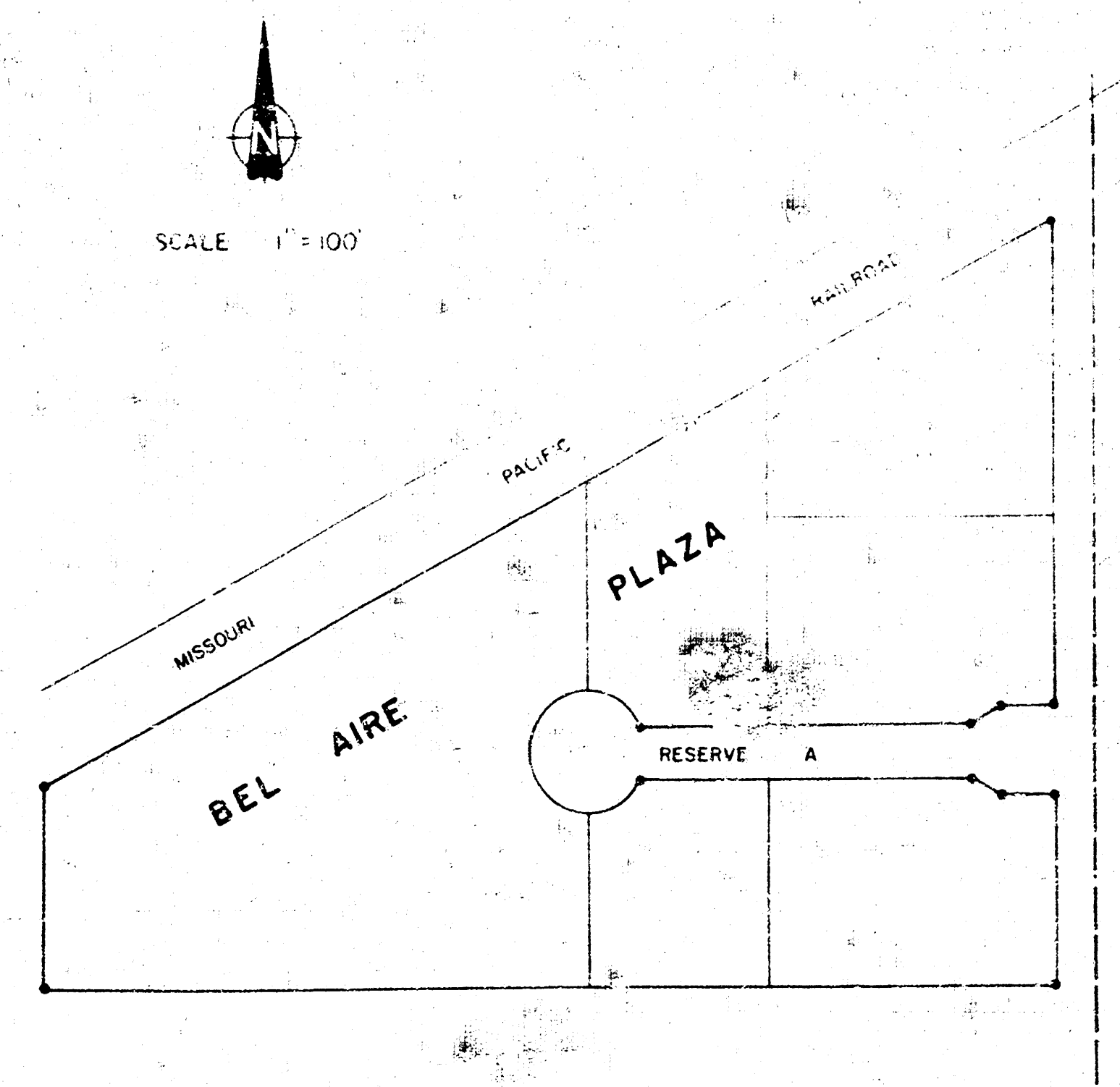


PLANS
FOR
SANITARY SEWER EXTENSIONS
BEL AIRE PLAZA
AN ADDITION TO
BEL AIRE, SEDGWICK COUNTY, KANSAS

1983

SU 183



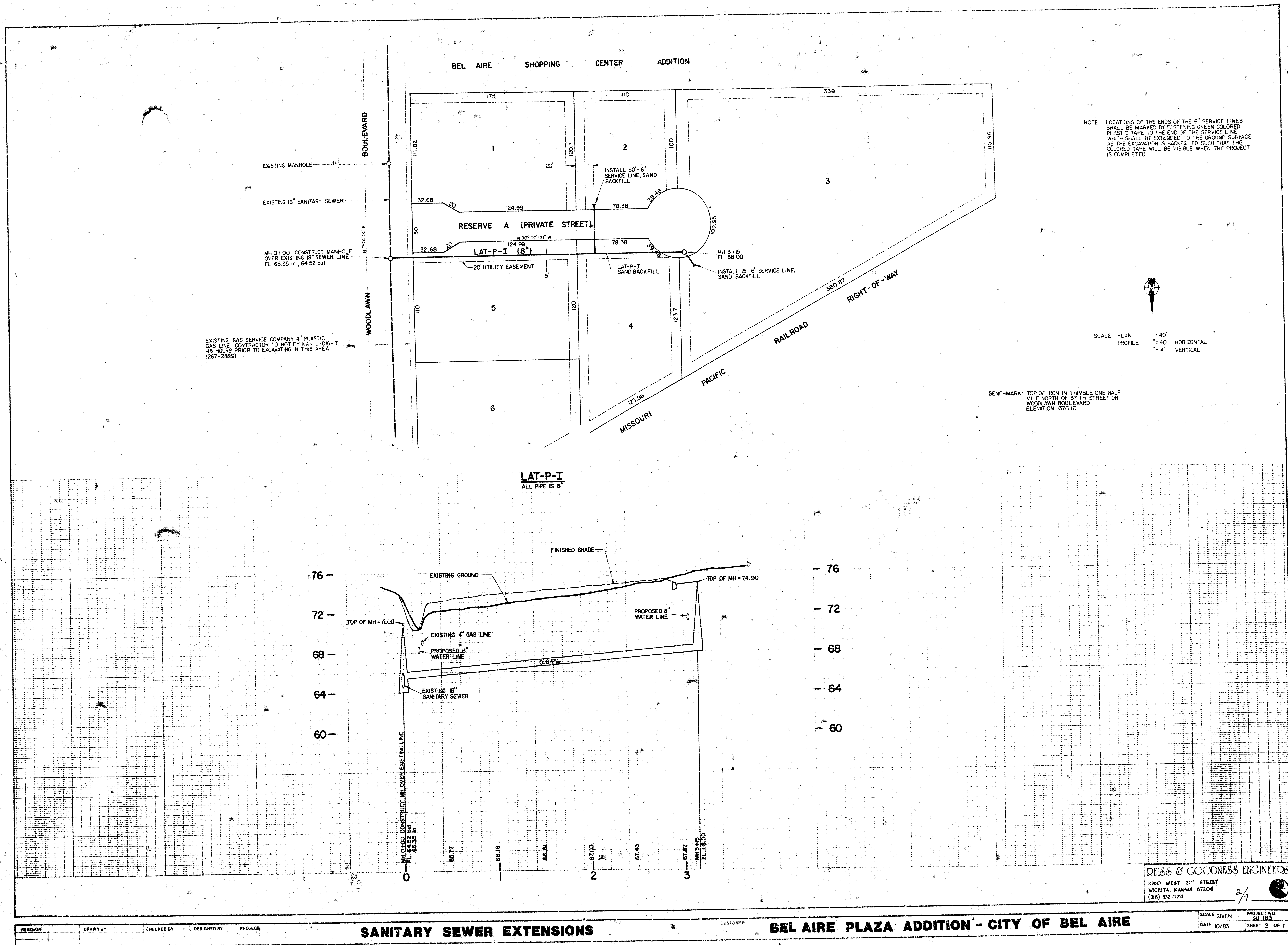
APPROVED AS NOTED
By CITY ENGINEER OF WICHITA
Sanitary Sewers *ELB 11/3/83*
Storm Sewers
Driveway Approaches

NOTE TO CONTRACTOR
This project will be constructed under
the supervision of the CITY ENGINEER
and conforming to the SPECIFICATIONS
of the CITY OF WICHITA. THE CON-
TRACTOR shall be responsible for the
for the cost of relocation.

REISS & GOODNESS ENGINEERS
2100 WEST 21ST STREET
WICHITA, KANSAS 67203
(316) 842 0233

REVISION	DRAWN BY	CHECKED BY	DESIGNED BY	PROJECT	CUSTOMER	SCALE GIVEN	PROJECT NO.
						DATE 10/83	SU 183
							SHEET 1 OF 7

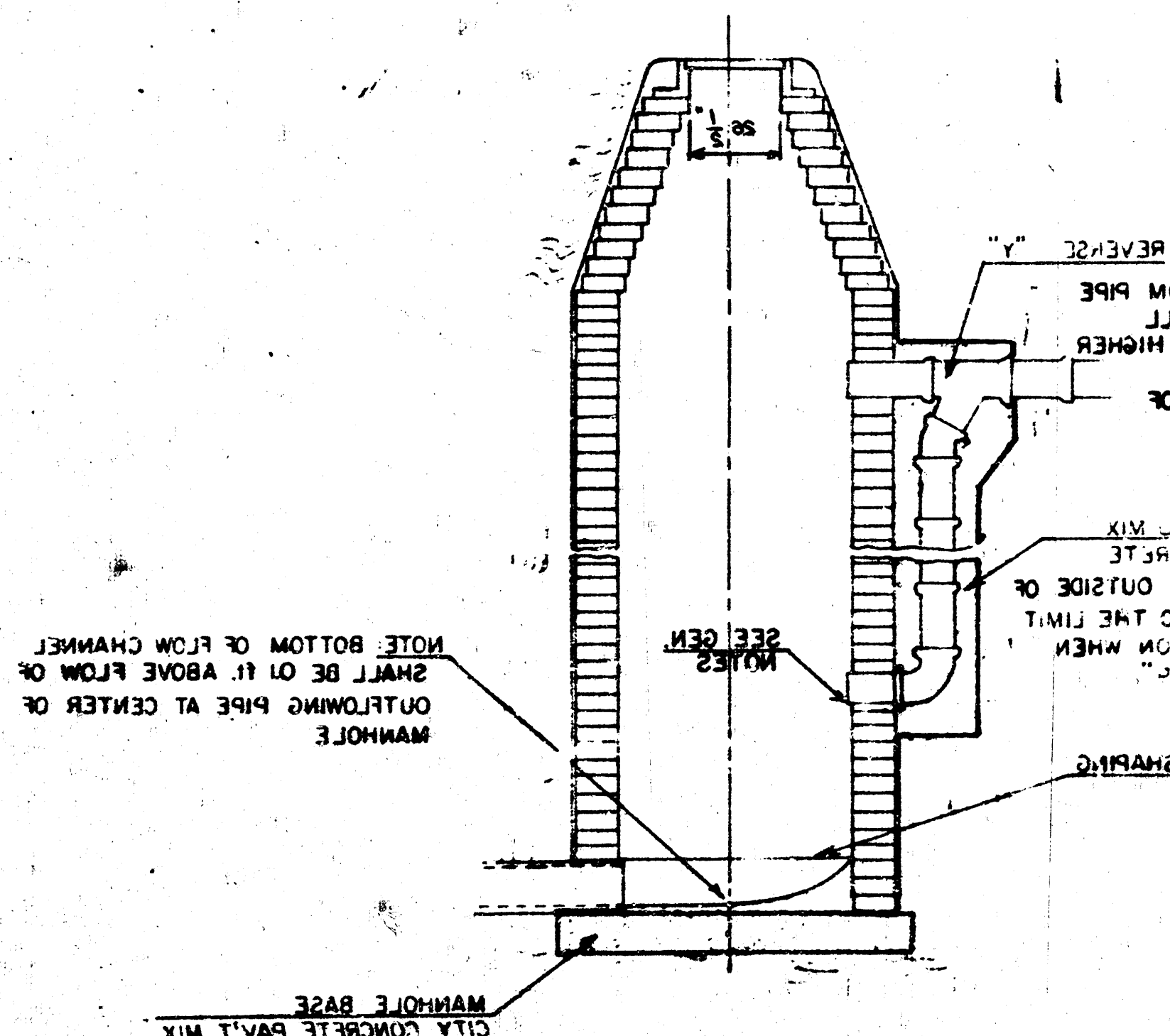
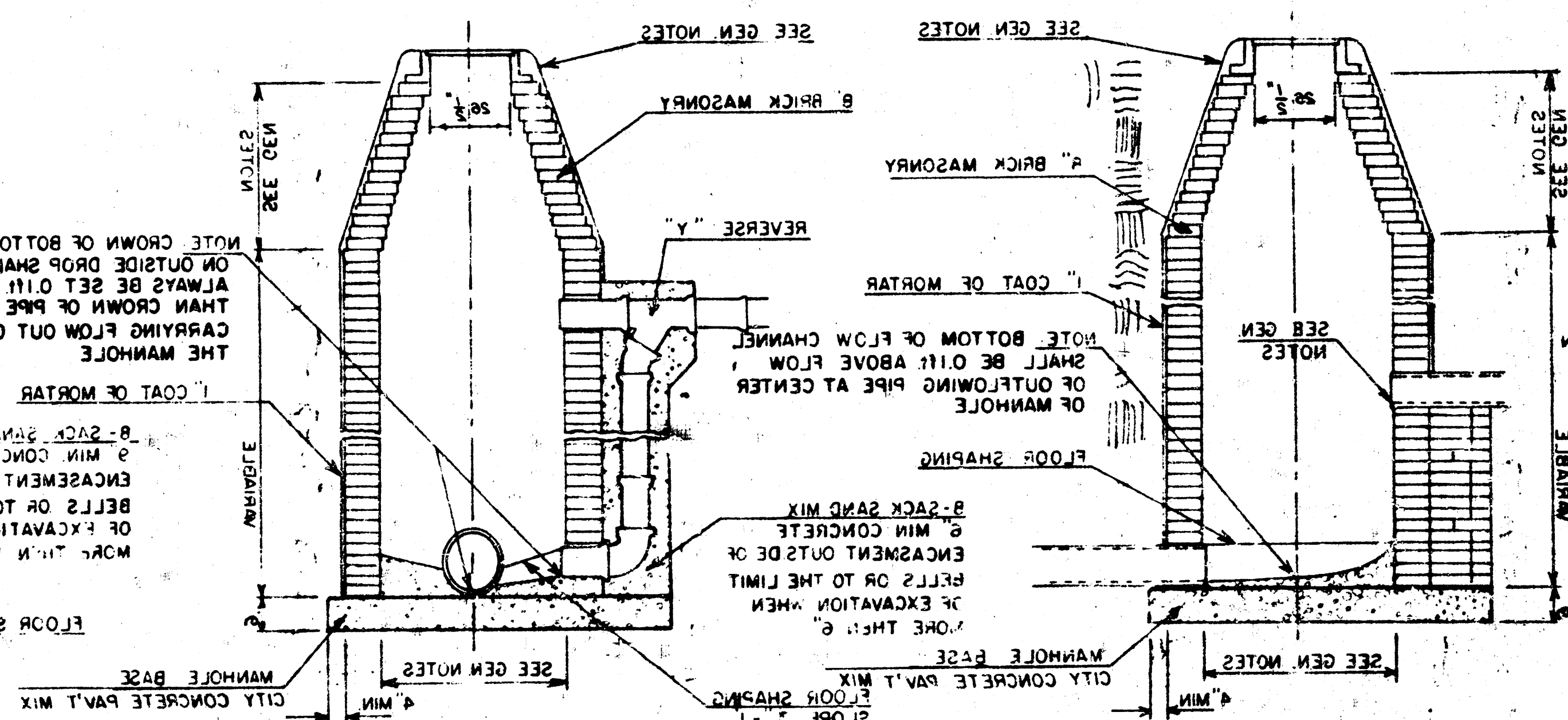
FILMED FROM THE BEST
AVAILABLE COPY



TYPE "A" INSIDE DROP MANHOLE

TYPE "A" OUTSIDE DROP MANHOLE

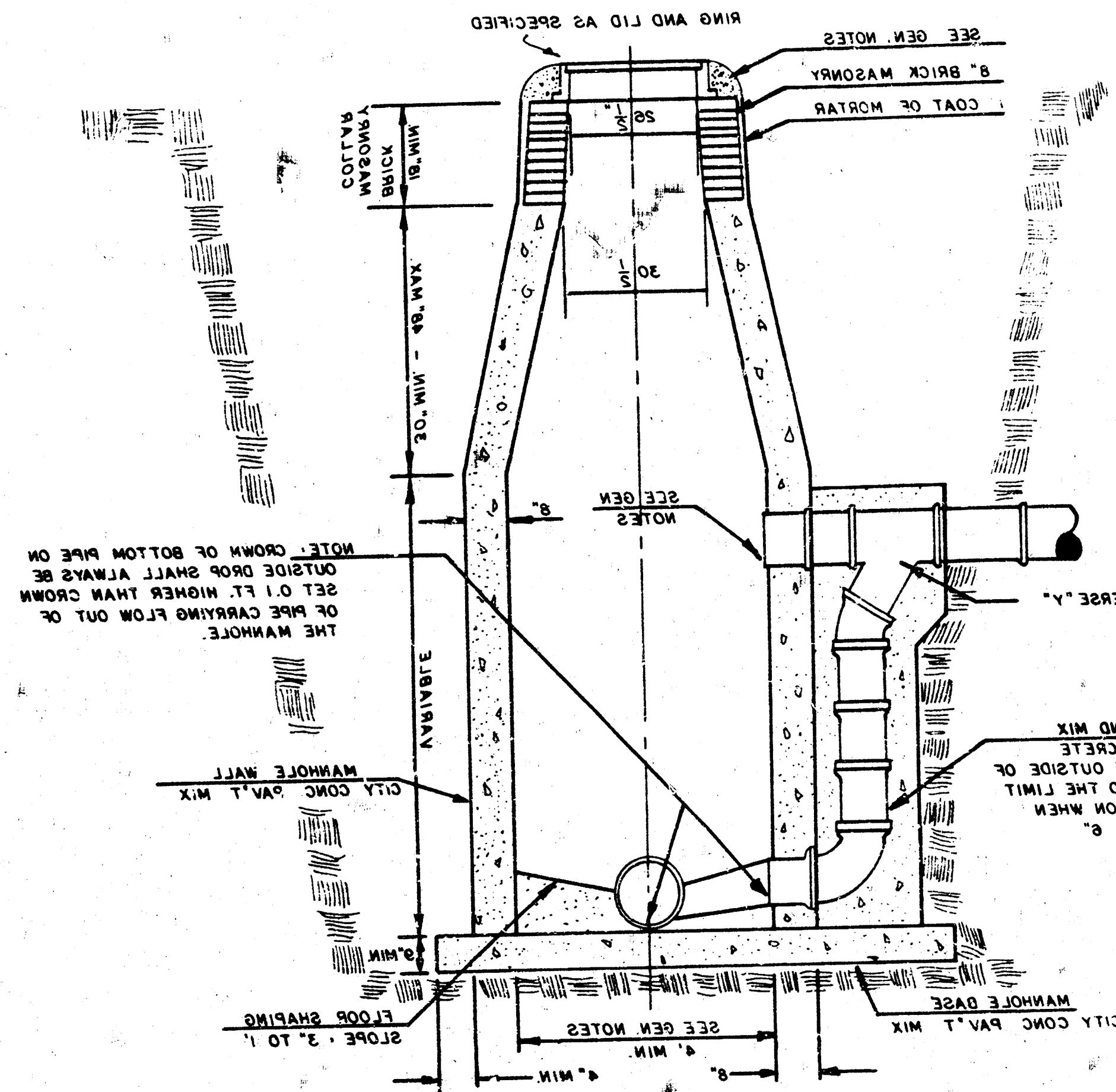
CONSTRUCTED ON EXISTING MANHOLE
DETAIL OF OUTSIDE DROP

[illegible]

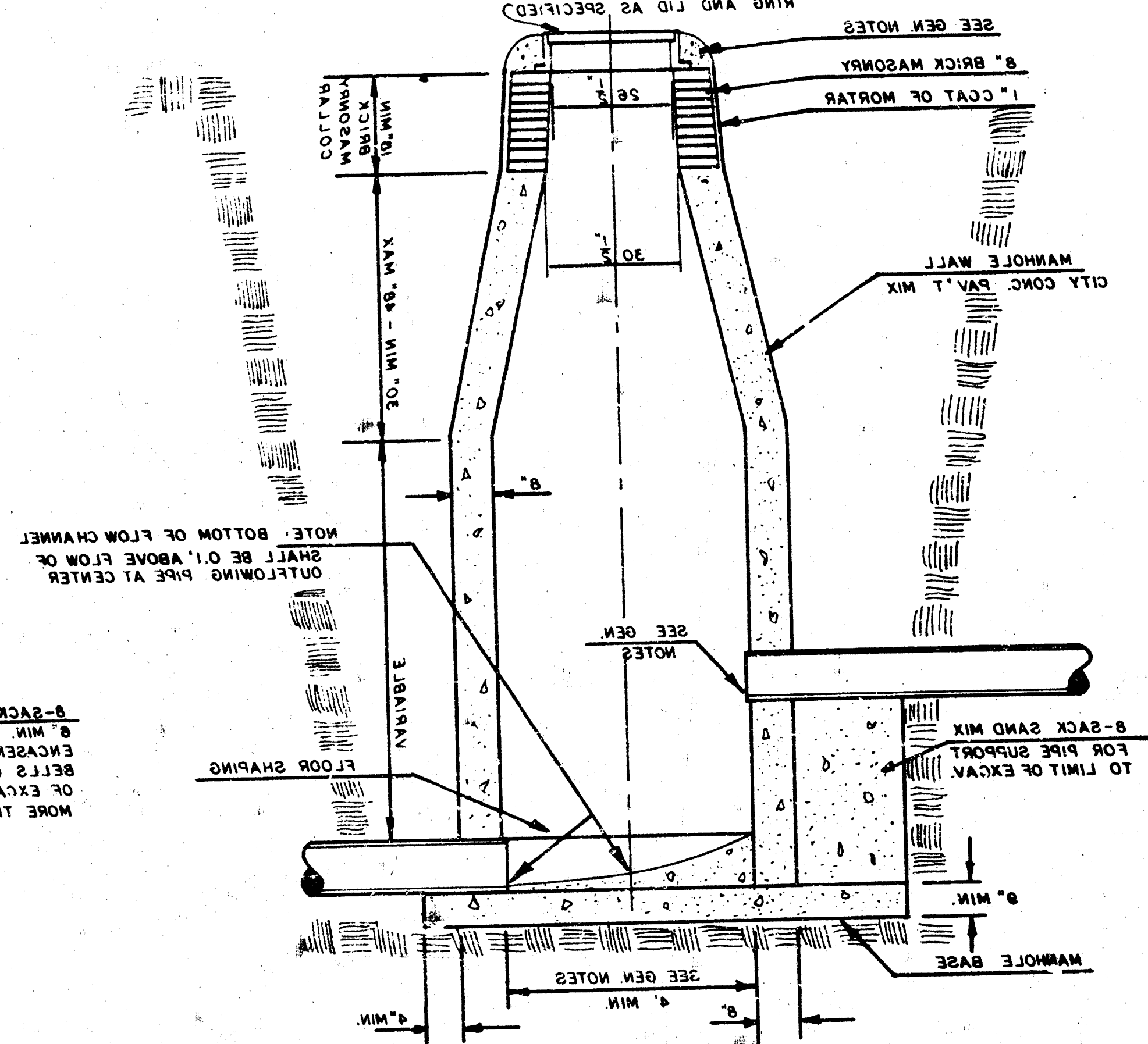
SEWER APPURTENANCES DETAILS ADOPTED AS STANDARD DESIGN BY

City of Wichita, Kansas

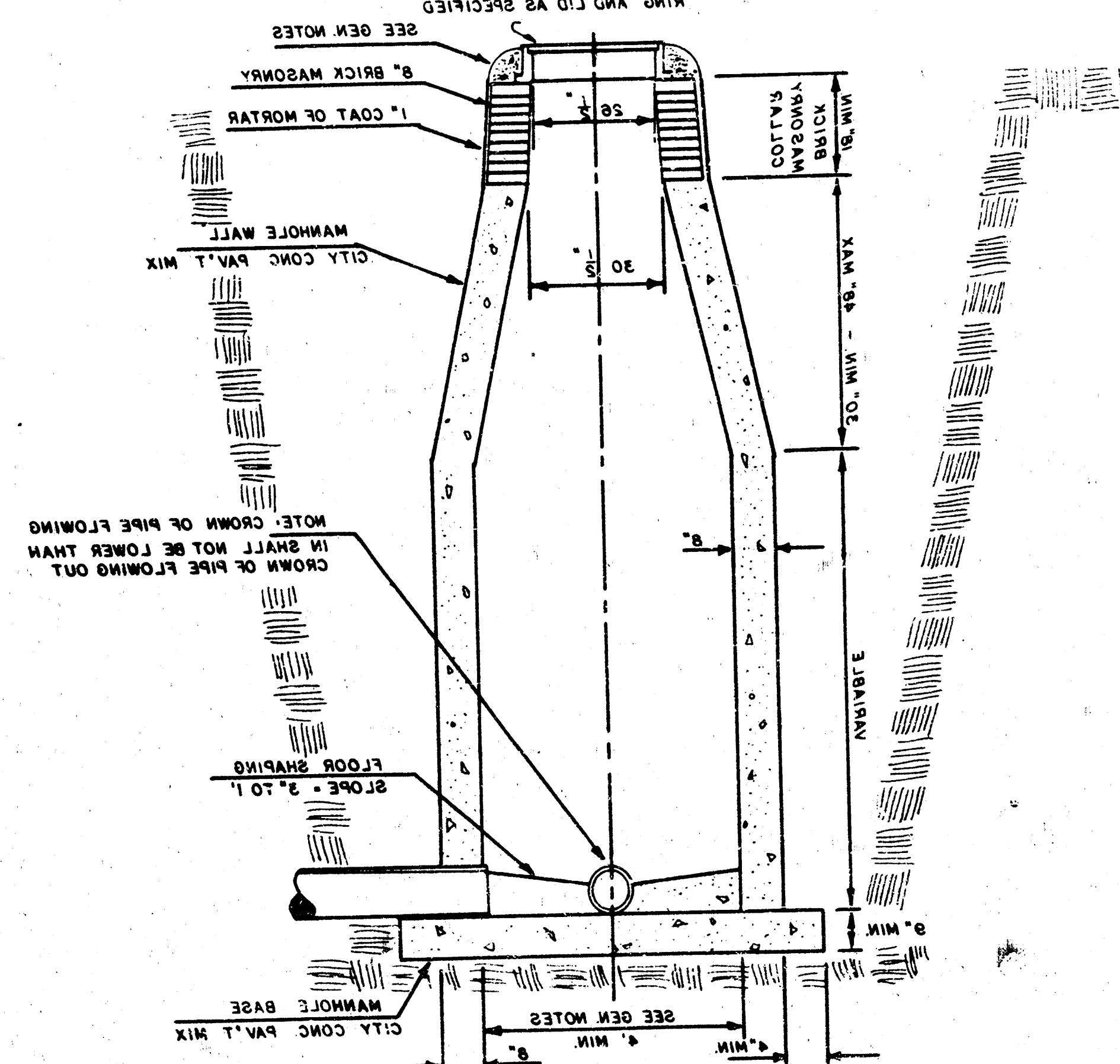
OUTSIDE DROP MANHOLE TYPE "C"



INSIDE DROP MANHOLE TYPE "C"



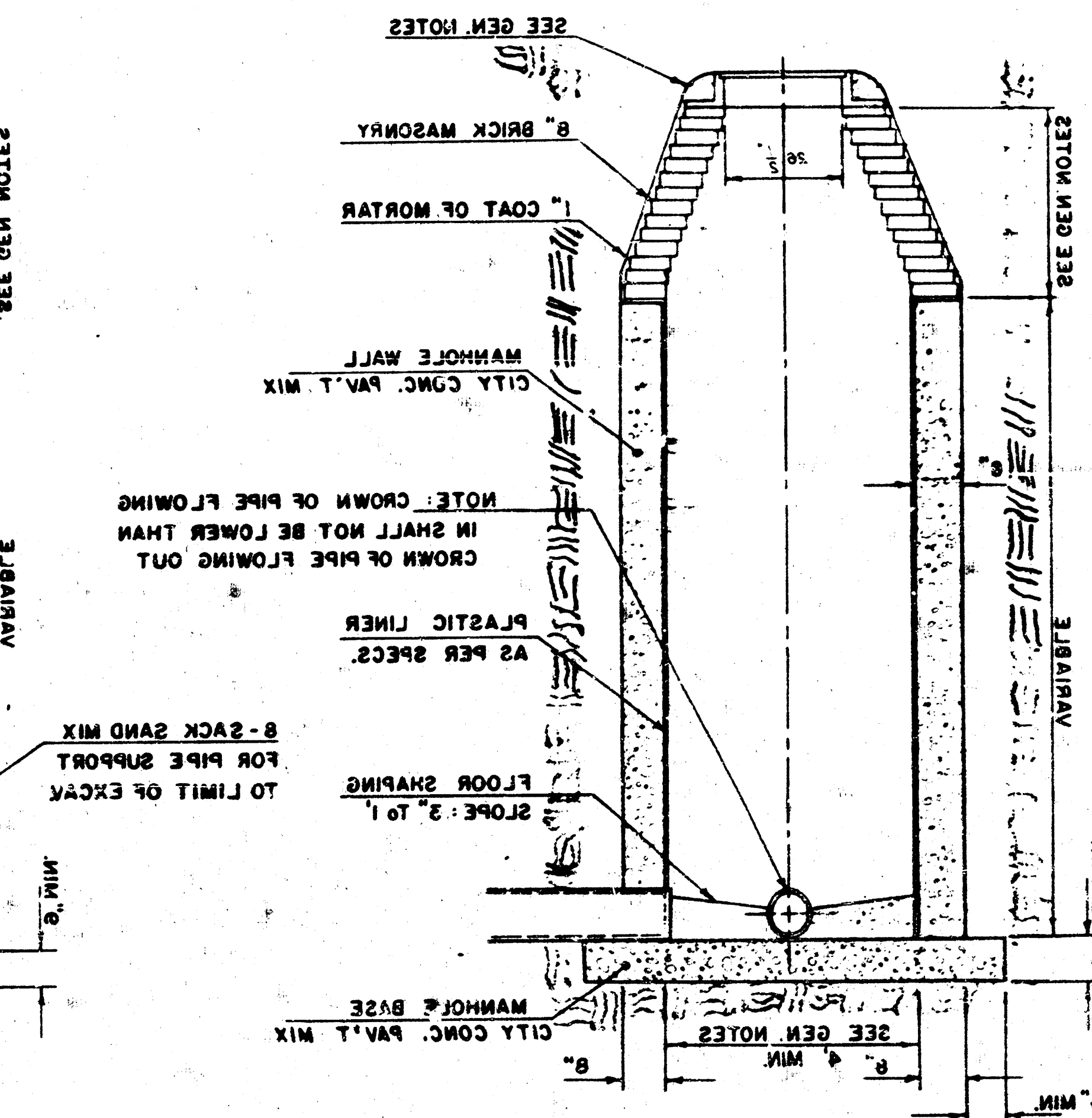
STANDARD MANHOLE TYPE "C"



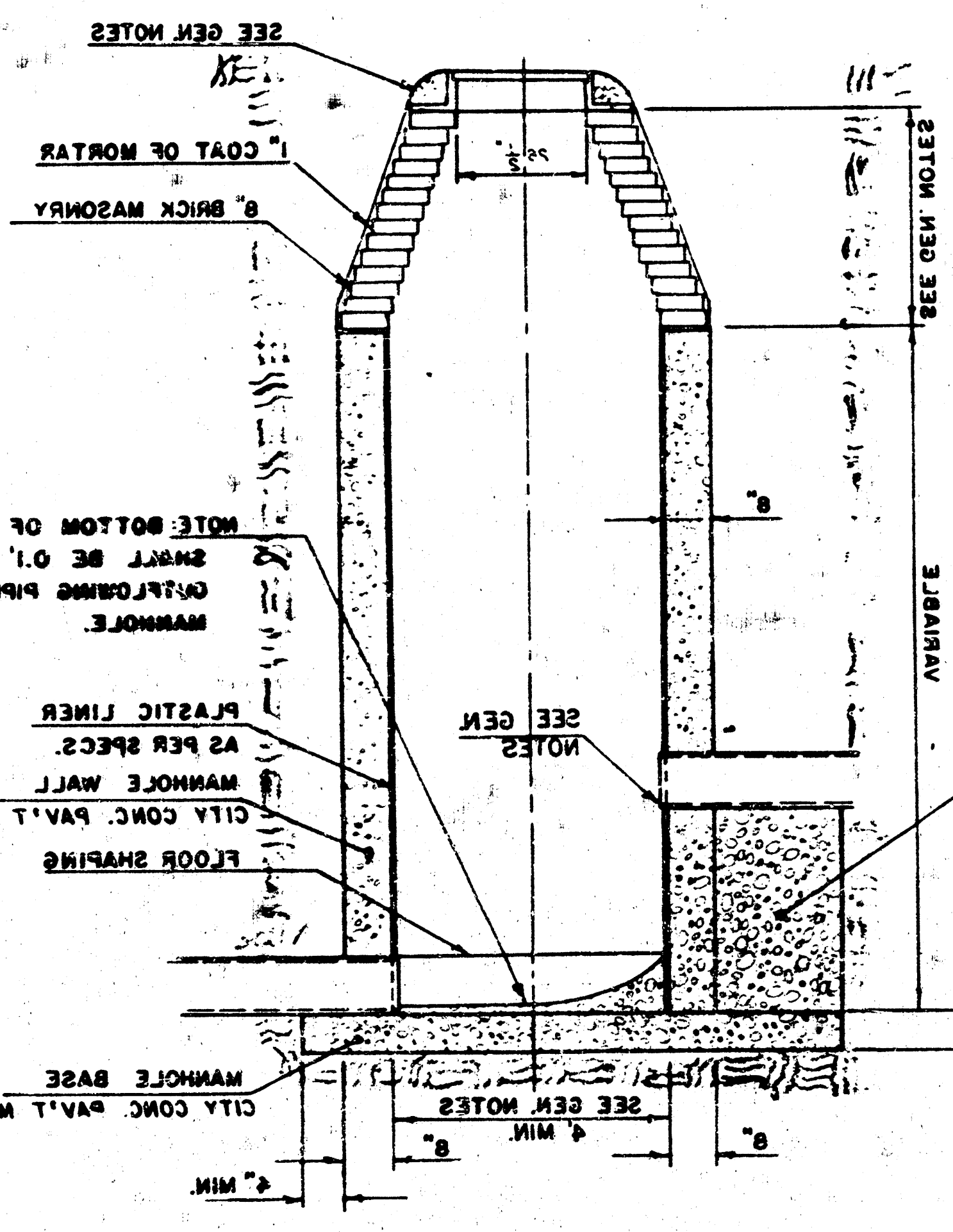
- GENERAL NOTES**
1. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 BAGS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE WALLS AND BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE PAVING SPECIFICATIONS USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR EXTRACTING. WORKMAN SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWING. WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS, TYPE "C" MANHOLES CAN BE CONSTRUCTED ONLY WHERE PIPE SIZES ARE 8" OR SMALLER. THE INSIDE DIAMETER OF TYPE "C" MANHOLES SHALL BE 4'.
 2. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASE. REINFORCING STEEL SHALL CONSIST OF NO. 4 BARS PLACED ON "6" CENTERS IN BOTH DIRECTIONS. REINFORCING STEEL SHALL BE PLACED 8" ABOVE THE BOTTOM OF THE MANHOLE BASE. COST OF REINFORCING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
 3. OPENING SHALL BE CUT IN THE MANHOLE WALL FOR THE UPPER INLET PIPE FOR INSIDE AND OUTSIDE DROP MANHOLES. THE UPPER INLET PIPE SHALL BE ROUTED INTO THIS OPENING WITH NON-SHRINK GROUT. THE EXTERIOR OF THIS COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT.
 4. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE FLOORS WILL BE SELF-CLEANING AND FREE OF AREAS WHERE SOLIDS COULD BE DEPOSITED AS SEWAGE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPES. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM WAVES OF THE INLET PIPES AND THE OUTLET PIPES AS SHOWN BY THE DRAWINGS. EXCEPT FOR INSIDE DROP MANHOLES, FLOW CHANNELS FOR INSIDE DROP MANHOLES SHALL BE CONSTRUCTED AS INDICATED BY THE DRAWING. MANHOLE FLOORS
 5. PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE CHANGED TO CONCRETE TO THE LIMITS OF THE EXCAVATION. WHEN CLAY PIPE IS USED, THE GRADE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE EXISTING GRADE. JOINT COST OF GRADE WITHIN MANHOLE EXCAVATION OR TO CLAY PIPE POINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
 6. MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWING.
 7. THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 4' FOR INLET PIPES 15" OR SMALLER AND 5' FOR INLET PIPES LARGER THAN 15". THE CROWN OF INLET PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTLET PIPE.
 8. STANDARD MANHOLES TYPE "C" AND STANDARD INSIDE DROP MANHOLES TYPE "C" SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES TYPE "C" SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.

CITY OF WICHITA, KANSAS ADOPTED AS STANDARD DESIGN BY SEWER APPURTENANCES DETAILS

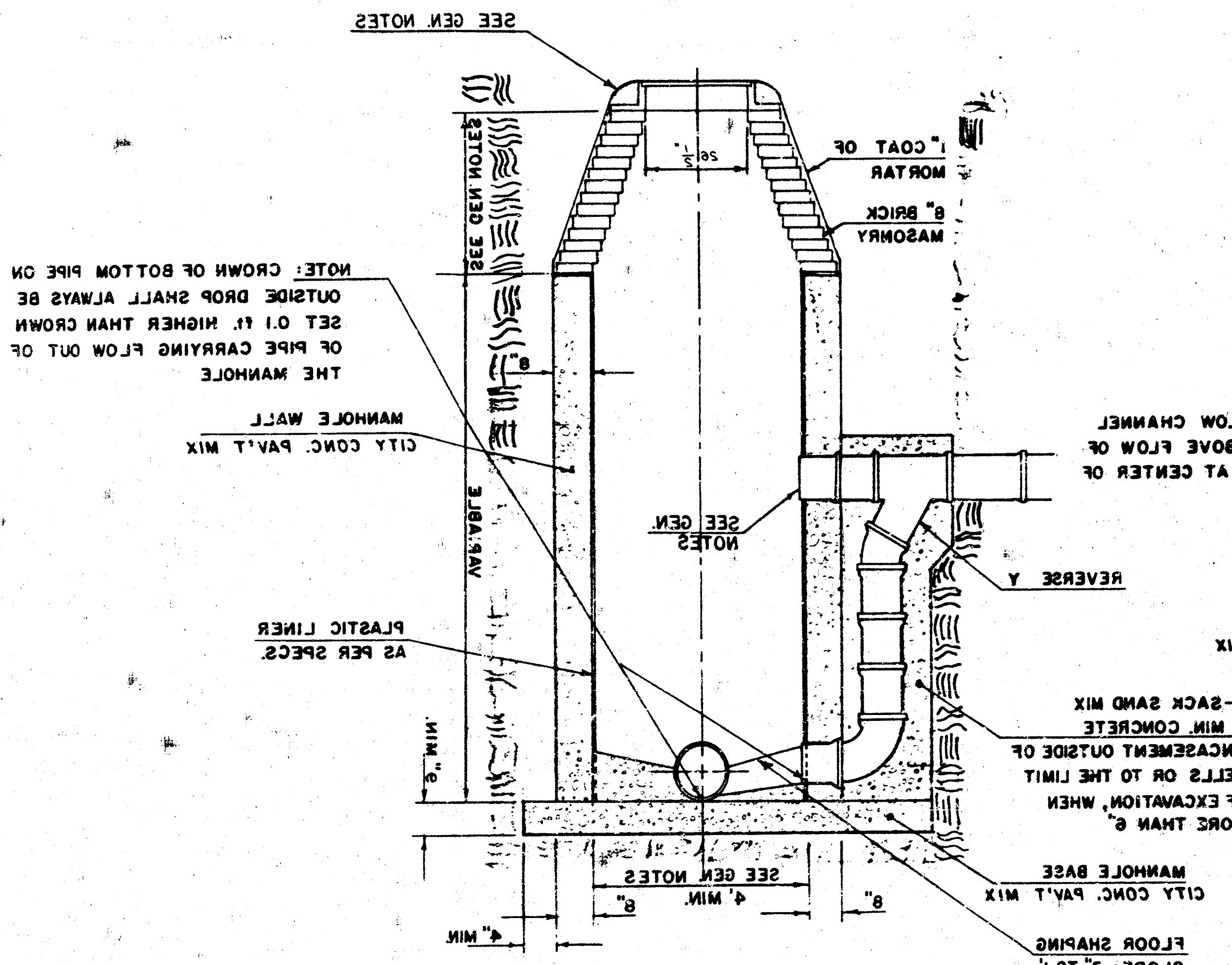
TYPE "D" MANHOLE



TYPE "D" INSIDE DROP MANHOLE



TYPE "D" OUTSIDE DROP MANHOLE



- GENERAL NOTES**
1. MANHOLE USED IN MASONRY CONSTRUCTION SHALL CONTAIN 9 BAGS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE WALLS AND BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVING CITY CONCRETE PAVEMENT IN THE CITY STANDARD PAVING SPECIFICATIONS AND SHALL BE PLACED IN THE CITY STANDARD PAVING MIXTURE. MANHOLE WALLS SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWING. WHEN MANHOLES ARE CONSTRUCTED IN THE CITY STANDARD PAVING MIXTURE, THE MANHOLE SHALL CONFORM TO THE REQUIREMENTS OF THE CITY STANDARD PAVING SPECIFICATIONS. ALL INSIDE MANHOLES SHALL BE PLACED IN THE CITY STANDARD PAVING MIXTURE. ALL INSIDE MANHOLES SHALL BE PLACED IN THE CITY STANDARD PAVING MIXTURE. ALL INSIDE MANHOLES SHALL BE PLACED IN THE CITY STANDARD PAVING MIXTURE.
 2. PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE GRADED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. WHEN THE GRADE OF THE EXCAVATION IS LOWER THAN THE GRADE OF THE MANHOLE, THE GRADE SHALL BE TERMINATED AT THE CITY STANDARD PAVING MIXTURE. THE GRADE SHALL BE TERMINATED AT THE CITY STANDARD PAVING MIXTURE. THE GRADE SHALL BE TERMINATED AT THE CITY STANDARD PAVING MIXTURE.
 3. THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 4' FROM THE TOP OF THE EXCAVATION TO THE BOTTOM OF THE MANHOLE. THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 4' FROM THE TOP OF THE EXCAVATION TO THE BOTTOM OF THE MANHOLE. THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 4' FROM THE TOP OF THE EXCAVATION TO THE BOTTOM OF THE MANHOLE.
 4. MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE CITY STANDARD PAVING SPECIFICATIONS AND SHALL BE PLACED IN THE CITY STANDARD PAVING MIXTURE. MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE CITY STANDARD PAVING SPECIFICATIONS AND SHALL BE PLACED IN THE CITY STANDARD PAVING MIXTURE. MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS OF THE CITY STANDARD PAVING SPECIFICATIONS AND SHALL BE PLACED IN THE CITY STANDARD PAVING MIXTURE.
 5. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASE. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASE. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASE. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASE. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASE.
 6. AN OPENING SHALL BE CUT IN THE MANHOLE WALL FOR THE UPPER INLET PIPE FOR INSIDE AND OUTSIDE DROP MANHOLES. THE UPPER INLET PIPE SHALL BE QUOTED INTO THIS OPENING WITH A MINIMUM 2" GROUT. THE EXTERIOR OF THIS COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT. THE INTERIOR PLASTIC LINING SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT. THE INTERIOR PLASTIC LINING SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT.
 7. THE FLOOR OF ALL MANHOLES SHALL BE GRADED WITH FLOW CHANNELS SUCH THAT THE MANHOLE WILL BE SELF-CLEANING AND FREE OF OBSTRUCTIONS. THE FLOOR OF ALL MANHOLES SHALL BE GRADED WITH FLOW CHANNELS SUCH THAT THE MANHOLE WILL BE SELF-CLEANING AND FREE OF OBSTRUCTIONS. THE FLOOR OF ALL MANHOLES SHALL BE GRADED WITH FLOW CHANNELS SUCH THAT THE MANHOLE WILL BE SELF-CLEANING AND FREE OF OBSTRUCTIONS.

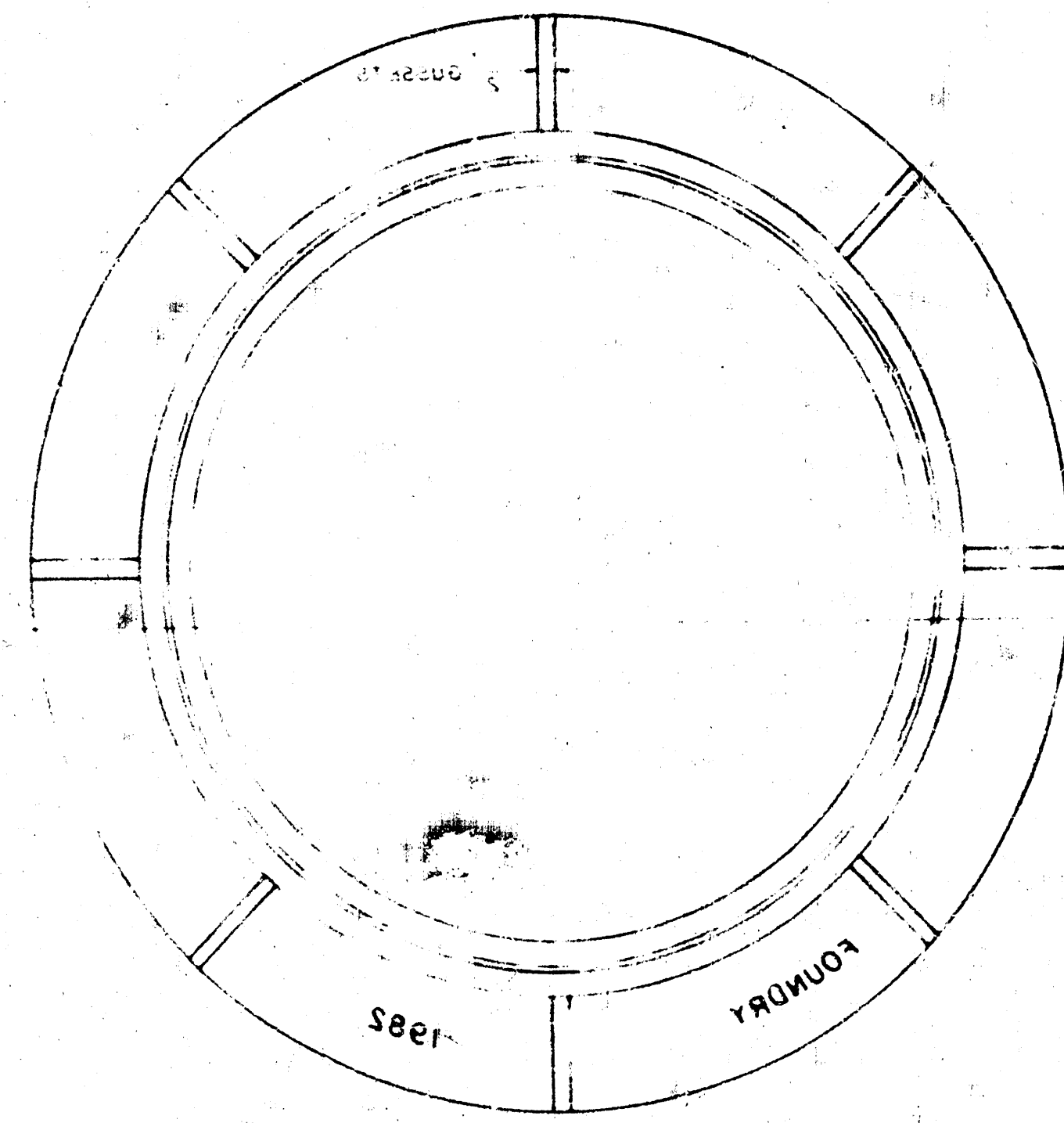
MANHOLE FRAME AND COVER DETAIL

ADOPTED AS STANDARD DESIGN

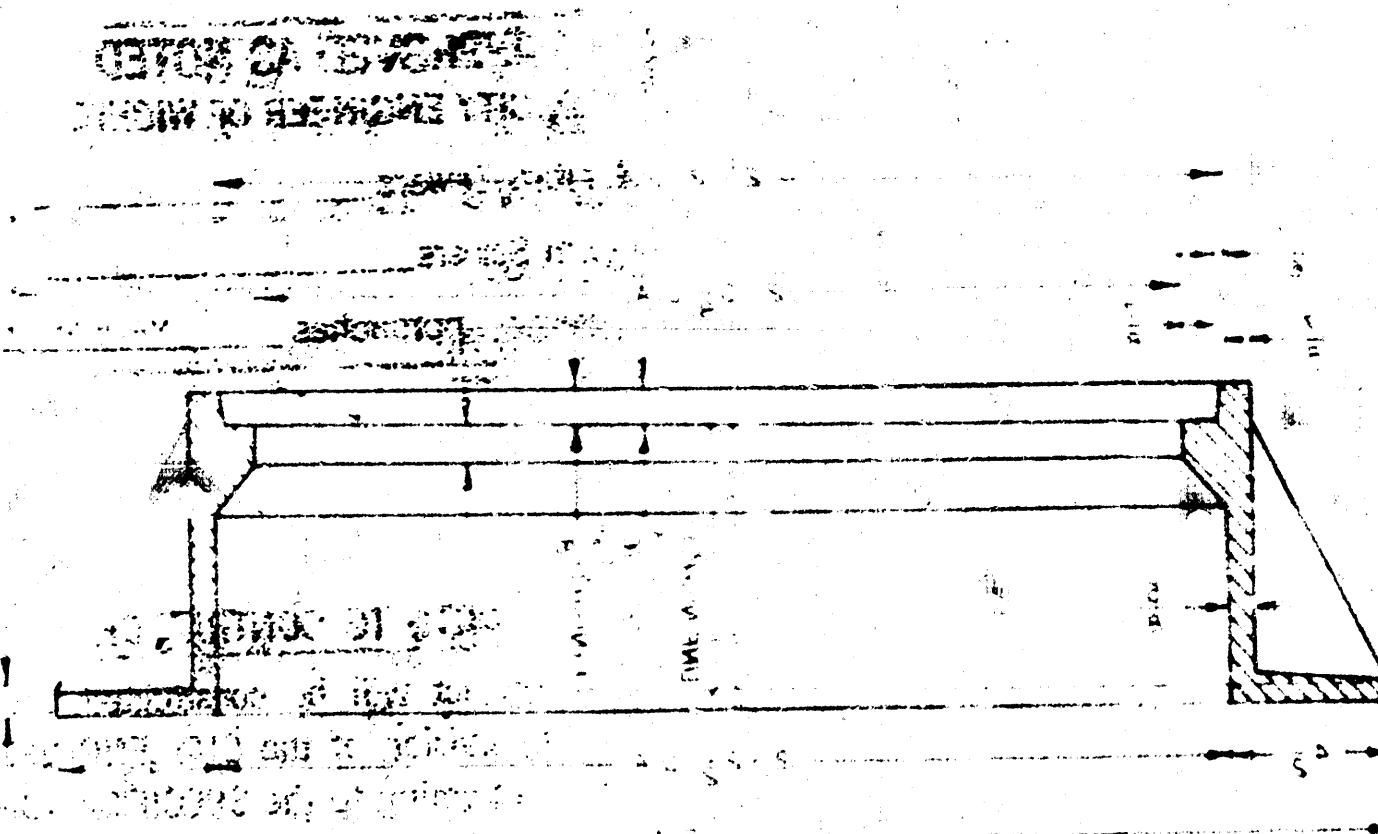
BY

City of Wichita, Kansas

MANHOLE FRAME
Weight: 540 Lbs

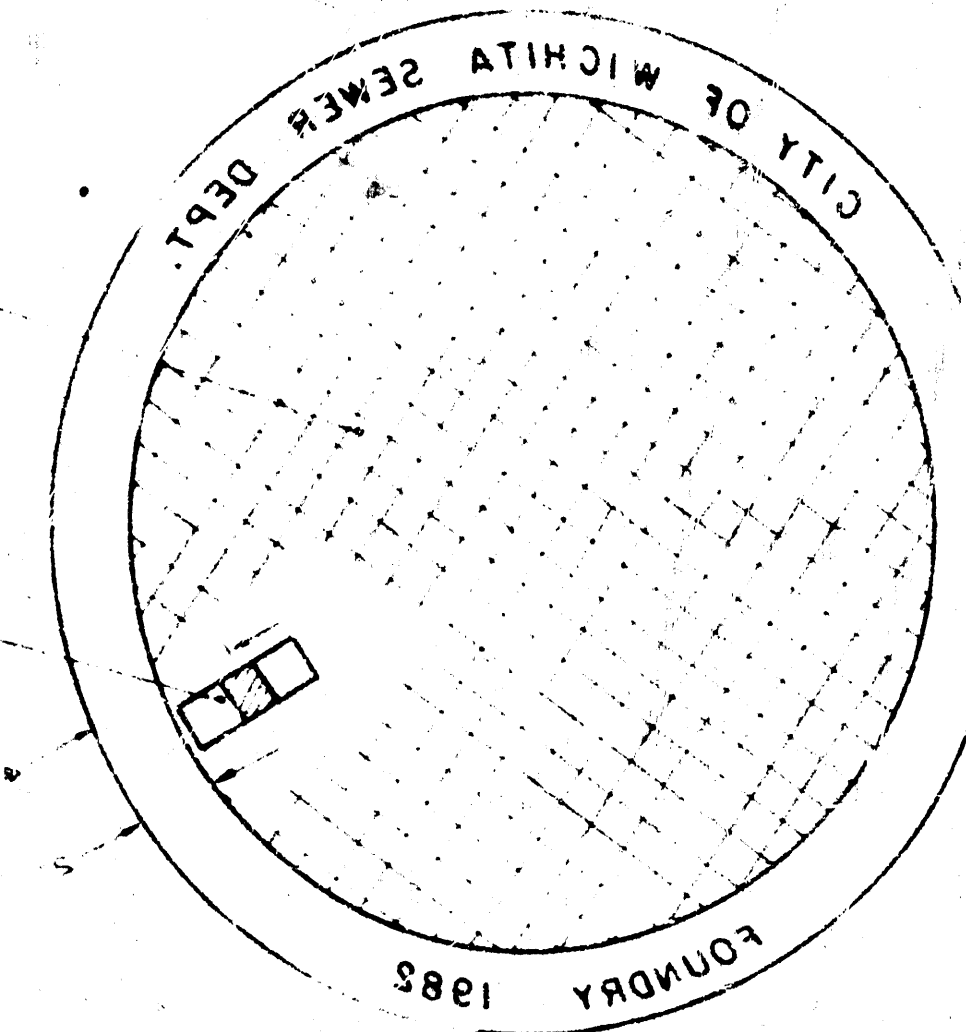


TOP VIEW

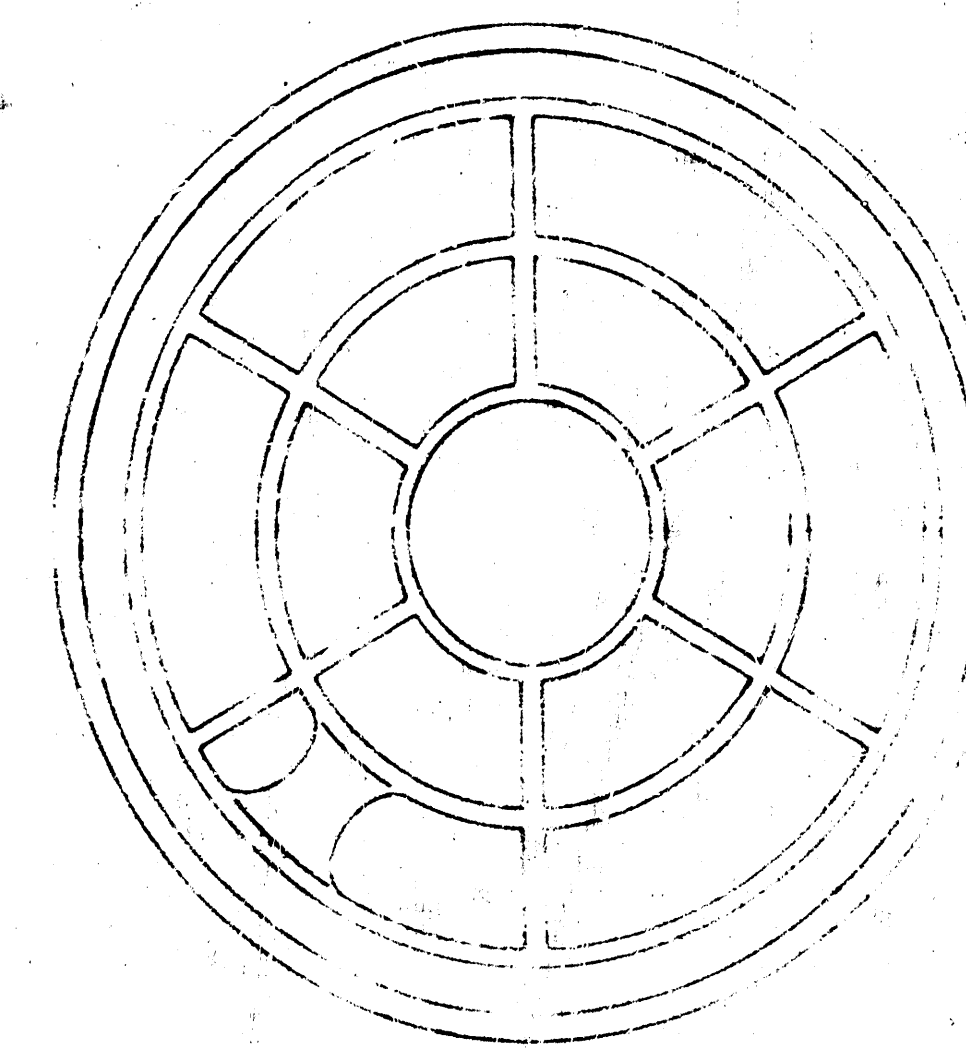


SECTION A-A

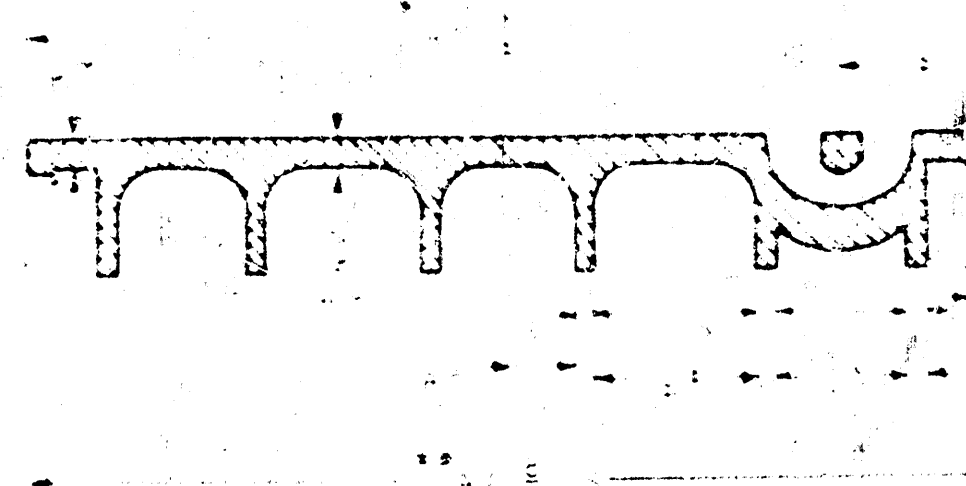
MANHOLE COVER
Weight: 180 Lbs



TOP VIEW

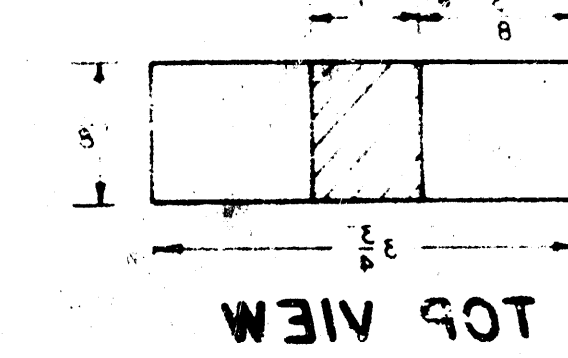


BOTTOM VIEW

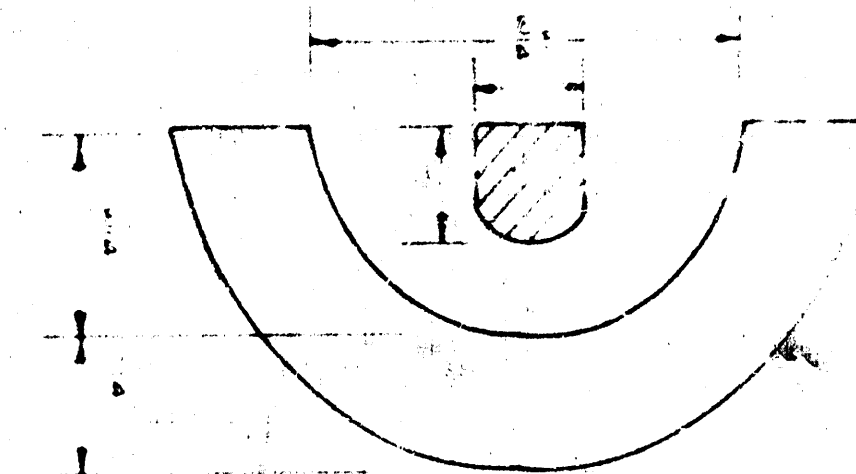


SECTION VIEW

PICKHOLE DETAIL



TOP VIEW



SECTION VIEW

GENERAL NOTES:
1. THE COVER SHALL BE CAST IN PLACE OF PORTLAND CEMENT CONCRETE, 4" MINIMUM THICKNESS, AND SHALL BE REINFORCED WITH 4" DIA. BARS, 12" ON CENTER, IN ALL DIRECTIONS. THE COVER SHALL BE CAST ON A 4" THICK BED OF SAND OR GRAVEL.
2. THE FRAME SHALL BE CAST IN PLACE OF PORTLAND CEMENT CONCRETE, 4" MINIMUM THICKNESS, AND SHALL BE REINFORCED WITH 4" DIA. BARS, 12" ON CENTER, IN ALL DIRECTIONS. THE FRAME SHALL BE CAST ON A 4" THICK BED OF SAND OR GRAVEL.
3. THE COVER SHALL BE CAST WITH A 1/2" RADIUS AT THE CORNERS. THE FRAME SHALL BE CAST WITH A 1/2" RADIUS AT THE CORNERS.
4. THE COVER SHALL BE CAST WITH A 1/2" RADIUS AT THE CORNERS. THE FRAME SHALL BE CAST WITH A 1/2" RADIUS AT THE CORNERS.
5. THE COVER SHALL BE CAST WITH A 1/2" RADIUS AT THE CORNERS. THE FRAME SHALL BE CAST WITH A 1/2" RADIUS AT THE CORNERS.
6. THE COVER SHALL BE CAST WITH A 1/2" RADIUS AT THE CORNERS. THE FRAME SHALL BE CAST WITH A 1/2" RADIUS AT THE CORNERS.
7. THE COVER SHALL BE CAST WITH A 1/2" RADIUS AT THE CORNERS. THE FRAME SHALL BE CAST WITH A 1/2" RADIUS AT THE CORNERS.
8. THE COVER SHALL BE CAST WITH A 1/2" RADIUS AT THE CORNERS. THE FRAME SHALL BE CAST WITH A 1/2" RADIUS AT THE CORNERS.
9. THE COVER SHALL BE CAST WITH A 1/2" RADIUS AT THE CORNERS. THE FRAME SHALL BE CAST WITH A 1/2" RADIUS AT THE CORNERS.
10. THE COVER SHALL BE CAST WITH A 1/2" RADIUS AT THE CORNERS. THE FRAME SHALL BE CAST WITH A 1/2" RADIUS AT THE CORNERS.