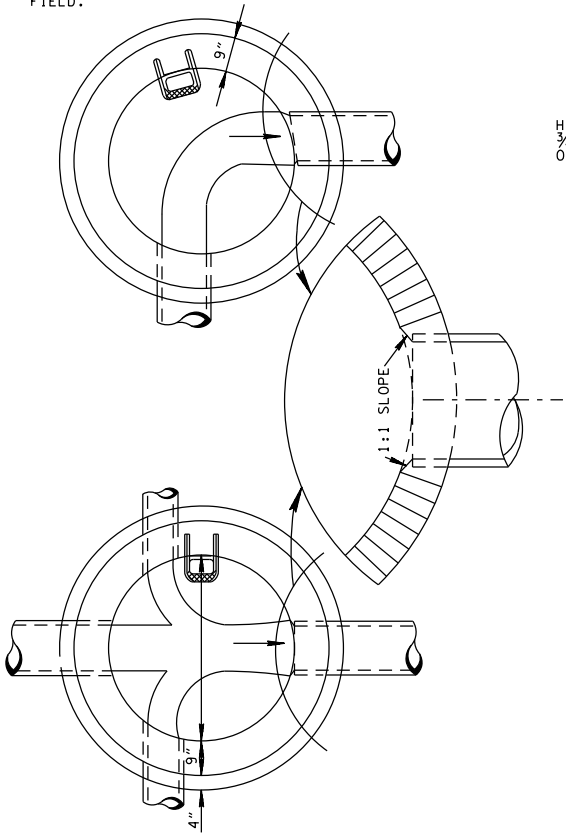


NOTE:

PIPE OFF CENTER, EXACT LOCATION TO BE DETERMINED IN FIELD.



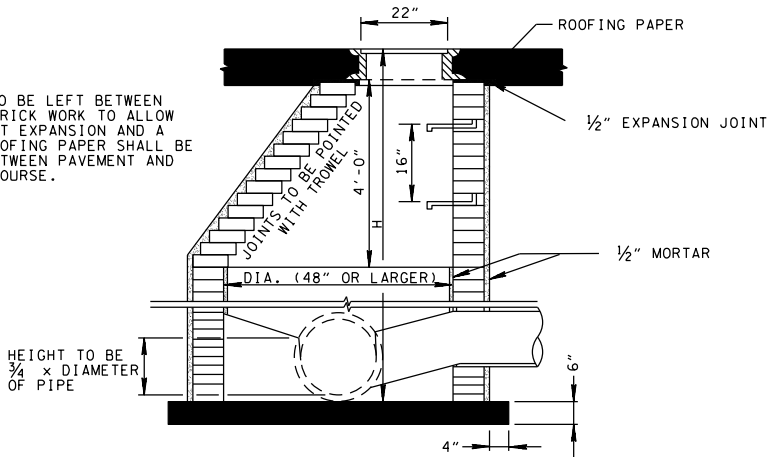
TYPICAL PLANS

CUT-OUT HOLES		
INSIDE DIAMETER (D) OF PIPE (INCHES)	PIPE WALL THICKNESS (INCHES)	DIAMETER OF CUT-OUT HOLES (INCHES)
18	2½	25
24	3	32
30	3½	39
36	4	46
42	4½	53
48	5	60
54	5½	67
60	6	74
66	6½	81
72	7	88
78	7½	95

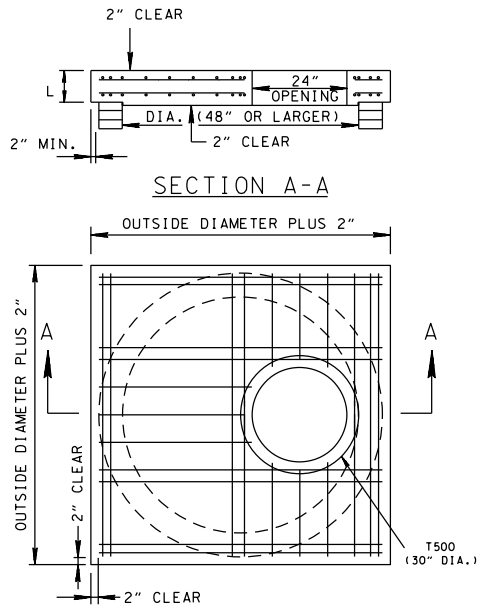
- CUT-OUT HOLES BASED ON REINFORCED CONCRETE PIPE WITH WALL TYPE "B".
- ALL FLEXIBLE PIPE MATERIALS REQUIRE GASKET. SEE STANDARD DRAWING D-PB-2.
- CUT-OUT HOLES FOR PRECAST STRUCTURES TO BE FORMED IN ORDER TO OBTAIN A SMOOTH EDGED HOLE. SCORED OR ETCHED HOLES WITH REINFORCING STEEL LEFT UNCUT WILL NOT BE PERMITTED.

NOTE:

½" SPACE TO BE LEFT BETWEEN FRAME AND BRICK WORK TO ALLOW FOR PAVEMENT EXPANSION AND A LAYER OF ROOFING PAPER SHALL BE REQUIRED BETWEEN PAVEMENT AND TOP BRICK COURSE.



BRICK MANHOLE WITH ECCENTRIC TAPER



LID REINFORCING

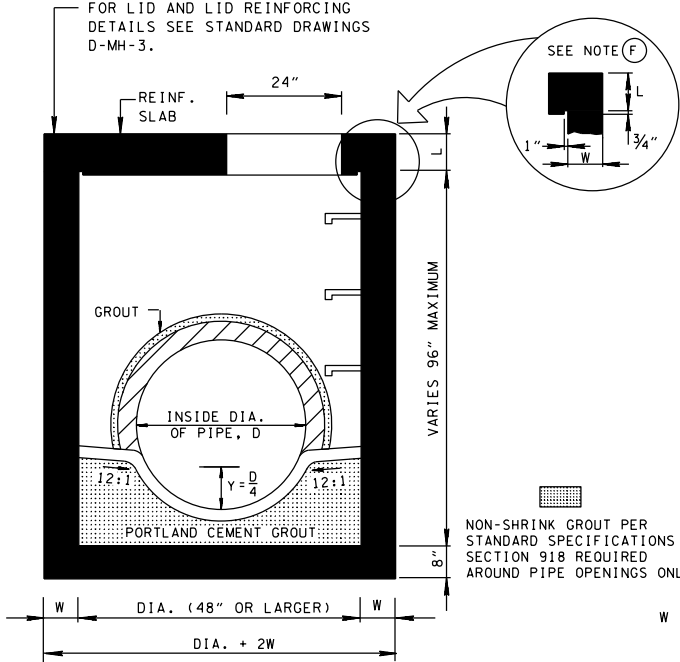
COST OF REINFORCED CONCRETE SLAB TO BE INCLUDED IN PRICE BID FOR MANHOLE OF REQUIRED DEPTH.

SHALLOW BRICK MANHOLE TOP SLAB DETAIL

WHEN BRICK MANHOLES ARE TOO SHALLOW TO SECURE PROPER BATTER, THE WALLS SHALL BE BUILT VERTICALLY AND THE STRUCTURE CAPPED WITH A SQUARE CONCRETE SLAB WITH HOLE FOR MANHOLE FRAME LOCATED ECCENTRICALLY IN THE SLAB. SEE MANHOLE DIMENSIONS TABLE FOR LID THICKNESS, (L). REINFORCEMENT IN THE TOP SLAB SHALL BE PROVIDED SIMILAR TO REINFORCEMENT DETAILED ON STANDARD DRAWING D-MH-3 FOR THE APPROPRIATE DIAMETER OF MANHOLE, WITH THE FOLLOWING EXCEPTIONS: T-BARS SPECIFIED AT OUTER EDGE OF THE ROUND SLAB SHALL BE REPLACED BY A-BARS OF THE SAME SIZE FOR THE SQUARE SLAB, AND ALL REINFORCING SHALL EXTEND TO THE EDGE OF THE SLAB WITH 2 INCHES CLEAR AT ENDS.

MANHOLE DIMENSIONS					
INSIDE DIA. OF MANHOLE DIA. (INCHES)	WALL THICKNESS W (INCHES)	LID THICKNESS L (INCHES)	OUTSIDE DIA. OF MANHOLE DIA. + 2W (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - STR. (INCHES)	MAX. INLET OR OUTLET CONC. PIPE SIZE - 90° (INCHES)
48	5	8	58	24	15
60	6	8	72	36	24
72	7	9	86	48	30
84	8	9	100	60	36
96	9	10	114	66	42
108	10	10	128	72	48
120	11	10	142	78	54

FOR LID AND LID REINFORCING DETAILS SEE STANDARD DRAWINGS D-MH-3.

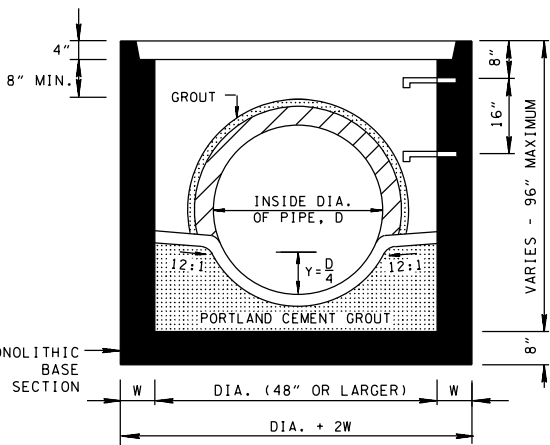
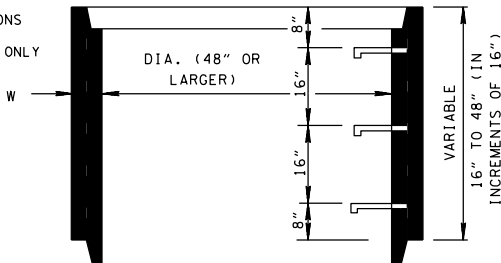
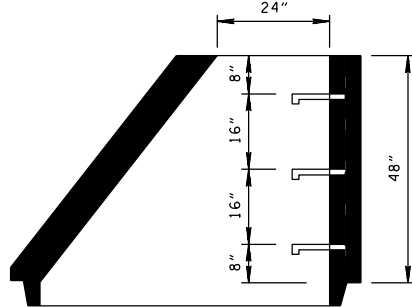


STANDARD FLAT TOP MANHOLE

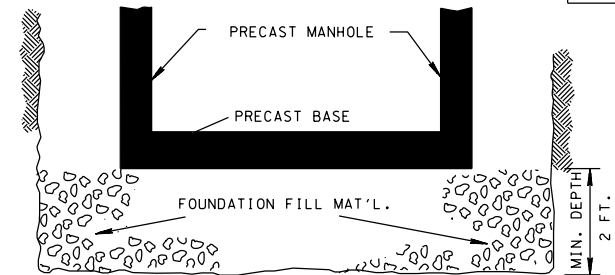
GENERAL NOTES

- THIS MANHOLE WILL CONFORM TO THE STANDARD DRAWING UNLESS OTHERWISE SHOWN OR DIRECTED BY THE ENGINEER TO MEET SPECIAL CONDITIONS. THERE WILL BE NO VARIATION FROM THE CONTRACT PRICE DUE TO SUCH CHANGES. IN ALL CASES IT MUST BE BUILT LARGE ENOUGH TO ACCOMMODATE INLET AND OUTLET PIPES.
- THE PRECAST CONCRETE MANHOLE SHALL MEET THE REQUIREMENTS AND SPECIFICATIONS SET OUT IN ASTM-C478 LATEST REVISION.
- THE FOLLOWING MATERIAL PROPERTIES ARE REQUIRED FOR MANHOLES:  
CONCRETE:  $f'_c = 4,000$  POUNDS PER SQUARE INCH AT 28 DAYS  
REINFORCING STEEL: ASTM A615,  $F_y = 60,000$  POUNDS PER SQUARE INCH  
ALL REINFORCING IS TO BE INSTALLED AS DETAILED ON THIS DRAWING.
- FOR MASONRY MANHOLES, ALL WALLS WILL BE LAID IN COURSES CONSISTING OF HEADERS ONLY.
- THE COST OF CASTINGS FOR COVERS AND RIMS AND OF MANHOLE STEPS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR MANHOLES.
- ALTERNATIVE JOINT DETAILS MAY BE ACCEPTABLE. SEE STANDARD DRAWING D-CB-99R FOR ADDITIONAL DETAILS.
- THE PLACING OF CONCRETE AND FORMING OF INVERTS AS INDICATED FOR BRICK MANHOLES SHALL APPLY IN LIKE MANNER FOR PRECAST MANHOLES. COST OF FURNISHING AND PLACING THE CONCRETE TO BE INCLUDED IN UNIT PRICE BID PER MANHOLE.
- PAYMENT FOR BRICK MANHOLES WILL BE MADE UNDER ITEM NUMBERS 611-01.02 MANHOLES, > 4'-8' DEPTH AND 611-01.03, MANHOLES, > 8'-12' DEPTH PER EACH.
- PAYMENT FOR PRECAST CONCRETE CIRCULAR MANHOLES WILL BE MADE UNDER ITEM NUMBERS 611-01.02 MANHOLES, > 4'-8' DEPTH THROUGH 611-01.07, MANHOLES, > 24'-28' DEPTH PER EACH. PAYMENT FOR MANHOLES DEEPER THAN 28' WILL BE MADE UNDER ITEMS NUMBERS 611-01.10 THROUGH 611-01.19, MANHOLE \_\_\_\_' TO \_\_\_\_' DEPTH PER EACH.

NON-SHRINK GROUT PER STANDARD SPECIFICATIONS SECTION 918 REQUIRED AROUND PIPE OPENINGS ONLY



STANDARD ECCENTRIC CONCRETE RISER SECTION AND BASE SECTION



FOUNDATION DETAIL FOR PRECAST BASE

NOTE:

COST OF FURNISHING AND PLACING FOUNDATION FILL MATERIAL TO BE INCLUDED IN UNIT PRICE BID FOR 611-01.XX, MANHOLES. FOUNDATION FILL MATERIAL SHALL BE IN CONFORMANCE WITH SECTION 204 OF THE T.D.O.T. STANDARD SPECIFICATIONS.

REV. 11-20-72: WALL THICKNESS DELETED ON PRECAST SECTIONS.

REV. 1-15-73: ENTRANCE TO OUTLET PIPE BEVELED.  
REV. 2-1-73: SKETCH ADDED SHOWING BEVELED ENTRY.  
REV. 1-1-76: CHANGED DWG. NO. FROM S-M-3 TO D-MH-3 (MASONRY DETAILS ADAPTED FROM OLD DWG. NO. S-M-2a).

REV. 7-2-84: ADDED NOTE TO FOUNDATION DETAIL.

REV. 7-29-96: REDREW SHEET ON CADD AND MADE MINOR CHANGES.

REV. 1-19-97: ADDED GENERAL NOTE (C) ADDED CUT-OUT HOLE TABLE. ADDED MANHOLE DIMENSION TABLE.

REV. 4-15-97: CHANGED MANHOLE DIMENSION TABLE.

REV. 5-1-97: CHANGED DRAWING NO. FROM D-MH-3 TO D-MH-2. CHANGED BASE SECTION TO MONOLITHIC BASE SECTION.

REV. 5-27-97: ADDED 108 AND 120 INCH DIAMETER MANHOLES.

REV. 5-27-01: CHANGED GENERAL NOTE (C) AND ADDED GENERAL NOTE (D) ADDED MANHOLE MAXIMUM DEPTH NOTES.

REV. 8-01-12: REVISED CUT-OUT HOLES TABLE, SHALLOW BRICK MANHOLE TOP SLAB DETAIL AND ADDITIONAL MISC. DRAFTING EDITS. ADDED 48" MANHOLE.

REV. 2-2-16: CORRECTED SHALLOW BRICK MANHOLE TOP SLAB DETAIL NOTE.

MANHOLE MAXIMUM DEPTH NOTES

- MAXIMUM DEPTH FOR BRICK MANHOLES IS 12.00'.
- MAXIMUM DEPTH FOR PRECAST CONCRETE CIRCULAR MANHOLES IS 40.00'.

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE  
DEPARTMENT OF TRANSPORTATION

STANDARD  
MASONRY & PRECAST  
NO. 3 MANHOLE

AUG-1972

D-MH-2

NOT TO SCALE