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3 Worsley Court High Street Worsley Manchester	Rowland Homes Barrow Bridge Ph2 Whole SW Network	
Date March 2011 File 3858 Proposed S.W.	Designed By srg Checked By	
Micro Drainage		Network W.12.4

Existing Network Details for Storm

* - Indicates pipe has been modified outside of System 1

PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	T.E. (mins)	k (mm)	HYD SECT	DIA (mm)
* 1.000	70.000	0.500	140.0	0.250	5.00	0.600	o	225
1.001	72.000	1.000	72.0	0.550	0.00	0.600	o	300
1.002	13.000	0.342	38.0	0.300	0.00	0.600	o	375
* 2.000	98.000	2.770	35.4	0.110	4.00	0.600	o	150
* 1.003	15.000	0.234	64.1	0.000	0.00	0.600	o	600
* 1.004	66.000	0.134	492.5	0.000	0.00	0.600	o	2400
3.000	32.807	1.640	20.0	0.110	4.00	0.600	o	150
3.001	6.128	0.153	40.1	0.085	0.00	0.600	o	225
3.002	34.163	0.854	40.0	0.034	0.00	0.600	o	225
4.000	14.789	0.370	40.0	0.116	4.00	0.600	o	225
4.001	10.817	0.129	83.9	0.000	0.00	0.600	o	225
4.002	22.296	0.279	80.0	0.105	0.00	0.600	o	225
3.003	18.219	0.304	60.0	0.000	0.00	0.600	o	300
3.004	13.827	0.230	60.0	0.073	0.00	0.600	o	300

PN	US/MH Name	US/CL (m)	US/IL (m)	US C. Depth (m)	DS/CL (m)	DS/IL (m)	DS C. Depth (m)	Ctrl	US/MH (mm)
* 1.000	1	82.000	80.500	1.275	81.500	80.000	1.275		1200
1.001	2	81.500	79.925	1.275	80.000	78.925	0.775		1200
1.002	3	80.000	76.657	2.968	79.880	76.315	3.190		1200
* 2.000	4	82.500	81.150	1.200	79.880	78.380	1.350		1200
* 1.003	4	79.880	76.090	3.190	78.980	75.856	2.524		1800
* 1.004	6	78.980	74.036	2.544	77.500	73.902	1.198		3660
3.000	8	81.500	80.000	1.350	80.500	78.360	1.990		1200
3.001	9	80.500	78.285	1.990	80.000	78.132	1.643		1200
3.002	10	80.000	78.132	1.643	79.000	77.278	1.497		1200
4.000	11	79.750	78.000	1.525	79.500	77.630	1.645		1200
4.001	12	79.500	77.630	1.645	79.250	77.501	1.524		1200
4.002	13	79.250	77.501	1.524	79.000	77.223	1.552		1200
3.003	14	79.000	77.148	1.552	78.750	76.844	1.606		1200
3.004	15	78.750	76.844	1.606	77.600	76.613	0.687		1200

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Micro Drainage Network W.12.4

Existing Network Details for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	T.E. (mins)	k (mm)	HYD SECT	DIA (mm)		
3.005	2 475	0.005	500.0	0.000	0.00	0.600	o	525		
* 1.005	8.100	0.102	79.4	0.000	0.00	0.600	o	450		
PN	US/MH Name	US/CL (m)	US/IL (m)	US C.Depth (m)	DS/CL (m)	DS/IL (m)	DS C.Depth (m)	Ctrl	US/MH (mm)	
3.005	16	77.600	75.782	1.293	77.500	75.777	1.198		1500	
* 1.005	17	77.500	73.902	3.148	74.500	73.800	0.250	Hydro-Brake®	3660	

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Micro Drainage				Network W.12.4								
Manhole Schedules for Storm												
MH Name	MH CL (m)	MH Depth (m)	MH Diam ,L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)		
1	82.000	1.500	1200	1.000	80.500	225						
2	81.500	1.575	1200	1.001	79.925	300	1.000	80.000	225			
3	80.000	3.343	1200	1.002	76.657	375	1.001	78.925	300	2193		
4	82.500	1.350	1200	2.000	81.150	150						
4	79.880	3.790	1800	1.003	76.090	600	1.002	76.315	375			
							2.000	78.380	150	1840		
6	78.980	4.944	3660	1.004	74.036	2400	1.003	75.856	600	20		
8	81.500	1.500	1200	3.000	80.000	150						
9	80.500	2.215	1200	3.001	78.285	225	3.000	78.360	150			
10	80.000	1.868	1200	3.002	78.132	225	3.001	78.132	225			
11	79.750	1.750	1200	4.000	78.000	225						
12	79.500	1.870	1200	4.001	77.630	225	4.000	77.630	225			
13	79.250	1.749	1200	4.002	77.501	225	4.001	77.501	225			
14	79.000	1.852	1200	3.003	77.148	300	3.002	77.278	225	55		
							4.002	77.223	225			
15	78.750	1.906	1200	3.004	76.844	300	3.003	76.844	300			
16	77.600	1.818	1500	3.005	75.782	525	3.004	76.613	300	606		
17	77.500	3.598	3660	1.005	73.902	450	1.004	73.902	2400			
							3.005	75.777	525	1950		
	74.500	0.700	0		OUIFALL		1.005	73.800	450			

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Micro Drainage	Network W.12.4	

Online Controls for Storm

Hydro-Brake® Manhole: 17, DS/PN: 1.005, Volume (m³): 319.9

Design Head (m) 1.750 Hydro-Brake® Type Md3 Invert Level (m) 73.902
Design Flow (l/s) 85.0 Diameter (mm) 257

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	7.5	1.200	70.5	3.000	111.4	7.000	170.2
0.200	26.2	1.400	76.1	3.500	120.4	7.500	176.2
0.300	45.6	1.600	81.4	4.000	128.7	8.000	182.0
0.400	56.3	1.800	86.3	4.500	136.5	8.500	187.6
0.500	59.5	2.000	91.0	5.000	143.9	9.000	193.0
0.600	56.5	2.200	95.4	5.500	150.9	9.500	198.3
0.800	58.2	2.400	99.7	6.000	157.6		
1.000	64.4	2.600	103.7	6.500	164.0		

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Micro Drainage		Network W.12.4						
<u>1 year Return Period Summary of Critical Results by Maximum Outflow (Rank 1)</u> <u>for Storm</u>								
Margin for Flood Risk Warning (mm) 300 0 DVD Status OFF Analysis Timestep Fine Inertia Status OFF DIS Status ON								
Profile(s) Summer and Winter Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600 Return Period(s) (years) 1, 30, 100 Climate Change (%) 0, 0, 0								
PN	Storm	Return Period	Climate Change	First X Surchage	First Y Flood	First Z Overflow	O/F Act. Lvl Exc.	
1.000	15 Winter	1	0%	30/15 Summer	100/15 Summer		4	
1.001	15 Winter	1	0%	30/15 Summer				
1.002	15 Winter	1	0%	100/15 Summer				
2.000	15 Winter	1	0%	30/15 Summer				
1.003	15 Winter	1	0%					
1.004	15 Winter	1	0%					
3.000	15 Winter	1	0%	100/15 Summer				
3.001	15 Winter	1	0%	30/15 Summer				
3.002	15 Winter	1	0%	100/15 Summer				
4.000	15 Winter	1	0%	100/15 Summer				
4.001	15 Summer	1	0%	30/15 Summer				
4.002	15 Winter	1	0%	30/15 Summer				
3.003	15 Winter	1	0%	30/15 Summer				
3.004	15 Winter	1	0%	30/15 Summer				
3.005	15 Winter	1	0%	100/60 Winter				
1.005	15 Winter	1	0%	1/15 Summer				
PN	US/MH Name	Water Level (m)	Surch'd Depth (m)	Flooded Volume (m³)	Flow / Cap.	O'flow (l/s)	Pipe Flow (l/s)	Status
1.000	1	80.640	-0.085	0.000	0.66	0.0	28.0	OK
1.001	2	80.099	-0.126	0.000	0.63	0.0	79.4	OK
1.002	3	76.838	-0.194	0.000	0.46	0.0	106.3	OK
2.000	4	81.222	-0.078	0.000	0.47	0.0	14.0	OK
1.003	4	76.292	-0.398	0.000	0.25	0.0	118.8	OK
1.004	6	74.609	-1.827	0.000	0.01	0.0	107.1	OK
3.000	8	80.062	-0.088	0.000	0.36	0.0	14.0	OK
3.001	9	78.385	-0.125	0.000	0.41	0.0	22.6	OK
3.002	10	78.222	-0.135	0.000	0.33	0.0	25.9	OK
4.000	11	78.069	-0.156	0.000	0.20	0.0	14.8	OK
4.001	12	77.716	-0.139	0.000	0.31	0.0	14.8	OK
4.002	13	77.611	-0.115	0.000	0.47	0.0	25.2	OK
3.003	14	77.282	-0.165	0.000	0.41	0.0	51.0	OK
3.004	15	76.994	-0.150	0.000	0.49	0.0	58.7	OK
3.005	16	75.993	-0.314	0.000	0.34	0.0	58.9	OK
1.005	17	74.609	0.257	0.000	0.33	0.0	59.3	SURCHARGED
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Date March 2011 File 3858 Proposed S.W....	Designed By srg Checked By							
Micro Drainage		Network W.12.4						
<u>30 year Return Period Summary of Critical Results by Maximum Outflow (Rank 1) for Storm</u>								
Margin for Flood Risk Warning (mm) 300.0 DVD Status OFF Analysis Timestep Fine Inertia Status OFF DIS Status ON								
Profile(s) Summer and Winter Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600 Return Period(s) (years) 1, 30, 100 Climate Change (%) 0, 0, 0								
PN	Storm	Return Period	Climate Change	First X Surchage	First Y Flood	First Z Overflow	O/F Act	Lvl Exc.
1.000	15 Winter	30	0%	30/15 Summer	100/15 Summer			4
1.001	15 Winter	30	0%	30/15 Summer				
1.002	15 Winter	30	0%	100/15 Summer				
2.000	15 Winter	30	0%	30/15 Summer				
1.003	15 Winter	30	0%					
1.004	15 Winter	30	0%					
3.000	15 Winter	30	0%	100/15 Summer				
3.001	15 Winter	30	0%	30/15 Summer				
3.002	15 Winter	30	0%	100/15 Summer				
4.000	15 Winter	30	0%	100/15 Summer				
4.001	15 Winter	30	0%	30/15 Summer				
4.002	15 Winter	30	0%	30/15 Summer				
3.003	15 Winter	30	0%	30/15 Summer				
3.004	15 Winter	30	0%	30/15 Summer				
3.005	15 Winter	30	0%	100/60 Winter				
1.005	60 Winter	30	0%	1/15 Summer				
PN	US/MH Name	Water Level (m)	Surch'd Depth (m)	Flooded Volume (m³)	Flow / Cap.	O'flow (l/s)	Pipe Flow (l/s)	Status
1.000	1	81.472	0.747	0.000	1.20	0.0	51.1	SURCHARGED
1.001	2	80.747	0.522	0.000	1.24	0.0	155.6	SURCHARGED
1.002	3	76.965	-0.067	0.000	0.98	0.0	225.1	OK
2.000	4	81.413	0.113	0.000	1.02	0.0	30.2	SURCHARGED
1.003	4	76.402	-0.288	0.000	0.52	0.0	254.3	OK
1.004	6	75.357	-1.079	0.000	0.03	0.0	229.9	OK
3.000	8	80.110	-0.040	0.000	0.89	0.0	34.3	OK
3.001	9	78.533	0.023	0.000	1.10	0.0	60.6	SURCHARGED
3.002	10	78.301	-0.056	0.000	0.91	0.0	70.5	OK
4.000	11	78.112	-0.113	0.000	0.50	0.0	36.1	OK
4.001	12	77.974	0.119	0.000	0.67	0.0	32.1	SURCHARGED
4.002	13	77.919	0.193	0.000	1.12	0.0	59.7	SURCHARGED
3.003	14	77.564	0.116	0.000	1.03	0.0	127.0	SURCHARGED
3.004	15	77.250	0.106	0.000	1.22	0.0	144.9	SURCHARGED
3.005	16	76.153	-0.154	0.000	0.83	0.0	144.8	OK
1.005	17	75.668	1.316	0.000	0.47	0.0	85.5	SURCHARGED
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High Street Worsley		Barrow Bridge Ph2						
Manchester		Whole SW Network						
Date March 2011		Designed By srg						
File 3858 Proposed S.W.		Checked By						
Micro Drainage		Network W.12.4						
<u>100 year Return Period Summary of Critical Results by Maximum Outflow (Rank 1)</u> <u>for Storm</u>								
Margin for Flood Risk Warning (mm) 300.0 DVD Status OFF Analysis timestep Fine Inertia Status OFF DIS Status ON								
Profile(s) Summer and Winter Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600 Return Period(s) (years) 1, 30, 100 Climate Change (%) 0, 0, 0								
PN	Storm	Return Period	Climate Change	First X Surcharge	First Y Flood	First Z Overflow	O/F Act.	Lvl Exc.
1.000	15 Summer	100	0%	30/15 Summer	100/15 Summer			4
1.001	15 Winter	100	0%	30/15 Summer				
1.002	15 Winter	100	0%	100/15 Summer				
2.000	15 Winter	100	0%	30/15 Summer				
1.003	15 Winter	100	0%					
1.004	15 Winter	100	0%					
3.000	15 Summer	100	0%	100/15 Summer				
3.001	15 Winter	100	0%	30/15 Summer				
3.002	15 Winter	100	0%	100/15 Summer				
4.000	15 Summer	100	0%	100/15 Summer				
4.001	15 Winter	100	0%	30/15 Summer				
4.002	15 Winter	100	0%	30/15 Summer				
3.003	15 Winter	100	0%	30/15 Summer				
3.004	15 Winter	100	0%	30/15 Summer				
3.005	15 Winter	100	0%	100/60 Winter				
1.005	60 Winter	100	0%	1/15 Summer				
PN	US/MH Name	Water Level (m)	Surch'd Depth (m)	Flooded Volume (m³)	Flow / Cap.	O'flow (l/s)	Pipe Flow (l/s)	Status
1.000	1	82.001	1.276	0.511	1.30	0.0	55.5	FLOOD
1.001	2	81.377	1.152	0.000	1.47	0.0	184.8	FLOOD RISK
1.002	3	77.159	0.127	0.000	1.17	0.0	267.4	SURCHARGED
2.000	4	81.913	0.613	0.000	1.10	0.0	32.6	SURCHARGED
1.003	4	76.433	-0.257	0.000	0.62	0.0	299.3	OK
1.004	6	75.691	-0.745	0.000	0.04	0.0	270.8	OK
3.000	8	80.347	0.197	0.000	0.98	0.0	37.8	SURCHARGED
3.001	9	78.827	0.317	0.000	1.22	0.0	67.3	SURCHARGED
3.002	10	78.612	0.255	0.000	0.98	0.0	76.2	SURCHARGED
4.000	11	78.410	0.185	0.000	0.59	0.0	42.7	SURCHARGED
4.001	12	78.354	0.498	0.000	0.78	0.0	37.4	SURCHARGED
4.002	13	78.279	0.553	0.000	1.31	0.0	69.6	SURCHARGED
3.003	14	77.788	0.341	0.000	1.18	0.0	146.3	SURCHARGED
3.004	15	77.369	0.225	0.000	1.40	0.0	167.0	SURCHARGED
3.005	16	76.193	-0.114	0.000	0.96	0.0	167.6	OK
1.005	17	76.358	2.006	0.000	0.56	0.0	100.8	SURCHARGED
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