



MTC Engineering (Cambridge) Ltd		Page 1
Ground Floor, 24 High Street Whittlesford Cambs, CB22 4LT	LAND ADJACENT TO 245 BARTON ROAD COMBERTON STORAGE CALCS	
Date 05/02/2024 13:20 File 3230-storage.SRCX	Designed by JTC Checked by	
Innovyze	Source Control 2020.1.3	

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

Half Drain Time : 165 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max E Outflow (l/s)	Max Volume (m ³)	Status
15 min Summer	25.662	0.168	0.0	0.6	0.6	6.8	O K
30 min Summer	25.708	0.214	0.0	0.7	0.7	8.7	O K
60 min Summer	25.744	0.250	0.0	0.7	0.7	10.1	O K
120 min Summer	25.759	0.265	0.0	0.8	0.8	10.7	O K
180 min Summer	25.760	0.266	0.0	0.8	0.8	10.8	O K
240 min Summer	25.758	0.264	0.0	0.8	0.8	10.7	O K
360 min Summer	25.747	0.253	0.0	0.7	0.7	10.2	O K
480 min Summer	25.735	0.241	0.0	0.7	0.7	9.8	O K
600 min Summer	25.723	0.229	0.0	0.7	0.7	9.3	O K
720 min Summer	25.710	0.216	0.0	0.7	0.7	8.8	O K
960 min Summer	25.688	0.194	0.0	0.6	0.6	7.9	O K
1440 min Summer	25.653	0.159	0.0	0.6	0.6	6.4	O K
2160 min Summer	25.616	0.122	0.0	0.5	0.5	4.9	O K
2880 min Summer	25.592	0.098	0.0	0.4	0.4	4.0	O K
4320 min Summer	25.562	0.068	0.0	0.4	0.4	2.8	O K
5760 min Summer	25.546	0.052	0.0	0.3	0.3	2.1	O K
7200 min Summer	25.537	0.043	0.0	0.3	0.3	1.7	O K
8640 min Summer	25.531	0.037	0.0	0.2	0.2	1.5	O K
10080 min Summer	25.528	0.034	0.0	0.2	0.2	1.4	O K
15 min Winter	25.685	0.191	0.0	0.6	0.6	7.7	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m ³)	Discharge Volume (m ³)	Time-Peak (mins)
15 min Summer	143.954	0.0	7.1	18
30 min Summer	92.629	0.0	9.3	33
60 min Summer	56.713	0.0	11.6	62
120 min Summer	33.583	0.0	13.9	108
180 min Summer	24.424	0.0	15.2	138
240 min Summer	19.389	0.0	16.1	170
360 min Summer	13.924	0.0	17.4	238
480 min Summer	11.018	0.0	18.3	306
600 min Summer	9.182	0.0	19.1	374
720 min Summer	7.908	0.0	19.7	442
960 min Summer	6.245	0.0	20.7	570
1440 min Summer	4.471	0.0	22.2	824
2160 min Summer	3.197	0.0	23.7	1192
2880 min Summer	2.518	0.0	24.8	1556
4320 min Summer	1.796	0.0	26.2	2252
5760 min Summer	1.413	0.0	27.2	2992
7200 min Summer	1.172	0.0	27.9	3680
8640 min Summer	1.006	0.0	28.4	4408
10080 min Summer	0.884	0.0	28.7	5136
15 min Winter	143.954	0.0	8.0	18

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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 Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
30 min Winter	25.737	0.243	0.0	0.7	0.7	9.8	O K
60 min Winter	25.778	0.284	0.0	0.8	0.8	11.5	O K
120 min Winter	25.798	0.304	0.0	0.8	0.8	12.3	O K
180 min Winter	25.796	0.302	0.0	0.8	0.8	12.2	O K
240 min Winter	25.791	0.297	0.0	0.8	0.8	12.0	O K
360 min Winter	25.774	0.280	0.0	0.8	0.8	11.3	O K
480 min Winter	25.755	0.261	0.0	0.8	0.8	10.6	O K
600 min Winter	25.737	0.243	0.0	0.7	0.7	9.8	O K
720 min Winter	25.719	0.225	0.0	0.7	0.7	9.1	O K
960 min Winter	25.688	0.194	0.0	0.6	0.6	7.9	O K
1440 min Winter	25.642	0.148	0.0	0.6	0.6	6.0	O K
2160 min Winter	25.598	0.104	0.0	0.5	0.5	4.2	O K
2880 min Winter	25.571	0.077	0.0	0.4	0.4	3.1	O K
4320 min Winter	25.544	0.050	0.0	0.3	0.3	2.0	O K
5760 min Winter	25.532	0.038	0.0	0.2	0.2	1.5	O K
7200 min Winter	25.527	0.033	0.0	0.2	0.2	1.3	O K
8640 min Winter	25.524	0.030	0.0	0.2	0.2	1.2	O K
10080 min Winter	25.522	0.028	0.0	0.1	0.1	1.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
30 min Winter	92.629	0.0	10.5	32
60 min Winter	56.713	0.0	13.1	60
120 min Winter	33.583	0.0	15.6	116
180 min Winter	24.424	0.0	17.1	144
240 min Winter	19.389	0.0	18.1	182
360 min Winter	13.924	0.0	19.5	258
480 min Winter	11.018	0.0	20.6	332
600 min Winter	9.182	0.0	21.5	402
720 min Winter	7.908	0.0	22.2	470
960 min Winter	6.245	0.0	23.3	606
1440 min Winter	4.471	0.0	25.0	864
2160 min Winter	3.197	0.0	26.7	1232
2880 min Winter	2.518	0.0	27.9	1584
4320 min Winter	1.796	0.0	29.6	2288
5760 min Winter	1.413	0.0	30.7	2952
7200 min Winter	1.172	0.0	31.6	3672
8640 min Winter	1.006	0.0	32.2	4400
10080 min Winter	0.884	0.0	32.6	5072

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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)	20.000	Shortest Storm (mins)	15
Ratio R	0.450	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.029

Time (mins)		Area
From:	To:	(ha)
0	4	0.029

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Model Details

Storage is Online Cover Level (m) 26.279

Porous Car Park Structure

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	10.0
Membrane Percolation (mm/hr)	1000	Length (m)	13.5
Max Percolation (l/s)	37.5	Slope (1:X)	0.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	25.494	Membrane Depth (m)	0

Orifice Outflow Control

Diameter (m) 0.027 Discharge Coefficient 0.600 Invert Level (m) 25.494