

Paul Basham Associates				Page 0																																																																																																																																																																																																																			
Lancaster Court Fareham Hampshire, PO15 5TU		RING SA (NORTH)																																																																																																																																																																																																																					
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<p>Summary of Results for 10 year Return Period (+30%)</p> <p>Half Drain Time : 621 minutes.</p> <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>-2.871</td><td>1.329</td><td>0.3</td><td>11.9</td><td>O K</td></tr><tr><td>30 min Summer</td><td>-2.464</td><td>1.736</td><td>0.3</td><td>15.5</td><td>O K</td></tr><tr><td>60 min Summer</td><td>-2.039</td><td>2.161</td><td>0.4</td><td>19.3</td><td>O K</td></tr><tr><td>120 min Summer</td><td>-1.619</td><td>2.581</td><td>0.4</td><td>23.0</td><td>O K</td></tr><tr><td>180 min Summer</td><td>-1.398</td><td>2.802</td><td>0.4</td><td>25.0</td><td>O K</td></tr><tr><td>240 min Summer</td><td>-1.267</td><td>2.933</td><td>0.5</td><td>26.2</td><td>O K</td></tr><tr><td>360 min Summer</td><td>-1.135</td><td>3.065</td><td>0.5</td><td>27.4</td><td>O K</td></tr><tr><td>480 min 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Summer</td><td>-2.263</td><td>1.937</td><td>0.3</td><td>17.3</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>-2.418</td><td>1.782</td><td>0.3</td><td>15.9</td><td>O K</td></tr><tr><td>15 min Winter</td><td>-2.710</td><td>1.490</td><td>0.3</td><td>13.3</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>70.770</td><td>0.0</td><td>19</td></tr><tr><td>30 min Summer</td><td>46.698</td><td>0.0</td><td>34</td></tr><tr><td>60 min Summer</td><td>29.629</td><td>0.0</td><td>64</td></tr><tr><td>120 min Summer</td><td>18.344</td><td>0.0</td><td>122</td></tr><tr><td>180 min Summer</td><td>13.747</td><td>0.0</td><td>182</td></tr><tr><td>240 min Summer</td><td>11.169</td><td>0.0</td><td>242</td></tr><tr><td>360 min Summer</td><td>8.317</td><td>0.0</td><td>360</td></tr><tr><td>480 min Summer</td><td>6.743</td><td>0.0</td><td>422</td></tr><tr><td>600 min Summer</td><td>5.728</td><td>0.0</td><td>484</td></tr><tr><td>720 min Summer</td><td>5.011</td><td>0.0</td><td>546</td></tr><tr><td>960 min Summer</td><td>4.057</td><td>0.0</td><td>676</td></tr><tr><td>1440 min Summer</td><td>3.009</td><td>0.0</td><td>954</td></tr><tr><td>2160 min Summer</td><td>2.231</td><td>0.0</td><td>1364</td></tr><tr><td>2880 min Summer</td><td>1.803</td><td>0.0</td><td>1784</td></tr><tr><td>4320 min Summer</td><td>1.335</td><td>0.0</td><td>2592</td></tr><tr><td>5760 min Summer</td><td>1.078</td><td>0.0</td><td>3352</td></tr><tr><td>7200 min Summer</td><td>0.913</td><td>0.0</td><td>4112</td></tr><tr><td>8640 min Summer</td><td>0.798</td><td>0.0</td><td>4848</td></tr><tr><td>10080 min Summer</td><td>0.711</td><td>0.0</td><td>5648</td></tr><tr><td>15 min Winter</td><td>70.770</td><td>0.0</td><td>19</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	-2.871	1.329	0.3	11.9	O K	30 min Summer	-2.464	1.736	0.3	15.5	O K	60 min Summer	-2.039	2.161	0.4	19.3	O K	120 min Summer	-1.619	2.581	0.4	23.0	O K	180 min Summer	-1.398	2.802	0.4	25.0	O K	240 min Summer	-1.267	2.933	0.5	26.2	O K	360 min Summer	-1.135	3.065	0.5	27.4	O K	480 min Summer	-1.081	3.119	0.5	27.8	O K	600 min Summer	-1.047	3.153	0.5	28.2	O K	720 min Summer	-1.026	3.174	0.5	28.3	O K	960 min Summer	-1.014	3.186	0.5	28.4	O K	1440 min Summer	-1.059	3.141	0.5	28.0	O K	2160 min Summer	-1.198	3.002	0.5	26.8	O K	2880 min Summer	-1.356	2.844	0.5	25.4	O K	4320 min Summer	-1.639	2.561	0.4	22.9	O K	5760 min Summer	-1.879	2.321	0.4	20.7	O K	7200 min Summer	-2.084	2.116	0.4	18.9	O K	8640 min Summer	-2.263	1.937	0.3	17.3	O K	10080 min Summer	-2.418	1.782	0.3	15.9	O K	15 min Winter	-2.710	1.490	0.3	13.3	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	70.770	0.0	19	30 min Summer	46.698	0.0	34	60 min Summer	29.629	0.0	64	120 min Summer	18.344	0.0	122	180 min Summer	13.747	0.0	182	240 min 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Lancaster Court Fareham Hampshire, PO15 5TU		RING SA (NORTH)			
Date 17/04/2019		Designed by JB			
File Ring Soakaway. lin10 + ...		Checked by AS			
Innovyze		Source Control 2018.1.1			
Summary of Results for 10 year Return Period (+30%)					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	-2.251	1.949	0.3	17.4	O K
60 min Winter	-1.771	2.429	0.4	21.7	O K
120 min Winter	-1.292	2.908	0.5	26.0	O K
180 min Winter	-1.036	3.164	0.5	28.3	O K
240 min Winter	-0.879	3.321	0.5	29.7	O K
360 min Winter	-0.709	3.491	0.5	31.2	O K
480 min Winter	-0.639	3.561	0.5	31.8	O K
600 min Winter	-0.619	3.581	0.5	32.0	O K
720 min Winter	-0.597	3.603	0.5	32.2	O K
960 min Winter	-0.595	3.605	0.5	32.2	O K
1440 min Winter	-0.689	3.511	0.5	31.4	O K
2160 min Winter	-0.911	3.289	0.5	29.4	O K
2880 min Winter	-1.148	3.052	0.5	27.3	O K
4320 min Winter	-1.574	2.626	0.4	23.5	O K
5760 min Winter	-1.910	2.290	0.4	20.4	O K
7200 min Winter	-2.188	2.012	0.4	18.0	O K
8640 min Winter	-2.419	1.781	0.3	15.9	O K
10080 min Winter	-2.616	1.584	0.3	14.1	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	46.698	0.0	33		
60 min Winter	29.629	0.0	62		
120 min Winter	18.344	0.0	120		
180 min Winter	13.747	0.0	178		
240 min Winter	11.169	0.0	236		
360 min Winter	8.317	0.0	348		
480 min Winter	6.743	0.0	454		
600 min Winter	5.728	0.0	506		
720 min Winter	5.011	0.0	566		
960 min Winter	4.057	0.0	722		
1440 min Winter	3.009	0.0	1026		
2160 min Winter	2.231	0.0	1472		
2880 min Winter	1.803	0.0	1904		
4320 min Winter	1.335	0.0	2724		
5760 min Winter	1.078	0.0	3520		
7200 min Winter	0.913	0.0	4320		
8640 min Winter	0.798	0.0	5096		
10080 min Winter	0.711	0.0	5848		
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Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	10	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) 0.091

Time (mins)	Area
From:	To: (ha)
0	4 0.091

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<p style="text-align: center;"><u>Model Details</u></p> <p style="text-align: center;">Storage is Online Cover Level (m) 0.000</p> <p style="text-align: center;"><u>Lined Soakaway Structure</u></p> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.13104</td> <td>Ring Diameter (m)</td> <td>2.70</td> </tr> <tr> <td>Infiltration Coefficient Side (m/hr)</td> <td>0.13104</td> <td>Pit Multiplier</td> <td>1.5</td> </tr> <tr> <td>Safety Factor</td> <td>5.0</td> <td>Number Required</td> <td>1</td> </tr> <tr> <td>Porosity</td> <td>0.30</td> <td>Cap Volume Depth (m)</td> <td>3.700</td> </tr> <tr> <td>Invert Level (m)</td> <td>-4.200</td> <td>Cap Infiltration Depth (m)</td> <td>3.700</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	0.13104	Ring Diameter (m)	2.70	Infiltration Coefficient Side (m/hr)	0.13104	Pit Multiplier	1.5	Safety Factor	5.0	Number Required	1	Porosity	0.30	Cap Volume Depth (m)	3.700	Invert Level (m)	-4.200	Cap Infiltration Depth (m)	3.700
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