

Robert Clark Associates		Page 1
Willow Cottage Herne Lane Rustington BN16 3EE	r/o 182 Chichester Road Bognor Permeable Driveway	
Date 15.5.19 File Permeable paving-2.SRCX	Designed by rca-l Checked by	
Micro Drainage	Source Control 2016.1	

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

Half Drain Time : 786 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m ³)	Status
15 min Summer	6.260	0.065	0.0	0.7	Flood Risk
30 min Summer	6.287	0.092	0.0	1.0	Flood Risk
60 min Summer	6.315	0.120	0.0	1.3	Flood Risk
120 min Summer	6.344	0.149	0.0	1.6	Flood Risk
180 min Summer	6.359	0.164	0.0	1.7	Flood Risk
240 min Summer	6.367	0.172	0.0	1.8	Flood Risk
360 min Summer	6.377	0.182	0.0	1.9	Flood Risk
480 min Summer	6.381	0.186	0.0	2.0	Flood Risk
600 min Summer	6.383	0.188	0.0	2.0	Flood Risk
720 min Summer	6.383	0.188	0.0	2.0	Flood Risk
960 min Summer	6.382	0.187	0.0	2.0	Flood Risk
1440 min Summer	6.377	0.182	0.0	1.9	Flood Risk
2160 min Summer	6.365	0.170	0.0	1.8	Flood Risk
2880 min Summer	6.351	0.156	0.0	1.6	Flood Risk
4320 min Summer	6.324	0.129	0.0	1.4	Flood Risk
5760 min Summer	6.300	0.105	0.0	1.1	Flood Risk
7200 min Summer	6.280	0.085	0.0	0.9	Flood Risk
8640 min Summer	6.265	0.070	0.0	0.7	Flood Risk
10080 min Summer	6.253	0.058	0.0	0.6	Flood Risk
15 min Winter	6.269	0.074	0.0	0.8	Flood Risk

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Time-Peak (mins)
15 min Summer	115.731	0.0	19
30 min Summer	77.804	0.0	34
60 min Summer	49.937	0.0	64
120 min Summer	30.956	0.0	122
180 min Summer	23.058	0.0	182
240 min Summer	18.577	0.0	242
360 min Summer	13.656	0.0	362
480 min Summer	10.974	0.0	480
600 min Summer	9.254	0.0	584
720 min Summer	8.046	0.0	628
960 min Summer	6.447	0.0	752
1440 min Summer	4.709	0.0	1010
2160 min Summer	3.432	0.0	1424
2880 min Summer	2.739	0.0	1820
4320 min Summer	1.989	0.0	2596
5760 min Summer	1.583	0.0	3344
7200 min Summer	1.325	0.0	4040
8640 min Summer	1.147	0.0	4752
10080 min Summer	1.015	0.0	5352
15 min Winter	115.731	0.0	19

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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
30 min Winter	6.300	0.105	0.0	1.1	Flood Risk
60 min Winter	6.332	0.137	0.0	1.4	Flood Risk
120 min Winter	6.365	0.170	0.0	1.8	Flood Risk
180 min Winter	6.382	0.187	0.0	2.0	Flood Risk
240 min Winter	6.392	0.197	0.0	2.1	Flood Risk
360 min Winter	6.404	0.209	0.0	2.2	Flood Risk
480 min Winter	6.410	0.215	0.0	2.3	Flood Risk
600 min Winter	6.413	0.218	0.0	2.3	Flood Risk
720 min Winter	6.413	0.218	0.0	2.3	Flood Risk
960 min Winter	6.410	0.215	0.0	2.3	Flood Risk
1440 min Winter	6.402	0.207	0.0	2.2	Flood Risk
2160 min Winter	6.384	0.189	0.0	2.0	Flood Risk
2880 min Winter	6.362	0.167	0.0	1.8	Flood Risk
4320 min Winter	6.321	0.126	0.0	1.3	Flood Risk
5760 min Winter	6.285	0.090	0.0	0.9	Flood Risk
7200 min Winter	6.259	0.064	0.0	0.7	Flood Risk
8640 min Winter	6.244	0.049	0.0	0.5	0 K
10080 min Winter	6.239	0.044	0.0	0.5	0 K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	77.804	0.0	33		
60 min Winter	49.937	0.0	62		
120 min Winter	30.956	0.0	120		
180 min Winter	23.058	0.0	180		
240 min Winter	18.577	0.0	238		
360 min Winter	13.656	0.0	354		
480 min Winter	10.974	0.0	466		
600 min Winter	9.254	0.0	578		
720 min Winter	8.046	0.0	686		
960 min Winter	6.447	0.0	878		
1440 min Winter	4.709	0.0	1096		
2160 min Winter	3.432	0.0	1552		
2880 min Winter	2.739	0.0	1988		
4320 min Winter	1.989	0.0	2768		
5760 min Winter	1.583	0.0	3512		
7200 min Winter	1.325	0.0	4112		
8640 min Winter	1.147	0.0	4592		
10080 min Winter	1.015	0.0	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)	19.000	Shortest Storm (mins)	15
Ratio R	0.350	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+30

Time Area Diagram

Total Area (ha) 0.004

Time (mins)	Area
From:	To: (ha)
0	4 0.004

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<u>Model Details</u> Storage is Online Cover Level (m) 6.550 <u>Porous Car Park Structure</u> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.01017</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>9.7</td> </tr> <tr> <td>Safety Factor</td> <td>4.0</td> </tr> <tr> <td>Porosity</td> <td>0.30</td> </tr> <tr> <td>Invert Level (m)</td> <td>6.195</td> </tr> <tr> <td>Width (m)</td> <td>5.0</td> </tr> <tr> <td>Length (m)</td> <td>7.0</td> </tr> <tr> <td>Slope (1:X)</td> <td>0.0</td> </tr> <tr> <td>Depression Storage (mm)</td> <td>5</td> </tr> <tr> <td>Evaporation (mm/day)</td> <td>3</td> </tr> <tr> <td>Membrane Depth (m)</td> <td>0</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	0.01017	Membrane Percolation (mm/hr)	1000	Max Percolation (l/s)	9.7	Safety Factor	4.0	Porosity	0.30	Invert Level (m)	6.195	Width (m)	5.0	Length (m)	7.0	Slope (1:X)	0.0	Depression Storage (mm)	5	Evaporation (mm/day)	3	Membrane Depth (m)	0
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