

STORM WATER - PROPOSED SITE RUN-OFFS

Document B

Job No.:	405000		
Job Name:	5-7 Station Road		
Total site Area		1895	m2
Surface	Area (m2)	Run-off coeff	Eff Area (m2)
Building Island tyres	330	1.00	330
Cycle store	76	1.00	76
Bin store	37	1.00	37
Soft landscaping	139	1.00	139
Hardstanding	410	1.00	410
New flats roof	447	1.00	447
Permeable paving	456	1.00	456
			Permeable areas, lawns etc
Sum	1895		

1 in 100 year event + 40% climate change						
Eff Area	1895	m2				
100 year return period + climate change		Storm duration (Min.)	T	N	r	Climate allowance 40%
R5	0.03242	5	0.08 hrs	0.083333	0.1	0.023154
R10	0.04017	10	0.17 hrs	0.166667	0.1	0.028694
R15	0.04546	15	0.25 hrs	0.25	0.1	0.032473
R30	0.05603	30	0.50 hrs	0.5	0.1	0.040022
R60	0.06888	60	1.00 hrs	1	0.1	0.0492
R120	0.08450	120	2.00 hrs	2	0.1	0.060356
R240	0.10348	240	4.00 hrs	4	0.1	0.073917
R360	0.11643	360	6.00 hrs	6	0.1	0.083168
Run-off from site during 6 Hour event						
Volume of total run-off		Flow in Ltrs / second during event				
I360	220.644	m3	Flow	10.215	L/s	

1 in 1 year event + 40% climate change						
Eff Area	1895	m2				
1 year return period + climate change		Storm duration (Min.)	T	N	r	Climate allowance 40%
R5	0.01525	5	0.08 hrs	0.083333	1	0.010892
R10	0.01930	10	0.17 hrs	0.166667	1	0.013788
R15	0.02207	15	0.25 hrs	0.25	1	0.015764
R30	0.02759	30	0.50 hrs	0.5	1	0.01971
R60	0.03431	60	1.00 hrs	1	1	0.024508
R120	0.04248	120	2.00 hrs	2	1	0.03034
R240	0.05240	240	4.00 hrs	4	1	0.037429
R360	0.05917	360	6.00 hrs	6	1	0.042265
Run-off from site during 6 Hour event						
Volume of total run-off		Flow in Ltrs / second during event				
I360	112.130	m3	Flow	5.191	L/s	

Attenuation tank design 1 in 100 year + 40% climate change

Inflow to storm system					
I360	220.644	m3			
Outflow from Tank					
f	6.93E-03	m3/s	From existing site run off during 1in100 year event		
Storage media dims:					
Area	480.0	m2	No. of tanks	1	No.
Depth	0.5	m (below invert depth of inlet pipe)			
Void ratio	30.0	%			
Outflow from Tank:					
O360	149.62	m3			
Storage required:			Time to drain:		
S360	71.02	m3	ts50	1.42	hours
Storage provided	72.0	m3			
Critical storm =	S360				
Storage required =	71.02				
Time to discharge=	1.42	Hours			

Attenuation size proposed is satisfactory

Attenuation tank design 1 in 1 year + 40% climate change

Inflow to soakaway system					
I360	112.130	m3			
Outflow from Tank					
f	3.52E-03	m3/s	From existing site run off during 1in1 year event		
Soakaway dims:					
Area	480.0	m2	No. of tanks	1	No.
Depth	0.5	m (below invert depth of inlet pipe)			
Void ratio					
	30.0	%			
Outflow from Tank:					
O360	76.03	m3			
Storage required:					
S360	36.10	m3	ts50	0.72	hours
Storage provided					
	72.0	m3			
Critical storm = S360					
Storage required = 36.10					
Time to discharge= 0.72 Hours					

Attenuation size proposed is satisfactory