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20 Milton Park Abingdon Oxfordshire OX14 4SH	Land North of Green Lane Chesterton Basin 1 (Infiltration)	
Date 07/11/2016 File BASIN 1 - INFILTRATION ...	Designed by HSS Checked by JR	
Causeway		Source Control 2014.1.1

Summary of Results for 100 year Return Period (+30%)

Half Drain Time : 51 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	75.765	0.145	10.6	43.4	O K
30 min Summer	75.793	0.173	11.2	52.3	O K
60 min Summer	75.805	0.185	11.4	56.3	O K
120 min Summer	75.801	0.181	11.3	55.2	O K
180 min Summer	75.789	0.169	11.1	51.1	O K
240 min Summer	75.776	0.156	10.9	46.7	O K
360 min Summer	75.750	0.130	10.4	38.5	O K
480 min Summer	75.729	0.109	9.9	31.8	O K
600 min Summer	75.711	0.091	9.6	26.3	O K
720 min Summer	75.696	0.076	9.3	21.9	O K
960 min Summer	75.676	0.056	8.9	15.8	O K
1440 min Summer	75.661	0.041	7.2	11.6	O K
2160 min Summer	75.651	0.031	5.4	8.7	O K
2880 min Summer	75.645	0.025	4.3	7.0	O K
4320 min Summer	75.639	0.019	3.2	5.1	O K
5760 min Summer	75.635	0.015	2.5	4.0	O K
7200 min Summer	75.632	0.012	2.1	3.4	O K
8640 min Summer	75.631	0.011	1.8	2.9	O K
10080 min Summer	75.630	0.010	1.6	2.6	O K
15 min Winter	75.783	0.163	11.0	49.2	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	128.285	0.0	17
30 min Summer	84.226	0.0	31
60 min Summer	52.662	0.0	48
120 min Summer	31.800	0.0	82
180 min Summer	23.353	0.0	116
240 min Summer	18.644	0.0	150
360 min Summer	13.543	0.0	216
480 min Summer	10.792	0.0	278
600 min Summer	9.043	0.0	338
720 min Summer	7.823	0.0	396
960 min Summer	6.219	0.0	504
1440 min Summer	4.493	0.0	738
2160 min Summer	3.241	0.0	1104
2880 min Summer	2.568	0.0	1468
4320 min Summer	1.847	0.0	2196
5760 min Summer	1.461	0.0	2936
7200 min Summer	1.217	0.0	3672
8640 min Summer	1.048	0.0	4320
10080 min Summer	0.923	0.0	5072
15 min Winter	128.285	0.0	17

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Summary of Results for 100 year Return Period (+30%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
30 min Winter	75.815	0.195	11.6	59.8	O K
60 min Winter	75.828	0.208	11.9	64.2	O K
120 min Winter	75.821	0.201	11.7	61.8	O K
180 min Winter	75.803	0.183	11.4	55.7	O K
240 min Winter	75.783	0.163	11.0	49.0	O K
360 min Winter	75.746	0.126	10.3	37.1	O K
480 min Winter	75.715	0.095	9.7	27.6	O K
600 min Winter	75.691	0.071	9.2	20.3	O K
720 min Winter	75.674	0.054	8.9	15.3	O K
960 min Winter	75.663	0.043	7.5	12.0	O K
1440 min Winter	75.652	0.032	5.5	8.9	O K
2160 min Winter	75.643	0.023	4.0	6.5	O K
2880 min Winter	75.639	0.019	3.2	5.2	O K
4320 min Winter	75.634	0.014	2.3	3.7	O K
5760 min Winter	75.631	0.011	1.8	2.9	O K
7200 min Winter	75.629	0.009	1.6	2.5	O K
8640 min Winter	75.628	0.008	1.3	2.1	O K
10080 min Winter	75.627	0.007	1.1	1.9	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
30 min Winter	84.226	0.0	30
60 min Winter	52.662	0.0	52
120 min Winter	31.800	0.0	90
180 min Winter	23.353	0.0	126
240 min Winter	18.644	0.0	162
360 min Winter	13.543	0.0	228
480 min Winter	10.792	0.0	290
600 min Winter	9.043	0.0	346
720 min Winter	7.823	0.0	394
960 min Winter	6.219	0.0	502
1440 min Winter	4.493	0.0	740
2160 min Winter	3.241	0.0	1104
2880 min Winter	2.568	0.0	1444
4320 min Winter	1.847	0.0	2220
5760 min Winter	1.461	0.0	2856
7200 min Winter	1.217	0.0	3720
8640 min Winter	1.048	0.0	4280
10080 min Winter	0.923	0.0	5144

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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)	20.000	Shortest Storm (mins)	15
Ratio R	0.400	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+30

Time Area Diagram

Total Area (ha) 0.210

Time (mins)		Area
From:	To:	(ha)
0	4	0.210

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Model Details

Storage is Online Cover Level (m) 76.820

Infiltration Basin Structure

Invert Level (m) 75.620 Safety Factor 2.0  
 Infiltration Coefficient Base (m/hr) 0.20664 Porosity 1.00  
 Infiltration Coefficient Side (m/hr) 0.20664

Depth (m)	Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )	Depth (m)	Area (m <sup>2</sup> )
0.000	275.0	0.410	481.0	0.810	790.0
0.200	341.0	0.600	555.0	1.000	872.0
0.400	410.0	0.800	631.0	1.200	957.0