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Summary of Results for 100 year Return Period (+20%) Half Drain Time : 1142 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 Control (l/s)</th><th>Max Outflow (l/s)</th><th>Max Volume (m³)</th><th>Status</th></tr></thead><tbody><tr><td>15 min Summer</td><td>3.332</td><td>0.332</td><td>0.0</td><td>10.5</td><td>10.5</td><td>592.1</td><td>O K</td></tr><tr><td>30 min Summer</td><td>3.448</td><td>0.448</td><td>0.0</td><td>10.7</td><td>10.7</td><td>797.7</td><td>O K</td></tr><tr><td>60 min Summer</td><td>3.573</td><td>0.573</td><td>0.0</td><td>12.1</td><td>12.1</td><td>1021.3</td><td>O K</td></tr><tr><td>120 min Summer</td><td>3.703</td><td>0.703</td><td>0.0</td><td>13.4</td><td>13.4</td><td>1252.3</td><td>O K</td></tr><tr><td>180 min Summer</td><td>3.775</td><td>0.775</td><td>0.0</td><td>14.1</td><td>14.1</td><td>1380.7</td><td>O K</td></tr><tr><td>240 min Summer</td><td>3.821</td><td>0.821</td><td>0.0</td><td>14.5</td><td>14.5</td><td>1462.0</td><td>O K</td></tr><tr><td>360 min Summer</td><td>3.874</td><td>0.874</td><td>0.0</td><td>14.9</td><td>14.9</td><td>1556.3</td><td>O K</td></tr><tr><td>480 min Summer</td><td>3.905</td><td>0.905</td><td>0.0</td><td>15.2</td><td>15.2</td><td>1611.5</td><td>O K</td></tr><tr><td>600 min Summer</td><td>3.922</td><td>0.922</td><td>0.0</td><td>15.3</td><td>15.3</td><td>1641.7</td><td>O K</td></tr><tr><td>720 min Summer</td><td>3.929</td><td>0.929</td><td>0.0</td><td>15.4</td><td>15.4</td><td>1655.5</td><td>O K</td></tr><tr><td>960 min Summer</td><td>3.934</td><td>0.934</td><td>0.0</td><td>15.4</td><td>15.4</td><td>1663.5</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>3.931</td><td>0.931</td><td>0.0</td><td>15.4</td><td>15.4</td><td>1657.6</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>3.908</td><td>0.908</td><td>0.0</td><td>15.2</td><td>15.2</td><td>1617.4</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>3.875</td><td>0.875</td><td>0.0</td><td>14.9</td><td>14.9</td><td>1559.4</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>3.804</td><td>0.804</td><td>0.0</td><td>14.3</td><td>14.3</td><td>1432.6</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>3.736</td><td>0.736</td><td>0.0</td><td>13.7</td><td>13.7</td><td>1310.6</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>3.673</td><td>0.673</td><td>0.0</td><td>13.1</td><td>13.1</td><td>1199.5</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>3.618</td><td>0.618</td><td>0.0</td><td>12.5</td><td>12.5</td><td>1099.9</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>3.568</td><td>0.568</td><td>0.0</td><td>12.0</td><td>12.0</td><td>1011.2</td><td>O K</td></tr><tr><td>15 min Winter</td><td>3.373</td><td>0.373</td><td>0.0</td><td>10.5</td><td>10.5</td><td>664.1</td><td>O K</td></tr><tr><td>30 min Winter</td><td>3.502</td><td>0.502</td><td>0.0</td><td>11.3</td><td>11.3</td><td>894.5</td><td>O K</td></tr><tr><td>60 min Winter</td><td>3.643</td><td>0.643</td><td>0.0</td><td>12.8</td><td>12.8</td><td>1145.7</td><td>O K</td></tr><tr><td>120 min Winter</td><td>3.790</td><td>0.790</td><td>0.0</td><td>14.2</td><td>14.2</td><td>1407.0</td><td>O K</td></tr><tr><td>180 min Winter</td><td>3.872</td><td>0.872</td><td>0.0</td><td>14.9</td><td>14.9</td><td>1553.6</td><td>O K</td></tr></tbody></table> <table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>99.653</td><td>26</td></tr><tr><td>30 min Summer</td><td>67.369</td><td>41</td></tr><tr><td>60 min Summer</td><td>43.553</td><td>70</td></tr><tr><td>120 min Summer</td><td>27.239</td><td>130</td></tr><tr><td>180 min Summer</td><td>20.412</td><td>188</td></tr><tr><td>240 min Summer</td><td>16.521</td><td>248</td></tr><tr><td>360 min Summer</td><td>12.170</td><td>366</td></tr><tr><td>480 min Summer</td><td>9.802</td><td>484</td></tr><tr><td>600 min Summer</td><td>8.280</td><td>602</td></tr><tr><td>720 min Summer</td><td>7.210</td><td>720</td></tr><tr><td>960 min Summer</td><td>5.790</td><td>830</td></tr><tr><td>1440 min Summer</td><td>4.242</td><td>1078</td></tr><tr><td>2160 min Summer</td><td>3.101</td><td>1480</td></tr><tr><td>2880 min Summer</td><td>2.479</td><td>1904</td></tr><tr><td>4320 min Summer</td><td>1.805</td><td>2728</td></tr><tr><td>5760 min Summer</td><td>1.440</td><td>3520</td></tr><tr><td>7200 min Summer</td><td>1.207</td><td>4328</td></tr><tr><td>8640 min Summer</td><td>1.045</td><td>5104</td></tr><tr><td>10080 min Summer</td><td>0.926</td><td>5856</td></tr><tr><td>15 min Winter</td><td>99.653</td><td>26</td></tr></tbody></table> ©1982-2011 Micro Drainage Ltd <table><tbody><tr><td>60 min Winter</td><td>43.553</td><td>70</td></tr><tr><td>120 min Winter</td><td>27.239</td><td>128</td></tr><tr><td>180 min Winter</td><td>20.412</td><td>184</td></tr></tbody></table>				Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Outflow (l/s)	Max Volume (m³)	Status	15 min Summer	3.332	0.332	0.0	10.5	10.5	592.1	O K	30 min Summer	3.448	0.448	0.0	10.7	10.7	797.7	O K	60 min Summer	3.573	0.573	0.0	12.1	12.1	1021.3	O K	120 min Summer	3.703	0.703	0.0	13.4	13.4	1252.3	O K	180 min Summer	3.775	0.775	0.0	14.1	14.1	1380.7	O K	240 min Summer	3.821	0.821	0.0	14.5	14.5	1462.0	O K	360 min Summer	3.874	0.874	0.0	14.9	14.9	1556.3	O K	480 min Summer	3.905	0.905	0.0	15.2	15.2	1611.5	O K	600 min Summer	3.922	0.922	0.0	15.3	15.3	1641.7	O K	720 min Summer	3.929	0.929	0.0	15.4	15.4	1655.5	O K	960 min Summer	3.934	0.934	0.0	15.4	15.4	1663.5	O K	1440 min Summer	3.931	0.931	0.0	15.4	15.4	1657.6	O K	2160 min Summer	3.908	0.908	0.0	15.2	15.2	1617.4	O K	2880 min Summer	3.875	0.875	0.0	14.9	14.9	1559.4	O K	4320 min Summer	3.804	0.804	0.0	14.3	14.3	1432.6	O K	5760 min Summer	3.736	0.736	0.0	13.7	13.7	1310.6	O K	7200 min Summer	3.673	0.673	0.0	13.1	13.1	1199.5	O K	8640 min 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2160 min Summer	3.908	0.908	0.0	15.2	15.2	1617.4	O K																																																																																																																																																																																																																																																																												
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Richmond House Chester Bus. Park CH4 9QZ	Village Bakery - Wrexham Surface Water Attenuation 1 in 100 Year Storm + 20%						
Date 30/01/2016 10:34 File 1 in 100 Year.srcx	Designed By MCH Checked By						
Micro Drainage Source Control W.12.4							
<u>Summary of Results for 100 year Return Period (+20%)</u>							
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m³)	Status
240 min Winter	3.925	0.925	0.0	15.3	15.3	1647.6	O K
360 min Winter	3.988	0.988	0.0	15.9	15.9	1759.1	O K
480 min Winter	4.026	1.026	0.0	16.2	16.2	1827.1	O K
600 min Winter	4.048	1.048	0.0	16.3	16.3	1867.6	O K
720 min Winter	4.061	1.061	0.0	16.4	16.4	1890.3	O K
960 min Winter	4.068	1.068	0.0	16.5	16.5	1902.8	O K
1440 min Winter	4.057	1.057	0.0	16.4	16.4	1882.9	O K
2160 min Winter	4.023	1.023	0.0	16.1	16.1	1822.0	O K
2880 min Winter	3.974	0.974	0.0	15.8	15.8	1735.1	O K
4320 min Winter	3.868	0.868	0.0	14.9	14.9	1546.2	O K
5760 min Winter	3.768	0.768	0.0	14.0	14.0	1368.6	O K
7200 min Winter	3.680	0.680	0.0	13.2	13.2	1210.9	O K
8640 min Winter	3.602	0.602	0.0	12.4	12.4	1072.4	O K
10080 min Winter	3.534	0.534	0.0	11.7	11.7	950.8	O K
	Storm Event		Rain (mm/hr)		Time-Peak (mins)		
	240 min Winter		16.521		242		
	360 min Winter		12.170		358		
	480 min Winter		9.802		472		
	600 min Winter		8.280		586		
	720 min Winter		7.210		696		
	960 min Winter		5.790		908		
	1440 min Winter		4.242		1132		
	2160 min Winter		3.101		1600		
	2880 min Winter		2.479		2052		
	4320 min Winter		1.805		2940		
	5760 min Winter		1.440		3760		
	7200 min Winter		1.207		4608		
	8640 min Winter		1.045		5440		
	10080 min Winter		0.926		6248		
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Richmond House Chester Bus. Park CH4 9QZ	Village Bakery - Wrexham Surface Water Attenuation 1 in 100 Year Storm + 20%	
Date 30/01/2016 10:34 File 1 in 100 Year.srcx	Designed By MCH Checked By	
Micro Drainage		Source Control W.12.4

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)	18.000	Shortest Storm (mins)	15
Ratio R	0.340	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+20

Time / Area Diagram

Total Area (ha) 3.220

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	1.073	4-8	1.073	8-12	1.073

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