

# SANITARY SEWER PLANS WILLOWBEND HEIGHTS

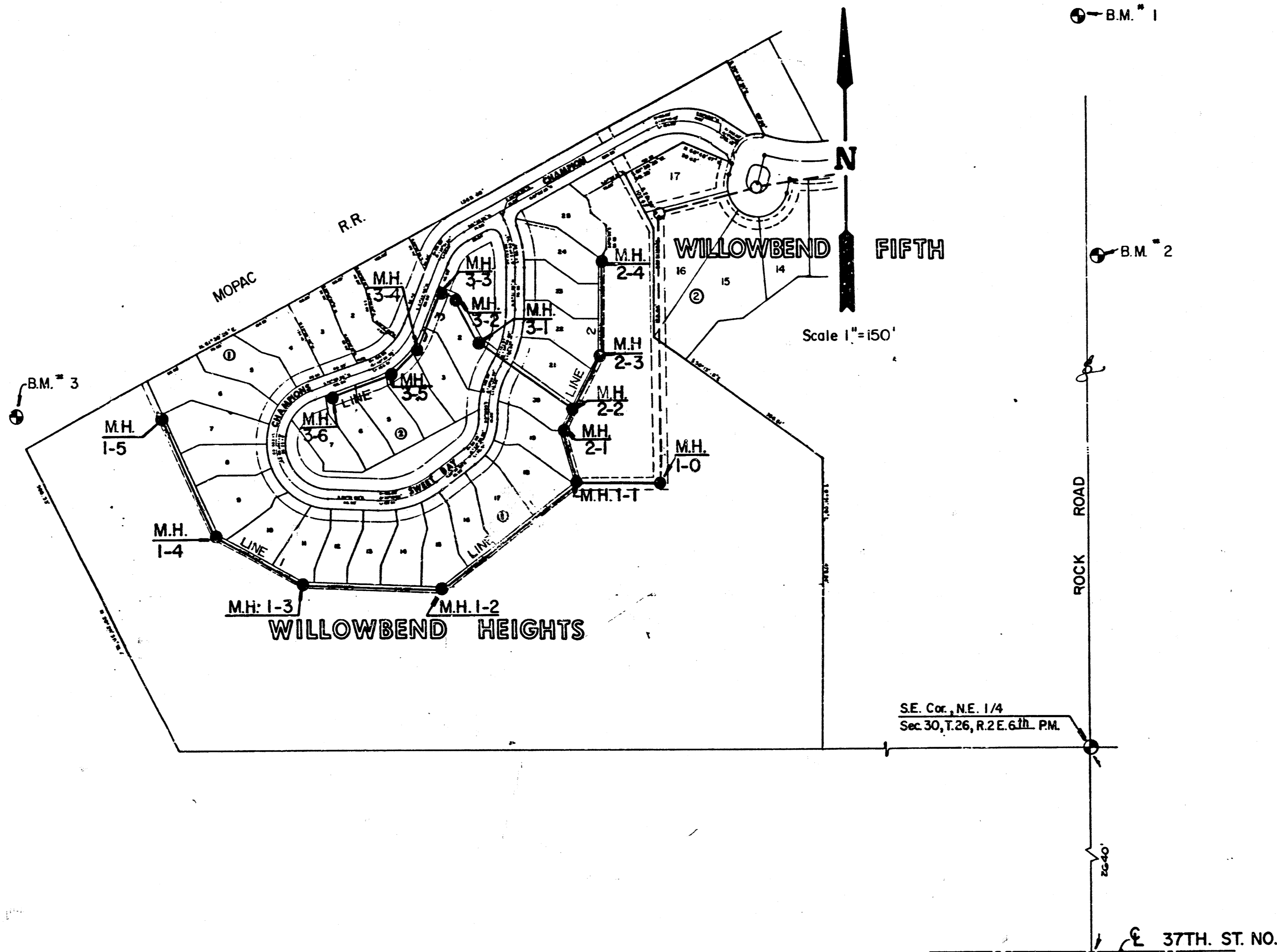
## PRIVATE PROJECT NO. 468-76-245-80001-000-000-128

CITY OF WICHITA, KANSAS  
MICHAEL E. LINDEBAK, CITY ENGINEER  
AUGUST, 1987

### GENERAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR SHALL 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 OR A LICENSED PROFESSIONAL ENGINEER IN ACCORDANCE WITH STATE LAWS.
2. TREES TO BE REMOVED ARE MARKED ALL TREES WHICH IN THE OPINION OF THE FIELD ENGINEER CAN BE SAVED, SHALL BE SAVED.
3. A PORTION OF EXCESS EXCAVATED MATERIAL SHALL BE MOUND AROUND MANHOLES WHICH EXTEND MORE THAN ONE (1) FOOT ABOVE THE EXISTING GROUND. SUCH MOUNDS SHALL BE CONSTRUCTED WITH A SIX (6) FOOT DIAMETER FLAT TOP WITH 4 TO 1 SIDE SLOPES DOWN TO THE ORIGINAL GROUND. THE ELEVATION OF THE FLAT TOP OF THE MOUND SHALL BE 0.4 FOOT BELOW THE TOP OF THE MANHOLE.
4. EXISTING UTILITIES AND THEIR LOCATIONS, 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 PLAN LOCATIONS SHOWN ARE NOT GUARANTEED. ADDITIONAL EXISTING UTILITIES MAY ALSO BE ENCOUNTERED.
5. ALL STUBS AND PLUGGED PIPES SHALL BE LOCATED WITH GREEN PLASTIC TAPE IN THE SAME MANNER AS RISERS.
6. COST OF EXCAVATION, HAULING, AND DUMPING OF EXCESS EXCAVATION SHALL BE SUBSIDIARY TO THE PROJECT.
7. PRIOR TO LAYING SEWER LINES USING EXISTING STUBS IN EXISTING MANHOLES, THE CONTRACTOR SHALL EXPOSE AND VERIFY THE ELEVATION, GRADE AND ALIGNMENT OF EXISTING STUBS AND NOTIFY THE ENGINEER OF ANY DEVIATION FROM THE PLAN. WHERE CONNECTING TO AN EXISTING MANHOLE THAT DOES NOT HAVE AN EXISTING STUB OR THE STUB IS UNUSABLE DUE TO ELEVATION GRADE OR ALIGNMENT, THE CONTRACTOR SHALL RESHAPE THE EXISTING MANHOLE INVERT TO PROVIDE SMOOTH FLOW. THE COST OF RESHAPING EXISTING MANHOLE INVERTS IS INCIDENTAL TO THE PROJECT.
8. CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES PRIOR TO ANY EXCAVATION:

ARKLA GAS COMPANY	942-8350
BELL TELEPHONE	1-316-571-2115
CABLEVISION	262-0661
GAS SERVICE COMPANY	263-7511
KANSAS GAS & ELECTRIC	
KANSAS ONE-CALL	1-800-344-7233
CITIES SERVICE	524-0491
KANSAS GAS SUPPLY	316-254-7243
CONTINENTAL PIPELINE COMPANY	316-681-2081

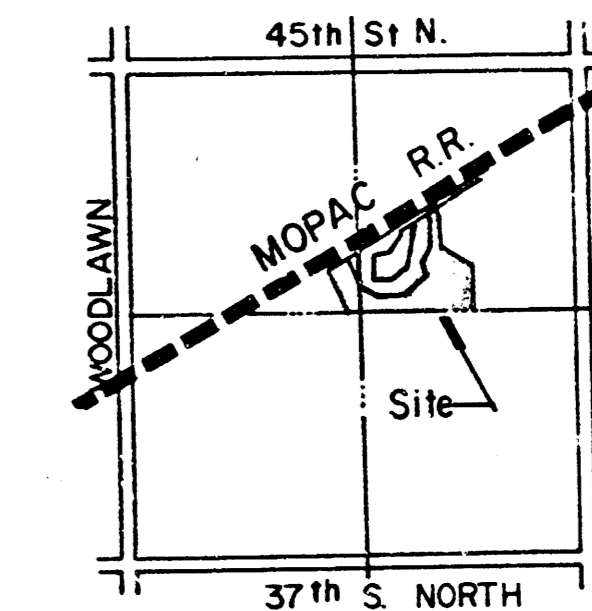


### INDEX TO DRAWINGS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	PLAN & PROFILE, LINE 1
3	" " " " LINE 2-3
4	SERVICE LINE HOOK UP DETAIL
5	SHALLOW MANHOLE DETAIL

APPROVED AS NOTED  
By CITY ENGINEER OF WICHITA  
Sanitary Sewers *[Signature]*  
Storm Sewers \_\_\_\_\_  
Driveway Approaches \_\_\_\_\_  
Water Mains \_\_\_\_\_  
Pave-2 \_\_\_\_\_

**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 CONTRACTOR will pay the City of Wichita for all costs of plan review, inspection and booking per contract.  
AS BUILT-APR. 1988



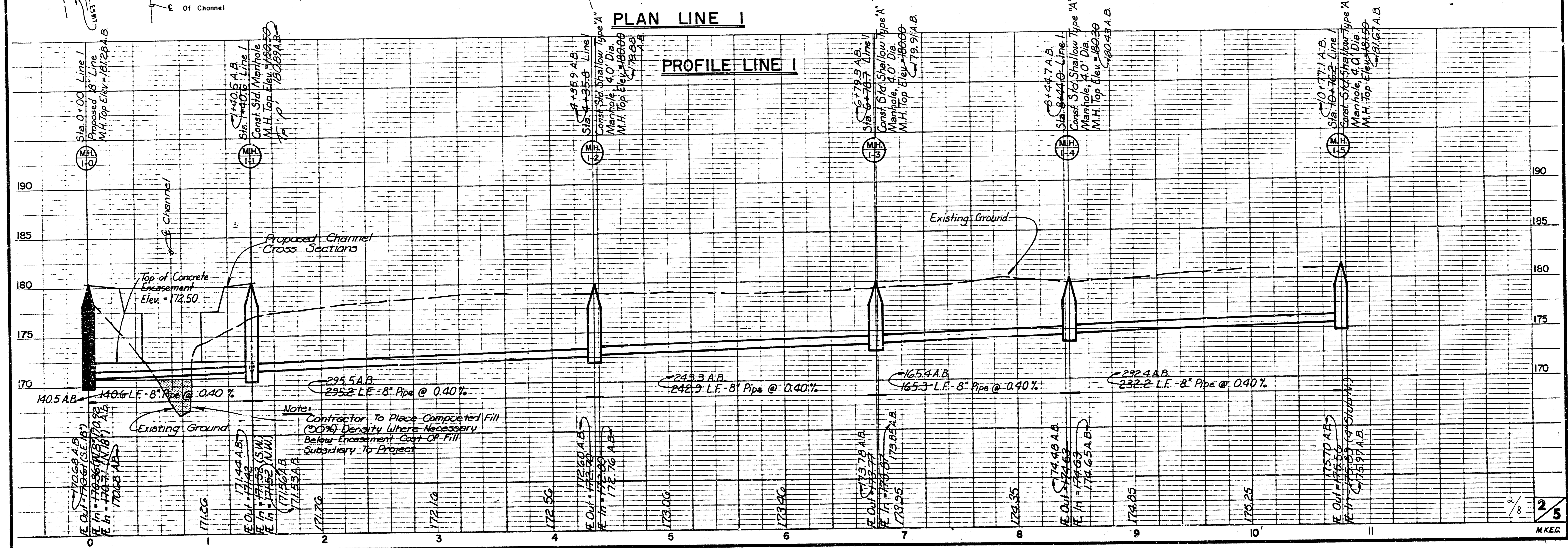
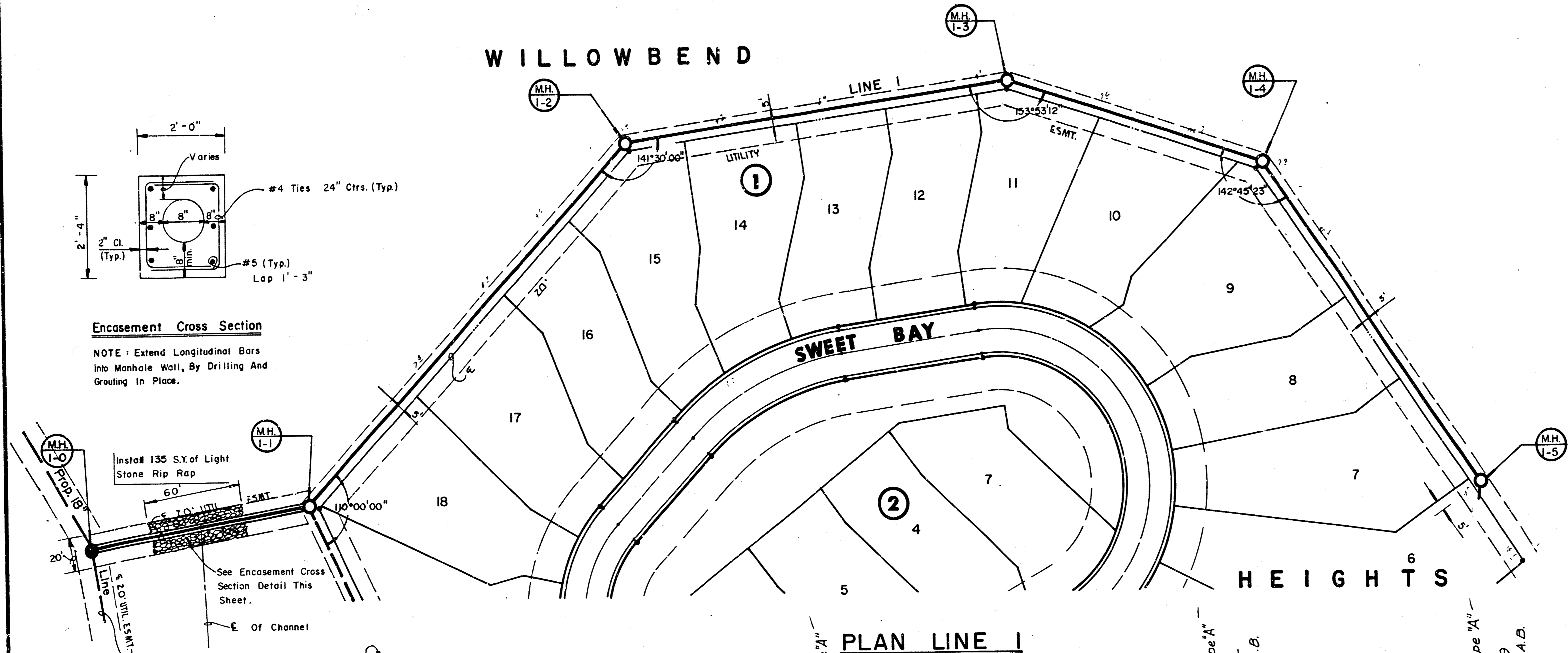
LOCATION MAP

### BENCH MARKS

- B.M. #1 = cut on SW corner of North cart path underpass on Rock Road. Elev. = 188.79
- B.M. #2 = cut on NE corner of Big RCB under Rock Road + 90' N of E Quarter corner section 30, Township 26 South, Range 2 East. Elev. = 186.99
- B.M. #3 = NE cor or RCB under MoPac + 415' Northeastly of the W line of the NE Quarter, Section 30, Township 26 South, Range 2. Elev. = 185.31



	<b>WILLOWBEND HEIGHTS SANITARY SEWER PLANS</b>	Design: GJA Drawn by: Checked by: DSS Date: Aug. 1987 Job no:
	MID-KANSAS ENGINEERING CONSULTANTS PA 3500 NORTH ROCK ROAD BUILDING #800 WICHITA, KANSAS 67226	682-6561







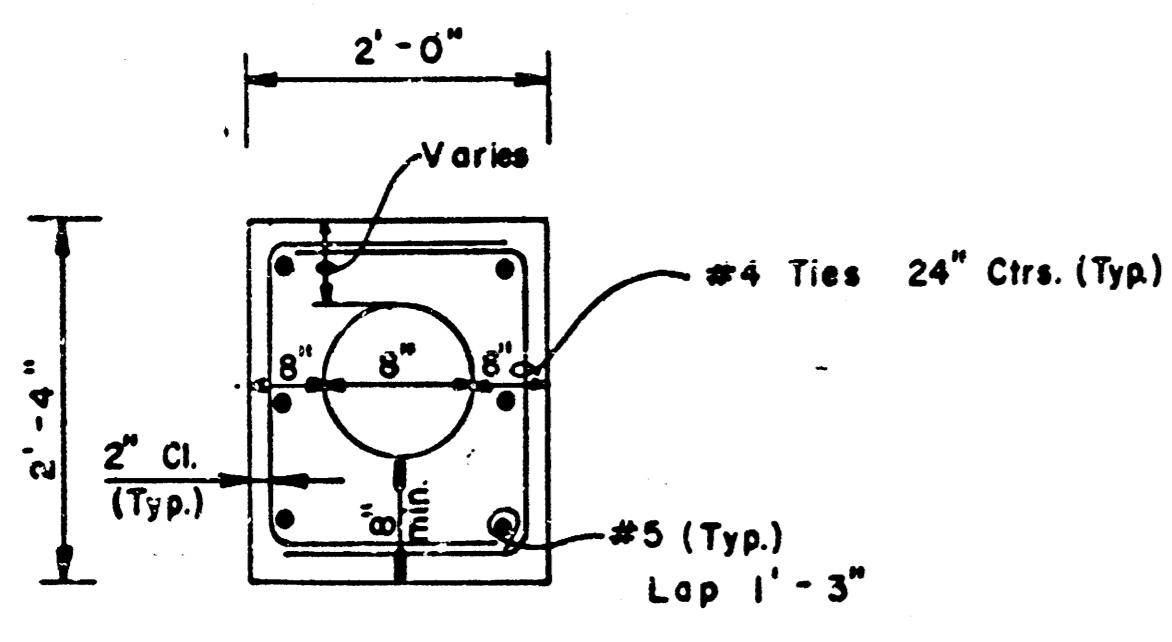
WILLOWBEND

HEIGHTS

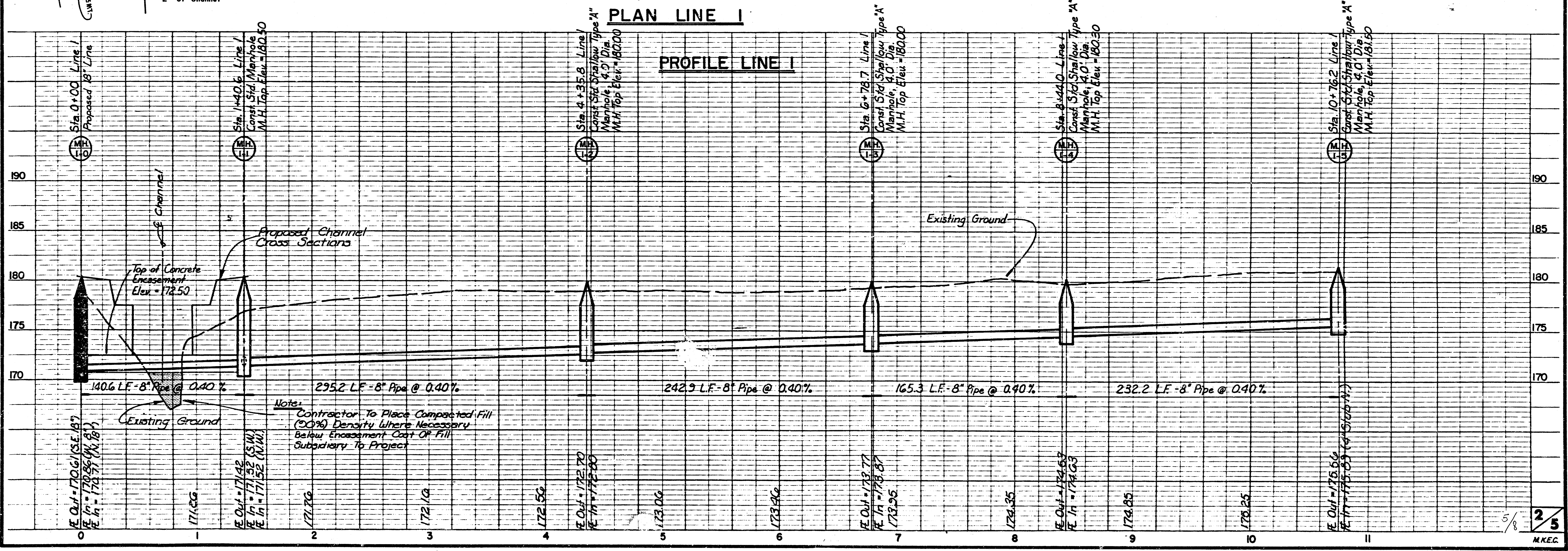
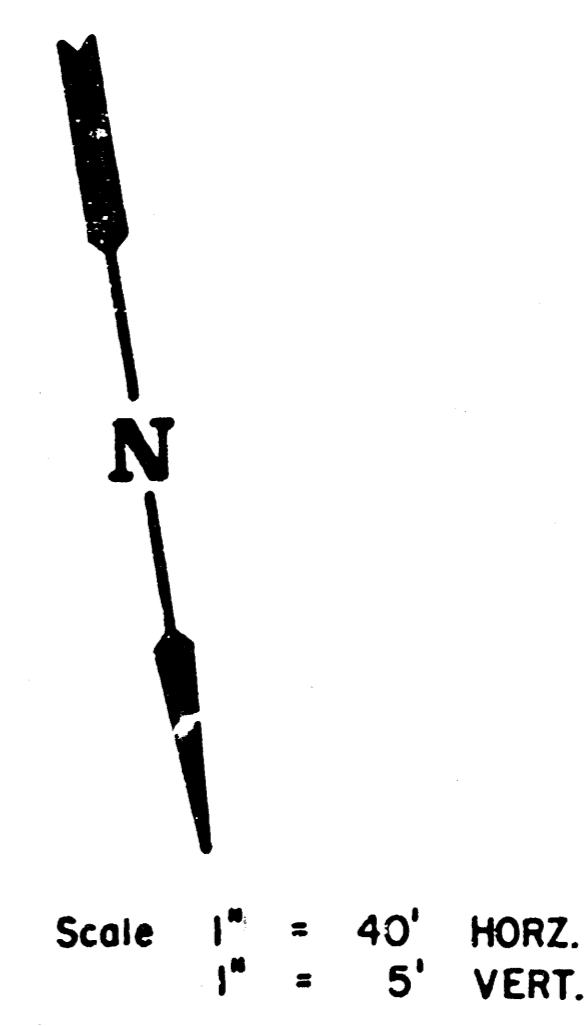
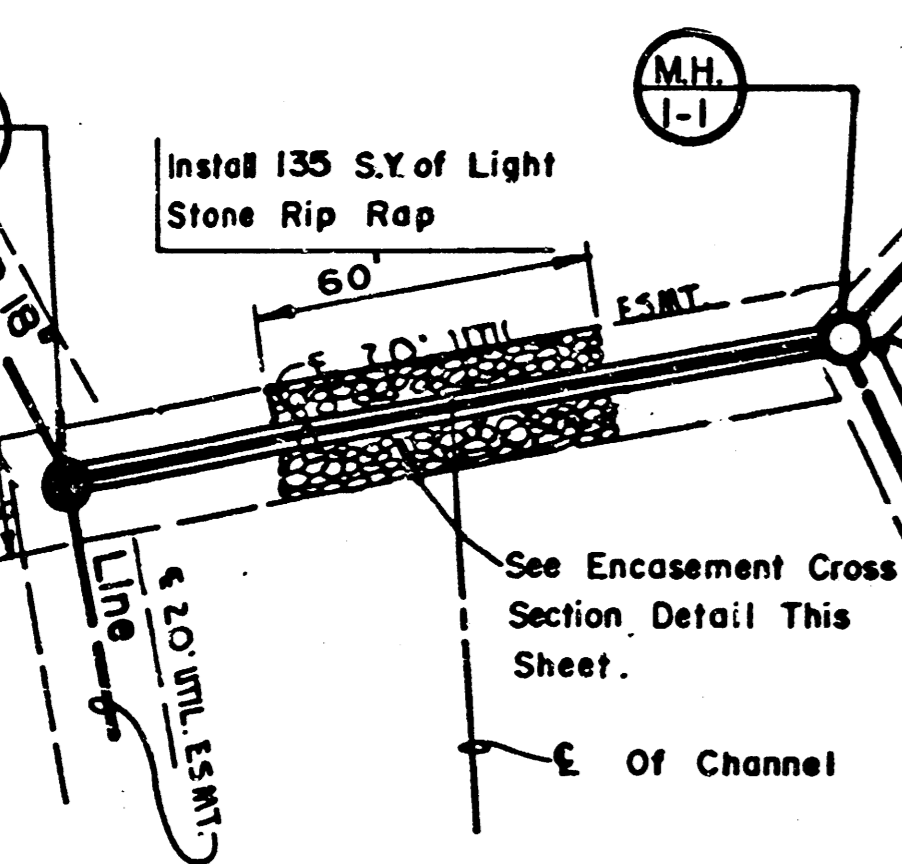
SWEET BAY

PLAN LINE 1

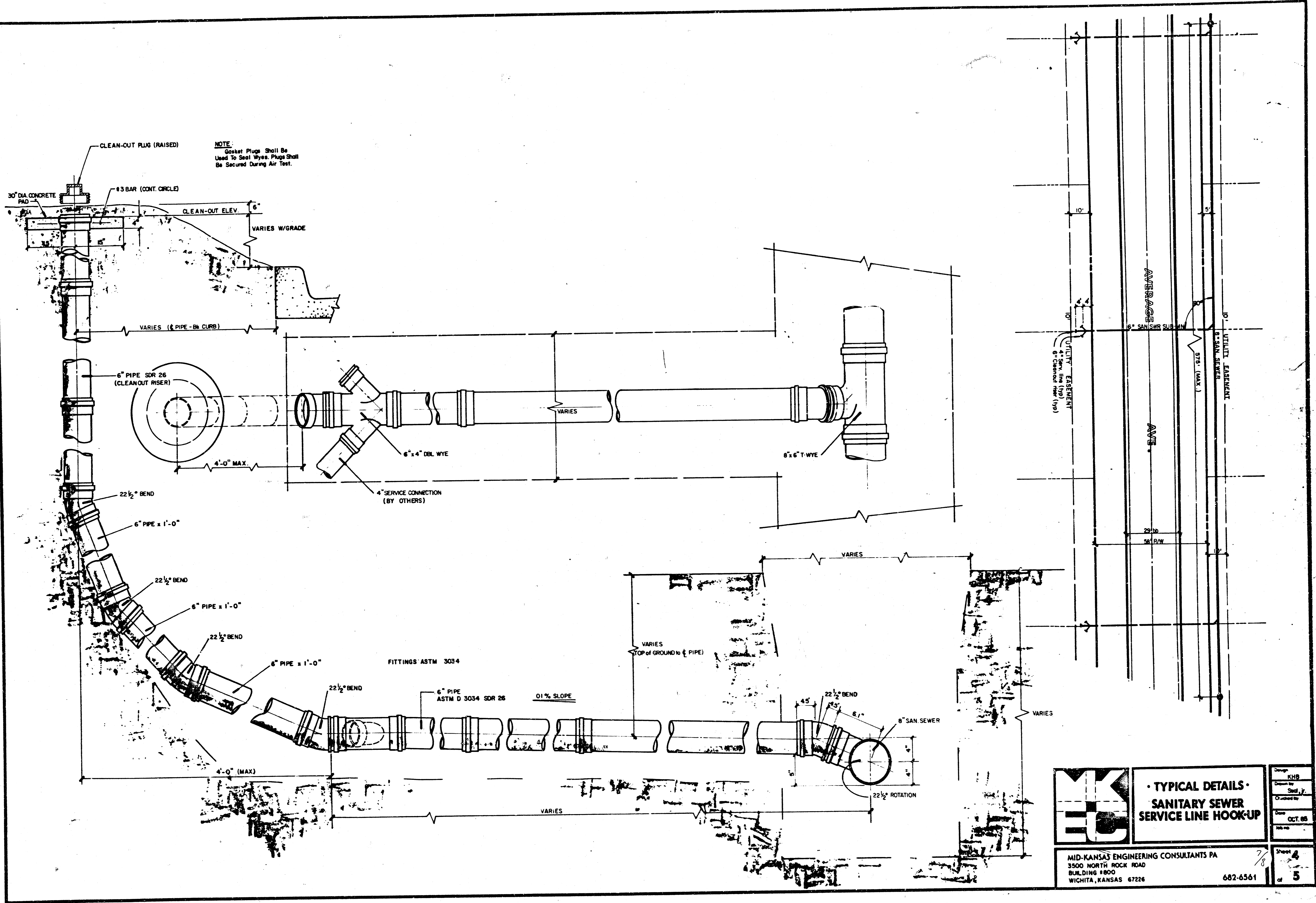
PROFILE LINE 1



NOTE: Extend Longitudinal Bars into Manhole Wall, By Drilling And Grouting in Place.

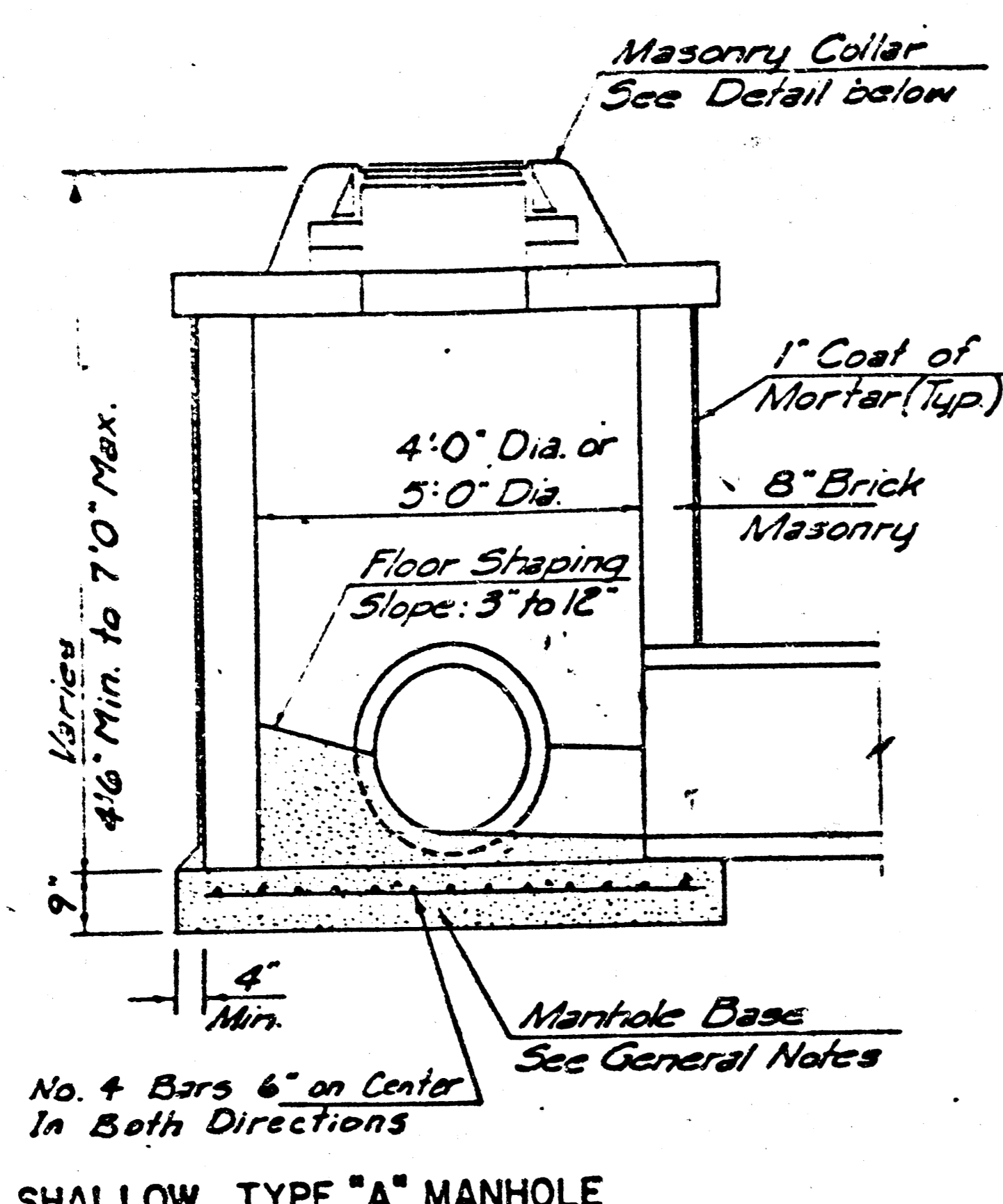




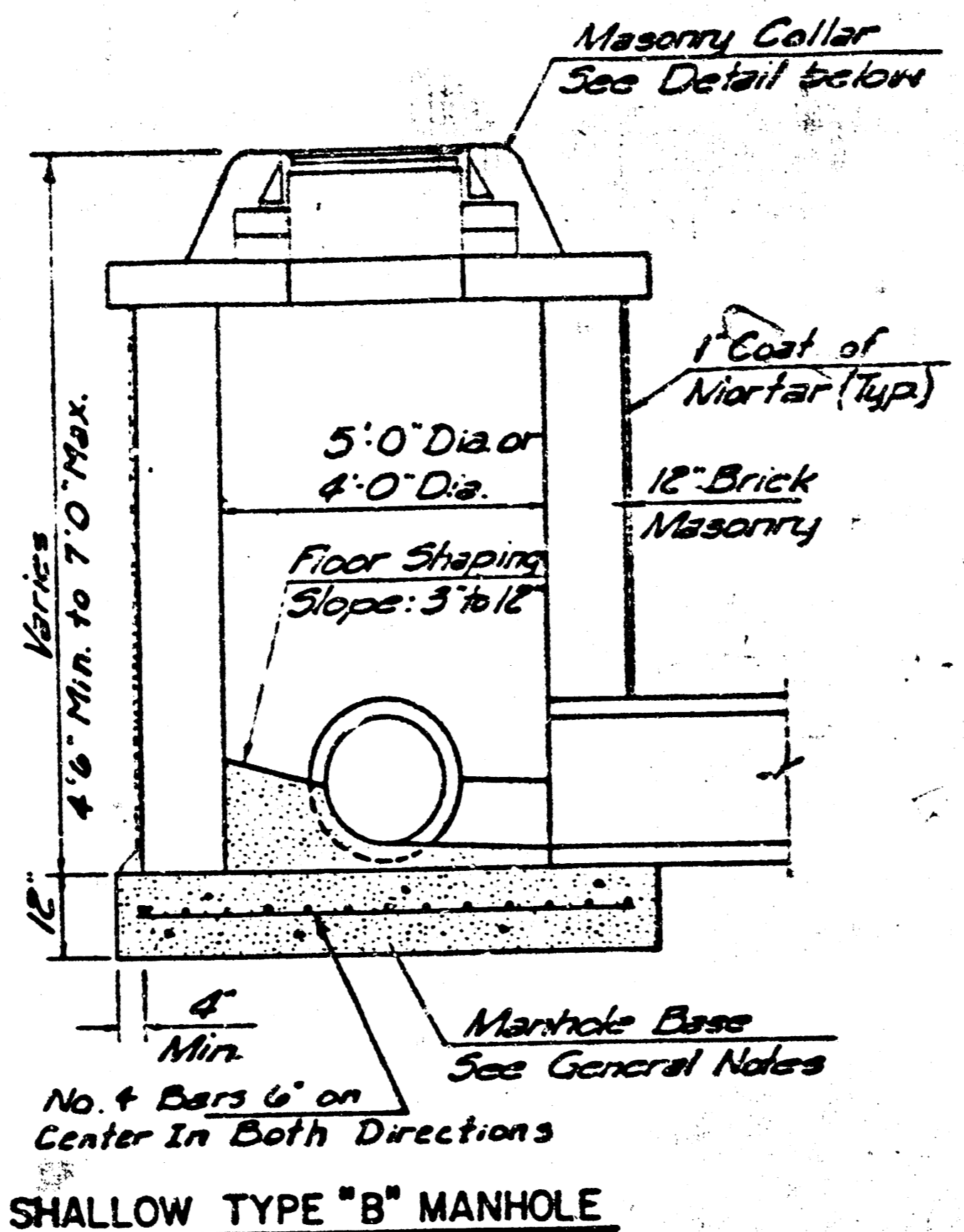


**NOTE:**  
 Gasket Plugs Shall Be Used To Seal Wyes. Plugs Shall Be Secured During Air Test.

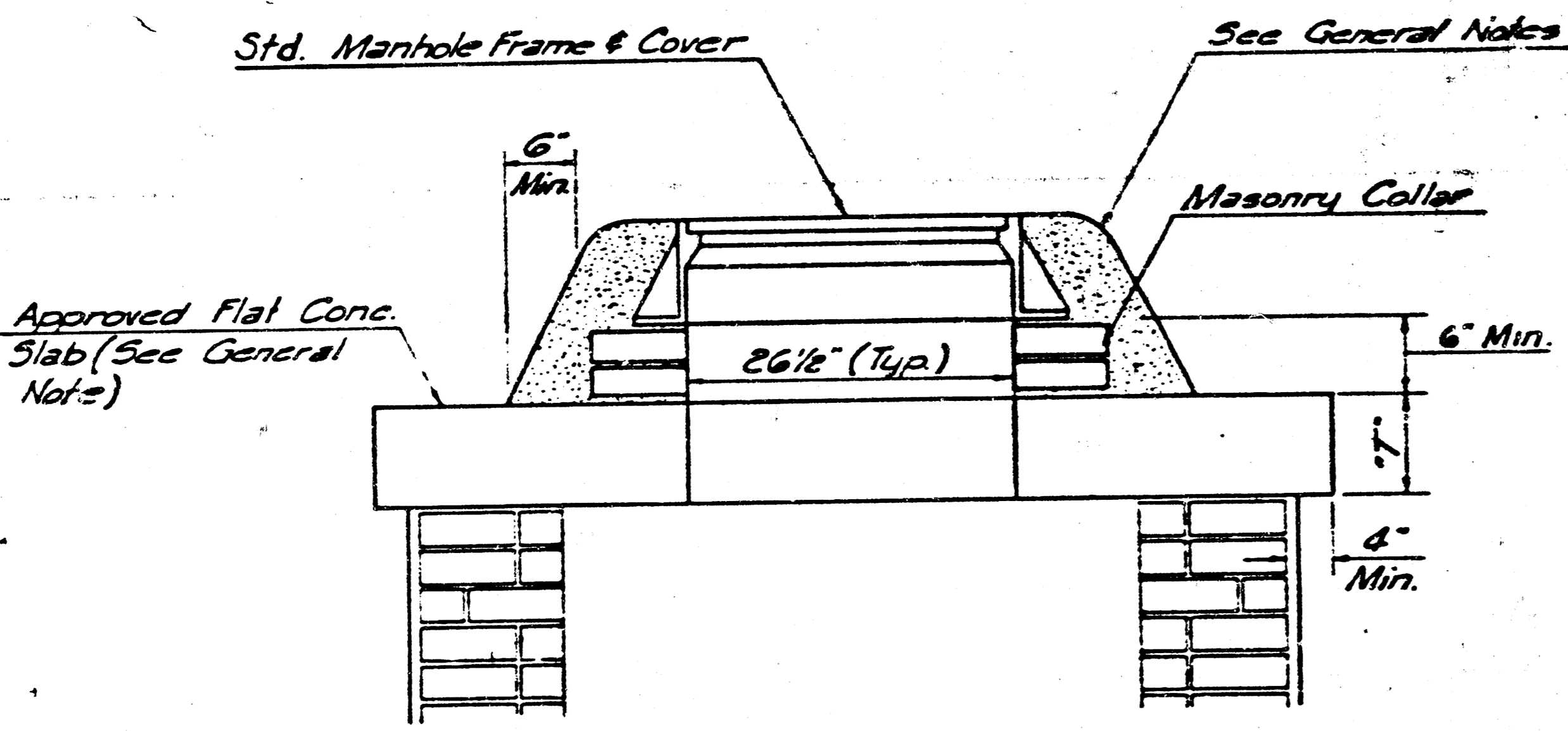
	<b>TYPICAL DETAILS</b>		Design: KHB
	<b>SANITARY SEWER SERVICE LINE HOOK-UP</b>		Checked by: [ ]
			Date: OCT. 88
MID-KANSAS ENGINEERING CONSULTANTS PA 3500 NORTH ROCK ROAD BUILDING #800 WICHITA, KANSAS 67226			Sheet 4 of 5



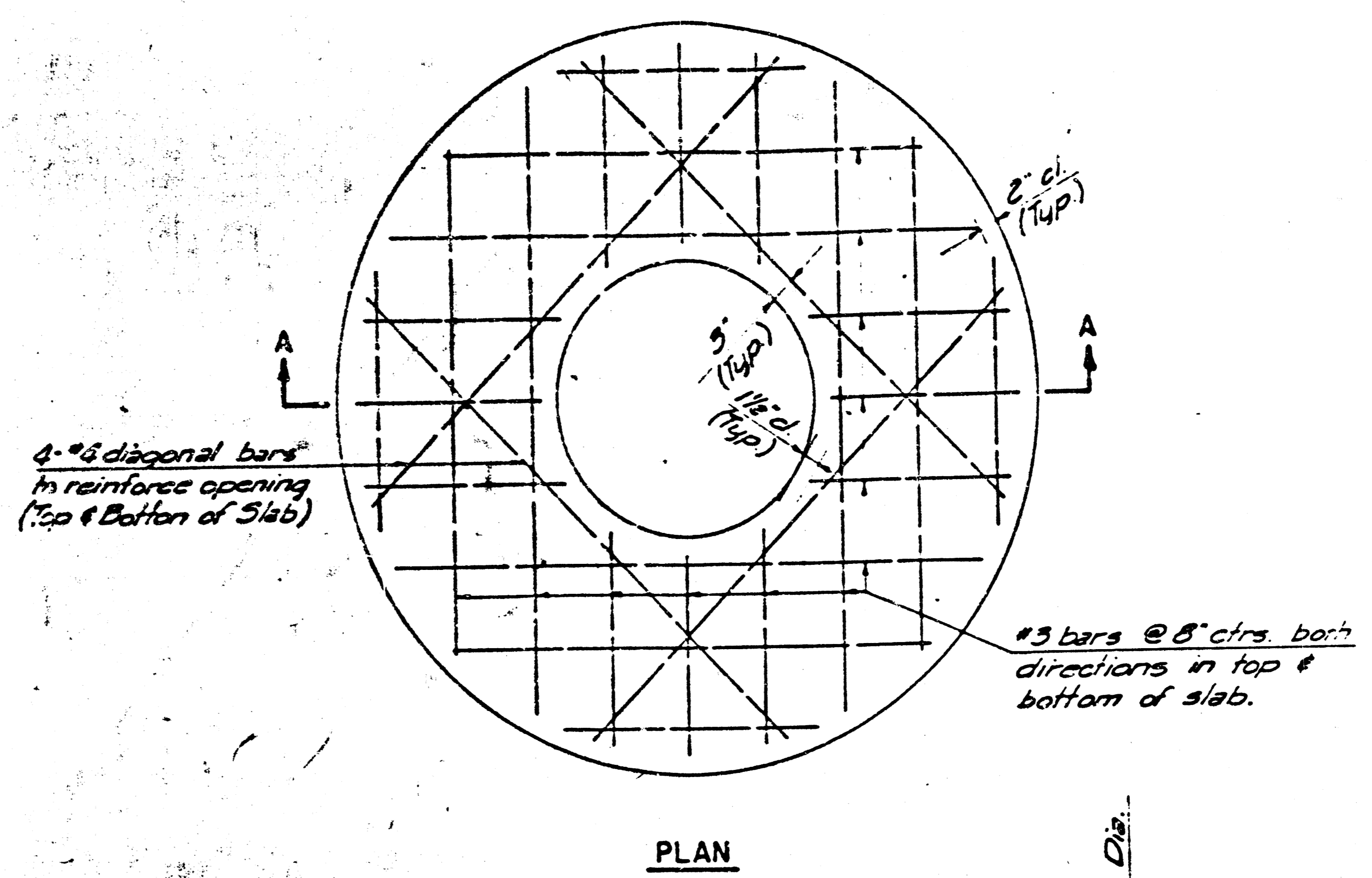
SHALLOW TYPE "A" MANHOLE



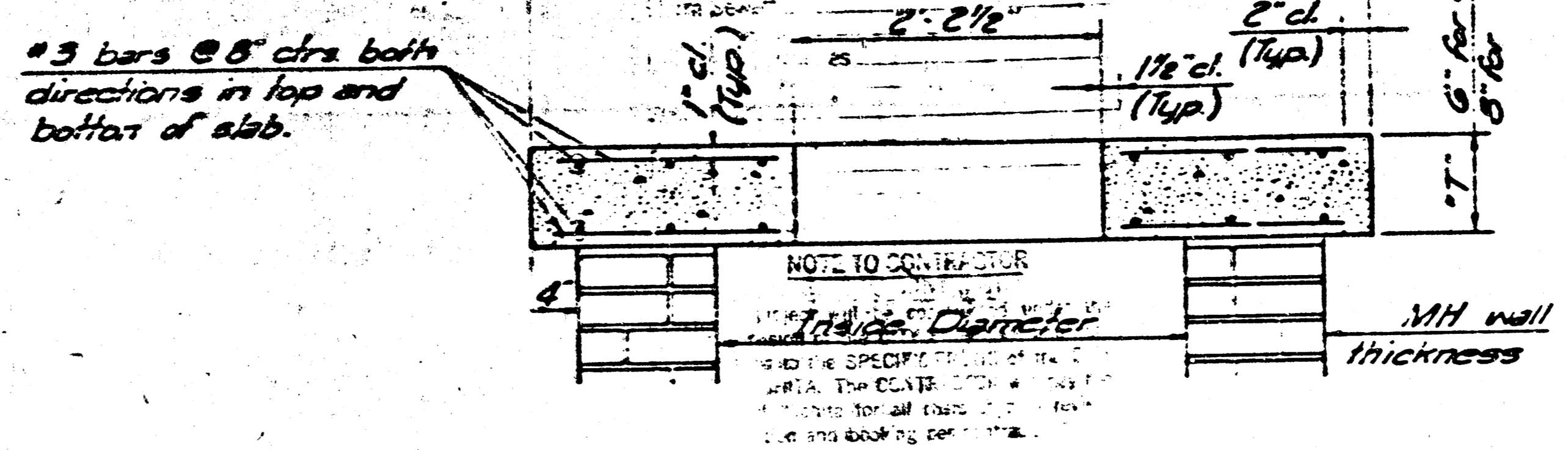
SHALLOW TYPE "B" MANHOLE



MASONRY COLLAR DETAIL

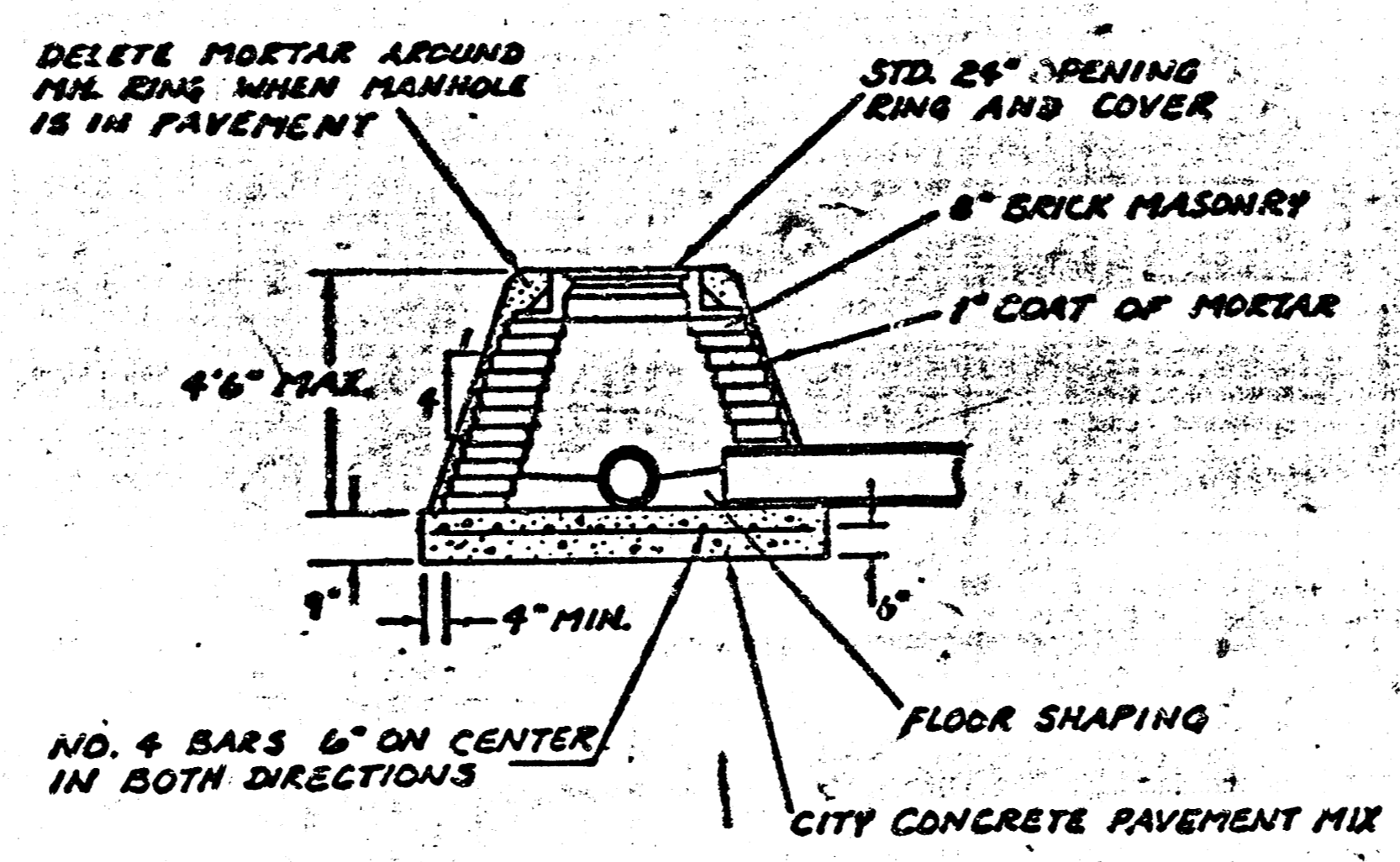


PLAN

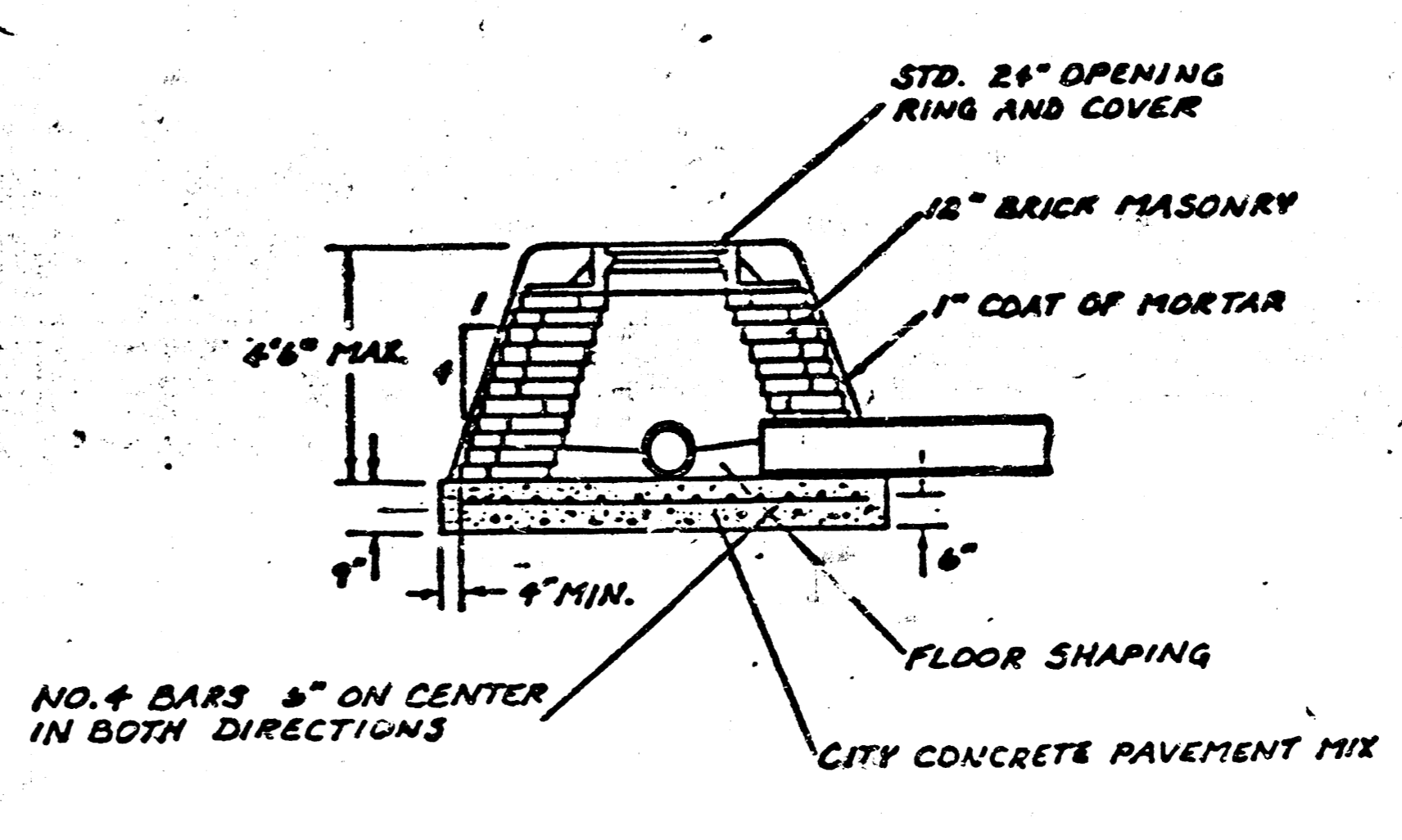


SECTION A-A

FLAT CONCRETE SLAB DETAILS



SPECIAL SHALLOW TYPE "A" MANHOLE



SPECIAL SHALLOW TYPE "B" MANHOLE

GENERAL NOTES

- MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 BAGS 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 ADJUTIVE. 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.
- 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 8" 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.
- 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 HEAT 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.
- 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.
- 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.
- THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
- 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'

Designed by	10	Checked by	5
Drawn by	10	Date	5
Job No.	3		