

Veryards Ltd				Page 1																																																																																																																																																																																																																			
Burton House Rossett Wrexham LL12 0HY		Former ATS Garage Marford SA1																																																																																																																																																																																																																					
Date 30/11/2015 11:13 File SA1.SRCX		Designed by J RUSSELL Checked by																																																																																																																																																																																																																					
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<u>Summary of Results for 10 year Return Period</u> Half Drain Time : 44 minutes. <table><thead><tr><th>Storm Event</th><th>Max Level (m)</th><th>Max Depth (m)</th><th>Max Infiltration (l/s)</th><th>Max Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>21.062</td><td>0.562</td><td>0.9</td><td>3.3</td><td>O K</td></tr><tr><td>30 min Summer</td><td>21.180</td><td>0.680</td><td>1.0</td><td>4.0</td><td>O K</td></tr><tr><td>60 min Summer</td><td>21.231</td><td>0.731</td><td>1.1</td><td>4.2</td><td>O K</td></tr><tr><td>120 min Summer</td><td>21.220</td><td>0.720</td><td>1.0</td><td>4.2</td><td>O K</td></tr><tr><td>180 min Summer</td><td>21.181</td><td>0.681</td><td>1.0</td><td>4.0</td><td>O K</td></tr><tr><td>240 min Summer</td><td>21.136</td><td>0.636</td><td>1.0</td><td>3.7</td><td>O K</td></tr><tr><td>360 min Summer</td><td>21.049</td><td>0.549</td><td>0.9</td><td>3.2</td><td>O K</td></tr><tr><td>480 min Summer</td><td>20.970</td><td>0.470</td><td>0.9</td><td>2.7</td><td>O K</td></tr><tr><td>600 min Summer</td><td>20.902</td><td>0.402</td><td>0.8</td><td>2.3</td><td>O K</td></tr><tr><td>720 min Summer</td><td>20.843</td><td>0.343</td><td>0.8</td><td>2.0</td><td>O K</td></tr><tr><td>960 min Summer</td><td>20.746</td><td>0.246</td><td>0.7</td><td>1.4</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>20.618</td><td>0.118</td><td>0.6</td><td>0.7</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>20.548</td><td>0.048</td><td>0.6</td><td>0.3</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>20.539</td><td>0.039</td><td>0.5</td><td>0.2</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>20.529</td><td>0.029</td><td>0.3</td><td>0.2</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>20.523</td><td>0.023</td><td>0.3</td><td>0.1</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>20.520</td><td>0.020</td><td>0.2</td><td>0.1</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>20.517</td><td>0.017</td><td>0.2</td><td>0.1</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>20.515</td><td>0.015</td><td>0.2</td><td>0.1</td><td>O K</td></tr><tr><td>15 min Winter</td><td>21.139</td><td>0.639</td><td>1.0</td><td>3.7</td><td>O K</td></tr></tbody></table> <table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>51.212</td><td>0.0</td><td>19</td></tr><tr><td>30 min Summer</td><td>33.890</td><td>0.0</td><td>31</td></tr><tr><td>60 min Summer</td><td>21.577</td><td>0.0</td><td>48</td></tr><tr><td>120 min Summer</td><td>13.412</td><td>0.0</td><td>84</td></tr><tr><td>180 min Summer</td><td>10.078</td><td>0.0</td><td>118</td></tr><tr><td>240 min Summer</td><td>8.204</td><td>0.0</td><td>152</td></tr><tr><td>360 min Summer</td><td>6.119</td><td>0.0</td><td>218</td></tr><tr><td>480 min Summer</td><td>4.968</td><td>0.0</td><td>282</td></tr><tr><td>600 min 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Summer	21.180	0.680	1.0	4.0	O K	60 min Summer	21.231	0.731	1.1	4.2	O K	120 min Summer	21.220	0.720	1.0	4.2	O K	180 min Summer	21.181	0.681	1.0	4.0	O K	240 min Summer	21.136	0.636	1.0	3.7	O K	360 min Summer	21.049	0.549	0.9	3.2	O K	480 min Summer	20.970	0.470	0.9	2.7	O K	600 min Summer	20.902	0.402	0.8	2.3	O K	720 min Summer	20.843	0.343	0.8	2.0	O K	960 min Summer	20.746	0.246	0.7	1.4	O K	1440 min Summer	20.618	0.118	0.6	0.7	O K	2160 min Summer	20.548	0.048	0.6	0.3	O K	2880 min Summer	20.539	0.039	0.5	0.2	O K	4320 min Summer	20.529	0.029	0.3	0.2	O K	5760 min Summer	20.523	0.023	0.3	0.1	O K	7200 min Summer	20.520	0.020	0.2	0.1	O K	8640 min Summer	20.517	0.017	0.2	0.1	O K	10080 min Summer	20.515	0.015	0.2	0.1	O K	15 min Winter	21.139	0.639	1.0	3.7	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	51.212	0.0	19	30 min Summer	33.890	0.0	31	60 min Summer	21.577	0.0	48	120 min Summer	13.412	0.0	84	180 min Summer	10.078	0.0	118	240 min Summer	8.204	0.0	152	360 min Summer	6.119	0.0	218	480 min Summer	4.968	0.0	282	600 min Summer	4.224	0.0	344	720 min Summer	3.699	0.0	404	960 min Summer	2.998	0.0	526	1440 min Summer	2.229	0.0	756	2160 min Summer	1.655	0.0	1096	2880 min Summer	1.340	0.0	1452	4320 min Summer	0.994	0.0	2152	5760 min Summer	0.804	0.0	2856	7200 min Summer	0.681	0.0	3592	8640 min Summer	0.595	0.0	4384	10080 min Summer	0.531	0.0	4960	15 min Winter	51.212	0.0	19
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Burton House		Former ATS Garage			
Rossett		Marford			
Wrexham LL12 0HY		SA1			
Date 30/11/2015 11:13		Designed by J RUSSELL			
File SA1.SRCX		Checked by			
Micro Drainage		Source Control 2015.1			
<u>Summary of Results for 10 year Return Period</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	21.279	0.779	1.1	4.5	O K
60 min Winter	21.366	0.866	1.1	4.9	O K
120 min Winter	21.316	0.816	1.1	4.7	O K
180 min Winter	21.244	0.744	1.1	4.3	O K
240 min Winter	21.173	0.673	1.0	3.9	O K
360 min Winter	21.040	0.540	0.9	3.1	O K
480 min Winter	20.929	0.429	0.9	2.5	O K
600 min Winter	20.836	0.336	0.8	2.0	O K
720 min Winter	20.758	0.258	0.7	1.5	O K
960 min Winter	20.639	0.139	0.7	0.8	O K
1440 min Winter	20.546	0.046	0.6	0.3	O K
2160 min Winter	20.534	0.034	0.4	0.2	O K
2880 min Winter	20.528	0.028	0.3	0.2	O K
4320 min Winter	20.521	0.021	0.2	0.1	O K
5760 min Winter	20.517	0.017	0.2	0.1	O K
7200 min Winter	20.514	0.014	0.2	0.1	O K
8640 min Winter	20.513	0.013	0.2	0.1	O K
10080 min Winter	20.511	0.011	0.1	0.1	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	33.890	0.0	31		
60 min Winter	21.577	0.0	52		
120 min Winter	13.412	0.0	90		
180 min Winter	10.078	0.0	126		
240 min Winter	8.204	0.0	162		
360 min Winter	6.119	0.0	230		
480 min Winter	4.968	0.0	296		
600 min Winter	4.224	0.0	360		
720 min Winter	3.699	0.0	420		
960 min Winter	2.998	0.0	538		
1440 min Winter	2.229	0.0	726		
2160 min Winter	1.655	0.0	1100		
2880 min Winter	1.340	0.0	1468		
4320 min Winter	0.994	0.0	2132		
5760 min Winter	0.804	0.0	2920		
7200 min Winter	0.681	0.0	3568		
8640 min Winter	0.595	0.0	4360		
10080 min Winter	0.531	0.0	5048		
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<u>Model Details</u> Storage is Online Cover Level (m) 23.000 <u>Lined Soakaway Structure</u> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.36000</td> <td>Ring Diameter (m)</td> <td>2.10</td> </tr> <tr> <td>Infiltration Coefficient Side (m/hr)</td> <td>0.36000</td> <td>Pit Multiplier</td> <td>1.6</td> </tr> <tr> <td>Safety Factor</td> <td>2.0</td> <td>Number Required</td> <td>1</td> </tr> <tr> <td>Porosity</td> <td>0.30</td> <td>Cap Volume Depth (m)</td> <td>2.500</td> </tr> <tr> <td>Invert Level (m)</td> <td>20.500</td> <td>Cap Infiltration Depth (m)</td> <td>0.805</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	0.36000	Ring Diameter (m)	2.10	Infiltration Coefficient Side (m/hr)	0.36000	Pit Multiplier	1.6	Safety Factor	2.0	Number Required	1	Porosity	0.30	Cap Volume Depth (m)	2.500	Invert Level (m)	20.500	Cap Infiltration Depth (m)	0.805
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