BRETT MARTIN

Plumbing & Drainage

StormCrate55

Stormwater Retention, Attenuation & Infiltration Crate



Quotation

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

Half Drain Time : 50 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Volume (m³)	Status
15 min Summer	0.383	0.230	1.2	4.7	O K
30 min Summer	0.436	0.283	1.3	5.8	O K
60 min Summer	0.463	0.310	1.3	6.4	O K
120 min Summer	0.461	0.308	1.3	6.3	O K
180 min Summer	0.441	0.288	1.3	5.9	O K
240 min Summer	0.417	0.264	1.2	5.4	O K
360 min Summer	0.371	0.218	1.2	4.5	O K
480 min Summer	0.331	0.178	1.2	3.6	O K
600 min Summer	0.296	0.143	1.2	2.9	O K
720 min Summer	0.268	0.115	1.1	2.4	O K
960 min Summer	0.226	0.073	1.1	1.5	O K
1440 min Summer	0.198	0.045	1.0	0.9	O K
2160 min Summer	0.186	0.033	0.7	0.7	O K
2880 min Summer	0.180	0.027	0.6	0.5	O K
4320 min Summer	0.173	0.020	0.4	0.4	O K
5760 min Summer	0.169	0.016	0.3	0.3	O K
7200 min Summer	0.166	0.013	0.3	0.3	O K
8640 min Summer	0.164	0.011	0.2	0.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
15 min Summer	124.633	0.0	17
30 min Summer	83.789	0.0	31
60 min Summer	53.779	0.0	50
120 min Summer	33.337	0.0	84
180 min Summer	24.832	0.0	118
240 min Summer	20.006	0.0	152
360 min Summer	14.706	0.0	218
480 min Summer	11.818	0.0	280
600 min Summer	9.966	0.0	340
720 min Summer	8.665	0.0	398
960 min Summer	6.943	0.0	510
1440 min Summer	5.071	0.0	736
2160 min Summer	3.696	0.0	1100
2880 min Summer	2.949	0.0	1468
4320 min Summer	2.142	0.0	2168
5760 min Summer	1.705	0.0	2936
7200 min Summer	1.427	0.0	3584
8640 min Summer	1.235	0.0	4272

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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 (m³)	Status
10080 min Summer	0.163	0.010	0.2	0.2	O K
15 min Winter	0.383	0.230	1.2	4.7	O K
30 min Winter	0.437	0.284	1.3	5.8	O K
60 min Winter	0.462	0.309	1.3	6.3	O K
120 min Winter	0.451	0.298	1.3	6.1	O K
180 min Winter	0.418	0.265	1.2	5.4	O K
240 min Winter	0.382	0.229	1.2	4.7	O K
360 min Winter	0.316	0.163	1.2	3.3	O K
480 min Winter	0.263	0.110	1.1	2.3	O K
600 min Winter	0.224	0.071	1.1	1.5	O K
720 min Winter	0.203	0.050	1.1	1.0	O K
960 min Winter	0.193	0.040	0.9	0.8	O K
1440 min Winter	0.183	0.030	0.6	0.6	O K
2160 min Winter	0.175	0.022	0.5	0.4	O K
2880 min Winter	0.170	0.017	0.4	0.4	O K
4320 min Winter	0.166	0.013	0.3	0.3	O K
5760 min Winter	0.163	0.010	0.2	0.2	O K
7200 min Winter	0.162	0.009	0.2	0.2	O K
8640 min Winter	0.160	0.007	0.2	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
10080 min Summer	1.093	0.0	4984
15 min Winter	124.633	0.0	17
30 min Winter	83.789	0.0	30
60 min Winter	53.779	0.0	50
120 min Winter	33.337	0.0	88
180 min Winter	24.832	0.0	126
240 min Winter	20.006	0.0	162
360 min Winter	14.706	0.0	226
480 min Winter	11.818	0.0	286
600 min Winter	9.966	0.0	338
720 min Winter	8.665	0.0	376
960 min Winter	6.943	0.0	494
1440 min Winter	5.071	0.0	740
2160 min Winter	3.696	0.0	1076
2880 min Winter	2.949	0.0	1468
4320 min Winter	2.142	0.0	2176
5760 min Winter	1.705	0.0	3000
7200 min Winter	1.427	0.0	3728
8640 min Winter	1.235	0.0	4400

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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 (m³)	Status
10080 min Winter	0.160	0.007	0.1	0.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Time-Peak (mins)
10080 min Winter	1.093	0.0	4976

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Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	1.000
Region	England and Wales	Cv (Winter)	1.000
M5-60 (mm)	19.000	Shortest Storm (mins)	15
Ratio R	0.350	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.018

Time (mins) From:	To:	Area (ha)
0	4	0.018

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Model Details

Storage is Online Cover Level (m) 1.000

Cellular Storage Structure

Invert Level (m) 0.153 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.34568 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.34568

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	21.6	21.6	0.347	0.0	27.4
0.346	21.6	27.4			

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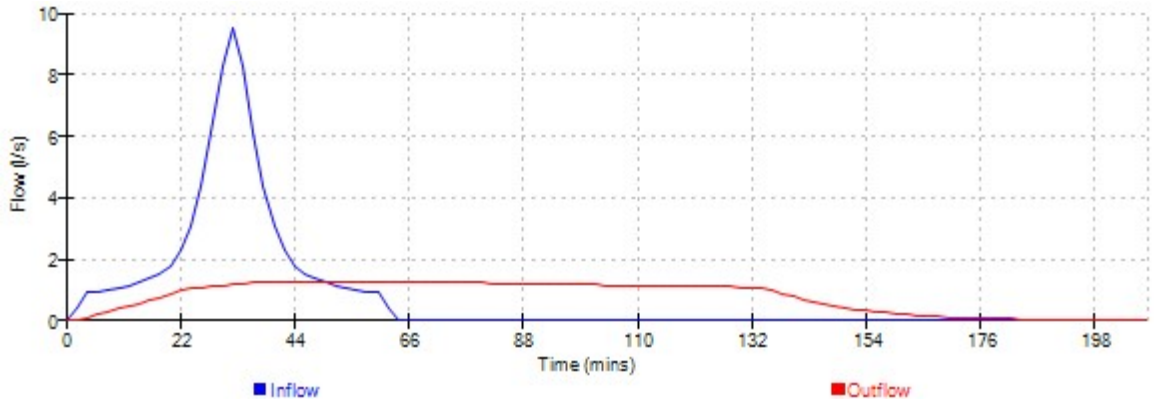
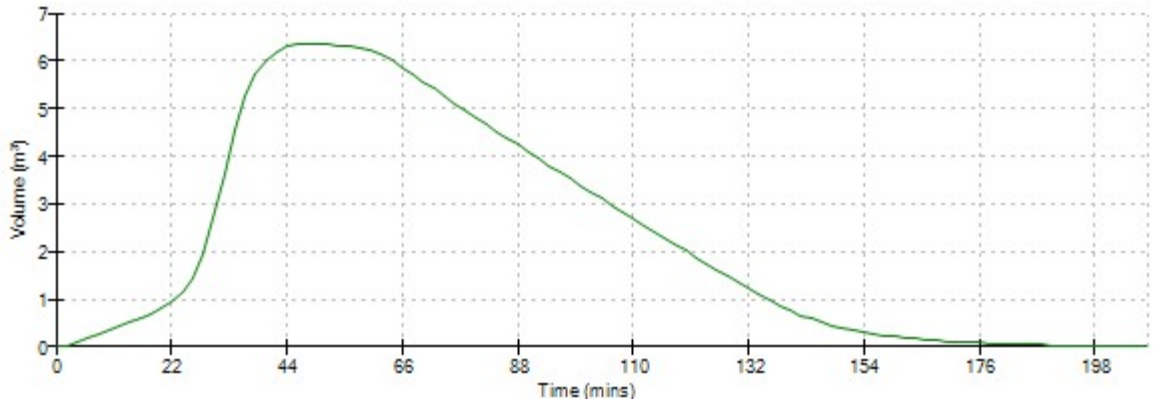
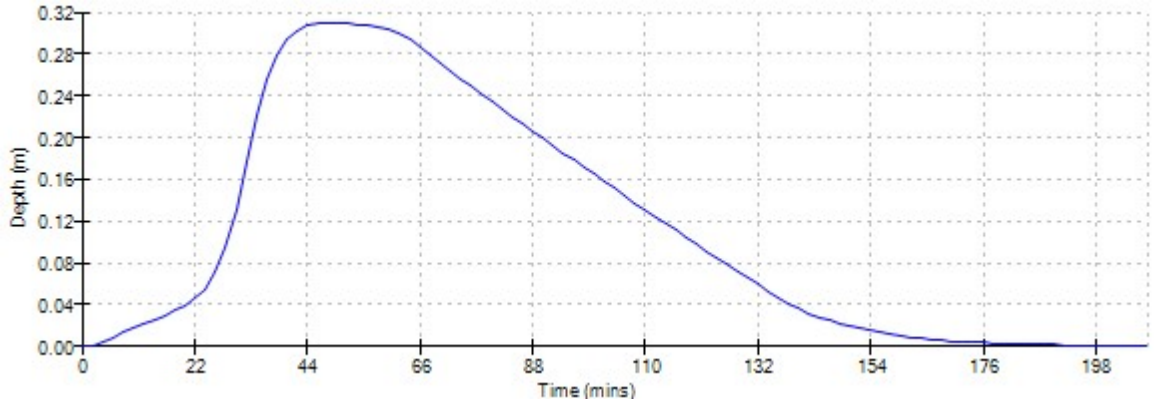
Event: 60 min Summer







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Hydraulic Summary

Brett Martin Plumbing & Drainage
Speedwell Ind Est, Staveley, Derbyshire, S43 3JP
Tel No. 01246 280000

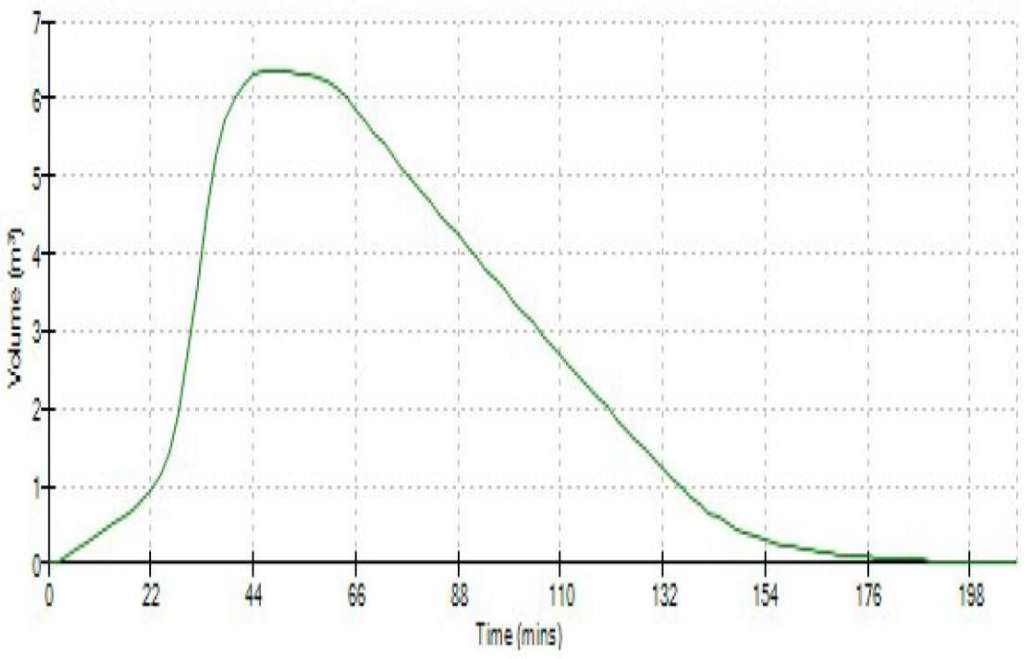
Project: Mill Lane
Site Location: Salvington

Client: Harlignton Homes

Inflow details - FSR Rainfall Model		Stormcrate Tank Size (95% Void)		
Return period	1 in 100 Years	Length (m) / No of Crates	6	5
Climate Change	40%	Width (m) / No of Crates	3.6	6
R value	0.35	Height (m) / No of Crates	0.347	1
M5-60	19	Volume(m^3) / Number of crates	7.50	30
Catchment area	0.0125ha	Effective volume (m^3)	7.12	
Summary of results	See report			

Outflow Details		Results	
Infiltration Rate (m/hr)	0.35	Result	**Pass**
Allowable outflow rate (L/s)	n/a	Critical Storm Duration	60Min Summer
Flow control	n/a	Critical Rainfall Intensity (mm/hr)	53.779
Details of other Inflow	None	Max Height	0.298
Attenuation	**No**	Time to half empty	50 Mins
Infiltration	**Yes**	Volume required (m^3)	6.4

Volume vs Time Graph



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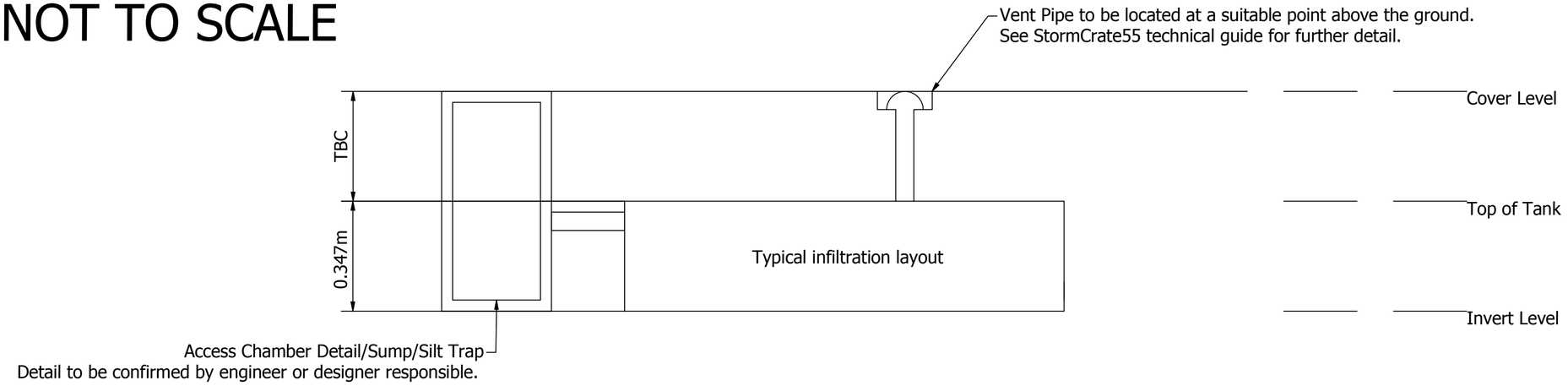
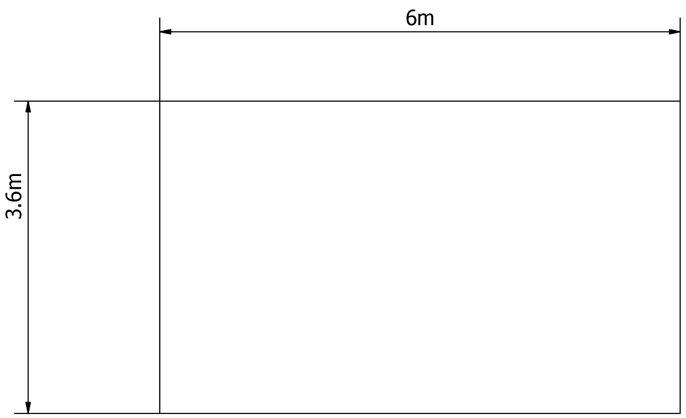
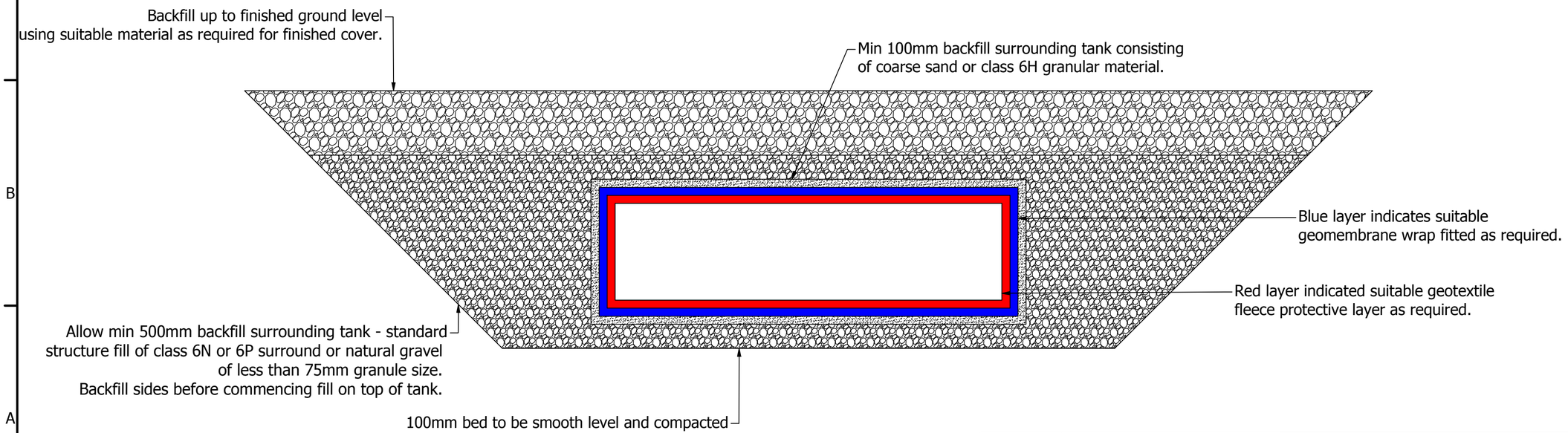




Proposed Tank Size using Brett Martin Stormcrate -
6m x 3.6m x 0.347m (30 crates = 5 x 6 x 1).



Typical installation details for this size of tank only, invert levels/cover levels to be specied by the contractor/engineer.
Backfill/surround type may need to change based on the advice of the contractor/engineer.
Further guidance can be found in StormCrate55 Install Guide, available at BrettMartin.com

ISSUE	DESCRIPTION	BY	DATE

General Tolerance Unless Specified
0.0 = ±0.2
0.00 = ±0.02
0.00 = ±0.002

DO NOT SCALE

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