

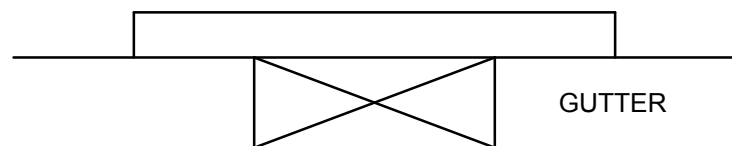
ON GRADE

- (i) GUTTER FLOW <math>< 0.05 \text{ m}^3/\text{s}</math>
Q INLET = 0.05 m³/s
- (ii) GUTTER FLOW > 0.05 m³/s
Q INLET = I EFF Q gutter
Q BYPASS = (1-I EFF) Q gutter

I EFF = INLET EFFICIENCY OF PIT SEE FIG 9.3

FIGURE 9.2 AND 9.3 GIVE RESULTS DERIVED FROM MODEL TESTING OF GULLY PITS AND GUTTER FLOWS CARRIED OUT ON BEHALF OF THE DEPARTMENT BY PUBLIC WORKS DEPARTMENT HYDRAULIC LABORATORY.

KERB INLET PIT WITH GRATE ON GRADE



AT A ROAD SAG POINT DRAINED BY A SIDE ENTRY GRATED INLET PIT THE FLOWRATE ENTERING THE PIT IS, FOR DESIGN PURPOSES, BASED UPON:-

FOR PONDING UP TO TOP OF KERB

$$Q \text{ INLET} = 1.66 P \cdot d^{1.5} \text{ m}^3/\text{s}$$

WHERE P = LENGTH OF INLET OPENING PLUS TWICE THE WIDTH OF THE GRATE (m.)
d = DEPTH OF WATER IN GUTTER (m.)

FOR STANDARD RM10 PITS THE DEPTH OF WATER IN THE GUTTER SHALL BE 0.16 m WHICH GIVES THE FOLLOWING INLET CAPACITIES.

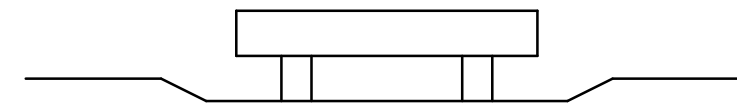
1.8 m LINTEL	0.276 m ³ /s
2.4 m LINTEL	0.340 m ³ /s
3.0 m LINTEL	0.404 m ³ /s

FOR DEPTHS GREATER THAN 1.4 h REFER TO ARR.

KERB INLET PIT WITH GRATE AT SAG

NOTES:

1. DATA DERIVED FROM PUBLIC WORKS DEPARTMENT HYDRAULIC LABORATORY - DEPARTMENT HOUSING 1987.
2. ARMIDALE REGIONAL COUNCIL ACCEPTS RESPONSIBILITY FOR THEIR USE.
3. ALTERNATE INLET CHARTS MAY CONSIDERED BUT MUST BE ASSESSED FOR COMPATIBILITY OF PIT CONFIGURATION.



PONDING UP TO 1.4 TIMES HEIGHT OF OPENING

THE INTAKE CAPACITY SHALL BE CALCULATED FROM:-

$$Q \text{ INLET} = 1.66 L \cdot d^{1.5} \text{ m}^3/\text{s}$$

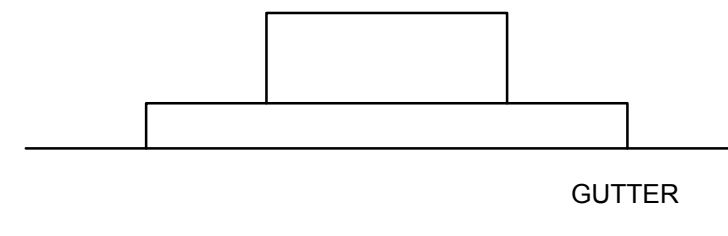
WHERE L = INLET WIDTH IN (m)
d = AVERAGE DEPTH OF PONDING (m)

PONDING GREATER THAN 1.4 TIMES HEIGHT OF OPENING

$$Q \text{ INLET} = 0.67A[2g(d-h/2)]^{0.5} \text{ m}^3/\text{s}$$

WHERE A = AREA OF OPENING (m²)
h = HEIGHT OF INLET (m)
d = AVERAGE DEPTH OF PONDING (m)
g = GRAVITATIONAL ACCELERATION (9.8 m/s²)

LETTERBOX PIT AT SAG (RM9)



$$Q = 1.66 L d^{1.5}$$

L = INLET WIDTH
d = 1.4H WHERE H = HEIGHT OF INLET
= 1.4 X 0.125 = 0.175

1.8 M INLET OPENING
Q = 1.66 X 1.8 X 0.175^{1.5} = 219 L/S

2.4 M INLET OPENING
Q = 1.66 X 2.4 X 0.175^{1.5} = 219 L/S

3.0 M INLET OPENING
Q = 1.66 X 3.0 X 0.175^{1.5} = 219 L/S

KERB INLET PIT NO GRATE AT SAG (RMS)

Armidale Dept of Public Regional Council Infrastructure	SCALES	APPROVED	D. MAUNDER	31/08/2016	SHEET 1 OF 2	
	NTS	MANAGER ENGINEERING AND STANDARDS SUPPORT		DATE		
	DRAINING PIT INLET CAPACITIES		SURV	AS SHEET SIZE	DRAWING No	AMDT No
			DRWN	ST	080-045	
DES			MW			
		CHKD	MW	CADFILE 080-045_1.dwg	DATE 31/08/2016	