



Simpson Associates		Page 1
1 Market Place Mews Henley-on-Thames RG9 2AH	Premier Inn, Bicester Hotel Car Park Porous Car Park 1:100y...	
Date 19.12.2011 File Bottom-CP.srcx	Designed By MRR Checked By	
Micro Drainage	Source Control W.12.4	

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

Half Drain Time : 115 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m ³)	Status
15 min Summer	67.309	0.159	11.4	74.7	O K
30 min Summer	67.340	0.190	11.4	99.4	O K
60 min Summer	67.362	0.212	11.4	117.7	O K
120 min Summer	67.367	0.217	11.4	121.9	O K
180 min Summer	67.362	0.212	11.4	117.5	O K
240 min Summer	67.354	0.204	11.4	111.3	O K
360 min Summer	67.339	0.189	11.4	98.5	O K
480 min Summer	67.324	0.174	11.4	86.4	O K
600 min Summer	67.310	0.160	11.4	74.9	O K
720 min Summer	67.297	0.147	11.4	64.2	O K
960 min Summer	67.273	0.123	11.4	45.5	O K
1440 min Summer	67.231	0.081	11.4	19.7	O K
2160 min Summer	67.197	0.047	10.6	6.6	O K
2880 min Summer	67.188	0.038	8.6	4.2	O K
4320 min Summer	67.177	0.027	6.2	2.2	O K
5760 min Summer	67.172	0.022	4.9	1.4	O K
7200 min Summer	67.169	0.019	4.2	1.1	O K
8640 min Summer	67.168	0.018	3.6	0.9	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
15 min Summer	128.285	24
30 min Summer	84.226	37
60 min Summer	52.662	64
120 min Summer	31.800	106
180 min Summer	23.353	138
240 min Summer	18.644	172
360 min Summer	13.543	240
480 min Summer	10.792	306
600 min Summer	9.043	372
720 min Summer	7.823	434
960 min Summer	6.219	556
1440 min Summer	4.493	780
2160 min Summer	3.241	1104
2880 min Summer	2.568	1468
4320 min Summer	1.847	2200
5760 min Summer	1.461	2888
7200 min Summer	1.217	3600
8640 min Summer	1.048	4400

Simpson Associates		Page 2
1 Market Place Mews Henley-on-Thames RG9 2AH	Premier Inn, Bicester Hotel Car Park Porous Car Park 1:100y...	
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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 (m³)	Status
10080 min Summer	67.167	0.017	3.2	0.8	O K
15 min Winter	67.324	0.174	11.4	86.2	O K
30 min Winter	67.358	0.208	11.4	114.5	O K
60 min Winter	67.385	0.235	11.4	136.4	O K
120 min Winter	67.394	0.244	11.4	143.7	O K
180 min Winter	67.387	0.237	11.4	137.6	O K
240 min Winter	67.376	0.226	11.4	129.1	O K
360 min Winter	67.353	0.203	11.4	110.1	O K
480 min Winter	67.330	0.180	11.4	91.3	O K
600 min Winter	67.308	0.158	11.4	73.7	O K
720 min Winter	67.288	0.138	11.4	57.5	O K
960 min Winter	67.251	0.101	11.4	30.7	O K
1440 min Winter	67.198	0.048	10.8	6.8	O K
2160 min Winter	67.184	0.034	7.8	3.6	O K
2880 min Winter	67.177	0.027	6.2	2.2	O K
4320 min Winter	67.170	0.020	4.4	1.2	O K
5760 min Winter	67.168	0.018	3.6	0.9	O K
7200 min Winter	67.166	0.016	3.0	0.8	O K
8640 min Winter	67.165	0.015	2.5	0.7	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
10080 min Summer	0.923	5128
15 min Winter	128.285	24
30 min Winter	84.226	37
60 min Winter	52.662	64
120 min Winter	31.800	118
180 min Winter	23.353	148
240 min Winter	18.644	186
360 min Winter	13.543	260
480 min Winter	10.792	332
600 min Winter	9.043	398
720 min Winter	7.823	460
960 min Winter	6.219	574
1440 min Winter	4.493	748
2160 min Winter	3.241	1108
2880 min Winter	2.568	1436
4320 min Winter	1.847	2164
5760 min Winter	1.461	2824
7200 min Winter	1.217	3736
8640 min Winter	1.048	4368

1 Market Place Mews
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Premier Inn, Bicester
 Hotel Car Park
 Porous Car Park 1:100y...



Date 19.12.2011
 File Bottom-CP.srcx

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Micro Drainage

Source Control W.12.4

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

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
10080 min Winter	67.164	0.014	2.3	0.6	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
10080 min Winter	0.923	4968

1 Market Place Mews
 Henley-on-Thames
 RG9 2AH

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 Hotel Car Park
 Porous Car Park 1:100y...



Date 19.12.2011

Designed By MRR

File Bottom-CP.srcx

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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) 0.414

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.138	4-8	0.138	8-12	0.138

1 Market Place Mews
 Henley-on-Thames
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 Porous Car Park 1:100y...



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 File Bottom-CP.srcx

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Micro Drainage


Source Control W.12.4

Model Details

Storage is Online Cover Level (m) 67.800

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.03006	Width (m)	20.0
Membrane Percolation (mm/hr)	1000	Length (m)	136.0
Max Percolation (l/s)	755.6	Slope (1:X)	1000.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	67.150	Cap Volume Depth (m)	0.300


Simpson Associates		Page 1
1 Market Place Mews Henley-on-Thames RG9 2AH	Premier Inn, Bicester Restaurant Car Park Porous Car Park 1:100y...	
Date 19.12.2011 File Top-CP.srcx	Designed By MRR Checked By	
Micro Drainage	Source Control W.12.4	

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

Half Drain Time : 166 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m ³)	Status
15 min Summer	67.536	0.186	4.0	39.5	O K
30 min Summer	67.580	0.230	4.0	52.3	O K
60 min Summer	67.617	0.267	4.0	62.7	O K
120 min Summer	67.634	0.284	4.0	67.8	O K
180 min Summer	67.630	0.280	4.0	66.6	O K
240 min Summer	67.622	0.272	4.0	64.2	O K
360 min Summer	67.605	0.255	4.0	59.4	O K
480 min Summer	67.589	0.239	4.0	54.8	O K
600 min Summer	67.574	0.224	4.0	50.4	O K
720 min Summer	67.558	0.208	4.0	46.0	O K
960 min Summer	67.530	0.180	4.0	37.9	O K
1440 min Summer	67.482	0.132	4.0	24.1	O K
2160 min Summer	67.433	0.083	4.0	10.4	O K
2880 min Summer	67.402	0.052	4.0	4.1	O K
4320 min Summer	67.388	0.038	3.0	2.1	O K
5760 min Summer	67.380	0.030	2.4	1.3	O K
7200 min Summer	67.375	0.025	2.0	0.9	O K
8640 min Summer	67.371	0.021	1.7	0.7	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
15 min Summer	128.285	25
30 min Summer	84.226	38
60 min Summer	52.662	66
120 min Summer	31.800	122
180 min Summer	23.353	158
240 min Summer	18.644	188
360 min Summer	13.543	254
480 min Summer	10.792	322
600 min Summer	9.043	390
720 min Summer	7.823	456
960 min Summer	6.219	586
1440 min Summer	4.493	830
2160 min Summer	3.241	1168
2880 min Summer	2.568	1476
4320 min Summer	1.847	2200
5760 min Summer	1.461	2936
7200 min Summer	1.217	3672
8640 min Summer	1.048	4400

Simpson Associates		Page 2
1 Market Place Mews Henley-on-Thames RG9 2AH	Premier Inn, Bicester Restaurant Car Park Porous Car Park 1:100y...	
Date 19.12.2011 File Top-CP.srcx	Designed By MRR Checked By	
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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 (m³)	Status
10080 min Summer	67.369	0.019	1.5	0.5	O K
15 min Winter	67.556	0.206	4.0	45.3	O K
30 min Winter	67.607	0.257	4.0	59.8	O K
60 min Winter	67.650	0.300	4.0	72.2	O K
120 min Winter	67.678	0.328	4.0	79.2	O K
180 min Winter	67.676	0.326	4.0	78.7	O K
240 min Winter	67.662	0.312	4.0	75.4	O K
360 min Winter	67.639	0.289	4.0	69.0	O K
480 min Winter	67.615	0.265	4.0	62.3	O K
600 min Winter	67.591	0.241	4.0	55.5	O K
720 min Winter	67.568	0.218	4.0	48.8	O K
960 min Winter	67.525	0.175	4.0	36.3	O K
1440 min Winter	67.455	0.105	4.0	16.3	O K
2160 min Winter	67.398	0.048	3.8	3.4	O K
2880 min Winter	67.388	0.038	3.0	2.2	O K
4320 min Winter	67.377	0.027	2.2	1.1	O K
5760 min Winter	67.372	0.022	1.7	0.7	O K
7200 min Winter	67.368	0.018	1.4	0.5	O K
8640 min Winter	67.365	0.015	1.2	0.4	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
10080 min Summer	0.923	5072
15 min Winter	128.285	25
30 min Winter	84.226	38
60 min Winter	52.662	66
120 min Winter	31.800	120
180 min Winter	23.353	174
240 min Winter	18.644	204
360 min Winter	13.543	276
480 min Winter	10.792	352
600 min Winter	9.043	424
720 min Winter	7.823	494
960 min Winter	6.219	626
1440 min Winter	4.493	860
2160 min Winter	3.241	1108
2880 min Winter	2.568	1472
4320 min Winter	1.847	2152
5760 min Winter	1.461	2920
7200 min Winter	1.217	3672
8640 min Winter	1.048	4264

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Source Control W.12.4

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

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
10080 min Winter	67.364	0.014	1.1	0.3	O K

Storm Event	Rain (mm/hr)	Time-Peak (mins)
10080 min Winter	0.923	5136

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 Henley-on-Thames
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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) 0.202

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.067	4-8	0.067	8-12	0.067

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Porous Car Park 1:100y...



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Model Details

Storage is Online Cover Level (m) 68.000

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.03006	Width (m)	10.0
Membrane Percolation (mm/hr)	1000	Length (m)	95.5
Max Percolation (l/s)	265.3	Slope (1:X)	1000.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	67.350	Cap Volume Depth (m)	0.300