

Kennedy Redford Ltd		Page 1
20 Market Street	Ancoats Mobility Hub	
Altrincham	SW DRAINAGE	
WS14 1PF	220513	
Date 15/03/2023	Designed by P.Vicente	
File KRD-Ancoats Hub-SW Network Calculatio...	Checked by R.Brown	
Innovyze	Network 2020.1.3	

STORM SEWER DESIGN by the Modified Rational Method

Pipe Sizes STANDARD Manhole Sizes STANDARD

Designed with Level Soffits

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	30.184	0.201	150.2	0.171	4.00	0.0	0.600	o	300	Pipe/Conduit	

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	50.00	4.39	49.680	0.171	0.0	0.0	0.0	1.28	90.5	23.2

Network Design Table for Ancoats

Network Results Table

Network Design Table for Ancoats

Network Results Table

Ancoats Mobility Hub SW DRAINAGE 220513



Designed by P.Vicente

Checked by R.Brown

Network 2020.1.3

Manhole Schedules for Ancoats

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SW5	385205.244	398892.010	385205.244	398892.010	Required	
SWFD1	385194.118	398885.778	385194.118	398885.778	Required	
SWFD2	385182.090	398878.715	385182.090	398878.715	Required	
SWJNC	385182.623	398877.780			No Entry	
SWFD3	385174.573	398875.976	385174.573	398875.976	Required	
SWFD4	385167.518	398870.439	385167.518	398870.439	Required	
SW6	385135.109	398901.925	385135.109	398901.925	Required	
SW7	385130.819	398899.326	385130.819	398899.326	Required	

Ancoats Mobility Hub SW DRAINAGE 220513



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Network 2020.1.3

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
SW8	385143.377	398877.790	385143.377	398877.790	Required	
SW9	385151.735	398863.464	385151.735	398863.464	Required	
SW10	385164.216	398869.851	385164.216	398869.851	Required	
SWHB	385165.559	398867.047	385165.559	398867.047	Required	
SWCBD	385152.766	398860.254	385152.766	398860.254	Required	
SW	385147.356	398853.446			No Entry	

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PIPELINE SCHEDULES for Ancoats Upstream Manhole <table><thead><tr><th>PN</th><th>Hyd Sect</th><th>Diam (mm)</th><th>MH Name</th><th>C.Level (m)</th><th>I.Level (m)</th><th>D.Depth (m)</th><th>MH Connection</th><th>MH DIAM., L*W (mm)</th></tr></thead><tbody><tr><td>1.000</td><td>o</td><td>300</td><td>SW1</td><td>51.341</td><td>49.680</td><td>1.361</td><td>Open Manhole</td><td>1200</td></tr><tr><td>1.001</td><td>o</td><td>300</td><td>SW2</td><td>51.333</td><td>49.479</td><td>1.554</td><td>Open Manhole</td><td>1200</td></tr><tr><td>1.002</td><td>o</td><td>300</td><td>SW3</td><td>51.274</td><td>49.422</td><td>1.552</td><td>Open Manhole</td><td>1200</td></tr><tr><td>1.003</td><td>o</td><td>300</td><td>SWPI</td><td>51.269</td><td>49.158</td><td>1.811</td><td>Open Manhole</td><td>1200</td></tr><tr><td>1.004</td><td>o</td><td>300</td><td>SW4</td><td>51.317</td><td>49.126</td><td>1.891</td><td>Open Manhole</td><td>1200</td></tr><tr><td>1.005</td><td>o</td><td>300</td><td>SW5</td><td>50.980</td><td>48.930</td><td>1.750</td><td>Open Manhole</td><td>1200</td></tr><tr><td colspan="9"> </td></tr><tr><td>2.000</td><td>o</td><td>150</td><td>SWFD1</td><td>50.870</td><td>50.270</td><td>0.450</td><td>Open Manhole</td><td>600</td></tr><tr><td>2.001</td><td>o</td><td>150</td><td>SWFD2</td><td>50.823</td><td>50.131</td><td>0.542</td><td>Open Manhole</td><td>600</td></tr></tbody></table> Downstream Manhole <table><thead><tr><th>PN</th><th>Length (m)</th><th>Slope (1:X)</th><th>MH Name</th><th>C.Level (m)</th><th>I.Level (m)</th><th>D.Depth (m)</th><th>MH Connection</th><th>MH DIAM., L*W (mm)</th></tr></thead><tbody><tr><td>1.000</td><td>30.184</td><td>150.2</td><td>SW2</td><td>51.333</td><td>49.479</td><td>1.554</td><td>Open Manhole</td><td>1200</td></tr><tr><td>1.001</td><td>8.580</td><td>150.0</td><td>SW3</td><td>51.274</td><td>49.422</td><td>1.552</td><td>Open Manhole</td><td>1200</td></tr><tr><td>1.002</td><td>24.608</td><td>150.0</td><td>SWPI</td><td>51.269</td><td>49.258</td><td>1.711</td><td>Open Manhole</td><td>1200</td></tr><tr><td>1.003</td><td>4.767</td><td>149.0</td><td>SW4</td><td>51.317</td><td>49.126</td><td>1.891</td><td>Open Manhole</td><td>1200</td></tr><tr><td>1.004</td><td>7.858</td><td>40.0</td><td>SW5</td><td>50.980</td><td>48.930</td><td>1.751</td><td>Open Manhole</td><td>1200</td></tr><tr><td>1.005</td><td>26.725</td><td>500.0</td><td>SWJNC</td><td>50.930</td><td>48.877</td><td>1.753</td><td>Junction</td><td></td></tr><tr><td colspan="9"> </td></tr><tr><td>2.000</td><td>13.948</td><td>100.3</td><td>SWFD2</td><td>50.823</td><td>50.131</td><td>0.542</td><td>Open Manhole</td><td>600</td></tr><tr><td>2.001</td><td>1.076</td><td>97.8</td><td>SWJNC</td><td>50.930</td><td>50.120</td><td>0.660</td><td>Junction</td><td></td></tr></tbody></table>				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	SW1	51.341	49.680	1.361	Open Manhole	1200	1.001	o	300	SW2	51.333	49.479	1.554	Open Manhole	1200	1.002	o	300	SW3	51.274	49.422	1.552	Open Manhole	1200	1.003	o	300	SWPI	51.269	49.158	1.811	Open Manhole	1200	1.004	o	300	SW4	51.317	49.126	1.891	Open Manhole	1200	1.005	o	300	SW5	50.980	48.930	1.750	Open Manhole	1200										2.000	o	150	SWFD1	50.870	50.270	0.450	Open Manhole	600	2.001	o	150	SWFD2	50.823	50.131	0.542	Open Manhole	600	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	30.184	150.2	SW2	51.333	49.479	1.554	Open Manhole	1200	1.001	8.580	150.0	SW3	51.274	49.422	1.552	Open Manhole	1200	1.002	24.608	150.0	SWPI	51.269	49.258	1.711	Open Manhole	1200	1.003	4.767	149.0	SW4	51.317	49.126	1.891	Open Manhole	1200	1.004	7.858	40.0	SW5	50.980	48.930	1.751	Open Manhole	1200	1.005	26.725	500.0	SWJNC	50.930	48.877	1.753	Junction											2.000	13.948	100.3	SWFD2	50.823	50.131	0.542	Open Manhole	600	2.001	1.076	97.8	SWJNC	50.930	50.120	0.660	Junction	
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Setting Out Information - True Coordinates (Ancoats)

PN	DSMH Name	Dia/Len (mm)	Width (mm)	DS Easting (m)	DS Northing (m)	Layout (North)
1.008	SW	0		385147.356	398853.446	

Free Flowing Outfall Details for Ancoats

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
1.008	SW	50.750	48.440	0.000	0	0

Simulation Criteria for Ancoats

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

Number of Input Hydrographs	0	Number of Offline Controls	0	Number of Time/Area Diagrams	0
Number of Online Controls	1	Number of Storage Structures	4	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model FSR Return Period (years) 100 Region England and Wales

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Synthetic Rainfall Details M5-60 (mm) 18.000 Profile Type Summer Cv (Winter) 0.840 Ratio R 0.360 Cv (Summer) 0.750 Storm Duration (mins) 30		
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Online Controls for Ancoats Hydro-Brake® Optimum Manhole: SWHB, DS/PN: 1.007, Volume (m³): 7.5 <table><tr><td>Unit Reference</td><td>MD-SHE-0096-5000-1650-5000</td><td>Sump Available</td><td>Yes</td></tr><tr><td>Design Head (m)</td><td>1.650</td><td>Diameter (mm)</td><td>96</td></tr><tr><td>Design Flow (l/s)</td><td>5.0</td><td>Invert Level (m)</td><td>48.837</td></tr><tr><td>Flush-Flo™</td><td>Calculated</td><td>Minimum Outlet Pipe Diameter (mm)</td><td>150</td></tr><tr><td>Objective</td><td>Minimise upstream storage</td><td>Suggested Manhole Diameter (mm)</td><td>1200</td></tr><tr><td>Application</td><td>Surface</td><td></td><td></td></tr></table> <table><tr><td>Control Points</td><td>Head (m)</td><td>Flow (l/s)</td><td>Control Points</td><td>Head (m)</td><td>Flow (l/s)</td></tr><tr><td>Design Point (Calculated)</td><td>1.650</td><td>5.0</td><td>Kick-Flo®</td><td>0.856</td><td>3.7</td></tr><tr><td>Flush-Flo™</td><td>0.419</td><td>4.6</td><td>Mean Flow over Head Range</td><td>-</td><td>4.2</td></tr></table> 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><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>3.1</td><td>0.600</td><td>4.5</td><td>1.600</td><td>4.9</td><td>2.600</td><td>6.2</td><td>5.000</td><td>8.4</td><td>7.500</td><td>10.2</td></tr><tr><td>0.200</td><td>4.2</td><td>0.800</td><td>4.0</td><td>1.800</td><td>5.2</td><td>3.000</td><td>6.6</td><td>5.500</td><td>8.8</td><td>8.000</td><td>10.5</td></tr><tr><td>0.300</td><td>4.5</td><td>1.000</td><td>4.0</td><td>2.000</td><td>5.5</td><td>3.500</td><td>7.1</td><td>6.000</td><td>9.2</td><td>8.500</td><td>10.8</td></tr><tr><td>0.400</td><td>4.6</td><td>1.200</td><td>4.3</td><td>2.200</td><td>5.7</td><td>4.000</td><td>7.6</td><td>6.500</td><td>9.5</td><td>9.000</td><td>11.1</td></tr><tr><td>0.500</td><td>4.6</td><td>1.400</td><td>4.6</td><td>2.400</td><td>6.0</td><td>4.500</td><td>8.0</td><td>7.000</td><td>9.9</td><td>9.500</td><td>11.4</td></tr></table>				Unit Reference	MD-SHE-0096-5000-1650-5000	Sump Available	Yes	Design Head (m)	1.650	Diameter (mm)	96	Design Flow (l/s)	5.0	Invert Level (m)	48.837	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)	1.650	5.0	Kick-Flo®	0.856	3.7	Flush-Flo™	0.419	4.6	Mean Flow over Head Range	-	4.2	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	3.1	0.600	4.5	1.600	4.9	2.600	6.2	5.000	8.4	7.500	10.2	0.200	4.2	0.800	4.0	1.800	5.2	3.000	6.6	5.500	8.8	8.000	10.5	0.300	4.5	1.000	4.0	2.000	5.5	3.500	7.1	6.000	9.2	8.500	10.8	0.400	4.6	1.200	4.3	2.200	5.7	4.000	7.6	6.500	9.5	9.000	11.1	0.500	4.6	1.400	4.6	2.400	6.0	4.500	8.0	7.000	9.9	9.500	11.4
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Filter Drain Manhole: SWFD3, DS/PN: 3.000 <table><tr><td>Infiltration Coefficient Base (m/hr)</td><td>0.00000</td><td>Pipe Diameter (m)</td><td>0.150</td></tr><tr><td>Infiltration Coefficient Side (m/hr)</td><td>0.00000</td><td>Pipe Depth above Invert (m)</td><td>0.150</td></tr><tr><td>Safety Factor</td><td>1.3</td><td>Number of Pipes</td><td>1</td></tr><tr><td>Porosity</td><td>0.30</td><td>Slope (1:X)</td><td>150.0</td></tr><tr><td>Invert Level (m)</td><td>50.355</td><td>Cap Volume Depth (m)</td><td>0.000</td></tr><tr><td>Trench Width (m)</td><td>0.5</td><td>Cap Infiltration Depth (m)</td><td>0.000</td></tr><tr><td>Trench Length (m)</td><td>8.9</td><td></td><td></td></tr></table>			Infiltration Coefficient Base (m/hr)	0.00000	Pipe Diameter (m)	0.150	Infiltration Coefficient Side (m/hr)	0.00000	Pipe Depth above Invert (m)	0.150	Safety Factor	1.3	Number of Pipes	1	Porosity	0.30	Slope (1:X)	150.0	Invert Level (m)	50.355	Cap Volume Depth (m)	0.000	Trench Width (m)	0.5	Cap Infiltration Depth (m)	0.000	Trench Length (m)	8.9		
Infiltration Coefficient Base (m/hr)	0.00000	Pipe Diameter (m)	0.150																											
Infiltration Coefficient Side (m/hr)	0.00000	Pipe Depth above Invert (m)	0.150																											
Safety Factor	1.3	Number of Pipes	1																											
Porosity	0.30	Slope (1:X)	150.0																											
Invert Level (m)	50.355	Cap Volume Depth (m)	0.000																											
Trench Width (m)	0.5	Cap Infiltration Depth (m)	0.000																											
Trench Length (m)	8.9																													
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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Ancoats

									Water	Surcharged	Flooded		
US/MH			Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Level	Depth	Volume	Flow /	Overflow
PN	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.	(m)	(m)	(m³)	Cap.	(l/s)
1.001	SW2	15 Winter	1	+0%	100/15 Summer				49.604	-0.175	0.000	0.36	
1.002	SW3	15 Winter	1	+0%	100/15 Summer				49.536	-0.186	0.000	0.31	
1.003	SWPI	15 Winter	1	+0%	30/120 Winter				49.292	-0.166	0.000	0.42	
1.004	SW4	15 Winter	1	+0%	30/60 Winter				49.222	-0.204	0.000	0.22	
1.005	SW5	120 Winter	1	+0%	30/15 Winter				49.077	-0.153	0.000	0.14	
2.000	SWFD1	15 Summer	1	+0%					50.270	-0.150	0.000	0.00	
2.001	SWFD2	15 Winter	1	+0%	100/15 Summer				50.184	-0.097	0.000	0.27	
1.006	SWJNC	120 Winter	1	+0%	30/15 Summer				49.073	-0.104	0.000	0.09	
3.000	SWFD3	15 Summer	1	+0%					50.437	-0.113	0.000	0.14	
3.001	SWFD4	15 Summer	1	+0%					50.352	-0.108	0.000	0.18	
4.000	SW6	15 Summer	1	+0%	100/240 Winter				49.950	-0.195	0.000	0.04	
4.001	SW7	15 Winter	1	+0%	100/120 Winter				49.913	-0.198	0.000	0.03	
4.002	SW8	15 Winter	1	+0%	100/120 Winter				49.756	-0.189	0.000	0.06	
4.003	SW9	15 Winter	1	+0%	100/60 Winter				49.663	-0.172	0.000	0.13	
4.004	SW10	15 Winter	1	+0%	100/60 Summer				49.579	-0.162	0.000	0.17	
1.007	SWHB	120 Winter	1	+0%	30/15 Summer				49.070	-0.066	0.000	0.04	
1.008	SWCBD	120 Winter	1	+0%					48.629	-0.259	0.000	0.05	

PN	US/MH	Half Drain Time	Pipe Flow	Status	Level Exceeded
	Name	(mins)	(l/s)		
1.001	SW2		22.0	OK	
1.002	SW3		24.7	OK	
1.003	SWPI		24.7	OK	

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		Half Drain	Pipe
	US/MH	Time	Flow
PN	Name	(mins)	(l/s)
			Status
			Level Exceeded
1.004	SW4		24.5
1.005	SW5		6.3
2.000	SWFD1		0.0
2.001	SWFD2		2.9
1.006	SWJNC		3.9
3.000	SWFD3	10	2.2
3.001	SWFD4		2.2
4.000	SW6		1.3
4.001	SW7		1.3
4.002	SW8		2.3
4.003	SW9		4.7
4.004	SW10		4.7
1.007	SWHB		4.4
1.008	SWCBD		4.4
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<table><thead><tr><th colspan="2"></th><th>Half Drain</th><th>Pipe</th><th colspan="2"></th></tr><tr><th></th><th>US/MH</th><th>Time</th><th>Flow</th><th>Level</th><th></th></tr><tr><th>PN</th><th>Name</th><th>(mins)</th><th>(l/s)</th><th>Status</th><th>Exceeded</th></tr></thead><tbody><tr><td>1.000</td><td>SW1</td><td></td><td>53.7</td><td>OK</td><td></td></tr></tbody></table>								Half Drain	Pipe				US/MH	Time	Flow	Level		PN	Name	(mins)	(l/s)	Status	Exceeded	1.000	SW1		53.7	OK	
		Half Drain	Pipe																										
	US/MH	Time	Flow	Level																									
PN	Name	(mins)	(l/s)	Status	Exceeded																								
1.000	SW1		53.7	OK																									
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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Ancoats

									Water	Surcharged	Flooded		
PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)
1.001	SW2	15 Winter	30	+0%	100/15 Summer				49.701	-0.078	0.000	0.88	
1.002	SW3	15 Winter	30	+0%	100/15 Summer				49.621	-0.101	0.000	0.76	
1.003	SWPI	120 Winter	30	+0%	30/120 Winter				49.477	0.019	0.000	0.34	
1.004	SW4	120 Winter	30	+0%	30/60 Winter				49.476	0.050	0.000	0.18	
1.005	SW5	120 Winter	30	+0%	30/15 Winter				49.474	0.244	0.000	0.22	
2.000	SWFD1	15 Summer	30	+0%					50.270	-0.150	0.000	0.00	
2.001	SWFD2	15 Summer	30	+0%	100/15 Summer				50.236	-0.045	0.000	0.83	
1.006	SWJNC	120 Winter	30	+0%	30/15 Summer				49.471	0.294	0.000	0.11	
3.000	SWFD3	15 Summer	30	+0%					50.461	-0.089	0.000	0.34	
3.001	SWFD4	15 Summer	30	+0%					50.379	-0.081	0.000	0.43	
4.000	SW6	15 Summer	30	+0%	100/240 Winter				49.969	-0.176	0.000	0.11	
4.001	SW7	15 Winter	30	+0%	100/120 Winter				49.929	-0.182	0.000	0.08	
4.002	SW8	15 Winter	30	+0%	100/120 Winter				49.782	-0.164	0.000	0.16	
4.003	SW9	15 Winter	30	+0%	100/60 Winter				49.705	-0.130	0.000	0.37	
4.004	SW10	15 Winter	30	+0%	100/60 Summer				49.630	-0.111	0.000	0.50	
1.007	SWHB	120 Winter	30	+0%	30/15 Summer				49.471	0.335	0.000	0.04	
1.008	SWCBD	360 Summer	30	+0%					48.631	-0.258	0.000	0.05	

Half Drain		Pipe		
PN	US/MH Name	Time (mins)	Flow (l/s)	Level Exceeded
1.001	SW2		54.0	OK
1.002	SW3		61.6	OK
1.003	SWPI		20.0	SURCHARGED

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<table><thead><tr><th></th><th></th><th>Half Drain Pipe</th><th></th></tr><tr><th></th><th>US/MH</th><th>Time</th><th>Flow</th></tr><tr><th>PN</th><th>Name</th><th>(mins)</th><th>(l/s)</th></tr></thead><tbody><tr><td>1.000</td><td>SW1</td><td></td><td>19.1</td></tr></tbody></table>						Half Drain Pipe			US/MH	Time	Flow	PN	Name	(mins)	(l/s)	1.000	SW1		19.1
		Half Drain Pipe																	
	US/MH	Time	Flow																
PN	Name	(mins)	(l/s)																
1.000	SW1		19.1																
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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Ancoats

										Water	Surcharged	Flooded		
US/MH				Return	Climate	First (X)		First (Y)	First (Z)	Overflow	Level	Depth	Volume	Flow / Overflow
PN	Name	Storm		Period	Change	Surcharge		Flood	Overflow	Act.	(m)	(m)	(m³)	Cap. (1/s)
1.001	SW2	240	Winter	100	+40%	100/15	Summer				50.281	0.502	0.000	0.32
1.002	SW3	240	Winter	100	+40%	100/15	Summer				50.279	0.557	0.000	0.27
1.003	SWPI	240	Winter	100	+40%	30/120	Winter				50.275	0.817	0.000	0.36
1.004	SW4	240	Winter	100	+40%	30/60	Winter				50.274	0.848	0.000	0.19
1.005	SW5	240	Winter	100	+40%	30/15	Winter				50.273	1.043	0.000	0.19
2.000	SWFD1	15	Winter	100	+40%						50.322	-0.098	0.000	0.02
2.001	SWFD2	15	Winter	100	+40%	100/15	Summer				50.327	0.046	0.000	1.46
1.006	SWJNC	240	Winter	100	+40%	30/15	Summer				50.269	1.092	0.000	0.09
3.000	SWFD3	15	Summer	100	+40%						50.486	-0.064	0.000	0.62
3.001	SWFD4	15	Summer	100	+40%						50.411	-0.049	0.000	0.78
4.000	SW6	240	Winter	100	+40%	100/240	Winter				50.267	0.122	0.000	0.04
4.001	SW7	240	Winter	100	+40%	100/120	Winter				50.267	0.156	0.000	0.03
4.002	SW8	240	Winter	100	+40%	100/120	Winter				50.267	0.322	0.000	0.06
4.003	SW9	240	Winter	100	+40%	100/60	Winter				50.267	0.432	0.000	0.13
4.004	SW10	240	Winter	100	+40%	100/60	Summer				50.266	0.524	0.000	0.18
1.007	SWHB	240	Winter	100	+40%	30/15	Summer				50.265	1.129	0.000	0.04
1.008	SWCBD	240	Winter	100	+40%						48.631	-0.258	0.000	0.05

PN	US/MH	Half Drain	Pipe	Status	Level Exceeded
	Name	Time (mins)	Flow (l/s)		
1.001	SW2		19.4	SURCHARGED	
1.002	SW3		21.5	SURCHARGED	
1.003	SWPI		21.3	SURCHARGED	

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