



MTC Engineering (Cambridge) Ltd		Page 1
Ground Floor, 24 High Street Whittlesford Cams, CB22 4LT	MALTING LANE BRAUGHING, HERTS Car Port Calcs	
Date 16/05/2023 10:13 File 3017 - CAR PORT CALCS.SRCX	Designed by JTC Checked by	
Innovyze	Source Control 2020.1.3	

Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 384 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m ³)	Status
15 min Summer	74.528	0.378	0.4	9.3	O K
30 min Summer	74.636	0.486	0.4	12.0	O K
60 min Summer	74.735	0.585	0.4	14.5	O K
120 min Summer	74.811	0.661	0.5	16.3	O K
180 min Summer	74.834	0.684	0.5	16.9	O K
240 min Summer	74.834	0.684	0.5	16.9	O K
360 min Summer	74.818	0.668	0.5	16.5	O K
480 min Summer	74.800	0.650	0.5	16.1	O K
600 min Summer	74.781	0.631	0.4	15.6	O K
720 min Summer	74.762	0.612	0.4	15.1	O K
960 min Summer	74.726	0.576	0.4	14.2	O K
1440 min Summer	74.659	0.509	0.4	12.6	O K
2160 min Summer	74.571	0.421	0.4	10.4	O K
2880 min Summer	74.496	0.346	0.4	8.5	O K
4320 min Summer	74.377	0.227	0.4	5.6	O K
5760 min Summer	74.293	0.143	0.3	3.5	O K
7200 min Summer	74.237	0.087	0.3	2.2	O K
8640 min Summer	74.206	0.056	0.3	1.4	O K
10080 min Summer	74.197	0.047	0.3	1.2	O K
15 min Winter	74.575	0.425	0.4	10.5	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Time-Peak (mins)
15 min Summer	143.047	0.0	19
30 min Summer	93.509	0.0	33
60 min Summer	58.167	0.0	62
120 min Summer	34.926	0.0	122
180 min Summer	25.561	0.0	182
240 min Summer	20.358	0.0	240
360 min Summer	14.768	0.0	306
480 min Summer	11.750	0.0	368
600 min Summer	9.834	0.0	432
720 min Summer	8.499	0.0	500
960 min Summer	6.746	0.0	636
1440 min Summer	4.864	0.0	910
2160 min Summer	3.502	0.0	1316
2880 min Summer	2.771	0.0	1700
4320 min Summer	1.989	0.0	2424
5760 min Summer	1.571	0.0	3120
7200 min Summer	1.308	0.0	3816
8640 min Summer	1.125	0.0	4416
10080 min Summer	0.991	0.0	5136
15 min Winter	143.047	0.0	18

MTC Engineering (Cambridge) Ltd		Page 2
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Summary of Results for 100 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m ³)	Status
30 min Winter	74.697	0.547	0.4	13.5	O K
60 min Winter	74.811	0.661	0.5	16.3	O K
120 min Winter	74.902	0.752	0.5	18.6	O K
180 min Winter	74.932	0.782	0.5	19.3	O K
240 min Winter	74.938	0.788	0.5	19.5	O K
360 min Winter	74.925	0.775	0.5	19.2	O K
480 min Winter	74.901	0.751	0.5	18.6	O K
600 min Winter	74.879	0.729	0.5	18.0	O K
720 min Winter	74.854	0.704	0.5	17.4	O K
960 min Winter	74.803	0.653	0.5	16.1	O K
1440 min Winter	74.705	0.555	0.4	13.7	O K
2160 min Winter	74.577	0.427	0.4	10.5	O K
2880 min Winter	74.470	0.320	0.4	7.9	O K
4320 min Winter	74.310	0.160	0.3	3.9	O K
5760 min Winter	74.214	0.064	0.3	1.6	O K
7200 min Winter	74.195	0.045	0.3	1.1	O K
8640 min Winter	74.189	0.039	0.2	1.0	O K
10080 min Winter	74.184	0.034	0.2	0.8	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Time-Peak (mins)
30 min Winter	93.509	0.0	33
60 min Winter	58.167	0.0	62
120 min Winter	34.926	0.0	120
180 min Winter	25.561	0.0	176
240 min Winter	20.358	0.0	232
360 min Winter	14.768	0.0	340
480 min Winter	11.750	0.0	386
600 min Winter	9.834	0.0	460
720 min Winter	8.499	0.0	538
960 min Winter	6.746	0.0	692
1440 min Winter	4.864	0.0	982
2160 min Winter	3.502	0.0	1404
2880 min Winter	2.771	0.0	1788
4320 min Winter	1.989	0.0	2508
5760 min Winter	1.571	0.0	3112
7200 min Winter	1.308	0.0	3672
8640 min Winter	1.125	0.0	4400
10080 min Winter	0.991	0.0	5144

MTC Engineering (Cambridge) Ltd		Page 3
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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)	20.500	Shortest Storm (mins)	15
Ratio R	0.409	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.036

Time (mins)		Area
From:	To:	(ha)
0	4	0.036

MTC Engineering (Cambridge) Ltd		Page 4
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Model Details

Storage is Online Cover Level (m) 75.492

Cellular Storage Structure

Invert Level (m) 74.150 Safety Factor 2.0
 Infiltration Coefficient Base (m/hr) 0.08270 Porosity 0.95
 Infiltration Coefficient Side (m/hr) 0.08270

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	26.0	26.0	1.300	26.0	52.5
0.100	26.0	28.0	1.400	26.0	54.6
0.200	26.0	30.1	1.500	26.0	56.6
0.300	26.0	32.1	1.600	26.0	58.6
0.400	26.0	34.2	1.700	26.0	60.7
0.500	26.0	36.2	1.800	26.0	62.7
0.600	26.0	38.2	1.900	26.0	64.8
0.700	26.0	40.3	2.000	26.0	66.8
0.800	26.0	42.3	2.100	26.0	68.8
0.900	26.0	44.4	2.200	26.0	70.9
1.000	26.0	46.4	2.300	26.0	72.9
1.100	26.0	48.4	2.400	26.0	75.0
1.200	26.0	50.5	2.500	26.0	77.0