


David R Murray and Associates LLP		Page 1
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <span style="background-color: gray; color: black;">XXXXXXXXXX</span> Checked by	
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### STORM SEWER DESIGN by the Modified Rational Method

#### Design Criteria for SW4.SWS







Pipe Sizes ScottishWater Manhole Sizes Scottish Water

FSR Rainfall Model - Scotland and Ireland

Return Period (years)	30	Add Flow / Climate Change (%)	20
M5-60 (mm)	14.000	Minimum Backdrop Height (m)	0.000
Ratio R	0.300	Maximum Backdrop Height (m)	0.000
Maximum Rainfall (mm/hr)	0	Min Design Depth for Optimisation (m)	1.500
Maximum Time of Concentration (mins)	30	Min Vel for Auto Design only (m/s)	1.00
Foul Sewage (l/s/ha)	0.000	Min Slope for Optimisation (1:X)	300
Volumetric Runoff Coeff.	0.750		


Designed with Level Soffits

#### Network Design Table for SW4.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	34.446	0.138	249.6	0.140	5.00	0.0	0.600	o	600	
2.000	30.102	0.120	250.9	0.022	5.00	0.0	0.600	o	600	
3.000	25.610	0.102	251.1	0.039	5.00	0.0	0.600	o	600	
3.001	14.428	0.058	248.8	0.000	0.00	0.0	0.600	o	600	
1.001	6.957	0.029	239.9	0.019	0.00	0.0	0.600	o	225	
1.002	14.341	0.060	239.0	0.000	0.00	0.0	0.600	o	225	

#### 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	0.00	5.37	123.600	0.140	0.0	0.0	0.0	1.54	434.5	0.0
2.000	0.00	5.33	123.582	0.022	0.0	0.0	0.0	1.53	433.4	0.0
3.000	0.00	5.28	123.622	0.039	0.0	0.0	0.0	1.53	433.2	0.0
3.001	0.00	5.43	123.520	0.039	0.0	0.0	0.0	1.54	435.3	0.0
1.001	0.00	5.57	123.462	0.220	0.0	0.0	0.0	0.84	33.4	0.0
1.002	0.00	5.86	123.433	0.220	0.0	0.0	0.0	0.84	33.5	0.0


David R Murray and Associates LLP		Page 2
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <div></div> Checked by	
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Manhole Schedules for SW4.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)
173	126.900	3.300	Open Manhole	1800	1.000	123.600	600				
180	127.100	3.518	Open Manhole	1800	2.000	123.582	600				
190	126.700	3.078	Open Manhole	1800	3.000	123.622	600				
191	126.000	2.480	Open Manhole	1800	3.001	123.520	600	3.000	123.520	600	
174	125.350	1.888	Open Manhole	2100	1.001	123.462	225	1.000	123.462	600	
								2.000	123.462	600	
								3.001	123.462	600	
175	125.250	1.817	Open Manhole	1200	1.002	123.433	225	1.001	123.433	225	
176	124.900	1.527	Open Manhole	1200		OUTFALL		1.002	123.373	225	

Free Flowing Outfall Details for SW4.SWS

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D, L (mm)	W (mm)
1.002	176	124.900	123.373	118.600	1200	0

David R Murray and Associates LLP		Page 3
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <span style="background-color: grey; color: black;">XXXXXXXXXX</span> Checked by	
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Online Controls for SW4.SWS

Complex Manhole: 174, DS/PN: 1.001, Volume (m<sup>3</sup>): 27.2

Hydro-Brake Optimum®

Unit Reference MD-SHE-0095-4500-1388-4500  
Design Head (m) 1.388  
Design Flow (l/s) 4.5  
Flush-Flo™ Calculated  
Objective Minimise upstream storage  
Diameter (mm) 95  
Invert Level (m) 123.462  
Minimum Outlet Pipe Diameter (mm) 150  
Suggested Manhole Diameter (mm) 1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.388	4.5
Flush-Flo™	0.416	4.5
Kick-Flo®	0.844	3.6
Mean Flow over Head Range	-	3.9


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	3.0	1.200	4.2	3.000	6.4	7.000	9.6
0.200	4.1	1.400	4.5	3.500	6.9	7.500	9.9
0.300	4.4	1.600	4.8	4.000	7.4	8.000	10.2
0.400	4.5	1.800	5.1	4.500	7.8	8.500	10.5
0.500	4.4	2.000	5.3	5.000	8.2	9.000	10.8
0.600	4.3	2.200	5.6	5.500	8.6	9.500	11.1
0.800	3.8	2.400	5.8	6.000	8.9		
1.000	3.9	2.600	6.0	6.500	9.3		

Weir

Discharge Coef 0.544 Width (m) 2.100 Invert Level (m) 124.850



David R Murray and Associates LLP		Page 5
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <span style="background-color: #cccccc; color: black;">XXXXXXXXXX</span> Checked by	
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Summary Wizard of 15 minute 30 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

				Water	Surcharged	Flooded		Pipe	
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	173	28	123.890	-0.310	0.000	0.09		34.0	OK
2.000	180	28	123.889	-0.293	0.000	0.01		3.6	OK
3.000	190	28	123.889	-0.333	0.000	0.02		8.3	OK
3.001	191	28	123.889	-0.231	0.000	0.01		1.9	OK
1.001	174	28	123.889	0.202	0.000	0.17		4.5	SURCHARGED
1.002	175	27	123.491	-0.167	0.000	0.15		4.5	OK

David R Murray and Associates LLP		Page 6
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <span style="background-color: gray; color: black;">XXXXXXXXXX</span> Checked by	
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Summary Wizard of 30 minute 30 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			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	173	24	123.966	-0.234	0.000	0.08	27.5	OK
2.000	180	24	123.965	-0.217	0.000	0.01	3.2	OK
3.000	190	24	123.965	-0.257	0.000	0.02	6.9	OK
3.001	191	24	123.965	-0.155	0.000	0.01	1.8	OK
1.001	174	24	123.965	0.278	0.000	0.17	4.5	SURCHARGED
1.002	175	21	123.491	-0.167	0.000	0.15	4.5	OK

David R Murray and Associates LLP		Page 7
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <span style="background-color: grey; color: black;">XXXXXXXXXX</span> Checked by	
XP Solutions	Network 2015.1	

Summary Wizard of 60 minute 30 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			Water	Surcharged	Flooded		Pipe	
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s) Status
1.000	173	19	124.024	-0.176	0.000	0.05	19.3	OK
2.000	180	19	124.023	-0.159	0.000	0.01	2.4	OK
3.000	190	19	124.023	-0.199	0.000	0.01	4.8	OK
3.001	191	19	124.023	-0.097	0.000	0.01	2.0	OK
1.001	174	19	124.023	0.336	0.000	0.17	4.5	SURCHARGED
1.002	175	14	123.491	-0.167	0.000	0.15	4.5	OK

David R Murray and Associates LLP		Page 8
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <span style="background-color: #cccccc; color: black;">XXXXXXXXXX</span> Checked by	
XP Solutions	Network 2015.1	

Summary Wizard of 120 minute 30 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			Water	Surcharged	Flooded		Pipe	
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s) Status
1.000	173	18	124.032	-0.168	0.000	0.03	12.5	OK
2.000	180	18	124.031	-0.151	0.000	0.00	1.6	OK
3.000	190	18	124.031	-0.191	0.000	0.01	3.1	OK
3.001	191	18	124.031	-0.089	0.000	0.01	2.0	OK
1.001	174	18	124.031	0.344	0.000	0.17	4.5	SURCHARGED
1.002	175	8	123.491	-0.167	0.000	0.15	4.5	OK

David R Murray and Associates LLP		Page 9
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <div></div> Checked by	
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Summary Wizard of 180 minute 30 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			Water	Surcharged	Flooded		Pipe	
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s) Status
1.000	173	20	124.013	-0.187	0.000	0.03	9.6	OK
2.000	180	20	124.013	-0.169	0.000	0.00	1.2	OK
3.000	190	20	124.013	-0.209	0.000	0.01	2.4	OK
3.001	191	20	124.013	-0.107	0.000	0.01	1.9	OK
1.001	174	20	124.013	0.326	0.000	0.17	4.5	SURCHARGED
1.002	175	12	123.491	-0.167	0.000	0.15	4.5	OK

David R Murray and Associates LLP		Page 10
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <div></div> Checked by	
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Summary Wizard of 240 minute 30 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

				Water	Surcharged	Flooded		Pipe	
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	173	22	123.987	-0.213	0.000	0.02		7.9	OK
2.000	180	22	123.987	-0.195	0.000	0.00		1.0	OK
3.000	190	22	123.986	-0.236	0.000	0.01		2.0	OK
3.001	191	22	123.986	-0.134	0.000	0.01		1.8	OK
1.001	174	22	123.987	0.300	0.000	0.17		4.5	SURCHARGED
1.002	175	4	123.491	-0.167	0.000	0.15		4.5	OK

David R Murray and Associates LLP		Page 11
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <span style="background-color: #cccccc; display: inline-block; width: 50px; height: 1em;"></span> Checked by	
XP Solutions	Network 2015.1	

Summary Wizard of 360 minute 30 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			Water	Surcharged	Flooded		Pipe	
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s) Status
1.000	173	27	123.928	-0.272	0.000	0.02	6.0	OK
2.000	180	27	123.927	-0.255	0.000	0.00	0.8	OK
3.000	190	27	123.927	-0.295	0.000	0.00	1.6	OK
3.001	191	27	123.927	-0.193	0.000	0.00	1.5	OK
1.001	174	27	123.928	0.241	0.000	0.17	4.5	SURCHARGED
1.002	175	2	123.491	-0.167	0.000	0.15	4.5	OK

David R Murray and Associates LLP		Page 12
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <span style="background-color: #cccccc; display: inline-block; width: 50px; height: 1em;"></span> Checked by	
XP Solutions	Network 2015.1	

Summary Wizard of 480 minute 30 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			Water	Surcharged	Flooded		Pipe	
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s) Status
1.000	173	29	123.873	-0.327	0.000	0.01	4.9	OK
2.000	180	29	123.873	-0.309	0.000	0.00	0.7	OK
3.000	190	29	123.873	-0.349	0.000	0.00	1.3	OK
3.001	191	29	123.873	-0.247	0.000	0.00	1.5	OK
1.001	174	29	123.873	0.186	0.000	0.17	4.5	SURCHARGED
1.002	175	29	123.491	-0.167	0.000	0.15	4.5	OK

David R Murray and Associates LLP		Page 13
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <span style="background-color: #cccccc; color: black;">XXXXXXXXXX</span> Checked by	
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Summary Wizard of 600 minute 30 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

				<b>Water</b>	<b>Surcharged</b>	<b>Flooded</b>		<b>Pipe</b>	
	<b>US/MH</b>	<b>Storm</b>	<b>Level</b>	<b>Depth</b>	<b>Volume</b>	<b>Flow /</b>	<b>Overflow</b>	<b>Flow</b>	
<b>PN</b>	<b>Name</b>	<b>Rank</b>	<b>(m)</b>	<b>(m)</b>	<b>(m<sup>3</sup>)</b>	<b>Cap.</b>	<b>(l/s)</b>	<b>(l/s)</b>	<b>Status</b>
1.000	173	31	123.823	-0.377	0.000	0.01		4.2	OK
2.000	180	31	123.823	-0.359	0.000	0.00		0.6	OK
3.000	190	31	123.823	-0.399	0.000	0.00		1.1	OK
3.001	191	31	123.823	-0.297	0.000	0.01		1.6	OK
1.001	174	31	123.823	0.136	0.000	0.17		4.4	SURCHARGED
1.002	175	31	123.491	-0.167	0.000	0.15		4.4	OK

David R Murray and Associates LLP		Page 14
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <span style="background-color: #cccccc; display: inline-block; width: 50px; height: 1em;"></span> Checked by	
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Summary Wizard of 720 minute 30 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
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	1
Number of Online Controls	1	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	Scotland and Ireland Cv (Summer) 0.750		
M5-60 (mm)	14.000	Cv (Winter)	0.840

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


Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

				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	173	32	123.781	-0.419	0.000	0.01		3.7	OK
2.000	180	32	123.781	-0.401	0.000	0.00		0.6	OK
3.000	190	32	123.781	-0.441	0.000	0.00		1.3	OK
3.001	191	32	123.781	-0.339	0.000	0.00		1.2	OK
1.001	174	32	123.781	0.094	0.000	0.17		4.4	SURCHARGED
1.002	175	32	123.491	-0.167	0.000	0.15		4.4	OK

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David R Murray and Associates LLP		Page 15
150-156 St Johns Road Edinburgh RH12 8AY		
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Summary Wizard of 960 minute 30 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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


Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

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	173	34	123.703	-0.497	0.000	0.01		3.1	OK	
2.000	180	34	123.701	-0.481	0.000	0.00		0.5	OK	
3.000	190	34	123.701	-0.521	0.000	0.00		0.8	OK	
3.001	191	34	123.701	-0.419	0.000	0.00		1.1	OK	
1.001	174	34	123.701	0.014	0.000	0.16		4.1	SURCHARGED	
1.002	175	34	123.489	-0.169	0.000	0.14		4.1	OK	

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David R Murray and Associates LLP		Page 16
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <span style="background-color: gray; color: black;">XXXXXXXXXX</span> Checked by	
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Summary Wizard of 1440 minute 30 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			<b>Water</b>	<b>Surcharged</b>	<b>Flooded</b>		<b>Pipe</b>	
<b>PN</b>	<b>US/MH Name</b>	<b>Storm Rank</b>	<b>Level (m)</b>	<b>Depth (m)</b>	<b>Volume (m<sup>3</sup>)</b>	<b>Flow / Cap.</b>	<b>Overflow (l/s)</b>	<b>Pipe Flow (l/s) Status</b>
1.000	173	36	123.636	-0.564	0.000	0.01	2.3	OK
2.000	180	36	123.609	-0.573	0.000	0.00	0.4	OK
3.000	190	36	123.632	-0.590	0.000	0.00	0.6	OK
3.001	191	36	123.608	-0.512	0.000	0.00	0.6	OK
1.001	174	36	123.608	-0.079	0.000	0.14	3.6	OK
1.002	175	36	123.485	-0.173	0.000	0.12	3.6	OK

David R Murray and Associates LLP		Page 17
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <span style="background-color: #cccccc; display: inline-block; width: 50px; height: 1em;"></span> Checked by	
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Summary Wizard of 15 minute 100 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			Water	Surcharged	Flooded		Pipe	
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)
1.000	173	23	123.980	-0.220	0.000	0.12		43.1
2.000	180	23	123.979	-0.203	0.000	0.01		5.0
3.000	190	23	123.979	-0.243	0.000	0.03		10.8
3.001	191	23	123.979	-0.141	0.000	0.01		1.9
1.001	174	23	123.979	0.292	0.000	0.17		4.5
1.002	175	7	123.491	-0.167	0.000	0.15		4.5

SURCHARGED  
OK

David R Murray and Associates LLP		Page 18
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <div></div> Checked by	
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Summary Wizard of 30 minute 100 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			<b>Water</b>	<b>Surcharged</b>	<b>Flooded</b>		<b>Pipe</b>	
	<b>US/MH</b>	<b>Storm</b>	<b>Level</b>	<b>Depth</b>	<b>Volume</b>	<b>Flow /</b>	<b>Overflow</b>	<b>Pipe</b>
<b>PN</b>	<b>Name</b>	<b>Rank</b>	<b>(m)</b>	<b>(m)</b>	<b>(m<sup>3</sup>)</b>	<b>Cap.</b>	<b>(l/s)</b>	<b>(l/s)</b>
								<b>Status</b>
1.000	173	14	124.124	-0.076	0.000	0.10	35.9	OK
2.000	180	14	124.122	-0.060	0.000	0.01	4.3	OK
3.000	190	14	124.122	-0.100	0.000	0.03	8.8	OK
3.001	191	14	124.122	0.002	0.000	0.01	2.7	SURCHARGED
1.001	174	14	124.122	0.435	0.000	0.17	4.5	SURCHARGED
1.002	175	25	123.491	-0.167	0.000	0.15	4.5	OK

David R Murray and Associates LLP		Page 19
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by  Checked by	
XP Solutions Network 2015.1		

Summary Wizard of 60 minute 100 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			Water	Surcharged	Flooded		Pipe	
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s) Status
1.000	173	10	124.361	0.161	0.000	0.07	25.0	SURCHARGED
2.000	180	10	124.361	0.179	0.000	0.01	3.0	SURCHARGED
3.000	190	10	124.361	0.139	0.000	0.02	6.2	SURCHARGED
3.001	191	10	124.361	0.241	0.000	0.01	2.9	SURCHARGED
1.001	174	10	124.361	0.674	0.000	0.17	4.5	SURCHARGED
1.002	175	26	123.491	-0.167	0.000	0.15	4.5	OK

David R Murray and Associates LLP		Page 20
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by  Checked by	
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Summary Wizard of 120 minute 100 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			Water	Surcharged	Flooded		Pipe	
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s) Status
1.000	173	6	124.466	0.266	0.000	0.04	16.1	SURCHARGED
2.000	180	6	124.465	0.283	0.000	0.01	2.0	SURCHARGED
3.000	190	6	124.466	0.244	0.000	0.01	4.0	SURCHARGED
3.001	191	6	124.466	0.346	0.000	0.01	2.9	SURCHARGED
1.001	174	6	124.465	0.778	0.000	0.17	4.5	SURCHARGED
1.002	175	9	123.491	-0.167	0.000	0.15	4.5	OK

David R Murray and Associates LLP		Page 21
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <div></div> Checked by	
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Summary Wizard of 180 minute 100 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			Water	Surcharged	Flooded		Pipe	
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s) Status
1.000	173	8	124.429	0.229	0.000	0.03	12.3	SURCHARGED
2.000	180	8	124.429	0.247	0.000	0.00	1.5	SURCHARGED
3.000	190	8	124.425	0.203	0.000	0.01	3.1	SURCHARGED
3.001	191	8	124.425	0.305	0.000	0.01	2.9	SURCHARGED
1.001	174	8	124.429	0.742	0.000	0.17	4.5	SURCHARGED
1.002	175	16	123.491	-0.167	0.000	0.15	4.5	OK

David R Murray and Associates LLP		Page 22
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <span style="background-color: gray; color: black;">XXXXXXXXXX</span> Checked by	
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Summary Wizard of 240 minute 100 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			Water	Surcharged	Flooded		Pipe	
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s) Status
1.000	173	9	124.368	0.168	0.000	0.03	10.1	SURCHARGED
2.000	180	9	124.368	0.186	0.000	0.00	1.3	SURCHARGED
3.000	190	9	124.364	0.142	0.000	0.01	2.5	SURCHARGED
3.001	191	9	124.364	0.244	0.000	0.01	2.9	SURCHARGED
1.001	174	9	124.368	0.681	0.000	0.17	4.5	SURCHARGED
1.002	175	15	123.491	-0.167	0.000	0.15	4.5	OK

David R Murray and Associates LLP		Page 23
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <div></div> Checked by	
XP Solutions Network 2015.1		

Summary Wizard of 360 minute 100 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			Water	Surcharged	Flooded		Pipe	
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s) Status
1.000	173	13	124.188	-0.012	0.000	0.02	7.6	OK
2.000	180	13	124.184	0.002	0.000	0.00	1.0	SURCHARGED
3.000	190	13	124.183	-0.039	0.000	0.01	1.9	OK
3.001	191	13	124.183	0.063	0.000	0.01	2.0	SURCHARGED
1.001	174	13	124.184	0.497	0.000	0.17	4.5	SURCHARGED
1.002	175	19	123.491	-0.167	0.000	0.15	4.5	OK

David R Murray and Associates LLP		Page 24
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <span style="background-color: grey; color: black;">XXXXXXXXXX</span> Checked by	
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Summary Wizard of 480 minute 100 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			Water	Surcharged	Flooded		Pipe	
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)
1.000	173	16	124.069	-0.131	0.000	0.02		6.2
2.000	180	16	124.068	-0.114	0.000	0.00		0.8
3.000	190	16	124.068	-0.154	0.000	0.00		1.6
3.001	191	16	124.068	-0.052	0.000	0.01		1.8
1.001	174	16	124.068	0.381	0.000	0.17		4.5
1.002	175	5	123.491	-0.167	0.000	0.15		4.5

SURCHARGED  
OK

David R Murray and Associates LLP		Page 25
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <div></div> Checked by	
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Summary Wizard of 600 minute 100 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			Water	Surcharged	Flooded		Pipe	
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s) Status
1.000	173	21	123.996	-0.204	0.000	0.01	5.3	OK
2.000	180	21	123.995	-0.187	0.000	0.00	0.7	OK
3.000	190	21	123.995	-0.227	0.000	0.00	1.4	OK
3.001	191	21	123.996	-0.124	0.000	0.01	1.5	OK
1.001	174	21	123.996	0.309	0.000	0.17	4.5	SURCHARGED
1.002	175	10	123.491	-0.167	0.000	0.15	4.5	OK

David R Murray and Associates LLP		Page 26
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <span style="background-color: grey; color: black;">XXXXXXXXXX</span> Checked by	
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Summary Wizard of 720 minute 100 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			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	173	26	123.933	-0.267	0.000	0.01	4.7	OK
2.000	180	26	123.932	-0.250	0.000	0.00	0.7	OK
3.000	190	26	123.932	-0.290	0.000	0.00	1.2	OK
3.001	191	26	123.932	-0.188	0.000	0.01	1.6	OK
1.001	174	26	123.932	0.245	0.000	0.17	4.5	SURCHARGED
1.002	175	1	123.491	-0.167	0.000	0.15	4.5	OK

David R Murray and Associates LLP		Page 27
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <span style="background-color: grey; color: black;">XXXXXXXXXX</span> Checked by	
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Summary Wizard of 960 minute 100 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

				Water	Surcharged	Flooded		Pipe	
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	173	30	123.833	-0.367	0.000	0.01		3.8	OK
2.000	180	30	123.833	-0.349	0.000	0.00		0.7	OK
3.000	190	30	123.833	-0.389	0.000	0.00		1.2	OK
3.001	191	30	123.833	-0.287	0.000	0.01		1.6	OK
1.001	174	30	123.833	0.146	0.000	0.17		4.4	SURCHARGED
1.002	175	30	123.491	-0.167	0.000	0.15		4.4	OK

David R Murray and Associates LLP		Page 28
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <span style="background-color: grey; color: black;">XXXXXXXXXX</span> Checked by	
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Summary Wizard of 1440 minute 100 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor 1.000      Additional Flow - % of Total Flow 20.000  
 Hot Start (mins) 0      MADD Factor \* 10m<sup>3</sup>/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 1  
 Number of Online Controls 1      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 Scotland and Ireland Cv (Summer) 0.750  
 M5-60 (mm) 14.000 Cv (Winter) 0.840

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

Profile(s) Winter  
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600,  
 720, 960, 1440  
 Return Period(s) (years) 30, 100, 200  
 Climate Change (%) 0, 0, 0

			Water	Surcharged	Flooded		Pipe		
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	173	35	123.695	-0.505	0.000	0.01		2.9	OK
2.000	180	35	123.693	-0.489	0.000	0.00		0.5	OK
3.000	190	35	123.693	-0.529	0.000	0.00		0.8	OK
3.001	191	35	123.693	-0.427	0.000	0.00		1.1	OK
1.001	174	35	123.693	0.006	0.000	0.16		4.1	SURCHARGED
1.002	175	35	123.489	-0.169	0.000	0.14		4.1	OK

David R Murray and Associates LLP		Page 29
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <span style="background-color: #cccccc; display: inline-block; width: 50px; height: 1em;"></span> Checked by	
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Summary Wizard of 15 minute 200 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			Water	Surcharged	Flooded		Pipe	
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s) Status
1.000	173	17	124.051	-0.149	0.000	0.14	49.6	OK
2.000	180	17	124.050	-0.132	0.000	0.02	5.8	OK
3.000	190	17	124.050	-0.172	0.000	0.04	12.7	OK
3.001	191	17	124.050	-0.070	0.000	0.01	2.0	OK
1.001	174	17	124.050	0.363	0.000	0.17	4.5	SURCHARGED
1.002	175	22	123.491	-0.167	0.000	0.15	4.5	OK

David R Murray and Associates LLP		Page 30
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <div></div> Checked by	
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Summary Wizard of 30 minute 200 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			Water	Surcharged	Flooded		Pipe	
	US/MH	Storm	Level	Depth	Volume	Flow /	Overflow	Pipe
PN	Name	Rank	(m)	(m)	(m <sup>3</sup> )	Cap.	(l/s)	(l/s)
1.000	173	11	124.350	0.150	0.000	0.12	41.6	SURCHARGED
2.000	180	11	124.349	0.167	0.000	0.01	5.0	SURCHARGED
3.000	190	11	124.348	0.126	0.000	0.03	10.2	SURCHARGED
3.001	191	11	124.349	0.229	0.000	0.01	2.9	SURCHARGED
1.001	174	11	124.349	0.662	0.000	0.17	4.5	SURCHARGED
1.002	175	28	123.491	-0.167	0.000	0.15	4.5	OK

David R Murray and Associates LLP		Page 31
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <span style="background-color: #cccccc; color: black;">XXXXXXXXXX</span> Checked by	
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Summary Wizard of 60 minute 200 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland Cv (Summer) 0.750		
M5-60 (mm)	14.000	Cv (Winter)	0.840

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


Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			Water	Surcharged	Flooded		Pipe	
	US/MH	Storm	Level	Depth	Volume	Flow /	Overflow	Pipe
PN	Name	Rank	(m)	(m)	(m <sup>3</sup> )	Cap.	(l/s)	(l/s)
1.000	173	4	124.684	0.484	0.000	0.08	28.8	SURCHARGED
2.000	180	4	124.683	0.501	0.000	0.01	3.5	SURCHARGED
3.000	190	4	124.683	0.461	0.000	0.02	7.1	SURCHARGED
3.001	191	4	124.683	0.563	0.000	0.01	2.8	SURCHARGED
1.001	174	4	124.683	0.996	0.000	0.17	4.5	SURCHARGED
1.002	175	24	123.491	-0.167	0.000	0.15	4.5	OK

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David R Murray and Associates LLP		Page 32
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <div></div> Checked by	
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Summary Wizard of 120 minute 200 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			Water	Surcharged	Flooded		Pipe	
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s) Status
1.000	173	1	124.826	0.626	0.000	0.05	18.5	SURCHARGED
2.000	180	1	124.826	0.644	0.000	0.01	2.2	SURCHARGED
3.000	190	1	124.826	0.604	0.000	0.01	4.6	SURCHARGED
3.001	191	1	124.826	0.706	0.000	0.01	2.9	SURCHARGED
1.001	174	1	124.827	1.140	0.000	0.17	4.5	SURCHARGED
1.002	175	23	123.491	-0.167	0.000	0.15	4.5	OK

David R Murray and Associates LLP		Page 33
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by  Checked by	
XP Solutions Network 2015.1		

Summary Wizard of 180 minute 200 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			Water	Surcharged	Flooded		Pipe	
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s) Status
1.000	173	2	124.804	0.604	0.000	0.04	14.1	SURCHARGED
2.000	180	2	124.803	0.621	0.000	0.00	1.7	SURCHARGED
3.000	190	2	124.803	0.581	0.000	0.01	3.5	SURCHARGED
3.001	191	2	124.803	0.683	0.000	0.01	2.9	SURCHARGED
1.001	174	2	124.803	1.116	0.000	0.17	4.5	SURCHARGED
1.002	175	20	123.491	-0.167	0.000	0.15	4.5	OK

David R Murray and Associates LLP		Page 34
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <span style="background-color: grey; color: black;">XXXXXXXXXX</span> Checked by	
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Summary Wizard of 240 minute 200 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			Water	Surcharged	Flooded		Pipe	
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s) Status
1.000	173	3	124.759	0.559	0.000	0.03	11.5	SURCHARGED
2.000	180	3	124.759	0.577	0.000	0.00	1.6	SURCHARGED
3.000	190	3	124.759	0.537	0.000	0.01	2.9	SURCHARGED
3.001	191	3	124.759	0.639	0.000	0.01	2.9	SURCHARGED
1.001	174	3	124.759	1.072	0.000	0.17	4.5	SURCHARGED
1.002	175	17	123.491	-0.167	0.000	0.15	4.5	OK

David R Murray and Associates LLP		Page 35
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <span style="background-color: grey; color: black;">XXXXXXXXXX</span> Checked by	
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Summary Wizard of 360 minute 200 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			Water	Surcharged	Flooded		Pipe	
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s) Status
1.000	173	5	124.622	0.422	0.000	0.02	8.7	SURCHARGED
2.000	180	5	124.622	0.440	0.000	0.00	1.1	SURCHARGED
3.000	190	5	124.622	0.400	0.000	0.01	2.2	SURCHARGED
3.001	191	5	124.622	0.502	0.000	0.01	3.4	SURCHARGED
1.001	174	5	124.622	0.935	0.000	0.17	4.5	SURCHARGED
1.002	175	13	123.491	-0.167	0.000	0.15	4.5	OK

David R Murray and Associates LLP		Page 36
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <div></div> Checked by	
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Summary Wizard of 480 minute 200 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			Water	Surcharged	Flooded		Pipe	
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s) Status
1.000	173	7	124.454	0.254	0.000	0.02	7.1	SURCHARGED
2.000	180	7	124.453	0.271	0.000	0.00	0.9	SURCHARGED
3.000	190	7	124.454	0.232	0.000	0.01	1.8	SURCHARGED
3.001	191	7	124.454	0.334	0.000	0.01	2.3	SURCHARGED
1.001	174	7	124.454	0.767	0.000	0.17	4.5	SURCHARGED
1.002	175	18	123.491	-0.167	0.000	0.15	4.5	OK

David R Murray and Associates LLP		Page 37
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by  Checked by	
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Summary Wizard of 600 minute 200 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

				Water	Surcharged	Flooded		Pipe	
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	173	12	124.221	0.021	0.000	0.02		6.1	SURCHARGED
2.000	180	12	124.221	0.039	0.000	0.00		0.8	SURCHARGED
3.000	190	12	124.222	0.000	0.000	0.00		1.6	OK
3.001	191	12	124.221	0.101	0.000	0.01		1.9	SURCHARGED
1.001	174	12	124.221	0.534	0.000	0.17		4.5	SURCHARGED
1.002	175	6	123.491	-0.167	0.000	0.15		4.5	OK

David R Murray and Associates LLP		Page 38
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <span style="background-color: #cccccc; display: inline-block; width: 50px; height: 1em;"></span> Checked by	
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Summary Wizard of 720 minute 200 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			<b>Water</b>	<b>Surcharged</b>	<b>Flooded</b>		<b>Pipe</b>	
	<b>US/MH</b>	<b>Storm</b>	<b>Level</b>	<b>Depth</b>	<b>Volume</b>	<b>Flow /</b>	<b>Overflow</b>	<b>Pipe</b>
<b>PN</b>	<b>Name</b>	<b>Rank</b>	<b>(m)</b>	<b>(m)</b>	<b>(m<sup>3</sup>)</b>	<b>Cap.</b>	<b>(l/s)</b>	<b>(l/s)</b>
								<b>Status</b>
1.000	173	15	124.083	-0.117	0.000	0.01	5.4	OK
2.000	180	15	124.082	-0.100	0.000	0.00	0.7	OK
3.000	190	15	124.082	-0.140	0.000	0.00	1.4	OK
3.001	191	15	124.082	-0.038	0.000	0.01	1.8	OK
1.001	174	15	124.082	0.395	0.000	0.17	4.5	SURCHARGED
1.002	175	11	123.491	-0.167	0.000	0.15	4.5	OK

David R Murray and Associates LLP		Page 39
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by <div></div> Checked by	
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Summary Wizard of 960 minute 200 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

			Water	Surcharged	Flooded		Pipe	
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s) Status
1.000	173	25	123.942	-0.258	0.000	0.01	4.4	OK
2.000	180	25	123.941	-0.241	0.000	0.00	0.6	OK
3.000	190	25	123.942	-0.280	0.000	0.00	1.2	OK
3.001	191	25	123.942	-0.178	0.000	0.01	1.5	OK
1.001	174	25	123.942	0.255	0.000	0.17	4.5	SURCHARGED
1.002	175	3	123.491	-0.167	0.000	0.15	4.5	OK

David R Murray and Associates LLP		Page 40
150-156 St Johns Road Edinburgh RH12 8AY		
Date 15/10/2015 14:26 File sw2.mdx	Designed by  Checked by	
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Summary Wizard of 1440 minute 200 year Winter I+0% for SW4.SWS

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	20.000
Hot Start (mins)	0	MADD Factor * 10m <sup>3</sup> /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	1
Number of Online Controls	1	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	Scotland and Ireland	Cv (Summer)	0.750
M5-60 (mm)	14.000	Cv (Winter)	0.840

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

Profile(s)	Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
Return Period(s) (years)	30, 100, 200
Climate Change (%)	0, 0, 0

				<b>Water</b>	<b>Surcharged</b>	<b>Flooded</b>		<b>Pipe</b>	
	<b>US/MH</b>	<b>Storm</b>	<b>Level</b>	<b>Depth</b>	<b>Volume</b>	<b>Flow /</b>	<b>Overflow</b>	<b>Flow</b>	
<b>PN</b>	<b>Name</b>	<b>Rank</b>	<b>(m)</b>	<b>(m)</b>	<b>(m<sup>3</sup>)</b>	<b>Cap.</b>	<b>(l/s)</b>	<b>(l/s)</b>	<b>Status</b>
1.000	173	33	123.772	-0.428	0.000	0.01		3.3	OK
2.000	180	33	123.771	-0.411	0.000	0.00		0.6	OK
3.000	190	33	123.771	-0.451	0.000	0.00		1.2	OK
3.001	191	33	123.771	-0.349	0.000	0.00		1.2	OK
1.001	174	33	123.771	0.084	0.000	0.17		4.3	SURCHARGED
1.002	175	33	123.490	-0.168	0.000	0.15		4.3	OK