



**Farrow Walsh**  
CONSULTING

**DEVELOPMENT OFF  
COMET HOTEL  
HATFIELD**

**SURFACE WATER DRAINAGE  
DESIGN CALCULATIONS**

**OCTOBER 2018**

**Reference: FW1263 SW 2018-10 v1**

Second Floor  
48 Cank Street  
Leicester LE1 5GW

FW1263 Domestic Drainage  
Network: SW Network



Date 01/01/18  
File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
Checked by jd

XP Solutions

Network 2017.1.2

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for FW1263 Domestic Drainage

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	100	PIMP (%)	100
M5-60 (mm)	20.000	Add Flow / Climate Change (%)	30
Ratio R	0.440	Minimum Backdrop Height (m)	0.000
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.200
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Network Design Table for FW1263 Domestic Drainage

# - Indicates pipe length does not match coordinates  
« - Indicates pipe capacity < flow

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	26.473	0.265	99.9	0.039	5.00	0.0	0.600	o	225	Pipe/Conduit	🔴
1.001	11.818	0.118	100.2	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	🔴
1.002	31.101	0.207	150.2	0.039	0.00	0.0	0.600	o	225	Pipe/Conduit	🔴
1.003	11.154	0.605	18.4	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	🔴
2.000	25.018	0.250	100.1	0.038	5.00	0.0	0.600	o	225	Pipe/Conduit	🔴
2.001	14.520	0.571	25.4	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	🔴
1.004	5.859	0.039	150.2	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	🔴
1.005	5.749	0.035	164.3	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	🔴
1.006	9.829	0.353	27.8	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	🔴
1.007	1.100	0.007	157.1	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	🔴
1.008	11.059	0.001	11059.0	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	🔴

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	50.00	5.34	77.330	0.039	0.0	0.0	1.6	1.31	52.0	6.9
1.001	50.00	5.49	77.065	0.039	0.0	0.0	1.6	1.31	51.9	6.9
1.002	50.00	5.98	76.947	0.078	0.0	0.0	3.2	1.06	42.3	13.7
1.003	50.00	6.04	76.740	0.078	0.0	0.0	3.2	3.06	121.7	13.7
2.000	50.00	5.32	76.955	0.038	0.0	0.0	1.5	1.31	52.0	6.7
2.001	50.00	5.41	76.705	0.038	0.0	0.0	1.5	2.61	103.6	6.7
1.004	50.00	6.13	76.134	0.116	0.0	0.0	4.7	1.06	42.3	20.4
1.005	50.00	6.22	76.095	0.116	0.0	0.0	4.7	1.02	40.5	20.4
1.006	50.00	6.29	76.060	0.116	0.0	0.0	4.7	2.49	99.0	20.4
1.007	50.00	6.31	75.707	0.116	0.0	0.0	4.7	1.04	41.4	20.4
1.008	50.00	7.90	75.700	0.116	0.0	0.0	4.7	0.12	4.6<	20.4

Second Floor  
 48 Cank Street  
 Leicester LE1 5GW

FW1263 Domestic Drainage  
 Network: SW Network



Date 01/01/18  
 File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
 Checked by jd

XP Solutions

Network 2017.1.2

Network Design Table for FW1263 Domestic Drainage

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
1.009	10.724	0.063	170.2	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
1.010	2.993	0.020	149.7	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.011	14.364	0.096	149.6	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
3.000	25.885	0.173	149.6	0.038	5.00	0.0	0.600	o	150	Pipe/Conduit	
3.001	15.108	0.101	149.6	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
3.002	11.731	0.078	150.4	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
3.003	30.324	0.202	150.1	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
3.004	11.545	1.060	10.9	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
3.005	16.719	0.648	25.8	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.012	8.000	0.053	150.9	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.013	4.836	0.038	127.3	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.014	4.486	0.001	4486.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.015	5.277	0.035	150.8	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.016	34.840	0.232	150.2	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.017	18.578#	0.659	28.2	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.018	9.517#	0.063	151.1	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
4.000	8.796	0.084	104.7	0.038	5.00	0.0	0.600	o	150	Pipe/Conduit	
4.001	5.748#	2.826	2.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
5.000	23.546	1.015	23.2	0.014	5.00	0.0	0.600	o	150	Pipe/Conduit	
5.001	18.512	0.319	58.0	0.004	0.00	0.0	0.600	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.009	50.00	8.08	75.699	0.116	0.0	0.0	4.7	1.00	39.7	20.4
1.010	50.00	8.14	75.637	0.116	0.0	0.0	4.7	0.82	14.5<	20.4
1.011	50.00	8.43	75.617	0.116	0.0	0.0	4.7	0.82	14.5<	20.4
3.000	50.00	5.53	77.780	0.038	0.0	0.0	1.5	0.82	14.5	6.7
3.001	50.00	5.83	77.610	0.038	0.0	0.0	1.5	0.82	14.5	6.7
3.002	50.00	6.07	77.509	0.038	0.0	0.0	1.5	0.82	14.4	6.7
3.003	50.00	6.69	77.431	0.038	0.0	0.0	1.5	0.82	14.5	6.7
3.004	50.00	6.75	77.229	0.038	0.0	0.0	1.5	3.07	54.3	6.7
3.005	50.00	6.89	76.169	0.038	0.0	0.0	1.5	1.99	35.2	6.7
1.012	50.00	8.59	75.521	0.154	0.0	0.0	6.3	0.82	14.4<	27.1
1.013	50.00	8.69	75.468	0.154	0.0	0.0	6.3	0.89	15.7<	27.1
1.014	50.00	9.21	75.430	0.154	0.0	0.0	6.3	0.14	2.5<	27.1
1.015	50.00	9.32	75.429	0.154	0.0	0.0	6.3	0.82	14.4<	27.1
1.016	50.00	10.03	75.394	0.154	0.0	0.0	6.3	0.82	14.5<	27.1
1.017	50.00	10.19	75.162	0.154	0.0	0.0	6.3	1.90	33.6	27.1
1.018	50.00	10.39	74.503	0.154	0.0	0.0	6.3	0.82	14.4<	27.1
4.000	50.00	5.15	77.350	0.038	0.0	0.0	1.5	0.98	17.3	6.7
4.001	50.00	5.16	77.266	0.038	0.0	0.0	1.5	7.12	125.9	6.7
5.000	50.00	5.19	77.515	0.014	0.0	0.0	0.6	2.10	37.1	2.5
5.001	50.00	5.42	76.500	0.018	0.0	0.0	0.7	1.32	23.4	3.2

Second Floor  
48 Cank Street  
Leicester LE1 5GW

FW1263 Domestic Drainage  
Network: SW Network



Date 01/01/18  
File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
Checked by jd

XP Solutions

Network 2017.1.2

Network Design Table for FW1263 Domestic Drainage

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
6.000	22.731	1.484	15.3	0.025	5.00	0.0	0.600	o	150	Pipe/Conduit	
5.002	8.072	0.212	38.1	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
7.000	26.055	0.445	58.6	0.033	5.00	0.0	0.600	o	225	Pipe/Conduit	
7.001	15.295	0.616	24.8	0.005	0.00	0.0	0.600	o	225	Pipe/Conduit	
5.003	5.455	0.024	227.3	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
8.000	10.658	0.122	87.4	0.021	5.00	0.0	0.600	o	100	Pipe/Conduit	
8.001	6.227	0.069	90.2	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
9.000	6.669	0.400	16.7	0.018	5.00	0.0	0.600	o	150	Pipe/Conduit	
10.000	7.495	0.077	97.3	0.017	5.00	0.0	0.600	o	100	Pipe/Conduit	
10.001	6.784	0.073	92.9	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
8.002	8.054	0.229	35.2	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
11.000	8.940	0.089	100.4	0.000	5.00	0.0	0.600	o	100	Pipe/Conduit	
8.003	1.774	0.012	147.8	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
8.004	6.191	0.062	99.9	0.012	0.00	0.0	0.600	o	150	Pipe/Conduit	
8.005	8.208	0.852	9.6	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
6.000	50.00	5.15	77.665	0.025	0.0	0.0	1.0	2.59	45.7	4.4
5.002	50.00	5.50	76.181	0.043	0.0	0.0	1.7	1.64	28.9	7.6
7.000	50.00	5.25	76.955	0.033	0.0	0.0	1.3	1.71	68.1	5.8
7.001	50.00	5.35	76.510	0.038	0.0	0.0	1.5	2.64	104.8	6.7
5.003	50.00	5.61	75.894	0.081	0.0	0.0	3.3	0.86	34.3	14.3
8.000	50.00	5.22	77.340	0.021	0.0	0.0	0.9	0.82	6.5	3.7
8.001	50.00	5.31	77.168	0.021	0.0	0.0	0.9	1.06	18.7	3.7
9.000	50.00	5.04	77.500	0.018	0.0	0.0	0.7	2.48	43.8	3.2
10.000	50.00	5.16	77.300	0.017	0.0	0.0	0.7	0.78	6.1	3.0
10.001	50.00	5.27	77.173	0.017	0.0	0.0	0.7	1.04	18.4	3.0
8.002	50.00	5.39	77.099	0.056	0.0	0.0	2.3	1.70	30.1	9.9
11.000	50.00	5.19	77.010	0.000	0.0	0.0	0.0	0.77	6.0	0.0
8.003	50.00	5.43	76.870	0.056	0.0	0.0	2.3	0.82	14.6	9.9
8.004	50.00	5.53	76.858	0.068	0.0	0.0	2.8	1.01	17.8	12.0
8.005	50.00	5.57	76.796	0.068	0.0	0.0	2.8	3.27	57.7	12.0

Second Floor  
48 Cank Street  
Leicester LE1 5GW

FW1263 Domestic Drainage  
Network: SW Network



Date 01/01/18  
File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
Checked by jd

XP Solutions

Network 2017.1.2

Network Design Table for FW1263 Domestic Drainage

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
5.004	5.385	0.024	224.4	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	🔴
12.000	44.693	0.298	150.0	0.050	5.00	0.0	0.600	o	150	Pipe/Conduit	🔴
12.001	4.289	0.029	147.9	0.019	0.00	0.0	0.600	o	150	Pipe/Conduit	🔴
12.002	3.302	0.033	100.1	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	🔴
5.005	2.587	0.011	235.2	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	🔴
5.006	26.500	0.001	26500.0	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	🔴
5.007	1.684	0.007	240.6	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	🔴
5.008	45.769	0.305	150.1	0.033	0.00	0.0	0.600	o	150	Pipe/Conduit	🔴
13.000	10.981	0.110	99.8	0.016	5.00	0.0	0.600	o	100	Pipe/Conduit	🔴
13.001	3.350	0.034	98.5	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	🔴
13.002	2.862	0.029	98.7	0.004	0.00	0.0	0.600	o	100	Pipe/Conduit	🔴
13.003	3.803	0.000	0.0	0.000	0.00	0.0	0.600	o	100	Pipe/Conduit	🔴
5.009	18.130	0.121	149.8	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	🔴
14.000	17.056	0.171	99.7	0.019	5.00	0.0	0.600	o	100	Pipe/Conduit	🔴
14.001	4.627	0.046	100.6	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	🔴
5.010	31.680	0.237	133.7	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	🔴
15.000	27.175	0.181	150.1	0.042	5.00	0.0	0.600	o	150	Pipe/Conduit	🔴
15.001	6.704	1.654	4.1	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	🔴

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
5.004	50.00	5.71	75.869	0.149	0.0	0.0	6.1	0.87	34.5	26.2
12.000	50.00	5.91	76.900	0.050	0.0	0.0	2.0	0.82	14.5	8.8
12.001	50.00	6.00	76.602	0.069	0.0	0.0	2.8	0.82	14.6	12.1
12.002	50.00	6.05	76.573	0.069	0.0	0.0	2.8	1.00	17.8	12.1
5.005	50.00	6.10	75.845	0.218	0.0	0.0	8.9	0.85	33.7<<	38.4
5.006	50.00	12.21	75.834	0.218	0.0	0.0	8.9	0.07	2.9<<	38.4
5.007	50.00	12.25	75.833	0.218	0.0	0.0	8.9	0.84	33.3<<	38.4
5.008	50.00	13.18	75.828	0.251	0.0	0.0	10.2	0.82	14.5<<	44.2
13.000	50.00	5.24	77.260	0.016	0.0	0.0	0.6	0.77	6.0	2.8
13.001	50.00	5.31	77.150	0.016	0.0	0.0	0.6	0.77	6.1	2.8
13.002	50.00	5.37	77.116	0.020	0.0	0.0	0.8	0.77	6.1	3.5
13.003	50.00	6.28	77.087	0.020	0.0	0.0	0.8	0.07	0.5<<	3.5
5.009	50.00	13.55	75.523	0.271	0.0	0.0	11.0	0.82	14.5<<	47.7
14.000	50.00	5.37	77.190	0.019	0.0	0.0	0.8	0.77	6.0	3.3
14.001	50.00	5.45	76.969	0.019	0.0	0.0	0.8	1.00	17.7	3.3
5.010	50.00	14.16	75.402	0.290	0.0	0.0	11.8	0.87	15.3<<	51.1
15.000	50.00	5.55	77.000	0.042	0.0	0.0	1.7	0.82	14.5	7.4
15.001	50.00	5.58	76.819	0.042	0.0	0.0	1.7	5.04	89.1	7.4

Second Floor  
48 Cank Street  
Leicester LE1 5GW

FW1263 Domestic Drainage  
Network: SW Network



Date 01/01/18  
File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
Checked by jd

XP Solutions

Network 2017.1.2

Network Design Table for FW1263 Domestic Drainage

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
5.011	32.330	0.242	133.6	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
16.000	5.919	0.101	58.6	0.008	5.00	0.0	0.600	o	100	Pipe/Conduit	
17.000	7.915	0.101	78.4	0.012	5.00	0.0	0.600	o	100	Pipe/Conduit	
18.000	8.085	0.101	80.0	0.011	5.00	0.0	0.600	o	100	Pipe/Conduit	
16.001	6.444	0.087	74.1	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
19.000	8.887	0.089	99.9	0.026	5.00	0.0	0.600	o	100	Pipe/Conduit	
19.001	3.390	0.034	99.7	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
16.002	12.609	0.126	100.1	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
20.000	5.084	0.051	99.7	0.027	5.00	0.0	0.600	o	150	Pipe/Conduit	
21.000	13.784	0.199	69.3	0.011	5.00	0.0	0.600	o	100	Pipe/Conduit	
16.003	13.185	2.228	5.9	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
22.000	29.273#	0.202	144.9	0.039	5.00	0.0	0.600	o	150	Pipe/Conduit	
22.001	6.594	1.875	3.5	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
5.011	50.00	14.78	75.165	0.332	0.0	0.0	13.5	0.87	15.3«	58.4
16.000	50.00	5.10	77.515	0.008	0.0	0.0	0.3	1.01	7.9	1.4
17.000	50.00	5.15	77.515	0.012	0.0	0.0	0.5	0.87	6.8	2.1
18.000	50.00	5.16	77.515	0.011	0.0	0.0	0.4	0.86	6.8	1.9
16.001	50.00	5.25	77.364	0.031	0.0	0.0	1.3	1.17	20.7	5.5
19.000	50.00	5.19	77.450	0.026	0.0	0.0	1.1	0.77	6.0	4.6
19.001	50.00	5.25	77.311	0.026	0.0	0.0	1.1	1.01	17.8	4.6
16.002	50.00	5.46	77.277	0.057	0.0	0.0	2.3	1.00	17.8	10.0
20.000	50.00	5.08	77.202	0.027	0.0	0.0	1.1	1.01	17.8	4.8
21.000	50.00	5.25	77.400	0.011	0.0	0.0	0.4	0.93	7.3	1.9
16.003	50.00	5.51	77.151	0.095	0.0	0.0	3.9	4.17	73.7	16.7
22.000	50.00	5.59	77.000	0.039	0.0	0.0	1.6	0.83	14.7	6.9
22.001	50.00	5.61	76.798	0.039	0.0	0.0	1.6	5.41	95.7	6.9

Second Floor  
 48 Cank Street  
 Leicester LE1 5GW

FW1263 Domestic Drainage  
 Network: SW Network



Date 01/01/18  
 File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
 Checked by jd  
 Network 2017.1.2

XP Solutions

Network Design Table for FW1263 Domestic Drainage

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
5.012	14.595#	0.483	30.2	0.018	0.00	0.0	0.600	o	150	Pipe/Conduit	🔒
1.019	4.435#	0.030	147.8	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	🔒
1.020	40.746#	0.001	40746.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	🔒

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
5.012	50.00	14.91	74.923	0.484	0.0	0.0	19.7	1.84	32.5<<	85.2
1.019	50.00	15.00	74.440	0.676	0.0	0.0	27.5	0.82	14.6<<	119.0
1.020	50.00	30.00	74.410	0.676	0.0	0.0	27.5	0.04	0.8<<	119.0

Second Floor  
48 Cank Street  
Leicester LE1 5GW

FW1263 Domestic Drainage  
Network: SW Network



Date 01/01/18  
File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
Checked by jd

XP Solutions

Network 2017.1.2

Manhole Schedules for FW1263 Domestic Drainage

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	Pipe Out			Pipes In			Backdrop (mm)
					PN	Invert Level (m)	Diameter (mm)	PN	Invert Level (m)	Diameter (mm)	
s10++	77.930	0.600	Open Manhole	450	1.000	77.330	225				
s11++	77.500	0.435	Open Manhole	600	1.001	77.065	225	1.000	77.065	225	
s9++	77.900	0.953	Open Manhole	600	1.002	76.947	225	1.001	76.947	225	
s8++	77.480	0.740	Open Manhole	600	1.003	76.740	225	1.002	76.740	225	
s1++	77.387	0.432	Open Manhole	450	2.000	76.955	225				
s2++	77.480	0.775	Open Manhole	450	2.001	76.705	225	2.000	76.705	225	
s3	77.480	1.346	Open Manhole	600	1.004	76.134	225	1.003	76.135	225	1
								2.001	76.134	225	
s4	77.480	1.385	Open Manhole	450	1.005	76.095	225	1.004	76.095	225	
s5	77.600	1.540	Open Manhole	450	1.006	76.060	225	1.005	76.060	225	
s6++	77.600	1.893	Open Manhole	600	1.007	75.707	225	1.006	75.707	225	
CS1 IN	77.500	1.800	Open Manhole	1200	1.008	75.700	225	1.007	75.700	225	
CS1 OUT	77.500	1.801	Open Manhole	1200	1.009	75.699	225	1.008	75.699	225	
s7+++	77.850	2.214	Open Manhole	1200	1.010	75.637	150	1.009	75.636	225	
s12	77.900	2.283	Open Manhole	600	1.011	75.617	150	1.010	75.617	150	
s14++	78.380	0.600	Open Manhole	600	3.000	77.780	150				
s15++	78.380	0.773	Open Manhole	450	3.001	77.610	150	3.000	77.607	150	
s16	78.380	0.871	Open Manhole	450	3.002	77.509	150	3.001	77.509	150	
s17++	78.380	0.949	Open Manhole	450	3.003	77.431	150	3.002	77.431	150	
s18++	77.950	0.721	Open Manhole	450	3.004	77.229	150	3.003	77.229	150	
s19	78.000	1.831	Open Manhole	600	3.005	76.169	150	3.004	76.169	150	
s13a	78.080	2.559	Open Manhole	600	1.012	75.521	150	1.011	75.521	150	
								3.005	75.521	150	
s13++	78.025	2.557	Open Manhole	600	1.013	75.468	150	1.012	75.468	150	
CS2IN	78.100	2.670	Open Manhole	1200	1.014	75.430	150	1.013	75.430	150	
CS2 OUT	78.100	2.671	Open Manhole	1200	1.015	75.429	150	1.014	75.429	150	
s20+++	78.250	2.856	Open Manhole	1200	1.016	75.394	150	1.015	75.394	150	
s21	78.250	3.088	Open Manhole	1200	1.017	75.162	150	1.016	75.162	150	
s21a	78.300	3.797	Open Manhole	1200	1.018	74.503	150	1.017	74.503	150	
cp15a++	78.250	0.900	Open Manhole	600	4.000	77.350	150				
cp15+++	78.250	0.984	Open Manhole	600	4.001	77.266	150	4.000	77.266	150	
s27++	78.100	0.585	Open Manhole	450	5.000	77.515	150				
s28++	77.655	1.155	Open Manhole	450	5.001	76.500	150	5.000	76.500	150	
re1	78.115	0.450	Open Manhole	450	6.000	77.665	150				
s30	77.800	1.619	Open Manhole	600	5.002	76.181	150	5.001	76.181	150	
								6.000	76.181	150	
s24++	77.480	0.525	Open Manhole	600	7.000	76.955	225				
s25++	77.300	0.790	Open Manhole	600	7.001	76.510	225	7.000	76.510	225	
s31++	77.500	1.606	Open Manhole	600	5.003	75.894	225	5.002	75.969	150	
								7.001	75.894	225	
cp4a++	78.240	0.900	Open Manhole	600	8.000	77.340	100				
cp4	78.130	0.962	Open Manhole	600	8.001	77.168	150	8.000	77.218	100	

Second Floor  
 48 Cank Street  
 Leicester LE1 5GW

FW1263 Domestic Drainage  
 Network: SW Network



Date 01/01/18  
 File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
 Checked by jd

XP Solutions

Network 2017.1.2

Manhole Schedules for FW1263 Domestic Drainage

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
s36+	78.200	0.700	Open Manhole	450	9.000	77.500	150				
cp2a++	78.250	0.950	Open Manhole	600	10.000	77.300	100				
cp2+++	78.150	0.977	Open Manhole	600	10.001	77.173	150	10.000	77.223	100	
s37	78.000	0.901	Open Manhole	600	8.002	77.099	150	8.001	77.099	150	1
								9.000	77.100	150	
								10.001	77.100	150	1
cp3a++	77.850	0.840	Open Manhole	600	11.000	77.010	100				
cp3+++	77.900	1.030	Open Manhole	600	8.003	76.870	150	8.002	76.870	150	
								11.000	76.921	100	1
s33++	77.900	1.042	Open Manhole	600	8.004	76.858	150	8.003	76.858	150	
s33a+++	77.900	1.104	Open Manhole	600	8.005	76.796	150	8.004	76.796	150	
s32	77.750	1.881	Open Manhole	600	5.004	75.869	225	5.003	75.870	225	1
								8.005	75.944	150	
cp1a++	77.800	0.900	Open Manhole	600	12.000	76.900	150				
cp1b+++	77.500	0.898	Open Manhole	600	12.001	76.602	150	12.000	76.602	150	
cp1+++	77.600	1.027	Open Manhole	600	12.002	76.573	150	12.001	76.573	150	
s34++	77.700	1.855	Open Manhole	900	5.005	75.845	225	5.004	75.845	225	
								12.002	76.540	150	620
CS3 IN	77.800	1.966	Open Manhole	1200	5.006	75.834	225	5.005	75.834	225	
CS3 OUT	77.800	1.967	Open Manhole	1200	5.007	75.833	225	5.006	75.833	225	
s39+++	77.850	2.024	Open Manhole	1200	5.008	75.828	150	5.007	75.826	225	
cp5a++	77.900	0.640	Open Manhole	600	13.000	77.260	100				
cp5+++	78.050	0.900	Open Manhole	600	13.001	77.150	100	13.000	77.150	100	
cp6++	78.050	0.934	Open Manhole	600	13.002	77.116	100	13.001	77.116	100	
cp7+++	78.080	0.993	Open Manhole	600	13.003	77.087	100	13.002	77.087	100	
s40	78.125	2.602	Open Manhole	900	5.009	75.523	150	5.008	75.523	150	
								13.003	77.087	100	1514
cp8++	78.090	0.900	Open Manhole	600	14.000	77.190	100				
cp9+++	78.000	1.031	Open Manhole	600	14.001	76.969	150	14.000	77.019	100	
s41	78.050	2.648	Open Manhole	900	5.010	75.402	150	5.009	75.402	150	
								14.001	76.923	150	1521
cp10++	77.900	0.900	Open Manhole	600	15.000	77.000	150				
cp11+++	77.900	1.081	Open Manhole	600	15.001	76.819	150	15.000	76.819	150	
s41a	78.050	2.885	Open Manhole	900	5.011	75.165	150	5.010	75.165	150	
								15.001	75.165	150	
s45c	78.265	0.750	Open Manhole	300	16.000	77.515	100				
s45b	78.115	0.600	Open Manhole	250	17.000	77.515	100				
s45a+	78.265	0.750	Open Manhole	250	18.000	77.515	100				
s45	78.265	0.901	Open Manhole	450	16.001	77.364	150	16.000	77.414	100	
								17.000	77.414	100	
								18.000	77.414	100	
cp14a++	78.350	0.900	Open Manhole	600	19.000	77.450	100				

Second Floor  
 48 Cank Street  
 Leicester LE1 5GW

FW1263 Domestic Drainage  
 Network: SW Network



Date 01/01/18  
 File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op

Checked by jd

XP Solutions

Network 2017.1.2

Manhole Schedules for FW1263 Domestic Drainage

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	Pipe Out			Pipes In			Backdrop (mm)
					PN	Invert Level (m)	Diameter (mm)	PN	Invert Level (m)	Diameter (mm)	
cp14+++	78.250	0.939	Open Manhole	600	19.001	77.311	150	19.000	77.361	100	
s43	78.225	0.948	Open Manhole	600	16.002	77.277	150	16.001	77.277	150	
								19.001	77.277	150	
s43a++	78.300	1.098	Open Manhole	450	20.000	77.202	150				
s47	78.600	1.200	Open Manhole	1200	21.000	77.400	100				
s43b	78.330	1.179	Open Manhole	450	16.003	77.151	150	16.002	77.151	150	
								20.000	77.151	150	
								21.000	77.201	100	
cp12++	77.925	0.925	Open Manhole	600	22.000	77.000	150				
cp13+++	78.175	1.377	Open Manhole	1200	22.001	76.798	150	22.000	76.798	150	
s42	78.300	3.377	Open Manhole	1200	5.012	74.923	150	5.011	74.923	150	
								16.003	74.923	150	
								22.001	74.923	150	
s21b	78.200	3.760	Open Manhole	1200	1.019	74.440	150	1.018	74.440	150	
								4.001	74.440	150	
								5.012	74.440	150	
PS	78.300	3.890	Open Manhole	1200	1.020	74.410	150	1.019	74.410	150	
Ex SW Mh	78.380	3.971	Open Manhole	1200		OUTFALL		1.020	74.409	150	

Second Floor  
48 Cank Street  
Leicester LE1 5GW

FW1263 Domestic Drainage  
Network: SW Network



Date 01/01/18  
File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
Checked by jd

XP Solutions

Network 2017.1.2

PIPELINE SCHEDULES for FW1263 Domestic Drainage

Upstream Manhole

# - Indicates pipe length does not match coordinates

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	225	s10++	77.930	77.330	0.375	Open Manhole	450
1.001	o	225	s11++	77.500	77.065	0.210	Open Manhole	600
1.002	o	225	s9++	77.900	76.947	0.728	Open Manhole	600
1.003	o	225	s8++	77.480	76.740	0.515	Open Manhole	600
2.000	o	225	s1++	77.387	76.955	0.207	Open Manhole	450
2.001	o	225	s2++	77.480	76.705	0.550	Open Manhole	450
1.004	o	225	s3	77.480	76.134	1.121	Open Manhole	600
1.005	o	225	s4	77.480	76.095	1.160	Open Manhole	450
1.006	o	225	s5	77.600	76.060	1.315	Open Manhole	450
1.007	o	225	s6++	77.600	75.707	1.668	Open Manhole	600
1.008	o	225	CS1 IN	77.500	75.700	1.575	Open Manhole	1200
1.009	o	225	CS1 OUT	77.500	75.699	1.576	Open Manhole	1200
1.010	o	150	s7+++	77.850	75.637	2.063	Open Manhole	1200
1.011	o	150	s12	77.900	75.617	2.133	Open Manhole	600
3.000	o	150	s14++	78.380	77.780	0.450	Open Manhole	600
3.001	o	150	s15++	78.380	77.610	0.620	Open Manhole	450
3.002	o	150	s16	78.380	77.509	0.721	Open Manhole	450
3.003	o	150	s17++	78.380	77.431	0.799	Open Manhole	450
3.004	o	150	s18++	77.950	77.229	0.571	Open Manhole	450

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	26.473	99.9	s11++	77.500	77.065	0.210	Open Manhole	600
1.001	11.818	100.2	s9++	77.900	76.947	0.728	Open Manhole	600
1.002	31.101	150.2	s8++	77.480	76.740	0.515	Open Manhole	600
1.003	11.154	18.4	s3	77.480	76.135	1.120	Open Manhole	600
2.000	25.018	100.1	s2++	77.480	76.705	0.550	Open Manhole	450
2.001	14.520	25.4	s3	77.480	76.134	1.121	Open Manhole	600
1.004	5.859	150.2	s4	77.480	76.095	1.160	Open Manhole	450
1.005	5.749	164.3	s5	77.600	76.060	1.315	Open Manhole	450
1.006	9.829	27.8	s6++	77.600	75.707	1.668	Open Manhole	600
1.007	1.100	157.1	CS1 IN	77.500	75.700	1.575	Open Manhole	1200
1.008	11.059	11059.0	CS1 OUT	77.500	75.699	1.576	Open Manhole	1200
1.009	10.724	170.2	s7+++	77.850	75.636	1.989	Open Manhole	1200
1.010	2.993	149.7	s12	77.900	75.617	2.133	Open Manhole	600
1.011	14.364	149.6	s13a	78.080	75.521	2.409	Open Manhole	600
3.000	25.885	149.6	s15++	78.380	77.607	0.623	Open Manhole	450
3.001	15.108	149.6	s16	78.380	77.509	0.721	Open Manhole	450
3.002	11.731	150.4	s17++	78.380	77.431	0.799	Open Manhole	450
3.003	30.324	150.1	s18++	77.950	77.229	0.571	Open Manhole	450
3.004	11.545	10.9	s19	78.000	76.169	1.681	Open Manhole	600

Second Floor  
48 Cank Street  
Leicester LE1 5GW

FW1263 Domestic Drainage  
Network: SW Network



Date 01/01/18  
File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
Checked by jd

XP Solutions

Network 2017.1.2

PIPELINE SCHEDULES for FW1263 Domestic Drainage

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)
3.005	o	150	s19	78.000	76.169	1.681	Open Manhole	600
1.012	o	150	s13a	78.080	75.521	2.409	Open Manhole	600
1.013	o	150	s13++	78.025	75.468	2.407	Open Manhole	600
1.014	o	150	CS2IN	78.100	75.430	2.520	Open Manhole	1200
1.015	o	150	CS2 OUT	78.100	75.429	2.521	Open Manhole	1200
1.016	o	150	s20+++	78.250	75.394	2.706	Open Manhole	1200
1.017	o	150	s21	78.250	75.162	2.938	Open Manhole	1200
1.018	o	150	s21a	78.300	74.503	3.647	Open Manhole	1200
4.000	o	150	cp15a++	78.250	77.350	0.750	Open Manhole	600
4.001	o	150	cp15+++	78.250	77.266	0.834	Open Manhole	600
5.000	o	150	s27++	78.100	77.515	0.435	Open Manhole	450
5.001	o	150	s28++	77.655	76.500	1.005	Open Manhole	450
6.000	o	150	rel	78.115	77.665	0.300	Open Manhole	450
5.002	o	150	s30	77.800	76.181	1.469	Open Manhole	600
7.000	o	225	s24++	77.480	76.955	0.300	Open Manhole	600
7.001	o	225	s25++	77.300	76.510	0.565	Open Manhole	600
5.003	o	225	s31++	77.500	75.894	1.381	Open Manhole	600

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)
3.005	16.719	25.8	s13a	78.080	75.521	2.409	Open Manhole	600
1.012	8.000	150.9	s13++	78.025	75.468	2.407	Open Manhole	600
1.013	4.836	127.3	CS2IN	78.100	75.430	2.520	Open Manhole	1200
1.014	4.486	4486.0	CS2 OUT	78.100	75.429	2.521	Open Manhole	1200
1.015	5.277	150.8	s20+++	78.250	75.394	2.706	Open Manhole	1200
1.016	34.840	150.2	s21	78.250	75.162	2.938	Open Manhole	1200
1.017	18.578#	28.2	s21a	78.300	74.503	3.647	Open Manhole	1200
1.018	9.517#	151.1	s21b	78.200	74.440	3.610	Open Manhole	1200
4.000	8.796	104.7	cp15+++	78.250	77.266	0.834	Open Manhole	600
4.001	5.748#	2.0	s21b	78.200	74.440	3.610	Open Manhole	1200
5.000	23.546	23.2	s28++	77.655	76.500	1.005	Open Manhole	450
5.001	18.512	58.0	s30	77.800	76.181	1.469	Open Manhole	600
6.000	22.731	15.3	s30	77.800	76.181	1.469	Open Manhole	600
5.002	8.072	38.1	s31++	77.500	75.969	1.381	Open Manhole	600
7.000	26.055	58.6	s25++	77.300	76.510	0.565	Open Manhole	600
7.001	15.295	24.8	s31++	77.500	75.894	1.381	Open Manhole	600
5.003	5.455	227.3	s32	77.750	75.870	1.655	Open Manhole	600

Second Floor  
48 Cank Street  
Leicester LE1 5GW

FW1263 Domestic Drainage  
Network: SW Network



Date 01/01/18  
File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
Checked by jd

XP Solutions

Network 2017.1.2

PIPELINE SCHEDULES for FW1263 Domestic Drainage

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)
8.000	o	100	cp4a++	78.240	77.340	0.800	Open Manhole	600
8.001	o	150	cp4	78.130	77.168	0.812	Open Manhole	600
9.000	o	150	s36+	78.200	77.500	0.550	Open Manhole	450
10.000	o	100	cp2a++	78.250	77.300	0.850	Open Manhole	600
10.001	o	150	cp2+++	78.150	77.173	0.827	Open Manhole	600
8.002	o	150	s37	78.000	77.099	0.751	Open Manhole	600
11.000	o	100	cp3a++	77.850	77.010	0.740	Open Manhole	600
8.003	o	150	cp3+++	77.900	76.870	0.880	Open Manhole	600
8.004	o	150	s33++	77.900	76.858	0.892	Open Manhole	600
8.005	o	150	s33a+++	77.900	76.796	0.954	Open Manhole	600
5.004	o	225	s32	77.750	75.869	1.656	Open Manhole	600
12.000	o	150	cp1a++	77.800	76.900	0.750	Open Manhole	600
12.001	o	150	cp1b+++	77.500	76.602	0.748	Open Manhole	600
12.002	o	150	cp1+++	77.600	76.573	0.877	Open Manhole	600
5.005	o	225	s34++	77.700	75.845	1.630	Open Manhole	900

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)
8.000	10.658	87.4	cp4	78.130	77.218	0.812	Open Manhole	600
8.001	6.227	90.2	s37	78.000	77.099	0.751	Open Manhole	600
9.000	6.669	16.7	s37	78.000	77.100	0.750	Open Manhole	600
10.000	7.495	97.3	cp2+++	78.150	77.223	0.827	Open Manhole	600
10.001	6.784	92.9	s37	78.000	77.100	0.750	Open Manhole	600
8.002	8.054	35.2	cp3+++	77.900	76.870	0.880	Open Manhole	600
11.000	8.940	100.4	cp3+++	77.900	76.921	0.879	Open Manhole	600
8.003	1.774	147.8	s33++	77.900	76.858	0.892	Open Manhole	600
8.004	6.191	99.9	s33a+++	77.900	76.796	0.954	Open Manhole	600
8.005	8.208	9.6	s32	77.750	75.944	1.656	Open Manhole	600
5.004	5.385	224.4	s34++	77.700	75.845	1.630	Open Manhole	900
12.000	44.693	150.0	cp1b+++	77.500	76.602	0.748	Open Manhole	600
12.001	4.289	147.9	cp1+++	77.600	76.573	0.877	Open Manhole	600
12.002	3.302	100.1	s34++	77.700	76.540	1.010	Open Manhole	900
5.005	2.587	235.2	CS3 IN	77.800	75.834	1.741	Open Manhole	1200

Second Floor  
 48 Cank Street  
 Leicester LE1 5GW

FW1263 Domestic Drainage  
 Network: SW Network



Date 01/01/18  
 File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
 Checked by jd

XP Solutions

Network 2017.1.2

PIPELINE SCHEDULES for FW1263 Domestic Drainage

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)
5.006	o	225	CS3 IN	77.800	75.834	1.741	Open Manhole	1200
5.007	o	225	CS3 OUT	77.800	75.833	1.742	Open Manhole	1200
5.008	o	150	s39+++	77.850	75.828	1.872	Open Manhole	1200
13.000	o	100	cp5a++	77.900	77.260	0.540	Open Manhole	600
13.001	o	100	cp5+++	78.050	77.150	0.800	Open Manhole	600
13.002	o	100	cp6++	78.050	77.116	0.834	Open Manhole	600
13.003	o	100	cp7+++	78.080	77.087	0.893	Open Manhole	600
5.009	o	150	s40	78.125	75.523	2.452	Open Manhole	900
14.000	o	100	cp8++	78.090	77.190	0.800	Open Manhole	600
14.001	o	150	cp9+++	78.000	76.969	0.881	Open Manhole	600
5.010	o	150	s41	78.050	75.402	2.498	Open Manhole	900
15.000	o	150	cp10++	77.900	77.000	0.750	Open Manhole	600
15.001	o	150	cp11+++	77.900	76.819	0.931	Open Manhole	600
5.011	o	150	s41a	78.050	75.165	2.735	Open Manhole	900
16.000	o	100	s45c	78.265	77.515	0.650	Open Manhole	300
17.000	o	100	s45b	78.115	77.515	0.500	Open Manhole	250

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)
5.006	26.500	26500.0	CS3 OUT	77.800	75.833	1.742	Open Manhole	1200
5.007	1.684	240.6	s39+++	77.850	75.826	1.799	Open Manhole	1200
5.008	45.769	150.1	s40	78.125	75.523	2.452	Open Manhole	900
13.000	10.981	99.8	cp5+++	78.050	77.150	0.800	Open Manhole	600
13.001	3.350	98.5	cp6++	78.050	77.116	0.834	Open Manhole	600
13.002	2.862	98.7	cp7+++	78.080	77.087	0.893	Open Manhole	600
13.003	3.803	0.0	s40	78.125	77.087	0.938	Open Manhole	900
5.009	18.130	149.8	s41	78.050	75.402	2.498	Open Manhole	900
14.000	17.056	99.7	cp9+++	78.000	77.019	0.881	Open Manhole	600
14.001	4.627	100.6	s41	78.050	76.923	0.977	Open Manhole	900
5.010	31.680	133.7	s41a	78.050	75.165	2.735	Open Manhole	900
15.000	27.175	150.1	cp11+++	77.900	76.819	0.931	Open Manhole	600
15.001	6.704	4.1	s41a	78.050	75.165	2.735	Open Manhole	900
5.011	32.330	133.6	s42	78.300	74.923	3.227	Open Manhole	1200
16.000	5.919	58.6	s45	78.265	77.414	0.751	Open Manhole	450
17.000	7.915	78.4	s45	78.265	77.414	0.751	Open Manhole	450

Second Floor  
 48 Cank Street  
 Leicester LE1 5GW

FW1263 Domestic Drainage  
 Network: SW Network



Date 01/01/18  
 File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
 Checked by jd

XP Solutions

Network 2017.1.2

PIPELINE SCHEDULES for FW1263 Domestic Drainage

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)
18.000	o	100	s45a+	78.265	77.515	0.650	Open Manhole	250
16.001	o	150	s45	78.265	77.364	0.751	Open Manhole	450
19.000	o	100	cp14a++	78.350	77.450	0.800	Open Manhole	600
19.001	o	150	cp14+++	78.250	77.311	0.789	Open Manhole	600
16.002	o	150	s43	78.225	77.277	0.798	Open Manhole	600
20.000	o	150	s43a++	78.300	77.202	0.948	Open Manhole	450
21.000	o	100	s47	78.600	77.400	1.100	Open Manhole	1200
16.003	o	150	s43b	78.330	77.151	1.029	Open Manhole	450
22.000	o	150	cp12++	77.925	77.000	0.775	Open Manhole	600
22.001	o	150	cp13+++	78.175	76.798	1.227	Open Manhole	1200
5.012	o	150	s42	78.300	74.923	3.227	Open Manhole	1200
1.019	o	150	s21b	78.200	74.440	3.610	Open Manhole	1200
1.020	o	150	PS	78.300	74.410	3.740	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)
18.000	8.085	80.0	s45	78.265	77.414	0.751	Open Manhole	450
16.001	6.444	74.1	s43	78.225	77.277	0.798	Open Manhole	600
19.000	8.887	99.9	cp14+++	78.250	77.361	0.789	Open Manhole	600
19.001	3.390	99.7	s43	78.225	77.277	0.798	Open Manhole	600
16.002	12.609	100.1	s43b	78.330	77.151	1.029	Open Manhole	450
20.000	5.084	99.7	s43b	78.330	77.151	1.029	Open Manhole	450
21.000	13.784	69.3	s43b	78.330	77.201	1.029	Open Manhole	450
16.003	13.185	5.9	s42	78.300	74.923	3.227	Open Manhole	1200
22.000	29.273#	144.9	cp13+++	78.175	76.798	1.227	Open Manhole	1200
22.001	6.594	3.5	s42	78.300	74.923	3.227	Open Manhole	1200
5.012	14.595#	30.2	s21b	78.200	74.440	3.610	Open Manhole	1200
1.019	4.435#	147.8	PS	78.300	74.410	3.740	Open Manhole	1200
1.020	40.746#	40746.0	Ex SW Mh	78.380	74.409	3.821	Open Manhole	1200

Second Floor  
 48 Cank Street  
 Leicester LE1 5GW

FW1263 Domestic Drainage  
 Network: SW Network



Date 01/01/18  
 File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op

XP Solutions

Checked by jd

Network 2017.1.2

Free Flowing Outfall Details for FW1263 Domestic Drainage

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

1.020	Ex SW Mh	78.380	74.409	0.000	1200	0
-------	----------	--------	--------	-------	------	---

Second Floor  
48 Cank Street  
Leicester LE1 5GW

FW1263 Domestic Drainage  
Network: SW Network



Date 01/01/18  
File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
Checked by jd

XP Solutions

Network 2017.1.2

Storage Structures for FW1263 Domestic Drainage

Cellular Storage Manhole: CS1 OUT, DS/PN: 1.009

Invert Level (m) 75.699 Safety Factor 2.0  
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95  
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m <sup>2</sup> )	Inf. Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Inf. Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Inf. Area (m <sup>2</sup> )
0.000	88.0	88.0	1.200	88.0	133.6	1.201	0.0	133.6

Cellular Storage Manhole: CS2 OUT, DS/PN: 1.015

Invert Level (m) 75.509 Safety Factor 2.0  
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95  
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m <sup>2</sup> )	Inf. Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Inf. Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Inf. Area (m <sup>2</sup> )
0.000	71.3	71.3	1.200	71.3	112.1	1.201	0.0	112.1

Porous Car Park Manhole: cp15+++ , DS/PN: 4.001

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 4.8  
Membrane Percolation (mm/hr) 1000 Length (m) 12.0  
Max Percolation (l/s) 16.0 Slope (1:X) 150.0  
Safety Factor 2.0 Depression Storage (mm) 5  
Porosity 0.30 Evaporation (mm/day) 3  
Invert Level (m) 77.720 Cap Volume Depth (m) 0.400

Filter Drain Manhole: s31++ , DS/PN: 5.003

Infiltration Coefficient Base (m/hr) 0.00000 Pipe Diameter (m) 0.225  
Infiltration Coefficient Side (m/hr) 0.00000 Pipe Depth above Invert (m) 0.000  
Safety Factor 2.0 Number of Pipes 1  
Porosity 0.30 Slope (1:X) 150.0  
Invert Level (m) 75.836 Cap Volume Depth (m) 0.000  
Trench Width (m) 1.0 Cap Infiltration Depth (m) 0.500  
Trench Length (m) 5.4

Porous Car Park Manhole: cp4, DS/PN: 8.001

Infiltration Coefficient Base (m/hr) 0.00000 Width (m) 4.8  
Membrane Percolation (mm/hr) 1000 Length (m) 4.8  
Max Percolation (l/s) 6.4 Slope (1:X) 150.0  
Safety Factor 2.0 Depression Storage (mm) 5  
Porosity 0.30 Evaporation (mm/day) 3  
Invert Level (m) 77.720 Cap Volume Depth (m) 0.350

Porous Car Park Manhole: cp2+++ , DS/PN: 10.001

Infiltration Coefficient Base (m/hr) 0.00000 Invert Level (m) 77.620  
Membrane Percolation (mm/hr) 1000 Width (m) 4.8  
Max Percolation (l/s) 14.4 Length (m) 10.8  
Safety Factor 2.0 Slope (1:X) 150.0  
Porosity 0.30 Depression Storage (mm) 5

Second Floor  
 48 Cank Street  
 Leicester LE1 5GW

FW1263 Domestic Drainage  
 Network: SW Network



Date 01/01/18  
 File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
 Checked by jd

XP Solutions

Network 2017.1.2

Porous Car Park Manhole: cp2+++ , DS/PN: 10.001

Evaporation (mm/day) 3 Cap Volume Depth (m) 0.400

Porous Car Park Manhole: cp3+++ , DS/PN: 8.003

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	4.8
Membrane Percolation (mm/hr)	1000	Length (m)	10.8
Max Percolation (l/s)	14.4	Slope (1:X)	150.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	77.270	Cap Volume Depth (m)	0.500

Porous Car Park Manhole: s33a+++ , DS/PN: 8.005

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	7.2
Membrane Percolation (mm/hr)	1000	Length (m)	9.6
Max Percolation (l/s)	19.2	Slope (1:X)	150.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	77.620	Cap Volume Depth (m)	0.400

Porous Car Park Manhole: cp1b+++ , DS/PN: 12.001

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	4.8
Membrane Percolation (mm/hr)	1000	Length (m)	42.0
Max Percolation (l/s)	56.0	Slope (1:X)	150.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	76.770	Cap Volume Depth (m)	0.500

Porous Car Park Manhole: cp1+++ , DS/PN: 12.002

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	4.8
Membrane Percolation (mm/hr)	1000	Length (m)	5.2
Max Percolation (l/s)	6.9	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	76.970	Cap Volume Depth (m)	0.500

Cellular Storage Manhole: CS3 OUT, DS/PN: 5.007

Invert Level (m) 75.763 Safety Factor 2.0  
 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95  
 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m <sup>2</sup> )	Inf. Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Inf. Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Inf. Area (m <sup>2</sup> )
0.000	132.5	132.5	1.200	132.5	208.1	1.201	0.0	208.1

Porous Car Park Manhole: cp5+++ , DS/PN: 13.001

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	4.8
Membrane Percolation (mm/hr)	1000	Length (m)	12.2
Max Percolation (l/s)	16.3	Slope (1:X)	150.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	77.620	Cap Volume Depth (m)	0.300

Second Floor  
 48 Cank Street  
 Leicester LE1 5GW

FW1263 Domestic Drainage  
 Network: SW Network



Date 01/01/18  
 File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
 Checked by jd

XP Solutions

Network 2017.1.2

Porous Car Park Manhole: cp7+++ , DS/PN: 13.003

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	4.8
Membrane Percolation (mm/hr)	1000	Length (m)	4.8
Max Percolation (l/s)	6.4	Slope (1:X)	150.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	77.550	Cap Volume Depth (m)	0.400

Porous Car Park Manhole: cp9+++ , DS/PN: 14.001

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	4.8
Membrane Percolation (mm/hr)	1000	Length (m)	19.0
Max Percolation (l/s)	25.3	Slope (1:X)	150.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	77.570	Cap Volume Depth (m)	0.300

Porous Car Park Manhole: cp11+++ , DS/PN: 15.001

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	4.8
Membrane Percolation (mm/hr)	1000	Length (m)	28.8
Max Percolation (l/s)	38.4	Slope (1:X)	150.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	77.370	Cap Volume Depth (m)	0.400

Porous Car Park Manhole: cp14+++ , DS/PN: 19.001

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	4.8
Membrane Percolation (mm/hr)	1000	Length (m)	12.0
Max Percolation (l/s)	16.0	Slope (1:X)	150.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	77.670	Cap Volume Depth (m)	0.500

Porous Car Park Manhole: cp13+++ , DS/PN: 22.001

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	4.8
Membrane Percolation (mm/hr)	1000	Length (m)	33.6
Max Percolation (l/s)	44.8	Slope (1:X)	150.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	77.670	Cap Volume Depth (m)	0.400

Second Floor  
 48 Cank Street  
 Leicester LE1 5GW

FW1263 Domestic Drainage  
 Network: SW Network



Date 01/01/18  
 File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
 Checked by jd  
 Network 2017.1.2

XP Solutions

Simulation Criteria for FW1263 Domestic Drainage

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m <sup>3</sup> /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 Offline Controls 0    Number of Time/Area Diagrams 0  
 Number of Online Controls 17    Number of Storage Structures 17    Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Winter
Return Period (years)	2	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	20.000	Storm Duration (mins)	30
Ratio R	0.440		

Second Floor  
48 Cank Street  
Leicester LE1 5GW

FW1263 Domestic Drainage  
Network: SW Network



Date 01/01/18

Designed by op

File FW1263 DOMESTIC DRAINAGE 2018-10...

Checked by jd

XP Solutions

Network 2017.1.2

Summary of Results for 30 minute 2 year Winter (FW1263 Domestic Drainage)

Margin for Flood Risk Warning (mm) 450.0 DVD Status OFF  
Analysis Timestep Fine Inertia Status OFF  
DTS Status ON

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m <sup>3</sup> )	Pipe Flow / Overflow Cap. (l/s)	Pipe Flow (l/s)	Status
1.000	s10++	77.380	-0.175	0.000	0.11	5.5	OK
1.001	s11++	77.118	-0.172	0.000	0.12	5.5	FLOOD RISK
1.002	s9++	77.026	-0.146	0.000	0.27	10.6	OK
1.003	s8++	76.788	-0.177	0.000	0.10	10.6	OK
2.000	s1++	77.005	-0.175	0.000	0.11	5.4	FLOOD RISK
2.001	s2++	76.740	-0.190	0.000	0.06	5.4	OK
1.004	s3	76.251	-0.108	0.000	0.53	15.9	OK
1.005	s4	76.212	-0.108	0.000	0.53	15.9	OK
1.006	s5	76.127	-0.158	0.000	0.19	15.9	OK
1.007	s6++	75.941	0.009	0.000	0.53	15.8	SURCHARGED
1.008	CS1 IN	75.936	0.011	0.000	1.17	15.9	SURCHARGED
1.009	CS1 OUT	75.812	-0.112	0.000	0.10	3.3	OK
1.010	s7+++	75.807	0.020	0.000	0.31	3.3	SURCHARGED
1.011	s12	75.730	-0.037	0.000	0.24	3.2	OK
3.000	s14++	77.845	-0.085	0.000	0.39	5.4	OK
3.001	s15++	77.676	-0.084	0.000	0.40	5.3	OK
3.002	s16	77.576	-0.083	0.000	0.41	5.3	OK
3.003	s17++	77.495	-0.086	0.000	0.38	5.3	OK
3.004	s18++	77.262	-0.117	0.000	0.11	5.3	OK
3.005	s19	76.209	-0.110	0.000	0.16	5.3	OK
1.012	s13a	75.723	0.052	0.000	0.48	6.0	SURCHARGED
1.013	s13++	75.722	0.104	0.000	0.48	5.9	SURCHARGED
1.014	CS2IN	75.722	0.142	0.000	0.61	5.7	SURCHARGED
1.015	CS2 OUT	75.722	0.143	0.000	0.15	1.8	SURCHARGED
1.016	s20+++	75.726	0.182	0.000	0.09	1.2	SURCHARGED
1.017	s21	76.683	1.371	0.000	0.01	0.5	SURCHARGED
1.018	s21a	76.734	2.081	0.000	0.00	0.0	SURCHARGED
4.000	cp15a++	77.776	0.276	0.000	0.32	4.8	SURCHARGED
4.001	cp15+++	77.764	0.348	0.000	0.03	3.6	SURCHARGED
5.000	s27++	77.538	-0.127	0.000	0.06	2.0	OK
5.001	s28++	76.534	-0.116	0.000	0.11	2.5	OK
6.000	re1	77.694	-0.121	0.000	0.08	3.5	FLOOD RISK
5.002	s30	76.231	-0.100	0.000	0.24	6.1	OK
7.000	s24++	76.995	-0.185	0.000	0.07	4.7	OK
7.001	s25++	76.545	-0.190	0.000	0.06	5.3	OK
5.003	s31++	76.116	-0.003	0.000	0.44	11.2	OK
8.000	cp4a++	77.454	0.014	0.000	0.45	2.7	SURCHARGED
8.001	cp4	77.438	0.120	0.000	0.16	2.5	SURCHARGED
9.000	s36+	77.526	-0.124	0.000	0.07	2.6	OK
10.000	cp2a++	77.539	0.139	0.000	0.35	2.0	SURCHARGED
10.001	cp2+++	77.525	0.202	0.000	0.12	1.9	SURCHARGED
8.002	s37	77.411	0.162	0.000	0.25	6.6	SURCHARGED
11.000	cp3a++	77.401	0.291	0.000	0.05	0.3	FLOOD RISK
8.003	cp3+++	77.401	0.381	0.000	0.31	3.4	SURCHARGED
8.004	s33++	77.356	0.348	0.000	0.25	3.8	SURCHARGED
8.005	s33a+++	77.347	0.401	0.000	0.08	3.8	SURCHARGED
5.004	s32	76.107	0.013	0.000	0.58	14.8	SURCHARGED
12.000	cp1a++	76.975	-0.075	0.000	0.49	6.9	OK
12.001	cp1b+++	76.929	0.177	0.000	0.23	2.4	SURCHARGED
12.002	cp1+++	76.818	0.095	0.000	0.22	2.4	SURCHARGED
5.005	s34++	76.095	0.025	0.000	0.61	16.9	SURCHARGED

Second Floor  
48 Cank Street  
Leicester LE1 5GW

FW1263 Domestic Drainage  
Network: SW Network



Date 01/01/18

Designed by op

File FW1263 DOMESTIC DRAINAGE 2018-10...

Checked by jd

XP Solutions

Network 2017.1.2

Summary of Results for 30 minute 2 year Winter (FW1263 Domestic Drainage)

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe	Status
							Flow (l/s)	
5.006	CS3 IN	76.087	0.028	0.000	1.53	16.9	SURCHARGED	
5.007	CS3 OUT	75.987	-0.071	0.000	0.12	3.5	OK	
5.008	s39+++	76.020	0.042	0.000	0.22	3.1	SURCHARGED	
13.000	cp5a++	77.425	0.065	0.000	0.33	1.9	SURCHARGED	
13.001	cp5+++	77.410	0.160	0.000	0.35	1.8	SURCHARGED	
13.002	cp6++	77.295	0.079	0.000	0.46	2.2	SURCHARGED	
13.003	cp7+++	77.287	0.100	0.000	0.59	2.2	SURCHARGED	
5.009	s40	76.703	1.030	0.000	0.23	3.1	SURCHARGED	
14.000	cp8++	77.245	-0.045	0.000	0.46	2.7	OK	
14.001	cp9+++	77.214	0.095	0.000	0.18	2.4	SURCHARGED	
5.010	s41	76.752	1.200	0.000	0.23	3.3	SURCHARGED	
15.000	cp10++	77.445	0.295	0.000	0.36	4.9	SURCHARGED	
15.001	cp11+++	77.426	0.457	0.000	0.04	3.2	SURCHARGED	
5.011	s41a	76.799	1.484	0.000	0.25	3.6	SURCHARGED	
16.000	s45c	77.542	-0.073	0.000	0.16	1.1	OK	
17.000	s45b	77.550	-0.065	0.000	0.27	1.7	OK	
18.000	s45a+	77.549	-0.066	0.000	0.25	1.6	OK	
16.001	s45	77.415	-0.099	0.000	0.25	4.4	OK	
19.000	cp14a++	77.509	-0.041	0.000	0.66	3.7	OK	
19.001	cp14+++	77.468	0.007	0.000	0.32	3.7	SURCHARGED	
16.002	s43	77.352	-0.075	0.000	0.50	8.1	OK	
20.000	s43a++	77.255	-0.097	0.000	0.27	3.8	OK	
21.000	s47	77.432	-0.068	0.000	0.23	1.6	OK	
16.003	s43b	77.196	-0.105	0.000	0.20	13.4	OK	
22.000	cp12++	77.065	-0.085	0.000	0.39	5.5	OK	
22.001	cp13+++	76.925	-0.023	0.000	0.07	5.4	OK	
5.012	s42	76.802	1.729	0.000	0.51	15.4	SURCHARGED	
1.019	s21b	76.775	2.185	0.000	0.59	6.4	SURCHARGED	
1.020	PS	76.767	2.207	0.000	0.79	4.2	SURCHARGED	

Second Floor  
 48 Cank Street  
 Leicester LE1 5GW

FW1263 Domestic Drainage  
 Network: SW Network



Date 01/01/18  
 File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
 Checked by jd  
 Network 2017.1.2

XP Solutions

Simulation Criteria for FW1263 Domestic Drainage

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m <sup>3</sup> /ha Storage	2.000
Hot Start (mins)	0	Inlet Coefficient	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 Offline Controls 0    Number of Time/Area Diagrams 0  
 Number of Online Controls 17    Number of Storage Structures 17    Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Winter
Return Period (years)	30	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	20.000	Storm Duration (mins)	30
Ratio R	0.440		

Second Floor  
 48 Cank Street  
 Leicester LE1 5GW

FW1263 Domestic Drainage  
 Network: SW Network



Date 01/01/18  
 File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
 Checked by jd

XP Solutions

Network 2017.1.2

Summary of Results for 30 minute 30 year Winter (FW1263 Domestic Drainage)

Margin for Flood Risk Warning (mm) 450.0      DVD Status OFF  
 Analysis Timestep      Fine Inertia Status OFF  
 DTS Status      ON

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap. (l/s)	Overflow (l/s)	Pipe (l/s)	Status
1.000	s10++	77.401	-0.154	0.000	0.22		10.5	OK
1.001	s11++	77.139	-0.151	0.000	0.24		10.5	FLOOD RISK
1.002	s9++	77.064	-0.108	0.000	0.53		21.0	OK
1.003	s8++	76.809	-0.156	0.000	0.20		20.9	OK
2.000	s1++	77.025	-0.155	0.000	0.21		10.3	FLOOD RISK
2.001	s2++	76.755	-0.175	0.000	0.11		10.3	OK
1.004	s3	76.366	0.007	0.000	1.03		30.8	SURCHARGED
1.005	s4	76.320	0.000	0.000	1.01		30.1	SURCHARGED
1.006	s5	76.154	-0.131	0.000	0.37		30.2	OK
1.007	s6++	76.006	0.074	0.000	1.00		29.9	SURCHARGED
1.008	CS1 IN	75.965	0.040	0.000	2.19		29.9	SURCHARGED
1.009	CS1 OUT	75.907	-0.017	0.000	0.19		6.2	OK
1.010	s7+++	75.900	0.113	0.000	0.58		6.2	SURCHARGED
1.011	s12	75.892	0.125	0.000	0.46		6.1	SURCHARGED
3.000	s14++	77.877	-0.053	0.000	0.74		10.2	OK
3.001	s15++	77.709	-0.051	0.000	0.76		10.2	OK
3.002	s16	77.609	-0.050	0.000	0.78		10.2	OK
3.003	s17++	77.527	-0.054	0.000	0.73		10.1	OK
3.004	s18++	77.275	-0.104	0.000	0.21		10.1	OK
3.005	s19	76.226	-0.093	0.000	0.31		10.1	OK
1.012	s13a	75.894	0.223	0.000	1.09		13.7	SURCHARGED
1.013	s13++	75.896	0.278	0.000	1.11		13.6	SURCHARGED
1.014	CS2IN	75.898	0.318	0.000	1.40		13.1	SURCHARGED
1.015	CS2 OUT	75.899	0.320	0.000	0.16		1.8	SURCHARGED
1.016	s20+++	75.910	0.366	0.000	0.09		1.3	SURCHARGED
1.017	s21	77.445	2.133	0.000	0.00		0.1	SURCHARGED
1.018	s21a	77.512	2.859	0.000	0.00		0.0	SURCHARGED
4.000	cp15a++	77.916	0.416	0.000	0.64		9.8	FLOOD RISK
4.001	cp15+++	77.904	0.488	0.000	0.04		3.9	FLOOD RISK
5.000	s27++	77.548	-0.117	0.000	0.11		3.8	OK
5.001	s28++	76.548	-0.102	0.000	0.22		4.9	OK
6.000	re1	77.704	-0.111	0.000	0.16		6.8	FLOOD RISK
5.002	s30	76.253	-0.078	0.000	0.46		11.6	OK
7.000	s24++	77.011	-0.169	0.000	0.14		8.9	OK
7.001	s25++	76.560	-0.175	0.000	0.11		10.3	OK
5.003	s31++	76.230	0.111	0.000	0.83		21.3	SURCHARGED
8.000	cp4a++	77.730	0.290	0.000	0.83		5.0	SURCHARGED
8.001	cp4	77.674	0.356	0.000	0.31		4.9	SURCHARGED
9.000	s36+	77.634	-0.016	0.000	0.13		4.9	OK
10.000	cp2a++	77.729	0.329	0.000	0.79		4.4	SURCHARGED
10.001	cp2+++	77.711	0.388	0.000	0.15		2.4	FLOOD RISK
8.002	s37	77.630	0.381	0.000	0.44		11.4	FLOOD RISK
11.000	cp3a++	77.619	0.509	0.000	0.01		0.1	FLOOD RISK
8.003	cp3+++	77.619	0.599	0.000	0.39		4.2	FLOOD RISK
8.004	s33++	77.562	0.554	0.000	0.30		4.5	FLOOD RISK
8.005	s33a+++	77.551	0.605	0.000	0.09		4.5	FLOOD RISK
5.004	s32	76.230	0.136	0.000	0.99		25.4	SURCHARGED
12.000	cp1a++	77.213	0.163	0.000	0.88		12.4	SURCHARGED
12.001	cp1b+++	77.047	0.295	0.000	0.26		2.9	SURCHARGED
12.002	cp1+++	76.897	0.174	0.000	0.25		2.9	SURCHARGED
5.005	s34++	76.228	0.158	0.000	1.01		27.9	SURCHARGED

Second Floor  
48 Cank Street  
Leicester LE1 5GW

FW1263 Domestic Drainage  
Network: SW Network



Date 01/01/18

Designed by op

File FW1263 DOMESTIC DRAINAGE 2018-10...

Checked by jd

XP Solutions

Network 2017.1.2

Summary of Results for 30 minute 30 year Winter (FW1263 Domestic Drainage)

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m <sup>3</sup> )	Flow / Cap.	Overflow (l/s)	Pipe	Status
							Flow (l/s)	
5.006	CS3 IN	76.225	0.166	0.000	2.52	27.8	SURCHARGED	
5.007	CS3 OUT	76.211	0.153	0.000	0.05	1.6	SURCHARGED	
5.008	s39+++	76.213	0.235	0.000	0.17	2.4	SURCHARGED	
13.000	cp5a++	77.719	0.359	0.000	0.71	4.0	FLOOD RISK	
13.001	cp5+++	77.687	0.437	0.000	0.46	2.3	FLOOD RISK	
13.002	cp6++	77.565	0.349	0.000	0.66	3.1	SURCHARGED	
13.003	cp7+++	77.558	0.371	0.000	0.81	3.0	SURCHARGED	
5.009	s40	77.395	1.722	0.000	0.23	3.1	SURCHARGED	
14.000	cp8++	77.691	0.401	0.000	0.74	4.3	FLOOD RISK	
14.001	cp9+++	77.624	0.505	0.000	0.26	3.5	FLOOD RISK	
5.010	s41	77.470	1.918	0.000	0.25	3.7	SURCHARGED	
15.000	cp10++	77.605	0.455	0.000	0.77	10.7	FLOOD RISK	
15.001	cp11+++	77.579	0.610	0.000	0.05	3.5	FLOOD RISK	
5.011	s41a	77.541	2.226	0.000	0.29	4.3	SURCHARGED	
16.000	s45c	77.693	0.078	0.000	0.31	2.2	SURCHARGED	
17.000	s45b	77.698	0.083	0.000	0.52	3.2	FLOOD RISK	
18.000	s45a+	77.697	0.082	0.000	0.48	3.0	SURCHARGED	
16.001	s45	77.687	0.173	0.000	0.48	8.4	SURCHARGED	
19.000	cp14a++	77.753	0.203	0.000	1.20	6.7	SURCHARGED	
19.001	cp14+++	77.715	0.254	0.000	0.57	6.6	SURCHARGED	
16.002	s43	77.678	0.251	0.000	0.89	14.4	SURCHARGED	
20.000	s43a++	77.662	0.310	0.000	0.51	7.2	SURCHARGED	
21.000	s47	77.665	0.165	0.000	0.43	3.0	SURCHARGED	
16.003	s43b	77.655	0.354	0.000	0.35	23.5	SURCHARGED	
22.000	cp12++	77.698	0.548	0.000	0.69	9.7	FLOOD RISK	
22.001	cp13+++	77.674	0.726	0.000	0.09	7.3	SURCHARGED	
5.012	s42	77.610	2.537	0.000	0.82	24.6	SURCHARGED	
1.019	s21b	77.564	2.974	0.000	0.84	9.2	SURCHARGED	
1.020	PS	77.555	2.995	0.000	0.94	5.0	SURCHARGED	

Second Floor  
 48 Cank Street  
 Leicester LE1 5GW

FW1263 Domestic Drainage  
 Network: SW Network



Date 01/01/18  
 File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
 Checked by jd  
 Network 2017.1.2

XP Solutions

Simulation Criteria for FW1263 Domestic Drainage

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	30.000
Areal Reduction Factor	1.000	MADD Factor * 10m <sup>3</sup> /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 Offline Controls 0    Number of Time/Area Diagrams 0  
 Number of Online Controls 17    Number of Storage Structures 17    Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Winter
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	20.000	Storm Duration (mins)	30
Ratio R	0.440		

Second Floor  
 48 Cank Street  
 Leicester LE1 5GW

FW1263 Domestic Drainage  
 Network: SW Network



Date 01/01/18  
 File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
 Checked by jd

XP Solutions

Network 2017.1.2

Summary of Results for 30 minute 100 year Winter (FW1263 Domestic Drainage)

Margin for Flood Risk Warning (mm) 450.0 DVD Status OFF  
 Analysis Timestep Fine Inertia Status OFF  
 DTS Status ON

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap. (l/s)	Pipe Overflow (l/s)	Status
1.000	s10++	77.425	-0.130	0.000	0.37	17.9	OK
1.001	s11++	77.164	-0.126	0.000	0.40	17.9	FLOOD RISK
1.002	s9++	77.115	-0.057	0.000	0.90	35.8	OK
1.003	s8++	76.831	-0.134	0.000	0.35	35.7	OK
2.000	s1++	77.049	-0.131	0.000	0.36	17.5	FLOOD RISK
2.001	s2++	76.772	-0.158	0.000	0.19	17.5	OK
1.004	s3	76.618	0.259	0.000	1.74	52.1	SURCHARGED
1.005	s4	76.484	0.164	0.000	1.74	52.0	SURCHARGED
1.006	s5	76.349	0.064	0.000	0.63	51.7	SURCHARGED
1.007	s6++	76.216	0.284	0.000	1.72	51.5	SURCHARGED
1.008	CS1 IN	76.107	0.182	0.000	3.77	51.4	SURCHARGED
1.009	CS1 OUT	76.095	0.171	0.000	0.21	7.1	SURCHARGED
1.010	s7+++	76.085	0.298	0.000	0.67	7.0	SURCHARGED
1.011	s12	76.062	0.295	0.000	0.53	7.0	SURCHARGED
3.000	s14++	78.067	0.137	0.000	1.18	16.3	FLOOD RISK
3.001	s15++	77.845	0.085	0.000	1.17	15.6	SURCHARGED
3.002	s16	77.715	0.056	0.000	1.16	15.2	SURCHARGED
3.003	s17++	77.612	0.031	0.000	1.09	15.1	SURCHARGED
3.004	s18++	77.286	-0.093	0.000	0.31	15.1	OK
3.005	s19	76.240	-0.079	0.000	0.46	15.0	OK
1.012	s13a	76.065	0.394	0.000	1.42	17.8	SURCHARGED
1.013	s13++	76.068	0.450	0.000	1.45	17.7	SURCHARGED
1.014	CS2IN	76.070	0.490	0.000	1.84	17.3	SURCHARGED
1.015	CS2 OUT	76.073	0.494	0.000	0.19	2.2	SURCHARGED
1.016	s20+++	76.103	0.559	0.000	0.09	1.2	SURCHARGED
1.017	s21	77.698	2.386	0.000	0.00	0.0	SURCHARGED
1.018	s21a	77.768	3.115	0.000	0.00	0.0	SURCHARGED
4.000	cp15a++	78.222	0.722	0.000	1.09	16.5	FLOOD RISK
4.001	cp15+++	78.211	0.795	0.000	0.04	4.1	FLOOD RISK
5.000	s27++	77.558	-0.107	0.000	0.18	6.4	OK
5.001	s28++	76.629	-0.021	0.000	0.37	8.2	OK
6.000	re1	77.717	-0.098	0.000	0.27	11.5	FLOOD RISK
5.002	s30	76.591	0.260	0.000	0.73	18.4	SURCHARGED
7.000	s24++	77.030	-0.150	0.000	0.24	15.2	OK
7.001	s25++	76.576	-0.159	0.000	0.19	17.5	OK
5.003	s31++	76.477	0.358	0.000	1.35	34.4	SURCHARGED
8.000	cp4a++	78.091	0.651	0.000	1.50	9.1	FLOOD RISK
8.001	cp4	77.903	0.585	0.000	0.39	6.1	FLOOD RISK
9.000	s36+	77.838	0.188	0.000	0.21	7.7	FLOOD RISK
10.000	cp2a++	77.901	0.501	0.000	1.35	7.5	FLOOD RISK
10.001	cp2+++	77.883	0.560	0.000	0.15	2.3	FLOOD RISK
8.002	s37	77.831	0.582	0.000	0.55	14.3	FLOOD RISK
11.000	cp3a++	77.814	0.704	0.000	0.01	0.0	FLOOD RISK
8.003	cp3+++	77.814	0.794	0.000	0.57	6.2	FLOOD RISK
8.004	s33++	77.738	0.730	0.000	0.52	7.7	FLOOD RISK
8.005	s33a+++	77.725	0.779	0.000	0.10	5.0	FLOOD RISK
5.004	s32	76.451	0.357	0.000	1.52	38.9	SURCHARGED
12.000	cp1a++	77.739	0.689	0.000	1.48	20.8	FLOOD RISK
12.001	cp1b+++	77.191	0.439	0.000	0.32	3.4	FLOOD RISK
12.002	cp1+++	76.987	0.264	0.000	0.29	3.3	SURCHARGED
5.005	s34++	76.448	0.378	0.000	1.51	41.9	SURCHARGED

Second Floor  
48 Cank Street  
Leicester LE1 5GW

FW1263 Domestic Drainage  
Network: SW Network



Date 01/01/18  
File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
Checked by jd

XP Solutions

Network 2017.1.2

Summary of Results for 30 minute 100 year Winter (FW1263 Domestic Drainage)

PN	US/MH Name	Water	Surcharged	Flooded	Pipe		Status
		Level (m)	Depth (m)	Volume (m <sup>3</sup> )	Flow / Cap.	Overflow / Flow (l/s)	
5.006	CS3 IN	76.444	0.385	0.000	3.76	41.6	SURCHARGED
5.007	CS3 OUT	76.428	0.370	0.000	0.00	0.0	SURCHARGED
5.008	s39+++	76.440	0.462	0.000	0.16	2.3	SURCHARGED
13.000	cp5a++	77.896	0.536	0.000	1.24	7.0	FLOOD RISK
13.001	cp5+++	77.791	0.541	0.000	0.45	2.3	FLOOD RISK
13.002	cp6++	77.693	0.477	0.000	0.74	3.5	FLOOD RISK
13.003	cp7+++	77.687	0.500	0.000	0.86	3.2	FLOOD RISK
5.009	s40	77.586	1.913	0.000	0.24	3.3	SURCHARGED
14.000	cp8++	78.012	0.722	0.000	1.41	8.2	FLOOD RISK
14.001	cp9+++	77.745	0.626	0.000	0.27	3.7	FLOOD RISK
5.010	s41	77.667	2.115	0.000	0.31	4.6	FLOOD RISK
15.000	cp10++	77.900	0.750	0.002	1.32	18.3	FLOOD
15.001	cp11+++	77.755	0.786	0.000	0.04	3.3	FLOOD RISK
5.011	s41a	77.760	2.445	0.000	0.34	5.0	FLOOD RISK
16.000	s45c	78.087	0.472	0.000	0.45	3.2	FLOOD RISK
17.000	s45b	78.114	0.499	0.000	0.75	4.7	FLOOD RISK
18.000	s45a+	78.108	0.493	0.000	0.71	4.4	FLOOD RISK
16.001	s45	78.071	0.557	0.000	0.69	12.1	FLOOD RISK
19.000	cp14a++	78.205	0.655	0.000	1.93	10.8	FLOOD RISK
19.001	cp14+++	78.059	0.598	0.000	0.64	7.3	FLOOD RISK
16.002	s43	78.044	0.617	0.000	0.98	15.8	FLOOD RISK
20.000	s43a++	78.039	0.687	0.000	0.78	11.1	FLOOD RISK
21.000	s47	78.067	0.567	0.000	0.57	3.9	SURCHARGED
16.003	s43b	78.021	0.720	0.000	0.38	25.9	FLOOD RISK
22.000	cp12++	77.922	0.772	0.000	0.94	13.2	FLOOD RISK
22.001	cp13+++	77.900	0.952	0.000	0.09	7.6	FLOOD RISK
5.012	s42	77.873	2.800	0.000	0.88	26.4	FLOOD RISK
1.019	s21b	77.823	3.233	0.000	0.88	9.6	FLOOD RISK
1.020	PS	77.813	3.253	0.000	0.94	5.0	SURCHARGED

Second Floor  
 48 Cank Street  
 Leicester LE1 5GW

FW1263 Domestic Drainage  
 Network: SW Network



Date 01/01/18  
 File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
 Checked by jd

XP Solutions

Network 2017.1.2

Simulation Criteria for FW1263 Domestic Drainage

Volumetric Runoff Coeff	0.840	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m <sup>3</sup> /ha Storage	2.000
Hot Start (mins)	0	Inlet Coefficient	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)	720
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	6

Number of Input Hydrographs 0    Number of Offline Controls 0    Number of Time/Area Diagrams 0  
 Number of Online Controls 17    Number of Storage Structures 17    Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Winter
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	20.000	Storm Duration (mins)	360
Ratio R	0.440		

Second Floor  
48 Cank Street  
Leicester LE1 5GW

FW1263 Domestic Drainage  
Network: SW Network



Date 01/01/18  
File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
Checked by jd

XP Solutions

Network 2017.1.2

Summary of Critical Results by Maximum Level (Rank 1) for FW1263 Domestic Drainage

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000  
Hot Start (mins) 0 MADD Factor \* 10m<sup>3</sup>/ha Storage 2.000  
Hot Start Level (mm) 0 Inlet Coefficient 0.800  
Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000  
Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0  
Number of Online Controls 17 Number of Storage Structures 17 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 20.000 Cv (Summer) 0.750  
Region England and Wales Ratio R 0.440 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 450.0  
Analysis Timestep 2.5 Second Increment (Extended)  
DTS Status ON  
DVD Status OFF  
Inertia Status OFF

Profile(s) Summer and Winter  
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360  
Return Period(s) (years) 1, 30, 100  
Climate Change (%) 0, 0, 30

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Surcharged Flooded		
									Level (m)	Depth (m)	Volume (m <sup>3</sup> )
1.000	s10++	15 Winter	100	+30%					77.441	-0.114	0.000
1.001	s11++	15 Winter	100	+30%					77.255	-0.035	0.000
1.002	s9++	15 Winter	100	+30%	100/15 Summer				77.221	0.049	0.000
1.003	s8++	15 Winter	100	+30%					76.942	-0.023	0.000
2.000	s1++	15 Winter	100	+30%					77.065	-0.115	0.000
2.001	s2++	15 Winter	100	+30%					76.876	-0.054	0.000
1.004	s3	15 Winter	100	+30%	30/15 Summer				76.844	0.485	0.000
1.005	s4	15 Winter	100	+30%	30/15 Summer				76.665	0.345	0.000
1.006	s5	360 Winter	100	+30%	100/15 Summer				76.606	0.321	0.000
1.007	s6++	360 Winter	100	+30%	1/15 Summer				76.606	0.674	0.000
1.008	CS1 IN	360 Winter	100	+30%	1/15 Summer				76.606	0.681	0.000
1.009	CS1 OUT	360 Winter	100	+30%	30/60 Summer				76.606	0.682	0.000
1.010	s7+++	360 Winter	100	+30%	1/30 Winter				76.607	0.820	0.000
1.011	s12	360 Winter	100	+30%	1/120 Winter				76.607	0.840	0.000
3.000	s14++	15 Winter	100	+30%	100/15 Summer				78.309	0.379	0.000
3.001	s15++	15 Winter	100	+30%	100/15 Summer				78.034	0.274	0.000
3.002	s16	15 Winter	100	+30%	100/15 Summer				77.860	0.201	0.000
3.003	s17++	15 Winter	100	+30%	100/15 Summer				77.715	0.134	0.000
3.004	s18++	15 Winter	100	+30%					77.291	-0.088	0.000
3.005	s19	360 Winter	100	+30%	100/120 Winter				76.611	0.292	0.000
1.012	s13a	360 Winter	100	+30%	1/60 Summer				76.611	0.940	0.000
1.013	s13++	360 Winter	100	+30%	1/30 Summer				76.617	0.999	0.000
1.014	CS2IN	360 Winter	100	+30%	1/15 Summer				76.621	1.041	0.000
1.015	CS2 OUT	360 Winter	100	+30%	1/15 Summer				76.626	1.047	0.000
1.016	s20+++	360 Winter	100	+30%	1/15 Summer				76.634	1.090	0.000
1.017	s21	60 Winter	100	+30%	1/15 Summer				77.706	2.394	0.000
1.018	s21a	60 Winter	100	+30%	1/15 Summer				77.774	3.121	0.000
4.000	cp15a++	30 Winter	100	+30%	1/15 Summer				78.222	0.722	0.000

Second Floor  
 48 Cank Street  
 Leicester LE1 5GW

FW1263 Domestic Drainage  
 Network: SW Network



Date 01/01/18  
 File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
 Checked by jd  
 Network 2017.1.2

XP Solutions

Summary of Critical Results by Maximum Level (Rank 1) for FW1263 Domestic Drainage

PN	US/MH Name	Flow / Overflow Cap.	Pipe Flow (l/s)	Status	Level Exceeded
1.000	s10++	0.47	22.9	OK	
1.001	s11++	0.52	23.2	FLOOD RISK	
1.002	s9++	1.12	44.2	SURCHARGED	
1.003	s8++	0.40	41.3	OK	
2.000	s1++	0.47	22.3	FLOOD RISK	
2.001	s2++	0.24	21.7	OK	
1.004	s3	1.99	59.6	SURCHARGED	
1.005	s4	1.99	59.5	SURCHARGED	
1.006	s5	0.11	8.9	SURCHARGED	
1.007	s6++	0.29	8.8	SURCHARGED	
1.008	CS1 IN	0.64	8.7	SURCHARGED	
1.009	CS1 OUT	0.08	2.6	SURCHARGED	
1.010	s7+++	0.24	2.5	SURCHARGED	
1.011	s12	0.19	2.5	SURCHARGED	
3.000	s14++	1.41	19.5	FLOOD RISK	
3.001	s15++	1.37	18.3	FLOOD RISK	
3.002	s16	1.36	17.8	SURCHARGED	
3.003	s17++	1.26	17.5	SURCHARGED	
3.004	s18++	0.36	17.5	OK	
3.005	s19	0.09	2.9	SURCHARGED	
1.012	s13a	0.30	3.8	SURCHARGED	
1.013	s13++	0.31	3.8	SURCHARGED	
1.014	CS2IN	0.39	3.7	SURCHARGED	
1.015	CS2 OUT	0.09	1.1	SURCHARGED	
1.016	s20+++	0.08	1.1	SURCHARGED	
1.017	s21	0.00	0.1	SURCHARGED	
1.018	s21a	0.00	0.0	SURCHARGED	
4.000	cp15a++	1.09	16.5	FLOOD RISK	

Second Floor  
48 Cank Street  
Leicester LE1 5GW

FW1263 Domestic Drainage  
Network: SW Network



Date 01/01/18  
File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
Checked by jd

XP Solutions

Network 2017.1.2

Summary of Critical Results by Maximum Level (Rank 1) for FW1263 Domestic Drainage

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surchage	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)
4.001	cp15+++	30 Winter	100	+30%	1/15 Summer				78.211	0.795	0.000
5.000	s27++	15 Winter	100	+30%					77.565	-0.100	0.000
5.001	s28++	240 Winter	100	+30%	100/15 Summer				77.276	0.626	0.000
6.000	re1	15 Winter	100	+30%					77.726	-0.089	0.000
5.002	s30	240 Winter	100	+30%	30/15 Winter				77.275	0.944	0.000
7.000	s24++	240 Winter	100	+30%	100/240 Winter				77.275	0.095	0.000
7.001	s25++	240 Winter	100	+30%	100/60 Winter				77.274	0.539	0.000
5.003	s31++	240 Winter	100	+30%	30/15 Summer				77.273	1.154	0.000
8.000	cp4a++	15 Winter	100	+30%	30/15 Summer	100/15 Winter			78.240	0.800	0.014
8.001	cp4	30 Winter	100	+30%	1/15 Summer				77.903	0.585	0.000
9.000	s36+	30 Winter	100	+30%	100/15 Summer				77.838	0.188	0.000
10.000	cp2a++	15 Winter	100	+30%	1/15 Summer				77.973	0.573	0.000
10.001	cp2+++	30 Winter	100	+30%	1/15 Summer				77.883	0.560	0.000
8.002	s37	30 Winter	100	+30%	1/15 Summer				77.831	0.582	0.000
11.000	cp3a++	30 Winter	100	+30%	1/15 Summer				77.814	0.704	0.000
8.003	cp3+++	30 Winter	100	+30%	1/15 Summer				77.814	0.794	0.000
8.004	s33++	60 Winter	100	+30%	1/15 Summer				77.738	0.730	0.000
8.005	s33a+++	60 Winter	100	+30%	1/15 Summer				77.726	0.780	0.000
5.004	s32	240 Winter	100	+30%	1/15 Summer				77.272	1.178	0.000
12.000	cp1a++	15 Winter	100	+30%	30/15 Summer	100/15 Summer			77.801	0.751	0.655
12.001	cp1b+++	60 Winter	100	+30%	1/15 Summer				77.216	0.464	0.000
12.002	cp1+++	240 Winter	100	+30%	1/15 Summer				77.218	0.495	0.000
5.005	s34++	240 Winter	100	+30%	1/15 Summer				77.270	1.200	0.000
5.006	CS3 IN	240 Winter	100	+30%	1/15 Summer				77.269	1.210	0.000
5.007	CS3 OUT	240 Winter	100	+30%	30/15 Summer				77.264	1.206	0.000
5.008	s39+++	240 Winter	100	+30%	1/30 Winter				77.264	1.286	0.000
13.000	cp5a++	15 Winter	100	+30%	1/15 Summer	100/15 Summer			77.900	0.540	0.254
13.001	cp5+++	30 Winter	100	+30%	1/15 Summer				77.791	0.541	0.000
13.002	cp6++	60 Winter	100	+30%	1/15 Summer				77.695	0.479	0.000
13.003	cp7+++	60 Winter	100	+30%	1/15 Summer				77.690	0.503	0.000
5.009	s40	60 Winter	100	+30%	1/15 Summer				77.598	1.925	0.000
14.000	cp8++	15 Winter	100	+30%	30/15 Summer	100/15 Summer			78.090	0.800	0.141
14.001	cp9+++	60 Winter	100	+30%	1/15 Summer				77.746	0.627	0.000
5.010	s41	60 Winter	100	+30%	1/15 Summer				77.677	2.125	0.000
15.000	cp10++	15 Winter	100	+30%	1/15 Summer	100/15 Summer			77.901	0.751	0.635
15.001	cp11+++	60 Winter	100	+30%	1/15 Summer				77.801	0.832	0.000
5.011	s41a	60 Winter	100	+30%	1/15 Summer				77.769	2.454	0.000
16.000	s45c	30 Winter	100	+30%	30/30 Winter				78.087	0.472	0.000
17.000	s45b	30 Winter	100	+30%	30/30 Winter				78.114	0.499	0.000
18.000	s45a+	30 Winter	100	+30%	30/30 Winter				78.108	0.493	0.000
16.001	s45	30 Winter	100	+30%	30/15 Winter				78.071	0.557	0.000
19.000	cp14a++	15 Winter	100	+30%	30/15 Summer	100/15 Winter			78.350	0.800	0.016
19.001	cp14+++	30 Winter	100	+30%	1/15 Summer				78.059	0.598	0.000
16.002	s43	30 Winter	100	+30%	30/15 Summer				78.044	0.617	0.000
20.000	s43a++	30 Winter	100	+30%	30/15 Summer				78.039	0.687	0.000
21.000	s47	30 Winter	100	+30%	30/15 Winter				78.067	0.567	0.000
16.003	s43b	30 Winter	100	+30%	30/15 Summer				78.021	0.720	0.000
22.000	cp12++	30 Winter	100	+30%	30/15 Summer				77.922	0.772	0.000
22.001	cp13+++	60 Winter	100	+30%	30/15 Summer				77.904	0.956	0.000
5.012	s42	30 Winter	100	+30%	1/15 Summer				77.873	2.800	0.000
1.019	s21b	60 Winter	100	+30%	1/15 Summer				77.827	3.237	0.000
1.020	PS	60 Winter	100	+30%	1/15 Summer				77.818	3.258	0.000

Second Floor  
48 Cank Street  
Leicester LE1 5GW

FW1263 Domestic Drainage  
Network: SW Network



Date 01/01/18  
File FW1263 DOMESTIC DRAINAGE 2018-10...

Designed by op  
Checked by jd

XP Solutions

Network 2017.1.2

Summary of Critical Results by Maximum Level (Rank 1) for FW1263 Domestic Drainage

PN	US/MH Name	Flow / Overflow Cap. (l/s)	Pipe	Status	Level Exceeded
			Flow (l/s)		
4.001	cp15+++	0.04	4.1	FLOOD RISK	
5.000	s27++	0.24	8.4	OK	
5.001	s28++	0.09	1.9	FLOOD RISK	
6.000	re1	0.34	14.9	FLOOD RISK	
5.002	s30	0.17	4.3	SURCHARGED	
7.000	s24++	0.06	3.5	FLOOD RISK	
7.001	s25++	0.04	4.1	FLOOD RISK	
5.003	s31++	0.30	7.8	FLOOD RISK	
8.000	cp4a++	1.87	11.3	FLOOD	1
8.001	cp4	0.39	6.1	FLOOD RISK	
9.000	s36+	0.21	7.7	FLOOD RISK	
10.000	cp2a++	1.72	9.6	FLOOD RISK	
10.001	cp2+++	0.15	2.3	FLOOD RISK	
8.002	s37	0.55	14.3	FLOOD RISK	
11.000	cp3a++	0.01	0.0	FLOOD RISK	
8.003	cp3+++	0.57	6.2	FLOOD RISK	
8.004	s33++	0.48	7.1	FLOOD RISK	
8.005	s33a+++	0.10	5.0	FLOOD RISK	
5.004	s32	0.46	11.9	SURCHARGED	
12.000	cp1a++	1.60	22.6	FLOOD	3
12.001	cp1b+++	0.33	3.5	FLOOD RISK	
12.002	cp1+++	0.26	3.0	FLOOD RISK	
5.005	s34++	0.53	14.6	FLOOD RISK	
5.006	CS3 IN	1.30	14.3	SURCHARGED	
5.007	CS3 OUT	0.17	5.0	SURCHARGED	
5.008	s39+++	0.31	4.3	SURCHARGED	
13.000	cp5a++	1.38	7.8	FLOOD	3
13.001	cp5+++	0.45	2.3	FLOOD RISK	
13.002	cp6++	0.62	2.9	FLOOD RISK	
13.003	cp7+++	0.73	2.7	FLOOD RISK	
5.009	s40	0.20	2.6	SURCHARGED	
14.000	cp8++	1.62	9.4	FLOOD	2
14.001	cp9+++	0.21	2.8	FLOOD RISK	
5.010	s41	0.21	3.2	FLOOD RISK	
15.000	cp10++	1.44	19.9	FLOOD	4
15.001	cp11+++	0.05	3.9	FLOOD RISK	
5.011	s41a	0.42	6.3	FLOOD RISK	
16.000	s45c	0.45	3.2	FLOOD RISK	
17.000	s45b	0.75	4.7	FLOOD RISK	
18.000	s45a+	0.71	4.4	FLOOD RISK	
16.001	s45	0.69	12.1	FLOOD RISK	
19.000	cp14a++	2.47	13.8	FLOOD	1
19.001	cp14+++	0.64	7.3	FLOOD RISK	
16.002	s43	0.98	15.8	FLOOD RISK	
20.000	s43a++	0.78	11.1	FLOOD RISK	
21.000	s47	0.57	3.9	SURCHARGED	
16.003	s43b	0.38	25.9	FLOOD RISK	
22.000	cp12++	0.94	13.2	FLOOD RISK	
22.001	cp13+++	0.08	6.4	FLOOD RISK	
5.012	s42	0.88	26.4	FLOOD RISK	
1.019	s21b	0.67	7.3	FLOOD RISK	
1.020	PS	0.94	5.0	SURCHARGED	