


Atkins Global		Page 1
18th Fl, Tower C, Cyber Gree... DLF Cyber City, DLF Phase - III Gurgaon, Haryanan - 122 002,...		
Date 12/10/2022 17:16 File COMBINED MODEL_TRAIL-1.MDX	Designed by KARA5291 Checked by	
XP Solutions		Network 2020.1.3

FOUL SEWERAGE DESIGN











Design Criteria for Foul

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)	0.000
Calculation Method	EN 752	Maximum Backdrop Height (m)	1.500
Frequency Factor	1.00	Min Design Depth for Optimisation (m)	0.600
Domestic (l/s/ha)	0.00	Min Vel for Auto Design only (m/s)	0.99
Domestic Peak Flow Factor	6.00	Min Slope for Optimisation (1:X)	100

Designed with Level Soffits










Network Design Table for Foul

PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	Freq Factor	Units	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.000	11.377	0.076	150.0	0.000	1.00	23.9	0.0	1.500	o	150	Pipe/Conduit	
1.001	19.812	0.248	80.0	0.000	1.00	41.2	0.0	1.500	o	150	Pipe/Conduit	
1.002	5.190	0.259	20.0	0.000	1.00	10.6	0.0	1.500	o	150	Pipe/Conduit	
1.003	30.503	0.548	55.7	0.000	0.50	17.0	0.0	1.500	o	150	Pipe/Conduit	
1.004	16.911	0.180	94.0	0.000	1.00	0.0	0.0	1.500	o	150	Pipe/Conduit	
2.000	24.538	0.164	149.6	0.000	0.50	17.0	0.0	1.500	o	150	Pipe/Conduit	
2.001	14.504	0.097	150.0	0.000	1.00	0.0	0.0	1.500	o	150	Pipe/Conduit	
2.002	4.363	0.029	150.0	0.000	1.00	0.0	0.0	1.500	o	150	Pipe/Conduit	
3.000	17.302	0.139	124.5	0.000	0.50	12.0	0.0	1.500	o	150	Pipe/Conduit	
2.003	27.809	0.185	150.3	0.000	0.50	12.0	0.0	1.500	o	150	Pipe/Conduit	

Network Results Table

PN	US/IL (m)	Σ Area (ha)	Σ Base Flow (l/s)	Σ Units	Add Flow (l/s)	P.Dep (mm)	P.Vel (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	8.700	0.000	0.0	23.9	0.0	65	0.67	0.71	12.6	4.9
1.001	8.624	0.000	0.0	65.1	0.0	72	0.96	0.98	17.3	8.1
1.002	8.377	0.000	0.0	75.7	0.0	51	1.63	1.96	34.7	8.7
1.003	8.117	0.000	0.0	92.7	0.0	69	1.13	1.18	20.8	8.9
1.004	7.569	0.000	0.0	92.7	0.0	80	0.93	0.90	16.0	8.9
2.000	7.900	0.000	0.0	17.0	0.0	41	0.52	0.72	12.6	2.1
2.001	7.736	0.000	0.0	17.0	0.0	41	0.52	0.71	12.6	2.1
2.002	7.639	0.000	0.0	17.0	0.0	41	0.52	0.71	12.6	2.1
3.000	7.750	0.000	0.0	12.0	0.0	36	0.53	0.78	13.9	1.7
2.003	7.610	0.000	0.0	41.0	0.0	52	0.59	0.71	12.6	3.2

Network Design Table for Foul

PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	Freq Factor	Units	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
4.000	19.763	0.175	112.9	0.000	0.50	12.0	0.0	1.500	o	150	Pipe/Conduit	
2.004	5.414	0.036	150.0	0.000	1.00	0.0	0.0	1.500	o	150	Pipe/Conduit	
1.005	13.593	0.091	150.0	0.000	1.00	0.0	0.0	1.500	o	150	Pipe/Conduit	
5.000	11.362	0.078	145.7	0.000	1.00	5.3	0.0	1.500	o	150	Pipe/Conduit	
6.000	11.731	0.078	150.0	0.000	1.00	26.4	0.0	1.500	o	150	Pipe/Conduit	
5.001	15.339	0.102	150.0	0.000	1.00	0.0	0.0	1.500	o	150	Pipe/Conduit	
5.002	40.357	0.271	148.9	0.000	0.50	17.0	0.0	1.500	o	150	Pipe/Conduit	
1.006	7.687	0.051	150.0	0.000	1.00	0.0	0.0	1.500	o	150	Pipe/Conduit	
1.007	53.703	0.358	150.0	0.000	1.00	0.0	0.0	1.500	o	150	Pipe/Conduit	

Network Results Table

PN	US/IL (m)	Σ Area (ha)	Σ Base Flow (l/s)	Σ Units	Add Flow (l/s)	P.Dep (mm)	P.Vel (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
4.000	7.600	0.000	0.0	12.0	0.0	35	0.55	0.82	14.6	1.7
2.004	7.425	0.000	0.0	53.0	0.0	55	0.62	0.71	12.6	3.6
1.005	7.389	0.000	0.0	145.7	0.0	98	0.79	0.71	12.6	9.7
5.000	7.750	0.000	0.0	5.3	0.0	43	0.55	0.72	12.8	2.3
6.000	7.750	0.000	0.0	26.4	0.0	67	0.68	0.71	12.6	5.1
5.001	7.672	0.000	0.0	31.7	0.0	70	0.69	0.71	12.6	5.6
5.002	7.570	0.000	0.0	48.7	0.0	73	0.71	0.72	12.7	6.0
1.006	7.298	0.000	0.0	194.4	0.0	111	0.81	0.71	12.6	11.4
1.007	7.247	0.000	0.0	194.4	0.0	111	0.81	0.71	12.6	11.4

PIPELINE SCHEDULES for Foul

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	F-IC1	9.450	8.700	0.600	Open Manhole	1200
1.001	o	150	FMH3	9.400	8.624	0.626	Open Manhole	1200
1.002	o	150	FMH4	9.630	8.377	1.103	Open Manhole	1200
1.003	o	150	FMH5	9.200	8.117	0.933	Open Manhole	1200
1.004	o	150	FMH6	8.400	7.569	0.681	Open Manhole	1200
2.000	o	150	FMH7	8.450	7.900	0.400	Open Manhole	1200
2.001	o	150	FMH8	8.450	7.736	0.564	Open Manhole	1200
2.002	o	150	FMH9	8.450	7.639	0.661	Open Manhole	1200
3.000	o	150	FMH10	8.450	7.750	0.550	Open Manhole	1200
2.003	o	150	FMH11	8.450	7.610	0.690	Open Manhole	1200
4.000	o	150	FMH12	8.500	7.600	0.750	Open Manhole	1200
2.004	o	150	FMH13	8.400	7.425	0.825	Open Manhole	1200
1.005	o	150	FMH14	8.400	7.389	0.861	Open Manhole	1200
5.000	o	150	FMH15	8.500	7.750	0.600	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	11.377	150.0	FMH3	9.400	8.624	0.626	Open Manhole	1200
1.001	19.812	80.0	FMH4	9.630	8.377	1.103	Open Manhole	1200
1.002	5.190	20.0	FMH5	9.200	8.117	0.933	Open Manhole	1200
1.003	30.503	55.7	FMH6	8.400	7.569	0.681	Open Manhole	1200
1.004	16.911	94.0	FMH14	8.400	7.389	0.861	Open Manhole	1200
2.000	24.538	149.6	FMH8	8.450	7.736	0.564	Open Manhole	1200
2.001	14.504	150.0	FMH9	8.450	7.639	0.661	Open Manhole	1200
2.002	4.363	150.0	FMH11	8.450	7.610	0.690	Open Manhole	1200
3.000	17.302	124.5	FMH11	8.450	7.611	0.689	Open Manhole	1200
2.003	27.809	150.3	FMH13	8.400	7.425	0.825	Open Manhole	1200
4.000	19.763	112.9	FMH13	8.400	7.425	0.825	Open Manhole	1200
2.004	5.414	150.0	FMH14	8.400	7.389	0.861	Open Manhole	1200
1.005	13.593	150.0	FMH21	8.100	7.298	0.652	Open Manhole	1200
5.000	11.362	145.7	FMH16	8.650	7.672	0.828	Open Manhole	1200

PIPELINE SCHEDULES for Foul

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)
6.000	o	150	FMH17	8.500	7.750	0.600	Open Manhole	1200
5.001	o	150	FMH16	8.650	7.672	0.828	Open Manhole	1200
5.002	o	150	FMH20	8.500	7.570	0.780	Open Manhole	1200
1.006	o	150	FMH21	8.100	7.298	0.652	Open Manhole	1200
1.007	o	150	FMH22	8.650	7.247	1.253	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)
6.000	11.731	150.0	FMH16	8.650	7.672	0.828	Open Manhole	1200
5.001	15.339	150.0	FMH20	8.500	7.570	0.780	Open Manhole	1200
5.002	40.357	148.9	FMH21	8.100	7.299	0.651	Open Manhole	1200
1.006	7.687	150.0	FMH22	8.650	7.247	1.253	Open Manhole	1200
1.007	53.703	150.0	ExMH15	8.650	6.889	1.611	Open Manhole	1200