

STORM WATER SEWER NO. 365

SERVING
LOT 1, BLOCK A KENYON'S KORNER
&
LOT 1 PAWNEE SUB ADDITION

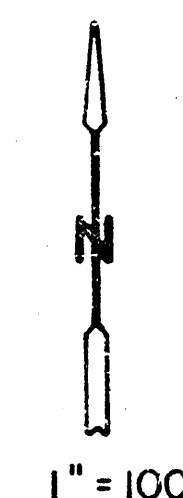
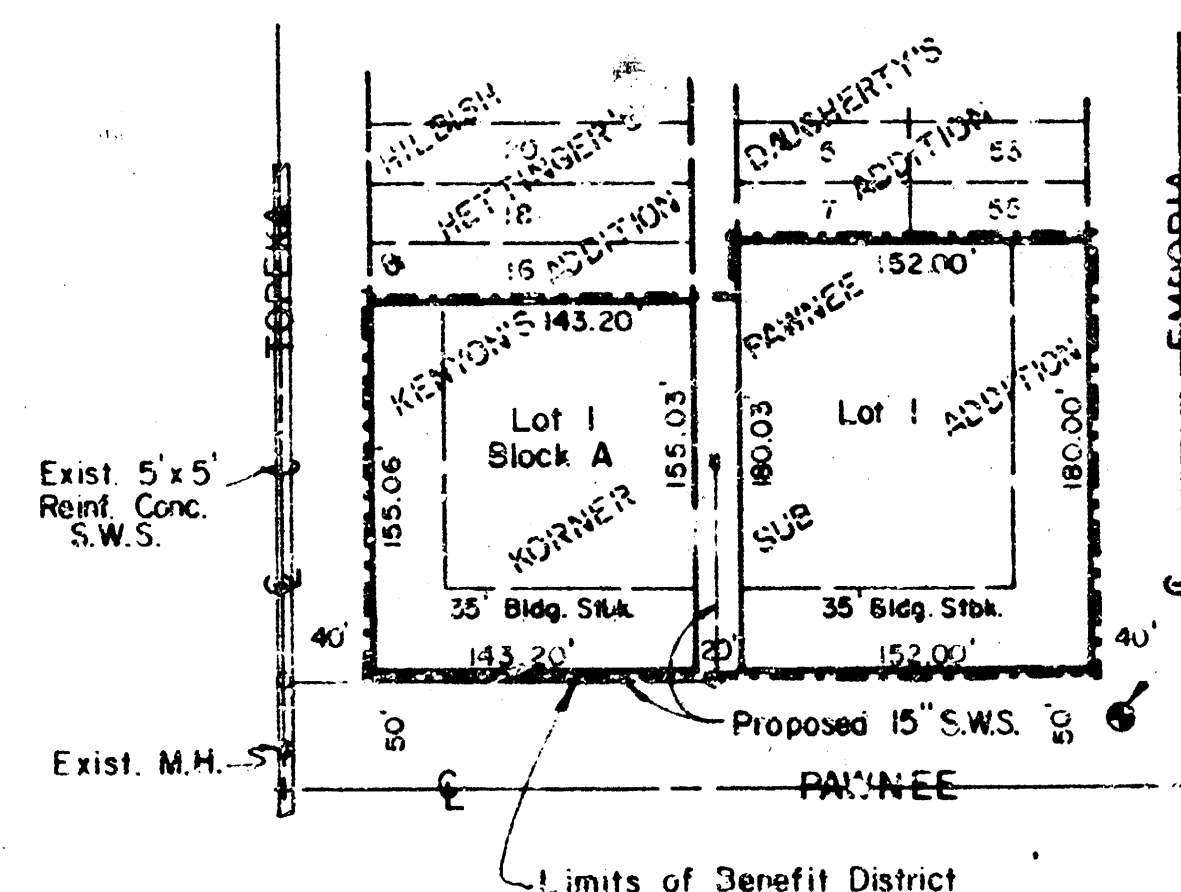
CITY OF WICHITA, KANSAS
M. E. LINDEBAK CITY ENGINEER

PROJECT NO. 468-76-245-81853-000-000-001

JANUARY, 1988

NOTES:

1. UNDERGROUND UTILITY SERVICE LINES AND OVERHEAD UTILITY POLE LINES ARE TO BE ADJUSTED AS NECESSARY BY OTHERS PRIOR TO CONSTRUCTION UNLESS THE PLANS SPECIFICALLY CALL FOR THEIR ADJUSTMENT BY THE CONTRACTOR OR UNLESS THE PLANS SPECIFICALLY IDENTIFY A UTILITY TO BE ADJUSTED BY ITS OWNER DURING CONSTRUCTION. EXISTING UTILITIES AND THEIR LOCATION, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS UTILITY COMPANIES AND IS EITHER FROM COMPANY RECORD DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.
2. RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES AND EXCESS EXCAVATION WHICH IS TO BE WASTED, SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR. SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE AND SITE LOCATION. LOCATIONS THAT, IN THE OPINION OF THE ENGINEER, WILL LEAVE AN UNGRACEFUL APPEARANCE WILL NOT BE APPROVED.
3. THE CONTRACTOR SHALL NOTIFY PIPELINE COMPANIES AT LEAST 24 HOURS IN ADVANCE OF ANY WORK BEING PERFORMED ACROSS AND/OR ADJACENT TO PIPELINES.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR WILL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR IN ACCORDANCE WITH STATE LAWS.
5. PAVEMENT REMOVAL AND/OR REPLACEMENT WILL BE MEASURED AND PAID FOR ON THE LINEAL FOOT BASIS AS MEASURED ALONG THE CENTERLINE OF THE SEWER REGARDLESS OF WIDTH, PAVEMENT TYPE AND/OR PAVEMENT THICKNESS. MINIMUM LIMITS OF SUCH PAVEMENT REMOVAL AND REPLACEMENT SHALL BE ONE FOOT BEYOND THE LIMITS OF THE EXCAVATION MADE FOR THE SEWER OR THE STRUCTURE, EXCEPT WHEN SUCH LINES OF REMOVAL ARE WITHIN THREE (3) FEET OF AN EXISTING JOINT. THE LIMITS OF REMOVAL SHALL BE EXTENDED TO THE EXISTING JOINT. REMOVAL AND REPLACEMENT OF EXISTING PAVEMENT SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE CITY OF WICHITA STANDARD SPECIFICATIONS.



1" = 100'

Benchmark - "X" on Conc. Walk,
30' N. & 27' W. of E. Pawnee
and Emporia,
Elev. = 97.74 City Datum

LEGEND

P.P. = Power Pole
T.S.B. = Telephone Splice Box
O.E. = Overhead Electric
S.S. = Sanitary Sewer
S.W.S. = Storm Water Sewer
U.T. = Underground Telephone
O.C. = Overhead Cable
G = Gas
W = Water

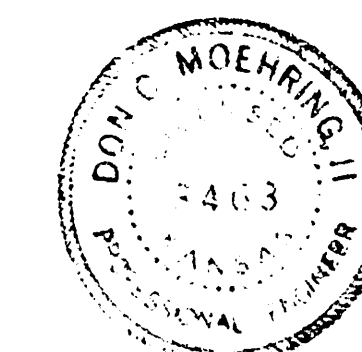
INDEX

Sheet No.

1
2-3
4-5
6

Description

Cover Sheet
Plan & Profile
Standard Manhole Details
Drop Inlet Details



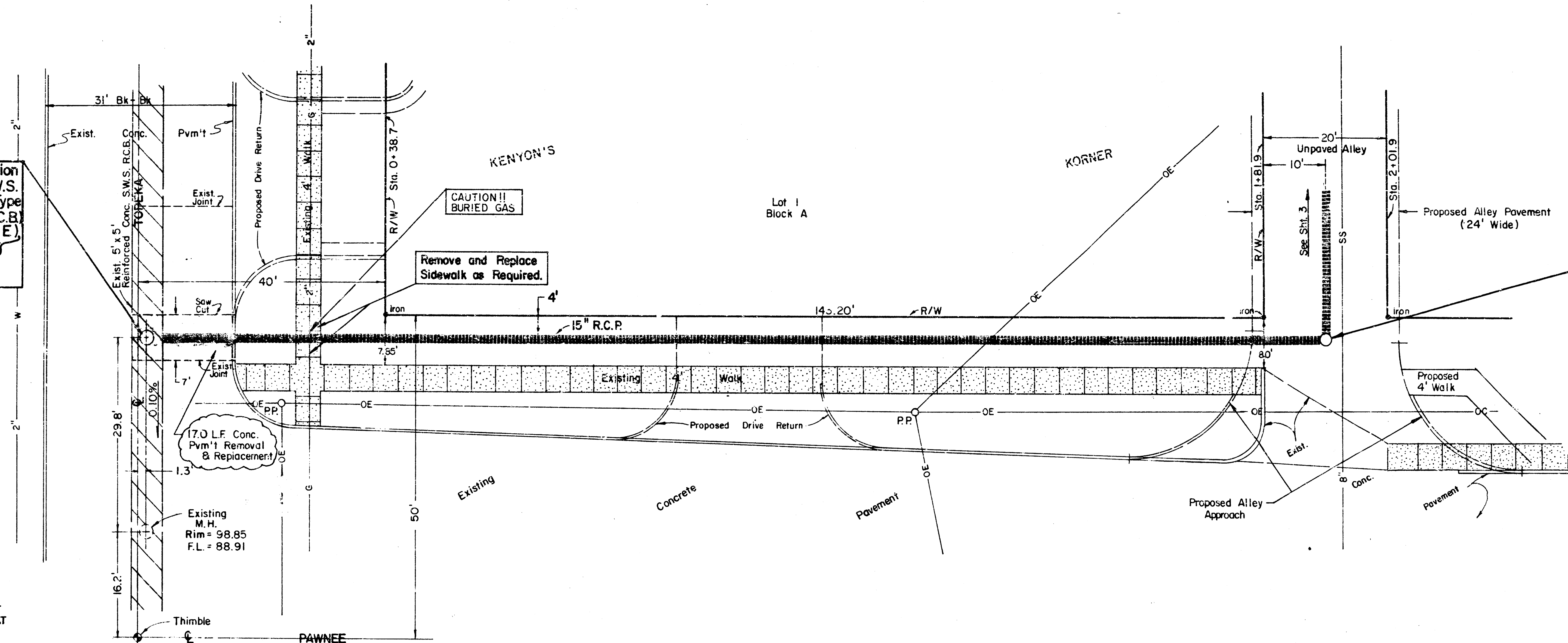
MOEHRING & ASSOCIATES
CONSULTING ENGINEERS
WICHITA

PLAN
REVISED
DATE
BY
CHECKED
DATE
BY
NOTED
DATE
BY

Sta. 0+00-Begin Construction
Connect to Exist. 5'x5' S.W.S.
Construct Special Shallow Type
"B" M.H. (Stack on Exist. R.C.P.)
Install 17.0 L.F. 15" R.C.P. (E)
F.L. In (E) = 91.83 (192.4 LF)
F.L. Out (S) = 88.94
Top Rim = 98.53 (98.56)

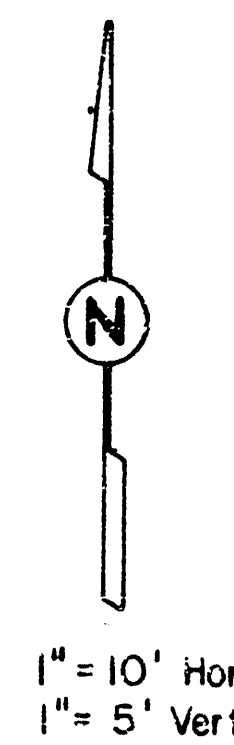
NOTE:

THE CONTRACTOR SHALL MAINTAIN AT
LEAST ONE LANE OPEN TO TRAFFIC AT
ALL TIMES DURING CONSTRUCTION.

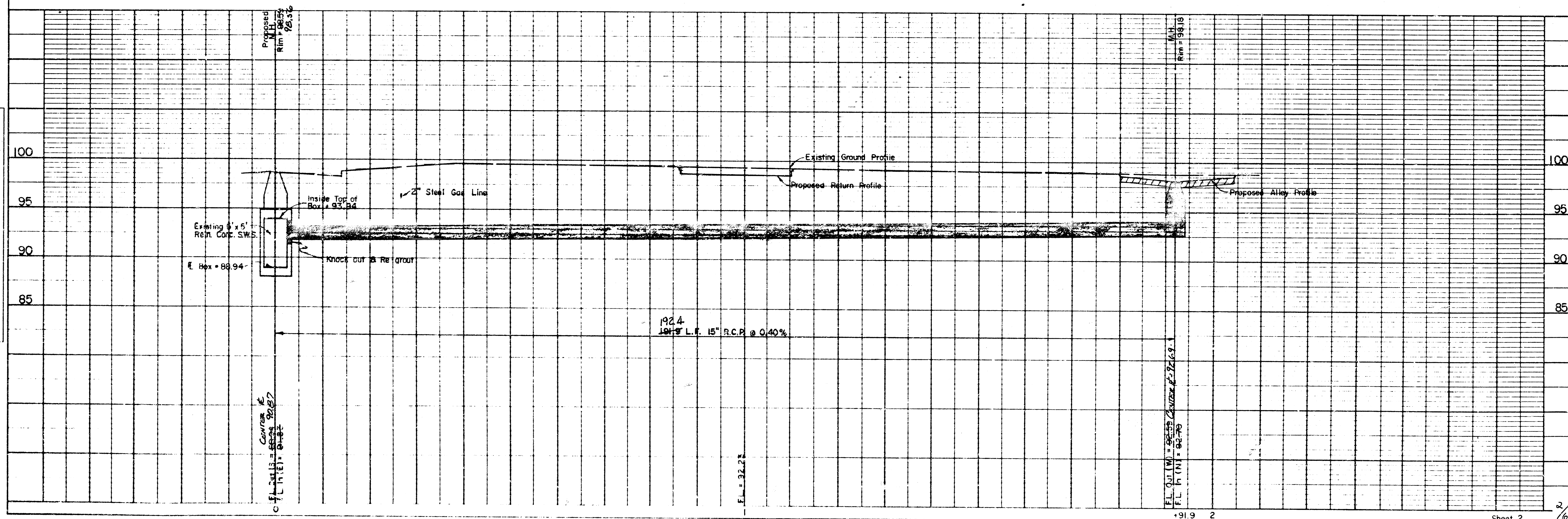


Sta. 1+91.9
Construct Std. Shallow Type "B"
Manhole (4' Dia.)
Install 93 L.F. 15" R.C.P. (N).
F.L. Out (W) = 92.59
F.L. In (N) = 92.70
Top Rim = 98.18

AS BUILT
7/88
MCL



PROFILE
REVISED
DATE
BY
CHECKED
DATE
BY
NOTED
DATE
BY



DATE _____ BY _____

NAME _____

ADDRESS _____

CITY _____

STATE _____

ZIP _____

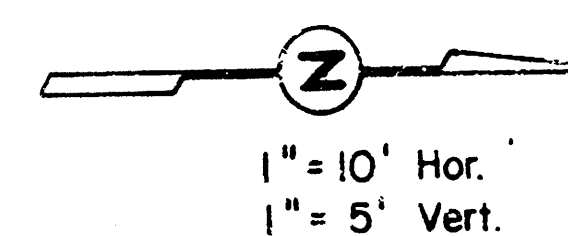
PHONE _____

TELETYPE _____

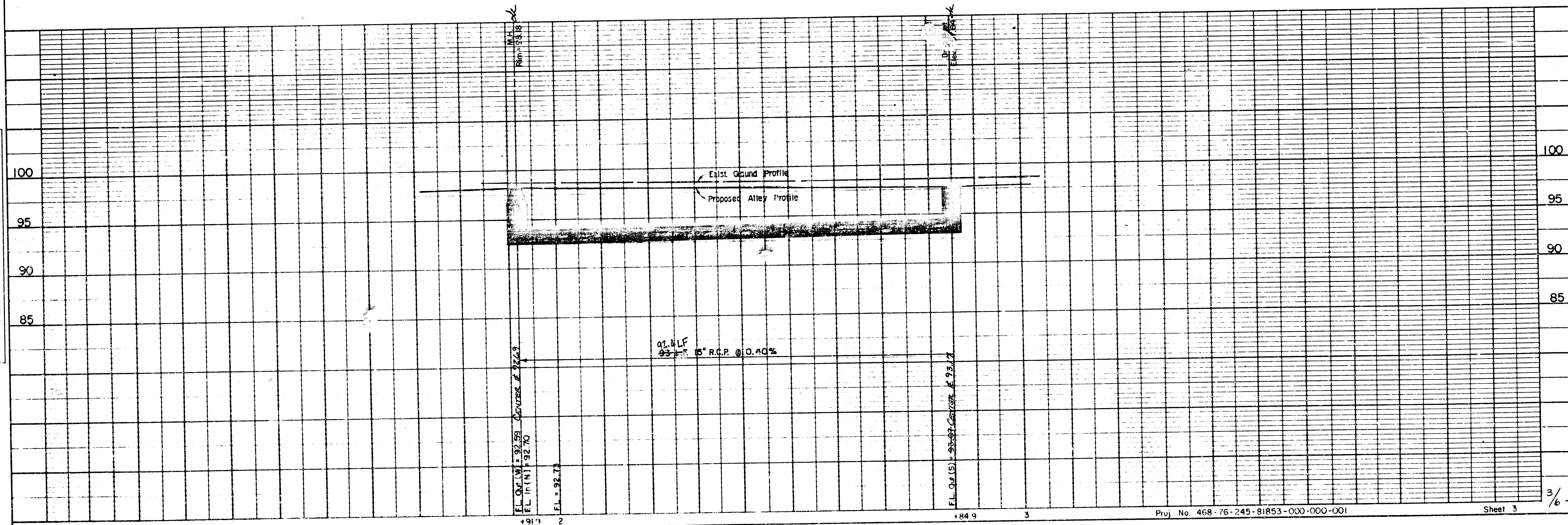
TELEFAX _____

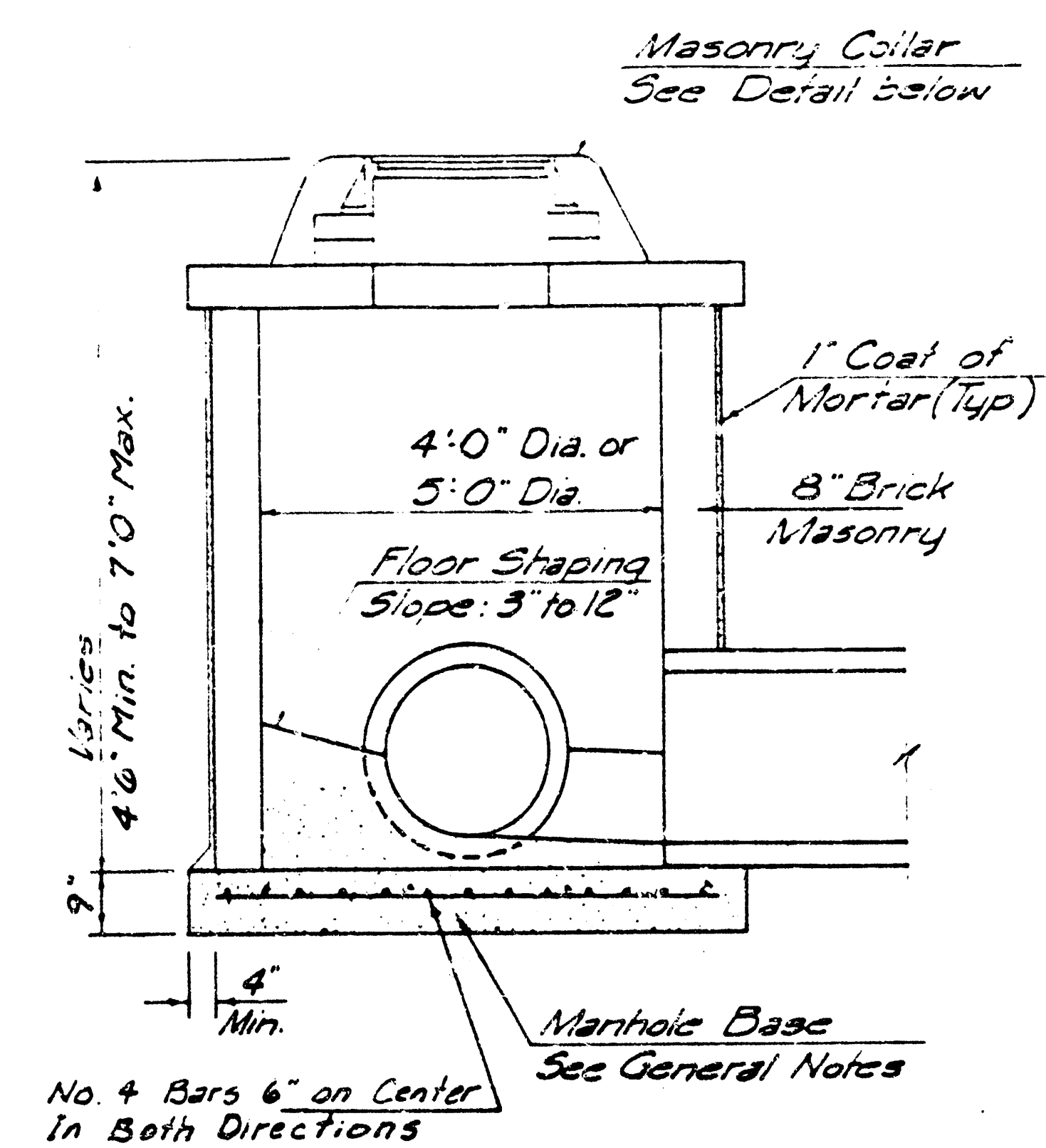
EMAIL _____

PROFILE

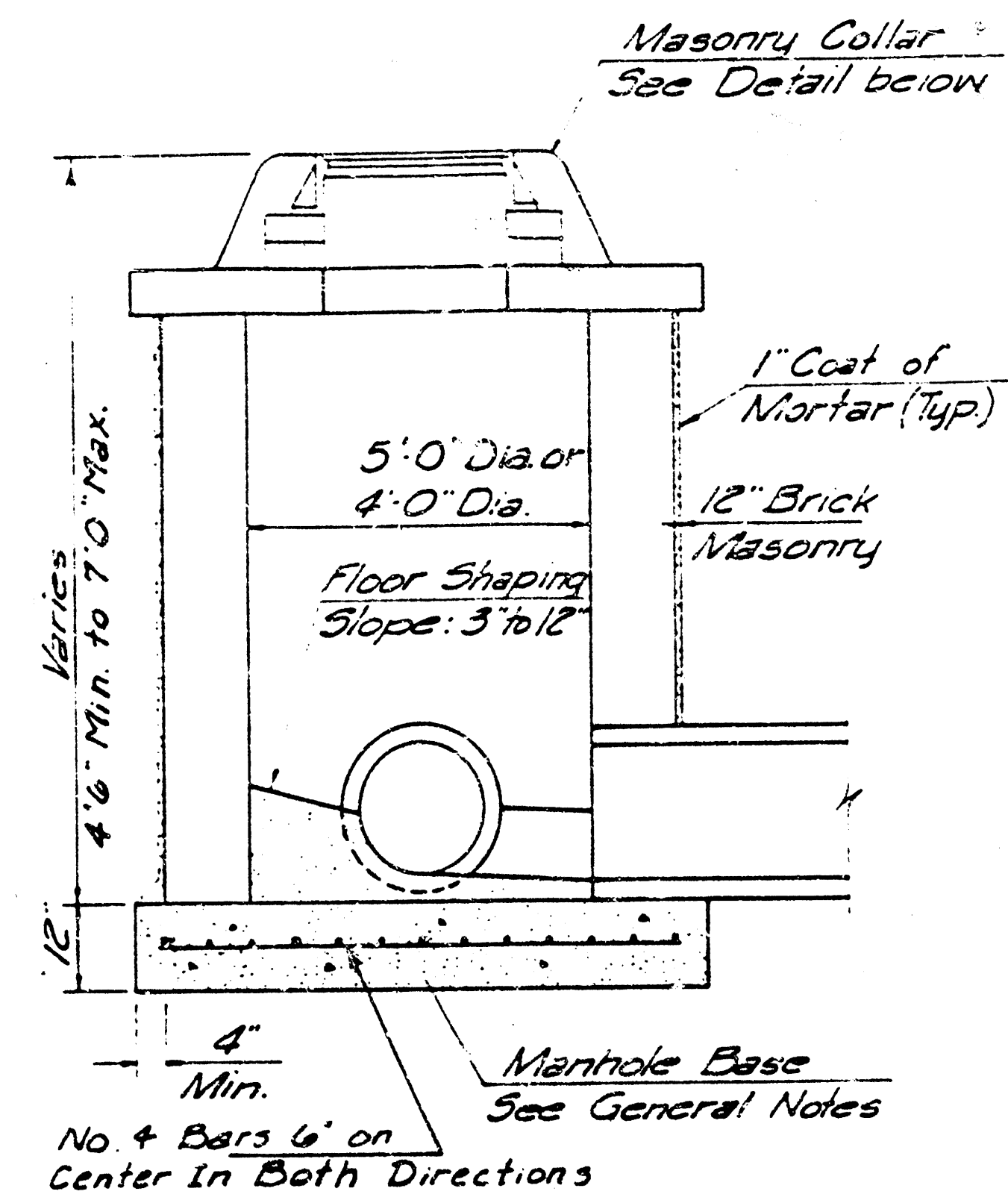


AS BUILTS
7/88
MCG

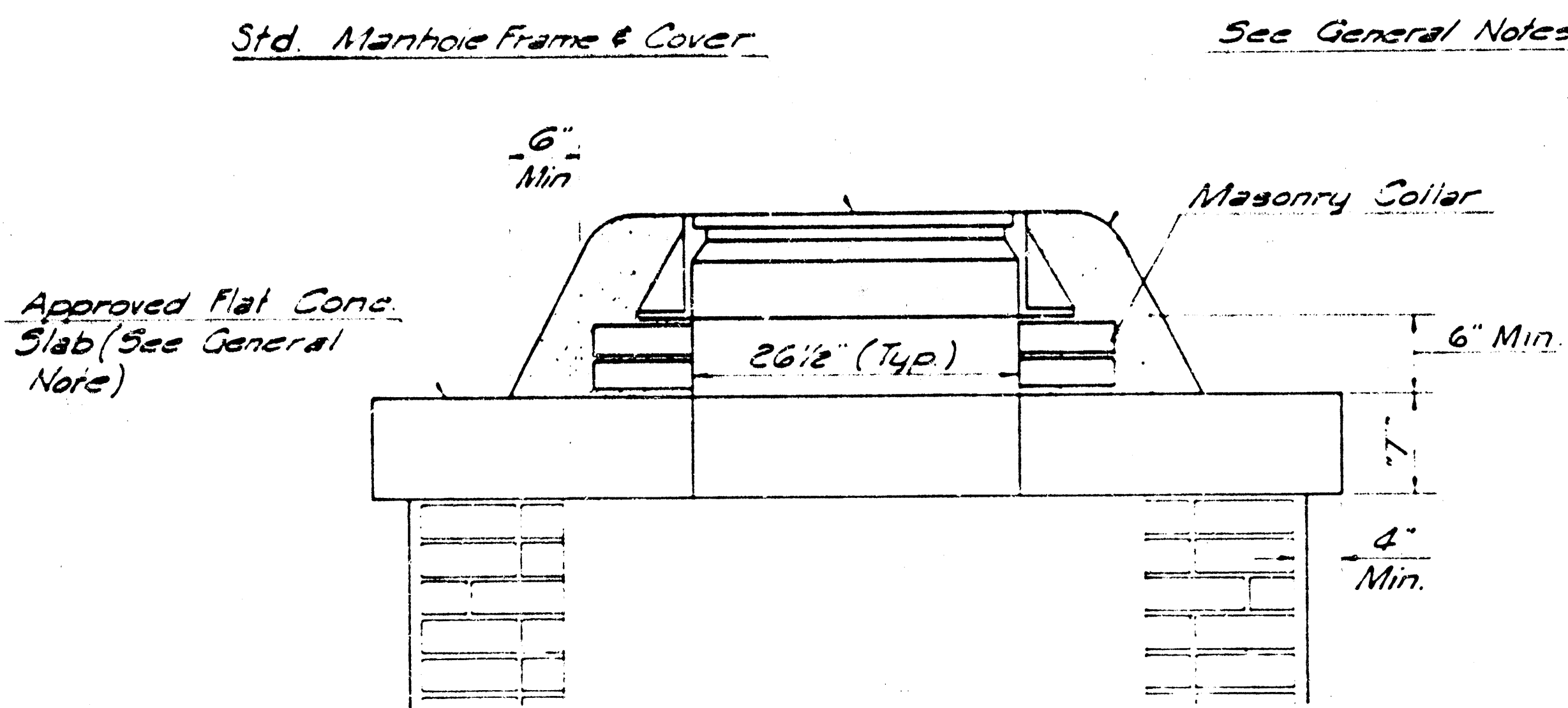




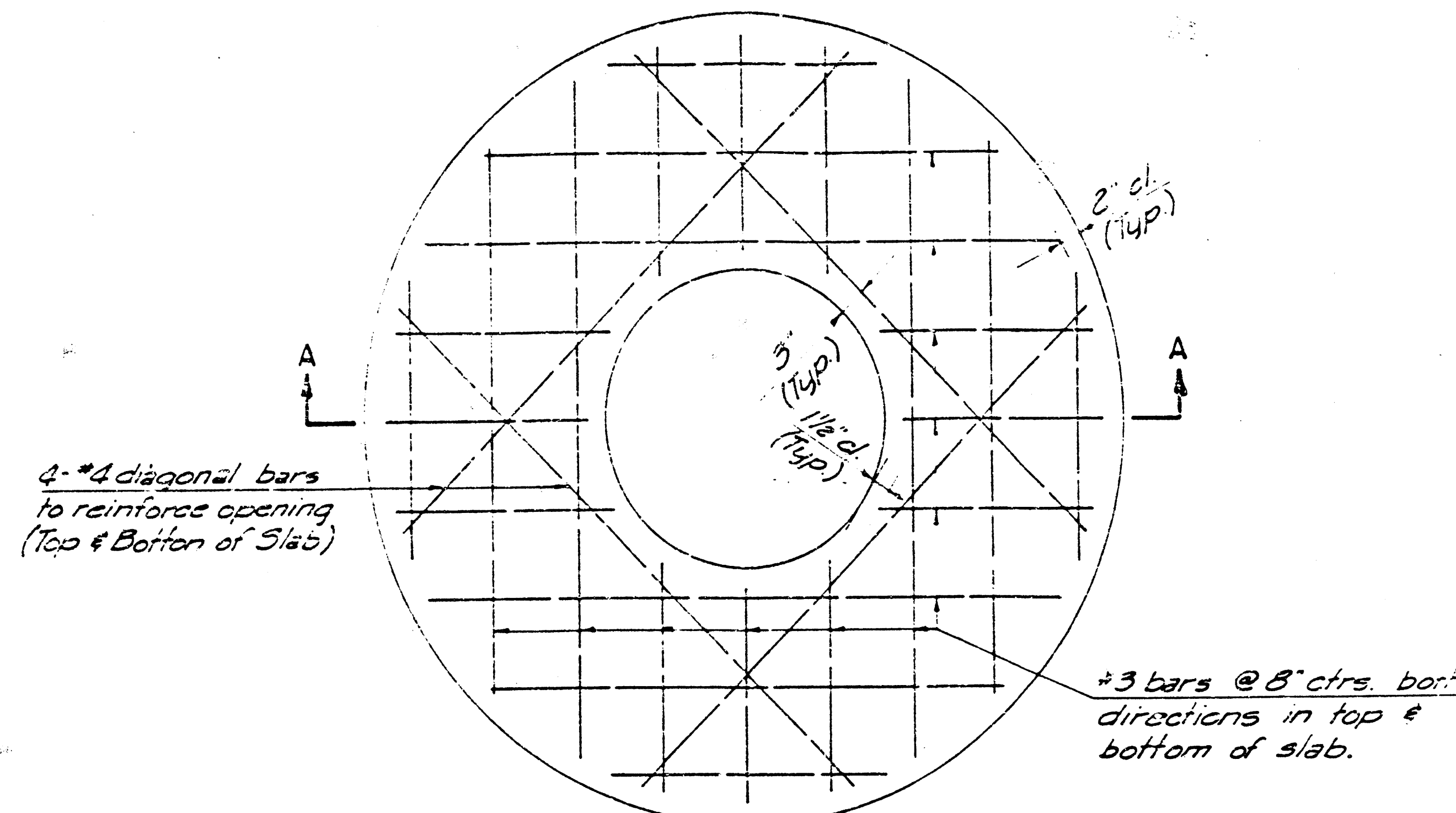
SHALLOW TYPE "A" MANHOLE



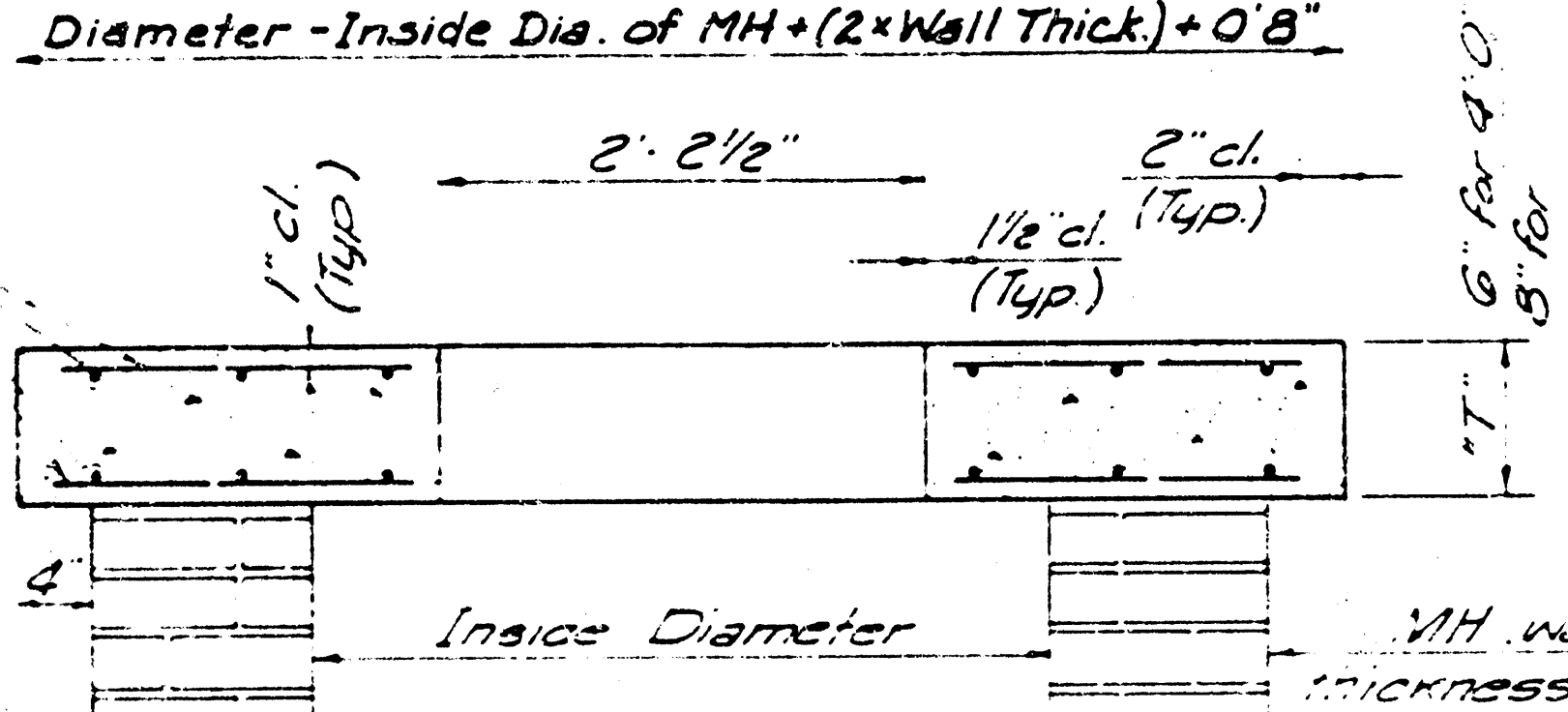
SHALLOW TYPE "B" MANHOLE



MASONRY COLLAR DETAIL

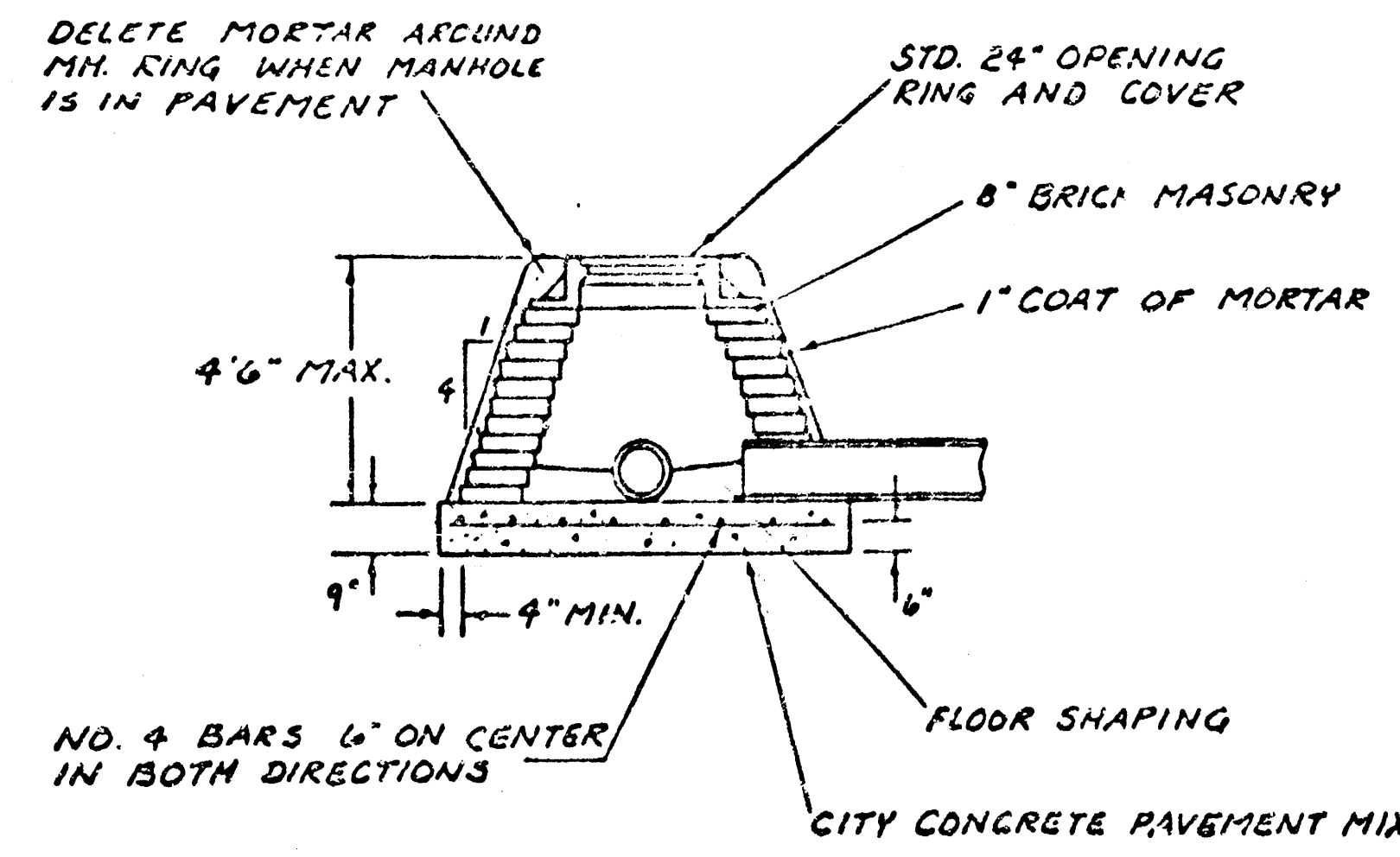


PLAN

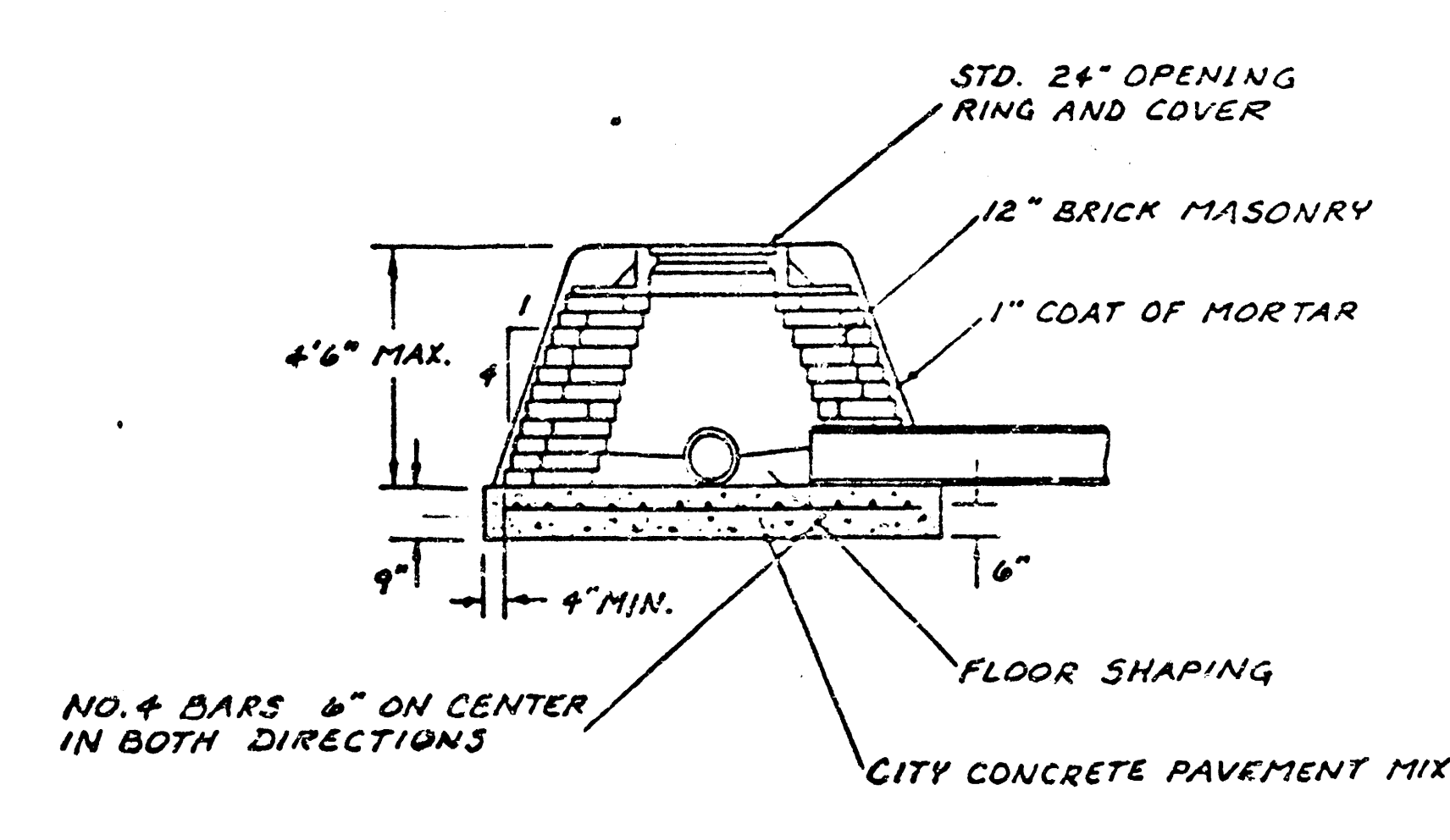


SECTION A-A

FLAT CONCRETE SLAB DETAILS



SPECIAL SHALLOW TYPE 'A' MANHOLE



SPECIAL SHALLOW TYPE 'B' MANHOLE

GENERAL NOTES

1. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS USING CITY CONCRETE CEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. TYPE "A" SHALLOW MANHOLES CAN BE USED ON SEWERS WHEN THE MANHOLE IS NOT LOCATED WITHIN PUBLIC STREET PAVEMENT. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24" SHALL HAVE AN INSIDE DIAMETER OF 4'. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE 24" OR LARGER SHALL HAVE AN INSIDE DIAMETER OF 5'. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.
2. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED 6" ABOVE THE BOTTOM OF THE MANHOLE BASE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
3. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES 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 PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE DRAWINGS. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO NEAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.
4. PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. WHEN CLAY PIPE IS USED, THE CRADLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MANHOLE. THE CRADLE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. COST OF CRADLE WITHIN MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
5. 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 DRAWINGS.
6. THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
7. STANDARD SHALLOW MANHOLES TYPE "A" AND "B" SHALL BE PAID FOR AT THE UNIT PRICE BID PER EACH FOR THE TYPE AND DIAMETER INDICATED. STANDARD SPECIAL SHALLOW MANHOLES TYPE "A" AND "B" SHALL BE PAID FOR AT THE UNIT PRICE BID PER EACH FOR THE TYPE INDICATED. ALL STANDARD SHALLOW MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.

CITY OF WICHITA, KANSAS
STANDARD SHALLOW MANHOLES
TYPE 'A' AND TYPE 'B'

4/6

Designed by _____ Checked by _____
Drawn by _____ Date _____ Job No. _____

MANHOLE FRAME AND COVER DETAIL

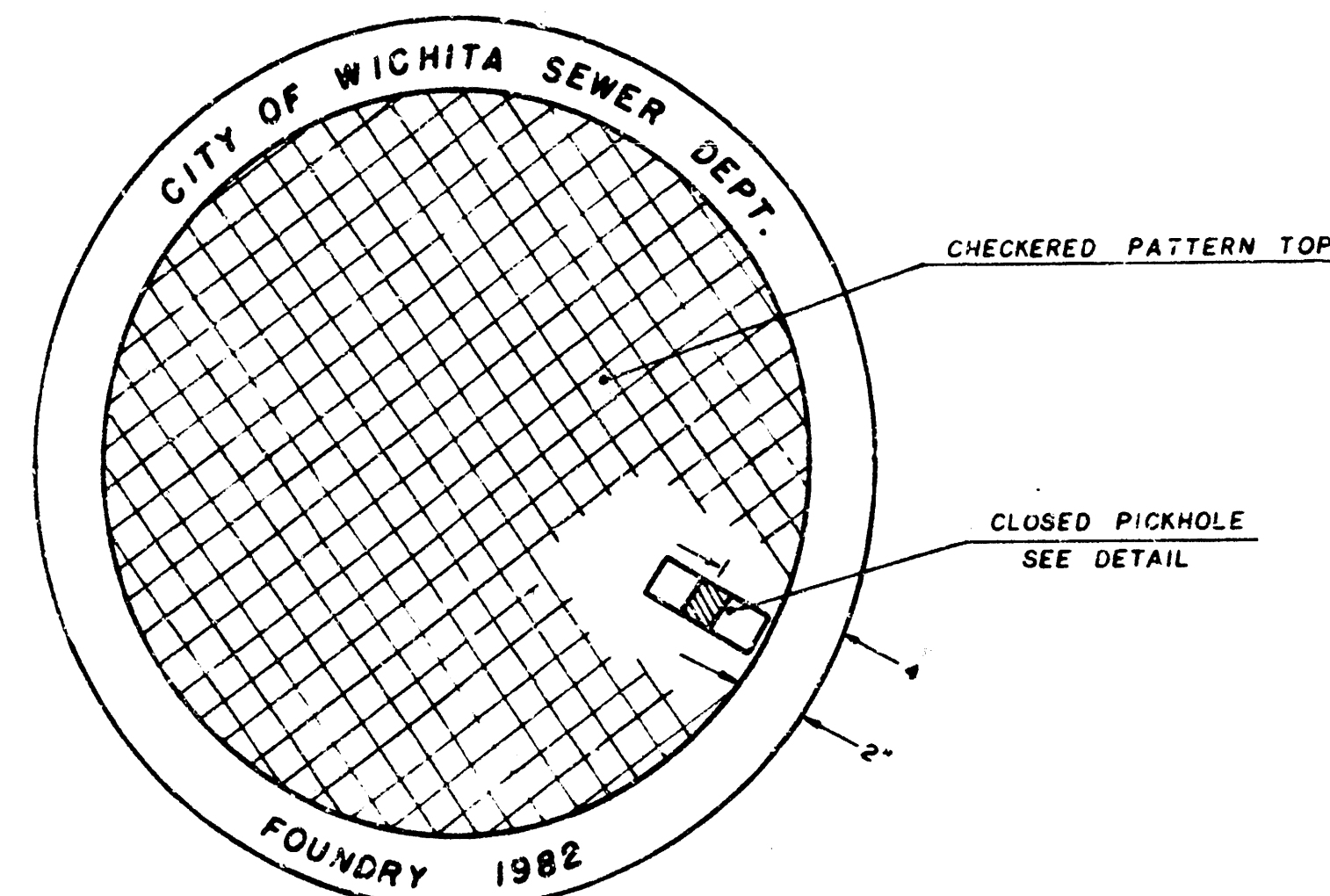
ADOPTED AS STANDARD DESIGN

BY

City of Wichita, Kansas

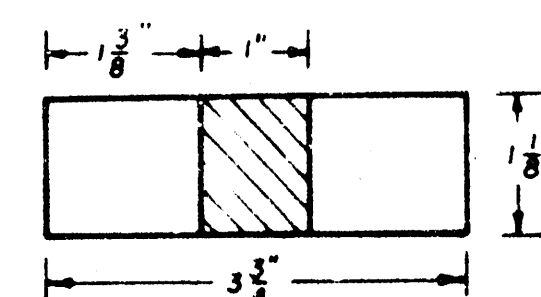
MANHOLE COVER

Weight: 180 Lbs.

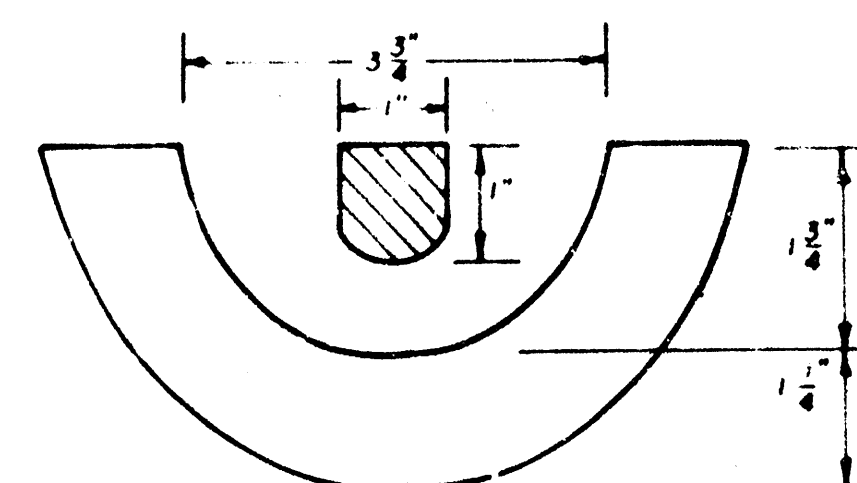


TOP VIEW

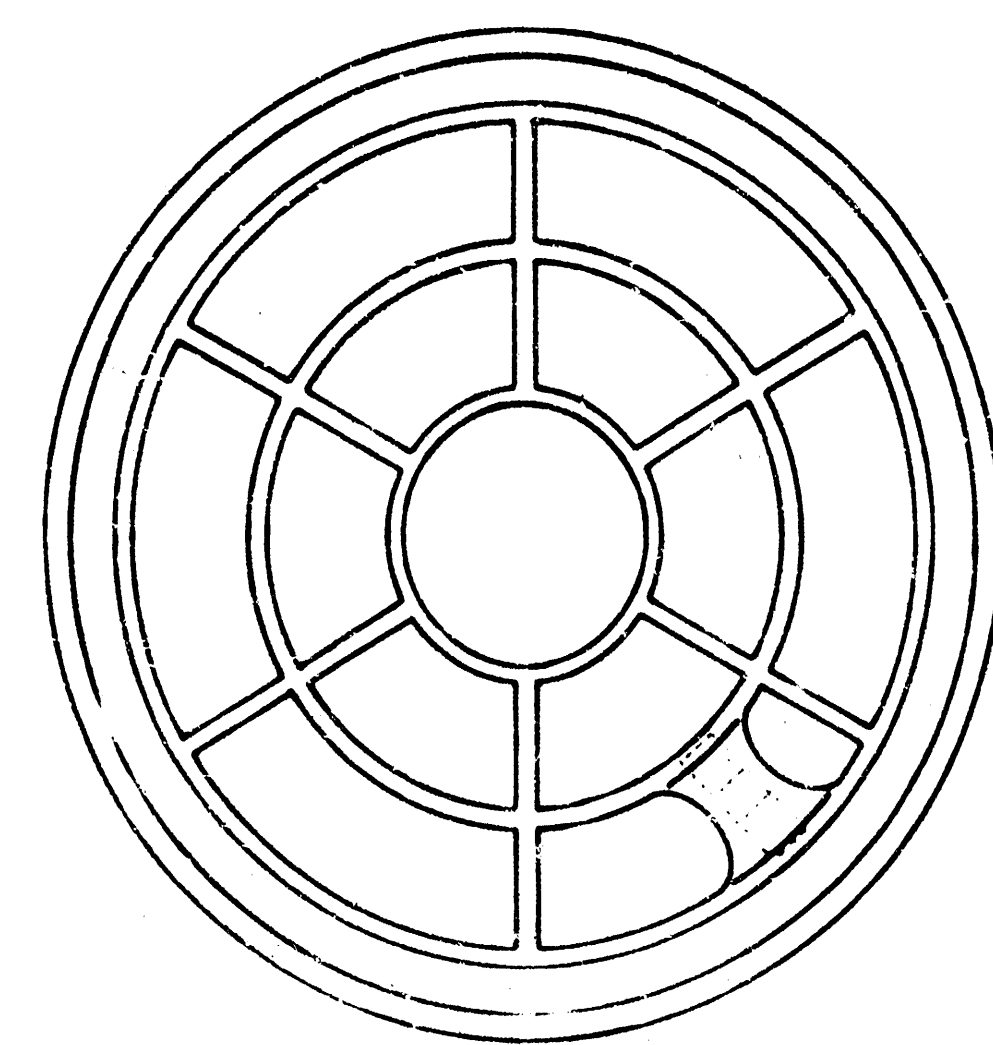
PICKHOLE DETAIL



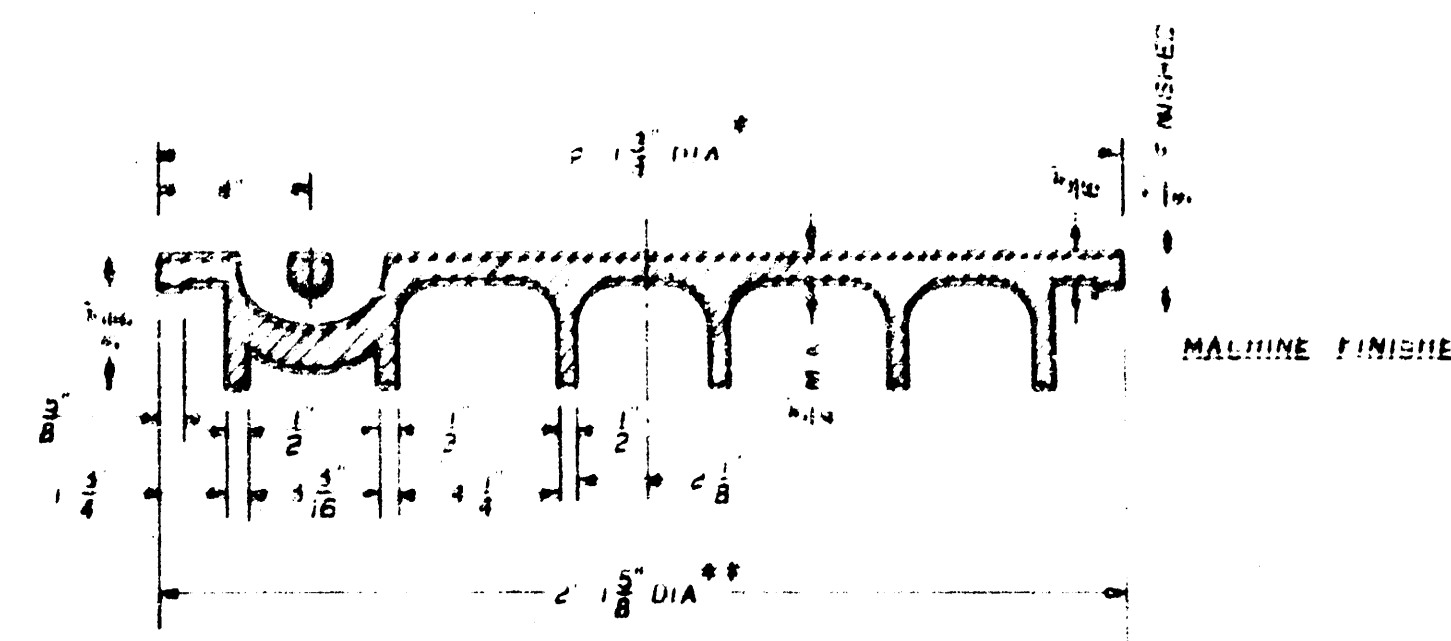
TOP VIEW



SECTION VIEW



BOTTOM VIEW

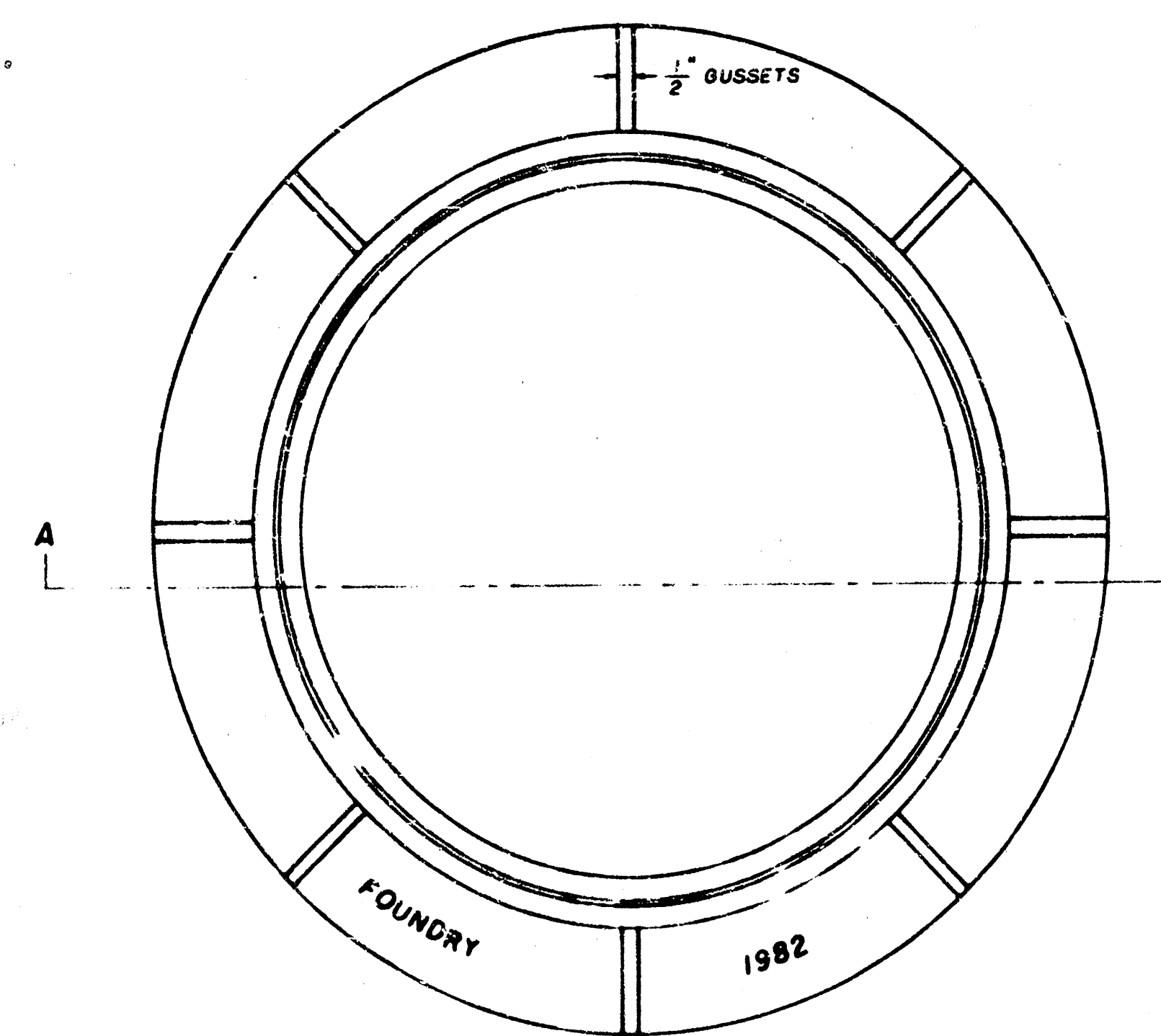


SECTION VIEW

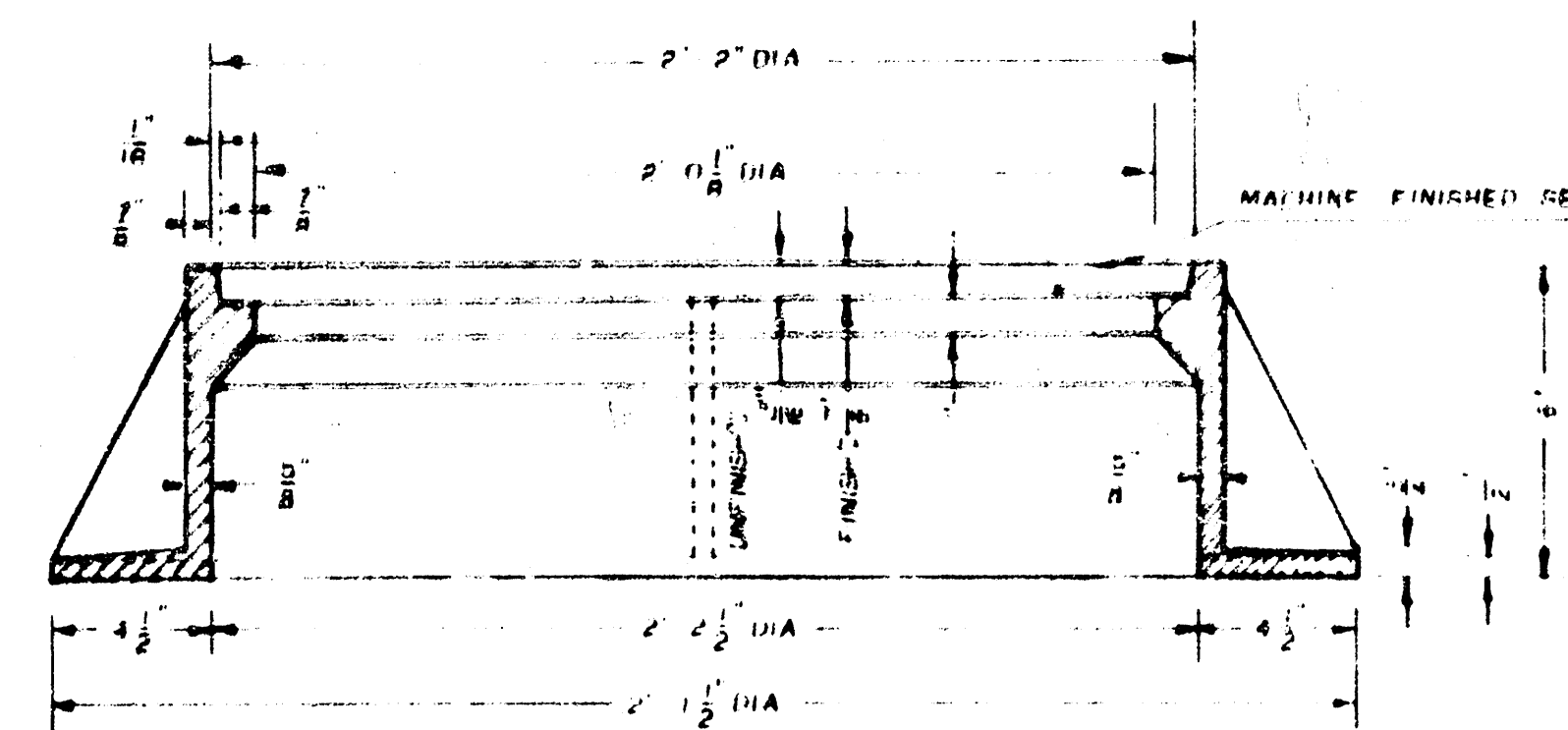
* OUTSIDE DIA. TOP OF COVER
** OUTSIDE DIA. BOTTOM OF COVER

MANHOLE FRAME

Weight: 240 Lbs.



TOP VIEW

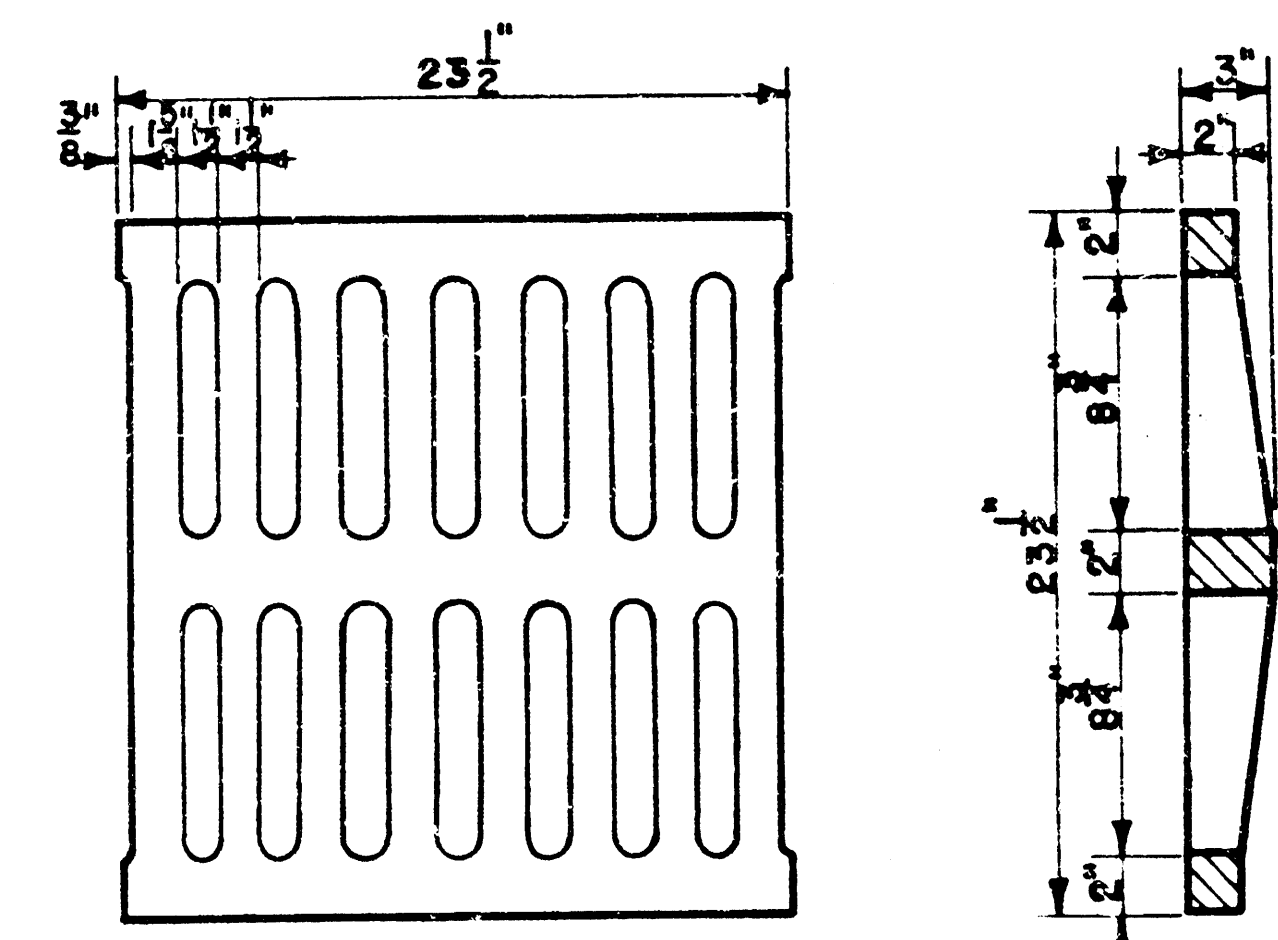
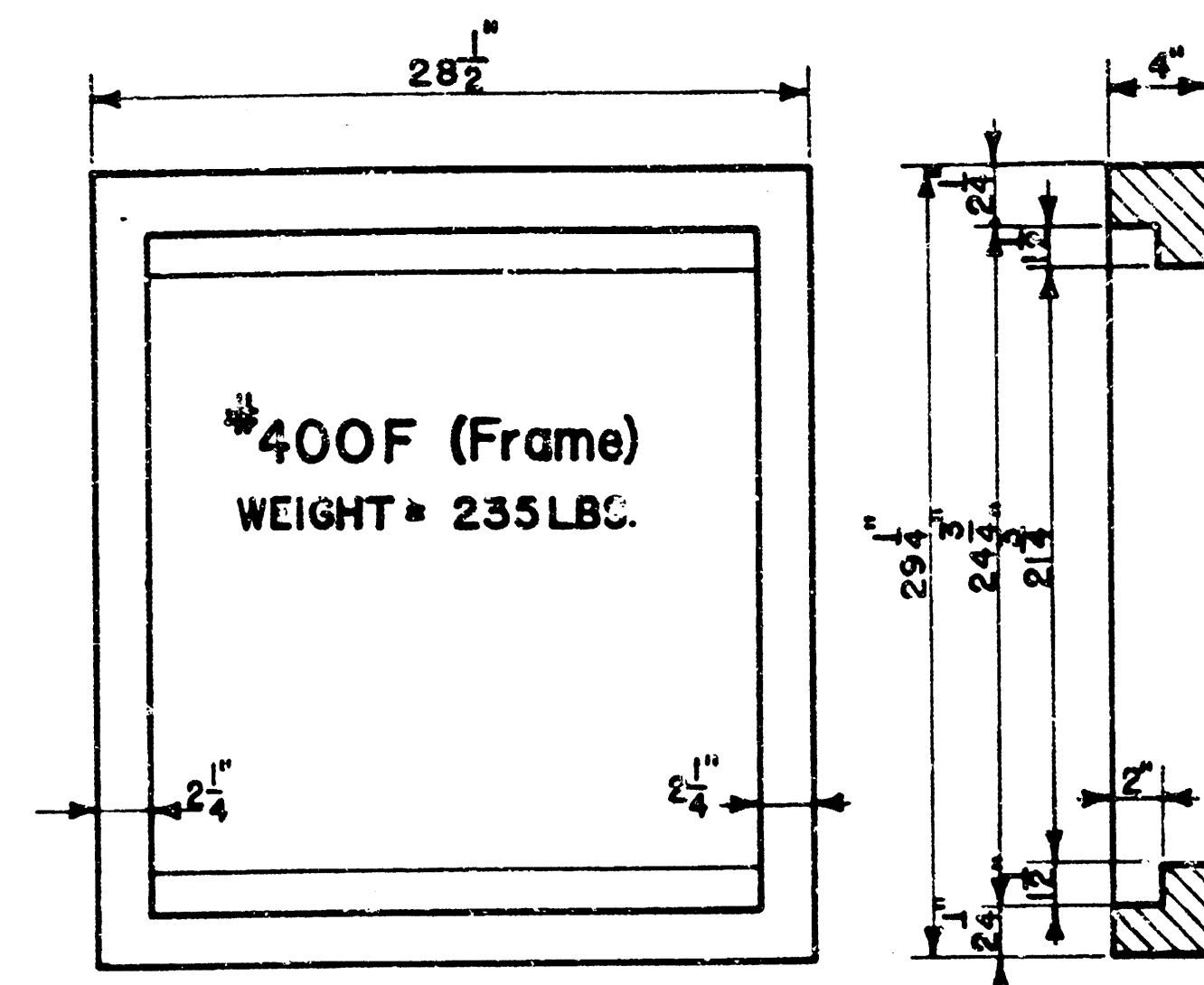


SECTION A-A

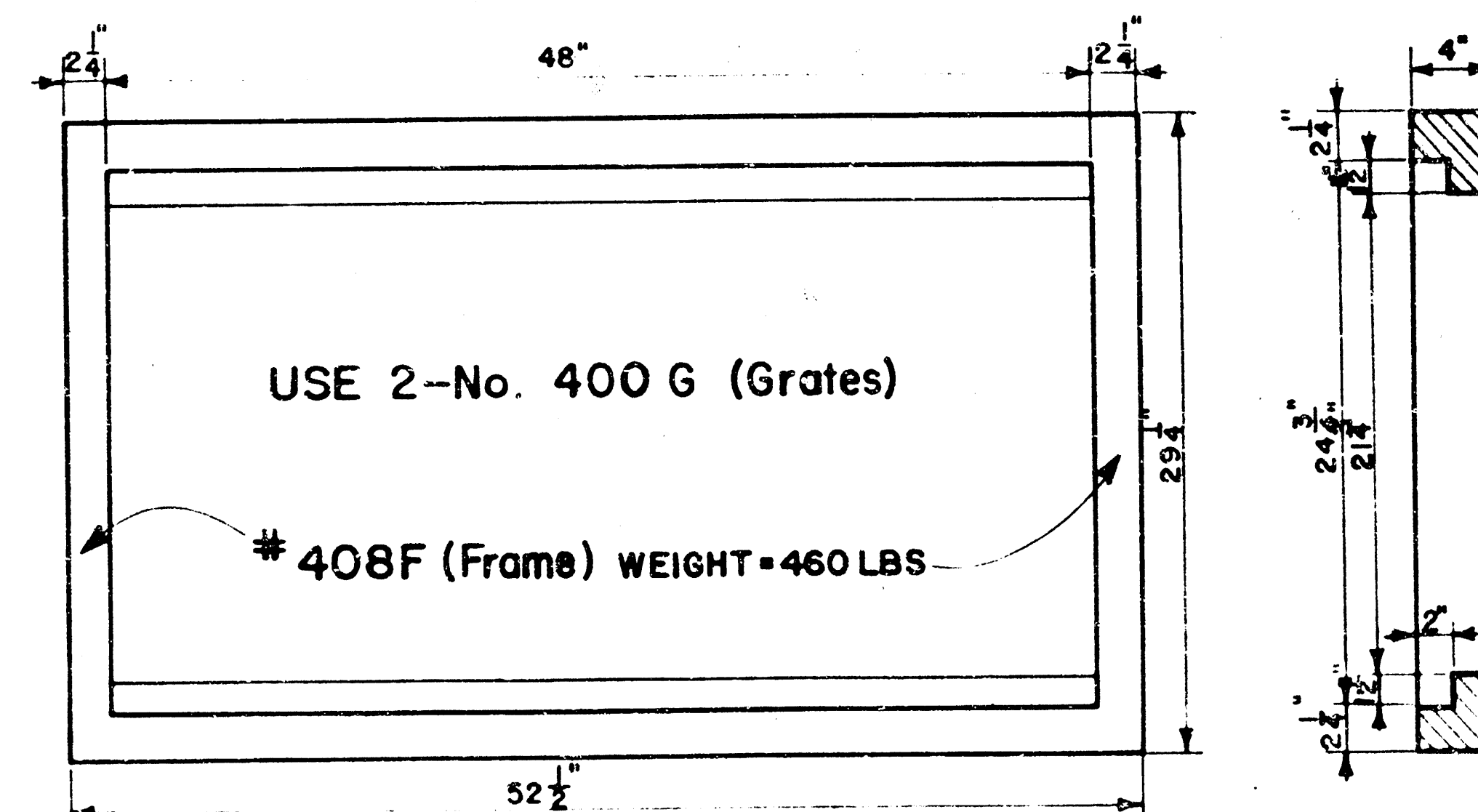
GENERAL NOTES

1. MANHOLE CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A.S.T.M. DESIGNATION A-48. DIMENSIONS AND WEIGHTS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTIONS OR OTHER DEFECTS.
2. MANHOLE CASTINGS SHALL BE COATED WITH AN ASPHALT PAINT RESULTING IN A SMOOTH, TOUGH AND TENACIOUS COATING WHICH IS NOT BRITTLE OR TACKY.
3. MANHOLE CASTINGS SHALL BE MANUFACTURED SUCH THAT A COVER MANUFACTURED BY ANY ONE FOUNDRY WILL FIT INTERCHANGEABLY INTO A FRAME MANUFACTURED BY ANOTHER FOUNDRY AND STILL MEET ALLOWABLE CLEARANCES AND NON-ROCKING REQUIREMENTS. THIS WILL REQUIRE MANUFACTURING OF THE MATCHING FACES ON THE COVER AND THE FRAME TO CLOSE TOLERANCES.
4. THE OUTSIDE CIRCUMFERENCE OF THE VERTICAL FACE OF THE COVER AND THE INSIDE CIRCUMFERENCE OF THE VERTICAL FACE IN THE FRAME RECESS SHALL BE MANUFACTURED TO TOLERANCES SUCH THAT THE CLEARANCE BETWEEN THE COVER AND FRAME WILL NOT EXCEED 1/8" AT ANY POINT AROUND THE CIRCUMFERENCE OF THE COVER. THE SEATING SURFACES BETWEEN THE COVER AND FRAME SHALL BE MACHINED SUCH THAT THESE SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUMFERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.
5. THE MANHOLE FRAME AND COVER SHALL BE MARKED WITH LETTERING INDICATING THE NAME OF THE MANUFACTURER AND THE YEAR WHEN THE COVER OR FRAME WAS CAST. THE COVER SHALL BE FURTHER IDENTIFIED WITH REGARDS TO OWNERSHIP USING LETTERS AT LEAST 1" IN HEIGHT. THIS IDENTIFICATION SHALL BE "CITY OF WICHITA SEWER DEPARTMENT". THE WORD DEPARTMENT MAY BE ABBREVIATED. THE TEXTURE OF THE TOP SURFACE OF THE COVER SHALL BE MANUFACTURED IN A CHECKERED PATTERN DESIGN AS INDICATED ON THE DRAWINGS. SMOOTH BLOCKOUTS SHALL BE UTILIZED TO HIGHLIGHT THE LETTERING ON THE COVER SURFACE. THE TOTAL AREA OF SMOOTH SURFACE BLOCKOUT SHALL NOT EXCEED THE AREA AS INDICATED ON THE DRAWING. POSITIONING OF SMOOTH BLOCKOUTS AND LETTERING MAY VARY FROM THAT SHOWN ON THE DETAILED DRAWING.

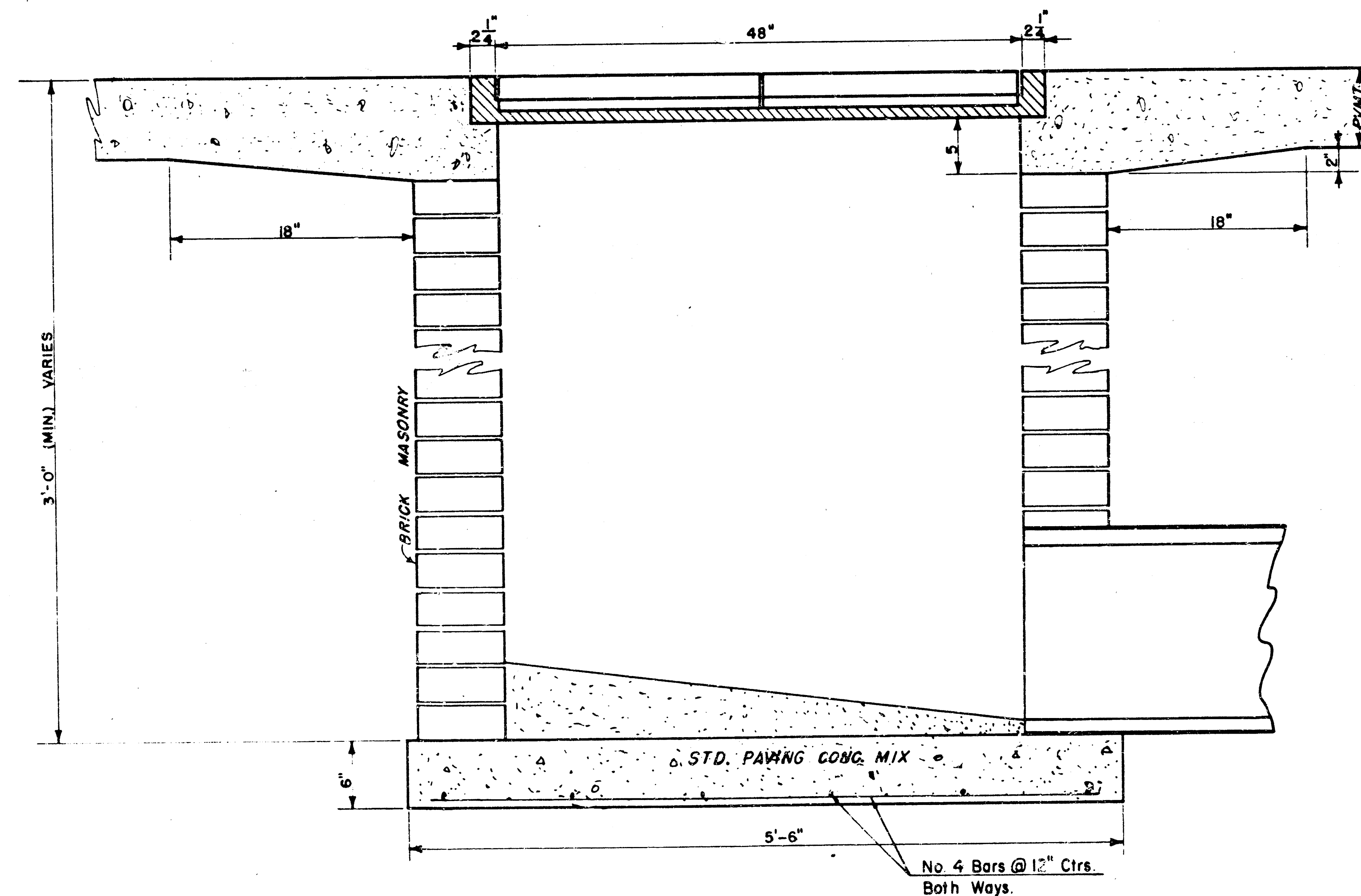
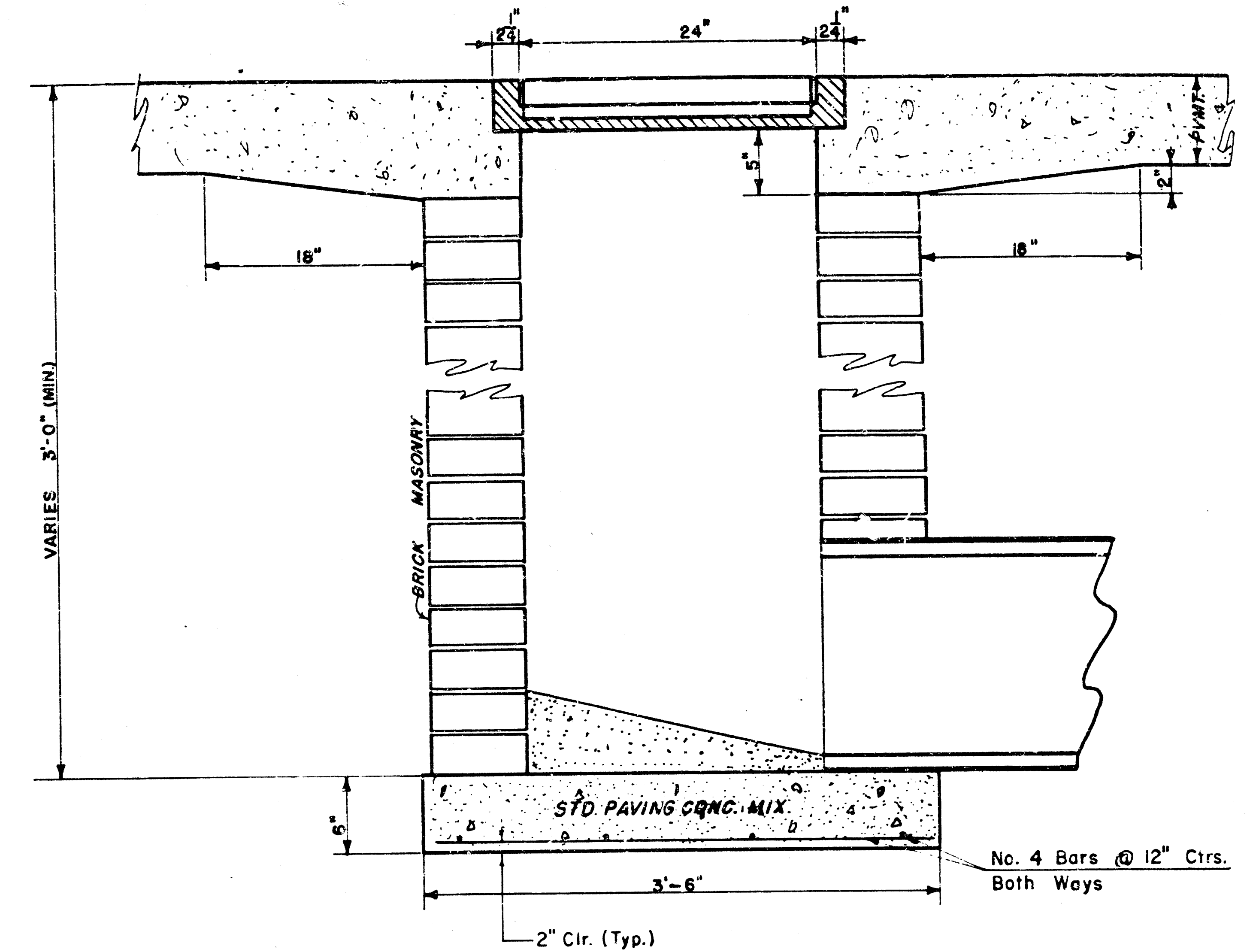
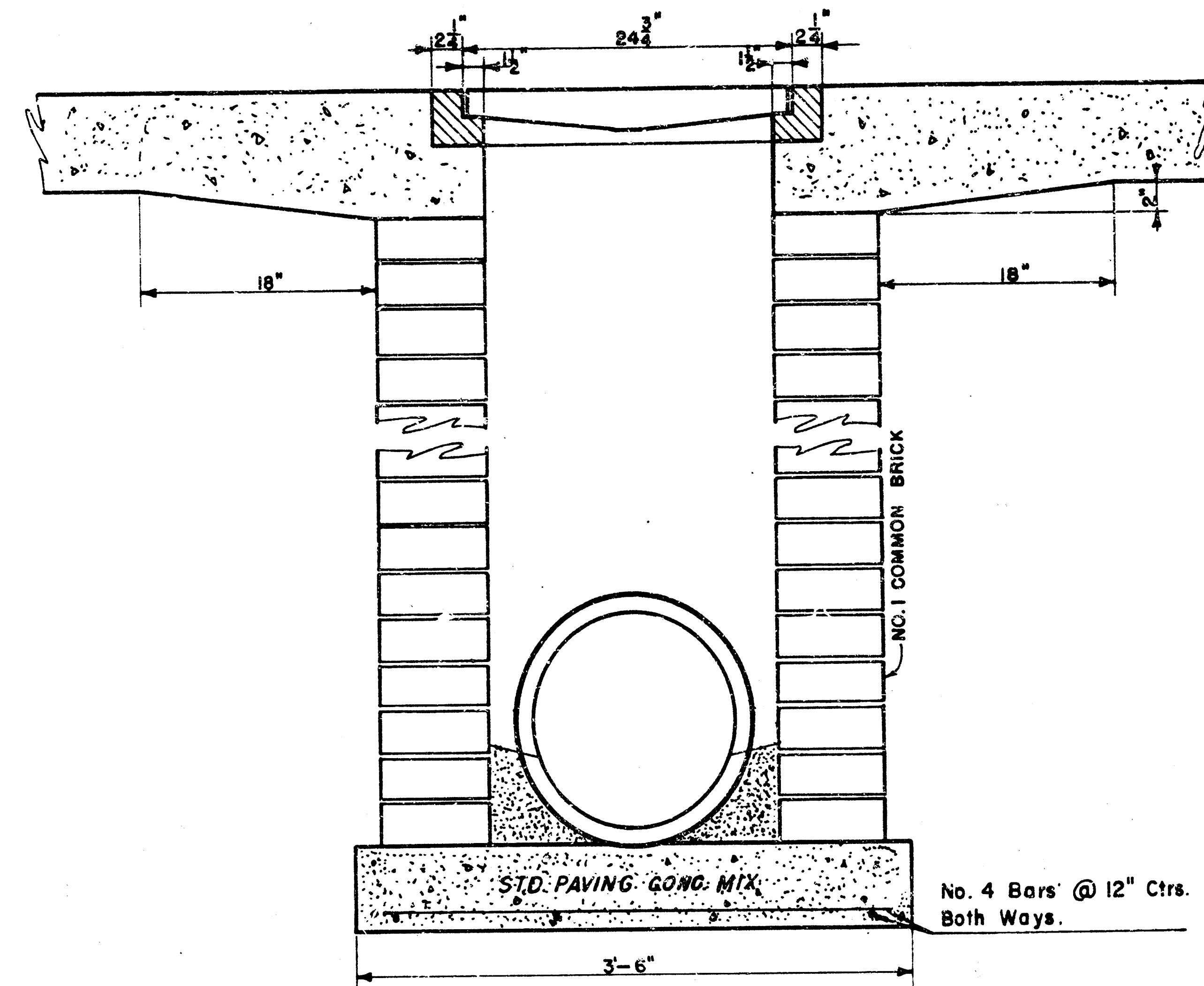
NOTE: Grates shall be imprinted on the top surface with "CITY OF WICHITA" using letters at least 1" in height. Other marking methods may be used only if approved by the engineer.



24"x24" Frame & Grate Detail



Double 24"x24" Frame Detail



DROP INLET DETAILS

M.E. Lindebak, City Engineer
City of Wichita, Kansas
Project
Project No.

Date: 10 4 5 4
Scale: 1-1/2" = 1'-0"