

DEPTH AS DIRECTED BY THE ENGINEER

1.0 m DESIRABLE

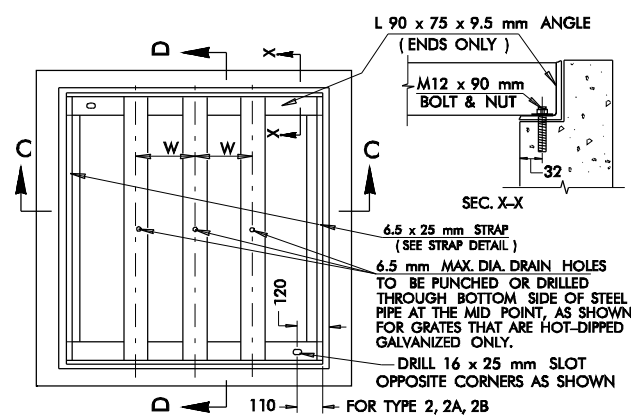
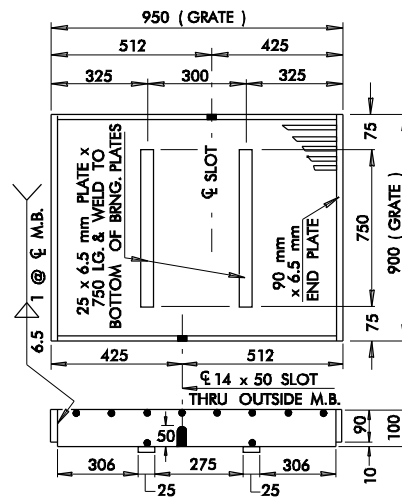
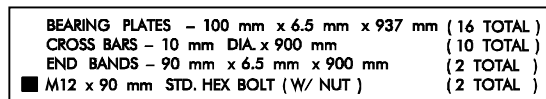
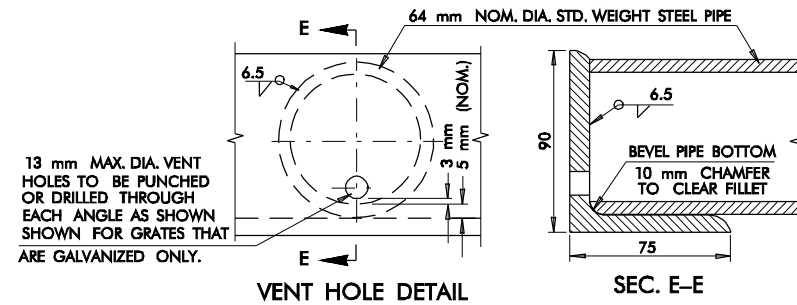
1:20 OR FLATTER

3.6 m ROUNDED

1:20 OR FLATTER

TYPICAL DIKE
PARALLEL TO ROADWAY

WHEN A DIKE IS REQUIRED, IT SHALL BE CONSTRUCTED SLOPING UP FROM THE INLET ON A 1:20 SLOPE TO A DESIRABLE HEIGHT OF 1.0 METER & IN NO CASE SHALL THE DIKE TOP BE HIGHER THAN 150 mm BELOW THE FINISHED GRADE OF THE INNER EDGE OF SURFACING AS SHOWN ON THE PLAN AND PROFILE SHEET.



The graph plots Head over Grate (meters) on the y-axis (0 to 0.60) against Theoretical Discharge Flowrate Q in m^3/s on the x-axis (0 to 1.5). Two curves are shown: a solid line for 'ORIFICE' flow and a dashed line for 'WEIR' flow. The orifice curve starts at (0,0) and rises to (1.0, 0.30). The weir curve starts at (0,0) and rises to (1.0, 0.25). The two curves intersect at approximately $Q = 0.8$ and Head = 0.25. For $Q > 0.8$, the weir curve continues to rise more steeply than the orifice curve.

Theoretical Discharge Flowrate Q (m^3/s)	Head over Grate (meters) - Orifice	Head over Grate (meters) - Weir
0.0	0.00	0.00
0.5	0.20	0.20
0.8	0.25	0.25
1.0	0.30	0.25

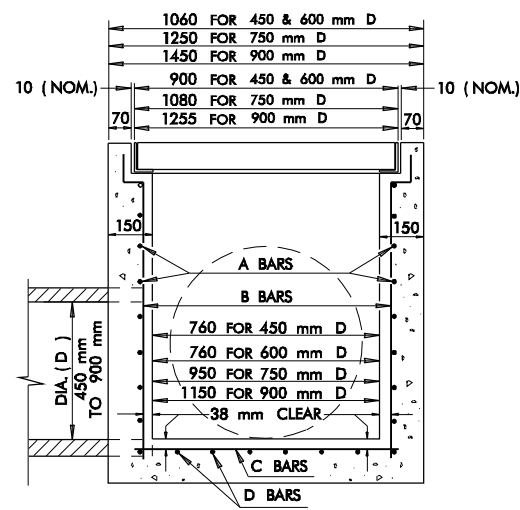
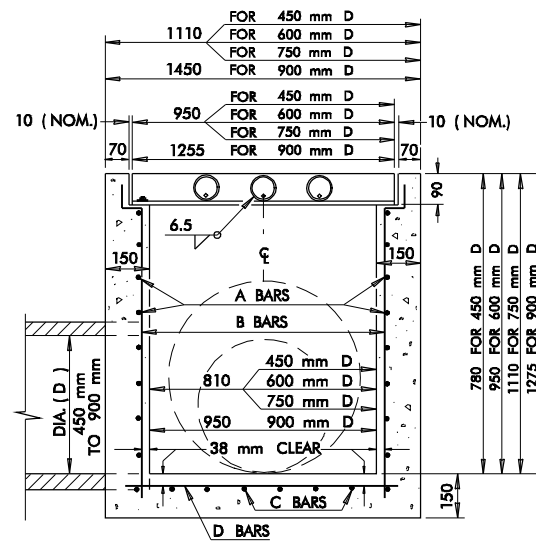
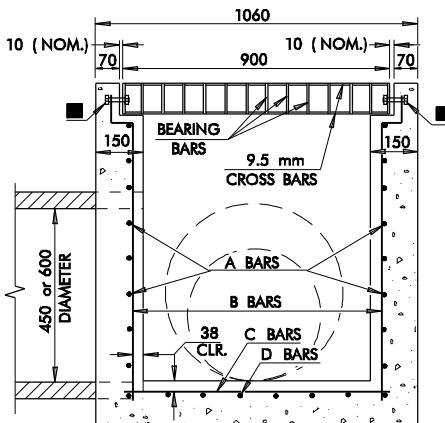
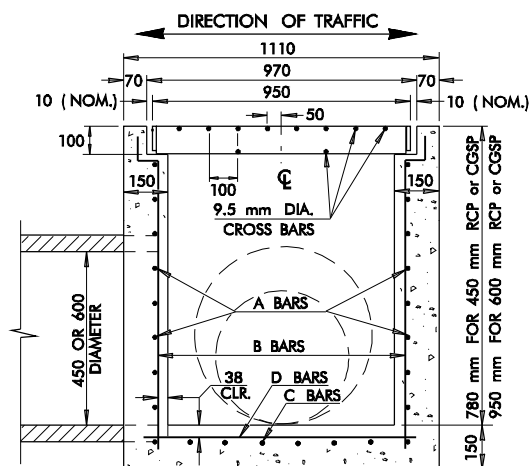
HYDRAULIC PERFORMANCE CHART
TO ALLOW FOR CLOGGING 60% THEORETICAL
DISCHARGE IS THE RECOMMENDED FACTOR
TO USE IN AN AREAS SUBJECT TO FLOODING.

ESTIMATED QUANTITIES					ADD'L DEPTH PER VERT. METER	
DESIGNATED PIPE SIZE IN INLET RCP (mm)	TYPE OF GRATE	1 PIPE CLASS A CONC. m ³	2 PIPES CLASS A CONC. m ³	REINF. STEEL kg	CLASS A CONC. m ³	REINF. STEEL kg
450	1 OR 2	0.57	0.51	52	0.561	38.7
600	1 OR 2	0.65	0.58	59	0.561	39.9
750	2A	0.81	0.73	73	0.618	44.1
900	2B	1.16	1.09	96	0.720	52.6

1. ALL CONSTRUCTION METHODS AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 1999 METRIC STANDARD SPECIFICATIONS.
2. EXPOSED CONCRETE EDGES SHALL HAVE A 20 mm CHAMFER OR AN APPROVED ROUNDED EDGING. ALL EXPOSED SURFACES SHALL BE FINISHED IN ACCORDANCE WITH SECTION 509.
3. VENT HOLES AND DRAIN HOLES FOR HOT DIP GALVANIZATION SHALL BE DRILLED OR PUNCHED IN GRATE AS SHOWN.
4. BICYCLE AND PEDESTRIAN SAFE GRATES, SIMILAR TO TYPE 1 GRATES, MAY BE SUBSTITUTED FOR TYPE 2A OR 2B GRATES, IF THEY MEET THE MINIMUM EQUIVALENT HYDRAULIC AND STRUCTURAL REQUIREMENTS. GRATES SIMILAR TO TYPE 1 GRATES, USED AS ALTERNATIVES TO TYPE 2A AND 2B GRATES, SHALL BE DESIGNATED TYPES 1A AND 1B GRATES. COST FOR TYPES 1A AND 1B GRATES SHALL BE INCLUDED IN THE PRICE BID FOR THE RESPECTIVE INLET.

BASIS OF PAYMENT		
ITEM NO.	ITEM	UNIT
611.06 (E)	INLET (SMD-TYPE 1)	EACH
611.06 (E)	INLET (SMD-TYPE 2)	EACH
611.06 (E)	INLET (SMD-TYPE 2A)	EACH
611.06 (E)	INLET (SMD-TYPE 2B)	EACH

NOTE: COST OF INLET GRATE SHALL BE INCLUDED IN THE PRICE BID FOR THE INLET. COST OF ALL CLASS A CONCRETE AND REINFORCING STEEL NECESSARY FOR ADDITIONAL DEPTH SHALL BE INCLUDED IN THE PRICE BID FOR THE INLET. INLET ADDITIONAL DEPTH DATA SHALL BE NOTED ON THE PLANS.



SEC. C-C

SEC. D-D

SMD INLET WITH TYPE 2, 2A & 2B GRATE

APPROVED BY ROADWAY ENGINEER		DATE	
OKLAHOMA DEPT. OF TRANSPORTATION ROADWAY STANDARD (METRIC) SINGLE MEDIAN DRAIN (FOR 450 mm, 600 mm, 750 mm & 900 mm CULVERTS)			
1999 SPECIFICATIONS		SMD-2	02M
ALL DIMENSIONS ON THIS SHEET IN MILLIMETERS UNLESS OTHERWISE NOTED.			R-73M