



HORIZONTAL SOAKAWAY CALCULATIONS CIRIA C753 - EQ 25.4 - using FEH 22 rainfall data

PROJECT TITLE:	JUNCTION ROAD BURGESS HILL		JOB No:	1593
SOAKAWAY NO.:	MAIN	LOCATION:	Road	DATE: Aug-25

1. FEH Rainfall data		2. Design Inflow		3. Test rate calculations		4. Design Outflow results	
Event:	100 year	Roof (m ²):	758	Test pit L:	2.00	α _{iso} (sq.m):	3.00
CC %:	1.45	Driveway (m ²):	0	Test pit W:	1.00	Inflow (cu.m):	0.00
Index:	10	Paths/patios (m ²):	0	Test pit D:	1.00	Outflow (cu.m):	1.00
		Total Area (sq.m):	758	Free vol (%):	100	Storage (cu.m):	-2.00
				Effective depth:	1.000		
				Infiltration rate (f) (m/s):	1.352E-05		

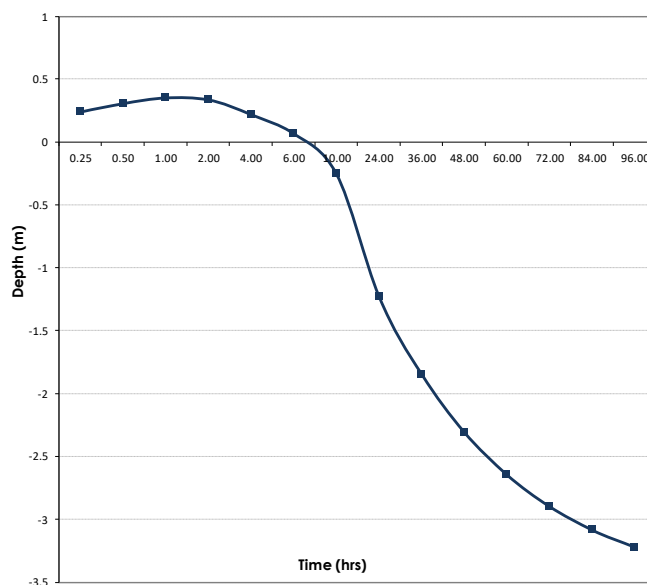
Summary of designer's sizes for chosen D min duration for 100 year storm							
L	W	d	Ab	Ad	P	R	n
36.80	10.00	0.500	368.00	758.00	93.60	2.06	0.30

Soakaway calculations are based on BRE 365 infiltration results and the calculated method shown in CIRIA document C697 & C753 and uses FEH 22 rainfall data. The rainfall depths are factored by the climate change growth factor chosen. The porosity rate is further factored for safety to suit risk from long term siltting. Always refer to the project construction detail sheets 200 or 201 for the soakaway or permeable pavement make-up and the main general arrangement (GA) showing the size, levels and position of the soakaway.

Calculations used are derived from CIRIA document C753 - SUDS manual Eq 25.4

D (Hrs)	mm	i (m/h)	a	b	h _{max}
0.25	27.05	0.1569	-35.23	0.027504	0.2414
0.50	36.37	0.1055	-22.40	0.027504	0.3059
1.00	46.78	0.0678	-13.00	0.027504	0.3527
2.00	56.52	0.0410	-6.30	0.027504	0.3371
4.00	66.65	0.0242	-2.10	0.027504	0.2187
6.00	72.56	0.0175	-0.45	0.027504	0.0678
10.00	80.05	0.0116	1.03	0.027504	-0.2487
24.00	92.26	0.0056	2.54	0.027504	-1.2274
36.00	98.80	0.0040	2.94	0.027504	-1.8466
48.00	104.26	0.0031	3.15	0.027504	-2.3053
60.00	109.20	0.0026	3.27	0.027504	-2.6445
72.00	113.80	0.0023	3.36	0.027504	-2.8958
84.00	118.16	0.0020	3.42	0.027504	-3.0829
96.00	122.36	0.0018	3.47	0.027504	-3.2227

MAX HEIGHT (H_{max}): 0.3527



Time to empty

H _{max} :	0.3527	Time to empty (hrs):	69
R:	2.06		
Recalculated q (m/h):	0.00206579		
Equivalent f rate:	0.00000057		

EMPTY TIME IS GREATER THAN 24 HOURS
SEE REQUIRED q ABOVE