

Station Road/Furniss Way, Hayling Island, PO11 0EL	
DATE	05/04/2013
PROJECT CODE	P2415



SURFACE WATER RUN-OFF CALCULATIONS
According to Institute of Hydrology Report 124
Flood Estimation for Small Catchment' Method

i) Mean Annual Flood Flow Rate Equation (m³/sn)

$$Q = 0.00108 \text{ AREA}^{0.89} \text{ SAAR}^{1.17} \text{ SOIL}^{2.17}$$

ii) Catchment Characteristics

AREA (green)	0.023774 km ²	
SAAR	700 mm	(From MAP)
SOIL	0.4 CLASS 3	(From MAP)

iii) Catchment Mean Annual Flood Flow Rate

Note= For sites 50 ha or less use 50 ha when applying the formula

$$Q = 0.00108 \text{ AREA}^{0.89} \text{ SAAR}^{1.17} \text{ SOIL}^{2.17}$$

$$Q_{(50 \text{ ha})} = 0.17 \text{ m}^3/\text{sn}$$

$$Q_{(50 \text{ ha})} = 170.11 \text{ litres/second}$$

Area Ratio 21.0

Mean Annual Flood rate for the site	
Q_(0.238 ha) =	8.09 litres/Second

iv) UK Growth Curve Factors

Region	Return Period			
	2	10	30	100
7	0.95	1.6	2.1	3.19

v) IH124 Run-off Rate

Return Period	Greenfield Rate l/s
2	7.68
10	12.94
30	16.99
100	25.80

$$Q_{100\text{yr}} = 25.80 \text{ l/s}$$

$$Q_{100\text{yr plus 20\% CC}} = 30.96 \text{ l/s}$$