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The Stables High Cogges, Witney Oxfordshire	Branch Hill Green roof South East	
Date 19/07/2017 09:36 File Greenroof SE lin100+CC....	Designed by david Checked by	
Micro Drainage	Source Control 2015.1	

Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	115.045	0.045	1.2	0.0	O K
30 min Summer	115.048	0.048	1.3	0.1	O K
60 min Summer	115.047	0.047	1.3	0.1	O K
120 min Summer	115.043	0.043	1.1	0.0	O K
180 min Summer	115.039	0.039	0.9	0.0	O K
240 min Summer	115.037	0.037	0.8	0.0	O K
360 min Summer	115.033	0.033	0.7	0.0	O K
480 min Summer	115.030	0.030	0.5	0.0	O K
600 min Summer	115.028	0.028	0.5	0.0	O K
720 min Summer	115.026	0.026	0.4	0.0	O K
960 min Summer	115.024	0.024	0.4	0.0	O K
1440 min Summer	115.020	0.020	0.2	0.0	O K
2160 min Summer	115.017	0.017	0.2	0.0	O K
2880 min Summer	115.014	0.014	0.1	0.0	O K
4320 min Summer	115.012	0.012	0.1	0.0	O K
5760 min Summer	115.011	0.011	0.1	0.0	O K
7200 min Summer	115.010	0.010	0.1	0.0	O K
8640 min Summer	115.010	0.010	0.1	0.0	O K
10080 min Summer	115.009	0.009	0.1	0.0	O K
15 min Winter	115.048	0.048	1.3	0.1	O K
30 min Winter	115.049	0.049	1.4	0.1	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Discharge Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	150.535	0.0	1.6	13
30 min Summer	97.157	0.0	2.1	19
60 min Summer	59.609	0.0	2.7	36
120 min Summer	35.314	0.0	3.2	72
180 min Summer	25.660	0.0	3.5	102
240 min Summer	20.345	0.0	3.8	134
360 min Summer	14.664	0.0	4.1	190
480 min Summer	11.616	0.0	4.3	256
600 min Summer	9.689	0.0	4.5	312
720 min Summer	8.351	0.0	4.7	370
960 min Summer	6.601	0.0	4.9	496
1440 min Summer	4.732	0.0	5.2	746
2160 min Summer	3.388	0.0	5.6	1076
2880 min Summer	2.670	0.0	5.8	1472
4320 min Summer	1.907	0.0	6.0	2192
5760 min Summer	1.501	0.0	6.2	2984
7200 min Summer	1.246	0.0	6.3	3672
8640 min Summer	1.070	0.0	6.3	4200
10080 min Summer	0.940	0.0	6.3	5072
15 min Winter	150.535	0.0	1.8	13
30 min Winter	97.157	0.0	2.4	21

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Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m <sup>3</sup> )	Status
60 min Winter	115.048	0.048	1.3	0.1	O K
120 min Winter	115.042	0.042	1.0	0.0	O K
180 min Winter	115.038	0.038	0.8	0.0	O K
240 min Winter	115.035	0.035	0.7	0.0	O K
360 min Winter	115.031	0.031	0.6	0.0	O K
480 min Winter	115.027	0.027	0.4	0.0	O K
600 min Winter	115.025	0.025	0.4	0.0	O K
720 min Winter	115.023	0.023	0.3	0.0	O K
960 min Winter	115.020	0.020	0.3	0.0	O K
1440 min Winter	115.017	0.017	0.2	0.0	O K
2160 min Winter	115.014	0.014	0.1	0.0	O K
2880 min Winter	115.012	0.012	0.1	0.0	O K
4320 min Winter	115.011	0.011	0.1	0.0	O K
5760 min Winter	115.010	0.010	0.1	0.0	O K
7200 min Winter	115.009	0.009	0.1	0.0	O K
8640 min Winter	115.008	0.008	0.0	0.0	O K
10080 min Winter	115.008	0.008	0.0	0.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Discharge Volume (m <sup>3</sup> )	Time-Peak (mins)
60 min Winter	59.609	0.0	3.0	38
120 min Winter	35.314	0.0	3.7	74
180 min Winter	25.660	0.0	4.0	100
240 min Winter	20.345	0.0	4.3	130
360 min Winter	14.664	0.0	4.6	200
480 min Winter	11.616	0.0	4.9	264
600 min Winter	9.689	0.0	5.1	314
720 min Winter	8.351	0.0	5.3	394
960 min Winter	6.601	0.0	5.6	506
1440 min Winter	4.732	0.0	5.9	722
2160 min Winter	3.388	0.0	6.3	1100
2880 min Winter	2.670	0.0	6.6	1452
4320 min Winter	1.907	0.0	6.9	2144
5760 min Winter	1.501	0.0	7.1	2928
7200 min Winter	1.246	0.0	7.2	3800
8640 min Winter	1.070	0.0	7.3	4104
10080 min Winter	0.940	0.0	7.3	5344

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Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	21.000	Shortest Storm (mins)	15
Ratio R	0.439	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Green Roof

Area (m <sup>3</sup> )	68	Evaporation (mm/day)	3
Depression Storage (mm)	5	Decay Coefficient	0.050

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
From:	To:	From:	To:	From:	To:	From:	To:
0	4 0.001236	32	36 0.000249	64	68 0.000050	96	100 0.000010
4	8 0.001012	36	40 0.000204	68	72 0.000041	100	104 0.000008
8	12 0.000828	40	44 0.000167	72	76 0.000034	104	108 0.000007
12	16 0.000678	44	48 0.000137	76	80 0.000028	108	112 0.000006
16	20 0.000555	48	52 0.000112	80	84 0.000023	112	116 0.000005
20	24 0.000455	52	56 0.000092	84	88 0.000019	116	120 0.000004
24	28 0.000372	56	60 0.000075	88	92 0.000015		
28	32 0.000305	60	64 0.000062	92	96 0.000012		