FOUL SEWERAGE DESIGN

Design Criteria for Foul - gravity

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)	0.650
Flow Per Person (l/per/day)	222.00	Maximum Backdrop Height (m)	1.500
Persons per House	3.00	Min Design Depth for Optimisation (m)	1.200
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)	500

Designed with Level Soffits

Network Design Table for Foul - gravity

PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	Houses	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.000	24.209	0.325	74.5	0.000	1	0.0	1.500	o	100	Pipe/Conduit	
1.001	12.000	0.160	75.0	0.000	2	0.0	1.500	o	100	Pipe/Conduit	
1.002	15.082	0.200	75.4	0.000	2	0.0	1.500	o	100	Pipe/Conduit	
1.003	21.041	0.280	75.1	0.000	3	0.0	1.500	o	100	Pipe/Conduit	
1.004	11.343	0.090	126.0	0.000	5	0.0	1.500	o	150	Pipe/Conduit	
1.005	15.748	0.120	131.2	0.000	0	0.0	1.500	o	150	Pipe/Conduit	
1.006	22.054	0.160	137.8	0.000	4	0.0	1.500	o	150	Pipe/Conduit	
2.000	6.661	0.100	66.6	0.000	1	0.0	1.500	o	100	Pipe/Conduit	
2.001	7.684	0.110	69.9	0.000	1	0.0	1.500	o	100	Pipe/Conduit	
2.002	11.558	0.170	68.0	0.000	0	0.0	1.500	o	100	Pipe/Conduit	
2.003	7.181	1.405	5.1	0.000	1	0.0	1.500	o	100	Pipe/Conduit	
1.007	14.303	0.110	130.0	0.000	3	0.0	1.500	o	150	Pipe/Conduit	

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	132.800	0.000	0.0	1	0.0	7	0.21	0.77	6.1	0.0
1.001	132.475	0.000	0.0	3	0.0	11	0.30	0.77	6.0	0.1
1.002	132.315	0.000	0.0	5	0.0	14	0.36	0.77	6.0	0.2
1.003	132.115	0.000	0.0	8	0.0	17	0.42	0.77	6.0	0.4
1.004	131.785	0.000	0.0	13	0.0	22	0.38	0.78	13.8	0.6
1.005	131.695	0.000	0.0	13	0.0	22	0.38	0.76	13.5	0.6
1.006	131.575	0.000	0.0	17	0.0	25	0.40	0.75	13.2	0.8
2.000	134.700	0.000	0.0	1	0.0	6	0.22	0.82	6.4	0.0
2.001	134.600	0.000	0.0	2	0.0	9	0.27	0.80	6.3	0.1
2.002	134.490	0.000	0.0	2	0.0	9	0.28	0.81	6.3	0.1
2.003	134.320	0.000	0.0	3	0.0	6	0.75	2.96	23.2	0.1
1.007	131.415	0.000	0.0	23	0.0	29	0.45	0.77	13.6	1.1

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Network Design Table for Foul - gravity

PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	Houses	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.008	12.764	0.100	127.6	0.000	4	0.0	1.500	o	150	Pipe/Conduit	
1.009	43.264	0.320	135.2	0.000	3	0.0	1.500	o	150	Pipe/Conduit	
3.000	11.572	0.350	33.1	0.000	3	0.0	1.500	o	100	Pipe/Conduit	
3.001	17.035	0.500	34.1	0.000	2	0.0	1.500	o	100	Pipe/Conduit	
3.002	15.645	1.165	13.4	0.000	3	0.0	1.500	o	100	Pipe/Conduit	
1.010	18.049	0.135	133.7	0.000	5	0.0	1.500	o	150	Pipe/Conduit	
1.011	34.159	0.300	113.9	0.000	2	0.0	1.500	o	150	Pipe/Conduit	
4.000	35.691	1.000	35.7	0.000	3	0.0	1.500	o	100	Pipe/Conduit	
4.001	17.100	0.230	74.3	0.000	3	0.0	1.500	o	100	Pipe/Conduit	
4.002	8.574	0.770	11.1	0.000	1	0.0	1.500	o	100	Pipe/Conduit	
1.012	19.105	0.150	127.4	0.000	1	0.0	1.500	o	150	Pipe/Conduit	
1.013	20.604	0.615	33.5	0.000	1	0.0	1.500	o	150	Pipe/Conduit	

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)
1.008	131.305	0.000	0.0	27	0.0	31	0.48	0.77	13.7	1.2
1.009	131.205	0.000	0.0	30	0.0	33	0.48	0.75	13.3	1.4
3.000	132.950	0.000	0.0	3	0.0	9	0.40	1.16	9.1	0.1
3.001	132.600	0.000	0.0	5	0.0	11	0.47	1.14	9.0	0.2
3.002	132.100	0.000	0.0	8	0.0	11	0.75	1.82	14.3	0.4
1.010	130.885	0.000	0.0	43	0.0	39	0.54	0.76	13.4	2.0
1.011	130.750	0.000	0.0	45	0.0	39	0.58	0.82	14.5	2.1
4.000	132.500	0.000	0.0	3	0.0	9	0.39	1.12	8.8	0.1
4.001	131.500	0.000	0.0	6	0.0	15	0.38	0.77	6.1	0.3
4.002	131.270	0.000	0.0	7	0.0	10	0.77	2.00	15.7	0.3
1.012	130.450	0.000	0.0	53	0.0	43	0.58	0.78	13.7	2.5
1.013	130.300	0.000	0.0	54	0.0	31	0.94	1.52	26.8	2.5

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Network Classifications for Foul - gravity

PN	USMH Name	Pipe Dia (mm)	Min Cover Depth (m)	Max Cover Depth (m)	Pipe Type	MH Dia (mm)	MH Width (mm)	MH Ring Depth (m)	MH Type
1.000	F1	100	0.600	2.925	Unclassified	600	450	0.600	Unclassified
1.001	F2	100	2.925	4.085	Unclassified	1200	0	2.925	Unclassified
1.002	F3	100	4.085	5.225	Unclassified	1200	0	4.085	Unclassified
1.003	F4	100	5.225	5.815	Unclassified	1200	0	5.225	Unclassified
1.004	F5	150	5.655	5.815	Unclassified	1200	0	5.815	Unclassified
1.005	F6	150	5.155	5.655	Unclassified	1200	0	5.655	Unclassified
1.006	F7	150	4.235	5.155	Unclassified	1200	0	5.155	Unclassified
2.000	F15	100	0.850	0.900	Unclassified	450	0	0.900	Unclassified
2.001	F16	100	0.850	1.010	Unclassified	450	0	0.850	Unclassified
2.002	F17	100	1.010	1.280	Unclassified	450	0	1.010	Unclassified
2.003	F18	100	1.280	2.785	Unclassified	450	0	1.280	Unclassified
1.007	F8	150	3.645	4.235	Unclassified	1200	0	4.235	Unclassified
1.008	F9	150	3.165	3.645	Unclassified	1200	0	3.645	Unclassified
1.009	F10	150	2.245	3.165	Unclassified	1200	0	3.165	Unclassified
3.000	F19	100	1.200	1.200	Unclassified	450	0	1.200	Unclassified
3.001	F20	100	1.200	1.400	Unclassified	450	0	1.200	Unclassified
3.002	F21	100	1.400	2.245	Unclassified	1200	0	1.400	Unclassified
1.010	F11	150	1.850	2.245	Unclassified	1200	0	2.245	Unclassified
1.011	F12	150	1.400	1.850	Unclassified	1200	0	1.850	Unclassified
4.000	F22	100	0.900	0.900	Unclassified	450	0	0.900	Unclassified
4.001	F23	100	0.900	1.130	Unclassified	450	0	0.900	Unclassified
4.002	F24	100	1.130	1.400	Unclassified	450	0	1.130	Unclassified
1.012	F13	150	1.400	1.550	Unclassified	1200	0	1.400	Unclassified
1.013	F14	150	1.485	1.550	Unclassified	1200	0	1.550	Unclassified

Free Flowing Outfall Details for Foul - gravity

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
1.013	3907	131.320	129.685	129.610	0	0

Simulation Criteria for Foul - gravity

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

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

Synthetic Rainfall Details

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Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	0	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	0.000	Storm Duration (mins)	30
Ratio R	0.000		

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