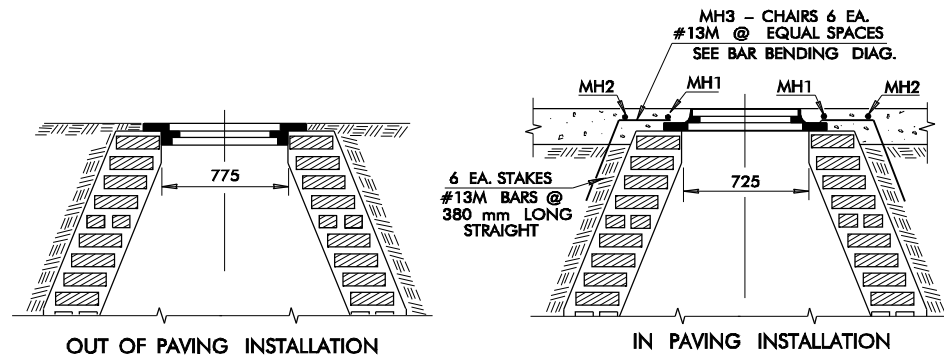
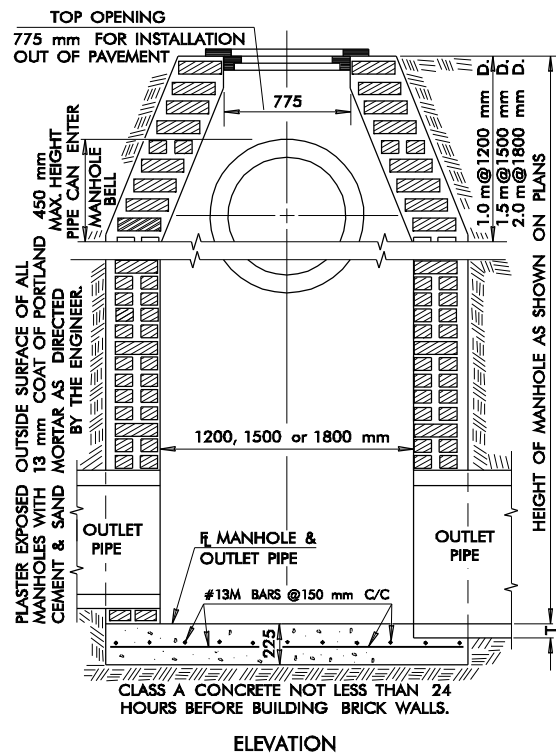


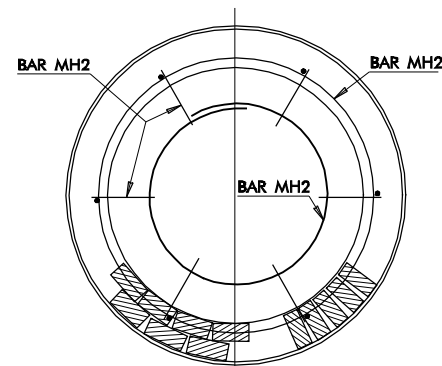
| DESCRIPTION | REVISIONS | DATE |
|--|-----------|----------|
| RE-ISSUE W/1999 SPECS. Modify Gen. Note No. 4 | | lgc 7/99 |
| Quant. - Conc. For Small Strud. | | lgc 6/03 |



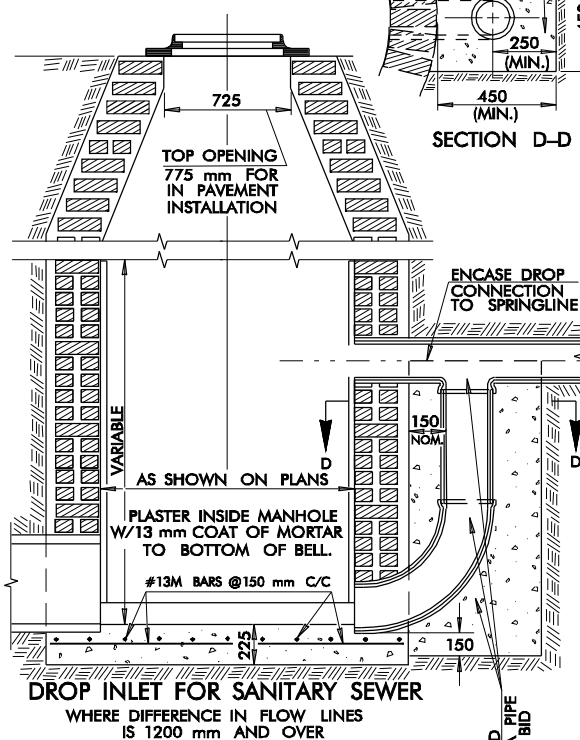
DETAIL OF MANHOLE TERMINALS



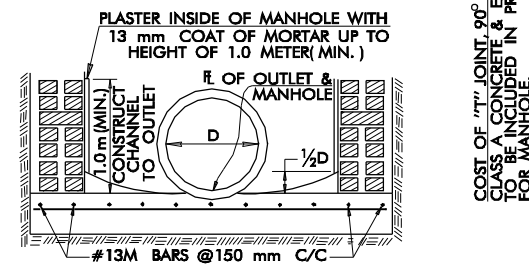
ELEVATION



PLAN WITH SECTION
(FRAME REINFORCING SHOWN)



DROP INLET FOR SANITARY SEWER
WHERE DIFFERENCE IN FLOW LINES
IS 1200 mm AND OVER

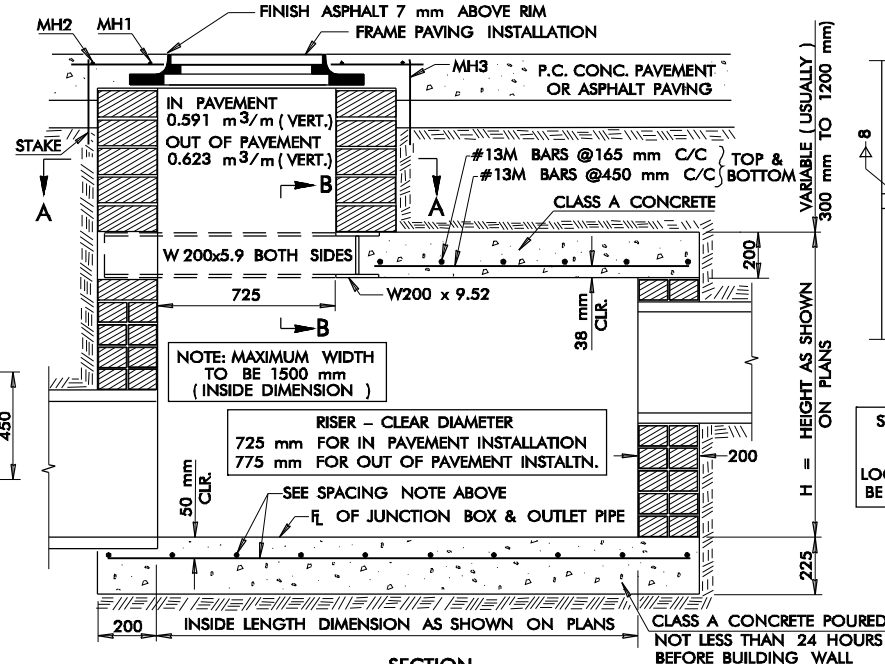


SECTION AT BOTTOM OF SANITARY SEWER MANHOLE

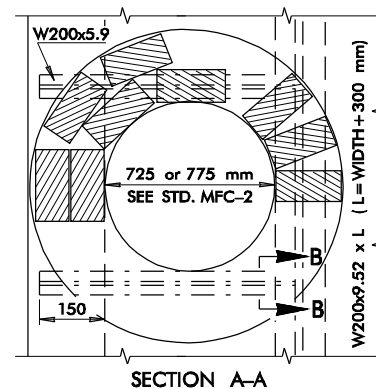
| ITEM NO. | ITEM | UNIT |
|------------|--------------------------------------|-----------|
| 611.06 (A) | MANHOLE (▼ DIAMETER) | EACH |
| 611.06 (B) | ADD'L DEPTH IN MANHOLES (▼ DIAMETER) | METER |
| 611.06 (C) | SPECIAL MANHOLE (▼ DIAMETER) | CU. METER |
| 611.06 (C) | SPECIAL MANHOLE (ADJUST TO GRADE) | CU. METER |
| 611.06 (C) | SPECIAL MANHOLE (REBUILT) | CU. METER |

▼ DIAMETER SHALL BE SPECIFIED (SEE PAY ITEM LIST)
■ MANHOLES 3.6 m (MIN.) THROUGH 6.0 m (MAX.) HEIGHT/DEPTH

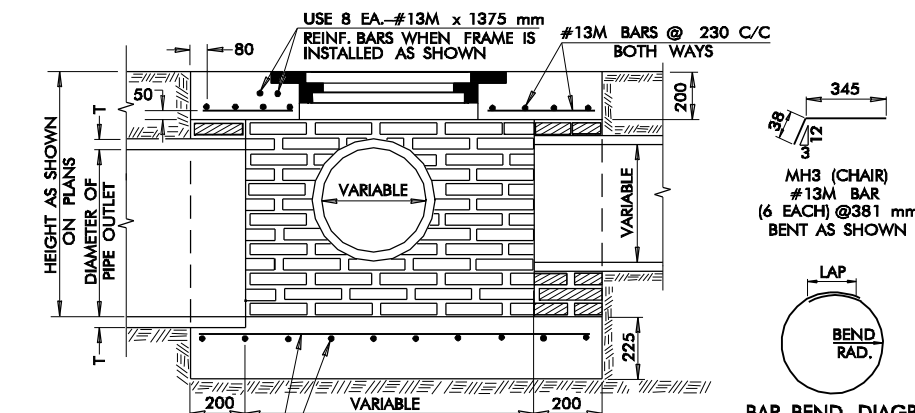
STANDARD MASONRY MANHOLES



SECTION
JUNCTION BOX UNDER SURFACING WITH RISER



SECTION A-A



SECTION C-C

DETAIL OF JUNCTION BOX
LOCATED OUTSIDE OF SURFACING W/O RISER

BAR BEND DIAGRAMS

(FOR MANHOLE & JUNCTION BOX
RISERS IN PAVEMENT)
BAR MH1 #13M @ 450 mm RADIUS
(300 mm LAP)
BAR MH2 #13M @ 686 mm RADIUS
(406 mm LAP)

STD. MANHOLE FRAME & COVER
TO BE USED ONLY WHEN
SPECIFIED ON THE PLANS.
LOCATION OF FRAME & COVER TO
BE DETERMINED BY THE ENGINEER.

GENERAL NOTES

- ALL CONSTRUCTION AND MATERIAL REQUIREMENTS SHALL BE IN ACCORDANCE WITH THE 1999 METRIC STANDARD SPECIFICATIONS.
- ALL MANHOLES SHALL BE 1200 mm DIAMETER UNLESS A LARGER DIAMETER IS REQUIRED.
- FOR DETAILS OF FRAME AND COVER, SEE STANDARD MANHOLE FRAME AND COVER. BRICK MASONRY IN STRAIGHT AND CIRCULAR WALL WITH A RADIUS OF 600 mm OR GREATER SHALL BE STRETCHERS WITH EVERY FIFTH COURSE HEADERS. CIRCULAR WALL WITH AS RADIUS LESS THAN 600 mm EVERY FIFTH COURSE SHALL BE STRETCHERS.
- CAST IN PLACE CONCRETE WALLS MEETING MIX REQUIREMENTS OF CLASS A CONCRETE MAY BE USED IN LIEU OF THE BRICK MASONRY WITH THE SAME DIMENSIONS AS SHOWN THIS STANDARD. NO. 13M REINFORCING STEEL BARS SPACED AT 750 mm VERTICALLY AND 300 mm HORIZONTALLY WILL BE REQUIRED FOR ALL CAST IN PLACE INLET WALLS EXCEEDING 1.5 METERS IN DEPTH (GUTTERLINE TO FLOWLINE). COST OF STEEL REINFORCING TO BE INCLUDED IN THE COST OF CLASS A CONCRETE.
- MORTAR TO BE 1:2 PORTLAND CEMENT AND SAND. JOINTS TO BE SHOVED JOINTS COMPLETELY FILLED WITH MORTAR. BUTTERED JOINTS WILL NOT BE PERMITTED. WHERE A MORTAR COAT IS REQUIRED IT SHALL BE 13 mm (MIN.) THICK AND SHALL BE APPLIED WHILE BRICK MASONRY IS CLEAN AND DAMP.
- MANHOLES TO BE PAID FOR AS 'MANHOLE' (EA.) UP TO 1525 mm IN HEIGHT. HEIGHT OVER 1525 mm WILL BE PAID FOR AS 'ADDITIONAL DEPTH IN MANHOLE' (VERT. METERS).
- JUNCTION BOX WALL CONSTRUCTION TO BE MEASURED BY CUBIC METER OF WALL MATERIAL AND TO BE PAID FOR AS 'JUNCTION BOX' (CUBIC METER). DEDUCTIONS IN VOLUME WILL BE MADE FOR ALL PIPE OPENINGS 450 mm IN DIAMETER AND LARGER.
- REINFORCING STEEL WILL BE INCLUDED AS PART OF THE COST OF THE STRUCTURE COMPLETE AND WILL NOT BE MEASURED AS A PAY ITEM.
- WHEN NET ADJUSTMENT HEIGHT (TEARBACK DEPTH TO SATISFY REQUIREMENTS OF BATTER SLOPE TO FINAL GRADE) IS 600 mm AND LESS, THEN THE PAY ITEM WILL BE 'MANHOLE ADJUST TO GRADE'. WHEN NET ADJUSTMENT IS GREATER THAN 600 mm THEN THE PAY ITEM WILL BE 'MANHOLE REBUILT'.

OPTIONAL PRECAST MANHOLE & JUNCTION BOXES

- WHEN PRECAST STORM SEWER OR JUNCTION BOX UNITS ARE CALLED FOR ON THE THE PLANS OR SUBSTITUTED FOR CAST IN PLACE UNITS:
 - THE MATERIAL COMPONENTS SHALL MEET AASHTO DESIGNATION M 199M AND SHOP DRAWINGS SHALL BE SUBMITTED TO THE O. D. O. T. FOR APPROVAL.
 - ALL LIFT HOLES SHALL BE SEALED WITH FIRMLY PACKED MIXTURE OF CEMENT AND SAND GROUT.
 - ALL JOINTS BETWEEN MANHOLE/JUNCTION BOX AND CONNECTING CONDUITS SHALL BE SEALED WITH APPROVED RUBBER RINGS.

| ITEM NO. | ITEM | UNIT |
|-----------|------------------------------------|-------------|
| 509.06(C) | CLASS A CONCRETE, SMALL STRUCTURES | CUBIC METER |
| 611.06(J) | JUNCTION BOXES | CUBIC METER |

▲ FOR QUANTITIES OF CLASS A CONCRETE LESS THAN 15.0 CUBIC METERS

| APPROVED BY ROADWAY ENGINEER | DATE |
|---|-----------|
| OKLAHOMA DEPT. OF TRANSPORTATION ROADWAY STANDARD (METRIC) | |
| MANHOLE AND JUNCTION BOX | |
| 1999 SPECIFICATIONS | MJB-2 01M |
| ALL DIMENSIONS ON THIS SHEET IN MILLIMETERS UNLESS OTHERWISE NOTED. | R-84M |

| PIPE DIAM. | VOLUME CU. METER |
|------------|------------------|
| 450 | 0.054 |
| 600 | 0.092 |
| 750 | 0.139 |
| 900 | 0.197 |
| 1050 | 0.265 |
| 1200 | 0.343 |
| 1350 | 0.430 |
| 1500 | 0.537 |
| 1650 | 0.636 |
| 1800 | 0.754 |
| 1950 | 0.891 |
| 2100 | 1.029 |
| 2250 | 1.179 |

| PIPE DIAM. | VOLUME CU. METER |
|------------|------------------|
| 450 | 0.054 |
| 600 | 0.092 |
| 750 | 0.139 |
| 900 | 0.197 |
| 1050 | 0.265 |
| 1200 | 0.343 |
| 1350 | 0.430 |
| 1500 | 0.537 |
| 1650 | 0.636 |
| 1800 | 0.754 |
| 1950 | 0.891 |
| 2100 | 1.029 |
| 2250 | 1.179 |