MASTERDRAIN
The alternative drainage design software
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MasterDrain
SW 12.23

Job No.			
Sheet no. 1			
Date 24/09/10			
Project	By IJ	Checked	Approved
Title DMRB Gully spacing calculations for CANTERBURY			

Hydrological data:-

M5-60 = 19.9 r = 0.38
WRAP = 4 SAAR = 650
Nat. grid = TR1557

Design data:-

Ret. period (yrs)	= 5	Time of Entry	= 8.0 mins
Road gradient	= 1 in 50	Crossfall	= 1 in 40
Permissable flooding width	= 0.40 m	Width of drainage area	= 3.0 m
Mannings constant	= 0.017	Road surface	= Blacktop (average)
Gully type	= P		

Calculations:-

Rainfall rate = 71.1 mm/hr

Flow depth at kerb = 0.010 m

Cross-sectional flow depth = 0.002 m²

Channel hydraulic radius = 0.005 m

2min-M5 = 4.0

Max flow rate = 0.0005 m³/s (0.5 l/s).

Initial gully spacing = 7.2 m

Gully efficiency = 98.6

Sequential gully spacing = 7.0 m

Percentage reduction of capacity to allow for potential blockage:-

Percentage block	Initial length	Sequential length
30	5.01	4.90
25	5.37	5.25
20	5.73	5.60
15	6.09	5.95
10	6.45	6.30
5	6.81	6.65

Calculations produced by MasterDrain Surface Water design program

Method derived from DMRB Spacing of Road Gullies - HA 102/00