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Project Camden Hub Hotel, Camden High Street				Job no. 8/2022	
Calcs for 1 in 100 Year Storm Event + 30%CC				Start page no./Revision 1	
Calcs by RB	Calcs date 05/11/2019	Checked by LP	Checked date 05/11/2019	Approved by LP	Approved date 05/11/2019

DESIGN RAINFALL

In accordance with the Wallingford Procedure

Tedds calculation version 2.0.01

Design rainfall intensity

Location of catchment area London
Storm duration $D = 15$ min
Return period Period = **100** yr
Ratio 60 min to 2 day rainfall of 5 yr return period $r = 0.440$
5-year return period rainfall of 60 minutes duration $M5_60\text{min} = 20.0$ mm
Increase of rainfall intensity due to global warming $p_{\text{climate}} = 30$ %
Factor Z1 (Wallingford procedure) $Z1 = 0.65$
Rainfall for 15min storm with 5 year return period $M5_15\text{min}_i = Z1 \times M5_60\text{min} \times (1 + p_{\text{climate}}) = 16.8$ mm
Factor Z2 (Wallingford procedure) $Z2 = 2.00$
Rainfall for 15min storm with 100 year return period $M100_15\text{min} = Z2 \times M5_15\text{min}_i = 33.7$ mm
Design rainfall intensity $I_{\text{max}} = M100_15\text{min} / D = 134.8$ mm/hr

Maximum surface water runoff

Catchment area $A_{\text{catch}} = 620$ m²
Percentage of area that is impermeable $p = 100$ %
Maximum surface water runoff $Q_{\text{max}} = A_{\text{catch}} \times p \times I_{\text{max}} = 23.2$ l/s