

Mountbatten House
 Basing View
 Basingstoke RG21 4HJ



Date 03/05/16 Designed by LB

File Area 1 Permeable Paving Design 10 year OP... Checked by MW

Micro Drainage Source Control 2015.1

Summary of Results for 10 year Return Period

Half Drain Time : 88 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (1/s)	Max Control (1/s)	Max Overflow (1/s)	Max Σ Outflow (1/s)	Max Volume (m³)	Status
15 min Summer	99.580	0.080	0.0	2.0	0.0	2.0	14.3	O K
30 min Summer	99.596	0.096	0.0	2.6	0.0	2.6	18.6	O K
60 min Summer	99.606	0.106	0.0	3.1	0.0	3.1	21.8	O K
120 min Summer	99.612	0.112	0.0	3.2	0.1	3.3	23.4	O K
180 min Summer	99.613	0.113	0.0	3.2	0.2	3.4	23.7	O K
240 min Summer	99.613	0.113	0.0	3.2	0.1	3.4	23.6	O K
360 min Summer	99.610	0.110	0.0	3.2	0.0	3.2	22.7	O K
480 min Summer	99.606	0.106	0.0	3.0	0.0	3.0	21.6	O K
600 min Summer	99.602	0.102	0.0	2.9	0.0	2.9	20.5	O K
720 min Summer	99.598	0.098	0.0	2.7	0.0	2.7	19.4	O K
960 min Summer	99.592	0.092	0.0	2.5	0.0	2.5	17.5	O K
1440 min Summer	99.582	0.082	0.0	2.1	0.0	2.1	14.6	O K
2160 min Summer	99.572	0.072	0.0	1.7	0.0	1.7	11.7	O K
2880 min Summer	99.565	0.065	0.0	1.4	0.0	1.4	9.7	O K
4320 min Summer	99.555	0.055	0.0	1.1	0.0	1.1	7.1	O K
5760 min Summer	99.549	0.049	0.0	0.9	0.0	0.9	5.5	O K
7200 min Summer	99.544	0.044	0.0	0.8	0.0	0.8	4.5	O K
8640 min Summer	99.541	0.041	0.0	0.7	0.0	0.7	4.0	O K
10080 min Summer	99.539	0.039	0.0	0.6	0.0	0.6	3.6	O K
15 min Winter	99.588	0.088	0.0	2.3	0.0	2.3	16.5	O K
30 min Winter	99.605	0.105	0.0	3.0	0.0	3.0	21.4	O K
60 min Winter	99.617	0.117	0.0	3.3	0.9	4.2	24.7	O K
120 min Winter	99.620	0.120	0.0	3.4	1.7	5.0	25.5	O K
180 min Winter	99.619	0.119	0.0	3.4	1.5	4.9	25.4	O K
240 min Winter	99.618	0.118	0.0	3.3	1.1	4.5	25.0	O K
360 min Winter	99.614	0.114	0.0	3.2	0.3	3.5	23.8	O K
480 min Winter	99.608	0.108	0.0	3.1	0.0	3.1	22.1	O K
600 min Winter	99.602	0.102	0.0	2.9	0.0	2.9	20.4	O K
720 min Winter	99.597	0.097	0.0	2.7	0.0	2.7	18.9	O K
960 min Winter	99.588	0.088	0.0	2.3	0.0	2.3	16.5	O K
1440 min Winter	99.576	0.076	0.0	1.9	0.0	1.9	13.0	O K
2160 min Winter	99.565	0.065	0.0	1.4	0.0	1.4	9.8	O K
2880 min Winter	99.557	0.057	0.0	1.2	0.0	1.2	7.6	O K
4320 min Winter	99.547	0.047	0.0	0.9	0.0	0.9	5.1	O K
5760 min Winter	99.541	0.041	0.0	0.7	0.0	0.7	4.0	O K
7200 min Winter	99.538	0.038	0.0	0.6	0.0	0.6	3.4	O K
8640 min Winter	99.536	0.036	0.0	0.5	0.0	0.5	3.0	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Overflow Volume (m³)	Time-Peak (mins)
15 min Summer	60.901	0.0	15.6	0.0	24
30 min Summer	39.040	0.0	21.3	0.0	36
60 min Summer	24.003	0.0	27.3	0.0	60
120 min Summer	14.387	0.0	33.6	0.0	92
180 min Summer	10.582	0.0	37.4	0.2	126
240 min Summer	8.487	0.0	40.3	0.1	160
360 min Summer	6.204	0.0	44.4	0.0	228
480 min Summer	4.965	0.0	47.5	0.0	292
600 min Summer	4.175	0.0	50.0	0.0	356
720 min Summer	3.622	0.0	52.1	0.0	420
960 min Summer	2.895	0.0	55.4	0.0	546
1440 min Summer	2.109	0.0	60.2	0.0	794
2160 min Summer	1.535	0.0	65.1	0.0	1156
2880 min Summer	1.225	0.0	68.4	0.0	1528
4320 min Summer	0.891	0.0	72.7	0.0	2252
5760 min Summer	0.711	0.0	75.3	0.0	2952
7200 min Summer	0.596	0.0	76.9	0.0	3680
8640 min Summer	0.517	0.0	77.8	0.0	4408
10080 min Summer	0.458	0.0	78.2	0.0	5136
15 min Winter	60.901	0.0	18.0	0.0	24
30 min Winter	39.040	0.0	24.5	0.0	36
60 min Winter	24.003	0.0	31.1	0.8	58
120 min Winter	14.387	0.0	38.2	2.3	92
180 min Winter	10.582	0.0	42.6	2.3	128
240 min Winter	8.487	0.0	45.7	1.8	164
360 min Winter	6.204	0.0	50.4	0.4	238
480 min Winter	4.965	0.0	53.9	0.0	310
600 min Winter	4.175	0.0	56.8	0.0	376
720 min Winter	3.622	0.0	59.1	0.0	440
960 min Winter	2.895	0.0	62.9	0.0	568
1440 min Winter	2.109	0.0	68.4	0.0	818
2160 min Winter	1.535	0.0	74.0	0.0	1192
2880 min Winter	1.225	0.0	77.9	0.0	1560
4320 min Winter	0.891	0.0	83.2	0.0	2256
5760 min Winter	0.711	0.0	86.5	0.0	2992
7200 min Winter	0.596	0.0	88.7	0.0	3672
8640 min Winter	0.517	0.0	90.1	0.0	4480

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Micro Drainage Source Control 2015.1

Summary of Results for 10 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Overflow (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
10080 min Winter	99.534	0.034	0.0	0.4	0.0	0.4	2.7	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Overflow Volume (m³)	Time-Peak (mins)
10080 min Winter	0.458	0.0	91.1	0.0	5160

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Rainfall Details

Rainfall Model FSR Ratio R 0.420 Cv (Winter) 0.840
 Return Period (years) 10 Summer Storms Yes Shortest Storm (mins) 15
 Region England and Wales Winter Storms Yes Longest Storm (mins) 10080
 M5-60 (mm) 20.000 Cv (Summer) 0.750 Climate Change % +0

Time Area Diagram

Total Area (ha) 0.179

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
From:	To:	From:	To:	From:	To:
0	4	4	8	8	12
	0.060		0.060		0.060

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Model Details

Storage is Online Cover Level (m) 100.000

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.00000	Porosity	0.30	Slope (1:X)	500.0
Membrane Percolation (mm/hr)	1000	Invert Level (m)	99.500	Depression Storage (mm)	5
Max Percolation (l/s)	266.9	Width (m)	31.0	Evaporation (mm/day)	3
Safety Factor	2.0	Length (m)	31.0	Cap Volume Depth (m)	0.000

Orifice Outflow Control

Diameter (m) 0.075 Discharge Coefficient 0.600 Invert Level (m) 99.500

Weir Overflow Control

Discharge Coef 0.544 Width (m) 1.200 Invert Level (m) 99.611