1.87		636.1	SURCHARGED		
13.000	SWMH13.1	30 Summer	100	+40%	100/15 Summer				5.906	0.346	0.000	1.17		77.5	SURCHARGED		
8.014	SWCP8.15	30 Summer	100	+40%	100/15 Summer				5.810	0.335	0.000	2.88		687.0	SURCHARGED		
8.015	Headwall 10	1440 Winter	100	+40%	100/960 Summer				5.720	0.110	0.000	0.07		39.5	SURCHARGED		
14.000	SWMH14.1	1440 Winter	100	+40%	100/360 Summer				5.720	0.160	0.000	0.01		1.2	SURCHARGED		
14.001	SWMH14.2	1440 Winter	100	+40%	100/15 Summer				5.720	0.210	0.000	0.02		3.7	SURCHARGED		
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GTA Civils Ltd		Page 21
Gloucester House 66a Church Walk Burgess Hill, BN43 6LB	10768-Sefter Road Simulation Network 1 Revision B	
Date 14/04/2022 File 10768_NETWORK 1_REVB.MDX	Designed by DT Checked by MR	
XP Solutions		Network 2020.1.3

Summary of Critical Results by Maximum Level (Rank 1) for Surface Network 1

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water	Surcharged	Flooded	Flow / Cap.	Overflow (l/s)	Half Drain	Pipe	Status	Level
									Level (m)	Depth (m)	Volume (m³)			Time (mins)	Flow (l/s)		Exceeded
15.000	SWMH15.1	1440 Winter	100	+40%	100/15 Summer				5.720	0.140	0.000	0.04			2.7	SURCHARGED	
15.001	SWMH15.2	1440 Winter	100	+40%	100/15 Summer				5.720	0.200	0.000	0.07			4.1	SURCHARGED	
14.002	SWCP14.3	1440 Winter	100	+40%	100/240 Summer				5.720	0.260	0.000	0.06			8.2	SURCHARGED	
14.003	Headwall 9	1440 Winter	100	+40%					5.720	-0.020	0.000	0.01			8.0	OK	
1.026	Headwall 11	1440 Winter	100	+40%	100/360 Summer				5.720	0.170	0.000	0.23			64.2	SURCHARGED	
1.027	SWMH1.20	1440 Summer	100	+40%	100/360 Summer				5.834	0.299	0.000	0.12			55.1	FLOOD RISK	
1.028	SWMH1.21	1440 Winter	100	+40%	100/360 Summer				5.836	0.346	0.000	0.11			59.2	SURCHARGED	
1.029	SWMH1.22	1440 Winter	100	+40%	100/240 Summer				5.844	0.409	0.000	0.14			47.0	SURCHARGED	
1.030	SWMH1.23	1440 Winter	100	+40%	100/240 Summer				5.847	0.437	0.000	0.06			31.3	SURCHARGED	
16.000	SWMH16.1	15 Summer	100	+40%	100/15 Summer				6.073	0.418	0.000	0.59			22.3	SURCHARGED	
16.001	SWMH16.2	15 Summer	100	+40%	100/15 Summer				6.012	0.477	0.000	1.52		7	57.5	SURCHARGED	
16.002	SWMH16.3	1440 Winter	100	+40%	100/15 Summer				5.820	0.435	0.000	0.54			16.9	SURCHARGED	
16.003	SWCP16.4	1440 Winter	100	+40%	100/15 Summer				5.834	0.499	0.000	0.66			18.9	SURCHARGED	
1.031	SWMH1.24	1440 Winter	100	+40%	100/15 Summer				5.847	1.087	0.000	0.14			8.9	SURCHARGED	