

Soakaway Design

Job No.:

Job Name: Orchard road

New house

Area 90 m2

Run off Coeff 1 m2

90 m2

100 year return period + climate change

		Storm duration (Min.)	T	N	r	Climate allowance 40%
R5	0.03010 m	5	0.08 hrs	0.083333	0.1	0.023154
R10	0.03730 m	10	0.17 hrs	0.166667	0.1	0.028694
R15	0.04221 m	15	0.25 hrs	0.25	0.1	0.032473
R30	0.05203 m	30	0.50 hrs	0.5	0.1	0.040022
R60	0.06396 m	60	1.00 hrs	1	0.1	0.0492
R120	0.07846 m	120	2.00 hrs	2	0.1	0.060356
R240	0.09609 m	240	4.00 hrs	4	0.1	0.073917
R360	0.10812 m	360	6.00 hrs	6	0.1	0.083168
R600	0.12536 m	600	10.00 hrs	10	0.1	0.096432
R1440	0.16135 m	1440	24.00 hrs	24	0.1	0.124113

Inflow to attenuation system

I5	2.709 m3
I10	3.357 m3
I15	3.799 m3
I30	4.683 m3
I60	5.756 m3
I120	7.062 m3
I240	8.648 m3
I360	9.731 m3
I600	11.283 m3
I1440	14.521 m3

Outflow from Tank

f 1.42E-06 m3/s (Worst case test result on site)

Soakaway dims:

L 5.5 m

W 2.5 m

Depth 1 m (below invert depth of inlet pipe)

As50 21.75 (50% effective depth + base area as BRE365)

Void ratio 95 %

Outflow from Tank:

O5	0.01 m3
O10	0.02 m3
O15	0.03 m3
O30	0.06 m3
O60	0.11 m3
O120	0.22 m3
O240	0.44 m3
O360	0.67 m3
O600	1.11 m3
O1440	2.67 m3

Storage required:

		Time to drain:	
S5	2.70 m3	ts50	12.14 hours
S10	3.34 m3	ts50	15.01 hours
S15	3.77 m3	ts50	16.96 hours
S30	4.63 m3	ts50	20.81 hours
S60	5.65 m3	ts50	25.39 hours
S120	6.84 m3	ts50	30.76 hours
S240	8.20 m3	ts50	36.89 hours
S360	9.06 m3	ts50	40.76 hours
S600	10.17 m3	ts50	45.74 hours
S1440	11.85 m3	ts50	53.30 hours

Storage provided 13.1 m3

Critical storm = S1440

Storage required = 11.85

Time to discharge= 53.30 Hours (Should be less than 24 hours)

Soakaway size proposed is satisfactory