STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for SW Net01

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	2	PIMP (%)	100
M5-60 (mm)	18.000	Add Flow / Climate Change (%)	0
Ratio R	0.357	Minimum Backdrop Height (m)	0.000
Maximum Rainfall (mm/hr)	150	Maximum Backdrop Height (m)	0.000
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

Time Area Diagram for SW Net01

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.601	4-8	0.263	8-12	0.012

Total Area Contributing (ha) = 0.876

Total Pipe Volume (m^3) = 16.715

Network Design Table for SW Net01

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
S1.000	9.382	0.156	60.0	0.025	4.00	0.0	0.600	o	300	Pipe/Conduit	
S2.000	22.688	1.260	18.0	0.036	4.00	0.0	0.600	o	150	Pipe/Conduit	
S2.001	10.578	0.136	77.8	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
S1.001	26.540	0.152	174.6	0.060	0.00	0.0	0.600	o	300	Pipe/Conduit	
S1.002	12.982	0.074	175.4	0.000	0.00	0.0	0.600	o	300	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)
S1.000	64.54	4.08	28.870	0.025	0.0	0.0	0.0	2.03	143.7	4.4
S2.000	64.07	4.16	30.260	0.036	0.0	0.0	0.0	2.39	42.1	6.2
S2.001	63.20	4.31	29.000	0.036	0.0	0.0	0.0	1.14	20.2	6.2
S1.001	61.20	4.69	28.714	0.121	0.0	0.0	0.0	1.19	83.9	20.1
S1.002	60.28	4.87	28.562	0.121	0.0	0.0	0.0	1.18	83.7	20.1

©1982-2020 Innovyze

Network Design Table for SW Net01

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
S3.000	8.099	0.262	30.9	0.041	4.00	0.0	0.600	o	150	Pipe/Conduit	
S1.003	5.447	0.588	9.3	0.021	0.00	0.0	0.600	o	300	Pipe/Conduit	
S4.000	4.697	0.100	47.0	0.000	4.00	0.0	0.600	o	300	Pipe/Conduit	
S1.004	2.987	0.075	39.8	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S5.000	3.726	1.555	2.4	0.041	4.00	0.0	0.600	o	150	Pipe/Conduit	
S1.005	12.261	0.307	40.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S6.000	6.372	0.310	20.6	0.019	8.00	0.0	0.600	o	150	Pipe/Conduit	
S6.001	10.869	0.109	99.7	0.010	0.00	0.0	0.600	o	150	Pipe/Conduit	
S7.000	2.821	0.669	4.2	0.091	8.00	0.0	0.600	o	100	Pipe/Conduit	
S6.002	14.212	1.531	9.3	0.015	0.00	0.0	0.600	o	150	Pipe/Conduit	
S8.000	22.253	0.223	100.0	0.040	4.00	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)
S3.000	64.56	4.07	28.900	0.041	0.0	0.0	0.0	1.82	32.1	7.2
S1.003	60.19	4.89	28.488	0.183	0.0	0.0	0.0	5.20	367.2	29.8
S4.000	64.79	4.03	28.000	0.000	0.0	0.0	0.0	2.30	162.6	0.0
S1.004	60.09	4.91	27.900	0.183	0.0	0.0	0.0	2.50	176.6	29.8
S5.000	64.94	4.01	29.530	0.041	0.0	0.0	0.0	6.56	115.9	7.2
S1.005	59.69	4.99	27.825	0.224	0.0	0.0	0.0	2.49	176.2	36.2
S6.000	48.19	8.05	31.000	0.019	0.0	0.0	0.0	2.23	39.4	2.5
S6.001	47.67	8.23	30.690	0.029	0.0	0.0	0.0	1.01	17.8	3.7
S7.000	48.29	8.01	31.250	0.091	0.0	0.0	0.0	3.79	29.8	11.9
S6.002	47.47	8.30	30.531	0.135	0.0	0.0	0.0	3.33	58.8	17.4
S8.000	62.89	4.37	29.100	0.040	0.0	0.0	0.0	1.00	17.8	6.8

©1982-2020 Innovyze

Network Design Table for SW Net01

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
S1.006	6.554	0.066	100.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S9.000	14.236	0.481	29.6	0.030	4.00	0.0	0.600	o	150	Pipe/Conduit	
S9.001	22.906	0.573	40.0	0.054	0.00	0.0	0.600	o	225	Pipe/Conduit	
S10.000	13.808	0.668	20.7	0.057	4.00	0.0	0.600	o	150	Pipe/Conduit	
S11.000	14.771	0.148	99.8	0.030	4.00	0.0	0.600	o	150	Pipe/Conduit	
S9.002	16.375	0.382	42.9	0.054	0.00	0.0	0.600	o	225	Pipe/Conduit	
S12.000	13.427	0.820	16.4	0.040	4.00	0.0	0.600	o	150	Pipe/Conduit	
S9.003	4.260	0.028	150.0	0.010	0.00	0.0	0.600	o	300	Pipe/Conduit	
S9.004	12.574	0.084	150.0	0.010	0.00	0.0	0.600	o	300	Pipe/Conduit	
S13.000	4.370	0.300	14.6	0.046	4.00	0.0	0.600	o	225	Pipe/Conduit	
S13.001	9.580	0.300	31.9	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S13.002	30.635	2.000	15.3	0.050	0.00	0.0	0.600	o	225	Pipe/Conduit	
S14.000	19.664	0.197	100.0	0.030	4.00	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)
S1.006	64.58	4.07	27.518	0.000	12.5	0.0	0.0	1.57	111.1	12.5
S9.000	64.25	4.13	29.536	0.030	0.0	0.0	0.0	1.86	32.8	5.2
S9.001	63.20	4.31	28.980	0.084	0.0	0.0	0.0	2.07	82.5	14.4
S10.000	64.39	4.10	29.150	0.057	0.0	0.0	0.0	2.23	39.3	9.9
S11.000	63.58	4.24	29.650	0.030	0.0	0.0	0.0	1.01	17.8	5.2
S9.002	62.46	4.45	28.407	0.225	0.0	0.0	0.0	2.00	79.7	38.1
S12.000	64.47	4.09	28.920	0.040	0.0	0.0	0.0	2.50	44.2	7.0
S9.003	62.16	4.50	27.950	0.275	0.0	0.0	0.0	1.28	90.6	46.3
S9.004	61.30	4.67	27.922	0.285	0.0	0.0	0.0	1.28	90.6	47.3
S13.000	64.87	4.02	32.500	0.046	0.0	0.0	0.0	3.45	137.0	8.1
S13.001	64.47	4.09	32.200	0.046	0.0	0.0	0.0	2.32	92.4	8.1
S13.002	63.60	4.24	31.900	0.096	0.0	0.0	0.0	3.36	133.6	16.5
S14.000	63.12	4.33	29.120	0.030	0.0	0.0	0.0	1.00	17.8	5.1

©1982-2020 Innovyze

Network Design Table for SW Net01

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
S9.005	4.374	0.310	14.1	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	
S1.007	10.372	0.052	200.0	0.066	0.00	0.0	0.600	o	300	Pipe/Conduit	
S1.008	17.917	0.090	200.0	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit	
S1.009	16.874	0.084	200.0	0.000	0.00	0.0	0.600	o	300	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)
S9.005	64.87	4.02	27.838	0.000	24.0	0.0	0.0	3.50	139.2	24.0
S1.007	63.69	4.23	27.453	0.066	36.5	0.0	0.0	1.11	78.3	47.9
S1.008	63.44	4.27	27.401	0.000	36.5	0.0	0.0	1.11	78.3	36.5
S1.009	62.05	4.52	27.311	0.000	36.5	0.0	0.0	1.11	78.3	36.5

©1982-2020 Innovyze

Area Summary for SW Net01

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	-	-	100	0.025	0.025	0.025
2.000	-	-	100	0.036	0.036	0.036
2.001	-	-	100	0.000	0.000	0.000
1.001	-	-	100	0.060	0.060	0.060
1.002	-	-	100	0.000	0.000	0.000
3.000	-	-	100	0.041	0.041	0.041
1.003	-	-	100	0.021	0.021	0.021
4.000	-	-	100	0.000	0.000	0.000
1.004	-	-	100	0.000	0.000	0.000
5.000	-	-	100	0.041	0.041	0.041
1.005	-	-	100	0.000	0.000	0.000
6.000	-	-	100	0.019	0.019	0.019
6.001	-	-	100	0.010	0.010	0.010
7.000	-	-	100	0.091	0.091	0.091
6.002	-	-	100	0.015	0.015	0.015
8.000	-	-	100	0.040	0.040	0.040
1.006	-	-	100	0.000	0.000	0.000
9.000	-	-	100	0.030	0.030	0.030
9.001	-	-	100	0.054	0.054	0.054
10.000	-	-	100	0.057	0.057	0.057
11.000	-	-	100	0.030	0.030	0.030
9.002	-	-	100	0.054	0.054	0.054
12.000	-	-	100	0.040	0.040	0.040
9.003	-	-	100	0.010	0.010	0.010
9.004	-	-	100	0.010	0.010	0.010
13.000	-	-	100	0.046	0.046	0.046
13.001	-	-	100	0.000	0.000	0.000
13.002	-	-	100	0.050	0.050	0.050
14.000	-	-	100	0.030	0.030	0.030
9.005	-	-	100	0.000	0.000	0.000
1.007	-	-	100	0.066	0.066	0.066
1.008	-	-	100	0.000	0.000	0.000
1.009	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				0.876	0.876	0.876

Surcharged Outfall Details for SW Net01

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
S1.009	S	31.170	27.227	0.000	0	0

Datum (m) 27.000 Offset (mins) 0

©1982-2020 Innovyze

Surcharged Outfall Details for SW Net01

Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)
1	3.450	51	3.450	101	3.450	151	3.450	201	3.450	251	3.450
2	3.450	52	3.450	102	3.450	152	3.450	202	3.450	252	3.450
3	3.450	53	3.450	103	3.450	153	3.450	203	3.450	253	3.450
4	3.450	54	3.450	104	3.450	154	3.450	204	3.450	254	3.450
5	3.450	55	3.450	105	3.450	155	3.450	205	3.450	255	3.450
6	3.450	56	3.450	106	3.450	156	3.450	206	3.450	256	3.450
7	3.450	57	3.450	107	3.450	157	3.450	207	3.450	257	3.450
8	3.450	58	3.450	108	3.450	158	3.450	208	3.450	258	3.450
9	3.450	59	3.450	109	3.450	159	3.450	209	3.450	259	3.450
10	3.450	60	3.450	110	3.450	160	3.450	210	3.450	260	3.450
11	3.450	61	3.450	111	3.450	161	3.450	211	3.450	261	3.450
12	3.450	62	3.450	112	3.450	162	3.450	212	3.450	262	3.450
13	3.450	63	3.450	113	3.450	163	3.450	213	3.450	263	3.450
14	3.450	64	3.450	114	3.450	164	3.450	214	3.450	264	3.450
15	3.450	65	3.450	115	3.450	165	3.450	215	3.450	265	3.450
16	3.450	66	3.450	116	3.450	166	3.450	216	3.450	266	3.450
17	3.450	67	3.450	117	3.450	167	3.450	217	3.450	267	3.450
18	3.450	68	3.450	118	3.450	168	3.450	218	3.450	268	3.450
19	3.450	69	3.450	119	3.450	169	3.450	219	3.450	269	3.450
20	3.450	70	3.450	120	3.450	170	3.450	220	3.450	270	3.450
21	3.450	71	3.450	121	3.450	171	3.450	221	3.450	271	3.450
22	3.450	72	3.450	122	3.450	172	3.450	222	3.450	272	3.450
23	3.450	73	3.450	123	3.450	173	3.450	223	3.450	273	3.450
24	3.450	74	3.450	124	3.450	174	3.450	224	3.450	274	3.450
25	3.450	75	3.450	125	3.450	175	3.450	225	3.450	275	3.450
26	3.450	76	3.450	126	3.450	176	3.450	226	3.450	276	3.450
27	3.450	77	3.450	127	3.450	177	3.450	227	3.450	277	3.450
28	3.450	78	3.450	128	3.450	178	3.450	228	3.450	278	3.450
29	3.450	79	3.450	129	3.450	179	3.450	229	3.450	279	3.450
30	3.450	80	3.450	130	3.450	180	3.450	230	3.450	280	3.450
31	3.450	81	3.450	131	3.450	181	3.450	231	3.450	281	3.450
32	3.450	82	3.450	132	3.450	182	3.450	232	3.450	282	3.450
33	3.450	83	3.450	133	3.450	183	3.450	233	3.450	283	3.450
34	3.450	84	3.450	134	3.450	184	3.450	234	3.450	284	3.450
35	3.450	85	3.450	135	3.450	185	3.450	235	3.450	285	3.450
36	3.450	86	3.450	136	3.450	186	3.450	236	3.450	286	3.450
37	3.450	87	3.450	137	3.450	187	3.450	237	3.450	287	3.450
38	3.450	88	3.450	138	3.450	188	3.450	238	3.450	288	3.450
39	3.450	89	3.450	139	3.450	189	3.450	239	3.450	289	3.450
40	3.450	90	3.450	140	3.450	190	3.450	240	3.450	290	3.450
41	3.450	91	3.450	141	3.450	191	3.450	241	3.450	291	3.450
42	3.450	92	3.450	142	3.450	192	3.450	242	3.450	292	3.450
43	3.450	93	3.450	143	3.450	193	3.450	243	3.450	293	3.450
44	3.450	94	3.450	144	3.450	194	3.450	244	3.450	294	3.450
45	3.450	95	3.450	145	3.450	195	3.450	245	3.450	295	3.450
46	3.450	96	3.450	146	3.450	196	3.450	246	3.450	296	3.450
47	3.450	97	3.450	147	3.450	197	3.450	247	3.450	297	3.450
48	3.450	98	3.450	148	3.450	198	3.450	248	3.450	298	3.450
49	3.450	99	3.450	149	3.450	199	3.450	249	3.450	299	3.450
50	3.450	100	3.450	150	3.450	200	3.450	250	3.450	300	3.450

©1982-2020 Innovyze

Surcharged Outfall Details for SW Net01

Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)
301	3.450	351	3.450	401	3.450	451	3.450	501	3.450	551	3.450
302	3.450	352	3.450	402	3.450	452	3.450	502	3.450	552	3.450
303	3.450	353	3.450	403	3.450	453	3.450	503	3.450	553	3.450
304	3.450	354	3.450	404	3.450	454	3.450	504	3.450	554	3.450
305	3.450	355	3.450	405	3.450	455	3.450	505	3.450	555	3.450
306	3.450	356	3.450	406	3.450	456	3.450	506	3.450	556	3.450
307	3.450	357	3.450	407	3.450	457	3.450	507	3.450	557	3.450
308	3.450	358	3.450	408	3.450	458	3.450	508	3.450	558	3.450
309	3.450	359	3.450	409	3.450	459	3.450	509	3.450	559	3.450
310	3.450	360	3.450	410	3.450	460	3.450	510	3.450	560	3.450
311	3.450	361	3.450	411	3.450	461	3.450	511	3.450	561	3.450
312	3.450	362	3.450	412	3.450	462	3.450	512	3.450	562	3.450
313	3.450	363	3.450	413	3.450	463	3.450	513	3.450	563	3.450
314	3.450	364	3.450	414	3.450	464	3.450	514	3.450	564	3.450
315	3.450	365	3.450	415	3.450	465	3.450	515	3.450	565	3.450
316	3.450	366	3.450	416	3.450	466	3.450	516	3.450	566	3.450
317	3.450	367	3.450	417	3.450	467	3.450	517	3.450	567	3.450
318	3.450	368	3.450	418	3.450	468	3.450	518	3.450	568	3.450
319	3.450	369	3.450	419	3.450	469	3.450	519	3.450	569	3.450
320	3.450	370	3.450	420	3.450	470	3.450	520	3.450	570	3.450
321	3.450	371	3.450	421	3.450	471	3.450	521	3.450	571	3.450
322	3.450	372	3.450	422	3.450	472	3.450	522	3.450	572	3.450
323	3.450	373	3.450	423	3.450	473	3.450	523	3.450	573	3.450
324	3.450	374	3.450	424	3.450	474	3.450	524	3.450	574	3.450
325	3.450	375	3.450	425	3.450	475	3.450	525	3.450	575	3.450
326	3.450	376	3.450	426	3.450	476	3.450	526	3.450	576	3.450
327	3.450	377	3.450	427	3.450	477	3.450	527	3.450	577	3.450
328	3.450	378	3.450	428	3.450	478	3.450	528	3.450	578	3.450
329	3.450	379	3.450	429	3.450	479	3.450	529	3.450	579	3.450
330	3.450	380	3.450	430	3.450	480	3.450	530	3.450	580	3.450
331	3.450	381	3.450	431	3.450	481	3.450	531	3.450	581	3.450
332	3.450	382	3.450	432	3.450	482	3.450	532	3.450	582	3.450
333	3.450	383	3.450	433	3.450	483	3.450	533	3.450	583	3.450
334	3.450	384	3.450	434	3.450	484	3.450	534	3.450	584	3.450
335	3.450	385	3.450	435	3.450	485	3.450	535	3.450	585	3.450
336	3.450	386	3.450	436	3.450	486	3.450	536	3.450	586	3.450
337	3.450	387	3.450	437	3.450	487	3.450	537	3.450	587	3.450
338	3.450	388	3.450	438	3.450	488	3.450	538	3.450	588	3.450
339	3.450	389	3.450	439	3.450	489	3.450	539	3.450	589	3.450
340	3.450	390	3.450	440	3.450	490	3.450	540	3.450	590	3.450
341	3.450	391	3.450	441	3.450	491	3.450	541	3.450	591	3.450
342	3.450	392	3.450	442	3.450	492	3.450	542	3.450	592	3.450
343	3.450	393	3.450	443	3.450	493	3.450	543	3.450	593	3.450
344	3.450	394	3.450	444	3.450	494	3.450	544	3.450	594	3.450
345	3.450	395	3.450	445	3.450	495	3.450	545	3.450	595	3.450
346	3.450	396	3.450	446	3.450	496	3.450	546	3.450	596	3.450
347	3.450	397	3.450	447	3.450	497	3.450	547	3.450	597	3.450
348	3.450	398	3.450	448	3.450	498	3.450	548	3.450	598	3.450
349	3.450	399	3.450	449	3.450	499	3.450	549	3.450	599	3.450
350	3.450	400	3.450	450	3.450	500	3.450	550	3.450	600	3.450

©1982-2020 Innovyze

Surcharged Outfall Details for SW Net01

Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)
601	3.450	651	3.450	701	3.450	751	3.450	801	3.450	851	3.450
602	3.450	652	3.450	702	3.450	752	3.450	802	3.450	852	3.450
603	3.450	653	3.450	703	3.450	753	3.450	803	3.450	853	3.450
604	3.450	654	3.450	704	3.450	754	3.450	804	3.450	854	3.450
605	3.450	655	3.450	705	3.450	755	3.450	805	3.450	855	3.450
606	3.450	656	3.450	706	3.450	756	3.450	806	3.450	856	3.450
607	3.450	657	3.450	707	3.450	757	3.450	807	3.450	857	3.450
608	3.450	658	3.450	708	3.450	758	3.450	808	3.450	858	3.450
609	3.450	659	3.450	709	3.450	759	3.450	809	3.450	859	3.450
610	3.450	660	3.450	710	3.450	760	3.450	810	3.450	860	3.450
611	3.450	661	3.450	711	3.450	761	3.450	811	3.450	861	3.450
612	3.450	662	3.450	712	3.450	762	3.450	812	3.450	862	3.450
613	3.450	663	3.450	713	3.450	763	3.450	813	3.450	863	3.450
614	3.450	664	3.450	714	3.450	764	3.450	814	3.450	864	3.450
615	3.450	665	3.450	715	3.450	765	3.450	815	3.450	865	3.450
616	3.450	666	3.450	716	3.450	766	3.450	816	3.450	866	3.450
617	3.450	667	3.450	717	3.450	767	3.450	817	3.450	867	3.450
618	3.450	668	3.450	718	3.450	768	3.450	818	3.450	868	3.450
619	3.450	669	3.450	719	3.450	769	3.450	819	3.450	869	3.450
620	3.450	670	3.450	720	3.450	770	3.450	820	3.450	870	3.450
621	3.450	671	3.450	721	3.450	771	3.450	821	3.450	871	3.450
622	3.450	672	3.450	722	3.450	772	3.450	822	3.450	872	3.450
623	3.450	673	3.450	723	3.450	773	3.450	823	3.450	873	3.450
624	3.450	674	3.450	724	3.450	774	3.450	824	3.450	874	3.450
625	3.450	675	3.450	725	3.450	775	3.450	825	3.450	875	3.450
626	3.450	676	3.450	726	3.450	776	3.450	826	3.450	876	3.450
627	3.450	677	3.450	727	3.450	777	3.450	827	3.450	877	3.450
628	3.450	678	3.450	728	3.450	778	3.450	828	3.450	878	3.450
629	3.450	679	3.450	729	3.450	779	3.450	829	3.450	879	3.450
630	3.450	680	3.450	730	3.450	780	3.450	830	3.450	880	3.450
631	3.450	681	3.450	731	3.450	781	3.450	831	3.450	881	3.450
632	3.450	682	3.450	732	3.450	782	3.450	832	3.450	882	3.450
633	3.450	683	3.450	733	3.450	783	3.450	833	3.450	883	3.450
634	3.450	684	3.450	734	3.450	784	3.450	834	3.450	884	3.450
635	3.450	685	3.450	735	3.450	785	3.450	835	3.450	885	3.450
636	3.450	686	3.450	736	3.450	786	3.450	836	3.450	886	3.450
637	3.450	687	3.450	737	3.450	787	3.450	837	3.450	887	3.450
638	3.450	688	3.450	738	3.450	788	3.450	838	3.450	888	3.450
639	3.450	689	3.450	739	3.450	789	3.450	839	3.450	889	3.450
640	3.450	690	3.450	740	3.450	790	3.450	840	3.450	890	3.450
641	3.450	691	3.450	741	3.450	791	3.450	841	3.450	891	3.450
642	3.450	692	3.450	742	3.450	792	3.450	842	3.450	892	3.450
643	3.450	693	3.450	743	3.450	793	3.450	843	3.450	893	3.450
644	3.450	694	3.450	744	3.450	794	3.450	844	3.450	894	3.450
645	3.450	695	3.450	745	3.450	795	3.450	845	3.450	895	3.450
646	3.450	696	3.450	746	3.450	796	3.450	846	3.450	896	3.450
647	3.450	697	3.450	747	3.450	797	3.450	847	3.450	897	3.450
648	3.450	698	3.450	748	3.450	798	3.450	848	3.450	898	3.450
649	3.450	699	3.450	749	3.450	799	3.450	849	3.450	899	3.450
650	3.450	700	3.450	750	3.450	800	3.450	850	3.450	900	3.450

©1982-2020 Innovyze

Surcharged Outfall Details for SW Net01

Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)
901	3.450	951	3.450	1001	3.450	1051	3.450	1101	3.450	1151	3.450
902	3.450	952	3.450	1002	3.450	1052	3.450	1102	3.450	1152	3.450
903	3.450	953	3.450	1003	3.450	1053	3.450	1103	3.450	1153	3.450
904	3.450	954	3.450	1004	3.450	1054	3.450	1104	3.450	1154	3.450
905	3.450	955	3.450	1005	3.450	1055	3.450	1105	3.450	1155	3.450
906	3.450	956	3.450	1006	3.450	1056	3.450	1106	3.450	1156	3.450
907	3.450	957	3.450	1007	3.450	1057	3.450	1107	3.450	1157	3.450
908	3.450	958	3.450	1008	3.450	1058	3.450	1108	3.450	1158	3.450
909	3.450	959	3.450	1009	3.450	1059	3.450	1109	3.450	1159	3.450
910	3.450	960	3.450	1010	3.450	1060	3.450	1110	3.450	1160	3.450
911	3.450	961	3.450	1011	3.450	1061	3.450	1111	3.450	1161	3.450
912	3.450	962	3.450	1012	3.450	1062	3.450	1112	3.450	1162	3.450
913	3.450	963	3.450	1013	3.450	1063	3.450	1113	3.450	1163	3.450
914	3.450	964	3.450	1014	3.450	1064	3.450	1114	3.450	1164	3.450
915	3.450	965	3.450	1015	3.450	1065	3.450	1115	3.450	1165	3.450
916	3.450	966	3.450	1016	3.450	1066	3.450	1116	3.450	1166	3.450
917	3.450	967	3.450	1017	3.450	1067	3.450	1117	3.450	1167	3.450
918	3.450	968	3.450	1018	3.450	1068	3.450	1118	3.450	1168	3.450
919	3.450	969	3.450	1019	3.450	1069	3.450	1119	3.450	1169	3.450
920	3.450	970	3.450	1020	3.450	1070	3.450	1120	3.450	1170	3.450
921	3.450	971	3.450	1021	3.450	1071	3.450	1121	3.450	1171	3.450
922	3.450	972	3.450	1022	3.450	1072	3.450	1122	3.450	1172	3.450
923	3.450	973	3.450	1023	3.450	1073	3.450	1123	3.450	1173	3.450
924	3.450	974	3.450	1024	3.450	1074	3.450	1124	3.450	1174	3.450
925	3.450	975	3.450	1025	3.450	1075	3.450	1125	3.450	1175	3.450
926	3.450	976	3.450	1026	3.450	1076	3.450	1126	3.450	1176	3.450
927	3.450	977	3.450	1027	3.450	1077	3.450	1127	3.450	1177	3.450
928	3.450	978	3.450	1028	3.450	1078	3.450	1128	3.450	1178	3.450
929	3.450	979	3.450	1029	3.450	1079	3.450	1129	3.450	1179	3.450
930	3.450	980	3.450	1030	3.450	1080	3.450	1130	3.450	1180	3.450
931	3.450	981	3.450	1031	3.450	1081	3.450	1131	3.450	1181	3.450
932	3.450	982	3.450	1032	3.450	1082	3.450	1132	3.450	1182	3.450
933	3.450	983	3.450	1033	3.450	1083	3.450	1133	3.450	1183	3.450
934	3.450	984	3.450	1034	3.450	1084	3.450	1134	3.450	1184	3.450
935	3.450	985	3.450	1035	3.450	1085	3.450	1135	3.450	1185	3.450
936	3.450	986	3.450	1036	3.450	1086	3.450	1136	3.450	1186	3.450
937	3.450	987	3.450	1037	3.450	1087	3.450	1137	3.450	1187	3.450
938	3.450	988	3.450	1038	3.450	1088	3.450	1138	3.450	1188	3.450
939	3.450	989	3.450	1039	3.450	1089	3.450	1139	3.450	1189	3.450
940	3.450	990	3.450	1040	3.450	1090	3.450	1140	3.450	1190	3.450
941	3.450	991	3.450	1041	3.450	1091	3.450	1141	3.450	1191	3.450
942	3.450	992	3.450	1042	3.450	1092	3.450	1142	3.450	1192	3.450
943	3.450	993	3.450	1043	3.450	1093	3.450	1143	3.450	1193	3.450
944	3.450	994	3.450	1044	3.450	1094	3.450	1144	3.450	1194	3.450
945	3.450	995	3.450	1045	3.450	1095	3.450	1145	3.450	1195	3.450
946	3.450	996	3.450	1046	3.450	1096	3.450	1146	3.450	1196	3.450
947	3.450	997	3.450	1047	3.450	1097	3.450	1147	3.450	1197	3.450
948	3.450	998	3.450	1048	3.450	1098	3.450	1148	3.450	1198	3.450
949	3.450	999	3.450	1049	3.450	1099	3.450	1149	3.450	1199	3.450
950	3.450	1000	3.450	1050	3.450	1100	3.450	1150	3.450	1200	3.450

©1982-2020 Innovyze

Surcharged Outfall Details for SW Net01

Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)
1201	3.450	1241	3.450	1281	3.450	1321	3.450	1361	3.450	1401	3.450
1202	3.450	1242	3.450	1282	3.450	1322	3.450	1362	3.450	1402	3.450
1203	3.450	1243	3.450	1283	3.450	1323	3.450	1363	3.450	1403	3.450
1204	3.450	1244	3.450	1284	3.450	1324	3.450	1364	3.450	1404	3.450
1205	3.450	1245	3.450	1285	3.450	1325	3.450	1365	3.450	1405	3.450
1206	3.450	1246	3.450	1286	3.450	1326	3.450	1366	3.450	1406	3.450
1207	3.450	1247	3.450	1287	3.450	1327	3.450	1367	3.450	1407	3.450
1208	3.450	1248	3.450	1288	3.450	1328	3.450	1368	3.450	1408	3.450
1209	3.450	1249	3.450	1289	3.450	1329	3.450	1369	3.450	1409	3.450
1210	3.450	1250	3.450	1290	3.450	1330	3.450	1370	3.450	1410	3.450
1211	3.450	1251	3.450	1291	3.450	1331	3.450	1371	3.450	1411	3.450
1212	3.450	1252	3.450	1292	3.450	1332	3.450	1372	3.450	1412	3.450
1213	3.450	1253	3.450	1293	3.450	1333	3.450	1373	3.450	1413	3.450
1214	3.450	1254	3.450	1294	3.450	1334	3.450	1374	3.450	1414	3.450
1215	3.450	1255	3.450	1295	3.450	1335	3.450	1375	3.450	1415	3.450
1216	3.450	1256	3.450	1296	3.450	1336	3.450	1376	3.450	1416	3.450
1217	3.450	1257	3.450	1297	3.450	1337	3.450	1377	3.450	1417	3.450
1218	3.450	1258	3.450	1298	3.450	1338	3.450	1378	3.450	1418	3.450
1219	3.450	1259	3.450	1299	3.450	1339	3.450	1379	3.450	1419	3.450
1220	3.450	1260	3.450	1300	3.450	1340	3.450	1380	3.450	1420	3.450
1221	3.450	1261	3.450	1301	3.450	1341	3.450	1381	3.450	1421	3.450
1222	3.450	1262	3.450	1302	3.450	1342	3.450	1382	3.450	1422	3.450
1223	3.450	1263	3.450	1303	3.450	1343	3.450	1383	3.450	1423	3.450
1224	3.450	1264	3.450	1304	3.450	1344	3.450	1384	3.450	1424	3.450
1225	3.450	1265	3.450	1305	3.450	1345	3.450	1385	3.450	1425	3.450
1226	3.450	1266	3.450	1306	3.450	1346	3.450	1386	3.450	1426	3.450
1227	3.450	1267	3.450	1307	3.450	1347	3.450	1387	3.450	1427	3.450
1228	3.450	1268	3.450	1308	3.450	1348	3.450	1388	3.450	1428	3.450
1229	3.450	1269	3.450	1309	3.450	1349	3.450	1389	3.450	1429	3.450
1230	3.450	1270	3.450	1310	3.450	1350	3.450	1390	3.450	1430	3.450
1231	3.450	1271	3.450	1311	3.450	1351	3.450	1391	3.450	1431	3.450
1232	3.450	1272	3.450	1312	3.450	1352	3.450	1392	3.450	1432	3.450
1233	3.450	1273	3.450	1313	3.450	1353	3.450	1393	3.450	1433	3.450
1234	3.450	1274	3.450	1314	3.450	1354	3.450	1394	3.450	1434	3.450
1235	3.450	1275	3.450	1315	3.450	1355	3.450	1395	3.450	1435	3.450
1236	3.450	1276	3.450	1316	3.450	1356	3.450	1396	3.450	1436	3.450
1237	3.450	1277	3.450	1317	3.450	1357	3.450	1397	3.450	1437	3.450
1238	3.450	1278	3.450	1318	3.450	1358	3.450	1398	3.450	1438	3.450
1239	3.450	1279	3.450	1319	3.450	1359	3.450	1399	3.450	1439	3.450
1240	3.450	1280	3.450	1320	3.450	1360	3.450	1400	3.450	1440	3.450

©1982-2020 Innovyze

Simulation Criteria for SW Net01

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	2
Number of Online Controls	4	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

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	0.357		

©1982-2020 Innovyze

Online Controls for SW Net01

Hydro-Brake® Optimum Manhole: S1.12, DS/PN: S1.006, Volume (m³): 10.6

Unit Reference	MD-SHE-0146-1250-2000-1250
Design Head (m)	2.000
Design Flow (l/s)	12.5
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	146
Invert Level (m)	27.518
Minimum Outlet Pipe Diameter (mm)	225
Suggested Manhole Diameter (mm)	1500

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	2.000	12.5
Flush-Flo™	0.582	12.5
Kick-Flo®	1.207	9.9
Mean Flow over Head Range	-	10.9

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	5.3	1.200	10.0	3.000	15.1	7.000	22.7
0.200	10.4	1.400	10.6	3.500	16.3	7.500	23.5
0.300	11.6	1.600	11.2	4.000	17.4	8.000	24.2
0.400	12.2	1.800	11.9	4.500	18.4	8.500	24.9
0.500	12.4	2.000	12.5	5.000	19.3	9.000	25.6
0.600	12.5	2.200	13.1	5.500	20.2	9.500	26.3
0.800	12.2	2.400	13.6	6.000	21.1		
1.000	11.6	2.600	14.2	6.500	21.9		

Hydro-Brake® Optimum Manhole: S1.25, DS/PN: S9.005, Volume (m³): 10.7

Unit Reference	MD-SHE-0208-2400-1500-2400
Design Head (m)	1.500
Design Flow (l/s)	24.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	208
Invert Level (m)	27.838
Minimum Outlet Pipe Diameter (mm)	225
Suggested Manhole Diameter (mm)	1800

©1982-2020 Innovyze

Hydro-Brake® Optimum Manhole: S1.25, DS/PN: S9.005, Volume (m³): 10.7

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.500	24.0
Flush-Flo™	0.457	24.0
Kick-Flo®	1.000	19.8
Mean Flow over Head Range	-	20.7

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	7.1	1.200	21.6	3.000	33.4	7.000	50.3
0.200	20.0	1.400	23.2	3.500	36.0	7.500	52.0
0.300	23.3	1.600	24.7	4.000	38.4	8.000	53.7
0.400	23.9	1.800	26.2	4.500	40.6	8.500	55.3
0.500	24.0	2.000	27.5	5.000	42.8	9.000	56.9
0.600	23.7	2.200	28.8	5.500	44.8	9.500	58.4
0.800	22.7	2.400	30.0	6.000	46.7		
1.000	19.9	2.600	31.2	6.500	48.6		

Non Return Valve Manhole: S1.26, DS/PN: S1.007, Volume (m³): 6.9

Hydro-Brake® Optimum Manhole: S1.27, DS/PN: S1.008, Volume (m³): 4.3

Unit Reference	MD-SHE-0244-3650-2000-3650
Design Head (m)	2.000
Design Flow (l/s)	36.5
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	244
Invert Level (m)	27.401
Minimum Outlet Pipe Diameter (mm)	300
Suggested Manhole Diameter (mm)	2100

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	2.000	36.4
Flush-Flo™	0.588	36.4
Kick-Flo®	1.285	29.5
Mean Flow over Head Range	-	31.5

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

©1982-2020 Innovyze

Hydro-Brake® Optimum Manhole: S1.27, DS/PN: S1.008, Volume (m³): 4.3

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	8.0	1.200	31.8	3.000	44.3	7.000	66.8
0.200	24.8	1.400	30.7	3.500	47.7	7.500	69.0
0.300	33.8	1.600	32.8	4.000	50.9	8.000	71.2
0.400	35.5	1.800	34.7	4.500	53.9	8.500	73.4
0.500	36.3	2.000	36.4	5.000	56.7	9.000	75.4
0.600	36.4	2.200	38.2	5.500	59.4	9.500	77.5
0.800	35.9	2.400	39.8	6.000	62.0		
1.000	34.6	2.600	41.4	6.500	64.4		

©1982-2020 Innovyze

Storage Structures for SW Net01

Cellular Storage Manhole: ST1, DS/PN: S4.000

Invert Level (m) 28.000 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	67.0	67.0	1.829	0.0	127.1
1.828	67.0	127.1			

Cellular Storage Manhole: S1.19, DS/PN: S9.003

Invert Level (m) 28.000 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	79.2	79.2	1.393	0.0	133.5
1.392	79.2	133.5			

©1982-2020 Innovyze

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW Net01

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 Coeffiecient	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	2
Number of Online Controls	4	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 0.357
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	OFF
DVD Status	OFF
Inertia Status	OFF

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880
Return Period(s) (years)	100
Climate Change (%)	40

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
S1.000	S1.0	1440 Winter	100	+40%	100/15 Summer	100/60 Summer		
S2.000	S1.1	15 Winter	100	+40%				
S2.001	S1.2	1440 Winter	100	+40%	100/15 Summer			
S1.001	S1.3	960 Summer	100	+40%	100/15 Summer			
S1.002	S1.4	1440 Summer	100	+40%	100/15 Summer			
S3.000	S1.5	2880 Summer	100	+40%	100/15 Summer			
S1.003	S1.6	1440 Summer	100	+40%	100/15 Summer			
S4.000	ST1	120 Winter	100	+40%	100/15 Summer			
S1.004	S1.7	2880 Summer	100	+40%	100/15 Summer			
S5.000	S1.8	120 Winter	100	+40%	100/30 Winter			
S1.005	SJ1	15 Summer	100	+40%				
S6.000	SRG1	15 Winter	100	+40%				
S6.001	S1.9	15 Winter	100	+40%				
S7.000	SRG2	15 Winter	100	+40%	100/15 Summer	100/15 Winter		
S6.002	S1.10	15 Winter	100	+40%				

©1982-2020 Innovyze

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW Net01

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
S1.000	S1.0	30.095	0.925	145.166	0.14			13.4	FLOOD
S2.000	S1.1	30.336	-0.074	0.000	0.51			20.5	OK
S2.001	S1.2	30.096	0.946	0.000	0.06			1.0	SURCHARGED
S1.001	S1.3	29.990	0.976	0.000	0.17			12.9	FLOOD RISK*
S1.002	S1.4	29.990	1.128	0.000	0.20			13.4	FLOOD RISK*
S3.000	S1.5	29.990	0.940	0.000	0.04			1.2	FLOOD RISK*
S1.003	S1.6	29.990	1.202	0.000	0.07			13.4	FLOOD RISK*
S4.000	ST1	30.179	1.879	0.000	0.00			0.0	SURCHARGED*
S1.004	S1.7	29.990	1.790	0.000	0.28			18.9	FLOOD RISK*
S5.000	S1.8	30.209	0.529	0.000	0.10			7.6	SURCHARGED*
S1.005	SJ1	28.125	0.000	0.000	0.10			13.5	SURCHARGED*
S6.000	SRG1	31.050	-0.100	0.000	0.24			8.0	OK
S6.001	S1.9	30.795	-0.045	0.000	0.82			13.1	OK
S7.000	SRG2	31.901	0.551	0.844	1.35			30.8	FLOOD
S6.002	S1.10	30.645	-0.036	0.000	0.91			49.0	OK

PN	US/MH Name	Level Exceeded
S1.000	S1.0	24
S2.000	S1.1	
S2.001	S1.2	
S1.001	S1.3	
S1.002	S1.4	
S3.000	S1.5	24
S1.003	S1.6	
S4.000	ST1	
S1.004	S1.7	
S5.000	S1.8	
S1.005	SJ1	
S6.000	SRG1	
S6.001	S1.9	
S7.000	SRG2	3
S6.002	S1.10	

©1982-2020 Innovyze

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW Net01

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
S8.000	S1.11	120 Winter	100	+40%	100/15 Summer	100/120 Winter		
S1.006	S1.12	120 Winter	100	+40%	100/15 Summer			
S9.000	S1.13	60 Winter	100	+40%	100/15 Winter			
S9.001	S1.14	60 Winter	100	+40%	100/15 Summer	100/60 Winter		
S10.000	S1.15	60 Winter	100	+40%	100/15 Summer			
S11.000	S1.16	60 Winter	100	+40%	100/15 Summer			
S9.002	S1.17	180 Winter	100	+40%	100/15 Summer	100/60 Winter		
S12.000	S1.18	720 Winter	100	+40%	100/15 Summer			
S9.003	S1.19	240 Winter	100	+40%	100/15 Summer	100/30 Winter		
S9.004	S1.20	240 Winter	100	+40%	100/15 Summer			
S13.000	S1.21	15 Winter	100	+40%				
S13.001	S1.22	15 Winter	100	+40%				
S13.002	S1.23	15 Winter	100	+40%				
S14.000	S1.24	120 Winter	100	+40%	100/15 Summer			
S9.005	S1.25	120 Winter	100	+40%	100/15 Summer			
S1.007	S1.26	1440 Winter	100	+40%	100/15 Summer			
S1.008	S1.27	1440 Winter	100	+40%	100/15 Summer			
S1.009	S1.28	1440 Winter	100	+40%	100/15 Summer	100/30 Summer		

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
S8.000	S1.11	30.200	0.950	0.351	0.39			6.6	FLOOD
S1.006	S1.12	30.214	2.396	0.000	0.16			10.5	SURCHARGED
S9.000	S1.13	30.205	0.519	0.000	0.29			8.8	SURCHARGED
S9.001	S1.14	30.180	0.975	0.241	0.29			21.8	FLOOD
S10.000	S1.15	30.215	0.915	0.000	0.43			15.7	FLOOD RISK
S11.000	S1.16	30.175	0.375	0.000	0.54			8.8	SURCHARGED
S9.002	S1.17	30.159	1.527	9.059	0.36			25.8	FLOOD
S12.000	S1.18	30.120	1.050	0.000	0.05			1.9	FLOOD RISK*
S9.003	S1.19	30.139	1.889	39.260	0.22			12.6	FLOOD
S9.004	S1.20	30.135	1.914	0.000	0.18			12.9	FLOOD RISK
S13.000	S1.21	32.590	-0.135	0.000	0.34			26.2	OK
S13.001	S1.22	32.291	-0.134	0.000	0.34			26.2	OK
S13.002	S1.23	32.004	-0.121	0.000	0.44			54.6	OK
S14.000	S1.24	30.147	0.877	0.000	0.31			5.1	FLOOD RISK
S9.005	S1.25	30.128	2.065	0.000	0.27			20.9	SURCHARGED
S1.007	S1.26	30.082	2.329	0.000	0.59			36.2	SURCHARGED
S1.008	S1.27	30.080	2.379	0.000	0.54			36.5	SURCHARGED
S1.009	S1.28	30.055	2.444	404.692	5.44			363.3	FLOOD

©1982-2020 Innovyze

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW Net01

PN	US/MH Name	Level Exceeded
S8.000	S1.11	2
S1.006	S1.12	
S9.000	S1.13	
S9.001	S1.14	3
S10.000	S1.15	
S11.000	S1.16	
S9.002	S1.17	9
S12.000	S1.18	15
S9.003	S1.19	22
S9.004	S1.20	
S13.000	S1.21	
S13.001	S1.22	
S13.002	S1.23	
S14.000	S1.24	
S9.005	S1.25	
S1.007	S1.26	
S1.008	S1.27	
S1.009	S1.28	26

©1982-2020 Innovyze