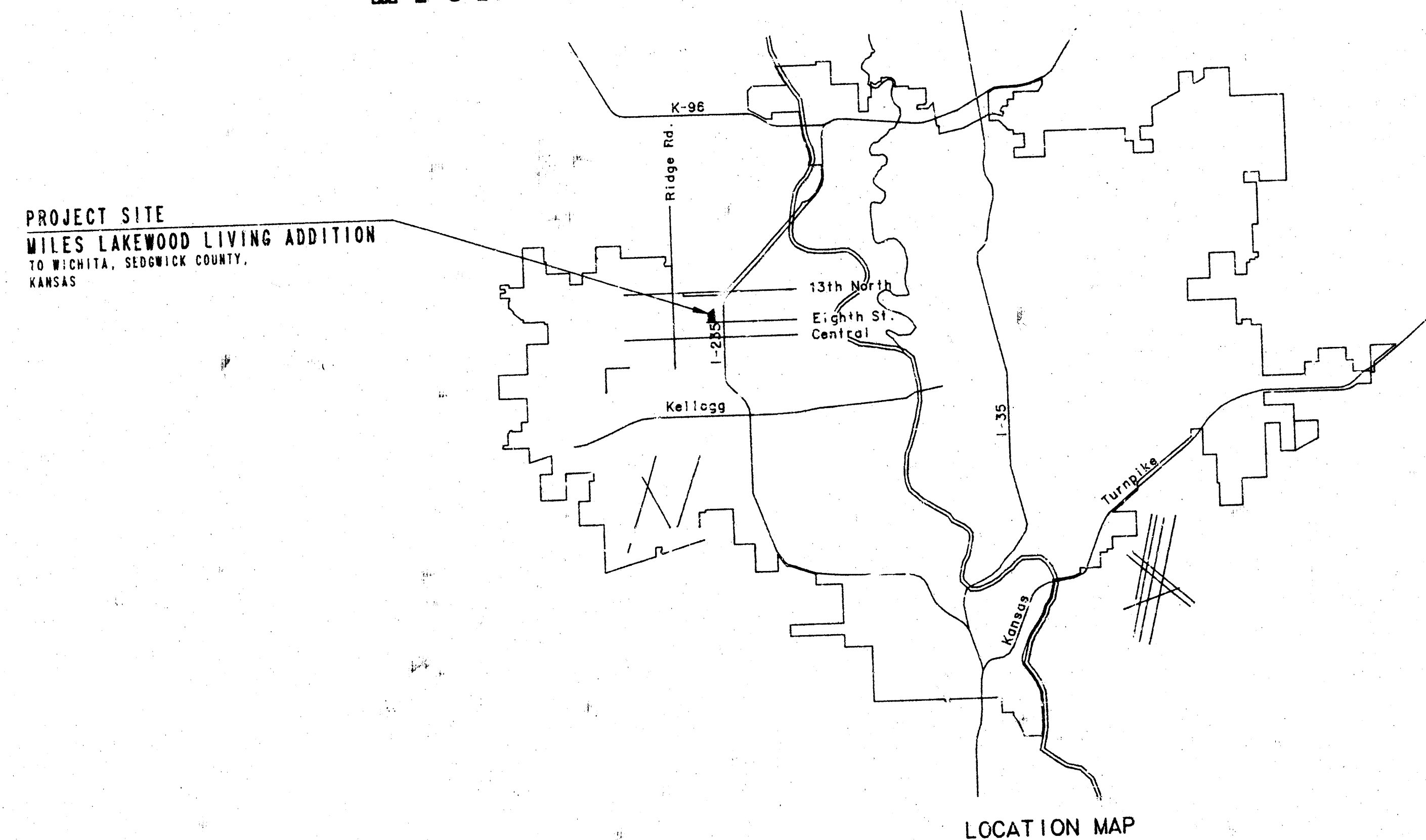


CONSTRUCTION PLANS FOR
PUBLIC WORKS IMPROVEMENTS
 TO SERVE
 PART OF LOT 1, BLOCK 1, MILES LAKEWOOD LIVING ADDITION
 IN
THE CITY OF WICHITA,
 SEDGWICK COUNTY, KANSAS
 MICHAEL E. LINDEBAK, P.E.-CITY ENGINEER



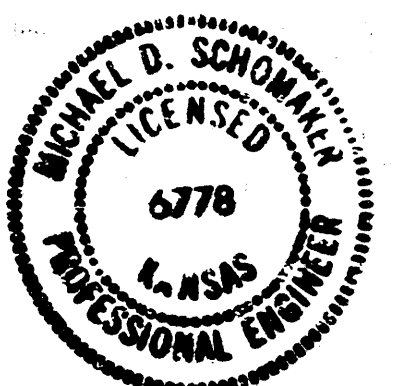
INDEX OF SHEETS	
SHEET NO. 1	TITLE SHEET
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SHEET NO. 8	FRAME & COVER DETAIL
SHEET NO. 9	STANDARD WATER ASSEMBLY DETAILS

LATERAL 251, MAIN 5, SANITARY SEWER NO. 22 CITY OF WICHITA PROJECT NO. 468-76-245-81753-000-000-001
 WATER DISTRIBUTION SYSTEM IMPROVEMENTS CITY OF WICHITA PROJECT NO. 468-76-245-81753-000-000-001

SEPTEMBER 1987

PLANS PREPARED BY
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
 ENGINEERS
 WICHITA, KANSAS

AS BUILT
 2-88
 ROL



1. ALL CONSTRUCTION AND MATERIAL SPECIFICATIONS AND STANDARDS SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE KANSAS ONE-CALL SYSTEM.

2. ALL ELEVATIONS SHOWN ARE CITY DATUM (USGS-1187.4 = CITY DATUM).

3. THE CONTRACTOR SHALL LIMIT THE DEPTH OF EXCAVATION TO LESS THAN 50 FEET.

4. CONTRACTOR WILL BE REQUIRED TO FURNISH AND MAINTAIN ALL NECESSARY EXCAVATION AS FOLLOWS:

THE CONTRACTOR MUST NOTIFY THE FOLLOWING:

KANSAS ONE-CALL

CABLEVISION

KPL GAS SERVICE COMPANY

KANSAS GAS & ELECTRIC

ARMA GAS COMPANY

SOUTHWESTERN BELL TELEPHONE COMPANY

CITY OF WICHITA WATER DEPARTMENT

CITY OF WICHITA SEWER MAIN DEPARTMENT

5. UNDERGROUND UTILITY SERVICE LINES SHALL BE ADJUSTED AS NECESSARY BY THE CONTRACTOR SPECIFICALLY CALL FOR THEIR ADJUSTMENT. PLANS SPECIFICALLY IDENTIFY ALL EXISTING UTILITIES. CONSTRUCTION OF EXISTING UTILITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE REQUIRED TO REPAIR OR REPLACE ALL UTILITIES DAMAGED OR DESTROYED BY HIS CONSTRUCTION. A LICENSED UTILITY ENGINEER IN ACCORDANCE WITH STATE REQUIREMENTS SHALL BE REQUIRED TO SUBMIT A REPAIR PLAN TO THE CITY OF WICHITA.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL BE REQUIRED TO REPAIR OR REPLACE ALL UTILITIES DAMAGED OR DESTROYED BY HIS CONSTRUCTION. A LICENSED UTILITY ENGINEER IN ACCORDANCE WITH STATE REQUIREMENTS SHALL BE REQUIRED TO SUBMIT A REPAIR PLAN TO THE CITY OF WICHITA.

7. THE CONTRACTOR SHALL GIVE ALL NECESSARY NOTICE TO THE PROPERTY DIRECTLY ADJACENT TO THE PROJECT AT LEAST TEN (10) DAYS ADVANCE NOTICE PRIOR TO THE START OF CONSTRUCTION.

8. THE CONTRACTOR SHALL RESTORE ALL EXISTING ENTRANCES, AND BANK LINES TO THE ORIGINAL CONDITION OR BETTER.

9. TRAFFIC WILL NOT BE AFFECTED IN ANY MANNER BY THE CONSTRUCTION OF THIS PROJECT.

10. CONTRACTOR SHALL PROVIDE POSITIVE PROTECTION FOR ALL EXISTING UTILITIES AND STRUCTURES.

11. UNLESS OTHERWISE SPECIFIED ON THE PLANS, ALL MANHOLES SHALL BE CONSTRUCTED TO MEET STANDARD SPECIFICATIONS AND THE CITY OF WICHITA STANDARD SPECIFICATION FOR WATER MAINS.

12. ALL WATER MAINS AND APPURTENANCES SHALL BE CONSTRUCTED TO MEET STANDARD SPECIFICATION FOR WATER MAINS.

13. THE WATER MAIN SHALL BE CONSTRUCTED TO MEET STANDARD SPECIFICATION FOR WATER MAINS. TREES AND SHRUBS IN PUBLIC RIGHT-OF-WAY SHALL BE PROTECTED. PROPOSED NEW CONSTRUCTION SHALL BE SUBJECT TO THE CITY OF WICHITA ENGINEER'S APPROVAL. TREES AND SHRUBS TO BE REMOVED SHALL BE REPLACED WITH PROPOSED NEW CONSTRUCTION. THE COST FOR ANY NECESSARY TREE REMOVAL SHALL BE INCLUDED IN THE PRICE BID FOR THE PROJECT.

14. OPENING AND CLOSING WATER VALVES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MUST BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL BE REQUIRED TO REPAIR OR REPLACE ALL UTILITIES DAMAGED OR DESTROYED BY HIS CONSTRUCTION. A LICENSED UTILITY ENGINEER IN ACCORDANCE WITH STATE REQUIREMENTS SHALL BE REQUIRED TO SUBMIT A REPAIR PLAN TO THE CITY OF WICHITA.

15. CONTRACTOR SHALL NOT START WORK UNTIL THE PROJECT HAS BEEN ASSIGNED TO THE PROJECT AND WITHOUT INSPECTION WILL BE REQUIRED TO STOP WORK.

16. NO SERVICES SHALL BE INSTALLED.

NOTE: WATER LINES SHALL BE INSTALLED BY THE CONTRACTOR ON THE SITE.

1. ALL CONSTRUCTION AND MATERIALS TO COMPLY WITH CITY OF WICHITA SPECIFICATIONS AND STANDARDS.
2. ALL ELEVATIONS SHOWN ARE CITY OF WICHITA DATUM (USGS=1187.4 = CITY DATUM).
3. THE CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH TO REMAIN OPEN OVERNIGHT AND WEEKENDS TO LESS THAN 50 FEET.
4. CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF FORTY-EIGHT (48) HOURS TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:

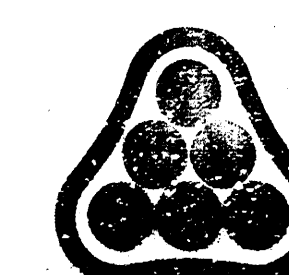
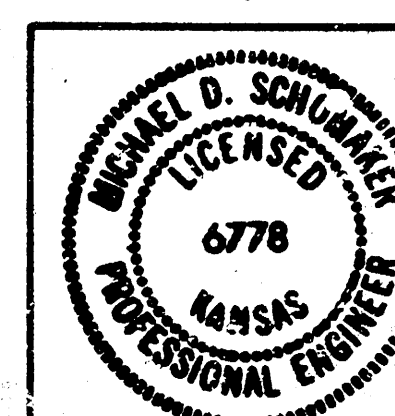
KANSAS ONE-CALL 687-2470

THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF AN EMERGENCY:

CABLEVISION	262-4270 OR 263-2061
KPL GAS SERVICE COMPANY	263-7511
KANSAS GAS & ELECTRIC	264-1141
ARKLA GAS COMPANY	942-8350 OR 263-8161
SOUTHWESTERN BELL TELEPHONE CO.	1-571-2611
CITY OF WICHITA WATER DEPARTMENT	263-4908
CITY OF WICHITA SEWER MAINTENANCE	268-4071

3. 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 UTILITY LOCATIONS AND DEPTHS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.
6. 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 THE CONTRACTOR. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR OR A LICENSED PROFESSIONAL ENGINEER IN ACCORDANCE WITH STATE LAWS. ALL COSTS FOR THIS WORK SHALL BE SUBSIDIARY TO THE OTHER ITEMS OF WORK.
7. THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY DIRECTLY ADJUTING THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF TEN (10) DAYS ADVANCE NOTICE PRIOR TO START OF CONSTRUCTION.
8. THE CONTRACTOR SHALL RESTORE ALL DITCHES, SWALES, ROAD SHOULDER, EROSION, AND BANK LINES TO THEIR ORIGINAL SLOPES AND GRADES EXCEPT AS SHOWN OTHERWISE.
9. TRAFFIC WILL NOT BE AFFECTED IN THIS AREA OF CONSTRUCTION.
10. CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL MANHOLE COVERS.
11. UNLESS OTHERWISE SPECIFIED ON THE PLANS MANHOLES MAY BE TYPE "P", "C", OR "D" MANHOLES. MANHOLE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND THE STANDARD DETAIL DRAWINGS.
12. ALL WATER MAINS AND APPURTENANCES SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD SPECIFICATION FOR WATER MAIN INSTALLATIONS, NUMBER 14533.
13. THE WATER MAIN SHALL BE CONSTRUCTED ON THE ALIGNMENT SHOWN BY THE PLANS. TREES AND SHRUBS IN THE PUBLIC RIGHT-OF-WAY WHICH ARE IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR WITH THE ENGINEER'S APPROVAL. TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE PROTECTED AND PRESERVED. THE COST FOR ANY NECESSARY TREE TRIMMING, CLEARING AND/OR GRUBBING SHALL BE INCLUDED IN THE PRICE BID FOR THE INSTALLED WATER MAIN PIPE.
14. OPENING AND CLOSING WATER VALVES SHALL BE DONE SLOWLY TO PREVENT DAMAGE TO THE WATER DISTRIBUTION SYSTEM FROM WATER HAMMER. ALL VALVES CLOSED BY THE CONTRACTOR MUST BE REOPENED AS NEW CONSTRUCTION PERMITS. PROJECT INSPECTOR MUST ASCERTAIN THAT ALL VALVES ARE OPENED AND PROPERLY OPERATED. IF REOPENED, THE CONTRACTOR WILL BE PERMITTED TO OPERATE WATER VALVES ONLY WHEN THE PROJECT INSPECTOR ASSIGNED TO THE PROJECT IS PRESENT.
15. CONTRACTOR SHALL NOT START WORK ON THE PROJECT UNTIL THE PROJECT INSPECTOR IS ASSIGNED TO THE PROJECT AND IS PRESENT ON THE SITE. ANY WORK DONE WITHOUT INSPECTION WILL BE REQUIRED TO BE UNCOVERED FOR INSPECTION.
16. NO SERVICES SHALL BE INSTALLED ON THIS PROJECT.

NOTE: WATER LINE VALVES TO BE OPERATED BY
CONTRACTOR ONLY IF WATER INSPECTOR IS ON
SITE.



No.	Revision	By	Date

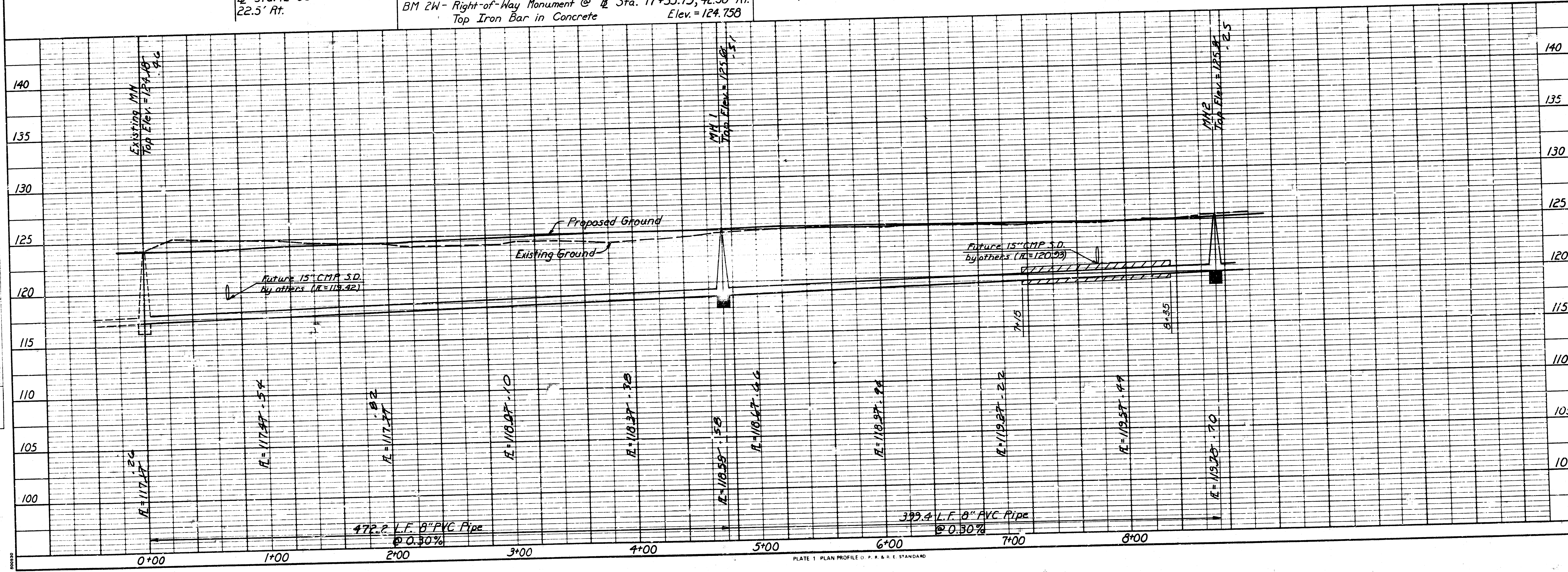
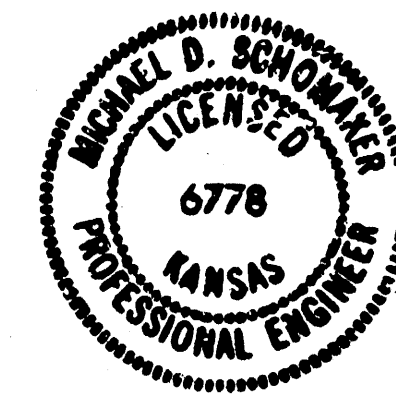
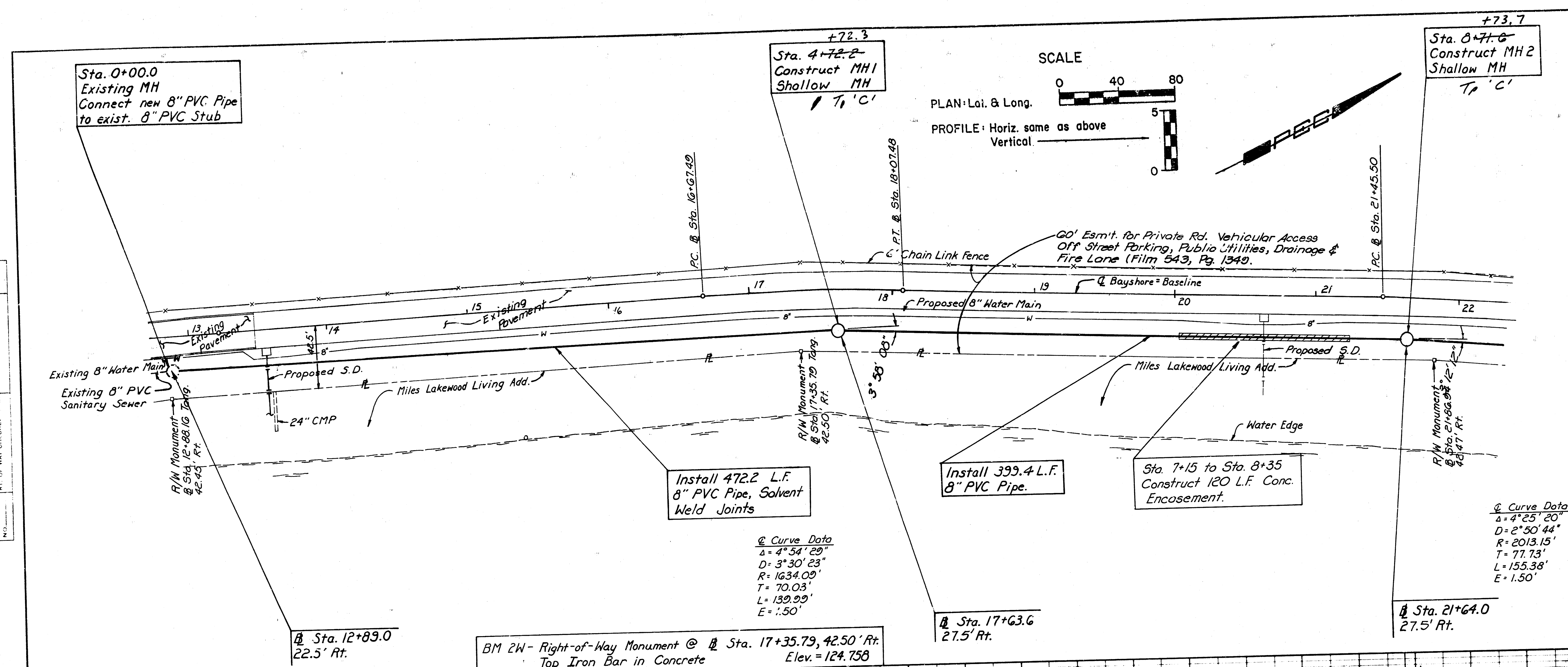
LATERAL 251, MAIN 5, S.S. NO.22
AND WATER DISTRIBUTION SYSTEM
KEY MAP
MICHAEL E. LINDEBAK, P.E. CITY ENGINEER
CITY OF WICHITA PROJECT NO. 468-76-245-81753-000-000-000

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
 ENGINEERS
 WICHITA, KANSAS

Designed by MDS, CRY	Job No. 34-874-34	Sht. 2 of 9
Drawn by GM, TV	Date September 1987	

DATE	BY
DATE	BY

DATE	BY
DATE	BY



PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
 ENGINEERS
 WICHITA, KANSAS

SANITARY SEWER
 LATERAL 251, MAIN 5, S.S. NO. 22
 AND WATER DISTRIBUTION SYSTEM

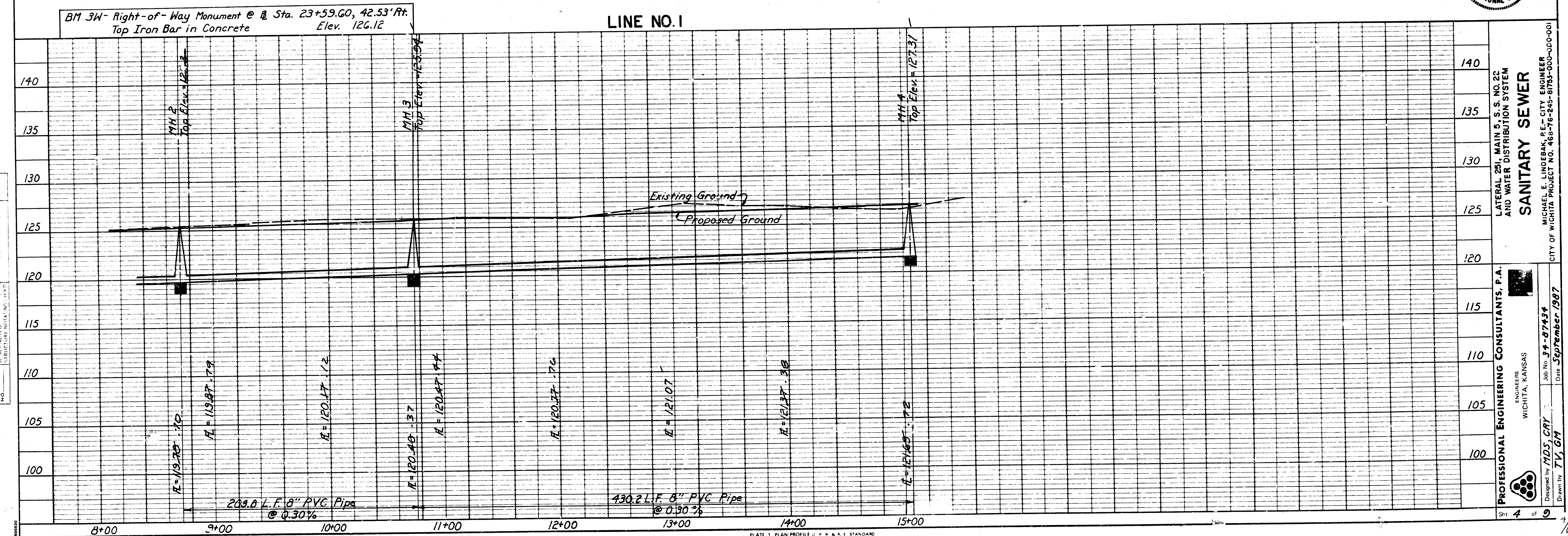
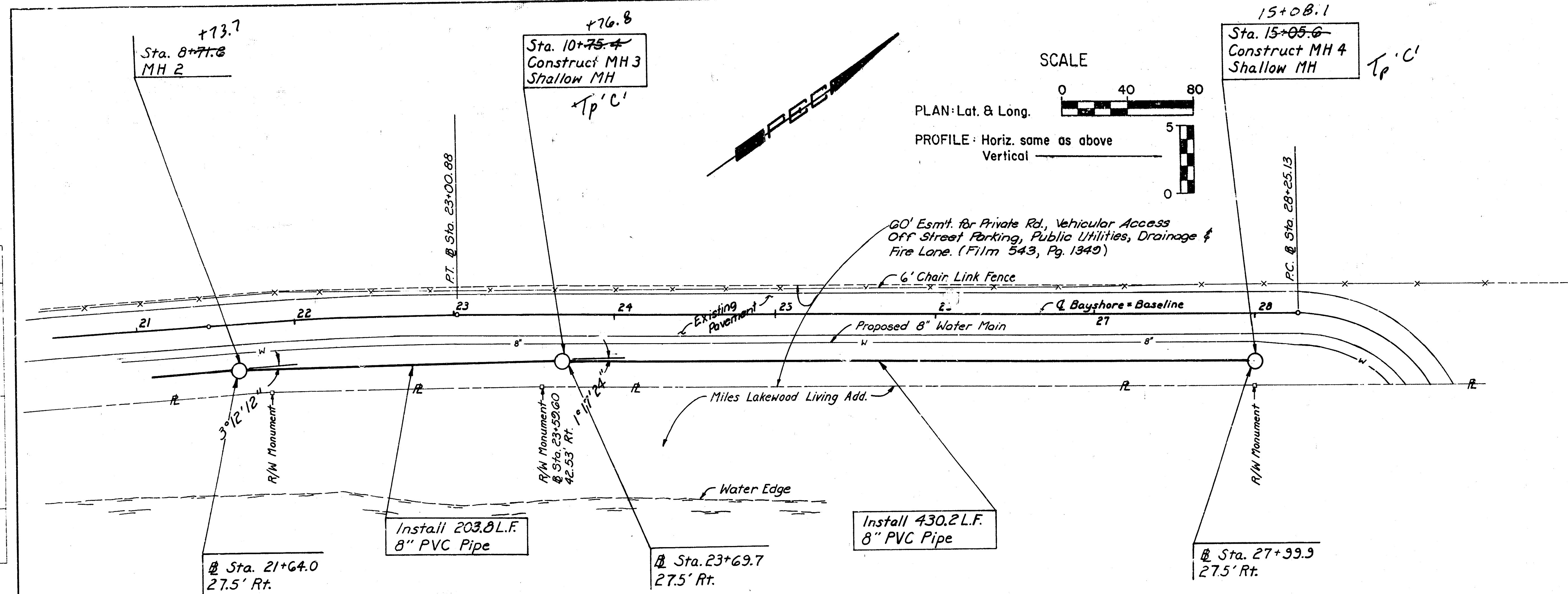
Designed by MDS, CRY
 Drawn by TY, GTH

Job No. 34-87434
 Date: September, 1987

CITY OF WICHITA PROJECT NO. 468-76-245-8755-000-000-000

DATE	BY	NO.
PLAN	NOTED	NO.

DATE	BY	NO.
PROFILE	NOTED	NO.



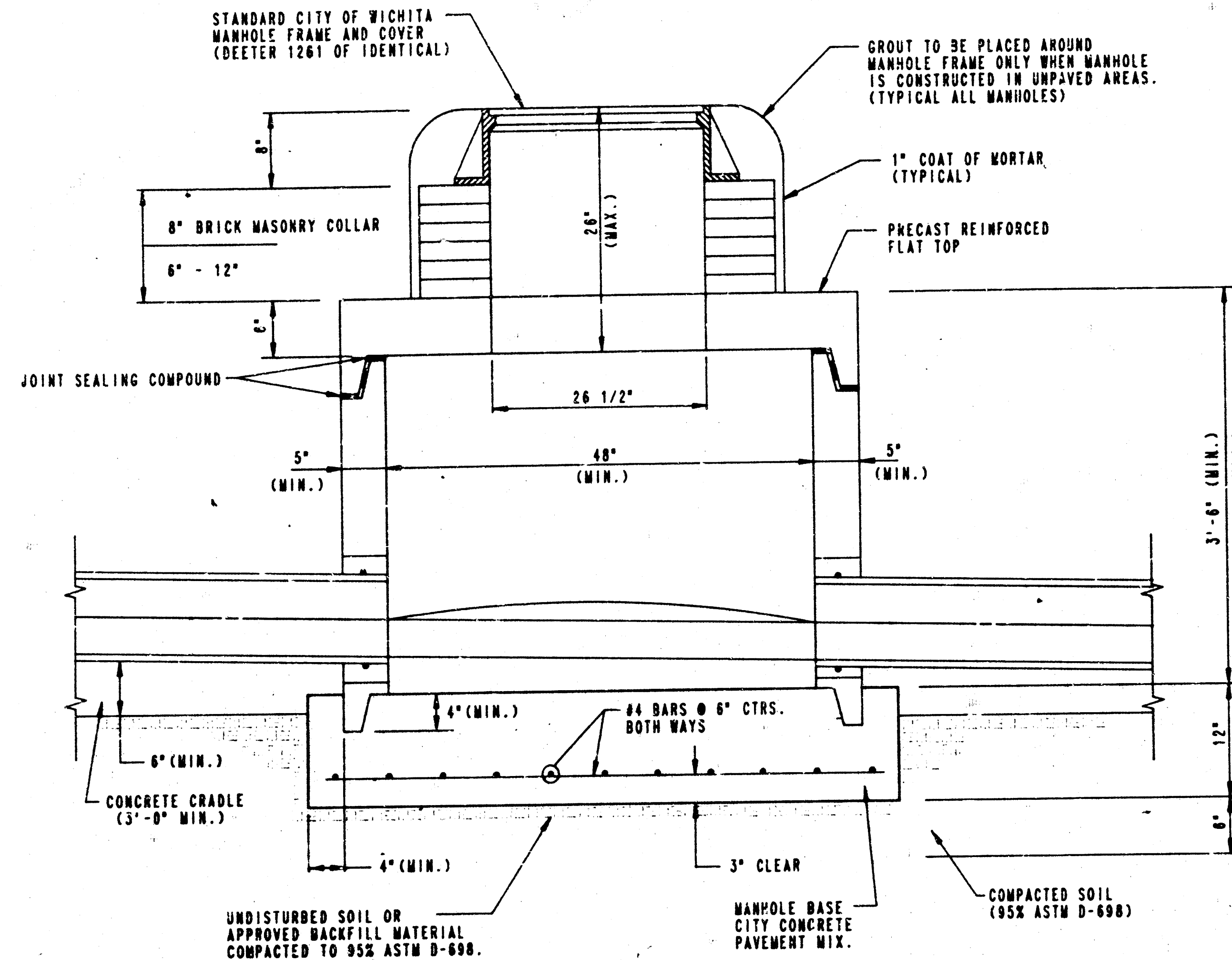
SANITARY SEWER
 LATERAL 251, MAIN 5, S.S. NO. 22
 AND WATER DISTRIBUTION SYSTEM
 PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
 ENGINEERS
 WICHITA, KANSAS
 Job No. 33-8743*
 Drawn by T.V. GH
 Date September 1987
 City of Wichita Project No. 468-76-545-8753-000-000-001
 MICHAEL E. LINDEBAK, P.E. - CITY ENGINEER

SEWER APPURTENANCES DETAILS

ADOPTED AS STANDARD DESIGN

BY

CITY OF WICHITA

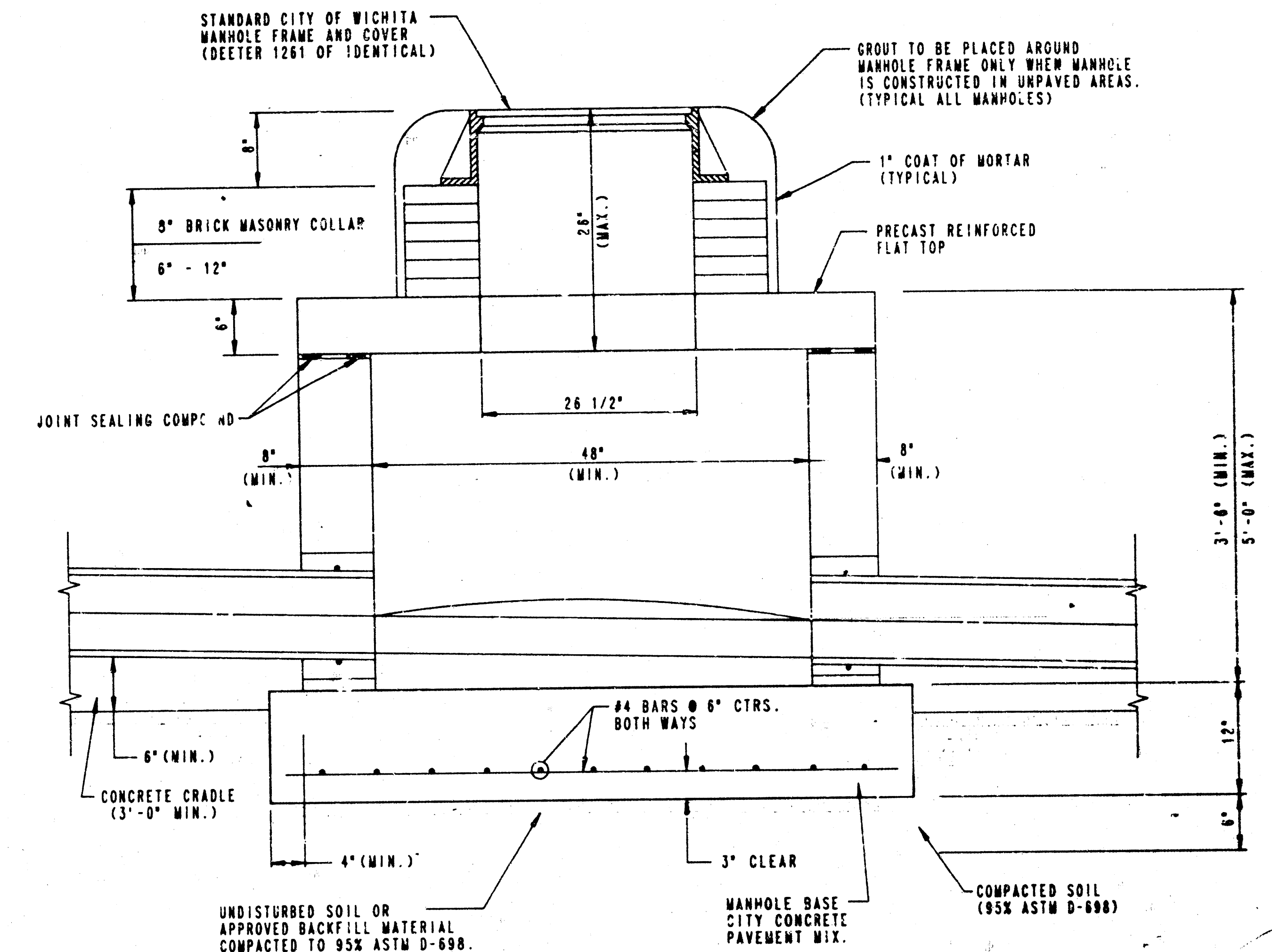


TYPE P
SHALLOW MANHOLE
(PRECAST)

PRECAST MANHOLE NOTES

1. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISION OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
2. APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN PLASTIC PIPE IS USED. FOR OTHER TYPES OF PIPE THE SEWER SHALL BE GROUTED IN PLACE WITH NON-SHRINK GROUT.
3. NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
4. PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION (3' MIN.). WHEN CLAY PIPE IS USED, THE CRADLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MANHOLE (3' MIN.). 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. ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH 2 COATS TRENEC SERIES 66 HI-BUILD EPOXYLINE, DRY THICKNESS OF 8 MILS (MIN.).
6. EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MODULARMA 633 BITUMINOUS COATING.
7. JOINT SEALING COMPOUND SHALL BE KENT SEAL NO. 2 OR APPROVED EQUAL.
8. PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE.
9. TOP OF MANHOLE FLOOR SLAB SHALL BE AT LEAST 3 INCHES BELOW THE FLOW LINE OF THE OUTLET PIPE TO INSURE SUFFICIENT MINIMUM THICKNESS OF SHAPED INVERT.
10. LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.

11. 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 PAVEMENT 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. 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.
12. 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 AT LEAST 3" 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.
13. 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 REVEAL 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.
14. 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.
15. THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
16. A BRICK MASONRY COLLAR SHALL BE INSTALLED BETWEEN THE CAST IRON FRAME AND THE PRECAST REINFORCED FLAT TOP. THE COLLAR WILL HAVE 8" WALLS AND A VERTICAL HEIGHT OF 6" MINIMUM AND 18" MAXIMUM. A 1" COAT OF MORTAR WILL BE PLASTERED ON THE OUTSIDE OF THE COLLAR.
17. SHALLOW MANHOLES TYPE "P" SHALL BE BID AS SHALLOW MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.



TYPE C
SHALLOW MANHOLE
(CAST-IN-PLACE)

CAST-IN-PLACE MANHOLE NOTES

1. APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN PLASTIC PIPE IS USED. FOR OTHER TYPES OF PIPE THE SEWER SHALL BE GROUTED IN PLACE WITH NON-SHRINK GROUT.
2. NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
3. PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION (3' MIN.). WHEN CLAY PIPE IS USED, THE CRADLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MANHOLE (3' MIN.). 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.
4. JOINT SEALING COMPOUND SHALL BE KENT SEAL NO. 2 OR APPROVED EQUAL.
5. TOP OF MANHOLE FLOOR SLAB SHALL BE AT LEAST 3 INCHES BELOW THE FLOW LINE OF THE OUTLET PIPE TO INSURE SUFFICIENT MINIMUM THICKNESS OF SHAPED INVERT.
6. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE WALLS AND BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS USING CITY CONCRETE PAVEMENT 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 "C" MANHOLES CAN BE CONSTRUCTED ONLY WHERE PIPE SIZES ARE 8" OR SMALLER. THE INSIDE DIAMETER OF TYPE "C" MANHOLES SHALL BE 4". COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.
7. 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 AT LEAST 3" ABOVE THE BOTTOM OF THE MANHOLE BASE. COST OF FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.

8. 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 REVEAL 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.
9. 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.
10. THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
11. A BRICK MASONRY COLLAR SHALL BE INSTALLED BETWEEN THE CAST IRON FRAME AND THE PRECAST REINFORCED FLAT TOP. THE COLLAR WILL HAVE 8" WALLS AND A VERTICAL HEIGHT OF 6" MINIMUM AND 18" MAXIMUM. A 1" COAT OF MORTAR WILL BE PLASTERED ON THE OUTSIDE OF THE COLLAR.
12. SHALLOW MANHOLES TYPE "C" SHALL BE BID AS SHALLOW MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.

MANHOLE FRAME AND COVER DETAIL

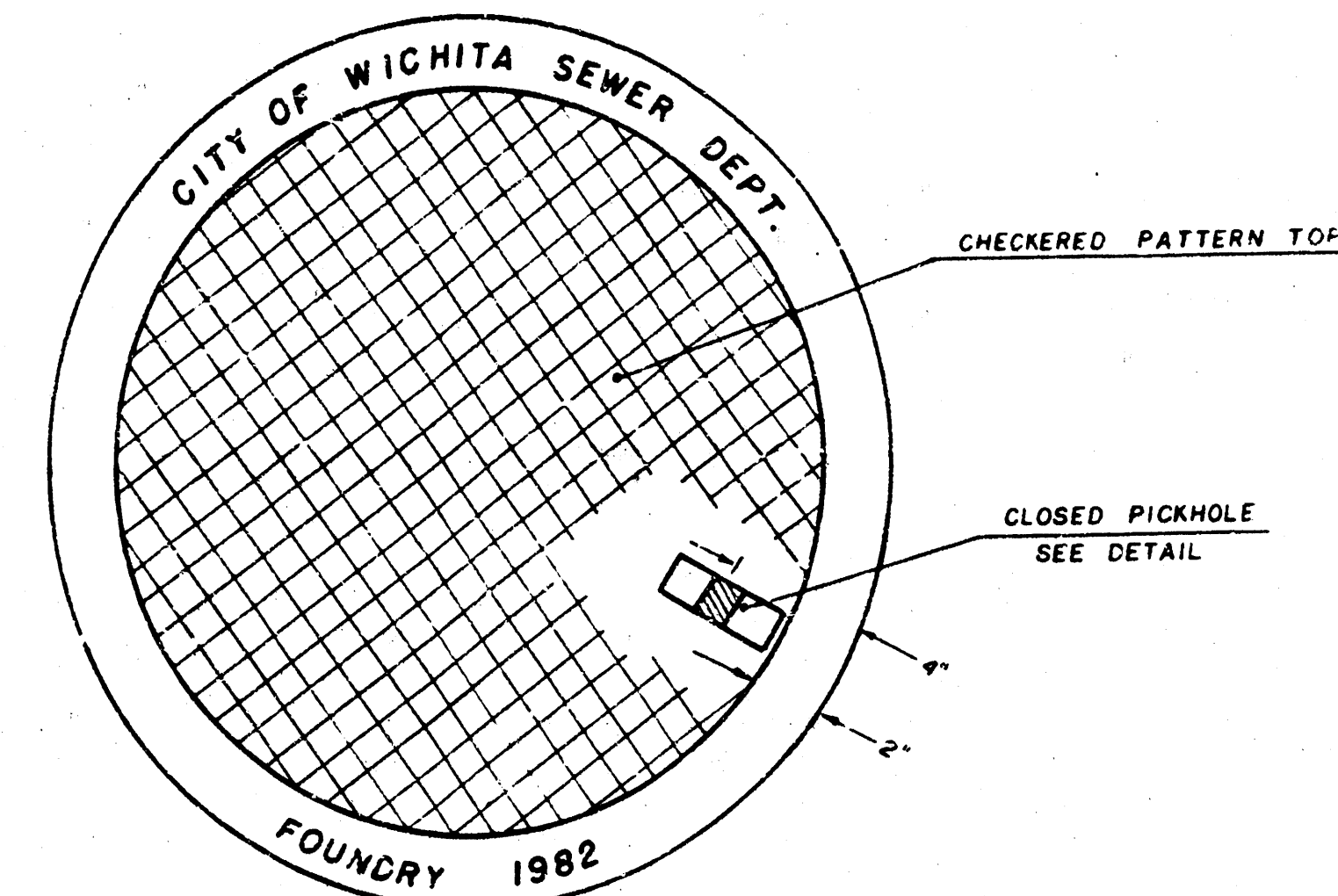
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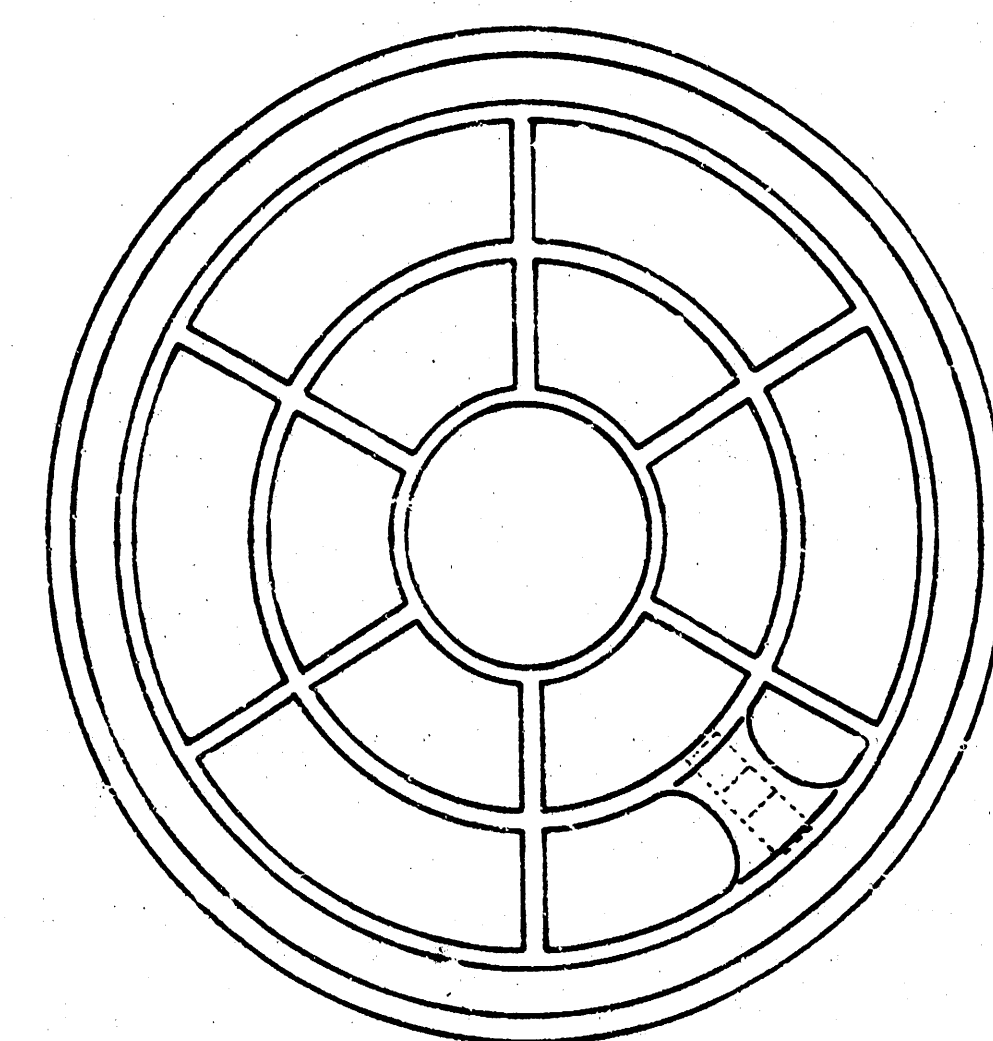
City of Wichita, Kansas

MANHOLE COVER

Weight: 180 Lbs.

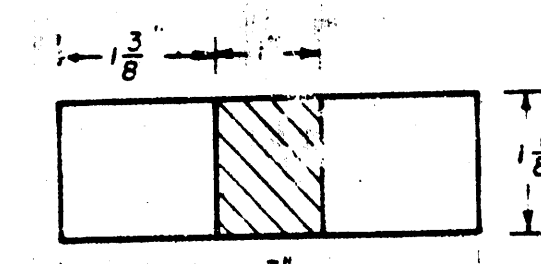


TOP VIEW

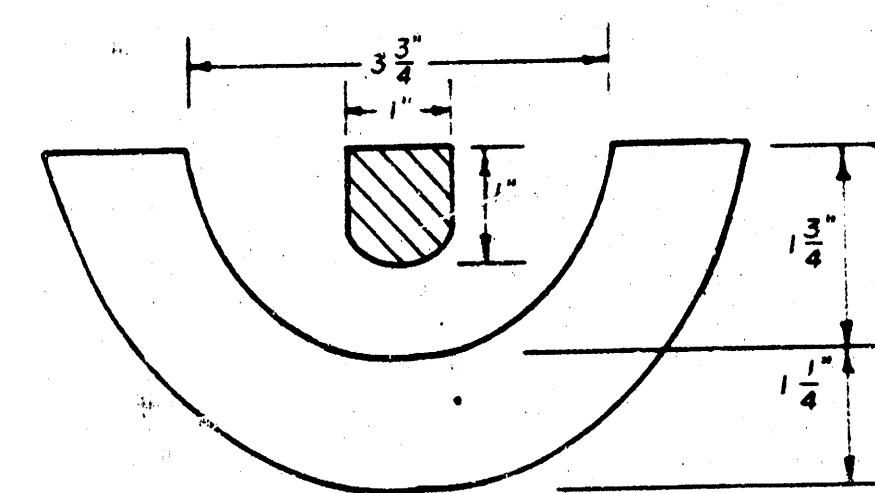


BOTTOM VIEW

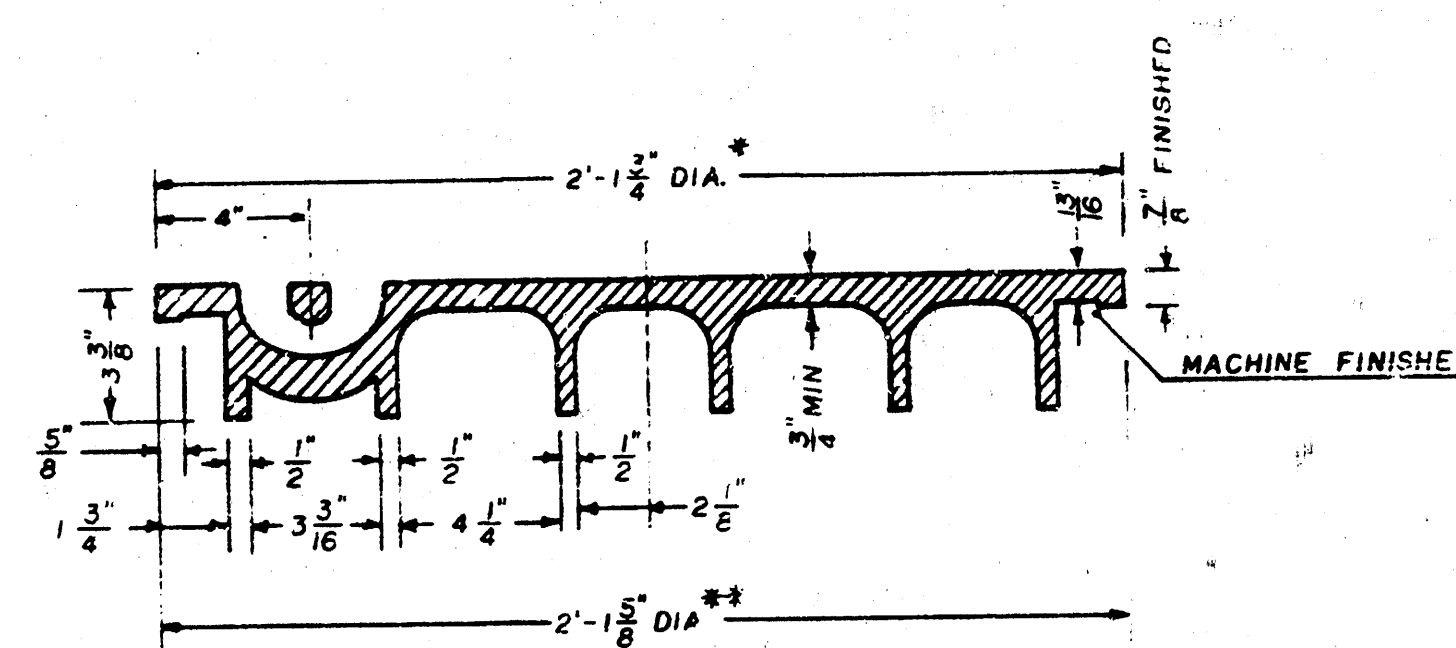
PICKHOLE DETAIL



TOP VIEW



SECTION VIEW

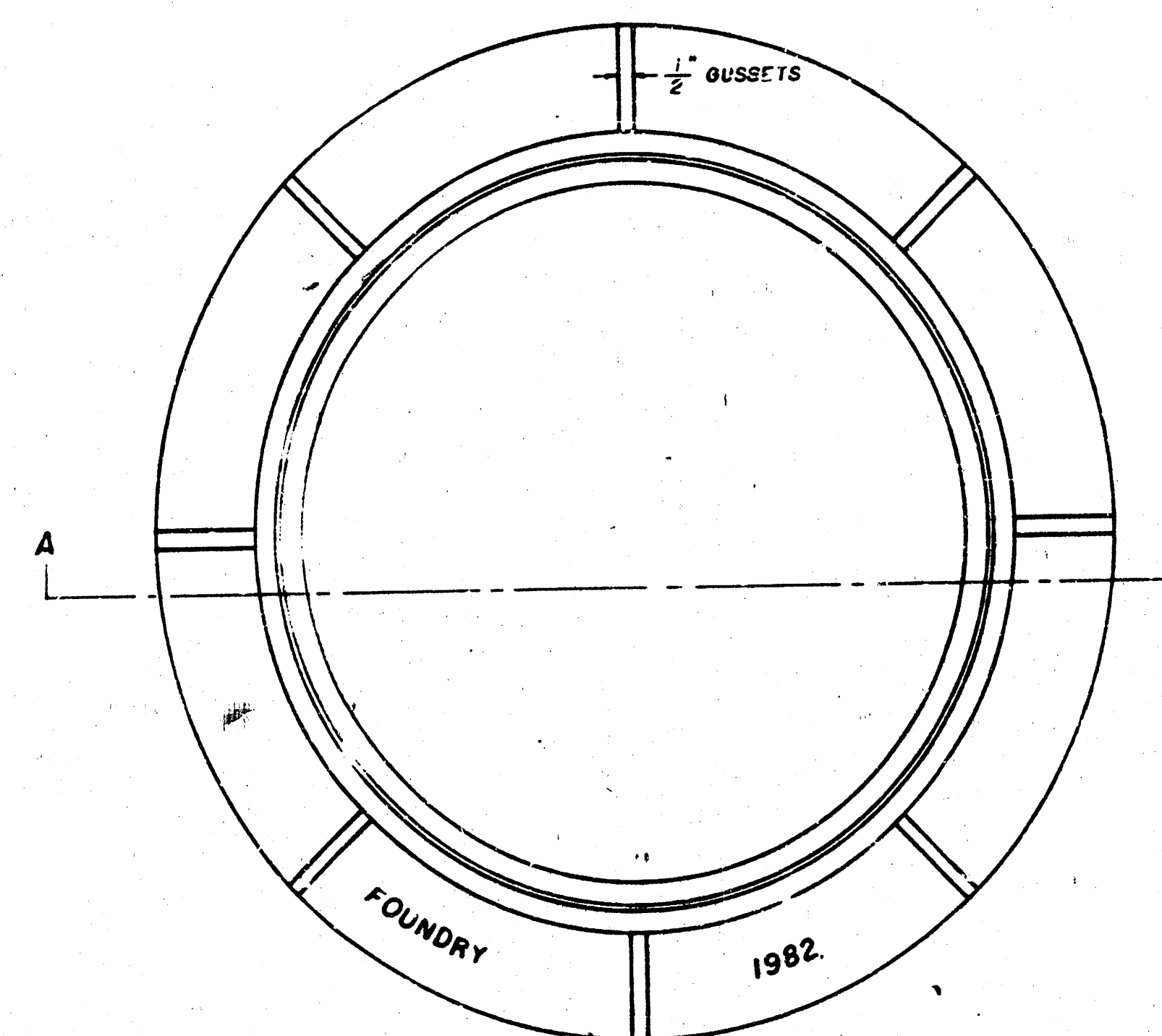


SECTION VIEW

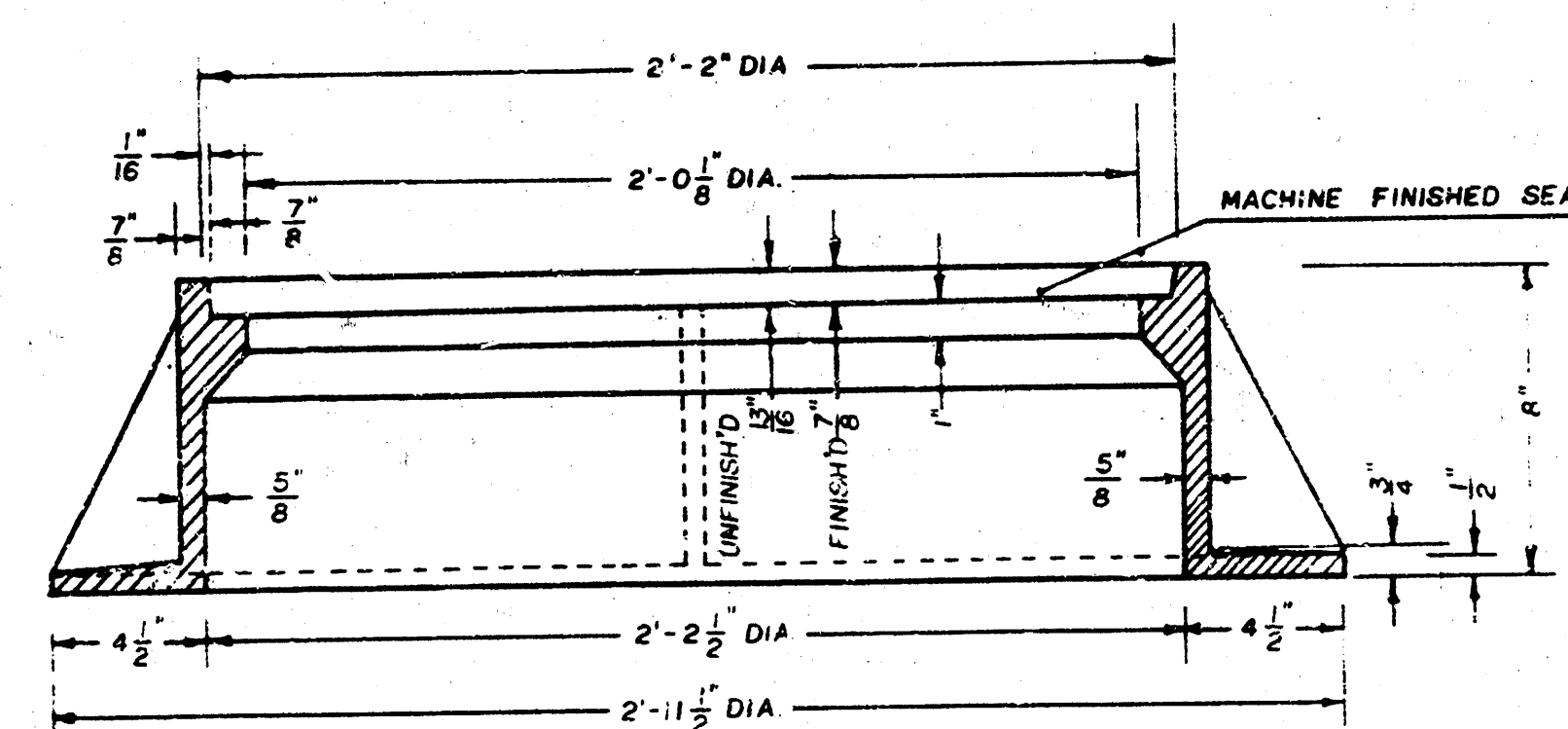
* OUTSIDE DIA. TOP OF COVER
** OUTSIDE DIA. BOTTOM OF COVER

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.