

Robert Clark Associates		Page 1
Willow Cottage Herne Lane Rustington BN16 3EE	2 Critchmere Drive Eastergate Surface Water Drainage	
Date 20 December 2017 File Geocell-1.SRCX	Designed by RTFC Checked by	
Micro Drainage	Source Control 2016.1	

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

Half Drain Time : 452 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m ³)	Status
15 min Summer	10.888	0.288	0.1	1.9	0 K
30 min Summer	10.983	0.383	0.1	2.5	0 K
60 min Summer	11.081	0.481	0.1	3.2	0 K
120 min Summer	11.169	0.569	0.1	3.8	0 K
180 min Summer	11.206	0.606	0.1	4.0	0 K
240 min Summer	11.220	0.620	0.1	4.1	0 K
360 min Summer	11.227	0.627	0.1	4.2	0 K
480 min Summer	11.225	0.625	0.1	4.2	0 K
600 min Summer	11.220	0.620	0.1	4.1	0 K
720 min Summer	11.213	0.613	0.1	4.1	0 K
960 min Summer	11.195	0.595	0.1	4.0	0 K
1440 min Summer	11.154	0.554	0.1	3.7	0 K
2160 min Summer	11.095	0.495	0.1	3.3	0 K
2880 min Summer	11.042	0.442	0.1	2.9	0 K
4320 min Summer	10.951	0.351	0.1	2.3	0 K
5760 min Summer	10.877	0.277	0.1	1.8	0 K
7200 min Summer	10.819	0.219	0.1	1.5	0 K
8640 min Summer	10.772	0.172	0.1	1.1	0 K
10080 min Summer	10.734	0.134	0.1	0.9	0 K
15 min Winter	10.923	0.323	0.1	2.1	0 K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Time-Peak (mins)
15 min Summer	116.550	0.0	19
30 min Summer	78.724	0.0	33
60 min Summer	50.758	0.0	62
120 min Summer	31.577	0.0	122
180 min Summer	23.548	0.0	182
240 min Summer	18.974	0.0	240
360 min Summer	13.998	0.0	324
480 min Summer	11.266	0.0	384
600 min Summer	9.511	0.0	446
720 min Summer	8.278	0.0	514
960 min Summer	6.642	0.0	654
1440 min Summer	4.860	0.0	926
2160 min Summer	3.548	0.0	1340
2880 min Summer	2.835	0.0	1732
4320 min Summer	2.062	0.0	2508
5760 min Summer	1.642	0.0	3240
7200 min Summer	1.378	0.0	3968
8640 min Summer	1.194	0.0	4672
10080 min Summer	1.058	0.0	5352
15 min Winter	116.550	0.0	18

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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	11.031	0.431	0.1	2.9	0 K
60 min Winter	11.142	0.542	0.1	3.6	0 K
120 min Winter	11.244	0.644	0.1	4.3	0 K
180 min Winter	11.289	0.689	0.1	4.6	0 K
240 min Winter	11.309	0.709	0.1	4.7	0 K
360 min Winter	11.322	0.722	0.1	4.8	0 K
480 min Winter	11.317	0.717	0.1	4.8	0 K
600 min Winter	11.311	0.711	0.1	4.7	0 K
720 min Winter	11.302	0.702	0.1	4.7	0 K
960 min Winter	11.276	0.676	0.1	4.5	0 K
1440 min Winter	11.216	0.616	0.1	4.1	0 K
2160 min Winter	11.128	0.528	0.1	3.5	0 K
2880 min Winter	11.050	0.450	0.1	3.0	0 K
4320 min Winter	10.924	0.324	0.1	2.2	0 K
5760 min Winter	10.827	0.227	0.1	1.5	0 K
7200 min Winter	10.753	0.153	0.1	1.0	0 K
8640 min Winter	10.697	0.097	0.1	0.6	0 K
10080 min Winter	10.659	0.059	0.1	0.4	0 K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
30 min Winter	78.724	0.0	33
60 min Winter	50.758	0.0	62
120 min Winter	31.577	0.0	120
180 min Winter	23.548	0.0	178
240 min Winter	18.974	0.0	234
360 min Winter	13.998	0.0	342
480 min Winter	11.266	0.0	432
600 min Winter	9.511	0.0	470
720 min Winter	8.278	0.0	548
960 min Winter	6.642	0.0	702
1440 min Winter	4.860	0.0	1008
2160 min Winter	3.548	0.0	1432
2880 min Winter	2.835	0.0	1848
4320 min Winter	2.062	0.0	2640
5760 min Winter	1.642	0.0	3400
7200 min Winter	1.378	0.0	4112
8640 min Winter	1.194	0.0	4760
10080 min Winter	1.058	0.0	5344

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<u>Rainfall Details</u> <table> <tr> <td>Rainfall Model</td> <td>FSR</td> <td>Winter Storms</td> <td>Yes</td> </tr> <tr> <td>Return Period (years)</td> <td>100</td> <td>Cv (Summer)</td> <td>0.750</td> </tr> <tr> <td>Region</td> <td>England and Wales</td> <td>Cv (Winter)</td> <td>0.840</td> </tr> <tr> <td>M5-60 (mm)</td> <td>19.300</td> <td>Shortest Storm (mins)</td> <td>15</td> </tr> <tr> <td>Ratio R</td> <td>0.340</td> <td>Longest Storm (mins)</td> <td>10080</td> </tr> <tr> <td>Summer Storms</td> <td>Yes</td> <td>Climate Change %</td> <td>+30</td> </tr> </table> <u>Time Area Diagram</u> Total Area (ha) 0.009 <table> <tr> <th colspan="2">Time (mins)</th> <th rowspan="2">Area (ha)</th> </tr> <tr> <th>From:</th> <th>To:</th> </tr> <tr> <td>0</td> <td>4</td> <td>0.009</td> </tr> </table>			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)	19.300	Shortest Storm (mins)	15	Ratio R	0.340	Longest Storm (mins)	10080	Summer Storms	Yes	Climate Change %	+30	Time (mins)		Area (ha)	From:	To:	0	4	0.009
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Model Details

Storage is Online Cover Level (m) 12.000

Cellular Storage Structure

Invert Level (m) 10.600

Infiltration Coefficient Base (m/hr) 0.06332

Infiltration Coefficient Side (m/hr) 0.06332

Safety Factor 2.5

Porosity 0.95

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	7.0	7.0	0.900	0.0	15.8
0.800	7.0	15.8			

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