

Patrick Parsons Limited				Page 1																																																																																																																																																																																																																			
Waterloo House Thornton Street Newcastle Upon Tyne, NE1 4AP		Manor Court																																																																																																																																																																																																																					
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<u>Summary of Results for 100 year Return Period (+40%)</u> Half Drain Time : 669 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>24.406</td><td>0.306</td><td>0.4</td><td>14.2</td><td>O K</td></tr><tr><td>30 min Summer</td><td>24.491</td><td>0.391</td><td>0.4</td><td>18.2</td><td>O K</td></tr><tr><td>60 min Summer</td><td>24.571</td><td>0.471</td><td>0.4</td><td>21.9</td><td>O K</td></tr><tr><td>120 min Summer</td><td>24.640</td><td>0.540</td><td>0.4</td><td>25.1</td><td>O K</td></tr><tr><td>180 min Summer</td><td>24.668</td><td>0.568</td><td>0.4</td><td>26.4</td><td>O K</td></tr><tr><td>240 min Summer</td><td>24.680</td><td>0.580</td><td>0.4</td><td>27.0</td><td>O K</td></tr><tr><td>360 min Summer</td><td>24.683</td><td>0.583</td><td>0.4</td><td>27.1</td><td>O K</td></tr><tr><td>480 min 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Summer	24.491	0.391	0.4	18.2	O K	60 min Summer	24.571	0.471	0.4	21.9	O K	120 min Summer	24.640	0.540	0.4	25.1	O K	180 min Summer	24.668	0.568	0.4	26.4	O K	240 min Summer	24.680	0.580	0.4	27.0	O K	360 min Summer	24.683	0.583	0.4	27.1	O K	480 min Summer	24.673	0.573	0.4	26.7	O K	600 min Summer	24.658	0.558	0.4	26.0	O K	720 min Summer	24.643	0.543	0.4	25.3	O K	960 min Summer	24.616	0.516	0.4	24.0	O K	1440 min Summer	24.568	0.468	0.4	21.8	O K	2160 min Summer	24.503	0.403	0.4	18.8	O K	2880 min Summer	24.444	0.344	0.4	16.0	O K	4320 min Summer	24.342	0.242	0.4	11.3	O K	5760 min Summer	24.263	0.163	0.4	7.6	O K	7200 min Summer	24.207	0.107	0.4	5.0	O K	8640 min Summer	24.170	0.070	0.4	3.2	O K	10080 min Summer	24.151	0.051	0.4	2.4	O K	15 min Winter	24.443	0.343	0.4	16.0	O K	Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)	15 min Summer	143.818	0.0	19	30 min Summer	93.059	0.0	34	60 min Summer	57.296	0.0	64	120 min Summer	34.096	0.0	122	180 min Summer	24.853	0.0	182	240 min 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Innovyze		Source Control 2020.1			
<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	24.540	0.440	0.4	20.5	O K
60 min Winter	24.631	0.531	0.4	24.7	O K
120 min Winter	24.711	0.611	0.4	28.4	O K
180 min Winter	24.747	0.647	0.4	30.1	O K
240 min Winter	24.764	0.664	0.4	30.9	O K
360 min Winter	24.773	0.673	0.4	31.3	O K
480 min Winter	24.769	0.669	0.4	31.1	O K
600 min Winter	24.757	0.657	0.4	30.6	O K
720 min Winter	24.739	0.639	0.4	29.8	O K
960 min Winter	24.703	0.603	0.4	28.1	O K
1440 min Winter	24.638	0.538	0.4	25.0	O K
2160 min Winter	24.542	0.442	0.4	20.6	O K
2880 min Winter	24.452	0.352	0.4	16.4	O K
4320 min Winter	24.302	0.202	0.4	9.4	O K
5760 min Winter	24.196	0.096	0.4	4.5	O K
7200 min Winter	24.149	0.049	0.4	2.3	O K
8640 min Winter	24.142	0.042	0.3	2.0	O K
10080 min Winter	24.137	0.037	0.3	1.7	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)		
30 min Winter	93.059	0.0	33		
60 min Winter	57.296	0.0	62		
120 min Winter	34.096	0.0	120		
180 min Winter	24.853	0.0	180		
240 min Winter	19.754	0.0	238		
360 min Winter	14.233	0.0	352		
480 min Winter	11.285	0.0	464		
600 min Winter	9.419	0.0	574		
720 min Winter	8.122	0.0	678		
960 min Winter	6.425	0.0	768		
1440 min Winter	4.612	0.0	1068		
2160 min Winter	3.306	0.0	1512		
2880 min Winter	2.608	0.0	1928		
4320 min Winter	1.865	0.0	2676		
5760 min Winter	1.469	0.0	3288		
7200 min Winter	1.220	0.0	3680		
8640 min Winter	1.048	0.0	4416		
10080 min Winter	0.922	0.0	5144		
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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)	20.200	Shortest Storm (mins)	15
Ratio R	0.435	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.054

Time (mins)		Area
From:	To:	(ha)
0	4	0.054

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Model Details

Storage is Online Cover Level (m) 25.600

Cellular Storage Structure

Invert Level (m) 24.100 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.05760 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.05760

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	49.0	49.0	0.800	49.0	49.0

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