

MJA Consulting				Page 1																																																																																																																																																																																																																			
Monarch House Barton Lane OX14 3NB		Westergate & Eastergate Parking Court 1 1:100+40%cc																																																																																																																																																																																																																					
Date 18/10/2018 File PARKING COURT 1.SRCX		Designed by S.Smith Checked by																																																																																																																																																																																																																					
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<u>Summary of Results for 100 year Return Period (+40%)</u> Half Drain Time : 59 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>99.162</td><td>0.162</td><td>2.9</td><td>11.4</td><td>O K</td></tr><tr><td>30 min Summer</td><td>99.193</td><td>0.193</td><td>2.9</td><td>14.1</td><td>O K</td></tr><tr><td>60 min Summer</td><td>99.209</td><td>0.209</td><td>2.9</td><td>15.5</td><td>O K</td></tr><tr><td>120 min Summer</td><td>99.207</td><td>0.207</td><td>2.9</td><td>15.3</td><td>O K</td></tr><tr><td>180 min Summer</td><td>99.195</td><td>0.195</td><td>2.9</td><td>14.2</td><td>O K</td></tr><tr><td>240 min Summer</td><td>99.180</td><td>0.180</td><td>2.9</td><td>13.0</td><td>O K</td></tr><tr><td>360 min Summer</td><td>99.152</td><td>0.152</td><td>2.9</td><td>10.5</td><td>O K</td></tr><tr><td>480 min Summer</td><td>99.126</td><td>0.126</td><td>2.9</td><td>8.3</td><td>O K</td></tr><tr><td>600 min Summer</td><td>99.104</td><td>0.104</td><td>2.9</td><td>6.4</td><td>O K</td></tr><tr><td>720 min Summer</td><td>99.086</td><td>0.086</td><td>2.9</td><td>4.9</td><td>O K</td></tr><tr><td>960 min Summer</td><td>99.063</td><td>0.063</td><td>2.9</td><td>2.9</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>99.049</td><td>0.049</td><td>2.4</td><td>1.8</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>99.042</td><td>0.042</td><td>1.8</td><td>1.3</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>99.038</td><td>0.038</td><td>1.4</td><td>1.1</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>99.032</td><td>0.032</td><td>1.0</td><td>0.8</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>99.029</td><td>0.029</td><td>0.8</td><td>0.6</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>99.027</td><td>0.027</td><td>0.7</td><td>0.5</td><td>O K</td></tr><tr><td>8640 min 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min Summer</td><td>10.302</td><td>0.0</td><td>340</td></tr><tr><td>720 min Summer</td><td>8.963</td><td>0.0</td><td>398</td></tr><tr><td>960 min Summer</td><td>7.189</td><td>0.0</td><td>502</td></tr><tr><td>1440 min Summer</td><td>5.257</td><td>0.0</td><td>734</td></tr><tr><td>2160 min Summer</td><td>3.836</td><td>0.0</td><td>1100</td></tr><tr><td>2880 min Summer</td><td>3.063</td><td>0.0</td><td>1468</td></tr><tr><td>4320 min Summer</td><td>2.226</td><td>0.0</td><td>2148</td></tr><tr><td>5760 min Summer</td><td>1.773</td><td>0.0</td><td>2936</td></tr><tr><td>7200 min Summer</td><td>1.487</td><td>0.0</td><td>3640</td></tr><tr><td>8640 min Summer</td><td>1.289</td><td>0.0</td><td>4280</td></tr><tr><td>10080 min Summer</td><td>1.142</td><td>0.0</td><td>5128</td></tr><tr><td>15 min Winter</td><td>127.204</td><td>0.0</td><td>17</td></tr></tbody></table>						Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status	15 min Summer	99.162	0.162	2.9	11.4	O K	30 min Summer	99.193	0.193	2.9	14.1	O K	60 min Summer	99.209	0.209	2.9	15.5	O K	120 min Summer	99.207	0.207	2.9	15.3	O K	180 min Summer	99.195	0.195	2.9	14.2	O K	240 min Summer	99.180	0.180	2.9	13.0	O K	360 min Summer	99.152	0.152	2.9	10.5	O K	480 min Summer	99.126	0.126	2.9	8.3	O K	600 min Summer	99.104	0.104	2.9	6.4	O K	720 min Summer	99.086	0.086	2.9	4.9	O K	960 min Summer	99.063	0.063	2.9	2.9	O K	1440 min Summer	99.049	0.049	2.4	1.8	O K	2160 min Summer	99.042	0.042	1.8	1.3	O K	2880 min Summer	99.038	0.038	1.4	1.1	O K	4320 min Summer	99.032	0.032	1.0	0.8	O K	5760 min Summer	99.029	0.029	0.8	0.6	O K	7200 min Summer	99.027	0.027	0.7	0.5	O K	8640 min Summer	99.025	0.025	0.6	0.5	O K	10080 min Summer	99.023	0.023	0.5	0.4	O K	15 min Winter	99.180	0.180	2.9	13.0	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	127.204	0.0	17	30 min Summer	85.821	0.0	31	60 min Summer	55.250	0.0	52	120 min Summer	34.307	0.0	86	180 min Summer	25.552	0.0	120	240 min 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Date 18/10/2018 File PARKING COURT 1.SRCX	Designed by S.Smith Checked by				
Innovyze	Source Control 2017.1.2				
<u>Summary of Results for 100 year Return Period (+40%)</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
30 min Winter	99.219	0.219	2.9	16.2	O K
60 min Winter	99.240	0.240	2.9	18.1	O K
120 min Winter	99.234	0.234	2.9	17.6	O K
180 min Winter	99.215	0.215	2.9	15.9	O K
240 min Winter	99.191	0.191	2.9	13.9	O K
360 min Winter	99.146	0.146	2.9	10.0	O K
480 min Winter	99.107	0.107	2.9	6.7	O K
600 min Winter	99.077	0.077	2.9	4.1	O K
720 min Winter	99.058	0.058	2.9	2.6	O K
960 min Winter	99.049	0.049	2.4	1.8	O K
1440 min Winter	99.042	0.042	1.8	1.3	O K
2160 min Winter	99.036	0.036	1.3	1.0	O K
2880 min Winter	99.032	0.032	1.0	0.8	O K
4320 min Winter	99.028	0.028	0.8	0.6	O K
5760 min Winter	99.025	0.025	0.6	0.5	O K
7200 min Winter	99.023	0.023	0.5	0.4	O K
8640 min Winter	99.021	0.021	0.5	0.3	O K
10080 min Winter	99.020	0.020	0.4	0.3	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	85.821	0.0	31		
60 min Winter	55.350	0.0	58		
120 min Winter	34.307	0.0	92		
180 min Winter	25.552	0.0	130		
240 min Winter	20.570	0.0	166		
360 min Winter	15.173	0.0	234		
480 min Winter	12.206	0.0	294		
600 min Winter	10.302	0.0	346		
720 min Winter	8.963	0.0	386		
960 min Winter	7.189	0.0	492		
1440 min Winter	5.257	0.0	738		
2160 min Winter	3.836	0.0	1096		
2880 min Winter	3.063	0.0	1436		
4320 min Winter	2.226	0.0	2208		
5760 min Winter	1.773	0.0	2928		
7200 min Winter	1.487	0.0	3656		
8640 min Winter	1.289	0.0	4408		
10080 min Winter	1.142	0.0	5064		
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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)	19.500	Shortest Storm (mins)	15
Ratio R	0.342	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.057

Time (mins)	Area
From:	To: (ha)
0	4 0.057

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<u>Model Details</u> Storage is Online Cover Level (m) 100.000 <u>Porous Car Park Structure</u> <table> <tr> <td>Infiltration Coefficient Base (m/hr)</td> <td>0.07200</td> <td>Width (m)</td> <td>10.0</td> </tr> <tr> <td>Membrane Percolation (mm/hr)</td> <td>1000</td> <td>Length (m)</td> <td>28.5</td> </tr> <tr> <td>Max Percolation (l/s)</td> <td>79.2</td> <td>Slope (1:X)</td> <td>500.0</td> </tr> <tr> <td>Safety Factor</td> <td>2.0</td> <td>Depression Storage (mm)</td> <td>0</td> </tr> <tr> <td>Porosity</td> <td>0.30</td> <td>Evaporation (mm/day)</td> <td>0</td> </tr> <tr> <td>Invert Level (m)</td> <td>99.000</td> <td>Cap Volume Depth (m)</td> <td>0.500</td> </tr> </table>			Infiltration Coefficient Base (m/hr)	0.07200	Width (m)	10.0	Membrane Percolation (mm/hr)	1000	Length (m)	28.5	Max Percolation (l/s)	79.2	Slope (1:X)	500.0	Safety Factor	2.0	Depression Storage (mm)	0	Porosity	0.30	Evaporation (mm/day)	0	Invert Level (m)	99.000	Cap Volume Depth (m)	0.500
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