

Bay Associates		Page 1
Anson Court	File: Glan Gors Model.dwg	
Atlantic Wharf	Network: Adoptable Foul Sewer	
Cardiff CF10 4AL		
Date 18 July 2013	Designed by nick.lewis	
File Adoptable Foul Networ...	Checked by	
Causeway	Network 2013.1.1	

FOUL SEWERAGE DESIGN

Design Criteria for 13.07.18 - Adoptable Foul Network.fws

Pipe Sizes STANDARD Manhole Sizes STANDARD

Industrial Flow (l/s/ha)	0.00	Add Flow / Climate Change (%)	0
Industrial Peak Flow Factor	0.00	Minimum Backdrop Height (m)	2.400
Flow Per Person (l/per/day)	222.00	Maximum Backdrop Height (m)	2.500
Persons per House	3.00	Min Design Depth for Optimisation (m)	0.900
Domestic (l/s/ha)	0.00	Min Vel for Auto Design only (m/s)	0.75
Domestic Peak Flow Factor	6.00	Min Slope for Optimisation (1:X)	100

Designed with Level Soffits

Network Design Table for 13.07.18 - Adoptable Foul Network.fws

PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	Houses	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)
1.000	6.647	0.066	100.7	0.000	1	0.0	0.600	o	150
1.001	6.824	0.734	9.3	0.000	2	0.0	0.600	o	150
1.002	7.749	0.100	77.5	0.000	0	0.0	0.600	o	150
2.000	5.806	0.230	25.2	0.000	1	0.0	0.600	o	150
3.000	7.058	0.228	31.0	0.000	1	0.0	0.600	o	150
1.003	8.639	0.086	100.5	0.000	0	0.0	0.600	o	150
4.000	3.704	0.384	9.6	0.000	1	0.0	0.600	o	150
1.004	37.958	0.380	99.9	0.000	7	0.0	0.600	o	150
5.000	7.483	0.790	9.5	0.000	2	0.0	0.600	o	150
6.000	3.535	0.035	101.0	0.000	3	0.0	0.600	o	150
6.001	8.616	0.086	100.2	0.000	1	0.0	0.600	o	150

Network Results Table

PN	US/IL (m)	Σ Area (ha)	Σ Base Flow (l/s)	Σ Hse	Add Flow (l/s)	P.Dep (mm)	P.Vel (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	57.700	0.000	0.0	1	0.0	6	0.20	1.00	17.7	0.0
1.001	57.634	0.000	0.0	3	0.0	5	0.67	3.32	58.7	0.1
1.002	56.900	0.000	0.0	3	0.0	9	0.32	1.14	20.2	0.1
2.000	57.250	0.000	0.0	1	0.0	4	0.33	2.01	35.6	0.0
3.000	57.250	0.000	0.0	1	0.0	4	0.31	1.82	32.1	0.0
1.003	56.800	0.000	0.0	5	0.0	12	0.34	1.00	17.7	0.2
4.000	57.200	0.000	0.0	1	0.0	3	0.46	3.26	57.7	0.0
1.004	56.714	0.000	0.0	13	0.0	19	0.46	1.01	17.8	0.6
5.000	57.800	0.000	0.0	2	0.0	5	0.58	3.29	58.2	0.1
6.000	57.000	0.000	0.0	3	0.0	10	0.29	1.00	17.7	0.1
6.001	56.965	0.000	0.0	4	0.0	11	0.32	1.00	17.7	0.2

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Network Design Table for 13.07.18 - Adoptable Foul Network.fws

PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	Houses	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)
5.001	12.434	0.545	22.8	0.000	0	0.0	0.600	o	150
1.005	10.732	0.107	100.3	0.000	0	0.0	0.600	o	150
1.006	14.052	0.539	26.1	0.000	2	0.0	0.600	o	150
7.000	4.184	0.762	5.5	0.000	2	0.0	0.600	o	150
1.007	9.415	0.094	100.2	0.000	0	0.0	0.600	o	150
1.008	22.164	0.402	55.1	0.000	0	0.0	0.600	o	150

Network Results Table

PN	US/IL (m)	Σ Area (ha)	Σ Base Flow (l/s)	Σ Hse	Add Flow (l/s)	P.Dep (mm)	P.Vel (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
5.001	56.879	0.000	0.0	6	0.0	9	0.61	2.12	37.4	0.3
1.005	56.334	0.000	0.0	19	0.0	23	0.52	1.00	17.7	0.9
1.006	56.227	0.000	0.0	21	0.0	17	0.86	1.98	35.0	1.0
7.000	57.000	0.000	0.0	2	0.0	4	0.70	4.33	76.5	0.1
1.007	55.688	0.000	0.0	23	0.0	25	0.55	1.00	17.7	1.1
1.008	55.594	0.000	0.0	23	0.0	22	0.68	1.36	24.0	1.1

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Manhole Schedules for 13.07.18 - Adoptable Foul Network.fws

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
FW1B	58.546	0.846	Open Manhole	1200	1.000	57.700	150				
FW1A	58.637	1.003	Open Manhole	1200	1.001	57.634	150	1.000	57.634	150	
FW1	58.170	1.270	Open Manhole	1200	1.002	56.900	150	1.001	56.900	150	
FW2B	58.155	0.905	Open Manhole	1200	2.000	57.250	150				
FW2A	58.153	0.903	Open Manhole	1200	3.000	57.250	150				
FW2	58.071	1.271	Open Manhole	1200	1.003	56.800	150	1.002	56.800	150	
								2.000	57.020	150	220
								3.000	57.022	150	222
FW3A	58.208	1.008	Open Manhole	1200	4.000	57.200	150				
FW3	58.031	1.317	Open Manhole	1200	1.004	56.714	150	1.003	56.714	150	
								4.000	56.816	150	102
FW4B	58.645	0.845	Open Manhole	1200	5.000	57.800	150				
FW4D	57.977	0.977	Open Manhole	1200	6.000	57.000	150				
FW4C	58.286	1.321	Open Manhole	1200	6.001	56.965	150	6.000	56.965	150	
FW4A	58.252	1.373	Open Manhole	1200	5.001	56.879	150	5.000	57.010	150	131
								6.001	56.879	150	
FW4	58.252	1.918	Open Manhole	1200	1.005	56.334	150	1.004	56.334	150	
								5.001	56.334	150	
FW5	58.050	1.823	Open Manhole	1200	1.006	56.227	150	1.005	56.227	150	
FW6A	57.959	0.959	Open Manhole	1200	7.000	57.000	150				
FW6	57.917	2.229	Open Manhole	1200	1.007	55.688	150	1.006	55.688	150	
								7.000	56.238	150	550
FW7	57.529	1.935	Open Manhole	1200	1.008	55.594	150	1.007	55.594	150	
FW8	56.860	1.668	Open Manhole	1200		OUTFALL		1.008	55.192	150	

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PIPELINE SCHEDULES for 13.07.18 – Adoptable Foul Network.fws

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	150	FW1B	58.546	57.700	0.696	Open Manhole	1200
1.001	o	150	FW1A	58.637	57.634	0.853	Open Manhole	1200
1.002	o	150	FW1	58.170	56.900	1.120	Open Manhole	1200
2.000	o	150	FW2B	58.155	57.250	0.755	Open Manhole	1200
3.000	o	150	FW2A	58.153	57.250	0.753	Open Manhole	1200
1.003	o	150	FW2	58.071	56.800	1.121	Open Manhole	1200
4.000	o	150	FW3A	58.208	57.200	0.858	Open Manhole	1200
1.004	o	150	FW3	58.031	56.714	1.167	Open Manhole	1200
5.000	o	150	FW4B	58.645	57.800	0.695	Open Manhole	1200
6.000	o	150	FW4D	57.977	57.000	0.827	Open Manhole	1200
6.001	o	150	FW4C	58.286	56.965	1.171	Open Manhole	1200
5.001	o	150	FW4A	58.252	56.879	1.223	Open Manhole	1200
1.005	o	150	FW4	58.252	56.334	1.768	Open Manhole	1200
1.006	o	150	FW5	58.050	56.227	1.673	Open Manhole	1200
7.000	o	150	FW6A	57.959	57.000	0.809	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	6.647	100.7	FW1A	58.637	57.634	0.853	Open Manhole	1200
1.001	6.824	9.3	FW1	58.170	56.900	1.120	Open Manhole	1200
1.002	7.749	77.5	FW2	58.071	56.800	1.121	Open Manhole	1200
2.000	5.806	25.2	FW2	58.071	57.020	0.901	Open Manhole	1200
3.000	7.058	31.0	FW2	58.071	57.022	0.899	Open Manhole	1200
1.003	8.639	100.5	FW3	58.031	56.714	1.167	Open Manhole	1200
4.000	3.704	9.6	FW3	58.031	56.816	1.065	Open Manhole	1200
1.004	37.958	99.9	FW4	58.252	56.334	1.768	Open Manhole	1200
5.000	7.483	9.5	FW4A	58.252	57.010	1.092	Open Manhole	1200
6.000	3.535	101.0	FW4C	58.286	56.965	1.171	Open Manhole	1200
6.001	8.616	100.2	FW4A	58.252	56.879	1.223	Open Manhole	1200
5.001	12.434	22.8	FW4	58.252	56.334	1.768	Open Manhole	1200
1.005	10.732	100.3	FW5	58.050	56.227	1.673	Open Manhole	1200
1.006	14.052	26.1	FW6	57.917	55.688	2.079	Open Manhole	1200
7.000	4.184	5.5	FW6	57.917	56.238	1.529	Open Manhole	1200

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PIPELINE SCHEDULES for 13.07.18 - Adoptable Foul Network.fws

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)
1.007	o	150	FW6	57.917	55.688	2.079	Open Manhole	1200
1.008	o	150	FW7	57.529	55.594	1.785	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)
1.007	9.415	100.2	FW7	57.529	55.594	1.785	Open Manhole	1200
1.008	22.164	55.1	FW8	56.860	55.192	1.518	Open Manhole	1200

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Setting Out Information - True Coordinates (13.07.18 - Adoptable Foul Network.fws)

PN	USMH Name	Dia/Len (mm)	Width (mm)	US Easting (m)	US Northing (m)	Layout (North)
1.000	FW1B	1200		335185.123	349895.470	
1.001	FW1A	1200		335183.585	349889.004	
1.002	FW1	1200		335184.118	349882.201	
2.000	FW2B	1200		335177.446	349870.418	
3.000	FW2A	1200		335173.762	349872.391	
1.003	FW2	1200		335180.043	349875.611	
4.000	FW3A	1200		335189.295	349874.232	
1.004	FW3	1200		335187.385	349871.059	
5.000	FW4B	1200		335214.820	349859.630	
6.000	FW4D	1200		335231.900	349850.479	
6.001	FW4C	1200		335228.863	349852.287	
5.001	FW4A	1200		335220.676	349854.971	
1.005	FW4	1200		335214.302	349844.295	
1.006	FW5	1200		335221.912	349836.728	
7.000	FW6A	1200		335230.682	349827.954	
1.007	FW6	1200		335228.560	349824.348	
1.008	FW7	1200		335235.744	349818.261	

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Setting Out Information - True Coordinates (13.07.18 - Adoptable Foul Network.fws)

PN	DSMH	Dia/Len	Width	DS	Easting	DS	Northing	Layout
Name		(mm)	(mm)		(m)		(m)	(North)
1.008	FW8	1200			335257.459		349813.823	



Surcharged Outfall Details for 13.07.18 - Adoptable Foul Network.fws

Outfall	Outfall	C. Level	I. Level	Min	D,L	W
Pipe Number	Name	(m)	(m)	I. Level	(mm)	(mm)
				(m)		

1.008	FW8	56.860	55.192	55.200	1200	0
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Input Hydrograph Type: User Defined

No Input Hydrograph data used for analysis due to offset specified.