

J ob No.: 424861
J ob Name: Pevensey Road

Average soil infiltration rate
For carpark and roof design soakaway blanket

Test	Result
1	4.19E-06
2	4.19E-06
3	4.19E-06
Min	4.19E-06
FOS	3.00
Use infiltration rate	1.40E-06 Min

TABLE 25.2 Suggested factors of safety, F, for use in hydraulic design of infiltration systems (designed using Beffesa (1996). Note: not relevant for BRE method)			
Size of area to be drained	Consequences of failure		
	No damage or inconvenience	Minor damage to external areas or inconvenience (eg surface water on car parking)	Damage to buildings or structures, or major inconvenience (eg flooding of roads)
< 100 m²	1.5	2	10
100–1000 m²	1.5	3	10
> 1000 m²	1.5	5	10

Soakaway Design					
J ob No.:					
J ob Name: Pevensey Road					
Car park + driveway + roofs					
Area	554 m2				
Run off Coeff	1 m2				
	554 m2				
100 year return period + 40% CC		Storm duration (Min.)	T	N	r
R5	0.03242 m	5	0.083333	0.1	0.023154
R10	0.04017 m	10	0.166667	0.1	0.028694
R15	0.04546 m	15	0.25	0.1	0.032473
R30	0.05603 m	30	0.5	0.1	0.040922
R60	0.06888 m	60	1	0.1	0.0492
R120	0.08450 m	120	2	0.1	0.060356
R240	0.10348 m	240	4	0.1	0.073917
R360	0.11643 m	360	6	0.1	0.083168
R600	0.13500 m	600	10	0.1	0.096432
R1440	0.17376 m	1440	24	0.1	0.124113
Inflow to attenuation system					
I5	17.958 m3				
I10	22.255 m3				
I15	25.186 m3				
I30	31.041 m3				
I60	38.159 m3				
I120	46.812 m3				
I240	57.330 m3				
I360	64.505 m3				
I600	74.793 m3				
I1440	96.262 m3				
Outflow from Tank					
f	1.40E-06 m3/s	(From site investigation)			
Soakaway dims:					
Plan area	240 m (Area of driveway to be used as storage blanket)				
	1 m				
Depth	0.3 m (below invert depth of inlet pipe)				
As50	240 (Base area only)				
Void ratio	95 % (Permavoid or simiar system)				
Outflow from Tank:					
O5	0.10 m3				
O10	0.20 m3				
O15	0.30 m3				
O30	0.60 m3				
O60	1.21 m3				
O120	2.41 m3				
O240	4.83 m3				
O360	7.24 m3				
O600	12.07 m3				
O1440	28.96 m3				
Storage required:		Time to drain:			
S5	17.86 m3	ts50	7.40	hours	
S10	22.05 m3	ts50	9.14	hours	
S15	24.88 m3	ts50	10.31	hours	
S30	30.44 m3	ts50	12.61	hours	
S60	36.95 m3	ts50	15.31	hours	
S120	44.40 m3	ts50	18.40	hours	
S240	52.50 m3	ts50	21.75	hours	
S360	57.26 m3	ts50	23.73	hours	
S600	62.73 m3	ts50	25.99	hours	
S1440	67.30 m3	ts50	27.89	hours	
Storage provided	68.4 m3				
Critical storm =	S1440				
Storage required =	67.30				
Time to discharge=	27.89	Hours (S hould be less than 24 hours)			
Soakaway size proposed is satisfactory					