

SCP

Colwyn Chambers
19 York St
Manchester M2 3BA

Date 01/01/0001
File 2024.12.18 - Internal D...

XP Solutions

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Network 2020.1.3

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Network Design Table for 2024.12.17 - INTERNAL DRAINAGE NETWORK 2.SWS

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
S1.007	24.798	0.110	225.4	0.022	0.00	0.0	0.600	o	225	Pipe/Conduit	
S2.000	27.494	0.195	141.0	0.047	5.00	0.0	0.600	o	225	Pipe/Conduit	
S1.008	12.319	0.055	222.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S3.000	32.453	0.138	235.2	0.124	5.00	0.0	0.600	o	300	Pipe/Conduit	
S4.000	11.440	0.048	238.3	0.049	5.00	0.0	0.600	o	300	Pipe/Conduit	
S4.001	18.063	0.075	240.8	0.026	0.00	0.0	0.600	o	300	Pipe/Conduit	
S3.001	6.507	0.027	241.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S1.009	5.990	0.025	239.6	0.023	0.00	0.0	0.600	o	300	Pipe/Conduit	
S1.010	3.556	0.015	240.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S5.000	21.225	0.422	50.3	0.076	5.00	0.0	0.600	o	225	Pipe/Conduit	
S5.001	29.270	0.366	80.0	0.052	0.00	0.0	0.600	o	225	Pipe/Conduit	
S5.002	9.456	0.042	225.1	0.011	0.00	0.0	0.600	o	225	Pipe/Conduit	
S6.000	9.129	0.152	60.0	0.011	5.00	0.0	0.600	o	225	Pipe/Conduit	
S6.001	22.229	0.222	100.0	0.019	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)
S1.007	43.35	10.09	26.890	0.139	0.0	0.0	0.0	0.87	34.5	16.3
S2.000	50.00	5.42	26.975	0.047	0.0	0.0	0.0	1.10	43.7	6.4
S1.008	42.92	10.29	26.705	0.186	0.0	0.0	0.0	1.05	74.3	21.6
S3.000	50.00	5.53	26.815	0.124	0.0	0.0	0.0	1.02	72.2	16.8
S4.000	50.00	5.19	26.800	0.049	0.0	0.0	0.0	1.01	71.7	6.6
S4.001	50.00	5.49	26.752	0.075	0.0	0.0	0.0	1.01	71.3	10.2
S3.001	50.00	5.64	26.677	0.199	0.0	0.0	0.0	1.01	71.3	26.9
S1.009	42.70	10.38	26.650	0.408	0.0	0.0	0.0	1.01	71.5	47.2
S1.010	42.57	10.44	26.625	0.408	0.0	0.0	0.0	1.01	71.4	47.2
S5.000	50.00	5.19	27.640	0.076	0.0	0.0	0.0	1.85	73.5	10.3
S5.001	50.00	5.52	27.218	0.128	0.0	0.0	0.0	1.46	58.2	17.3
S5.002	50.00	5.71	26.852	0.139	0.0	0.0	0.0	0.87	34.5	18.8
S6.000	50.00	5.09	27.925	0.011	0.0	0.0	0.0	1.69	67.3	1.5
S6.001	50.00	5.37	27.773	0.030	0.0	0.0	0.0	1.31	52.0	4.1

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Network Design Table for 2024.12.17 - INTERNAL DRAINAGE NETWORK 2.SWS

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
S6.002	24.222	0.242	100.0	0.032	0.00	0.0	0.600	o	225	Pipe/Conduit	
S6.003	22.779	0.228	100.0	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S6.004	26.847	0.270	99.4	0.015	0.00	0.0	0.600	o	225	Pipe/Conduit	
S5.003	10.873	0.125	87.0	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S1.011	4.617	0.188	24.5	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S1.012	4.494	0.183	24.6	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S1.013	5.592	0.224	25.0	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)
S6.002	50.00	5.68	27.551	0.062	0.0	0.0	0.0	1.31	52.0	8.4
S6.003	50.00	5.97	27.308	0.062	0.0	0.0	0.0	1.31	52.0	8.4
S6.004	50.00	6.31	27.081	0.077	0.0	0.0	0.0	1.31	52.1	10.4
S5.003	50.00	6.44	26.810	0.216	0.0	0.0	0.0	1.40	55.8	29.2
S1.011	42.52	10.47	26.610	0.624	0.0	0.0	0.0	3.19	225.5	71.9
S1.012	42.46	10.50	26.422	0.624	0.0	0.0	0.0	2.65	105.4	71.9
S1.013	42.38	10.53	26.239	0.624	0.0	0.0	0.0	2.63	104.6	71.9

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Manhole Schedules for 2024.12.17 - INTERNAL DRAINAGE NETWORK 2.SWS

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	PN	Pipe Invert Level (m)
S0	28.050	0.854	Open Manhole	1200	S1.000	27.196	100		
S1	28.200	1.725	Open Manhole	1200	S1.001	26.475	225	S1.000	27.196
S2	29.080	1.805	Open Manhole	1200	S1.002	27.275	225	S1.001	26.475
S3	28.885	1.654	Open Manhole	1350	S1.003	27.231	225	S1.002	27.275
S4	28.810	1.652	Open Manhole	1350	S1.004	27.158	225	S1.003	27.231
S5	28.745	1.625	Open Manhole	1350	S1.005	27.120	225	S1.004	27.158
S6	28.485	1.517	Open Manhole	1350	S1.006	26.968	225	S1.005	27.120
S7	28.315	1.425	Open Manhole	1350	S1.007	26.890	225	S1.006	26.968
S15	28.400	1.425	Open Manhole	1350	S2.000	26.975	225		
S8	28.990	2.285	Open Manhole	1200	S1.008	26.705	300	S1.007	26.890
								S2.000	26.975
S16	29.025	2.210	Open Manhole	1200	S3.000	26.815	300		
S18	29.000	2.200	Open Manhole	1200	S4.000	26.800	300		
S19	29.105	2.353	Open Manhole	1200	S4.001	26.752	300	S4.000	26.800
S17	29.025	2.348	Open Manhole	1200	S3.001	26.677	300	S3.000	26.752
								S4.001	26.752
S9	28.900	2.250	Open Manhole	1200	S1.009	26.650	300	S1.008	26.677
								S3.001	26.677
S10	29.005	2.380	Open Manhole	1200	S1.010	26.625	300	S1.009	26.650
S20	29.065	1.425	Open Manhole	600	S5.000	27.640	225		
S21	28.760	1.542	Open Manhole	600	S5.001	27.218	225	S5.000	27.640
S22	28.365	1.513	Open Manhole	600	S5.002	26.852	225	S5.001	27.218
S24	29.150	1.225	Open Manhole	600	S6.000	27.925	225		
S25	29.150	1.377	Open Manhole	600	S6.001	27.773	225	S6.000	27.925
S26	29.150	1.599	Open Manhole	600	S6.002	27.551	225	S6.001	27.773
S27	29.150	1.842	Open Manhole	600	S6.003	27.308	225	S6.002	27.551
S28	29.250	2.169	Open Manhole	600	S6.004	27.081	225	S6.003	27.308
S23	28.280	1.470	Open Manhole	1350	S5.003	26.810	225	S5.002	27.081
								S6.004	27.081
S11	29.100	2.490	Open Manhole	1200	S1.011	26.610	300	S1.010	26.610
								S5.003	26.610
S12	29.070	2.648	Open Manhole	1500	S1.012	26.422	225	S1.011	26.610
SC13	28.450	2.211	Open Manhole	1200	S1.013	26.239	225	S1.012	26.422
SExisting UU MH	28.210	2.195	Open Manhole	0		OUTFALL		S1.013	26.239

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Manhole Schedules for 2024.12.17 - INTERNAL DRAINAGE NETWORK 2.SWS

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S0	382552.325	393260.162	382552.325	393260.162	Required	
S1	382551.954	393263.881	382551.954	393263.881	Required	
S2	382533.279	393278.005	382533.279	393278.005	Required	
S3	382525.380	393283.980	382525.380	393283.980	Required	
S4	382515.442	393270.841	382515.442	393270.841	Required	
S5	382515.733	393262.404	382515.733	393262.404	Required	
S6	382495.275	393234.859	382495.275	393234.859	Required	
S7	382495.183	393227.999	382495.183	393227.999	Required	
S15	382461.951	393187.746	382461.951	393187.746	Required	
S8	382480.628	393207.922	382480.628	393207.922	Required	
S16	382467.112	393169.394	382467.112	393169.394	Required	
S18	382507.735	393193.626	382507.735	393193.626	Required	
S19	382500.965	393184.405	382500.965	393184.405	Required	
S17	382486.594	393195.349	382486.594	393195.349	Required	
S9	382490.500	393200.553	382490.500	393200.553	Required	

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Micro Drainage

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Manhole Schedules for 2024.12.17 - INTERNAL DRAINAGE NETWORK 2.SWS

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S10	382494.106	393205.336	382494.106	393205.336	Required	
S20	382524.133	393263.766	382524.133	393263.766	Required	
S21	382511.496	393246.713	382511.496	393246.713	Required	
S22	382494.072	393223.194	382494.072	393223.194	Required	
S24	382557.266	393262.463	382557.266	393262.463	Required	
S25	382564.467	393256.853	382564.467	393256.853	Required	
S26	382551.159	393239.068	382551.159	393239.068	Required	
S27	382537.112	393219.354	382537.112	393219.354	Required	
S28	382523.079	393201.364	382523.079	393201.364	Required	
S23	382501.602	393217.474	382501.602	393217.474	Required	
S11	382495.120	393208.744	382495.120	393208.744	Required	
S12	382491.443	393211.535	382491.443	393211.535	Required	
SC13	382487.863	393214.253	382487.863	393214.253	Required	
SExisting UU MH	382483.200	393217.339			No Entry	

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PIPELINE SCHEDULES for 2024.12.17 - INTERNAL DRAINAGE NETWORK 2.SWS

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)
S1.000	o	100	S0	28.050	27.196	0.754	Open Manhole	1200
S1.001	o	225	S1	28.200	26.475	1.500	Open Manhole	1200
S1.002	o	225	S2	29.080	27.275	1.580	Open Manhole	1200
S1.003	o	225	S3	28.885	27.231	1.429	Open Manhole	1350
S1.004	o	225	S4	28.810	27.158	1.427	Open Manhole	1350
S1.005	o	225	S5	28.745	27.120	1.400	Open Manhole	1350
S1.006	o	225	S6	28.485	26.968	1.292	Open Manhole	1350
S1.007	o	225	S7	28.315	26.890	1.200	Open Manhole	1350
S2.000	o	225	S15	28.400	26.975	1.200	Open Manhole	1350
S1.008	o	300	S8	28.990	26.705	1.985	Open Manhole	1200
S3.000	o	300	S16	29.025	26.815	1.910	Open Manhole	1200
S4.000	o	300	S18	29.000	26.800	1.900	Open Manhole	1200
S4.001	o	300	S19	29.105	26.752	2.053	Open Manhole	1200
S3.001	o	300	S17	29.025	26.677	2.048	Open Manhole	1200
S1.009	o	300	S9	28.900	26.650	1.950	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)
S1.000	3.817	6.4	S1	28.200	26.600	1.500	Open Manhole	1200
S1.001	23.415	-29.3	S2	29.080	27.275	1.580	Open Manhole	1200
S1.002	9.904	225.1	S3	28.885	27.231	1.429	Open Manhole	1350
S1.003	16.474	225.7	S4	28.810	27.158	1.427	Open Manhole	1350
S1.004	8.442	222.2	S5	28.745	27.120	1.400	Open Manhole	1350
S1.005	34.311	225.7	S6	28.485	26.968	1.292	Open Manhole	1350
S1.006	6.861	88.0	S7	28.315	26.890	1.200	Open Manhole	1350
S1.007	24.798	225.4	S8	28.990	26.780	1.985	Open Manhole	1200
S2.000	27.494	141.0	S8	28.990	26.780	1.985	Open Manhole	1200
S1.008	12.319	222.0	S9	28.900	26.650	1.950	Open Manhole	1200
S3.000	32.453	235.2	S17	29.025	26.677	2.048	Open Manhole	1200
S4.000	11.440	238.3	S19	29.105	26.752	2.053	Open Manhole	1200
S4.001	18.063	240.8	S17	29.025	26.677	2.048	Open Manhole	1200
S3.001	6.507	241.0	S9	28.900	26.650	1.950	Open Manhole	1200
S1.009	5.990	239.6	S10	29.005	26.625	2.080	Open Manhole	1200

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PIPELINE SCHEDULES for 2024.12.17 - INTERNAL DRAINAGE NETWORK 2.SWS

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)
S1.010	o	300	S10	29.005	26.625	2.080	Open Manhole	1200
S5.000	o	225	S20	29.065	27.640	1.200	Open Manhole	600
S5.001	o	225	S21	28.760	27.218	1.317	Open Manhole	600
S5.002	o	225	S22	28.365	26.852	1.288	Open Manhole	600
S6.000	o	225	S24	29.150	27.925	1.000	Open Manhole	600
S6.001	o	225	S25	29.150	27.773	1.152	Open Manhole	600
S6.002	o	225	S26	29.150	27.551	1.374	Open Manhole	600
S6.003	o	225	S27	29.150	27.308	1.617	Open Manhole	600
S6.004	o	225	S28	29.250	27.081	1.944	Open Manhole	600
S5.003	o	225	S23	28.280	26.810	1.245	Open Manhole	1350
S1.011	o	300	S11	29.100	26.610	2.190	Open Manhole	1200
S1.012	o	225	S12	29.070	26.422	2.423	Open Manhole	1500
S1.013	o	225	SC13	28.450	26.239	1.986	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)
S1.010	3.556	240.0		S11	29.100	26.610	2.190 Open Manhole	1200
S5.000	21.225	50.3		S21	28.760	27.218	1.317 Open Manhole	600
S5.001	29.270	80.0		S22	28.365	26.852	1.288 Open Manhole	600
S5.002	9.456	225.1		S23	28.280	26.810	1.245 Open Manhole	1350
S6.000	9.129	60.0		S25	29.150	27.773	1.152 Open Manhole	600
S6.001	22.229	100.0		S26	29.150	27.551	1.374 Open Manhole	600
S6.002	24.222	100.0		S27	29.150	27.308	1.617 Open Manhole	600
S6.003	22.779	100.0		S28	29.250	27.081	1.944 Open Manhole	600
S6.004	26.847	99.4		S23	28.280	26.810	1.245 Open Manhole	1350
S5.003	10.873	87.0		S11	29.100	26.685	2.190 Open Manhole	1200
S1.011	4.617	24.5		S12	29.070	26.422	2.348 Open Manhole	1500
S1.012	4.494	24.6		SC13	28.450	26.239	1.986 Open Manhole	1200
S1.013	5.592	25.0	SExisting UU MH		28.210	26.015	1.970 Open Manhole	0

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Surcharged Outfall Details for 2024.12.17 - INTERNAL DRAINAGE NETWORK 2.SWS											
Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)
31	1.000	81	1.000	131	1.000	181	1.000	231	1.000	281	1.000
32	1.000	82	1.000	132	1.000	182	1.000	232	1.000	282	1.000
33	1.000	83	1.000	133	1.000	183	1.000	233	1.000	283	1.000
34	1.000	84	1.000	134	1.000	184	1.000	234	1.000	284	1.000
35	1.000	85	1.000	135	1.000	185	1.000	235	1.000	285	1.000
36	1.000	86	1.000	136	1.000	186	1.000	236	1.000	286	1.000
37	1.000	87	1.000	137	1.000	187	1.000	237	1.000	287	1.000
38	1.000	88	1.000	138	1.000	188	1.000	238	1.000	288	1.000
39	1.000	89	1.000	139	1.000	189	1.000	239	1.000	289	1.000
40	1.000	90	1.000	140	1.000	190	1.000	240	1.000	290	1.000
41	1.000	91	1.000	141	1.000	191	1.000	241	1.000	291	1.000
42	1.000	92	1.000	142	1.000	192	1.000	242	1.000	292	1.000
43	1.000	93	1.000	143	1.000	193	1.000	243	1.000	293	1.000
44	1.000	94	1.000	144	1.000	194	1.000	244	1.000	294	1.000
45	1.000	95	1.000	145	1.000	195	1.000	245	1.000	295	1.000
46	1.000	96	1.000	146	1.000	196	1.000	246	1.000	296	1.000
47	1.000	97	1.000	147	1.000	197	1.000	247	1.000	297	1.000
48	1.000	98	1.000	148	1.000	198	1.000	248	1.000	298	1.000
49	1.000	99	1.000	149	1.000	199	1.000	249	1.000	299	1.000
50	1.000	100	1.000	150	1.000	200	1.000	250	1.000	300	1.000
51	1.000	101	1.000	151	1.000	201	1.000	251	1.000	301	1.000
52	1.000	102	1.000	152	1.000	202	1.000	252	1.000	302	1.000
53	1.000	103	1.000	153	1.000	203	1.000	253	1.000	303	1.000
54	1.000	104	1.000	154	1.000	204	1.000	254	1.000	304	1.000
55	1.000	105	1.000	155	1.000	205	1.000	255	1.000	305	1.000
56	1.000	106	1.000	156	1.000	206	1.000	256	1.000	306	1.000
57	1.000	107	1.000	157	1.000	207	1.000	257	1.000	307	1.000
58	1.000	108	1.000	158	1.000	208	1.000	258	1.000	308	1.000
59	1.000	109	1.000	159	1.000	209	1.000	259	1.000	309	1.000
60	1.000	110	1.000	160	1.000	210	1.000	260	1.000	310	1.000
61	1.000	111	1.000	161	1.000	211	1.000	261	1.000	311	1.000
62	1.000	112	1.000	162	1.000	212	1.000	262	1.000	312	1.000
63	1.000	113	1.000	163	1.000	213	1.000	263	1.000	313	1.000
64	1.000	114	1.000	164	1.000	214	1.000	264	1.000	314	1.000
65	1.000	115	1.000	165	1.000	215	1.000	265	1.000	315	1.000
66	1.000	116	1.000	166	1.000	216	1.000	266	1.000	316	1.000
67	1.000	117	1.000	167	1.000	217	1.000	267	1.000	317	1.000
68	1.000	118	1.000	168	1.000	218	1.000	268	1.000	318	1.000
69	1.000	119	1.000	169	1.000	219	1.000	269	1.000	319	1.000
70	1.000	120	1.000	170	1.000	220	1.000	270	1.000	320	1.000
71	1.000	121	1.000	171	1.000	221	1.000	271	1.000	321	1.000
72	1.000	122	1.000	172	1.000	222	1.000	272	1.000	322	1.000
73	1.000	123	1.000	173	1.000	223	1.000	273	1.000	323	1.000
74	1.000	124	1.000	174	1.000	224	1.000	274	1.000	324	1.000
75	1.000	125	1.000	175	1.000	225	1.000	275	1.000	325	1.000
76	1.000	126	1.000	176	1.000	226	1.000	276	1.000	326	1.000
77	1.000	127	1.000	177	1.000	227	1.000	277	1.000	327	1.000
78	1.000	128	1.000	178	1.000	228	1.000	278	1.000	328	1.000
79	1.000	129	1.000	179	1.000	229	1.000	279	1.000	329	1.000
80	1.000	130	1.000	180	1.000	230	1.000	280	1.000	330	1.000
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XP Solutions						Network 2020.1.3									
Surcharged Outfall Details for 2024.12.17 - INTERNAL DRAINAGE NETWORK 2.SWS															
Time (mins)		Depth (m)		Time (mins)		Depth (m)		Time (mins)		Depth (m)		Time (mins)		Depth (m)	
331 1.000		381 1.000		431 1.000		481 1.000		531 1.000		581 1.000					
332 1.000		382 1.000		432 1.000		482 1.000		532 1.000		582 1.000					
333 1.000		383 1.000		433 1.000		483 1.000		533 1.000		583 1.000					
334 1.000		384 1.000		434 1.000		484 1.000		534 1.000		584 1.000					
335 1.000		385 1.000		435 1.000		485 1.000		535 1.000		585 1.000					
336 1.000		386 1.000		436 1.000		486 1.000		536 1.000		586 1.000					
337 1.000		387 1.000		437 1.000		487 1.000		537 1.000		587 1.000					
338 1.000		388 1.000		438 1.000		488 1.000		538 1.000		588 1.000					
339 1.000		389 1.000		439 1.000		489 1.000		539 1.000		589 1.000					
340 1.000		390 1.000		440 1.000		490 1.000		540 1.000		590 1.000					
341 1.000		391 1.000		441 1.000		491 1.000		541 1.000		591 1.000					
342 1.000		392 1.000		442 1.000		492 1.000		542 1.000		592 1.000					
343 1.000		393 1.000		443 1.000		493 1.000		543 1.000		593 1.000					
344 1.000		394 1.000		444 1.000		494 1.000		544 1.000		594 1.000					
345 1.000		395 1.000		445 1.000		495 1.000		545 1.000		595 1.000					
346 1.000		396 1.000		446 1.000		496 1.000		546 1.000		596 1.000					
347 1.000		397 1.000		447 1.000		497 1.000		547 1.000		597 1.000					
348 1.000		398 1.000		448 1.000		498 1.000		548 1.000		598 1.000					
349 1.000		399 1.000		449 1.000		499 1.000		549 1.000		599 1.000					
350 1.000		400 1.000		450 1.000		500 1.000		550 1.000		600 1.000					
351 1.000		401 1.000		451 1.000		501 1.000		551 1.000		601 1.000					
352 1.000		402 1.000		452 1.000		502 1.000		552 1.000		602 1.000					
353 1.000		403 1.000		453 1.000		503 1.000		553 1.000		603 1.000					
354 1.000		404 1.000		454 1.000		504 1.000		554 1.000		604 1.000					
355 1.000		405 1.000		455 1.000		505 1.000		555 1.000		605 1.000					
356 1.000		406 1.000		456 1.000		506 1.000		556 1.000		606 1.000					
357 1.000		407 1.000		457 1.000		507 1.000		557 1.000		607 1.000					
358 1.000		408 1.000		458 1.000		508 1.000		558 1.000		608 1.000					
359 1.000		409 1.000		459 1.000		509 1.000		559 1.000		609 1.000					
360 1.000		410 1.000		460 1.000		510 1.000		560 1.000		610 1.000					
361 1.000		411 1.000		461 1.000		511 1.000		561 1.000		611 1.000					
362 1.000		412 1.000		462 1.000		512 1.000		562 1.000		612 1.000					
363 1.000		413 1.000		463 1.000		513 1.000		563 1.000		613 1.000					
364 1.000		414 1.000		464 1.000		514 1.000		564 1.000		614 1.000					
365 1.000		415 1.000		465 1.000		515 1.000		565 1.000		615 1.000					
366 1.000		416 1.000		466 1.000		516 1.000		566 1.000		616 1.000					
367 1.000		417 1.000		467 1.000		517 1.000		567 1.000		617 1.000					
368 1.000		418 1.000		468 1.000		518 1.000		568 1.000		618 1.000					
369 1.000		419 1.000		469 1.000		519 1.000		569 1.000		619 1.000					
370 1.000		420 1.000		470 1.000		520 1.000		570 1.000		620 1.000					
371 1.000		421 1.000		471 1.000		521 1.000		571 1.000		621 1.000					
372 1.000		422 1.000		472 1.000		522 1.000		572 1.000		622 1.000					
373 1.000		423 1.000		473 1.000		523 1.000		573 1.000		623 1.000					
374 1.000		424 1.000		474 1.000		524 1.000		574 1.000		624 1.000					
375 1.000		425 1.000		475 1.000		525 1.000		575 1.000		625 1.000					
376 1.000		426 1.000		476 1.000		526 1.000		576 1.000		626 1.000					
377 1.000		427 1.000		477 1.000		527 1.000		577 1.000		627 1.000					
378 1.000		428 1.000		478 1.000		528 1.000		578 1.000		628 1.000					
379 1.000		429 1.000		479 1.000		529 1.000		579 1.000		629 1.000					
380 1.000		430 1.000		480 1.000		530 1.000		580 1.000		630 1.000					
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Surcharged Outfall Details for 2024.12.17 - INTERNAL DRAINAGE NETWORK 2.SWS											
Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)
631	1.000	681	1.000	731	1.000	781	1.000	831	1.000	881	1.000
632	1.000	682	1.000	732	1.000	782	1.000	832	1.000	882	1.000
633	1.000	683	1.000	733	1.000	783	1.000	833	1.000	883	1.000
634	1.000	684	1.000	734	1.000	784	1.000	834	1.000	884	1.000
635	1.000	685	1.000	735	1.000	785	1.000	835	1.000	885	1.000
636	1.000	686	1.000	736	1.000	786	1.000	836	1.000	886	1.000
637	1.000	687	1.000	737	1.000	787	1.000	837	1.000	887	1.000
638	1.000	688	1.000	738	1.000	788	1.000	838	1.000	888	1.000
639	1.000	689	1.000	739	1.000	789	1.000	839	1.000	889	1.000
640	1.000	690	1.000	740	1.000	790	1.000	840	1.000	890	1.000
641	1.000	691	1.000	741	1.000	791	1.000	841	1.000	891	1.000
642	1.000	692	1.000	742	1.000	792	1.000	842	1.000	892	1.000
643	1.000	693	1.000	743	1.000	793	1.000	843	1.000	893	1.000
644	1.000	694	1.000	744	1.000	794	1.000	844	1.000	894	1.000
645	1.000	695	1.000	745	1.000	795	1.000	845	1.000	895	1.000
646	1.000	696	1.000	746	1.000	796	1.000	846	1.000	896	1.000
647	1.000	697	1.000	747	1.000	797	1.000	847	1.000	897	1.000
648	1.000	698	1.000	748	1.000	798	1.000	848	1.000	898	1.000
649	1.000	699	1.000	749	1.000	799	1.000	849	1.000	899	1.000
650	1.000	700	1.000	750	1.000	800	1.000	850	1.000	900	1.000
651	1.000	701	1.000	751	1.000	801	1.000	851	1.000	901	1.000
652	1.000	702	1.000	752	1.000	802	1.000	852	1.000	902	1.000
653	1.000	703	1.000	753	1.000	803	1.000	853	1.000	903	1.000
654	1.000	704	1.000	754	1.000	804	1.000	854	1.000	904	1.000
655	1.000	705	1.000	755	1.000	805	1.000	855	1.000	905	1.000
656	1.000	706	1.000	756	1.000	806	1.000	856	1.000	906	1.000
657	1.000	707	1.000	757	1.000	807	1.000	857	1.000	907	1.000
658	1.000	708	1.000	758	1.000	808	1.000	858	1.000	908	1.000
659	1.000	709	1.000	759	1.000	809	1.000	859	1.000	909	1.000
660	1.000	710	1.000	760	1.000	810	1.000	860	1.000	910	1.000
661	1.000	711	1.000	761	1.000	811	1.000	861	1.000	911	1.000
662	1.000	712	1.000	762	1.000	812	1.000	862	1.000	912	1.000
663	1.000	713	1.000	763	1.000	813	1.000	863	1.000	913	1.000
664	1.000	714	1.000	764	1.000	814	1.000	864	1.000	914	1.000
665	1.000	715	1.000	765	1.000	815	1.000	865	1.000	915	1.000
666	1.000	716	1.000	766	1.000	816	1.000	866	1.000	916	1.000
667	1.000	717	1.000	767	1.000	817	1.000	867	1.000	917	1.000
668	1.000	718	1.000	768	1.000	818	1.000	868	1.000	918	1.000
669	1.000	719	1.000	769	1.000	819	1.000	869	1.000	919	1.000
670	1.000	720	1.000	770	1.000	820	1.000	870	1.000	920	1.000
671	1.000	721	1.000	771	1.000	821	1.000	871	1.000	921	1.000
672	1.000	722	1.000	772	1.000	822	1.000	872	1.000	922	1.000
673	1.000	723	1.000	773	1.000	823	1.000	873	1.000	923	1.000
674	1.000	724	1.000	774	1.000	824	1.000	874	1.000	924	1.000
675	1.000	725	1.000	775	1.000	825	1.000	875	1.000	925	1.000
676	1.000	726	1.000	776	1.000	826	1.000	876	1.000	926	1.000
677	1.000	727	1.000	777	1.000	827	1.000	877	1.000	927	1.000
678	1.000	728	1.000	778	1.000	828	1.000	878	1.000	928	1.000
679	1.000	729	1.000	779	1.000	829	1.000	879	1.000	929	1.000
680	1.000	730	1.000	780	1.000	830	1.000	880	1.000	930	1.000
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XP Solutions						Network 2020.1.3									
Surcharged Outfall Details for 2024.12.17 - INTERNAL DRAINAGE NETWORK 2.SWS															
Time (mins)		Depth (m)		Time (mins)		Depth (m)		Time (mins)		Depth (m)		Time (mins)		Depth (m)	
931		1.000		981		1.000		1031		1.000		1081		1.000	
932		1.000		982		1.000		1032		1.000		1082		1.000	
933		1.000		983		1.000		1033		1.000		1083		1.000	
934		1.000		984		1.000		1034		1.000		1084		1.000	
935		1.000		985		1.000		1035		1.000		1085		1.000	
936		1.000		986		1.000		1036		1.000		1086		1.000	
937		1.000		987		1.000		1037		1.000		1087		1.000	
938		1.000		988		1.000		1038		1.000		1088		1.000	
939		1.000		989		1.000		1039		1.000		1089		1.000	
940		1.000		990		1.000		1040		1.000		1090		1.000	
941		1.000		991		1.000		1041		1.000		1091		1.000	
942		1.000		992		1.000		1042		1.000		1092		1.000	
943		1.000		993		1.000		1043		1.000		1093		1.000	
944		1.000		994		1.000		1044		1.000		1094		1.000	
945		1.000		995		1.000		1045		1.000		1095		1.000	
946		1.000		996		1.000		1046		1.000		1096		1.000	
947		1.000		997		1.000		1047		1.000		1097		1.000	
948		1.000		998		1.000		1048		1.000		1098		1.000	
949		1.000		999		1.000		1049		1.000		1099		1.000	
950		1.000		1000		1.000		1050		1.000		1100		1.000	
951		1.000		1001		1.000		1051		1.000		1101		1.000	
952		1.000		1002		1.000		1052		1.000		1102		1.000	
953		1.000		1003		1.000		1053		1.000		1103		1.000	
954		1.000		1004		1.000		1054		1.000		1104		1.000	
955		1.000		1005		1.000		1055		1.000		1105		1.000	
956		1.000		1006		1.000		1056		1.000		1106		1.000	
957		1.000		1007		1.000		1057		1.000		1107		1.000	
958		1.000		1008		1.000		1058		1.000		1108		1.000	
959		1.000		1009		1.000		1059		1.000		1109		1.000	
960		1.000		1010		1.000		1060		1.000		1110		1.000	
961		1.000		1011		1.000		1061		1.000		1111		1.000	
962		1.000		1012		1.000		1062		1.000		1112		1.000	
963		1.000		1013		1.000		1063		1.000		1113		1.000	
964		1.000		1014		1.000		1064		1.000		1114		1.000	
965		1.000		1015		1.000		1065		1.000		1115		1.000	
966		1.000		1016		1.000		1066		1.000		1116		1.000	
967		1.000		1017		1.000		1067		1.000		1117		1.000	
968		1.000		1018		1.000		1068		1.000		1118		1.000	
969		1.000		1019		1.000		1069		1.000		1119		1.000	
970		1.000		1020		1.000		1070		1.000		1120		1.000	
971		1.000		1021		1.000		1071		1.000		1121		1.000	
972		1.000		1022		1.000		1072		1.000		1122		1.000	
973		1.000		1023		1.000		1073		1.000		1123		1.000	
974		1.000		1024		1.000		1074		1.000		1124		1.000	
975		1.000		1025		1.000		1075		1.000		1125		1.000	
976		1.000		1026		1.000		1076		1.000		1126		1.000	
977		1.000		1027		1.000		1077		1.000		1127		1.000	
978		1.000		1028		1.000		1078		1.000		1128		1.000	
979		1.000		1029		1.000		1079		1.000		1129		1.000	
980		1.000		1030		1.000		1080		1.000		1130		1.000	
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Surcharged Outfall Details for 2024.12.17 - INTERNAL DRAINAGE NETWORK 2.SWS											
Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)
1231	1.000	1266	1.000	1301	1.000	1336	1.000	1371	1.000	1406	1.000
1232	1.000	1267	1.000	1302	1.000	1337	1.000	1372	1.000	1407	1.000
1233	1.000	1268	1.000	1303	1.000	1338	1.000	1373	1.000	1408	1.000
1234	1.000	1269	1.000	1304	1.000	1339	1.000	1374	1.000	1409	1.000
1235	1.000	1270	1.000	1305	1.000	1340	1.000	1375	1.000	1410	1.000
1236	1.000	1271	1.000	1306	1.000	1341	1.000	1376	1.000	1411	1.000
1237	1.000	1272	1.000	1307	1.000	1342	1.000	1377	1.000	1412	1.000
1238	1.000	1273	1.000	1308	1.000	1343	1.000	1378	1.000	1413	1.000
1239	1.000	1274	1.000	1309	1.000	1344	1.000	1379	1.000	1414	1.000
1240	1.000	1275	1.000	1310	1.000	1345	1.000	1380	1.000	1415	1.000
1241	1.000	1276	1.000	1311	1.000	1346	1.000	1381	1.000	1416	1.000
1242	1.000	1277	1.000	1312	1.000	1347	1.000	1382	1.000	1417	1.000
1243	1.000	1278	1.000	1313	1.000	1348	1.000	1383	1.000	1418	1.000
1244	1.000	1279	1.000	1314	1.000	1349	1.000	1384	1.000	1419	1.000
1245	1.000	1280	1.000	1315	1.000	1350	1.000	1385	1.000	1420	1.000
1246	1.000	1281	1.000	1316	1.000	1351	1.000	1386	1.000	1421	1.000
1247	1.000	1282	1.000	1317	1.000	1352	1.000	1387	1.000	1422	1.000
1248	1.000	1283	1.000	1318	1.000	1353	1.000	1388	1.000	1423	1.000
1249	1.000	1284	1.000	1319	1.000	1354	1.000	1389	1.000	1424	1.000
1250	1.000	1285	1.000	1320	1.000	1355	1.000	1390	1.000	1425	1.000
1251	1.000	1286	1.000	1321	1.000	1356	1.000	1391	1.000	1426	1.000
1252	1.000	1287	1.000	1322	1.000	1357	1.000	1392	1.000	1427	1.000
1253	1.000	1288	1.000	1323	1.000	1358	1.000	1393	1.000	1428	1.000
1254	1.000	1289	1.000	1324	1.000	1359	1.000	1394	1.000	1429	1.000
1255	1.000	1290	1.000	1325	1.000	1360	1.000	1395	1.000	1430	1.000
1256	1.000	1291	1.000	1326	1.000	1361	1.000	1396	1.000	1431	1.000
1257	1.000	1292	1.000	1327	1.000	1362	1.000	1397	1.000	1432	1.000
1258	1.000	1293	1.000	1328	1.000	1363	1.000	1398	1.000	1433	1.000
1259	1.000	1294	1.000	1329	1.000	1364	1.000	1399	1.000	1434	1.000
1260	1.000	1295	1.000	1330	1.000	1365	1.000	1400	1.000	1435	1.000
1261	1.000	1296	1.000	1331	1.000	1366	1.000	1401	1.000	1436	1.000
1262	1.000	1297	1.000	1332	1.000	1367	1.000	1402	1.000	1437	1.000
1263	1.000	1298	1.000	1333	1.000	1368	1.000	1403	1.000	1438	1.000
1264	1.000	1299	1.000	1334	1.000	1369	1.000	1404	1.000	1439	1.000
1265	1.000	1300	1.000	1335	1.000	1370	1.000	1405	1.000	1440	1.000
Simulation Criteria for 2024.12.17 - INTERNAL DRAINAGE NETWORK 2.SWS											
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 1							
Number of Online Controls 2				Number of Time/Area Diagrams 0							
Number of Offline Controls 0				Number of Real Time Controls 0							
Synthetic Rainfall Details											
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<u>Simulation Criteria for 2024.12.17 - INTERNAL DRAINAGE NETWORK 2.SWS</u>		
Rainfall Model	FSR	Profile Type Summer
Return Period (years)	2	Cv (Summer) 0.750
Region England and Wales		Cv (Winter) 0.840
M5-60 (mm)	18.000	Storm Duration (mins) 30
Ratio R	0.365	
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Online Controls for 2024.12.17 - INTERNAL DRAINAGE NETWORK 2.SWS

Pump Manhole: S1, DS/PN: S1.001, Volume (m³): 2.0

Invert Level (m) 26.475

Depth (m) Flow (l/s)

0.8003.0000

Hydro-Brake® Optimum Manhole: S12, DS/PN: S1.012, Volume (m³): 4.9

Unit Reference MD-SHE-0140-1000-1400-1000

Design Head (m)1.400

Design Flow (l/s)10.0

Flush-Flo™Calculated

ObjectiveMinimise upstream storage

ApplicationSurface

Sump AvailableYes

Diameter (mm)140

Invert Level (m)26.422

Minimum Outlet Pipe Diameter (mm)225

Suggested Manhole Diameter (mm)1200

Control PointsHead (m) Flow (l/s)

Design Point (Calculated)1.40010.0

Flush-Flo™0.41010.0

Kick-Flo®0.8798.0

Mean Flow over Head Range-8.7

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	5.0	1.200	9.3	3.000	14.3	7.000	21.5
0.200	9.2	1.400	10.0	3.500	15.4	7.500	22.2
0.300	9.8	1.600	10.6	4.000	16.5	8.000	22.9
0.400	10.0	1.800	11.3	4.500	17.4	8.500	23.6
0.500	9.9	2.000	11.8	5.000	18.3	9.000	24.3
0.600	9.8	2.200	12.4	5.500	19.2	9.500	24.9
0.800	8.9	2.400	12.9	6.000	20.0		
1.000	8.5	2.600	13.4	6.500	20.8		

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Storage Structures for 2024.12.17 - INTERNAL DRAINAGE NETWORK 2.SWS

Cellular Storage Manhole: S11, DS/PN: S1.011

Invert Level (m)26.610Safety Factor2.0

Infiltration Coefficient Base (m/hr)0.00000Porosity0.95

Infiltration Coefficient Side (m/hr)0.00000

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	250.0	250.0	1.201	0.0	334.0
1.200	250.0	334.0			

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<u>1 year Return Period Summary of Critical Results by Maximum Level (Rank 1)</u> <u>for 2024.12.17 - INTERNAL DRAINAGE NETWORK 2.SWS</u>								
Simulation Criteria								
Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000								
Hot Start (mins) 0 MADD Factor * 10m³/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 Storage Structures 1								
Number of Online Controls 2 Number of Time/Area Diagrams 0								
Number of Offline Controls 0 Number of Real Time Controls 0								
Synthetic Rainfall Details								
Rainfall Model FSR Ratio R 0.366								
Region England and Wales Cv (Summer) 0.750								
M5-60 (mm) 18.000 Cv (Winter) 0.840								
Margin for Flood Risk Warning (mm) 300.0								
Analysis Timestep 2.5 Second Increment (Extended)								
DTS Status ON								
DVD Status ON								
Inertia Status OFF								
Profile(s) Summer and Winter								
Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440								
Return Period(s) (years) 1, 30, 100								
Climate Change (%) 0, 0, 0								
Water								
US/MH	Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Level	
PN Name Storm Period Change Surcharge Flood Overflow Act. (m)								
S1.000	S0 15 Summer	1	+0%					27.196
S1.001	S1 30 Winter	1	+0%	1/15 Summer				26.737
S1.002	S2 30 Winter	1	+0%	100/15 Summer				27.304
S1.003	S3 15 Winter	1	+0%	100/15 Summer				27.290
S1.004	S4 15 Winter	1	+0%	100/15 Summer				27.235
S1.005	S5 15 Winter	1	+0%	30/15 Winter				27.208
S1.006	S6 15 Winter	1	+0%	30/15 Summer				27.046
S1.007	S7 15 Winter	1	+0%	30/15 Summer				26.987
S2.000	S15 15 Winter	1	+0%	30/15 Winter				27.031
S1.008	S8 15 Winter	1	+0%	30/15 Summer				26.862
S3.000	S16 15 Winter	1	+0%	30/15 Summer				26.912
S4.000	S18 15 Winter	1	+0%	30/15 Summer				26.878
S4.001	S19 15 Winter	1	+0%	30/15 Summer				26.866
S3.001	S17 15 Winter	1	+0%	30/15 Summer				26.857
S1.009	S9 15 Winter	1	+0%	30/15 Summer				26.848
S1.010	S10 15 Winter	1	+0%	30/15 Summer				26.824
S5.000	S20 15 Winter	1	+0%					27.696
S5.001	S21 15 Winter	1	+0%	100/15 Summer				27.297
S5.002	S22 15 Winter	1	+0%	30/15 Summer				26.972
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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for 2024.12.17 - INTERNAL DRAINAGE NETWORK 2.SWS

PN	US/MH Name	Depth (m)	Surcharged Volume (m³)	Flooded Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S1.000	S0	-0.100	0.000	0.00			0.0	OK	
S1.001	S1	0.037	0.000	0.09			1.0	SURCHARGED	
S1.002	S2	-0.196	0.000	0.03			1.0	OK	
S1.003	S3	-0.166	0.000	0.15			4.6	OK	
S1.004	S4	-0.148	0.000	0.25			7.0	OK	
S1.005	S5	-0.137	0.000	0.32			10.3	OK	
S1.006	S6	-0.147	0.000	0.26			10.3	OK	
S1.007	S7	-0.128	0.000	0.38			12.2	OK	
S2.000	S15	-0.169	0.000	0.14			5.6	OK	
S1.008	S8	-0.143	0.000	0.28			16.8	OK	
S3.000	S16	-0.203	0.000	0.22			14.7	OK	
S4.000	S18	-0.222	0.000	0.10			5.8	OK	
S4.001	S19	-0.186	0.000	0.13			7.8	OK	
S3.001	S17	-0.120	0.000	0.39			19.7	OK	
S1.009	S9	-0.101	0.000	0.77			38.2	OK	
S1.010	S10	-0.101	0.000	0.77			38.3	OK	
S5.000	S20	-0.169	0.000	0.14			9.2	OK	
S5.001	S21	-0.146	0.000	0.27			14.4	OK	
S5.002	S22	-0.105	0.000	0.55			15.7	OK	

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for 2024.12.17 - INTERNAL DRAINAGE NETWORK 2.SWS

	US/MH		Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Water
PN	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.	Level (m)
S6.000	S24	15 Winter	1	+0%					27.949
S6.001	S25	15 Winter	1	+0%					27.812
S6.002	S26	15 Winter	1	+0%					27.606
S6.003	S27	15 Winter	1	+0%					27.364
S6.004	S28	15 Winter	1	+0%	100/15 Winter				27.142
S5.003	S23	15 Winter	1	+0%	30/15 Summer				26.923
S1.011	S11	60 Winter	1	+0%	30/30 Summer				26.762
S1.012	S12	60 Winter	1	+0%	1/15 Summer				26.776
S1.013	SC13	60 Winter	1	+0%					26.297

	US/MH	Depth	Volume	Flow /	Half Drain	Pipe		Level
PN	Name	(m)	(m³)	Cap. (l/s)	Time (mins)	Flow (l/s)	Status	Exceeded
S6.000	S24	-0.201	0.000	0.02		1.3	OK	
S6.001	S25	-0.186	0.000	0.07		3.3	OK	
S6.002	S26	-0.170	0.000	0.14		6.5	OK	
S6.003	S27	-0.170	0.000	0.14		6.5	OK	
S6.004	S28	-0.164	0.000	0.16		7.9	OK	
S5.003	S23	-0.112	0.000	0.50		23.3	OK	
S1.011	S11	-0.148	0.000	0.10	44	11.2	OK	
S1.012	S12	0.129	0.000	0.16		9.9	SURCHARGED	
S1.013	SC13	-0.167	0.000	0.15		9.9	OK	

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for 2024.12.17 - INTERNAL DRAINAGE NETWORK 2.SWS

Simulation Criteria

Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000
Hot Start (mins) 0 MADD Factor * 10m³/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 Storage Structures 1
Number of Online Controls 2 Number of Time/Area Diagrams 0
Number of Offline Controls 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.366
Region England and Wales Cv (Summer) 0.750
M5-60 (mm) 18.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0
Analysis Timestep 2.5 Second Increment (Extended)
DTS Status ON
DVD Status ON
Inertia Status OFF

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years) 1, 30, 100
Climate Change (%) 0, 0, 0

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
S1.000	S0	15 Summer	30	+0%					27.196
S1.001	S1	30 Winter	30	+0%	1/15 Summer				27.109
S1.002	S2	15 Winter	30	+0%	100/15 Summer				27.401
S1.003	S3	15 Winter	30	+0%	100/15 Summer				27.398
S1.004	S4	15 Winter	30	+0%	100/15 Summer				27.383
S1.005	S5	15 Winter	30	+0%	30/15 Winter				27.362
S1.006	S6	15 Winter	30	+0%	30/15 Summer				27.315
S1.007	S7	15 Winter	30	+0%	30/15 Summer				27.266
S2.000	S15	15 Winter	30	+0%	30/15 Winter				27.227
S1.008	S8	15 Winter	30	+0%	30/15 Summer				27.200
S3.000	S16	15 Winter	30	+0%	30/15 Summer				27.271
S4.000	S18	15 Winter	30	+0%	30/15 Summer				27.206
S4.001	S19	15 Winter	30	+0%	30/15 Summer				27.198
S3.001	S17	15 Winter	30	+0%	30/15 Summer				27.181
S1.009	S9	15 Winter	30	+0%	30/15 Summer				27.114
S1.010	S10	120 Winter	30	+0%	30/15 Summer				27.068
S5.000	S20	15 Winter	30	+0%					27.730
S5.001	S21	15 Winter	30	+0%	100/15 Summer				27.366
S5.002	S22	15 Winter	30	+0%	30/15 Summer				27.198

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Micro Drainage

30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for 2024.12.17 - INTERNAL DRAINAGE NETWORK 2.SWS

PN	US/MH Name	Depth (m)	Surcharged Volume (m³)	Flooded Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
S1.000	S0	-0.100	0.000	0.00			0.0	OK	
S1.001	S1	0.409	0.000	0.23			2.4	SURCHARGED	
S1.002	S2	-0.099	0.000	0.11			3.1	OK	
S1.003	S3	-0.058	0.000	0.44			13.4	OK	
S1.004	S4	0.000	0.000	0.71			19.9	OK	
S1.005	S5	0.017	0.000	0.87			28.3	SURCHARGED	
S1.006	S6	0.122	0.000	0.55			21.5	SURCHARGED	
S1.007	S7	0.151	0.000	0.78			24.9	SURCHARGED	
S2.000	S15	0.027	0.000	0.31			12.7	SURCHARGED	
S1.008	S8	0.195	0.000	0.56			33.5	SURCHARGED	
S3.000	S16	0.156	0.000	0.47			31.3	SURCHARGED	
S4.000	S18	0.106	0.000	0.20			11.7	SURCHARGED	
S4.001	S19	0.146	0.000	0.28			17.2	SURCHARGED	
S3.001	S17	0.204	0.000	0.94			47.8	SURCHARGED	
S1.009	S9	0.164	0.000	1.65			82.0	SURCHARGED	
S1.010	S10	0.143	0.000	0.70			34.9	SURCHARGED	
S5.000	S20	-0.135	0.000	0.34			22.5	OK	
S5.001	S21	-0.077	0.000	0.71			38.3	OK	
S5.002	S22	0.121	0.000	1.39			39.5	SURCHARGED	

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for 2024.12.17 - INTERNAL DRAINAGE NETWORK 2.SWS

									Water
PN	US/MH	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Level (m)
S6.000	S24	15 Winter	30	+0%					27.961
S6.001	S25	15 Winter	30	+0%					27.840
S6.002	S26	15 Winter	30	+0%					27.650
S6.003	S27	15 Winter	30	+0%					27.408
S6.004	S28	15 Winter	30	+0%	100/15 Winter				27.192
S5.003	S23	15 Winter	30	+0%	30/15 Summer				27.119
S1.011	S11	120 Winter	30	+0%	30/30 Summer				27.066
S1.012	S12	120 Winter	30	+0%	1/15 Summer				27.076
S1.013	SC13	120 Summer	30	+0%					26.297

		Surcharged	Flooded			Half Drain	Pipe		
PN	US/MH	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	Status	Level Exceeded
S6.000	S24	-0.189	0.000	0.06			3.3	OK	
S6.001	S25	-0.158	0.000	0.19			9.2	OK	
S6.002	S26	-0.125	0.000	0.40			19.2	OK	
S6.003	S27	-0.125	0.000	0.40			18.9	OK	
S6.004	S28	-0.113	0.000	0.48			23.4	OK	
S5.003	S23	0.084	0.000	1.31			61.6	SURCHARGED	
S1.011	S11	0.156	0.000	0.11		118	12.3	SURCHARGED	
S1.012	S12	0.429	0.000	0.17			10.0	SURCHARGED	
S1.013	SC13	-0.167	0.000	0.15			10.0	OK	

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Micro Drainage

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for 2024.12.17 - INTERNAL DRAINAGE NETWORK 2.SWS

Simulation Criteria

Areal Reduction Factor 1.000

Additional Flow - % of Total Flow 0.000

Hot Start (mins) 0

MADD Factor * 10m³/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 Storage Structures 1

Number of Online Controls 2

Number of Time/Area Diagrams 0

Number of Offline Controls 0

Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR

Ratio R 0.366

Region England and Wales Cv (Summer) 0.750

M5-60 (mm) 18.000 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0

Analysis Timestep 2.5 Second Increment (Extended)

DTS Status ON

DVD Status ON

Inertia Status OFF

Profile(s) Summer and Winter

Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440

Return Period(s) (years) 1, 30, 100

Climate Change (%) 0, 0, 0

WARNING: Half Drain Time has not been calculated as the structure is too full.

	US/MH		Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Water
PN	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.	Level (m)
S1.000	S0	30 Winter	100	+0%					27.258
S1.001	S1	30 Winter	100	+0%	1/15 Summer				27.286
S1.002	S2	15 Winter	100	+0%	100/15 Summer				27.650
S1.003	S3	15 Winter	100	+0%	100/15 Summer				27.647
S1.004	S4	15 Winter	100	+0%	100/15 Summer				27.625
S1.005	S5	15 Winter	100	+0%	30/15 Winter				27.605
S1.006	S6	15 Winter	100	+0%	30/15 Summer				27.518
S1.007	S7	15 Winter	100	+0%	30/15 Summer				27.441
S2.000	S15	15 Winter	100	+0%	30/15 Winter				27.387
S1.008	S8	15 Winter	100	+0%	30/15 Summer				27.351
S3.000	S16	15 Winter	100	+0%	30/15 Summer				27.427
S4.000	S18	15 Winter	100	+0%	30/15 Summer				27.412
S4.001	S19	15 Winter	100	+0%	30/15 Summer				27.400
S3.001	S17	15 Winter	100	+0%	30/15 Summer				27.335
S1.009	S9	120 Winter	100	+0%	30/15 Summer				27.288
S1.010	S10	120 Winter	100	+0%	30/15 Summer				27.267

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SCP

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Date 01/01/0001
File 2024.12.18 - Internal D...

XP Solutions

Designed by lauren.campton
Checked by

Network 2020.1.3

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for 2024.12.17 - INTERNAL DRAINAGE NETWORK 2.SWS

									Water
PN	US/MH	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Level (m)
S5.000	S20	15 Winter	100	+0%					27.744
S5.001	S21	15 Winter	100	+0%	100/15 Summer				27.592
S5.002	S22	15 Winter	100	+0%	30/15 Summer				27.341
S6.000	S24	15 Winter	100	+0%					27.966
S6.001	S25	15 Winter	100	+0%					27.849
S6.002	S26	15 Winter	100	+0%					27.666
S6.003	S27	15 Winter	100	+0%					27.424
S6.004	S28	15 Winter	100	+0%	100/15 Winter				27.310
S5.003	S23	120 Winter	100	+0%	30/15 Summer				27.270
S1.011	S11	120 Winter	100	+0%	30/30 Summer				27.266
S1.012	S12	120 Winter	100	+0%	1/15 Summer				27.277
S1.013	SC13	360 Summer	100	+0%					26.297

		Surcharged	Flooded		Half Drain	Pipe			Level
PN	US/MH	Depth	Volume	Flow / Overflow	Time	Flow		Status	Exceeded
	Name	(m)	(m³)	Cap. (l/s)	(mins)	(l/s)			
S5.000	S20	-0.121	0.000	0.44		29.1		OK	
S5.001	S21	0.149	0.000	0.84		45.6	SURCHARGED		
S5.002	S22	0.264	0.000	1.68		47.9	SURCHARGED		
S6.000	S24	-0.184	0.000	0.08		4.2		OK	
S6.001	S25	-0.148	0.000	0.25		11.9		OK	
S6.002	S26	-0.109	0.000	0.52		24.7		OK	
S6.003	S27	-0.109	0.000	0.51		24.5		OK	
S6.004	S28	0.004	0.000	0.57		27.5	SURCHARGED		
S5.003	S23	0.235	0.000	0.58		27.2	SURCHARGED		
S1.011	S11	0.356	0.000	0.11		11.6	SURCHARGED		
S1.012	S12	0.630	0.000	0.17		10.0	SURCHARGED		
S1.013	SC13	-0.167	0.000	0.15		10.0		OK	

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