

Shaun Tonge Engineering					Page 1																																																																																																																																																																																																																		
11 Broomhead Road Wombell Barnsley S73 0SA																																																																																																																																																																																																																							
Date 10/10/2019 13:38 File soakaway 2.SRCX		Designed by Shaun Checked by																																																																																																																																																																																																																					
CADS			Source Control 2019.1																																																																																																																																																																																																																				
<u>Summary of Results for 30 year Return Period</u> Half Drain Time : 90 minutes. <table><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><tr><td>15 min Summer</td><td>67.279</td><td>0.279</td><td>0.3</td><td>1.9</td><td>O K</td></tr><tr><td>30 min Summer</td><td>67.349</td><td>0.349</td><td>0.3</td><td>2.3</td><td>O K</td></tr><tr><td>60 min Summer</td><td>67.395</td><td>0.395</td><td>0.3</td><td>2.6</td><td>O K</td></tr><tr><td>120 min Summer</td><td>67.410</td><td>0.410</td><td>0.3</td><td>2.7</td><td>O K</td></tr><tr><td>180 min Summer</td><td>67.402</td><td>0.402</td><td>0.3</td><td>2.7</td><td>O K</td></tr><tr><td>240 min Summer</td><td>67.387</td><td>0.387</td><td>0.3</td><td>2.6</td><td>O K</td></tr><tr><td>360 min Summer</td><td>67.354</td><td>0.354</td><td>0.3</td><td>2.4</td><td>O K</td></tr><tr><td>480 min Summer</td><td>67.323</td><td>0.323</td><td>0.3</td><td>2.1</td><td>O K</td></tr><tr><td>600 min Summer</td><td>67.293</td><td>0.293</td><td>0.3</td><td>1.9</td><td>O K</td></tr><tr><td>720 min Summer</td><td>67.265</td><td>0.265</td><td>0.3</td><td>1.8</td><td>O K</td></tr><tr><td>960 min Summer</td><td>67.216</td><td>0.216</td><td>0.3</td><td>1.4</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>67.141</td><td>0.141</td><td>0.3</td><td>0.9</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>67.073</td><td>0.073</td><td>0.2</td><td>0.5</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>67.048</td><td>0.048</td><td>0.2</td><td>0.3</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>67.036</td><td>0.036</td><td>0.2</td><td>0.2</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>67.029</td><td>0.029</td><td>0.1</td><td>0.2</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>67.024</td><td>0.024</td><td>0.1</td><td>0.2</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>67.021</td><td>0.021</td><td>0.1</td><td>0.1</td><td>O 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Summer</td><td>4.793</td><td>0.0</td><td>426</td></tr><tr><td>960 min Summer</td><td>3.858</td><td>0.0</td><td>550</td></tr><tr><td>1440 min Summer</td><td>2.837</td><td>0.0</td><td>792</td></tr><tr><td>2160 min Summer</td><td>2.084</td><td>0.0</td><td>1128</td></tr><tr><td>2880 min Summer</td><td>1.672</td><td>0.0</td><td>1468</td></tr><tr><td>4320 min Summer</td><td>1.225</td><td>0.0</td><td>2196</td></tr><tr><td>5760 min Summer</td><td>0.982</td><td>0.0</td><td>2912</td></tr><tr><td>7200 min Summer</td><td>0.827</td><td>0.0</td><td>3632</td></tr><tr><td>8640 min Summer</td><td>0.718</td><td>0.0</td><td>4392</td></tr><tr><td>10080 min Summer</td><td>0.638</td><td>0.0</td><td>5064</td></tr><tr><td>15 min Winter</td><td>69.167</td><td>0.0</td><td>17</td></tr></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	67.279	0.279	0.3	1.9	O K	30 min Summer	67.349	0.349	0.3	2.3	O K	60 min Summer	67.395	0.395	0.3	2.6	O K	120 min Summer	67.410	0.410	0.3	2.7	O K	180 min Summer	67.402	0.402	0.3	2.7	O K	240 min Summer	67.387	0.387	0.3	2.6	O K	360 min Summer	67.354	0.354	0.3	2.4	O K	480 min Summer	67.323	0.323	0.3	2.1	O K	600 min Summer	67.293	0.293	0.3	1.9	O K	720 min Summer	67.265	0.265	0.3	1.8	O K	960 min Summer	67.216	0.216	0.3	1.4	O K	1440 min Summer	67.141	0.141	0.3	0.9	O K	2160 min Summer	67.073	0.073	0.2	0.5	O K	2880 min Summer	67.048	0.048	0.2	0.3	O K	4320 min Summer	67.036	0.036	0.2	0.2	O K	5760 min Summer	67.029	0.029	0.1	0.2	O K	7200 min Summer	67.024	0.024	0.1	0.2	O K	8640 min Summer	67.021	0.021	0.1	0.1	O K	10080 min Summer	67.019	0.019	0.1	0.1	O K	15 min Winter	67.316	0.316	0.3	2.1	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	69.167	0.0	18	30 min Summer	45.942	0.0	32	60 min Summer	29.238	0.0	58	120 min Summer	18.069	0.0	90	180 min Summer	13.484	0.0	124	240 min Summer	10.903	0.0	158	360 min Summer	8.058	0.0	228	480 min Summer	6.499	0.0	294	600 min 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			Designed by Shaun			
			Checked by			
CADS			Source Control 2019.1			
<u>Summary of Results for 30 year Return Period</u>						
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	
30 min Winter	67.397	0.397	0.3	2.6	O K	
60 min Winter	67.654	0.654	0.3	3.0	O K	
120 min Winter	67.759	0.759	0.3	3.1	O K	
180 min Winter	67.672	0.672	0.3	3.1	O K	
240 min Winter	67.511	0.511	0.3	2.9	O K	
360 min Winter	67.382	0.382	0.3	2.5	O K	
480 min Winter	67.334	0.334	0.3	2.2	O K	
600 min Winter	67.290	0.290	0.3	1.9	O K	
720 min Winter	67.249	0.249	0.3	1.7	O K	
960 min Winter	67.181	0.181	0.3	1.2	O K	
1440 min Winter	67.086	0.086	0.2	0.6	O K	
2160 min Winter	67.044	0.044	0.2	0.3	O K	
2880 min Winter	67.035	0.035	0.2	0.2	O K	
4320 min Winter	67.026	0.026	0.1	0.2	O K	
5760 min Winter	67.021	0.021	0.1	0.1	O K	
7200 min Winter	67.018	0.018	0.1	0.1	O K	
8640 min Winter	67.015	0.015	0.1	0.1	O K	
10080 min Winter	67.014	0.014	0.1	0.1	O K	
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)			
30 min Winter	45.942	0.0	31			
60 min Winter	29.238	0.0	58			
120 min Winter	18.069	0.0	96			
180 min Winter	13.484	0.0	136			
240 min Winter	10.903	0.0	172			
360 min Winter	8.058	0.0	246			
480 min Winter	6.499	0.0	316			
600 min Winter	5.497	0.0	384			
720 min Winter	4.793	0.0	448			
960 min Winter	3.858	0.0	576			
1440 min Winter	2.837	0.0	806			
2160 min Winter	2.084	0.0	1100			
2880 min Winter	1.672	0.0	1456			
4320 min Winter	1.225	0.0	2208			
5760 min Winter	0.982	0.0	2888			
7200 min Winter	0.827	0.0	3648			
8640 min Winter	0.718	0.0	4328			
10080 min Winter	0.638	0.0	5080			
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Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	30	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.000	Shortest Storm (mins)	15
Ratio R	0.355	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.016

Time (mins)		Area
From:	To:	(ha)
0	4	0.016

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Model Details

Storage is Online Cover Level (m) 68.200

Cellular Storage Structure

Invert Level (m) 67.000 Safety Factor 2.0
 Infiltration Coefficient Base (m/hr) 0.21420 Porosity 0.95
 Infiltration Coefficient Side (m/hr) 0.21420

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	7.0	7.0	0.500	0.0	11.4
0.400	7.0	11.4			

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