

Royal HaskoningDHV		Page 1
Manchester One Portland Street Manchester M1 3LF	KINGSTONE SW WATER NETWORK 3	
Date 08/03/2019 File 11-03-2019 KINGSTONE DRAINAGE.MDX	Designed by RVarona Checked by PVicente	
Innovyze	Network 2018.1.1	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for SW 3

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales					
Return Period (years)	2	Foul Sewage (l/s/ha)	0.000	Maximum Backdrop Height (m)	1.500
M5-60 (mm)	19.000	Volumetric Runoff Coeff.	0.750	Min Design Depth for Optimisation (m)	1.200
Ratio R	0.371	PIMP (%)	1	Min Vel for Auto Design only (m/s)	1.00
Maximum Rainfall (mm/hr)	50	Add Flow / Climate Change (%)	0	Min Slope for Optimisation (1:X)	500
Maximum Time of Concentration (mins)	30	Minimum Backdrop Height (m)	1.000		

Designed with Level Soffits

Network Design Table for SW 3

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.000	15.622	0.104	150.2	0.103	5.00	0.0	0.600	o	225	Pipe/Conduit	
1.001	20.439	0.186	109.9	0.031	0.00	0.0	0.600	o	225	Pipe/Conduit	
1.002	6.934	0.110	63.0	0.028	0.00	0.0	0.600	o	225	Pipe/Conduit	
2.000	46.640	0.245	190.4	0.154	5.00	0.0	0.600	o	225	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	50.00	5.24	91.450	0.103	0.0	0.0	0.0	1.06	42.3	13.9
1.001	50.00	5.52	91.346	0.134	0.0	0.0	0.0	1.25	49.6	18.1
1.002	50.00	5.59	91.160	0.162	0.0	0.0	0.0	1.65	65.6	21.9
2.000	50.00	5.82	91.245	0.154	0.0	0.0	0.0	0.94	37.5	20.9

Royal HaskoningDHV		Page 2
Manchester One Portland Street Manchester M1 3LF	KINGSTONE SW WATER NETWORK 3	
Date 08/03/2019 File 11-03-2019 KINGSTONE DRAINAGE.MDX	Designed by RVarona Checked by PVicente	
Innovyze	Network 2018.1.1	

Network Design Table for SW 3

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.003	29.646	0.098	302.5	0.030	0.00	0.0	0.600	o	300	Pipe/Conduit	
1.004	17.632	0.073	241.5	0.052	0.00	0.0	0.600	o	300	Pipe/Conduit	
1.005	31.486	0.157	200.5	0.090	0.00	0.0	0.600	o	300	Pipe/Conduit	
1.006	23.509	0.127	185.1	0.019	0.00	0.0	0.600	o	300	Pipe/Conduit	
3.000	10.784	0.072	149.8	0.088	5.00	0.0	0.600	o	225	Pipe/Conduit	
3.001	23.534	0.111	212.0	0.088	0.00	0.0	0.600	o	225	Pipe/Conduit	
3.002	19.465	0.372	52.3	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
1.007	48.952	0.122	401.2	0.128	0.00	0.0	0.600	o	450	Pipe/Conduit	
1.008	42.909	0.107	401.0	0.101	0.00	0.0	0.600	o	450	Pipe/Conduit	
1.009	11.064	0.046	240.5	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
1.010	47.265	0.012	3938.8	0.000	0.00	0.0	0.600	ooo	450	Triple Pipe	

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)
1.003	50.00	6.37	91.000	0.346	0.0	0.0	0.0	0.90	63.5	46.9
1.004	50.00	6.66	90.902	0.398	0.0	0.0	0.0	1.01	71.2	53.9
1.005	50.00	7.14	90.829	0.488	0.0	0.0	0.0	1.11	78.2	66.1
1.006	50.00	7.48	90.672	0.507	0.0	0.0	0.0	1.15	81.5	68.7
3.000	50.00	5.17	91.100	0.088	0.0	0.0	0.0	1.07	42.4	11.9
3.001	50.00	5.61	91.028	0.176	0.0	0.0	0.0	0.89	35.5	23.8
3.002	50.00	5.79	90.917	0.176	0.0	0.0	0.0	1.81	72.1	23.8
1.007	50.00	8.29	90.545	0.811	0.0	0.0	0.0	1.01	160.4	109.8
1.008	48.90	9.00	90.423	0.912	0.0	0.0	0.0	1.01	160.5	120.8
1.009	48.51	9.14	90.316	0.912	0.0	0.0	0.0	1.31	207.8	120.8
1.010	42.68	11.64	90.270	0.912	0.0	0.0	0.0	0.31	150.0	120.8

Royal HaskoningDHV		Page 3
Manchester One Portland Street Manchester M1 3LF	KINGSTONE SW WATER NETWORK 3	
Date 08/03/2019 File 11-03-2019 KINGSTONE DRAINAGE.MDX	Designed by RVarona Checked by PVicente	
Innovyze	Network 2018.1.1	

Network Design Table for SW 3

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.011	9.606	0.024	400.3	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit	
1.012	23.017	0.092	250.2	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.011	42.37	11.80	90.258	0.912	0.0	0.0	0.0	1.01	160.6	120.8
1.012	50.00	5.47	90.234	0.000	5.0	0.0	0.0	0.82	32.7	5.0

Royal HaskoningDHV				Page 4		
Manchester One Portland Street Manchester M1 3LF				KINGSTONE SW WATER NETWORK 3		
Date 08/03/2019 File 11-03-2019 KINGSTONE DRAINAGE.MDX				Designed by RVarona Checked by PVicente		
Innovyze				Network 2018.1.1		



Manhole Schedules for SW 3

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)
SW3.01	93.116	1.666	Open Manhole	1200	1.000	91.450	225				
SW3.02	92.961	1.615	Open Manhole	1200	1.001	91.346	225	1.000	91.346	225	
SW3.03	92.803	1.643	Open Manhole	1200	1.002	91.160	225	1.001	91.160	225	
SW3.04	93.120	1.875	Open Manhole	1200	2.000	91.245	225				
SW3.05	92.855	1.855	Open Manhole	1200	1.003	91.000	300	1.002	91.050	225	
								2.000	91.000	225	
SW3.06	93.211	2.309	Open Manhole	1200	1.004	90.902	300	1.003	90.902	300	
SW3.07	93.437	2.608	Open Manhole	1200	1.005	90.829	300	1.004	90.829	300	
SW3.08	93.426	2.754	Open Manhole	1200	1.006	90.672	300	1.005	90.672	300	
SW3.09	92.685	1.585	Open Manhole	1200	3.000	91.100	225				
SW3.10	92.982	1.954	Open Manhole	1200	3.001	91.028	225	3.000	91.028	225	
SW3.11	92.950	2.033	Open Manhole	1200	3.002	90.917	225	3.001	90.917	225	
SW3.12	92.851	2.306	Open Manhole	1350	1.007	90.545	450	1.006	90.545	300	
								3.002	90.545	225	
SW3.13	93.370	2.947	Open Manhole	1350	1.008	90.423	450	1.007	90.423	450	
SW3.14	92.735	2.419	Open Manhole	1350	1.009	90.316	450	1.008	90.316	450	
Pond Inlet	91.700	1.430	Open Manhole	1350	1.010	90.270	450	1.009	90.270	450	
Pond Outlet	91.700	1.442	Open Manhole	1350	1.011	90.258	450	1.010	90.258	450	
SW3.15 HB	91.993	1.759	Open Manhole	1350	1.012	90.234	225	1.011	90.234	450	
EX DITCH	92.000	1.858	Open Manhole	1		OUTFALL		1.012	90.142	225	

Royal HaskoningDHV		Page 5
Manchester One Portland Street Manchester M1 3LF	KINGSTONE SW WATER NETWORK 3	
Date 08/03/2019 File 11-03-2019 KINGSTONE DRAINAGE.MDX	Designed by RVarona Checked by PVicente	
Innovyze	Network 2018.1.1	

PIPELINE SCHEDULES for SW 3

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	225	SW3.01	93.116	91.450	1.441	Open Manhole	1200
1.001	o	225	SW3.02	92.961	91.346	1.390	Open Manhole	1200
1.002	o	225	SW3.03	92.803	91.160	1.418	Open Manhole	1200
2.000	o	225	SW3.04	93.120	91.245	1.650	Open Manhole	1200
1.003	o	300	SW3.05	92.855	91.000	1.555	Open Manhole	1200
1.004	o	300	SW3.06	93.211	90.902	2.009	Open Manhole	1200
1.005	o	300	SW3.07	93.437	90.829	2.308	Open Manhole	1200
1.006	o	300	SW3.08	93.426	90.672	2.454	Open Manhole	1200
3.000	o	225	SW3.09	92.685	91.100	1.360	Open Manhole	1200
3.001	o	225	SW3.10	92.982	91.028	1.729	Open Manhole	1200

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	15.622	150.2	SW3.02	92.961	91.346	1.390	Open Manhole	1200
1.001	20.439	109.9	SW3.03	92.803	91.160	1.418	Open Manhole	1200
1.002	6.934	63.0	SW3.05	92.855	91.050	1.580	Open Manhole	1200
2.000	46.640	190.4	SW3.05	92.855	91.000	1.630	Open Manhole	1200
1.003	29.646	302.5	SW3.06	93.211	90.902	2.009	Open Manhole	1200
1.004	17.632	241.5	SW3.07	93.437	90.829	2.308	Open Manhole	1200
1.005	31.486	200.5	SW3.08	93.426	90.672	2.454	Open Manhole	1200
1.006	23.509	185.1	SW3.12	92.851	90.545	2.006	Open Manhole	1350
3.000	10.784	149.8	SW3.10	92.982	91.028	1.729	Open Manhole	1200
3.001	23.534	212.0	SW3.11	92.950	90.917	1.808	Open Manhole	1200

Royal HaskoningDHV		Page 6
Manchester One Portland Street Manchester M1 3LF	KINGSTONE SW WATER NETWORK 3	
Date 08/03/2019 File 11-03-2019 KINGSTONE DRAINAGE.MDX	Designed by RVarona Checked by PVicente	
Innovyze	Network 2018.1.1	

PIPELINE SCHEDULES for SW 3

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)
3.002	o	225	SW3.11	92.950	90.917	1.808	Open Manhole	1200
1.007	o	450	SW3.12	92.851	90.545	1.856	Open Manhole	1350
1.008	o	450	SW3.13	93.370	90.423	2.497	Open Manhole	1350
1.009	o	450	SW3.14	92.735	90.316	1.969	Open Manhole	1350
1.010	ooo	450	Pond Inlet	91.700	90.270	0.980	Open Manhole	1350
1.011	o	450	Pond Outlet	91.700	90.258	0.992	Open Manhole	1350
1.012	o	225	SW3.15 HB	91.993	90.234	1.534	Open Manhole	1350

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)
3.002	19.465	52.3	SW3.12	92.851	90.545	2.081	Open Manhole	1350
1.007	48.952	401.2	SW3.13	93.370	90.423	2.497	Open Manhole	1350
1.008	42.909	401.0	SW3.14	92.735	90.316	1.969	Open Manhole	1350
1.009	11.064	240.5	Pond Inlet	91.700	90.270	0.980	Open Manhole	1350
1.010	47.265	3938.8	Pond Outlet	91.700	90.258	0.992	Open Manhole	1350
1.011	9.606	400.3	SW3.15 HB	91.993	90.234	1.309	Open Manhole	1350
1.012	23.017	250.2	EX DITCH	92.000	90.142	1.633	Open Manhole	1

Royal HaskoningDHV		Page 7
Manchester One Portland Street Manchester M1 3LF	KINGSTONE SW WATER NETWORK 3	
Date 08/03/2019 File 11-03-2019 KINGSTONE DRAINAGE.MDX	Designed by RVarona Checked by PVicente	
Innovyze	Network 2018.1.1	

Area Summary for SW 3

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	-	-	100	0.103	0.103	0.103
1.001	-	-	100	0.031	0.031	0.031
1.002	-	-	100	0.028	0.028	0.028
2.000	-	-	100	0.154	0.154	0.154
1.003	-	-	100	0.030	0.030	0.030
1.004	-	-	100	0.052	0.052	0.052
1.005	-	-	100	0.090	0.090	0.090
1.006	-	-	100	0.019	0.019	0.019
3.000	-	-	100	0.088	0.088	0.088
3.001	-	-	100	0.088	0.088	0.088
3.002	-	-	100	0.000	0.000	0.000
1.007	-	-	100	0.128	0.128	0.128
1.008	-	-	100	0.101	0.101	0.101
1.009	-	-	100	0.000	0.000	0.000
1.010	-	-	100	0.000	0.000	0.000
1.011	-	-	100	0.000	0.000	0.000
1.012	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				0.912	0.912	0.912

Free Flowing Outfall Details for SW 3

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
1.012	EX DITCH	92.000	90.142	0.000	1	0

Royal HaskoningDHV		Page 8
Manchester One Portland Street Manchester M1 3LF	KINGSTONE SW WATER NETWORK 3	
Date 08/03/2019 File 11-03-2019 KINGSTONE DRAINAGE.MDX	Designed by RVarona Checked by PVicente	
Innovyze	Network 2018.1.1	

Simulation Criteria for SW 3

Volumetric Runoff Coeff 0.840	Manhole Headloss Coeff (Global) 0.500	Inlet Coeffiecient 0.800
Areal Reduction Factor 1.000	Foul Sewage per hectare (l/s) 0.000	Flow per Person per Day (l/per/day) 0.000
Hot Start (mins) 0	Additional Flow - % of Total Flow 0.000	Run Time (mins) 60
Hot Start Level (mm) 0	MADD Factor * 10m³/ha Storage 2.000	Output Interval (mins) 1

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

Synthetic Rainfall Details

Rainfall Model	FEH D1 (1km) 0.383	Summer Storms No
Return Period (years)	2 D2 (1km) 0.389	Winter Storms Yes
FEH Rainfall Version	1999 D3 (1km) 0.327	Cv (Summer) 0.750
Site Location GB 341950 236500 SO 41950 36500	E (1km) 0.301	Cv (Winter) 0.840
C (1km)	-0.028 F (1km) 2.312	Storm Duration (mins) 15

Royal HaskoningDHV		Page 9
Manchester One Portland Street Manchester M1 3LF	KINGSTONE SW WATER NETWORK 3	
Date 08/03/2019 File 11-03-2019 KINGSTONE DRAINAGE.MDX	Designed by RVarona Checked by PVicente	
Innovyze	Network 2018.1.1	

Online Controls for SW 3

Complex Manhole: SW3.15 HB, DS/PN: 1.012, Volume (m³): 3.8

Hydro-Brake® Optimum

Unit Reference	MD-SHE-0097-3500-0400-3500	Sump Available	Yes
Design Head (m)	0.400	Diameter (mm)	97
Design Flow (l/s)	3.5	Invert Level (m)	90.234
Flush-Flo™	Calculated	Minimum Outlet Pipe Diameter (mm)	150
Objective	Minimise upstream storage	Suggested Manhole Diameter (mm)	1200
Application	Surface		

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	0.400	3.5	Kick-Flo®	0.302	3.1
Flush-Flo™	0.149	3.5	Mean Flow over Head Range	-	2.9

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)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.2	0.600	4.2	1.600	6.7	2.600	8.4	5.000	11.4	7.500	14.0
0.200	3.4	0.800	4.8	1.800	7.0	3.000	9.0	5.500	12.0	8.000	14.5
0.300	3.1	1.000	5.3	2.000	7.4	3.500	9.6	6.000	12.5	8.500	14.9
0.400	3.5	1.200	5.8	2.200	7.7	4.000	10.3	6.500	13.1	9.000	15.4
0.500	3.9	1.400	6.3	2.400	8.1	4.500	10.8	7.000	13.5	9.500	15.8

Hydro-Brake® Optimum

Unit Reference	MD-SHE-0093-4000-1100-4000	Objective	Minimise upstream storage
Design Head (m)	1.100	Application	Surface
Design Flow (l/s)	4.0	Sump Available	Yes
Flush-Flo™	Calculated	Diameter (mm)	93

Royal HaskoningDHV		Page 10
Manchester One Portland Street Manchester M1 3LF	KINGSTONE SW WATER NETWORK 3	
Date 08/03/2019 File 11-03-2019 KINGSTONE DRAINAGE.MDX	Designed by RVarona Checked by PVicente	
Innovyze	Network 2018.1.1	

Hydro-Brake® Optimum

Invert Level (m) 90.634 Suggested Manhole Diameter (mm) 1200
 Minimum Outlet Pipe Diameter (mm) 150

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.100	4.0	Kick-Flo®	0.684	3.2
Flush-Flo™	0.326	4.0	Mean Flow over Head Range	-	3.5

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

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	3.0	0.600	3.6	1.600	4.8	2.600	6.0	5.000	8.1	7.500	9.8
0.200	3.8	0.800	3.5	1.800	5.0	3.000	6.4	5.500	8.5	8.000	10.2
0.300	4.0	1.000	3.8	2.000	5.3	3.500	6.9	6.000	8.9	8.500	10.5
0.400	4.0	1.200	4.2	2.200	5.5	4.000	7.3	6.500	9.2	9.000	10.7
0.500	3.9	1.400	4.5	2.400	5.7	4.500	7.7	7.000	9.5	9.500	11.0

Royal HaskoningDHV		Page 11
Manchester One Portland Street Manchester M1 3LF	KINGSTONE SW WATER NETWORK 3	
Date 08/03/2019 File 11-03-2019 KINGSTONE DRAINAGE.MDX	Designed by RVarona Checked by PVicente	
Innovyze	Network 2018.1.1	

Storage Structures for SW 3

Tank or Pond Manhole: Pond Inlet, DS/PN: 1.010

Invert Level (m) 90.270

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	267.0	0.400	396.0	0.800	539.0	1.200	690.0	1.430	790.0
0.200	328.0	0.600	467.0	1.000	614.0	1.400	770.0		

Royal HaskoningDHV		Page 12
Manchester One Portland Street Manchester M1 3LF	KINGSTONE SW WATER NETWORK 3	
Date 08/03/2019 File 11-03-2019 KINGSTONE DRAINAGE.MDX	Designed by RVarona Checked by PVicente	
Innovyze	Network 2018.1.1	

Summary Wizard of 15 minute 100 year Winter I+40% for SW 3

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FEH D1 (1km) 0.383 F (1km) 2.312
 FEH Rainfall Version 1999 D2 (1km) 0.389 Cv (Summer) 0.750
 Site Location GB 341950 236500 SO 41950 36500 D3 (1km) 0.327 Cv (Winter) 0.840
 C (1km) -0.028 E (1km) 0.301

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

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 360, 720, 1440, 2880, 10080
 Return Period(s) (years) 2, 30, 100
 Climate Change (%) 0, 0, 40

WARNING: The analysis maybe unstable. Please see the method of analysis help for more details.

			Water	Surcharged	Flooded		Pipe	
	US/MH	Storm	Level	Depth	Volume	Flow /	Overflow	Flow
PN	Name	Rank	(m)	(m)	(m ³)	Cap.	(l/s)	(l/s) Status
1.000	SW3.01	1	93.120	1.445	4.522	1.22	45.6	FLOOD
1.001	SW3.02	1	92.967	1.396	6.521	0.90	40.7	FLOOD
1.002	SW3.03	1	92.828	1.443	24.832	1.80	84.3	FLOOD
2.000	SW3.04	1	93.136	1.666	16.122	1.56	56.1	FLOOD
1.003	SW3.05	1	92.861	1.561	6.680	1.98	114.3	FLOOD

Royal HaskoningDHV		Page 13
Manchester One Portland Street Manchester M1 3LF	KINGSTONE SW WATER NETWORK 3	
Date 08/03/2019 File 11-03-2019 KINGSTONE DRAINAGE.MDX	Designed by RVarona Checked by PVicente	
Innovyze	Network 2018.1.1	

Summary Wizard of 15 minute 100 year Winter I+40% for SW 3

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)	
1.004	SW3.06	2	92.913	1.711	0.000	1.87		114.4	FLOOD RISK
1.005	SW3.07	2	92.845	1.716	0.000	1.83		130.9	SURCHARGED
1.006	SW3.08	1	92.524	1.552	0.000	1.87		135.0	SURCHARGED
3.000	SW3.09	1	92.695	1.370	10.316	1.64		58.6	FLOOD
3.001	SW3.10	1	92.725	1.472	0.000	2.12		69.3	FLOOD RISK
3.002	SW3.11	1	92.382	1.240	0.000	1.07		69.8	SURCHARGED
1.007	SW3.12	1	92.079	1.084	0.000	1.88		274.2	SURCHARGED
1.008	SW3.13	1	91.636	0.763	0.000	2.27		326.5	SURCHARGED
1.009	SW3.14	13	91.043	0.277	0.000	2.21		328.1	SURCHARGED
1.010	Pond Inlet	15	90.924	0.204	0.000	0.30		79.1	SURCHARGED
1.011	Pond Outlet	14	91.283	0.575	0.000	0.24		23.4	SURCHARGED
1.012	SW3.15 HB	14	91.284	0.825	0.000	0.28		8.3	SURCHARGED