

Project				Sale, Manchester		Job no.		1/21541	
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DESIGN RAINFALL

In accordance with the Wallingford Procedure

Tedds calculation version 2.0.01

Design rainfall intensity

Location of catchment area	Manchester
Storm duration	D = 15 min
Return period	Period = 100 yr
Ratio 60 min to 2 day rainfall of 5 yr return period	r = 0.360
5-year return period rainfall of 60 minutes duration	M5_60min = 18.0 mm
Increase of rainfall intensity due to global warming	p _{climate} = 0 %
Factor Z1 (Wallingford procedure)	Z1 = 0.62
Rainfall for 15min storm with 5 year return period	M5_15min _i = Z1 * M5_60min = 11.2 mm
Factor Z2 (Wallingford procedure)	Z2 = 1.93
Rainfall for 15min storm with 100 year return period	M100_15min = Z2 * M5_15min _i = 21.5 mm
Design rainfall intensity	I _{max} = M100_15min / D = 86.1 mm/hr

Maximum surface water runoff

Catchment area	A _{catch} = 2158 m ²
Percentage of area that is impermeable	p = 59 %
Maximum surface water runoff	Q _{max} = A _{catch} * p * I _{max} = 30.6 l/s