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46 Sandbach Road Congleton Cheshire CW12 4LW	Sutherland Road Longsdon 1 in 10 year soak-a-way	
Date 04-02-18 File	Designed by gb Checked by	
XP Solutions		


Source Control 2014.1.1

Summary of Results for 10 year Return Period

Half Drain Time : 1 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m ³)	Status
15 min Summer	187.346	0.146	2.4	0.1	O K
30 min Summer	187.380	0.180	2.6	0.2	O K
60 min Summer	187.350	0.150	2.4	0.1	O K
120 min Summer	187.259	0.059	2.0	0.1	O K
180 min Summer	187.243	0.043	1.7	0.0	O K
240 min Summer	187.236	0.036	1.4	0.0	O K
360 min Summer	187.228	0.028	1.1	0.0	O K
480 min Summer	187.224	0.024	0.9	0.0	O K
600 min Summer	187.220	0.020	0.8	0.0	O K
720 min Summer	187.218	0.018	0.7	0.0	O K
960 min Summer	187.215	0.015	0.6	0.0	O K
1440 min Summer	187.211	0.011	0.4	0.0	O K
2160 min Summer	187.209	0.009	0.3	0.0	O K
2880 min Summer	187.207	0.007	0.3	0.0	O K
4320 min Summer	187.206	0.006	0.2	0.0	O K
5760 min Summer	187.205	0.005	0.2	0.0	O K
7200 min Summer	187.204	0.004	0.2	0.0	O K
8640 min Summer	187.204	0.004	0.2	0.0	O K
10080 min Summer	187.204	0.004	0.1	0.0	O K
15 min Winter	187.400	0.200	2.7	0.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Time-Peak (mins)
15 min Summer	52.600	0.0	16
30 min Summer	35.558	0.0	24
60 min Summer	23.155	0.0	38
120 min Summer	14.715	0.0	68
180 min Summer	11.189	0.0	96
240 min Summer	9.186	0.0	128
360 min Summer	6.950	0.0	186
480 min Summer	5.696	0.0	246
600 min Summer	4.878	0.0	308
720 min Summer	4.297	0.0	372
960 min Summer	3.516	0.0	480
1440 min Summer	2.647	0.0	730
2160 min Summer	1.992	0.0	1092
2880 min Summer	1.626	0.0	1432
4320 min Summer	1.222	0.0	2204
5760 min Summer	0.998	0.0	2912
7200 min Summer	0.853	0.0	3864
8640 min Summer	0.750	0.0	4472
10080 min Summer	0.673	0.0	4904
15 min Winter	52.600	0.0	16

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Summary of Results for 10 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	187.414	0.214	2.8	0.2	O K
60 min Winter	187.326	0.126	2.3	0.1	O K
120 min Winter	187.243	0.043	1.7	0.0	O K
180 min Winter	187.233	0.033	1.3	0.0	O K
240 min Winter	187.228	0.028	1.1	0.0	O K
360 min Winter	187.221	0.021	0.8	0.0	O K
480 min Winter	187.218	0.018	0.7	0.0	O K
600 min Winter	187.215	0.015	0.6	0.0	O K
720 min Winter	187.213	0.013	0.5	0.0	O K
960 min Winter	187.211	0.011	0.4	0.0	O K
1440 min Winter	187.208	0.008	0.3	0.0	O K
2160 min Winter	187.207	0.007	0.3	0.0	O K
2880 min Winter	187.206	0.006	0.2	0.0	O K
4320 min Winter	187.204	0.004	0.2	0.0	O K
5760 min Winter	187.204	0.004	0.1	0.0	O K
7200 min Winter	187.203	0.003	0.1	0.0	O K
8640 min Winter	187.203	0.003	0.1	0.0	O K
10080 min Winter	187.203	0.003	0.1	0.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
30 min Winter	35.558	0.0	24
60 min Winter	23.155	0.0	38
120 min Winter	14.715	0.0	68
180 min Winter	11.189	0.0	94
240 min Winter	9.186	0.0	124
360 min Winter	6.950	0.0	186
480 min Winter	5.696	0.0	248
600 min Winter	4.878	0.0	298
720 min Winter	4.297	0.0	376
960 min Winter	3.516	0.0	494
1440 min Winter	2.647	0.0	726
2160 min Winter	1.992	0.0	1068
2880 min Winter	1.626	0.0	1484
4320 min Winter	1.222	0.0	2056
5760 min Winter	0.998	0.0	3120
7200 min Winter	0.853	0.0	3504
8640 min Winter	0.750	0.0	3688
10080 min Winter	0.673	0.0	4576

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Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	10	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.300	Shortest Storm (mins)	15
Ratio R	0.300	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.020

Time (mins)	Area	Time (mins)	Area	Time (mins)	Area
From: To:	(ha)	From: To:	(ha)	From: To:	(ha)
0	4 0.007	4	8 0.007	8	12 0.007

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Model Details

Storage is Online Cover Level (m) 188.700

Lined Soakaway Structure

Infiltration Coefficient Base (m/hr)	6.69600	Ring Diameter (m)	0.90
Infiltration Coefficient Side (m/hr)	6.69600	Pit Multiplier	1.5
Safety Factor	2.0	Number Required	1
Porosity	0.30	Cap Volume Depth (m)	0.000
Invert Level (m)	187.200	Cap Infiltration Depth (m)	0.000