

Lees Roxburgh Limited		Page 0
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00	Designed by david wood	
File SW NET 1 10.10.18.MDX	Checked by	
Elstree Computing Ltd		Network 2015.1

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for SW NET 1 10.10.18.SWS

Pipe Sizes SW NET 2 10.10.18 Manhole Sizes SW NET 2 10.10.18

FSR Rainfall Model - England and Wales

Return Period (years)	2	Add Flow / Climate Change (%)	0
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	0.200
Ratio R	0.400	Maximum Backdrop Height (m)	0.000
Maximum Rainfall (mm/hr)	5	Min Design Depth for Optimisation (m)	1.200
Maximum Time of Concentration (mins)	30	Min Vel for Auto Design only (m/s)	0.75
Foul Sewage (l/s/ha)	0.000	Min Slope for Optimisation (1:X)	500
Volumetric Runoff Coeff.	0.750		

Designed with Level Soffits

Network Design Table for SW NET 1 10.10.18.SWS

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Auto Design
1.000	25.676	0.321	80.0	0.150	5.00	0.0	0.600	o	300	
1.001	28.294	0.177	160.0	0.018	0.00	0.0	0.600	o	300	
1.002	34.167	0.214	160.0	0.200	0.00	0.0	0.600	o	300	
1.003	22.920	0.143	160.3	0.069	0.00	0.0	0.600	o	300	
2.000	41.851	0.105	398.6	0.155	5.00	0.0	0.600	o	900	
2.001	15.881	0.040	400.0	0.000	0.00	0.0	0.600	o	900	
1.004	43.348	0.108	400.0	0.056	0.00	0.0	0.600	o	1200	
1.005	10.838	0.027	400.0	0.066	0.00	0.0	0.600	o	1200	
1.006	15.087	0.038	397.0	0.014	0.00	0.0	0.600	o	1200	
1.007	20.329	0.085	239.2	0.014	0.00	0.0	0.600	o	300	
1.008	86.071	0.215	400.0	0.170	0.00	0.0	0.600	o	1200	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	E I.Area (ha)	E Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	5.00	5.24	71.300	0.150	0.0	0.0	0.0	1.76	124.4	2.0
1.001	5.00	5.62	70.979	0.168	0.0	0.0	0.0	1.24	87.7	2.3
1.002	5.00	6.08	70.802	0.368	0.0	0.0	0.0	1.24	87.7	5.0
1.003	5.00	6.39	70.589	0.437	0.0	0.0	0.0	1.24	87.6	5.9
2.000	5.00	5.45	67.585	0.155	0.0	0.0	0.0	1.56	994.5	2.1
2.001	5.00	5.62	67.480	0.155	0.0	0.0	0.0	1.56	992.7	2.1
1.004	5.00	6.78	67.140	0.648	0.0	0.0	0.0	1.86	2108.6	8.8
1.005	5.00	6.88	67.032	0.714	0.0	0.0	0.0	1.86	2108.6	9.7
1.006	5.00	7.01	67.005	0.728	0.0	0.0	0.0	1.87	2116.5	9.9
1.007	5.00	7.34	66.967	0.742	0.0	0.0	0.0	1.01	71.6	10.0
1.008	5.00	8.11	64.515	0.912	0.0	0.0	0.0	1.86	2108.6	12.3

Lees Roxburgh Limited		Page 1
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00 File SW NET 1 10.10.18.MDX	Designed by david wood Checked by	
Elstree Computing Ltd		Network 2015.1

Network Design Table for SW NET 1 10.10.18.SWS

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Auto Design
1.009	9.784	0.024	400.0	0.153	0.00	0.0	0.600	o	1200	
1.010	13.889	0.035	400.0	0.050	0.00	0.0	0.600	o	1200	
1.011	23.606	0.059	400.0	0.016	0.00	0.0	0.600	o	1200	
1.012	15.271	0.038	401.9	0.014	0.00	0.0	0.600	o	1200	
1.013	7.202	0.058	124.2	0.000	0.00	0.0	0.600	o	300	

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)
1.009	5.00	8.20	64.300	1.065	0.0	0.0	0.0	1.86	2108.6	14.4
1.010	5.00	8.33	64.275	1.115	0.0	0.0	0.0	1.86	2108.6	15.1
1.011	5.00	8.54	64.241	1.131	0.0	0.0	0.0	1.86	2108.6	15.3
1.012	5.00	8.67	64.182	1.145	0.0	0.0	0.0	1.86	2103.6	15.5
1.013	5.00	8.76	64.144	1.145	0.0	0.0	0.0	1.41	99.6	15.5

Lees Roxburgh Limited		Page 2
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00	Designed by david wood	
File SW NET 1 10.10.18.MDX	Checked by	
Elstree Computing Ltd		Network 2015.1

Manhole Schedules for SW NET 1 10.10.18.SWS

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)
1	73.821	2.521	Open Manhole	1500	1.000	71.300	300				
2	73.560	2.581	Open Manhole	1500	1.001	70.979	300	1.000	70.979	300	
3	73.280	2.478	Open Manhole	1500	1.002	70.802	300	1.001	70.802	300	
4	72.918	2.329	Open Manhole	1800	1.003	70.589	300	1.002	70.589	300	
5	70.894	3.309	Open Manhole	2100	2.000	67.585	900				
6	71.707	4.227	Open Manhole	2100	2.001	67.480	900	2.000	67.480	900	
7	72.014	4.874	Open Manhole	2100	1.004	67.140	1200	1.003	70.446	300	2405
								2.001	67.440	900	
8	71.994	4.962	Open Manhole	2100	1.005	67.032	1200	1.004	67.032	1200	
9	71.595	4.590	Open Manhole	2100	1.006	67.005	1200	1.005	67.005	1200	
10	70.998	4.031	Open Manhole	2100	1.007	66.967	300	1.006	66.967	1200	
11	70.067	5.552	Open Manhole	2100	1.008	64.515	1200	1.007	66.882	300	1467
12	67.709	3.409	Open Manhole	2100	1.009	64.300	1200	1.008	64.300	1200	
13	67.455	3.180	Open Manhole	2100	1.010	64.275	1200	1.009	64.275	1200	
14	67.077	2.836	Open Manhole	2100	1.011	64.241	1200	1.010	64.241	1200	
15	66.982	2.800	Open Manhole	2100	1.012	64.182	1200	1.011	64.182	1200	
16	67.157	3.013	Open Manhole	2400	1.013	64.144	300	1.012	64.144	1200	
17	67.329	3.243	Open Manhole	0		OUTFALL		1.013	64.086	300	

Lees Roxburgh Limited		Page 3
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00	Designed by david wood	
File SW NET 1 10.10.18.MDX	Checked by	
Elstree Computing Ltd		Network 2015.1

PIPELINE SCHEDULES for SW NET 1 10.10.18.SWS

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	o	300	1	73.821	71.300	2.221	Open Manhole	1500
1.001	o	300	2	73.560	70.979	2.281	Open Manhole	1500
1.002	o	300	3	73.280	70.802	2.178	Open Manhole	1500
1.003	o	300	4	72.918	70.589	2.029	Open Manhole	1800
2.000	o	900	5	70.894	67.585	2.409	Open Manhole	2100
2.001	o	900	6	71.707	67.480	3.327	Open Manhole	2100
1.004	o	1200	7	72.014	67.140	3.674	Open Manhole	2100
1.005	o	1200	8	71.994	67.032	3.762	Open Manhole	2100
1.006	o	1200	9	71.595	67.005	3.390	Open Manhole	2100
1.007	o	300	10	70.998	66.967	3.731	Open Manhole	2100
1.008	o	1200	11	70.067	64.515	4.352	Open Manhole	2100
1.009	o	1200	12	67.709	64.300	2.209	Open Manhole	2100
1.010	o	1200	13	67.455	64.275	1.980	Open Manhole	2100
1.011	o	1200	14	67.077	64.241	1.636	Open Manhole	2100
1.012	o	1200	15	66.982	64.182	1.600	Open Manhole	2100
1.013	o	300	16	67.157	64.144	2.713	Open Manhole	2400

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	25.676	80.0	2	73.560	70.979	2.281	Open Manhole	1500
1.001	28.294	160.0	3	73.280	70.802	2.178	Open Manhole	1500
1.002	34.167	160.0	4	72.918	70.589	2.029	Open Manhole	1800
1.003	22.920	160.3	7	72.014	70.446	1.268	Open Manhole	2100
2.000	41.851	398.6	6	71.707	67.480	3.327	Open Manhole	2100
2.001	15.881	400.0	7	72.014	67.440	3.674	Open Manhole	2100
1.004	43.348	400.0	8	71.994	67.032	3.762	Open Manhole	2100
1.005	10.838	400.0	9	71.595	67.005	3.390	Open Manhole	2100
1.006	15.087	397.0	10	70.998	66.967	2.831	Open Manhole	2100
1.007	20.329	239.2	11	70.067	66.882	2.885	Open Manhole	2100
1.008	86.071	400.0	12	67.709	64.300	2.209	Open Manhole	2100
1.009	9.784	400.0	13	67.455	64.275	1.980	Open Manhole	2100
1.010	13.889	400.0	14	67.077	64.241	1.636	Open Manhole	2100
1.011	23.606	400.0	15	66.982	64.182	1.600	Open Manhole	2100
1.012	15.271	401.9	16	67.157	64.144	1.813	Open Manhole	2400
1.013	7.202	124.2	17	67.329	64.086	2.943	Open Manhole	0

Lees Roxburgh Limited		Page 4
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00	Designed by david wood	
File SW NET 1 10.10.18.MDX	Checked by	
Elstree Computing Ltd		Network 2015.1

Simulation Criteria for SW NET 1 10.10.18.SWS

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m ³ /ha Storage	2.000
Hot Start (mins)	0	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1

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

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	2	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	20.000	Storm Duration (mins)	30
Ratio R	0.400		

Lees Roxburgh Limited		Page 5
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00	Designed by david wood	
File SW NET 1 10.10.18.MDX	Checked by	
Elstree Computing Ltd		Network 2015.1

Online Controls for SW NET 1 10.10.18.SWS

Hydro-Brake Optimum® Manhole: 10, DS/PN: 1.007, Volume (m³): 28.7

Unit Reference MD-SHE-0235-3800-2800-3800
Design Head (m) 2.800
Design Flow (l/s) 38.0
Flush-Flo™ Calculated
Objective Minimise upstream storage
Diameter (mm) 235
Invert Level (m) 66.967
Minimum Outlet Pipe Diameter (mm) 300
Suggested Manhole Diameter (mm) 2100

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	2.800	37.7
Flush-Flo™	0.804	37.7
Kick-Flo®	1.697	29.6
Mean Flow over Head Range	-	32.9

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)
0.100	7.8	1.200	36.5	3.000	39.0	7.000	58.7
0.200	23.8	1.400	34.9	3.500	42.0	7.500	60.7
0.300	32.2	1.600	31.9	4.000	44.8	8.000	62.6
0.400	34.7	1.800	30.5	4.500	47.4	8.500	64.5
0.500	36.2	2.000	32.1	5.000	49.8	9.000	66.3
0.600	37.1	2.200	33.6	5.500	52.2	9.500	68.0
0.800	37.7	2.400	35.0	6.000	54.4		
1.000	37.3	2.600	36.4	6.500	56.6		

Hydro-Brake Optimum® Manhole: 16, DS/PN: 1.013, Volume (m³): 28.4

Unit Reference MD-SHE-0245-4000-2600-4000
Design Head (m) 2.600
Design Flow (l/s) 40.0
Flush-Flo™ Calculated
Objective Minimise upstream storage
Diameter (mm) 245
Invert Level (m) 64.144
Minimum Outlet Pipe Diameter (mm) 300
Suggested Manhole Diameter (mm) 2100

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	2.600	39.8
Flush-Flo™	0.748	39.8

Lees Roxburgh Limited		Page 6																																																																								
The Genesis Centre Science Park South Birchwood WA3 7BH																																																																										
Date 01/01/001 00:00 File SW NET 1 10.10.18.MDX	Designed by david wood Checked by																																																																									
Elstree Computing Ltd Network 2015.1																																																																										
<u>Hydro-Brake Optimum® Manhole: 16, DS/PN: 1.013, Volume (m³): 28.4</u>																																																																										
<table><tr><td>Control Points</td><td>Head (m)</td><td>Flow (l/s)</td></tr><tr><td>Kick-Flo®</td><td>1.596</td><td>31.5</td></tr><tr><td>Mean Flow over Head Range</td><td>-</td><td>34.6</td></tr></table>			Control Points	Head (m)	Flow (l/s)	Kick-Flo®	1.596	31.5	Mean Flow over Head Range	-	34.6																																																															
Control Points	Head (m)	Flow (l/s)																																																																								
Kick-Flo®	1.596	31.5																																																																								
Mean Flow over Head Range	-	34.6																																																																								
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																																																																										
<table><tr><td>Depth (m)</td><td>Flow (l/s)</td><td>Depth (m)</td><td>Flow (l/s)</td><td>Depth (m)</td><td>Flow (l/s)</td><td>Depth (m)</td><td>Flow (l/s)</td></tr><tr><td>0.100</td><td>8.0</td><td>1.200</td><td>38.0</td><td>3.000</td><td>42.7</td><td>7.000</td><td>64.3</td></tr><tr><td>0.200</td><td>24.9</td><td>1.400</td><td>35.8</td><td>3.500</td><td>46.0</td><td>7.500</td><td>66.5</td></tr><tr><td>0.300</td><td>34.8</td><td>1.600</td><td>31.6</td><td>4.000</td><td>49.0</td><td>8.000</td><td>68.6</td></tr><tr><td>0.400</td><td>37.2</td><td>1.800</td><td>33.4</td><td>4.500</td><td>51.9</td><td>8.500</td><td>70.7</td></tr><tr><td>0.500</td><td>38.7</td><td>2.000</td><td>35.1</td><td>5.000</td><td>54.6</td><td>9.000</td><td>72.7</td></tr><tr><td>0.600</td><td>39.4</td><td>2.200</td><td>36.8</td><td>5.500</td><td>57.2</td><td>9.500</td><td>74.6</td></tr><tr><td>0.800</td><td>39.8</td><td>2.400</td><td>38.3</td><td>6.000</td><td>59.7</td><td></td><td></td></tr><tr><td>1.000</td><td>39.2</td><td>2.600</td><td>39.8</td><td>6.500</td><td>62.0</td><td></td><td></td></tr></table>			Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	0.100	8.0	1.200	38.0	3.000	42.7	7.000	64.3	0.200	24.9	1.400	35.8	3.500	46.0	7.500	66.5	0.300	34.8	1.600	31.6	4.000	49.0	8.000	68.6	0.400	37.2	1.800	33.4	4.500	51.9	8.500	70.7	0.500	38.7	2.000	35.1	5.000	54.6	9.000	72.7	0.600	39.4	2.200	36.8	5.500	57.2	9.500	74.6	0.800	39.8	2.400	38.3	6.000	59.7			1.000	39.2	2.600	39.8	6.500	62.0		
Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)																																																																			
0.100	8.0	1.200	38.0	3.000	42.7	7.000	64.3																																																																			
0.200	24.9	1.400	35.8	3.500	46.0	7.500	66.5																																																																			
0.300	34.8	1.600	31.6	4.000	49.0	8.000	68.6																																																																			
0.400	37.2	1.800	33.4	4.500	51.9	8.500	70.7																																																																			
0.500	38.7	2.000	35.1	5.000	54.6	9.000	72.7																																																																			
0.600	39.4	2.200	36.8	5.500	57.2	9.500	74.6																																																																			
0.800	39.8	2.400	38.3	6.000	59.7																																																																					
1.000	39.2	2.600	39.8	6.500	62.0																																																																					
©1982-2015 XP Solutions																																																																										

Lees Roxburgh Limited		Page 16
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00 File SW NET 1 10.10.18.MDX	Designed by david wood Checked by	
Elstree Computing Ltd		
Network 2015.1		

Summary Wizard of 720 minute 1 year Summer I+0% for SW NET 1 10.10.18.SWS

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.300
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 19.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
 Analysis Timestep Fine Inertia Status ON
 DTS Status ON

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

			Water	Surcharged	Flooded		Pipe	
	US/MH	Storm	Level	Depth	Volume	Flow / Overflow	Flow	
PN	Name	Rank	(m)	(m)	(m³)	Cap. (l/s)	(l/s)	Status
1.000	1	61	71.333	-0.267	0.000	0.03	3.0	OK
1.001	2	61	71.019	-0.260	0.000	0.04	3.4	OK
1.002	3	61	70.863	-0.239	0.000	0.09	7.4	OK
1.003	4	61	70.655	-0.233	0.000	0.11	8.8	OK
2.000	5	61	67.605	-0.880	0.000	0.00	3.1	OK
2.001	6	61	67.504	-0.876	0.000	0.01	3.1	OK
1.004	7	61	67.213	-1.127	0.000	0.01	13.0	OK
1.005	8	61	67.152	-1.080	0.000	0.02	14.3	OK
1.006	9	61	67.131	-1.074	0.000	0.01	14.6	OK
1.007	10	61	67.113	-0.154	0.000	0.24	14.9	OK
1.008	11	61	64.583	-1.132	0.000	0.01	18.3	OK
1.009	12	61	64.433	-1.067	0.000	0.03	21.3	OK
1.010	13	61	64.407	-1.069	0.000	0.02	22.2	OK
1.011	14	61	64.373	-1.067	0.000	0.02	22.4	OK
1.012	15	61	64.345	-1.037	0.000	0.02	22.6	OK
1.013	16	61	64.332	-0.112	0.000	0.37	22.5	OK

Lees Roxburgh Limited		Page 17
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00	Designed by david wood	
File SW NET 1 10.10.18.MDX	Checked by	
Elstree Computing Ltd		Network 2015.1

Summary Wizard of 960 minute 1 year Summer I+0% for SW NET 1 10.10.18.SWS

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.300
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 19.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
 Analysis Timestep Fine Inertia Status ON
 DTS Status ON

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

			Water	Surcharged	Flooded		Pipe	
	US/MH	Storm	Level	Depth	Volume	Flow /	Overflow	Pipe
PN	Name	Rank	(m)	(m)	(m³)	Cap.	(l/s)	Flow
								Status
1.000	1	64	71.331	-0.269	0.000	0.02		2.5 OK
1.001	2	64	71.015	-0.264	0.000	0.04		2.8 OK
1.002	3	64	70.857	-0.245	0.000	0.08		6.1 OK
1.003	4	64	70.650	-0.238	0.000	0.09		7.3 OK
2.000	5	64	67.601	-0.884	0.000	0.00		2.6 OK
2.001	6	64	67.500	-0.880	0.000	0.00		2.6 OK
1.004	7	64	67.200	-1.141	0.000	0.01		10.8 OK
1.005	8	64	67.136	-1.096	0.000	0.01		11.9 OK
1.006	9	64	67.116	-1.089	0.000	0.01		12.1 OK
1.007	10	64	67.097	-0.170	0.000	0.20		12.3 OK
1.008	11	64	64.572	-1.143	0.000	0.01		15.2 OK
1.009	12	64	64.423	-1.076	0.000	0.02		17.6 OK
1.010	13	64	64.396	-1.079	0.000	0.02		18.3 OK
1.011	14	64	64.360	-1.080	0.000	0.01		18.4 OK
1.012	15	64	64.325	-1.057	0.000	0.02		18.8 OK
1.013	16	64	64.309	-0.135	0.000	0.31		18.9 OK

Lees Roxburgh Limited		Page 19
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00 File SW NET 1 10.10.18.MDX	Designed by david wood Checked by	
Elstree Computing Ltd		
Network 2015.1		

Summary Wizard of 30 minute 30 year Summer I+0% for SW NET 1 10.10.18.SWS

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.300
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 19.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
 Analysis Timestep Fine Inertia Status ON
 DTS Status ON

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

			Water	Surcharged	Flooded		Pipe	
	US/MH	Storm	Level	Depth	Volume	Flow / Overflow	Flow	
PN	Name	Rank	(m)	(m)	(m³)	Cap. (l/s)	(l/s)	Status
1.000	1	9	71.423	-0.177	0.000	0.36	39.7	OK
1.001	2	9	71.306	0.027	0.000	0.50	39.4	SURCHARGED
1.002	3	9	71.215	0.113	0.000	1.05	84.4	SURCHARGED
1.003	4	9	70.969	0.080	0.000	1.29	99.7	SURCHARGED
2.000	5	19	67.907	-0.578	0.000	0.05	40.4	OK
2.001	6	19	67.906	-0.474	0.000	0.07	36.8	OK
1.004	7	19	67.905	-0.435	0.000	0.08	130.3	OK
1.005	8	19	67.870	-0.362	0.000	0.09	75.6	OK
1.006	9	19	67.865	-0.340	0.000	0.06	59.8	OK
1.007	10	19	67.854	0.587	0.000	0.60	37.6	SURCHARGED
1.008	11	33	64.844	-0.871	0.000	0.05	81.1	OK
1.009	12	33	64.820	-0.680	0.000	0.09	78.2	OK
1.010	13	34	64.817	-0.659	0.000	0.09	85.1	OK
1.011	14	34	64.811	-0.630	0.000	0.06	76.3	OK
1.012	15	34	64.802	-0.580	0.000	0.06	55.7	OK
1.013	16	34	64.795	0.351	0.000	0.65	39.6	SURCHARGED

Lees Roxburgh Limited		Page 20
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00 File SW NET 1 10.10.18.MDX	Designed by david wood Checked by	
Elstree Computing Ltd		
Network 2015.1		

Summary Wizard of 60 minute 30 year Summer I+0% for SW NET 1 10.10.18.SWS

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.300
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 19.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
 Analysis Timestep Fine Inertia Status ON
 DTS Status ON

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

			Water	Surcharged	Flooded		Pipe		
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	1	12	71.407	-0.193	0.000	0.27		30.0	OK
1.001	2	12	71.117	-0.162	0.000	0.42		33.0	OK
1.002	3	12	71.059	-0.043	0.000	0.88		70.6	OK
1.003	4	12	70.897	0.008	0.000	1.07		82.8	SURCHARGED
2.000	5	18	67.927	-0.558	0.000	0.04		29.9	OK
2.001	6	18	67.925	-0.455	0.000	0.05		26.1	OK
1.004	7	18	67.924	-0.416	0.000	0.07		105.2	OK
1.005	8	18	67.887	-0.345	0.000	0.07		65.7	OK
1.006	9	18	67.882	-0.323	0.000	0.05		53.8	OK
1.007	10	18	67.870	0.604	0.000	0.60		37.6	SURCHARGED
1.008	11	29	64.931	-0.784	0.000	0.04		69.6	OK
1.009	12	29	64.898	-0.601	0.000	0.07		59.9	OK
1.010	13	29	64.895	-0.580	0.000	0.07		64.6	OK
1.011	14	29	64.887	-0.553	0.000	0.04		59.5	OK
1.012	15	29	64.874	-0.508	0.000	0.05		48.3	OK
1.013	16	29	64.868	0.424	0.000	0.65		39.7	SURCHARGED

Summary Wizard of 15 minute 100 year Summer I+30% for SW NET 1 10.10.18.SWS

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m ³ /ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Synthetic Rainfall Details

```
Margin for Flood Risk Warning (mm) 300.0      DVD Status ON
      Analysis Timestep      Fine Inertia Status ON
      DTS Status      ON
```

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Pipe			Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Flow (l/s)	
1.000	1	2	72.325	0.725	0.000	0.55		61.7	SURCHARGED
1.001	2	2	72.197	0.918	0.000	0.88		70.0	SURCHARGED
1.002	3	2	72.073	0.971	0.000	1.72		138.2	SURCHARGED
1.003	4	2	71.398	0.509	0.000	2.12		164.1	SURCHARGED
2.000	5	12	68.312	-0.173	0.000	0.09		69.8	OK
2.001	6	12	68.311	-0.069	0.000	0.11		59.0	OK
1.004	7	12	68.312	-0.028	0.000	0.12		191.5	OK
1.005	8	12	68.211	-0.021	0.000	0.12		102.0	OK
1.006	9	12	68.179	-0.026	0.000	0.07		75.2	OK
1.007	10	12	68.135	0.868	0.000	0.60		37.6	SURCHARGED
1.008	11	28	64.942	-0.773	0.000	0.07		118.6	OK
1.009	12	28	64.907	-0.593	0.000	0.14		114.5	OK
1.010	13	28	64.903	-0.573	0.000	0.13		125.7	OK
1.011	14	28	64.895	-0.545	0.000	0.08		112.6	OK
1.012	15	28	64.886	-0.496	0.000	0.07		73.5	OK
1.013	16	28	64.878	0.435	0.000	0.65		39.7	SURCHARGED

Summary Wizard of 30 minute 100 year Summer I+30% for SW NET 1 10.10.18.SWS

Simulation Criteria

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

Rainfall Model	FSR	Ratio R	0.300
Region	England and Wales	Cv (Summer)	0.750
M5-60 (mm)	19.000	Cv (Winter)	0.840

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

Lees Roxburgh Limited		Page 33
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00	Designed by david wood	
File SW NET 1 10.10.18.MDX	Checked by	
Elstree Computing Ltd		Network 2015.1

Summary Wizard of 180 minute 100 year Summer I+30% for SW NET 1
10.10.18.SWS

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.300
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 19.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
 Analysis Timestep Fine Inertia Status ON
 DTS Status ON

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

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Flow / Cap.	Overflow (l/s)	Pipe	Status
			Level (m)	Depth (m)	Volume (m³)			Flow (l/s)	
1.000	1	13	71.402	-0.198	0.000	0.25	28.1		OK
1.001	2	13	71.111	-0.168	0.000	0.39	31.2		OK
1.002	3	14	71.029	-0.073	0.000	0.84	67.8		OK
1.003	4	14	70.883	-0.006	0.000	1.00	77.5		OK
2.000	5	7	69.512	1.027	0.000	0.03	25.5	SURCHARGED	
2.001	6	7	69.512	1.132	0.000	0.03	16.3	SURCHARGED	
1.004	7	7	69.511	1.171	0.000	0.05	75.2	SURCHARGED	
1.005	8	7	69.510	1.278	0.000	0.06	53.1	SURCHARGED	
1.006	9	7	69.509	1.304	0.000	0.05	46.8	SURCHARGED	
1.007	10	7	69.508	2.241	0.000	0.60	37.6	SURCHARGED	
1.008	11	11	65.502	-0.213	0.000	0.04	67.5		OK
1.009	12	11	65.416	-0.084	0.000	0.07	55.0		OK
1.010	13	11	65.401	-0.075	0.000	0.06	58.9		OK
1.011	14	12	65.372	-0.069	0.000	0.04	54.9		OK
1.012	15	12	65.315	-0.067	0.000	0.05	46.8		OK
1.013	16	12	65.286	0.843	0.000	0.65	39.7	SURCHARGED	

©1982-2015 XP Solutions

Lees Roxburgh Limited		Page 34
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00	Designed by david wood	
File SW NET 1 10.10.18.MDX	Checked by	
Elstree Computing Ltd		Network 2015.1

Summary Wizard of 240 minute 100 year Summer I+30% for SW NET 1
10.10.18.SWS

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.300
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 19.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
 Analysis Timestep Fine Inertia Status ON
 DTS Status ON

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

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Flow / Cap.	Overflow (l/s)	Pipe	Status
			Level (m)	Depth (m)	Volume (m³)			Flow (l/s)	
1.000	1	16	71.392	-0.208	0.000	0.21	22.9		OK
1.001	2	16	71.096	-0.183	0.000	0.32	25.6		OK
1.002	3	16	70.988	-0.115	0.000	0.70	56.1		OK
1.003	4	16	70.804	-0.085	0.000	0.86	66.6		OK
2.000	5	10	68.921	0.436	0.000	0.03	21.0	SURCHARGED	
2.001	6	10	68.921	0.541	0.000	0.03	13.9	SURCHARGED	
1.004	7	10	68.920	0.580	0.000	0.04	66.1	SURCHARGED	
1.005	8	10	68.919	0.687	0.000	0.06	49.7	SURCHARGED	
1.006	9	10	68.918	0.713	0.000	0.04	44.8	SURCHARGED	
1.007	10	10	68.917	1.650	0.000	0.60	37.6	SURCHARGED	
1.008	11	9	65.569	-0.146	0.000	0.04	62.1		OK
1.009	12	10	65.468	-0.032	0.000	0.06	52.7		OK
1.010	13	9	65.443	-0.032	0.000	0.06	56.2		OK
1.011	14	9	65.411	-0.030	0.000	0.04	52.8		OK
1.012	15	9	65.341	-0.040	0.000	0.05	45.8		OK
1.013	16	9	65.303	0.859	0.000	0.65	39.7	SURCHARGED	

©1982-2015 XP Solutions

Lees Roxburgh Limited		Page 36
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00	Designed by david wood	
File SW NET 1 10.10.18.MDX	Checked by	
Elstree Computing Ltd		Network 2015.1

Summary Wizard of 480 minute 100 year Summer I+30% for SW NET 1
10.10.18.SWS

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.300
Region England and Wales	Cv (Summer)	0.750	
M5-60 (mm)	19.000	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0	DVD Status	ON
Analysis Timestep	Fine	Inertia Status	ON
DTS Status	ON		

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

PN	US/MH Name	Storm Rank	Water		Surcharged		Flooded		Pipe Flow (l/s)	Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)			
1.000	1	27	71.370	-0.230	0.000	0.12	13.9	OK		
1.001	2	27	71.069	-0.210	0.000	0.20	15.6	OK		
1.002	3	27	70.938	-0.164	0.000	0.42	34.1	OK		
1.003	4	26	70.743	-0.146	0.000	0.52	40.5	OK		
2.000	5	17	67.998	-0.487	0.000	0.02	13.8	OK		
2.001	6	17	67.996	-0.384	0.000	0.02	11.5	OK		
1.004	7	17	67.995	-0.346	0.000	0.03	50.8	OK		
1.005	8	16	67.955	-0.277	0.000	0.05	43.1	OK		
1.006	9	16	67.949	-0.256	0.000	0.04	40.9	OK		
1.007	10	16	67.937	0.670	0.000	0.60	37.6	SURCHARGED		
1.008	11	7	65.620	-0.095	0.000	0.03	52.4	OK		
1.009	12	7	65.500	0.000	0.000	0.06	48.1	OK		
1.010	13	7	65.475	0.000	0.000	0.05	51.5	OK		
1.011	14	7	65.441	0.000	0.000	0.04	49.9	OK		
1.012	15	7	65.353	-0.028	0.000	0.04	44.4	OK		
1.013	16	8	65.310	0.866	0.000	0.65	39.7	SURCHARGED		

©1982-2015 XP Solutions

Lees Roxburgh Limited		Page 38
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00	Designed by david wood	
File SW NET 1 10.10.18.MDX	Checked by	
Elstree Computing Ltd		Network 2015.1

Summary Wizard of 720 minute 100 year Summer I+30% for SW NET 1
10.10.18.SWS

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.300
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 19.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
 Analysis Timestep Fine Inertia Status ON
 DTS Status ON

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

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Flow / Cap.	Overflow (l/s)	Pipe	Status
			Level (m)	Depth (m)	Volume (m³)			Flow (l/s)	
1.000	1	34	71.361	-0.239	0.000	0.09	10.3	OK	
1.001	2	34	71.055	-0.224	0.000	0.15	11.6	OK	
1.002	3	34	70.917	-0.185	0.000	0.31	25.3	OK	
1.003	4	34	70.718	-0.171	0.000	0.39	30.1	OK	
2.000	5	28	67.707	-0.778	0.000	0.01	10.5	OK	
2.001	6	28	67.700	-0.680	0.000	0.02	10.2	OK	
1.004	7	28	67.699	-0.641	0.000	0.03	42.5	OK	
1.005	8	28	67.675	-0.557	0.000	0.04	39.4	OK	
1.006	9	28	67.671	-0.534	0.000	0.04	38.6	OK	
1.007	10	28	67.664	0.397	0.000	0.60	37.5	SURCHARGED	
1.008	11	14	65.348	-0.367	0.000	0.03	48.0	OK	
1.009	12	14	65.299	-0.201	0.000	0.05	44.7	OK	
1.010	13	14	65.285	-0.191	0.000	0.05	46.3	OK	
1.011	14	14	65.267	-0.174	0.000	0.03	45.1	OK	
1.012	15	14	65.214	-0.168	0.000	0.04	42.2	OK	
1.013	16	14	65.193	0.749	0.000	0.65	39.7	SURCHARGED	

©1982-2015 XP Solutions

Lees Roxburgh Limited		Page 41
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00	Designed by david wood	
File SW NET 1 10.10.18.MDX	Checked by	
Elstree Computing Ltd		Network 2015.1

Summary Wizard of 30 minute 1 year Winter I+0% for SW NET 1 10.10.18.SWS

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.300
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 19.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
 Analysis Timestep Fine Inertia Status ON
 DTS Status ON

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

			Water	Surcharged	Flooded		Pipe	
	US/MH	Storm	Level	Depth	Volume	Flow / Overflow	Flow	
PN	Name	Rank	(m)	(m)	(m³)	Cap. (l/s)	(l/s)	Status
1.000	1	26	71.372	-0.228	0.000	0.13	14.6	OK
1.001	2	26	71.071	-0.208	0.000	0.20	16.1	OK
1.002	3	26	70.938	-0.164	0.000	0.42	34.0	OK
1.003	4	27	70.742	-0.147	0.000	0.51	39.9	OK
2.000	5	33	67.677	-0.808	0.000	0.02	14.9	OK
2.001	6	35	67.578	-0.802	0.000	0.03	14.8	OK
1.004	7	34	67.441	-0.900	0.000	0.04	58.1	OK
1.005	8	34	67.428	-0.804	0.000	0.05	45.6	OK
1.006	9	34	67.425	-0.780	0.000	0.04	40.8	OK
1.007	10	34	67.420	0.153	0.000	0.57	35.6	SURCHARGED
1.008	11	42	64.661	-1.054	0.000	0.03	47.4	OK
1.009	12	42	64.592	-0.907	0.000	0.06	50.2	OK
1.010	13	42	64.589	-0.886	0.000	0.05	52.9	OK
1.011	14	42	64.586	-0.855	0.000	0.04	50.2	OK
1.012	15	42	64.578	-0.804	0.000	0.04	42.5	OK
1.013	16	42	64.573	0.129	0.000	0.61	37.7	SURCHARGED

Lees Roxburgh Limited		Page 45
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00 File SW NET 1 10.10.18.MDX	Designed by david wood Checked by	
Elstree Computing Ltd		
Network 2015.1		

Summary Wizard of 240 minute 1 year Winter I+0% for SW NET 1 10.10.18.SWS

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.300
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 19.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
 Analysis Timestep Fine Inertia Status ON
 DTS Status ON

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

			Water	Surcharged	Flooded		Pipe	
	US/MH	Storm	Level	Depth	Volume	Flow / Overflow	Flow	
PN	Name	Rank	(m)	(m)	(m³)	Cap. (l/s)	(l/s)	Status
1.000	1	56	71.339	-0.261	0.000	0.04	4.5	OK
1.001	2	56	71.028	-0.251	0.000	0.06	5.1	OK
1.002	3	56	70.876	-0.226	0.000	0.14	11.1	OK
1.003	4	56	70.671	-0.217	0.000	0.17	13.2	OK
2.000	5	56	67.615	-0.870	0.000	0.01	4.7	OK
2.001	6	56	67.516	-0.864	0.000	0.01	4.7	OK
1.004	7	56	67.247	-1.093	0.000	0.01	19.6	OK
1.005	8	56	67.183	-1.049	0.000	0.02	21.5	OK
1.006	9	56	67.168	-1.036	0.000	0.02	21.9	OK
1.007	10	56	67.157	-0.110	0.000	0.36	22.3	OK
1.008	11	56	64.616	-1.099	0.000	0.02	27.3	OK
1.009	12	56	64.467	-1.033	0.000	0.04	31.5	OK
1.010	13	56	64.448	-1.028	0.000	0.03	32.9	OK
1.011	14	56	64.427	-1.014	0.000	0.03	33.3	OK
1.012	15	56	64.412	-0.970	0.000	0.03	33.4	OK
1.013	16	56	64.404	-0.040	0.000	0.54	33.4	OK

Lees Roxburgh Limited		Page 46
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00 File SW NET 1 10.10.18.MDX	Designed by david wood Checked by	
Elstree Computing Ltd		
Network 2015.1		

Summary Wizard of 360 minute 1 year Winter I+0% for SW NET 1 10.10.18.SWS

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.300
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 19.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
 Analysis Timestep Fine Inertia Status ON
 DTS Status ON

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

			Water	Surcharged	Flooded		Pipe	
	US/MH	Storm	Level	Depth	Volume	Flow / Overflow	Flow	
PN	Name	Rank	(m)	(m)	(m³)	Cap. (l/s)	(l/s)	Status
1.000	1	59	71.335	-0.265	0.000	0.03	3.5	OK
1.001	2	59	71.022	-0.257	0.000	0.05	3.9	OK
1.002	3	59	70.867	-0.235	0.000	0.11	8.6	OK
1.003	4	59	70.661	-0.228	0.000	0.13	10.2	OK
2.000	5	59	67.608	-0.877	0.000	0.00	3.6	OK
2.001	6	59	67.508	-0.872	0.000	0.01	3.6	OK
1.004	7	59	67.224	-1.116	0.000	0.01	15.1	OK
1.005	8	59	67.161	-1.071	0.000	0.02	16.6	OK
1.006	9	59	67.142	-1.063	0.000	0.02	16.9	OK
1.007	10	59	67.127	-0.140	0.000	0.28	17.3	OK
1.008	11	59	64.593	-1.122	0.000	0.01	21.2	OK
1.009	12	59	64.442	-1.058	0.000	0.03	24.7	OK
1.010	13	59	64.417	-1.058	0.000	0.03	25.8	OK
1.011	14	59	64.387	-1.053	0.000	0.02	26.1	OK
1.012	15	59	64.364	-1.017	0.000	0.03	26.4	OK
1.013	16	59	64.353	-0.091	0.000	0.43	26.4	OK

Lees Roxburgh Limited		Page 47
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00 File SW NET 1 10.10.18.MDX	Designed by david wood Checked by	
Elstree Computing Ltd		
Network 2015.1		

Summary Wizard of 480 minute 1 year Winter I+0% for SW NET 1 10.10.18.SWS

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.300
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 19.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
 Analysis Timestep Fine Inertia Status ON
 DTS Status ON

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

			Water	Surcharged	Flooded		Pipe		
	US/MH	Storm	Level	Depth	Volume	Flow /	Overflow	Pipe	
PN	Name	Rank	(m)	(m)	(m³)	Cap.	(l/s)	Flow	
								Status	
1.000	1	62	71.332	-0.268	0.000	0.03		2.9	OK
1.001	2	62	71.018	-0.261	0.000	0.04		3.3	OK
1.002	3	62	70.862	-0.240	0.000	0.09		7.1	OK
1.003	4	62	70.654	-0.234	0.000	0.11		8.5	OK
2.000	5	62	67.604	-0.881	0.000	0.00		3.0	OK
2.001	6	62	67.503	-0.877	0.000	0.01		3.0	OK
1.004	7	62	67.211	-1.130	0.000	0.01		12.6	OK
1.005	8	62	67.149	-1.083	0.000	0.02		13.8	OK
1.006	9	62	67.128	-1.077	0.000	0.01		14.1	OK
1.007	10	62	67.109	-0.157	0.000	0.23		14.4	OK
1.008	11	62	64.580	-1.135	0.000	0.01		17.6	OK
1.009	12	62	64.431	-1.069	0.000	0.02		20.5	OK
1.010	13	62	64.404	-1.071	0.000	0.02		21.5	OK
1.011	14	62	64.370	-1.070	0.000	0.02		21.8	OK
1.012	15	62	64.340	-1.041	0.000	0.02		22.1	OK
1.013	16	62	64.327	-0.117	0.000	0.36		22.1	OK

Lees Roxburgh Limited		Page 48
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00	Designed by david wood	
File SW NET 1 10.10.18.MDX	Checked by	
Elstree Computing Ltd		Network 2015.1

Summary Wizard of 600 minute 1 year Winter I+0% for SW NET 1 10.10.18.SWS

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.300
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 19.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
 Analysis Timestep Fine Inertia Status ON
 DTS Status ON

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

			Water	Surcharged	Flooded		Pipe	
	US/MH	Storm	Level	Depth	Volume	Flow / Overflow	Flow	
PN	Name	Rank	(m)	(m)	(m³)	Cap. (l/s)	(l/s)	Status
1.000	1	63	71.331	-0.269	0.000	0.02	2.5	OK
1.001	2	63	71.015	-0.264	0.000	0.04	2.8	OK
1.002	3	63	70.857	-0.245	0.000	0.08	6.2	OK
1.003	4	63	70.650	-0.238	0.000	0.09	7.3	OK
2.000	5	63	67.602	-0.883	0.000	0.00	2.6	OK
2.001	6	63	67.500	-0.880	0.000	0.00	2.6	OK
1.004	7	63	67.200	-1.140	0.000	0.01	10.9	OK
1.005	8	63	67.137	-1.095	0.000	0.01	12.0	OK
1.006	9	63	67.117	-1.088	0.000	0.01	12.2	OK
1.007	10	63	67.098	-0.169	0.000	0.20	12.4	OK
1.008	11	63	64.572	-1.143	0.000	0.01	15.2	OK
1.009	12	63	64.424	-1.076	0.000	0.02	17.8	OK
1.010	13	63	64.397	-1.079	0.000	0.02	18.6	OK
1.011	14	63	64.361	-1.080	0.000	0.01	18.9	OK
1.012	15	63	64.326	-1.056	0.000	0.02	19.1	OK
1.013	16	63	64.310	-0.133	0.000	0.31	19.1	OK

Lees Roxburgh Limited		Page 49
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00	Designed by david wood	
File SW NET 1 10.10.18.MDX	Checked by	
Elstree Computing Ltd		Network 2015.1

Summary Wizard of 720 minute 1 year Winter I+0% for SW NET 1 10.10.18.SWS

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.300
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 19.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
 Analysis Timestep Fine Inertia Status ON
 DTS Status ON

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

			Water	Surcharged	Flooded		Pipe	
	US/MH	Storm	Level	Depth	Volume	Flow / Overflow	Flow	
PN	Name	Rank	(m)	(m)	(m³)	Cap.	(l/s)	Status
1.000	1	65	71.329	-0.271	0.000	0.02	2.2	OK
1.001	2	65	71.014	-0.265	0.000	0.03	2.5	OK
1.002	3	65	70.853	-0.249	0.000	0.07	5.5	OK
1.003	4	65	70.647	-0.242	0.000	0.08	6.5	OK
2.000	5	65	67.600	-0.885	0.000	0.00	2.3	OK
2.001	6	65	67.498	-0.882	0.000	0.00	2.3	OK
1.004	7	65	67.192	-1.148	0.000	0.01	9.7	OK
1.005	8	65	67.126	-1.105	0.000	0.01	10.7	OK
1.006	9	65	67.107	-1.098	0.000	0.01	10.9	OK
1.007	10	65	67.089	-0.178	0.000	0.18	11.1	OK
1.008	11	65	64.565	-1.150	0.000	0.01	13.6	OK
1.009	12	65	64.414	-1.086	0.000	0.02	15.8	OK
1.010	13	65	64.386	-1.090	0.000	0.02	16.5	OK
1.011	14	65	64.350	-1.091	0.000	0.01	16.8	OK
1.012	15	65	64.316	-1.066	0.000	0.02	17.0	OK
1.013	16	65	64.298	-0.145	0.000	0.28	17.0	OK

Lees Roxburgh Limited		Page 50
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00 File SW NET 1 10.10.18.MDX	Designed by david wood Checked by	
Elstree Computing Ltd		
Network 2015.1		

Summary Wizard of 960 minute 1 year Winter I+0% for SW NET 1 10.10.18.SWS

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.300
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 19.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
 Analysis Timestep Fine Inertia Status ON
 DTS Status ON

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

			Water	Surcharged	Flooded		Pipe	
	US/MH	Storm	Level	Depth	Volume	Flow / Overflow	Flow	
PN	Name	Rank	(m)	(m)	(m³)	Cap. (l/s)	(l/s)	Status
1.000	1	66	71.324	-0.276	0.000	0.02	1.9	OK
1.001	2	66	71.011	-0.268	0.000	0.03	2.1	OK
1.002	3	66	70.848	-0.254	0.000	0.06	4.6	OK
1.003	4	66	70.640	-0.248	0.000	0.07	5.4	OK
2.000	5	66	67.597	-0.888	0.000	0.00	1.9	OK
2.001	6	66	67.495	-0.885	0.000	0.00	1.9	OK
1.004	7	66	67.182	-1.158	0.000	0.01	8.1	OK
1.005	8	66	67.112	-1.120	0.000	0.01	8.9	OK
1.006	9	66	67.094	-1.111	0.000	0.01	9.0	OK
1.007	10	66	67.077	-0.190	0.000	0.15	9.2	OK
1.008	11	66	64.556	-1.159	0.000	0.01	11.3	OK
1.009	12	66	64.397	-1.103	0.000	0.02	13.2	OK
1.010	13	66	64.370	-1.106	0.000	0.01	13.8	OK
1.011	14	66	64.335	-1.106	0.000	0.01	14.0	OK
1.012	15	66	64.303	-1.078	0.000	0.01	14.2	OK
1.013	16	66	64.282	-0.161	0.000	0.23	14.2	OK

Lees Roxburgh Limited		Page 52
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00 File SW NET 1 10.10.18.MDX	Designed by david wood Checked by	
Elstree Computing Ltd		
Network 2015.1		

Summary Wizard of 30 minute 30 year Winter I+0% for SW NET 1 10.10.18.SWS

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.300
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 19.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
 Analysis Timestep Fine Inertia Status ON
 DTS Status ON

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

			Water	Surcharged	Flooded		Pipe	
	US/MH	Storm	Level	Depth	Volume	Flow / Overflow	Flow	
PN	Name	Rank	(m)	(m)	(m³)	Cap.	(l/s)	Status
1.000	1	10	71.417	-0.183	0.000	0.32	35.9	OK
1.001	2	11	71.221	-0.058	0.000	0.48	37.9	OK
1.002	3	11	71.163	0.061	0.000	1.00	80.6	SURCHARGED
1.003	4	11	70.948	0.059	0.000	1.23	95.0	SURCHARGED
2.000	5	16	68.001	-0.484	0.000	0.05	36.2	OK
2.001	6	16	67.999	-0.381	0.000	0.06	31.5	OK
1.004	7	16	67.998	-0.342	0.000	0.07	116.9	OK
1.005	8	17	67.954	-0.278	0.000	0.08	70.4	OK
1.006	9	17	67.947	-0.258	0.000	0.06	57.1	OK
1.007	10	17	67.934	0.667	0.000	0.60	37.6	SURCHARGED
1.008	11	31	64.894	-0.821	0.000	0.04	76.6	OK
1.009	12	31	64.865	-0.635	0.000	0.08	70.6	OK
1.010	13	31	64.860	-0.615	0.000	0.08	75.9	OK
1.011	14	31	64.855	-0.585	0.000	0.05	68.7	OK
1.012	15	31	64.846	-0.536	0.000	0.05	52.2	OK
1.013	16	31	64.838	0.395	0.000	0.65	39.7	SURCHARGED

Lees Roxburgh Limited		Page 60
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00 File SW NET 1 10.10.18.MDX	Designed by david wood Checked by	
Elstree Computing Ltd	Network 2015.1	

Summary Wizard of 720 minute 30 year Winter I+0% for SW NET 1 10.10.18.SWS

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.300
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 19.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
 Analysis Timestep Fine Inertia Status ON
 DTS Status ON

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

			Water	Surcharged	Flooded		Pipe	
	US/MH	Storm	Level	Depth	Volume	Flow / Overflow	Flow	
PN	Name	Rank	(m)	(m)	(m³)	Cap. (l/s)	(l/s)	Status
1.000	1	55	71.339	-0.261	0.000	0.04	4.6	OK
1.001	2	55	71.029	-0.250	0.000	0.07	5.2	OK
1.002	3	55	70.877	-0.225	0.000	0.14	11.4	OK
1.003	4	55	70.672	-0.216	0.000	0.17	13.5	OK
2.000	5	55	67.616	-0.869	0.000	0.01	4.8	OK
2.001	6	55	67.517	-0.863	0.000	0.01	4.8	OK
1.004	7	55	67.250	-1.090	0.000	0.01	20.1	OK
1.005	8	55	67.186	-1.045	0.000	0.03	22.1	OK
1.006	9	55	67.173	-1.032	0.000	0.02	22.5	OK
1.007	10	55	67.161	-0.105	0.000	0.37	22.9	OK
1.008	11	54	64.622	-1.093	0.000	0.02	28.2	OK
1.009	12	54	64.482	-1.017	0.000	0.04	32.6	OK
1.010	13	54	64.467	-1.008	0.000	0.04	34.0	OK
1.011	14	54	64.452	-0.988	0.000	0.03	34.4	OK
1.012	15	54	64.442	-0.939	0.000	0.03	34.6	OK
1.013	16	54	64.437	-0.007	0.000	0.56	34.5	OK

Lees Roxburgh Limited		Page 61
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00	Designed by david wood	
File SW NET 1 10.10.18.MDX	Checked by	
Elstree Computing Ltd		Network 2015.1

Summary Wizard of 960 minute 30 year Winter I+0% for SW NET 1 10.10.18.SWS

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.300
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 19.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
 Analysis Timestep Fine Inertia Status ON
 DTS Status ON

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

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Flow / Cap.	Overflow (l/s)	Pipe	Status
			Level (m)	Depth (m)	Volume (m³)			Flow (l/s)	
1.000	1	58	71.336	-0.264	0.000	0.03	3.8	OK	
1.001	2	58	71.023	-0.256	0.000	0.05	4.2	OK	
1.002	3	58	70.870	-0.233	0.000	0.12	9.3	OK	
1.003	4	58	70.663	-0.225	0.000	0.14	11.0	OK	
2.000	5	58	67.610	-0.875	0.000	0.00	3.9	OK	
2.001	6	58	67.510	-0.870	0.000	0.01	3.9	OK	
1.004	7	58	67.230	-1.110	0.000	0.01	16.3	OK	
1.005	8	58	67.167	-1.065	0.000	0.02	18.0	OK	
1.006	9	58	67.149	-1.056	0.000	0.02	18.3	OK	
1.007	10	58	67.135	-0.132	0.000	0.30	18.7	OK	
1.008	11	58	64.600	-1.115	0.000	0.01	22.9	OK	
1.009	12	58	64.449	-1.051	0.000	0.03	26.8	OK	
1.010	13	58	64.426	-1.050	0.000	0.03	28.0	OK	
1.011	14	58	64.399	-1.042	0.000	0.02	28.3	OK	
1.012	15	58	64.379	-1.003	0.000	0.03	28.7	OK	
1.013	16	58	64.369	-0.075	0.000	0.47	28.7	OK	

©1982-2015 XP Solutions

Summary Wizard of 30 minute 100 year Winter I+30% for SW NET 1 10.10.18.SWS

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m ³ /ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Hot Start (mins)	0	MADD Factor * 10m ³ /ha Storage	2.000
------------------	---	--	-------

Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
----------------------	---	--------------------	-------

Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000

Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0 Number of Storage Structures 0

Number of Online Controls 2 Number of Time/Area Diagrams 0

Number of Offline Controls 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Region England and Wales Cv (Summer) 0.750

M5-60 (mm) 19.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON

```
Analysis Timestep   Fine Inertia Status ON
```

DTS Status ON

Profile(s)

Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600,

720, 960

Return Period(s) (years)	1, 30, 100
--------------------------	------------

Climate Change (%) 0, 0, 30

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Pipe		Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	
1.000	1	4	72.141	0.541	0.000	0.49	55.0	SURCHARGED
1.001	2	4	71.997	0.718	0.000	0.78	61.5	SURCHARGED
1.002	3	4	71.890	0.788	0.000	1.63	130.9	SURCHARGED
1.003	4	4	71.311	0.423	0.000	2.00	155.2	SURCHARGED
2.000	5	3	70.256	1.771	0.000	0.07	55.9	SURCHARGED
2.001	6	3	70.256	1.876	0.000	0.06	32.8	SURCHARGED
1.004	7	3	70.256	1.915	0.000	0.09	133.6	SURCHARGED
1.005	8	3	70.254	2.022	0.000	0.09	81.3	SURCHARGED
1.006	9	3	70.253	2.048	0.000	0.06	61.3	SURCHARGED
1.007	10	3	70.251	2.984	0.000	0.65	40.7	SURCHARGED
1.008	11	17	65.200	-0.515	0.000	0.06	104.2	OK
1.009	12	17	65.150	-0.349	0.000	0.10	81.2	OK
1.010	13	17	65.145	-0.330	0.000	0.09	90.8	OK
1.011	14	17	65.136	-0.304	0.000	0.06	80.8	OK
1.012	15	17	65.115	-0.266	0.000	0.06	58.9	OK
1.013	16	17	65.105	0.661	0.000	0.65	39.7	SURCHARGED

Lees Roxburgh Limited		Page 64
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00	Designed by david wood	
File SW NET 1 10.10.18.MDX	Checked by	
Elstree Computing Ltd		Network 2015.1

Summary Wizard of 60 minute 100 year Winter I+30% for SW NET 1 10.10.18.SWS

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.300
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 19.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
 Analysis Timestep Fine Inertia Status ON
 DTS Status ON

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

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Flow / Cap.	Overflow	Pipe	Status
			Level (m)	Depth (m)	Volume (m³)		(l/s)	Flow (l/s)	
1.000	1	6	71.630	0.030	0.000	0.36	40.4	SURCHARGED	
1.001	2	6	71.482	0.203	0.000	0.58	45.7	SURCHARGED	
1.002	3	6	71.372	0.269	0.000	1.21	97.2	SURCHARGED	
1.003	4	6	71.056	0.168	0.000	1.49	115.5	SURCHARGED	
2.000	5	1	70.827	2.342	0.000	0.05	37.8	FLOOD RISK	
2.001	6	1	70.826	2.446	0.000	0.04	21.8	SURCHARGED	
1.004	7	1	70.825	2.485	0.000	0.06	98.2	SURCHARGED	
1.005	8	1	70.823	2.591	0.000	0.08	73.8	SURCHARGED	
1.006	9	1	70.822	2.617	0.000	0.06	55.2	SURCHARGED	
1.007	10	1	70.820	3.553	0.000	0.70	43.9	FLOOD RISK	
1.008	11	8	65.581	-0.134	0.000	0.05	82.9	OK	
1.009	12	9	65.472	-0.028	0.000	0.08	65.2	OK	
1.010	13	10	65.443	-0.033	0.000	0.07	71.9	OK	
1.011	14	10	65.407	-0.033	0.000	0.05	65.5	OK	
1.012	15	10	65.337	-0.045	0.000	0.05	51.8	OK	
1.013	16	10	65.303	0.859	0.000	0.65	39.7	SURCHARGED	

©1982-2015 XP Solutions

Lees Roxburgh Limited		Page 65
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00	Designed by david wood	
File SW NET 1 10.10.18.MDX	Checked by	
Elstree Computing Ltd		Network 2015.1

Summary Wizard of 120 minute 100 year Winter I+30% for SW NET 1
10.10.18.SWS

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.300
Region England and Wales	Cv (Summer)		0.750
M5-60 (mm)	19.000	Cv (Winter)	0.840

Margin for Flood Risk Warning (mm)	300.0	DVD Status	ON
Analysis Timestep	Fine	Inertia Status	ON
DTS Status	ON		

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

			Water	Surcharged	Flooded		Pipe		
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	1	14	71.401	-0.199	0.000	0.25		27.5	OK
1.001	2	14	71.109	-0.170	0.000	0.39		30.8	OK
1.002	3	13	71.034	-0.068	0.000	0.83		66.6	OK
1.003	4	13	70.889	0.000	0.000	1.00		77.7	SURCHARGED
2.000	5	2	70.740	2.255	0.000	0.03		24.4	FLOOD RISK
2.001	6	2	70.739	2.359	0.000	0.03		16.5	SURCHARGED
1.004	7	2	70.738	2.398	0.000	0.05		73.2	SURCHARGED
1.005	8	2	70.736	2.504	0.000	0.06		56.6	SURCHARGED
1.006	9	2	70.735	2.530	0.000	0.05		46.6	SURCHARGED
1.007	10	2	70.733	3.466	0.000	0.69		43.4	FLOOD RISK
1.008	11	4	66.440	0.725	0.000	0.04		66.7	SURCHARGED
1.009	12	4	66.438	0.938	0.000	0.07		58.7	SURCHARGED
1.010	13	4	66.437	0.961	0.000	0.06		60.3	SURCHARGED
1.011	14	4	66.435	0.995	0.000	0.04		58.1	SURCHARGED
1.012	15	4	66.434	1.052	0.000	0.05		47.8	SURCHARGED
1.013	16	4	66.432	1.989	0.000	0.65		39.7	SURCHARGED

©1982-2015 XP Solutions

Lees Roxburgh Limited		Page 67
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00	Designed by david wood	
File SW NET 1 10.10.18.MDX	Checked by	
Elstree Computing Ltd		Network 2015.1

Summary Wizard of 240 minute 100 year Winter I+30% for SW NET 1
10.10.18.SWS

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.300
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 19.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
 Analysis Timestep Fine Inertia Status ON
 DTS Status ON

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

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Flow / Cap.	Overflow (l/s)	Pipe	Status
			Level (m)	Depth (m)	Volume (m³)			Flow (l/s)	
1.000	1	22	71.378	-0.222	0.000	0.15	17.1		OK
1.001	2	21	71.079	-0.200	0.000	0.24	19.1		OK
1.002	3	20	70.956	-0.146	0.000	0.52	41.9		OK
1.003	4	20	70.764	-0.125	0.000	0.64	49.8		OK
2.000	5	8	69.353	0.868	0.000	0.02	16.0	SURCHARGED	
2.001	6	8	69.353	0.973	0.000	0.02	12.9	SURCHARGED	
1.004	7	8	69.353	1.013	0.000	0.03	53.8	SURCHARGED	
1.005	8	8	69.352	1.120	0.000	0.05	44.6	SURCHARGED	
1.006	9	8	69.351	1.146	0.000	0.04	41.8	SURCHARGED	
1.007	10	8	69.349	2.082	0.000	0.60	37.6	SURCHARGED	
1.008	11	2	66.569	0.854	0.000	0.03	55.9	SURCHARGED	
1.009	12	2	66.566	1.067	0.000	0.06	49.6	SURCHARGED	
1.010	13	2	66.565	1.090	0.000	0.05	51.9	SURCHARGED	
1.011	14	2	66.564	1.123	0.000	0.04	51.7	SURCHARGED	
1.012	15	2	66.562	1.181	0.000	0.04	44.5	SURCHARGED	
1.013	16	2	66.561	2.117	0.000	0.65	39.7	SURCHARGED	

©1982-2015 XP Solutions

Lees Roxburgh Limited		Page 69
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00	Designed by david wood	
File SW NET 1 10.10.18.MDX	Checked by	
Elstree Computing Ltd		Network 2015.1

Summary Wizard of 480 minute 100 year Winter I+30% for SW NET 1
10.10.18.SWS

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.300
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 19.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
 Analysis Timestep Fine Inertia Status ON
 DTS Status ON

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

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Flow / Cap.	Overflow (l/s)	Pipe	Status
			Level (m)	Depth (m)	Volume (m³)			Flow (l/s)	
1.000	1	33	71.361	-0.239	0.000	0.09	10.4	OK	
1.001	2	33	71.055	-0.224	0.000	0.15	11.6	OK	
1.002	3	33	70.917	-0.185	0.000	0.32	25.4	OK	
1.003	4	33	70.718	-0.171	0.000	0.39	30.2	OK	
2.000	5	23	67.839	-0.646	0.000	0.01	10.5	OK	
2.001	6	23	67.837	-0.543	0.000	0.02	9.8	OK	
1.004	7	23	67.836	-0.505	0.000	0.03	41.4	OK	
1.005	8	23	67.802	-0.430	0.000	0.05	40.0	OK	
1.006	9	23	67.800	-0.405	0.000	0.04	39.7	OK	
1.007	10	23	67.793	0.526	0.000	0.60	37.6	SURCHARGED	
1.008	11	3	66.452	0.737	0.000	0.03	48.5	SURCHARGED	
1.009	12	3	66.450	0.950	0.000	0.06	46.4	SURCHARGED	
1.010	13	3	66.449	0.973	0.000	0.05	49.2	SURCHARGED	
1.011	14	3	66.447	1.007	0.000	0.04	48.8	SURCHARGED	
1.012	15	3	66.446	1.064	0.000	0.04	44.0	SURCHARGED	
1.013	16	3	66.445	2.001	0.000	0.65	39.7	SURCHARGED	

©1982-2015 XP Solutions

Lees Roxburgh Limited		Page 70
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00	Designed by david wood	
File SW NET 1 10.10.18.MDX	Checked by	
Elstree Computing Ltd		Network 2015.1

Summary Wizard of 600 minute 100 year Winter I+30% for SW NET 1
10.10.18.SWS

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.300
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 19.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
 Analysis Timestep Fine Inertia Status ON
 DTS Status ON

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

PN	US/MH Name	Storm Rank	Water		Surcharged		Flooded		Pipe		Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Flow / Cap.	Flow (l/s)			
1.000	1	38	71.356	-0.244	0.000	0.08	8.8	OK			
1.001	2	38	71.049	-0.230	0.000	0.12	9.8	OK			
1.002	3	38	70.907	-0.195	0.000	0.27	21.6	OK			
1.003	4	38	70.707	-0.182	0.000	0.33	25.6	OK			
2.000	5	35	67.662	-0.823	0.000	0.01	9.1	OK			
2.001	6	30	67.618	-0.762	0.000	0.02	9.0	OK			
1.004	7	30	67.615	-0.726	0.000	0.02	37.3	OK			
1.005	8	30	67.593	-0.639	0.000	0.04	37.3	OK			
1.006	9	30	67.589	-0.616	0.000	0.04	37.1	OK			
1.007	10	30	67.582	0.316	0.000	0.59	37.2	SURCHARGED			
1.008	11	10	65.561	-0.154	0.000	0.03	46.1	OK			
1.009	12	8	65.498	-0.002	0.000	0.05	43.6	OK			
1.010	13	8	65.454	-0.021	0.000	0.05	45.1	OK			
1.011	14	8	65.417	-0.024	0.000	0.03	44.2	OK			
1.012	15	8	65.349	-0.033	0.000	0.04	41.8	OK			
1.013	16	7	65.310	0.866	0.000	0.65	39.7	SURCHARGED			

©1982-2015 XP Solutions

Lees Roxburgh Limited		Page 72
The Genesis Centre Science Park South Birchwood WA3 7BH		
Date 01/01/001 00:00	Designed by david wood	
File SW NET 1 10.10.18.MDX	Checked by	
Elstree Computing Ltd		Network 2015.1

Summary Wizard of 960 minute 100 year Winter I+30% for SW NET 1
10.10.18.SWS

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.300
Region England and Wales Cv (Summer) 0.750
M5-60 (mm) 19.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
Analysis Timestep Fine Inertia Status ON
DTS Status ON

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

PN	US/MH Name	Storm Rank	Water Surcharged Flooded			Flow / Cap.	Pipe Flow (l/s)	Status
			Level (m)	Depth (m)	Volume (m³)			
1.000	1	48	71.345	-0.255	0.000	0.06	6.2	OK
1.001	2	48	71.039	-0.240	0.000	0.09	7.0	OK
1.002	3	48	70.890	-0.212	0.000	0.19	15.2	OK
1.003	4	48	70.686	-0.202	0.000	0.23	18.1	OK
2.000	5	48	67.627	-0.858	0.000	0.01	6.4	OK
2.001	6	48	67.530	-0.850	0.000	0.01	6.4	OK
1.004	7	48	67.279	-1.061	0.000	0.02	26.8	OK
1.005	8	48	67.237	-0.995	0.000	0.03	29.5	OK
1.006	9	48	67.228	-0.977	0.000	0.03	30.1	OK
1.007	10	48	67.221	-0.046	0.000	0.49	30.6	OK
1.008	11	34	64.838	-0.877	0.000	0.02	37.5	OK
1.009	12	34	64.819	-0.680	0.000	0.05	39.9	OK
1.010	13	33	64.817	-0.659	0.000	0.04	41.1	OK
1.011	14	33	64.812	-0.628	0.000	0.03	40.8	OK
1.012	15	33	64.806	-0.576	0.000	0.04	40.3	OK
1.013	16	33	64.800	0.357	0.000	0.65	39.6	SURCHARGED