



Intermodal Transportation Ltd		Page 1
Hunters Court Debden Road Saffron Walden CB11 4AA	IT 2175	
Date 07/11/2023 15:08 File borehole 1 with tank on ...	Designed by RW Checked by	
XP Solutions	Source Control 2020.1.3	

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

Half Drain Time : 113 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
15 min Summer	96.027	11.727	7.2	51.4	O K
30 min Summer	96.208	11.908	7.2	64.1	O K
60 min Summer	96.312	12.012	7.2	71.4	O K
120 min Summer	96.276	11.976	7.2	68.8	O K
180 min Summer	96.215	11.915	7.2	64.6	O K
240 min Summer	96.154	11.854	7.2	60.3	O K
360 min Summer	96.030	11.730	7.2	51.6	O K
480 min Summer	95.916	11.616	7.2	43.7	O K
600 min Summer	95.811	11.511	7.2	36.3	O K
720 min Summer	95.714	11.414	7.2	29.5	O K
960 min Summer	95.553	11.253	7.2	18.3	O K
1440 min Summer	95.354	11.054	7.2	4.3	O K
2160 min Summer	88.653	4.353	6.3	0.2	O K
2880 min Summer	87.738	3.438	5.0	0.2	O K
4320 min Summer	86.760	2.460	3.5	0.1	O K
5760 min Summer	86.239	1.939	2.8	0.1	O K
7200 min Summer	85.913	1.613	2.3	0.1	O K
8640 min Summer	85.685	1.385	2.0	0.1	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
15 min Summer	138.700	0.0	24
30 min Summer	89.947	0.0	37
60 min Summer	55.544	0.0	64
120 min Summer	33.174	0.0	104
180 min Summer	24.241	0.0	136
240 min Summer	19.305	0.0	170
360 min Summer	13.918	0.0	236
480 min Summer	11.043	0.0	302
600 min Summer	9.223	0.0	366
720 min Summer	7.957	0.0	428
960 min Summer	6.300	0.0	546
1440 min Summer	4.527	0.0	766
2160 min Summer	3.248	0.0	1076
2880 min Summer	2.565	0.0	1428
4320 min Summer	1.836	0.0	2132
5760 min Summer	1.447	0.0	2840
7200 min Summer	1.203	0.0	3544
8640 min Summer	1.034	0.0	4280

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Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m <sup>3</sup> )	Status
10080 min Summer	85.518	1.218	1.8	0.1	O K
15 min Winter	96.132	11.832	7.2	58.8	O K
30 min Winter	96.345	12.045	7.2	73.7	O K
60 min Winter	96.485	12.185	7.2	83.5	O K
120 min Winter	96.470	12.170	7.2	82.4	O K
180 min Winter	96.381	12.081	7.2	76.2	O K
240 min Winter	96.295	11.995	7.2	70.2	O K
360 min Winter	96.108	11.808	7.2	57.1	O K
480 min Winter	95.934	11.634	7.2	44.9	O K
600 min Winter	95.774	11.474	7.2	33.7	O K
720 min Winter	95.632	11.332	7.2	23.8	O K
960 min Winter	95.413	11.113	7.2	8.4	O K
1440 min Winter	88.679	4.379	6.3	0.2	O K
2160 min Winter	87.442	3.142	4.5	0.2	O K
2880 min Winter	86.781	2.481	3.6	0.1	O K
4320 min Winter	86.076	1.776	2.6	0.1	O K
5760 min Winter	85.700	1.400	2.0	0.1	O K
7200 min Winter	85.464	1.164	1.7	0.1	O K
8640 min Winter	85.300	1.000	1.4	0.0	O K


Storm Event	Rain (mm/hr)	Flooded Volume (m <sup>3</sup> )	Time-Peak (mins)
10080 min Summer	0.909	0.0	5032
15 min Winter	138.700	0.0	24
30 min Winter	89.947	0.0	37
60 min Winter	55.544	0.0	64
120 min Winter	33.174	0.0	116
180 min Winter	24.241	0.0	146
240 min Winter	19.305	0.0	184
360 min Winter	13.918	0.0	258
480 min Winter	11.043	0.0	326
600 min Winter	9.223	0.0	392
720 min Winter	7.957	0.0	452
960 min Winter	6.300	0.0	558
1440 min Winter	4.527	0.0	720
2160 min Winter	3.248	0.0	1084
2880 min Winter	2.565	0.0	1452
4320 min Winter	1.836	0.0	2200
5760 min Winter	1.447	0.0	2904
7200 min Winter	1.203	0.0	3632
8640 min Winter	1.034	0.0	4368

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

<b>Storm Event</b>	<b>Max Level (m)</b>	<b>Max Depth (m)</b>	<b>Max Infiltration (l/s)</b>	<b>Max Volume (m<sup>3</sup>)</b>	<b>Status</b>
10080 min Winter	85.180	0.880	1.3	0.0	O K

<b>Storm Event</b>	<b>Rain (mm/hr)</b>	<b>Flooded Volume (m<sup>3</sup>)</b>	<b>Time-Peak (mins)</b>
10080 min Winter	0.909	0.0	5104

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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)	19.600	Shortest Storm (mins)	15
Ratio R	0.431	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.236

Time (mins) Area			Time (mins) Area			Time (mins) Area		
From:	To:	(ha)	From:	To:	(ha)	From:	To:	(ha)
0	4	0.079	4	8	0.079	8	12	0.079

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Model Details

Storage is Online Cover Level (m) 97.300

Deep Bore Soakaway Structure

Chamber Invert Level (m)	95.300	Borehole Depth (m)	11.000
Chamber Diameter/Length (m)	10.000	Infiltration Coefficient Base (m/hr)	0.00000
Chamber Width (m)	7.000	Safety Factor	2.0
Borehole Diameter (m)	0.250		

Side		Side		Side		Side	
Depth	Infil.	Depth	Infil.	Depth	Infil.	Depth	Infil.
(m)	Coef.	(m)	Coef.	(m)	Coef.	(m)	Coef.
	(m/hr)		(m/hr)		(m/hr)		(m/hr)
0.000	13.20000	3.000	13.20000	6.000	0.00000	9.000	0.00000
1.000	13.20000	4.000	13.20000	7.000	0.00000	10.000	0.00000
2.000	13.20000	5.000	0.00000	8.000	0.00000	11.000	0.00000