

Keytech Development Design Ltd				Page 1																																																																																																																																																																																																																			
Riverside Offices Mountbatten Way Congleton, CW12 1DY		K22-001 8SQM 1000YR CELLULAR SOAKAWAY																																																																																																																																																																																																																					
Date 03/10/2023 13:22 File 8SQM 100YR+40%CC.SRCX		Designed by HB Checked by																																																																																																																																																																																																																					
Innovyze		Source Control 2020.1.3																																																																																																																																																																																																																					
<u>Summary of Results for 1000 year Return Period</u> Half Drain Time : 1185 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>97.992</td><td>0.592</td><td>0.0</td><td>4.5</td><td>O K</td></tr><tr><td>30 min Summer</td><td>98.189</td><td>0.789</td><td>0.1</td><td>6.0</td><td>O K</td></tr><tr><td>60 min Summer</td><td>98.397</td><td>0.997</td><td>0.1</td><td>7.6</td><td>O K</td></tr><tr><td>120 min Summer</td><td>98.603</td><td>1.203</td><td>0.1</td><td>9.1</td><td>O K</td></tr><tr><td>180 min Summer</td><td>98.714</td><td>1.314</td><td>0.1</td><td>10.0</td><td>O K</td></tr><tr><td>240 min Summer</td><td>98.782</td><td>1.382</td><td>0.1</td><td>10.5</td><td>O K</td></tr><tr><td>360 min Summer</td><td>98.854</td><td>1.454</td><td>0.1</td><td>11.1</td><td>O K</td></tr><tr><td>480 min Summer</td><td>98.880</td><td>1.480</td><td>0.1</td><td>11.2</td><td>O K</td></tr><tr><td>600 min Summer</td><td>98.888</td><td>1.488</td><td>0.1</td><td>11.3</td><td>O K</td></tr><tr><td>720 min Summer</td><td>98.889</td><td>1.489</td><td>0.1</td><td>11.3</td><td>O K</td></tr><tr><td>960 min Summer</td><td>98.887</td><td>1.487</td><td>0.1</td><td>11.3</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>98.874</td><td>1.474</td><td>0.1</td><td>11.2</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>98.838</td><td>1.438</td><td>0.1</td><td>10.9</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>98.793</td><td>1.393</td><td>0.1</td><td>10.6</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>98.697</td><td>1.297</td><td>0.1</td><td>9.9</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>98.607</td><td>1.207</td><td>0.1</td><td>9.2</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>98.526</td><td>1.126</td><td>0.1</td><td>8.6</td><td>O K</td></tr><tr><td>8640 min 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Summer	98.189	0.789	0.1	6.0	O K	60 min Summer	98.397	0.997	0.1	7.6	O K	120 min Summer	98.603	1.203	0.1	9.1	O K	180 min Summer	98.714	1.314	0.1	10.0	O K	240 min Summer	98.782	1.382	0.1	10.5	O K	360 min Summer	98.854	1.454	0.1	11.1	O K	480 min Summer	98.880	1.480	0.1	11.2	O K	600 min Summer	98.888	1.488	0.1	11.3	O K	720 min Summer	98.889	1.489	0.1	11.3	O K	960 min Summer	98.887	1.487	0.1	11.3	O K	1440 min Summer	98.874	1.474	0.1	11.2	O K	2160 min Summer	98.838	1.438	0.1	10.9	O K	2880 min Summer	98.793	1.393	0.1	10.6	O K	4320 min Summer	98.697	1.297	0.1	9.9	O K	5760 min Summer	98.607	1.207	0.1	9.2	O K	7200 min Summer	98.526	1.126	0.1	8.6	O K	8640 min Summer	98.456	1.056	0.1	8.0	O K	10080 min Summer	98.393	0.993	0.1	7.5	O K	15 min Winter	98.063	0.663	0.0	5.0	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	134.338	0.0	27	30 min Summer	89.988	0.0	41	60 min Summer	57.306	0.0	70	120 min Summer	35.179	0.0	130	180 min Summer	26.057	0.0	188	240 min Summer	20.918	0.0	248	360 min Summer	15.188	0.0	364	480 min Summer	12.000	0.0	482	600 min Summer	9.990	0.0	600	720 min Summer	8.610	0.0	688	960 min Summer	6.803	0.0	790	1440 min Summer	4.870	0.0	1038	2160 min Summer	3.478	0.0	1448	2880 min Summer	2.735	0.0	1852	4320 min Summer	1.945	0.0	2680	5760 min Summer	1.524	0.0	3464	7200 min Summer	1.261	0.0	4256	8640 min Summer	1.079	0.0	5016	10080 min Summer	0.945	0.0	5760	15 min Winter	134.338	0.0	27
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Riverside Offices Mountbatten Way Congleton, CW12 1DY		K22-001 8SQM 1000YR CELLULAR SOAKAWAY				
Date 03/10/2023 13:22 File 8SQM 100YR+40%CC.SRCX		Designed by HB Checked by				
Innovyze		Source Control 2020.1.3				
Summary of Results for 1000 year Return Period						
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	
30 min Winter	98.284	0.884	0.1	6.7	O K	
60 min Winter	98.517	1.117	0.1	8.5	O K	
120 min Winter	98.749	1.349	0.1	10.2	O K	
180 min Winter	98.874	1.474	0.1	11.2	O K	
240 min Winter	98.951	1.551	0.1	11.8	O K	
360 min Winter	99.262	1.862	0.1	12.4	O K	
480 min Winter	99.516	2.116	0.1	12.7	O K	
600 min Winter	99.625	2.225	0.1	12.8	O K	
720 min Winter	99.667	2.267	0.1	12.8	O K	
960 min Winter	99.578	2.178	0.1	12.7	O K	
1440 min Winter	99.355	1.955	0.1	12.5	O K	
2160 min Winter	98.982	1.582	0.1	12.0	O K	
2880 min Winter	98.909	1.509	0.1	11.5	O K	
4320 min Winter	98.767	1.367	0.1	10.4	O K	
5760 min Winter	98.642	1.242	0.1	9.4	O K	
7200 min Winter	98.535	1.135	0.1	8.6	O K	
8640 min Winter	98.444	1.044	0.1	7.9	O K	
10080 min Winter	98.367	0.967	0.1	7.3	O K	
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)			
30 min Winter	89.988	0.0	41			
60 min Winter	57.306	0.0	70			
120 min Winter	35.179	0.0	128			
180 min Winter	26.057	0.0	184			
240 min Winter	20.918	0.0	242			
360 min Winter	15.188	0.0	358			
480 min Winter	12.000	0.0	472			
600 min Winter	9.990	0.0	584			
720 min Winter	8.610	0.0	692			
960 min Winter	6.803	0.0	890			
1440 min Winter	4.870	0.0	1100			
2160 min Winter	3.478	0.0	1552			
2880 min Winter	2.735	0.0	1996			
4320 min Winter	1.945	0.0	2856			
5760 min Winter	1.524	0.0	3688			
7200 min Winter	1.261	0.0	4472			
8640 min Winter	1.079	0.0	5280			
10080 min Winter	0.945	0.0	6056			
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Innovyze	Source Control 2020.1.3	

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	1000	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	17.000	Shortest Storm (mins)	15
Ratio R	0.400	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.018

Time (mins) Area			Time (mins) Area			Time (mins) Area		
From:	To:	(ha)	From:	To:	(ha)	From:	To:	(ha)
0	4	0.006	4	8	0.006	8	12	0.006