

Lat. 4, Main 19, S.W.I.
SANITARY SEWER IMPROVEMENTS
 to serve
Ridge Port Commercial Park
CITY OF WICHITA, KANSAS

Michael E. Lindebak, P.E. City Engineer

Project Number

468-83388

OCA Number

743927

GENERAL NOTES:

1. Contractor will be required to provide notice to utility companies a minimum of twenty-four (24) hours prior to any excavation, as follows:

Kansas One-Call 687-2470

The Contractor must notify the following in case of an emergency:

Cox Communications 262-4270
 Kansas Gas Service 1-888-482-4850
 Westar Energy 383-8450
 Aquila Energy 1-888-482-4850
 Southwestern Bell 268-2245
 City of Wichita Water Dept. 268-4563
 City of Wichita Sewer Maint. 269-4024
 City of Wichita Storm Sewer Maint. 268-4080
 City of Wichita Traffic Maint. 268-4034
 Conoco Pipeline Co. 1-800-231-2551
 Williams Pipeline Co. 529-6500
 Phillips Pipeline Co. 1-800-768-8230

2. Utility service lines, poles, valve boxes, meter, and etcetera 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. The Contractor will be required to work around existing utilities within the right-of-way which do not conflict with proposed construction.

3. 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. These sites shall be approved by the Engineer as to suitability, appearance on site location. Locations, in the opinion of the Engineer, will leave an unsightly appearance will not be approved. All disposal sites must be approved by the Kansas Department of Health and Environment. Material either stockpiled or disposed of in a flood plain would require a Kansas State Board of Agriculture permit. Any material dumped in waters of the United States or wetlands is subject to U.S. Corps of Engineers permitting regulations. Any material buried or stockpiled beyond approved construction limits would require additional archaeological investigations unless buried in a previously approved borrow location.

4. Trees and shrubs in 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 saved and protected from damage.

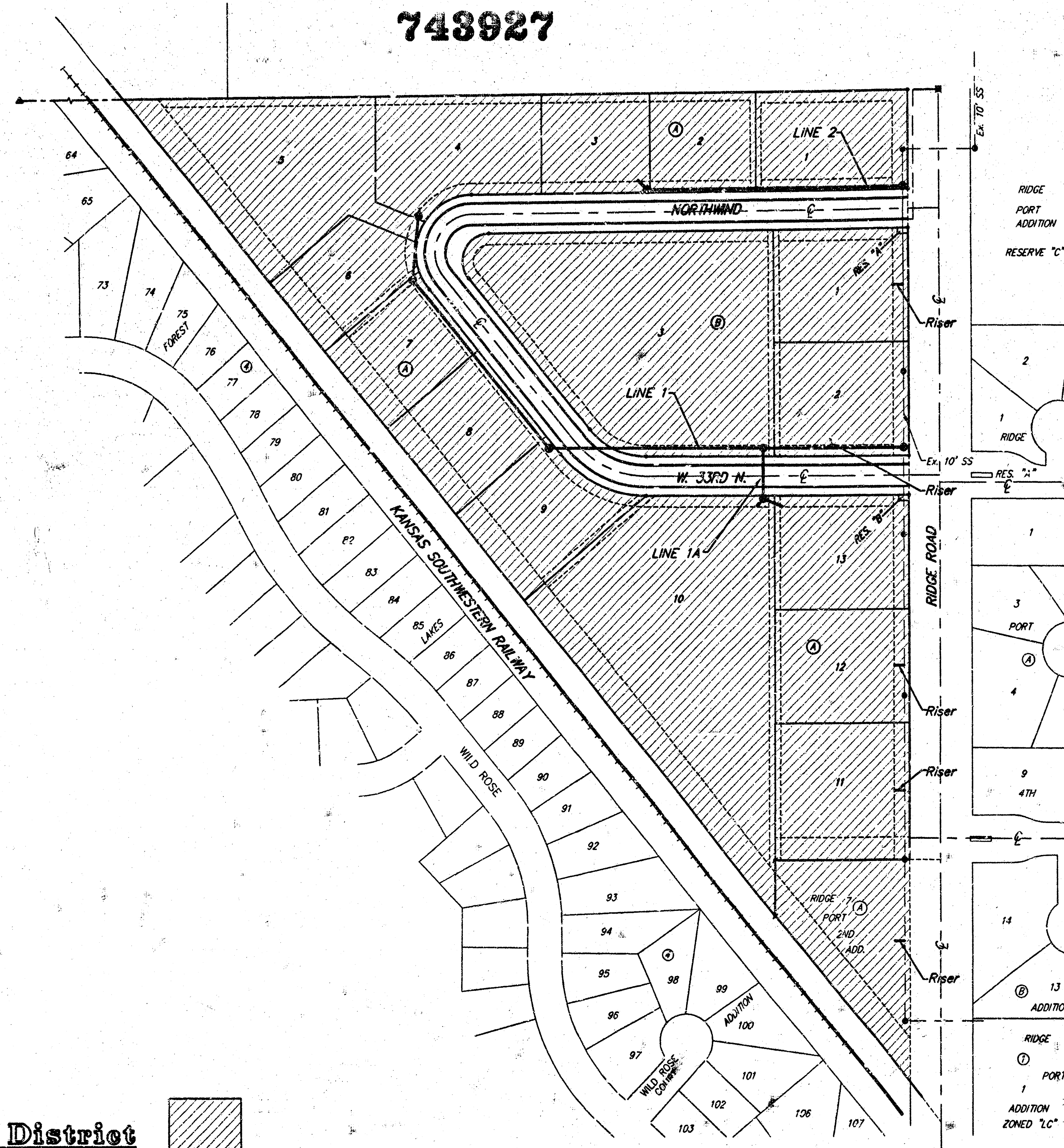
5. The Contractor shall give all property owners and/or tenants of developed property abutting the construction of this project a minimum of ten (10) days advance notice prior to start of construction.

6. 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.

7. When connecting to existing manhole or stub, the contractor shall reshape manhole bottom or adjust the existing stub's alignment or elevation as necessary. Cost shall be subsidiary to project.

8. The Contractor shall be responsible for maintaining continuous flow of sewage through construction. Contractor's proposed method for maintaining sewage flow shall be approved by the Engineer. Cost of maintaining flow of sewage through construction will not be paid for directly and this cost shall be considered as subsidiary to the other day items of work.

Benefit District



Scale: 1" = 150'

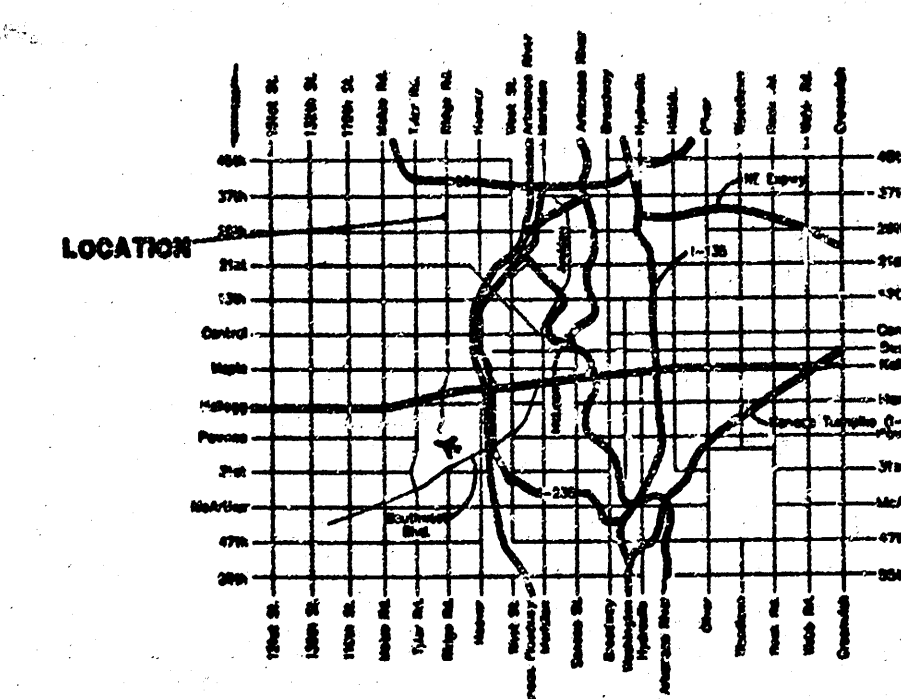
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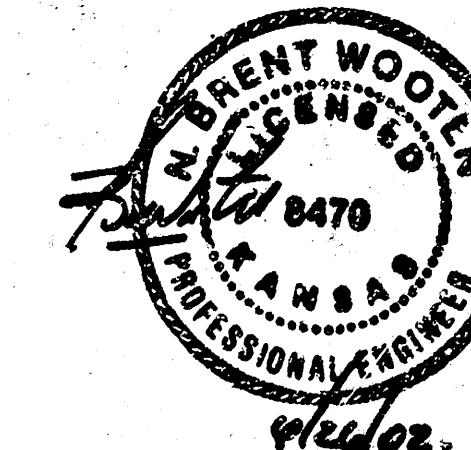
Benchmark:

"B" cut on SE Corner of Bridge, 1/2 Mile N. of 28th Street North & Ridge Road.
 Elev. = 143.85 City Datum (1331.25 NGVD)

"PK Nail" 1.7 feet south of Westwind Bay & 59.9 feet east of Ridge Road.
 Elev. = 142.53 City Datum (1329.53 NGVD)



Vicinity Map

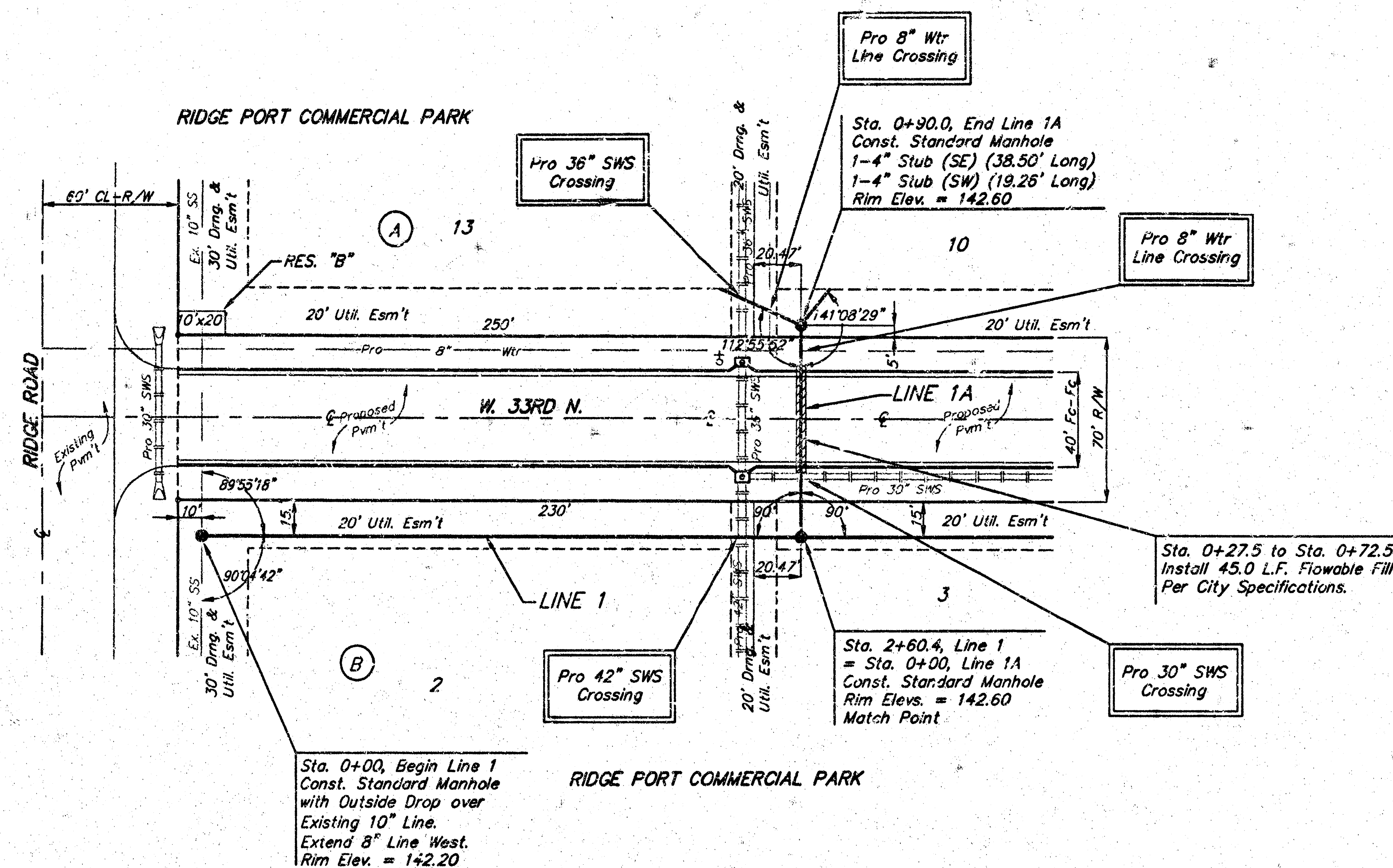


BAUGHMAN COMPANY P.A.
 ENGINEERING, SURVEYING, & PLANNING
 316-242-7771 • 315 ELLIS • WICHITA, KANSAS 67211

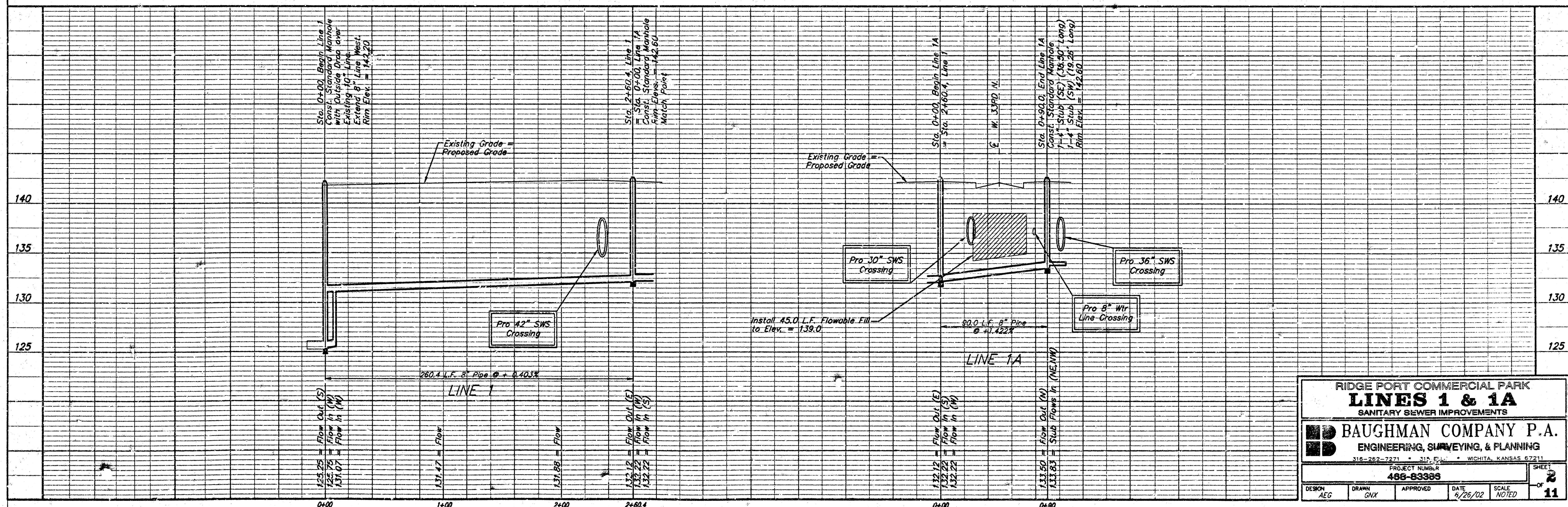
Benchmarks:

"□" cut on SE Corner of Bridge, 1/2 Mile
N. of 29th Street North & Ridge Road.
Elev. = 143.85 City Datum (1331.25 NGVD)

"PK Nail" 1.7 feet south & Westwind Bay &
59.9 feet east of Ridge Road.
Elev. = 142.53 City Datum (1329.93 NGVD)



Scale: 1" = 40' Horizontal
1" = 5' Vertical
• = Iron

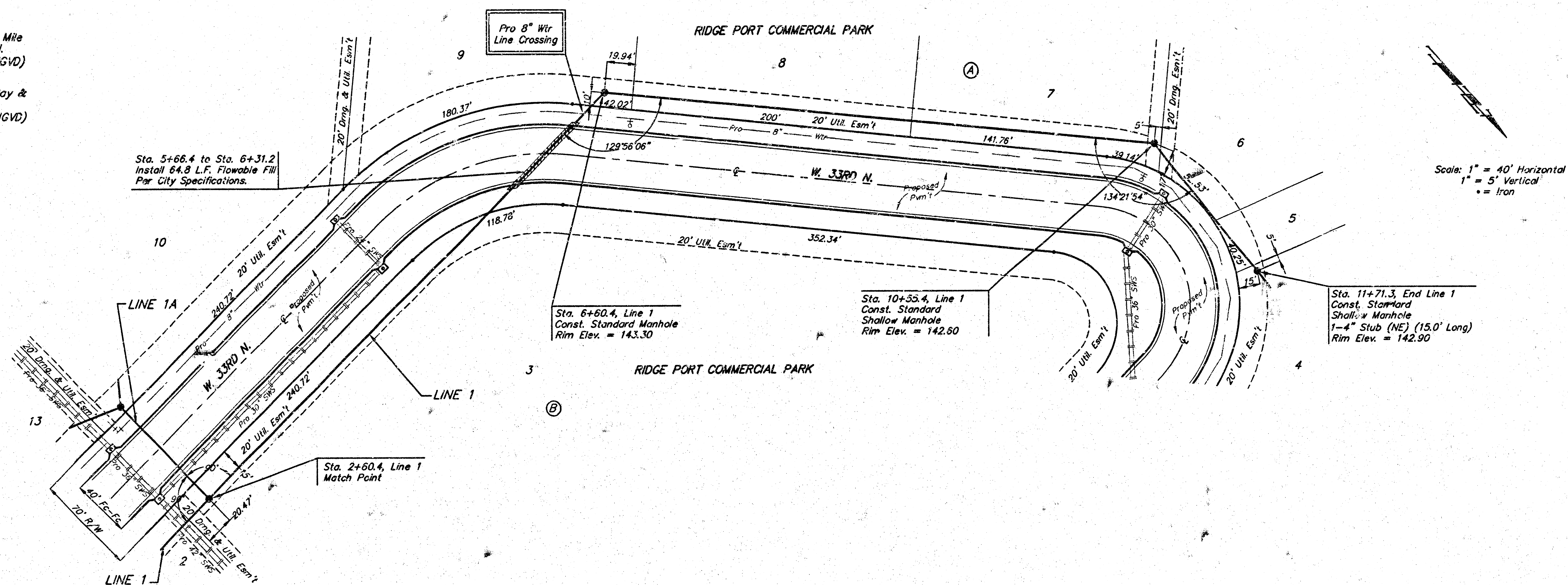


RIDGE PORT COMMERCIAL PARK					
LINES 1 & 1A					
SANITARY SEWER IMPROVEMENTS					
BAUGHMAN COMPANY P.A.					
ENGINEERING, SURVEYING, & PLANNING					
316-282-7271 • 315 E. 1st • WICHITA, KANSAS 67211					
PROJECT NUMBER: 468-83385					
DESIGN	DRAWN	APPROVED	DATE	SCALE	SHEET
AEG	GNX		6/26/02	NOTED	11

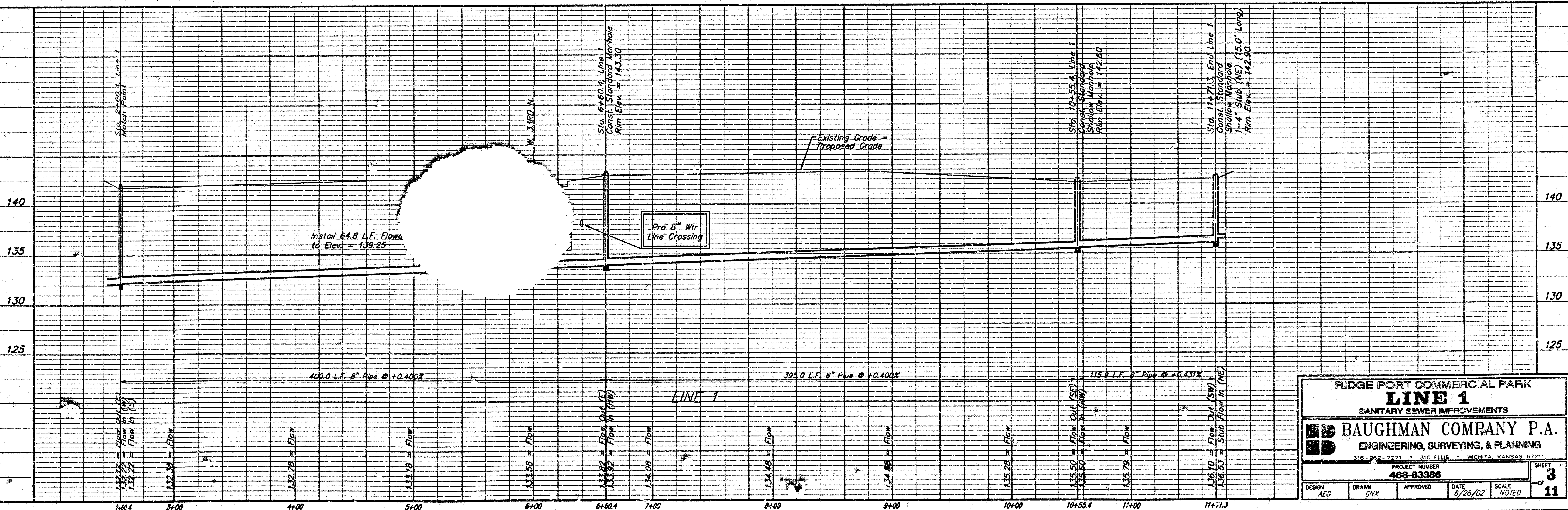
Benchmarks:

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N. of 29th Street North & Ridge Road.
Elev. = 143.85 City Datum (1,331.25 NGVD)

"PK Nail" 1.7 feet south L. Westwind Bay &
59.9 feet east of L. Ridge Road.
Elev. = 142.53 City Datum (1,329.93 NGVD)



Scale: 1" = 40' Horizontal
1" = 5' Vertical
• = Iron



RIDGE PORT COMMERCIAL PARK			
LINE 1			
SANITARY SEWER IMPROVEMENTS			
BAUGHMAN COMPANY P.A.			
ENGINEERING, SURVEYING, & PLANNING			
318 - 242 - 722 • 315 E. 15th • WICHITA, KANSAS 67211			
PROJECT NUMBER 468-83388			
DESIGN AEG	DRAWN GNY	APPROVED	DATE 6/25/02
SCALE NOTED		SHEET 3 OF 11	

Benchmarks:

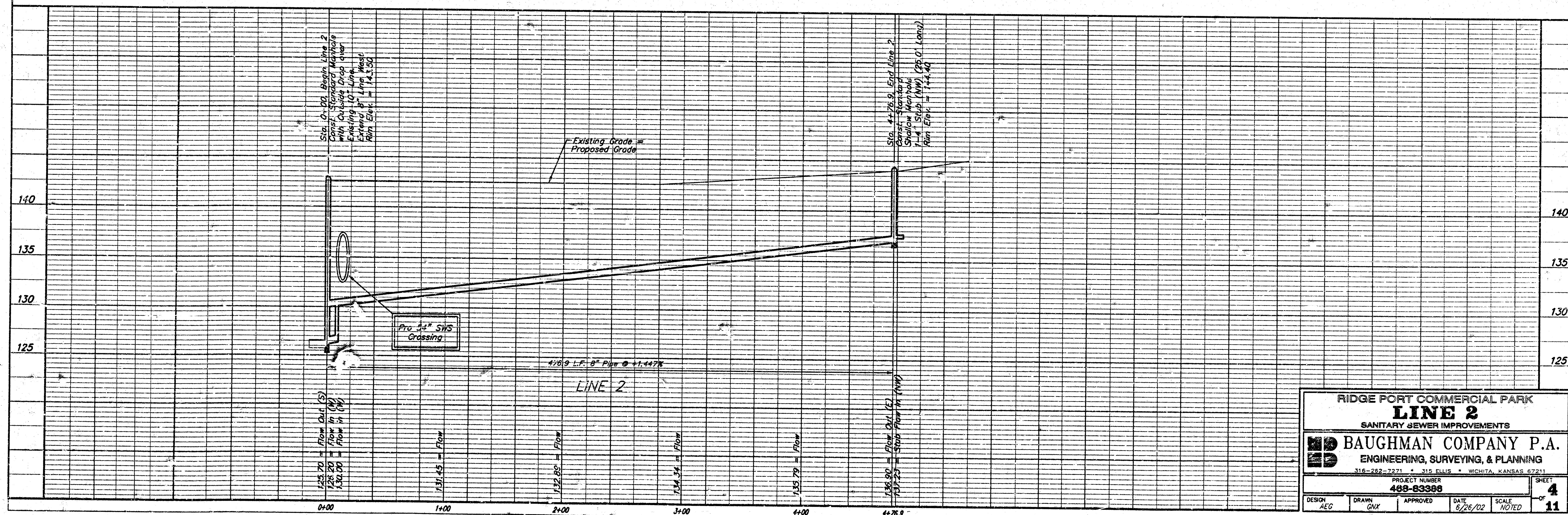
"□" cut on SE Corner of Bridge, 1/2 Mile N. of 29th Street North & Ridge Road.
Elev = 143.85 City Datum (1331.25 NGVD)

"PK Nail" 1.7 feet south L Westwind Bay & 59.9 feet east of L Ridge Road.
Elev. = 142.53 City Datum (1329.93 NGVD)

Sta. 0+00, Begin Line 2
Const. Standard Manhole
with Outside Drop over
Existing 10" Line.
Extend 8" Line West.
Rim Elev. = 143.50

Sta. 4+76.9, End Line 2
Const. Standard
Shallow Manhole
1-4" Stub (NW) (25.0' Long)
Rim Elev. = 144.40

Scale: 1" = 40' Horizontal
1" = 5' Vertical
• = Iron

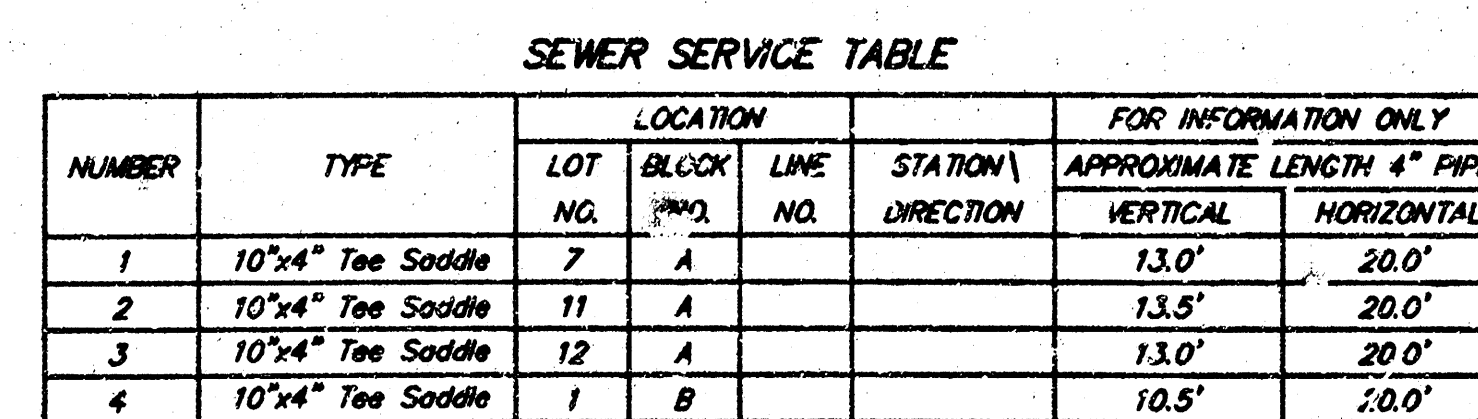


RIDGE PORT COMMERCIAL PARK					
LINE 2					
SANITARY SEWER IMPROVEMENTS					
BAUGHMAN COMPANY P.A.					
ENGINEERING, SURVEYING, & PLANNING					
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211					
PROJECT NUMBER					
488-83388					
DESIGN	DRAWN	APPROVED	DATE	SCALE	SHEET
AE	GV		6/26/02	NOTED	4
					11

"□" cut on SE Corner of Bridge, 1/2 Mile
N. of 29th Street North & Ridge Road.
Elev. = 143.85 City Datum (1331.25 NGVD)

"PK Nail" 1.7 feet south L Westwind Bay &
59.9 feet east of L Ridge Road.
Elev. = 142.53 City Datum (1329.93 NGVD)

Scale: 1" = 50' Horizontal
• = Iron



NOTE: Vertical Riser Pipe shall be extended to 2' minimum above ground water elevation and 4' maximum below proposed ground elevation.

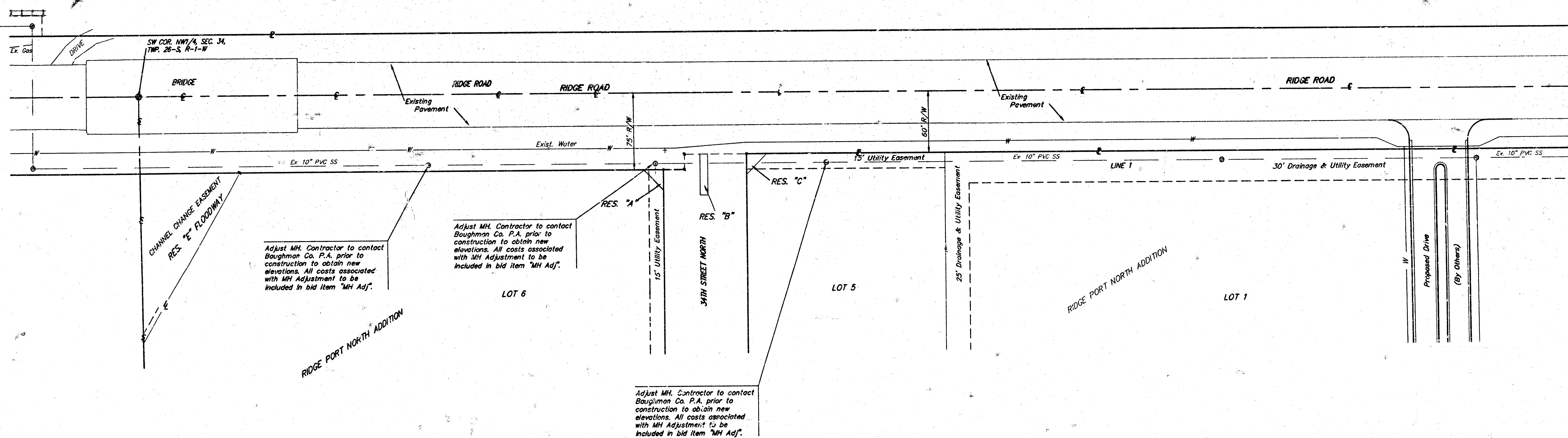
RIDGE PORT COMMERCIAL PARK <b style="font-size: 1.5em;">RISER PLAN SANITARY SEWER IMPROVEMENTS			
<b style="font-size: 1.2em;">BAUGHMAN COMPANY P.A. ENGINEERING, SURVEYING, & PLANNING 316-262-7271 • 316 4715 • WICHITA, KANSAS 67211			
PROJECT NUMBER 465-83386		SHEET 5	
DESIGN JFC	DRAWN CLK	APPROVED	DATE 2/26/02
SCALE AS SHOWN		DATE 2/26/02	

Benchmarks:

"□" cut on SE Corner of Bridge, 1/2 Mile
N. of 29th Street North & Ridge Road.
Elev. = 143.85 City Datum (1331.25 NGVD)

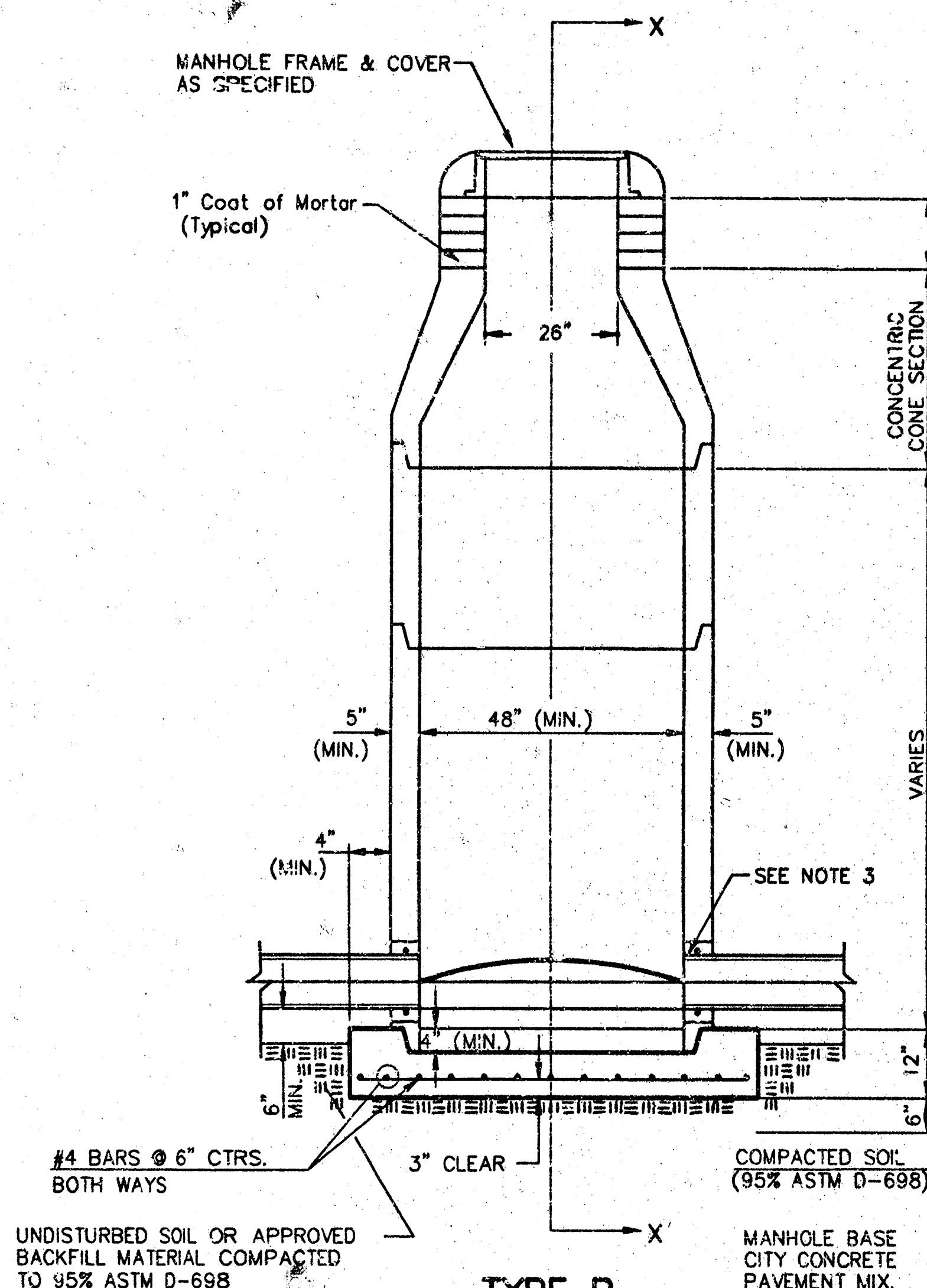
"PK Nail" 1.7 feet south L. Westwind Bay &
59.9 feet east of L. Ridge Road.
Elev. = 142.53 City Datum (1329.93 NGVD)

Scale: 1" = 50' Horizontal
1" = 1' Vertical

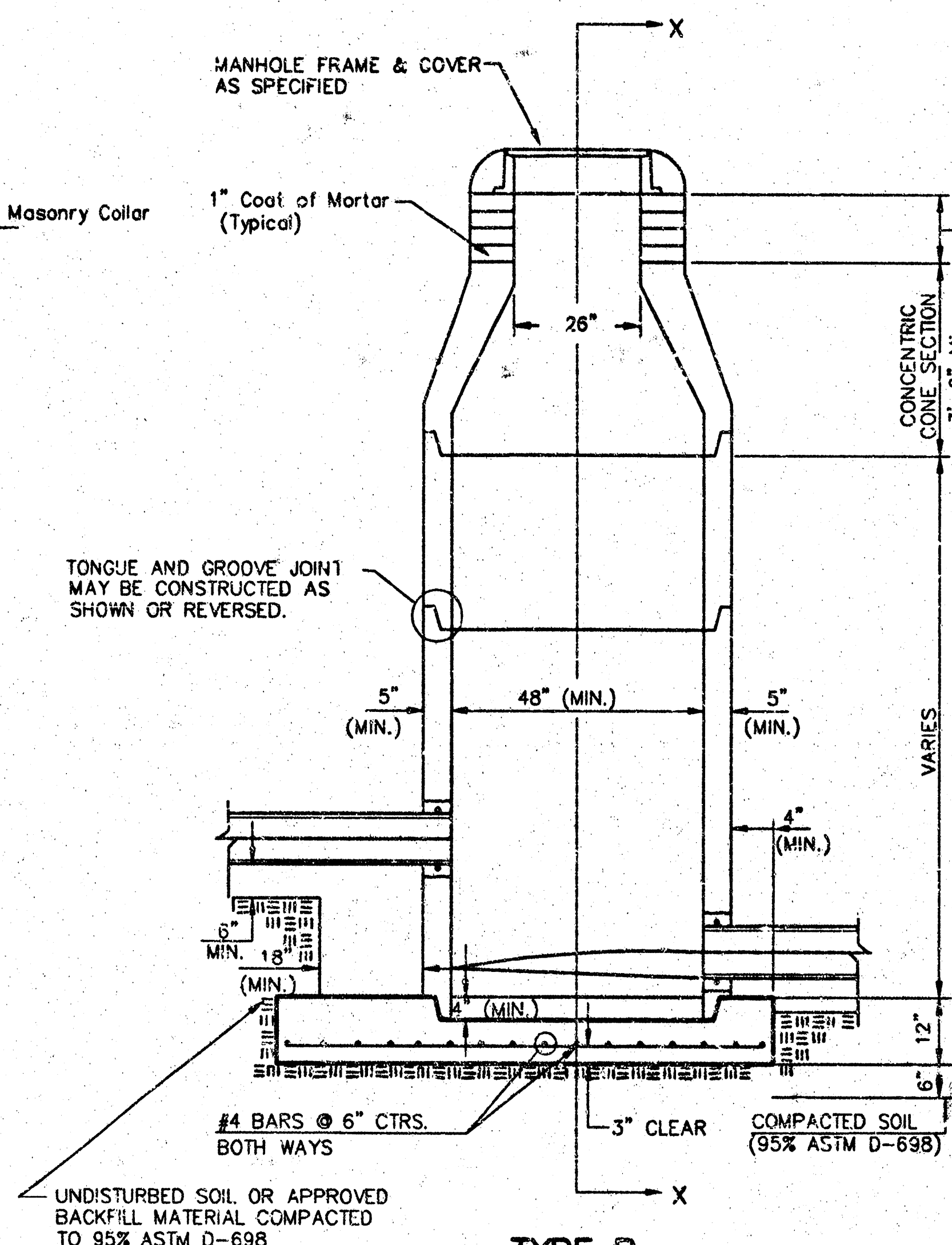


RIDGE PORT COMMERCIAL PARK					
MH ADJUSTMENTS					
SANITARY SEWER IMPROVEMENTS					
BAUGHMAN COMPANY P.A.					
ENGINEERING, SURVEYING, & PLANNING					
315-282-7271 • 315 ELLIS • WICHITA, KANSAS 67211					
PROJECT NUMBER					
488-85386					
DESIGN	DRAWN	APPROVED	DATE	SCALE	SHEET
AEG	GVX		6/26/02	NOTED	8
					11

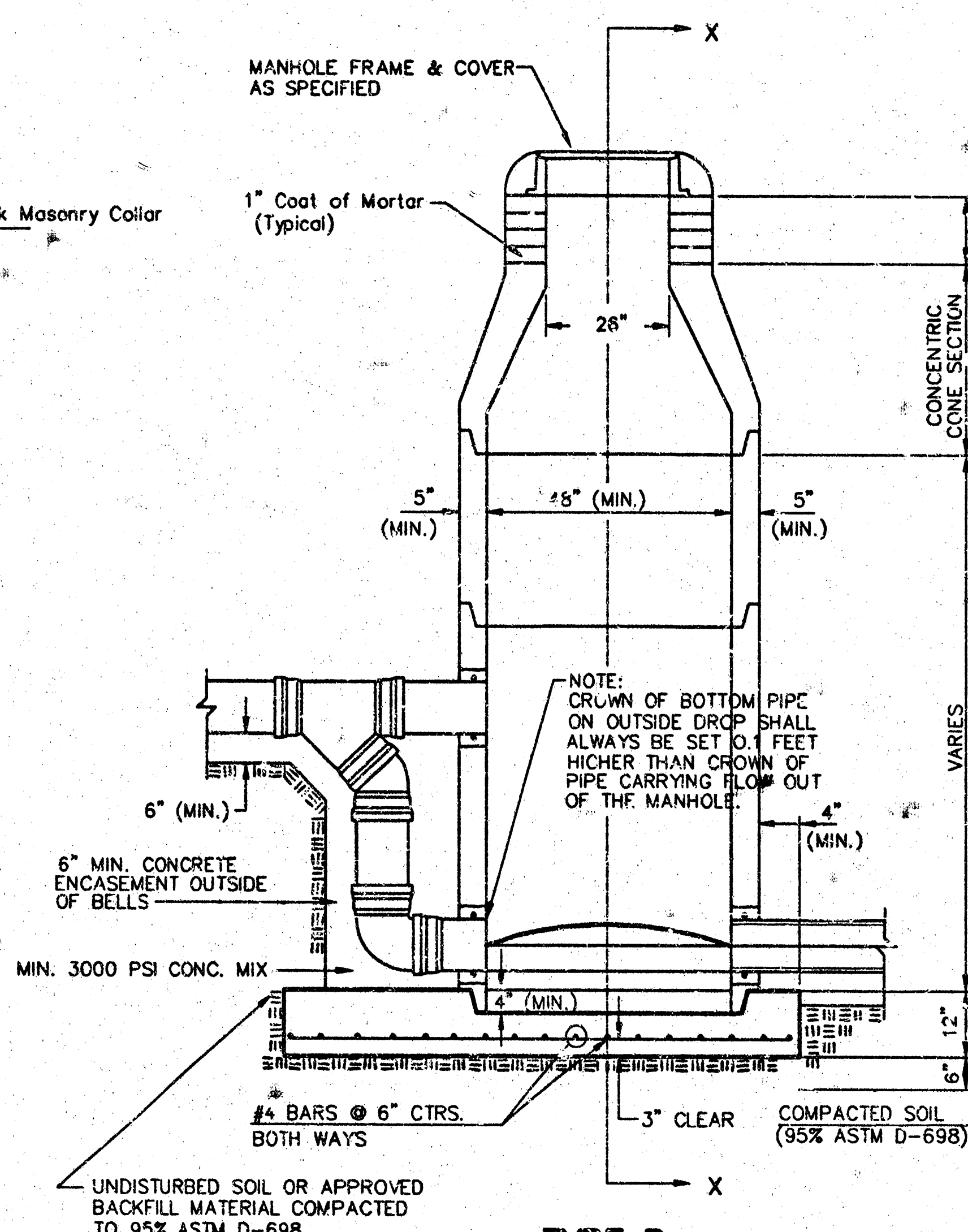
SEWER APPURTENANCES DETAILS



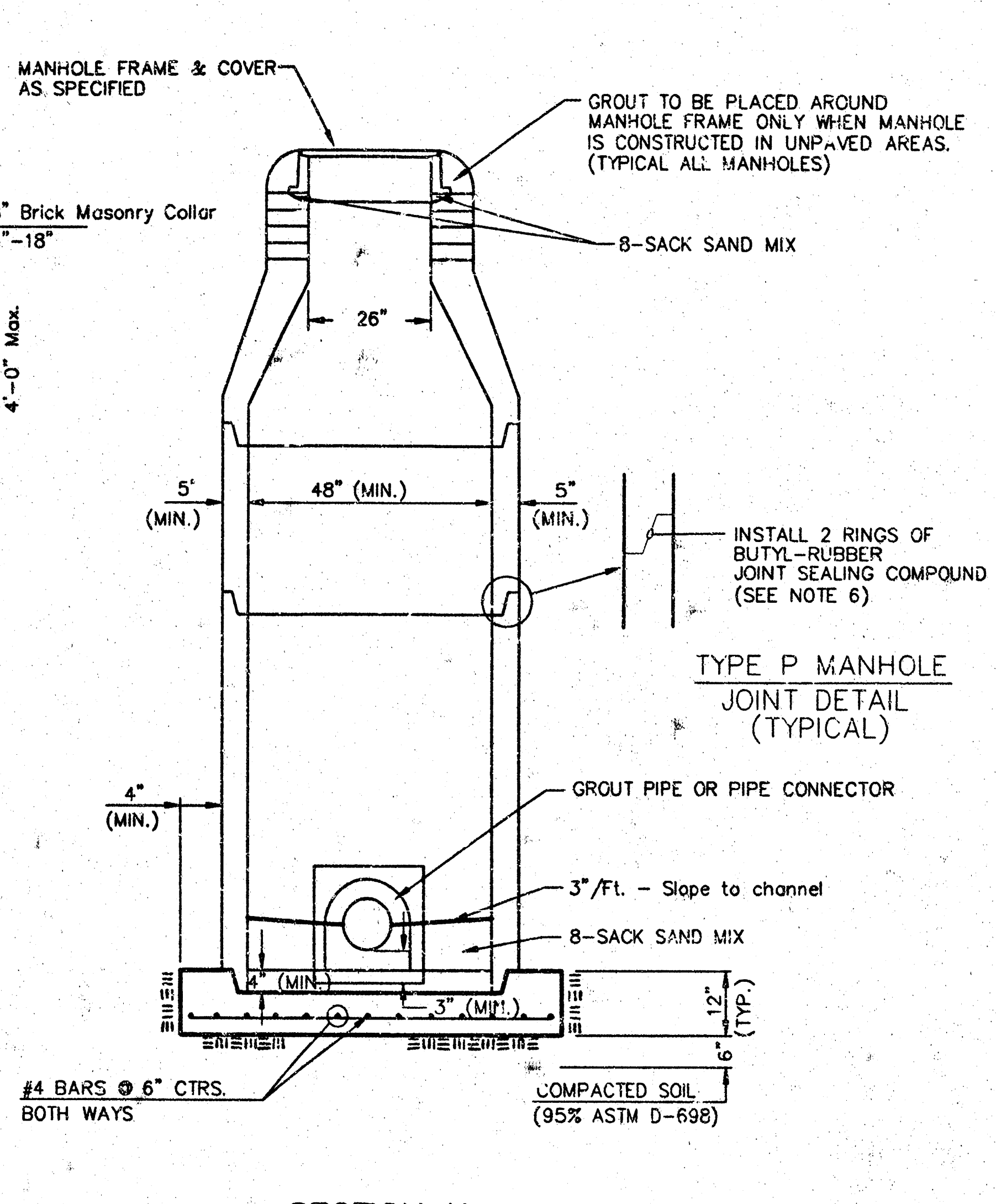
TYPE P STANDARD MANHOLE



TYPE P INSIDE DROP MANHOLE



TYPE P OUTSIDE DROP MANHOLE

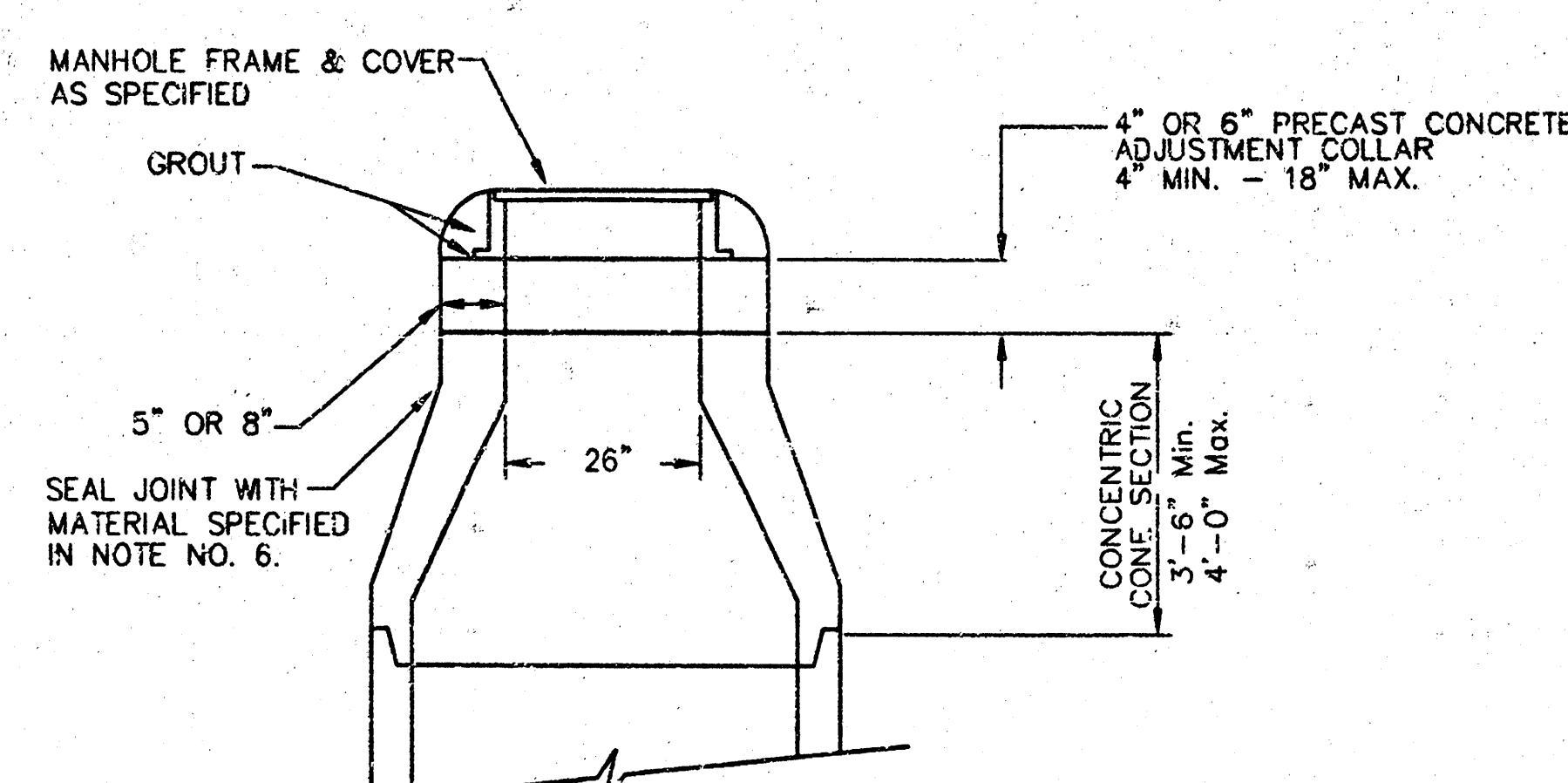


SECTION X (TYPICAL)

- GENERAL NOTES**
- PRECAST MANHOLE NOTES**
- ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
 - NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
 - APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN A.B.S. COMPOSITE PIPE OR P.V.C. PIPE IS USED. FOR OTHER TYPES OF PIPE THE SEWER SHALL BE GROUTED IN PLACE WITH NON-SHRINK GROUT. THE SEWER PIPE SHALL BE SUPPORTED WITH CONCRETE ENCASUREMENT A MINIMUM OF 3 FEET FROM THE MANHOLE WALL AND TO THE FIRST JOINT FOR V.C.P. SUCH THAT THE JOINT REMAINS FLEXIBLE.
 - ALL INTERIOR SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH 2 COATS TRENKLE SERIES 66 KI-BUILD EPOXYLINE, DRY THICKNESS OF 8 MILS (MIN.).
 - EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINOUS COATING.
 - JOINT SEALING COMPOUND SHALL BE KENT SEAL NO. 2 OR APPROVED EQUAL.
 - PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE.
 - 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.
 - LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.
 - 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.

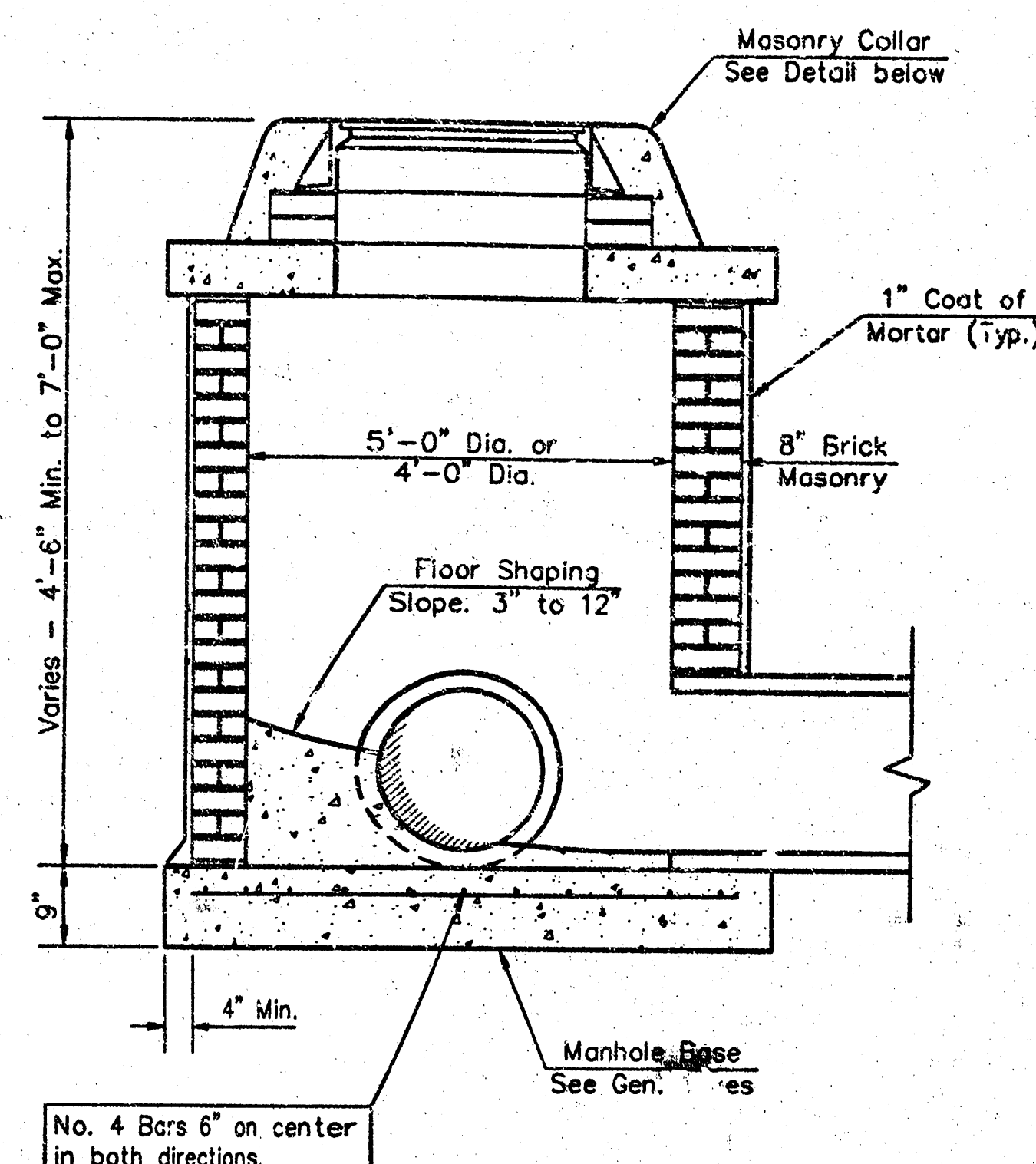
- REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED AT LEAST 3" ABOVE THE BOTTOM OF THE MANHOLE BASE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
- OPENINGS SHALL BE CUT INTO THE MANHOLE WALL WHEN OUTSIDE DROPS ARE CONSTRUCTED ON EXISTING MANHOLES. SUCH OPENINGS CUT INTO EXISTING MANHOLES SHALL BE AS SMALL AS PRACTICAL TO FACILITATE INSTALLING AND GROUTING THE NEW PIPE IN PLACE. WATERSTOP GASKETS SHALL BE USED WITH P.V.C. AND A.B.S. COMPOSITE PIPE. THE NEW PIPE SHALL BE GROUTED INTO THE OPENING USING AN APPROVED NON-SHRINK GROUT FOR THE FULL MANHOLE WALL THICKNESS. THE EXTERIOR OF THE COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT. FLOOR OF MANHOLE SHALL BE MODIFIED TO FORM NEW FLOW CHANNEL FOR THE NEW CONNECTION AS INDICATED BY THE DRAWING. THIS WORK, INCLUDING MODIFICATION OF MANHOLE FLOOR, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR OUTSIDE DROP STACK CONSTRUCTED ON EXISTING 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 FIGURED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE 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 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.
- 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 DRAWING.
- THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 2' FOR INFLOWING PIPES SIZED 12" OR SMALLER AND 2' FOR INFLOWING PIPES LARGER THAN 12". THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
- STANDARD MANHOLES AND STANDARD INSIDE DROP MANHOLES SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.
- A BRICK MASONRY COLLAR SHALL BE INSTALLED BETWEEN THE CAST IRON FRAME AND THE CONCENTRIC CONE. 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. THE USE OF PRE-CAST CONCRETE SPACERS FOR MANHOLE TOP ADJUSTMENT IS ALSO ALLOWED.

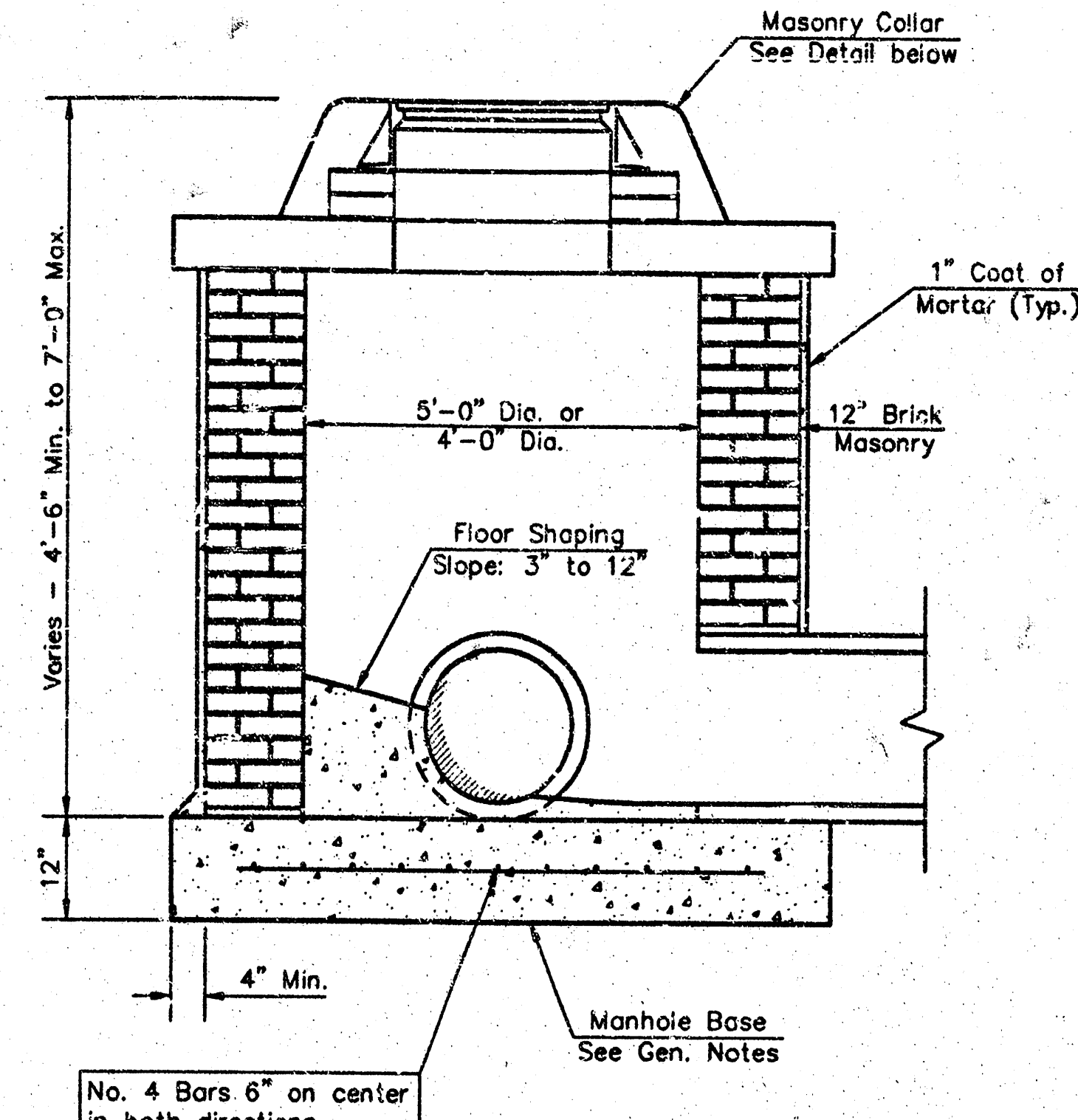


ALTERNATE CONSTRUCTION IN UNPAVED AREAS

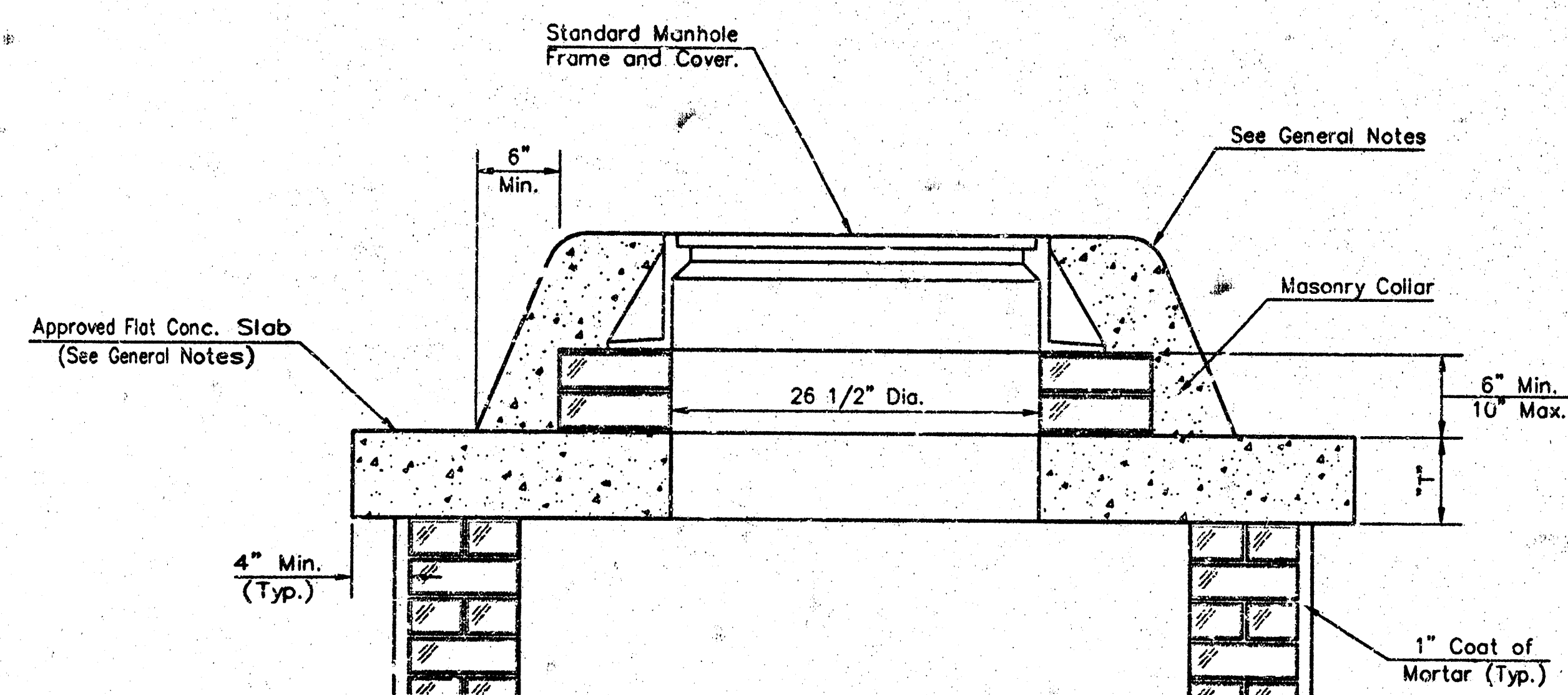
STD. MANHOLE DETAILS					
SEWER APPURTENANCES					
BAUGHMAN COMPANY P.A.					
ENGINEERING, SURVEYING, & PLANNING					
316-282-7271 • 315 ELLIS • WICHITA, KANSAS 67211					
PROJECT NUMBER		DATE		SHEET	
488-83386				7	
DESIGN	DRAWN	APPROVED	CHECKED	SCALE	NOTES
STAFF	STAFF	STAFF	STAFF	STAFF	STAFF



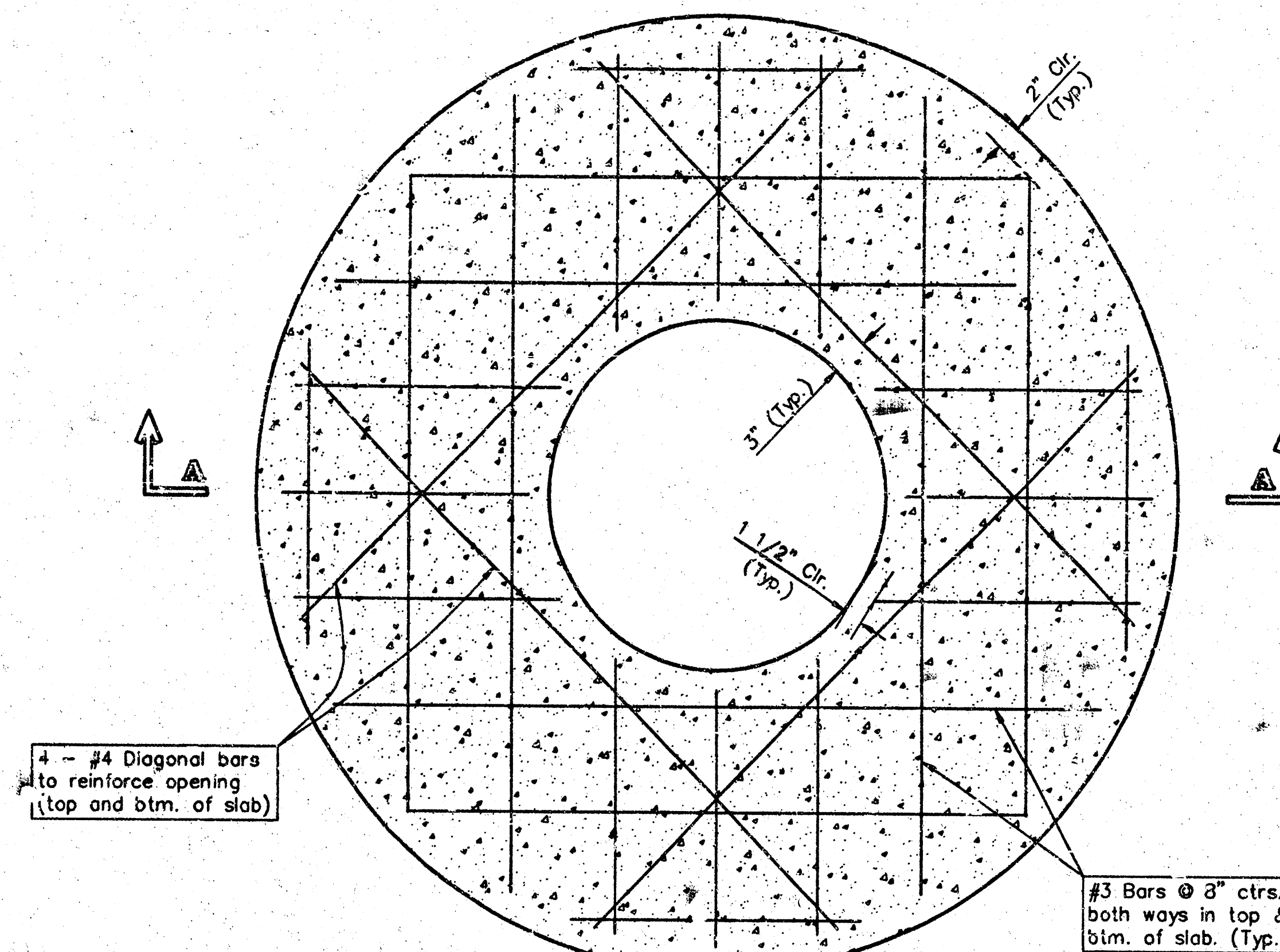
SHALLOW TYPE "A" MANHOLE



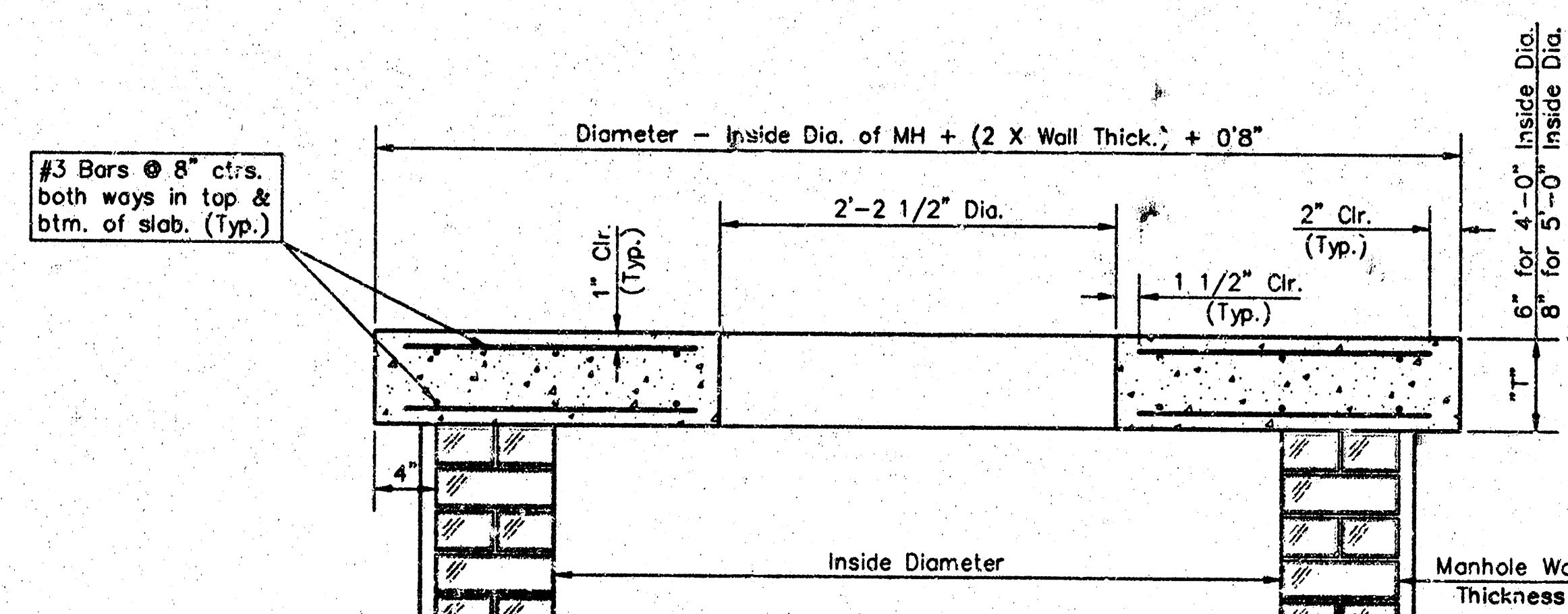
SHALLOW TYPE "B" MANHOLE



MASONRY COLLAR DETAIL

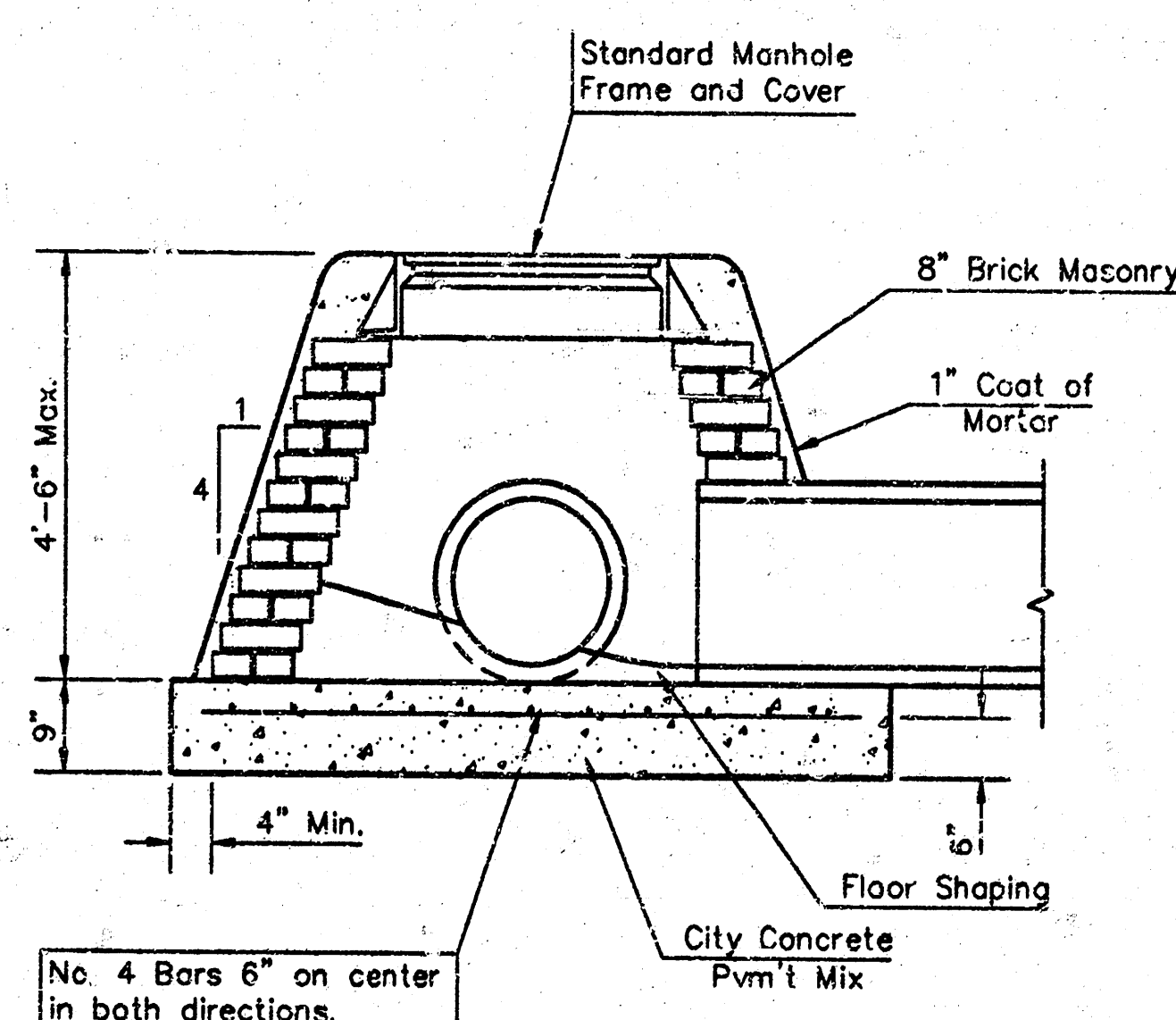


PLAN

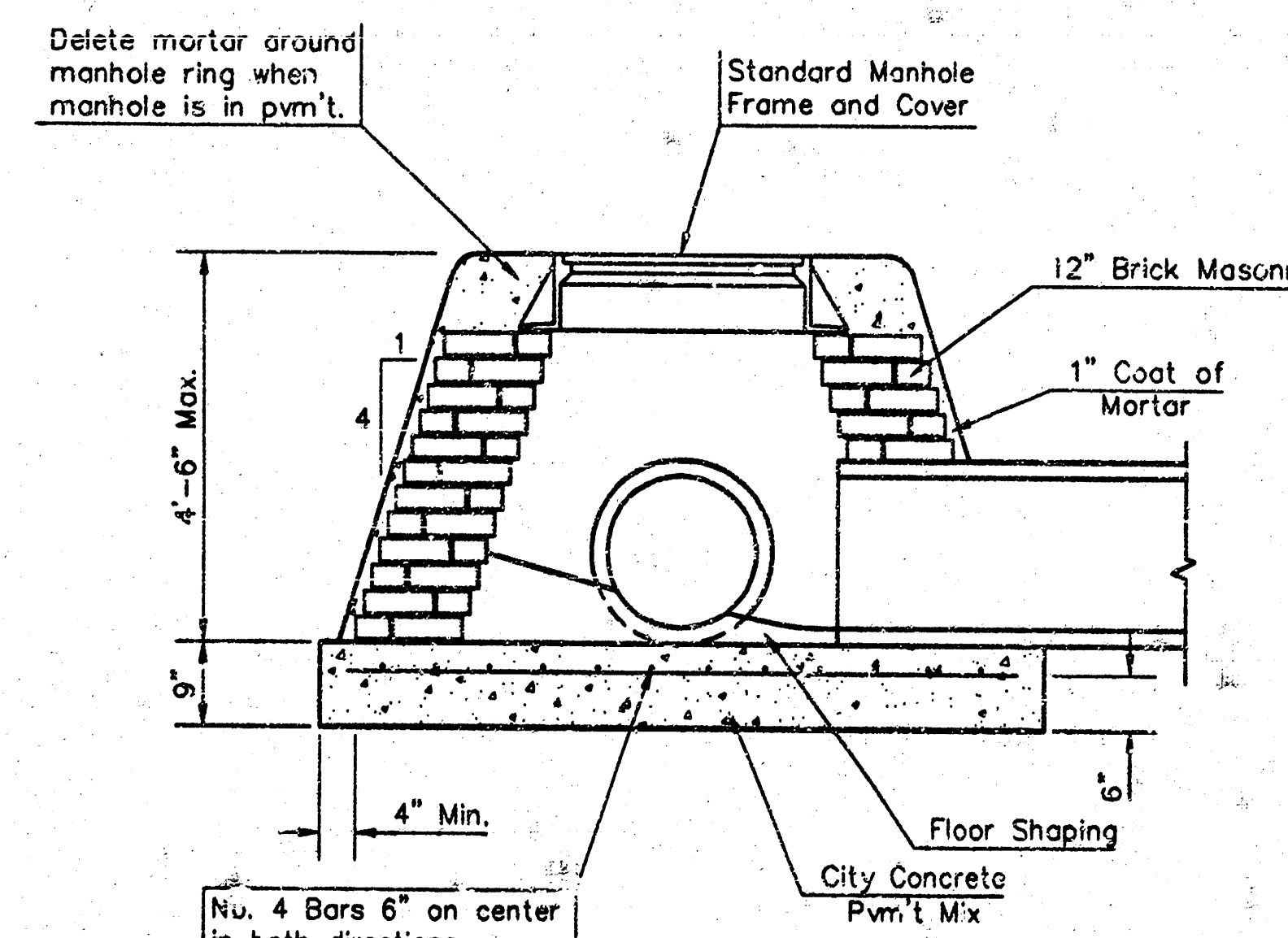


SECTION A-A

FLAT CONCRETE SLAB DETAILS



SPECIAL SHALLOW TYPE "A" MANHOLE



SPECIAL SHALLOW TYPE "B" MANHOLE

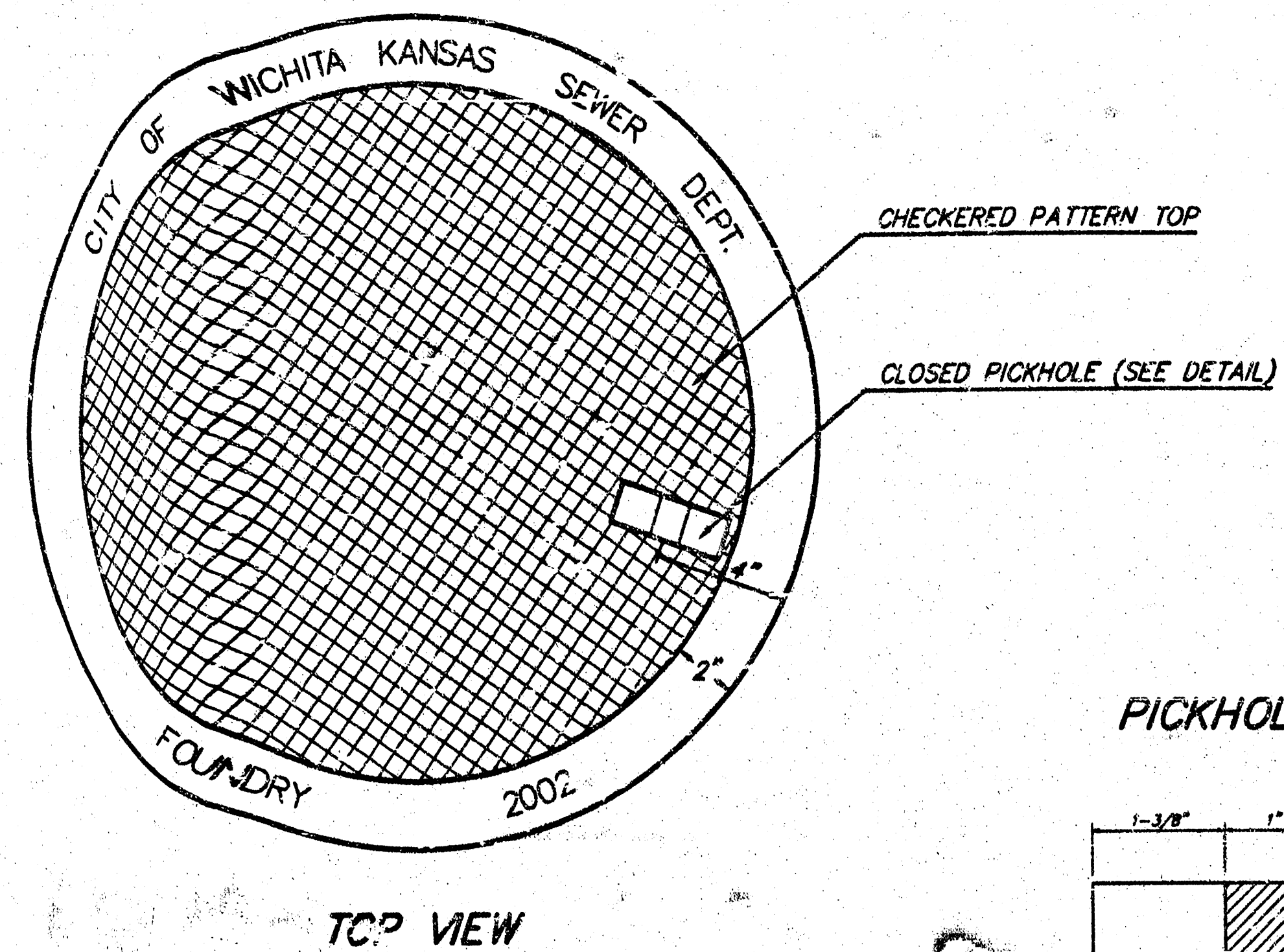
GENERAL NOTES

- Mortar used in masonry construction shall contain 8 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.
- 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.
- 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.
- 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.
- All brick used in manhole construction shall meet Grade SW of ASTM C652 or C62-87.

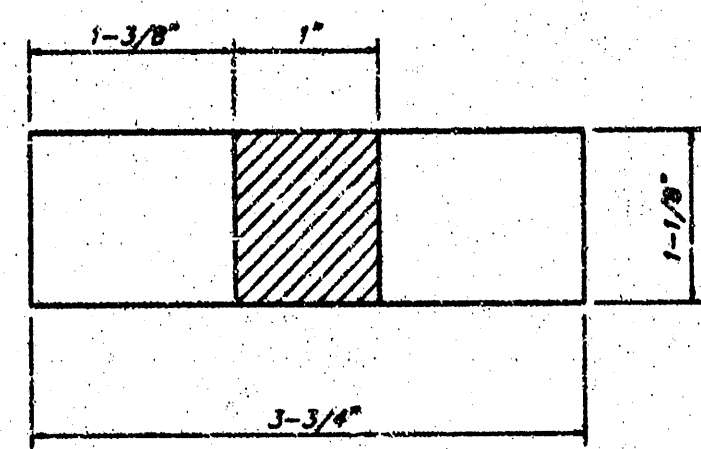
MANHOLE FRAME AND COVER DETAIL

ADOPTED AS STANDARD DESIGN BY
CITY OF WICHITA, KANSAS

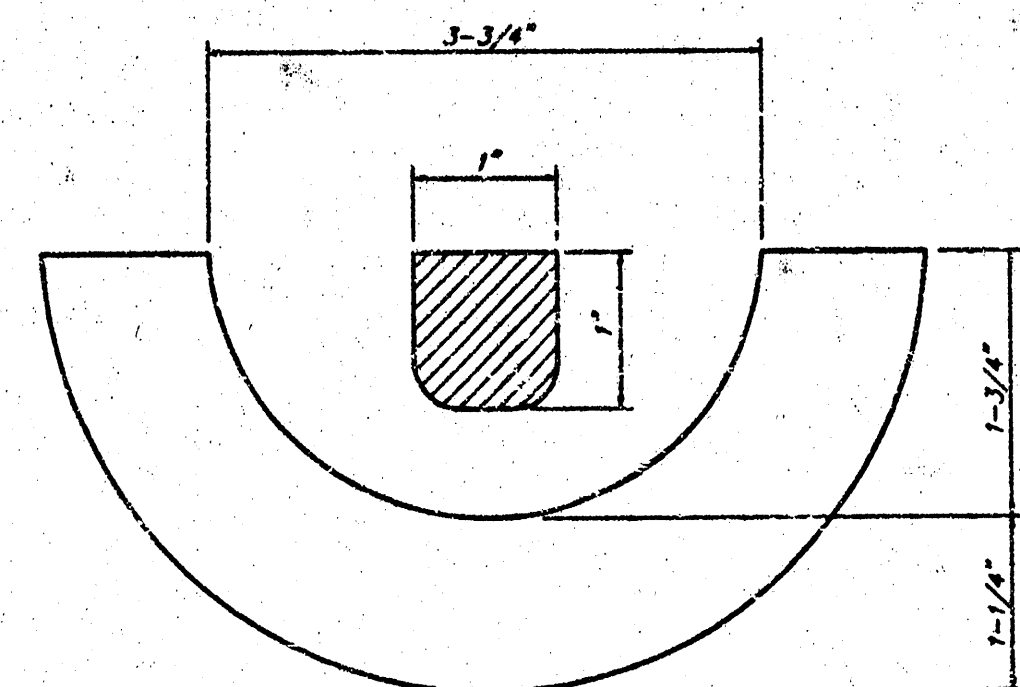
MANHOLE COVER
Weight = 180 Lbs.



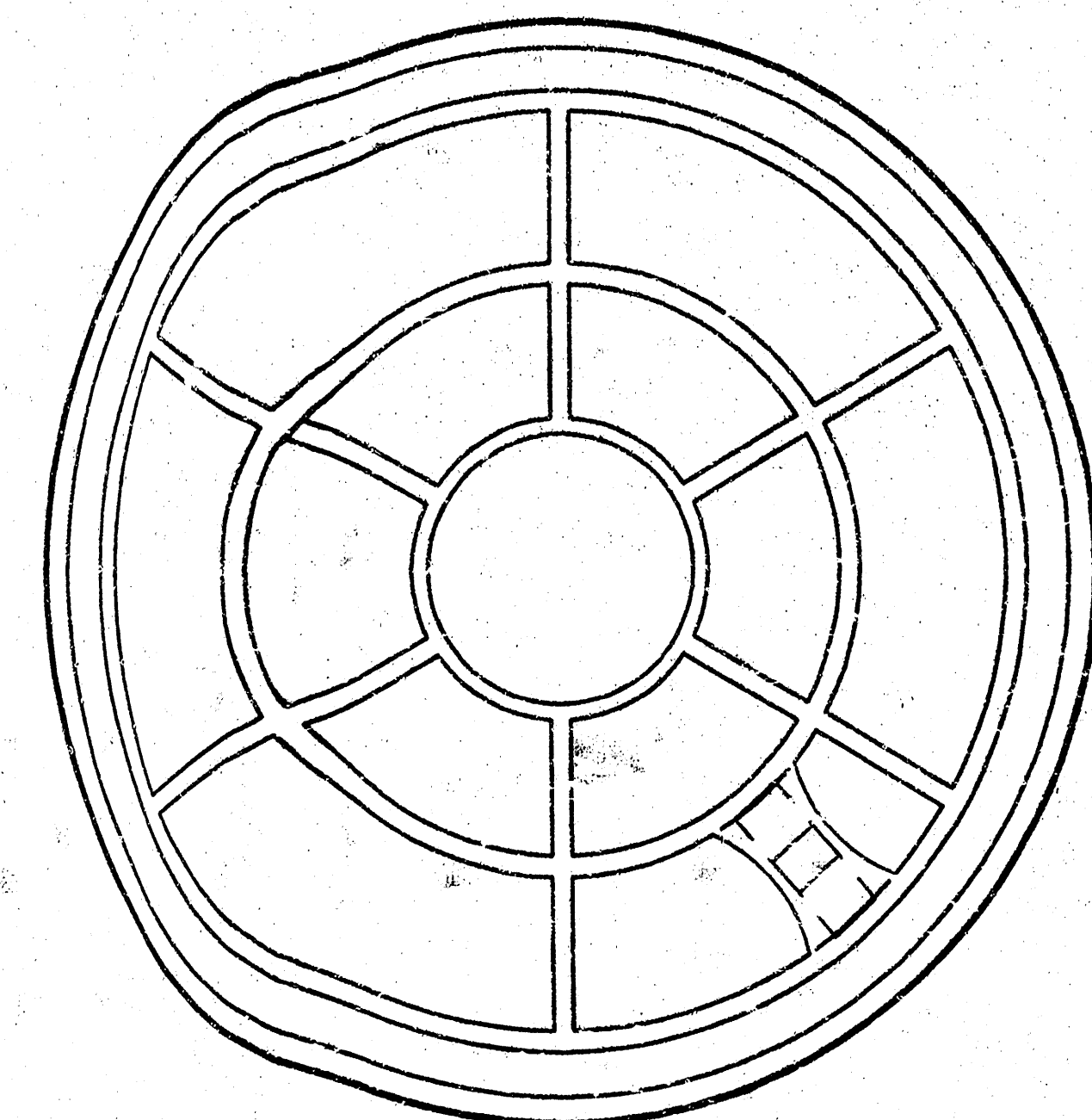
TCP VIEW



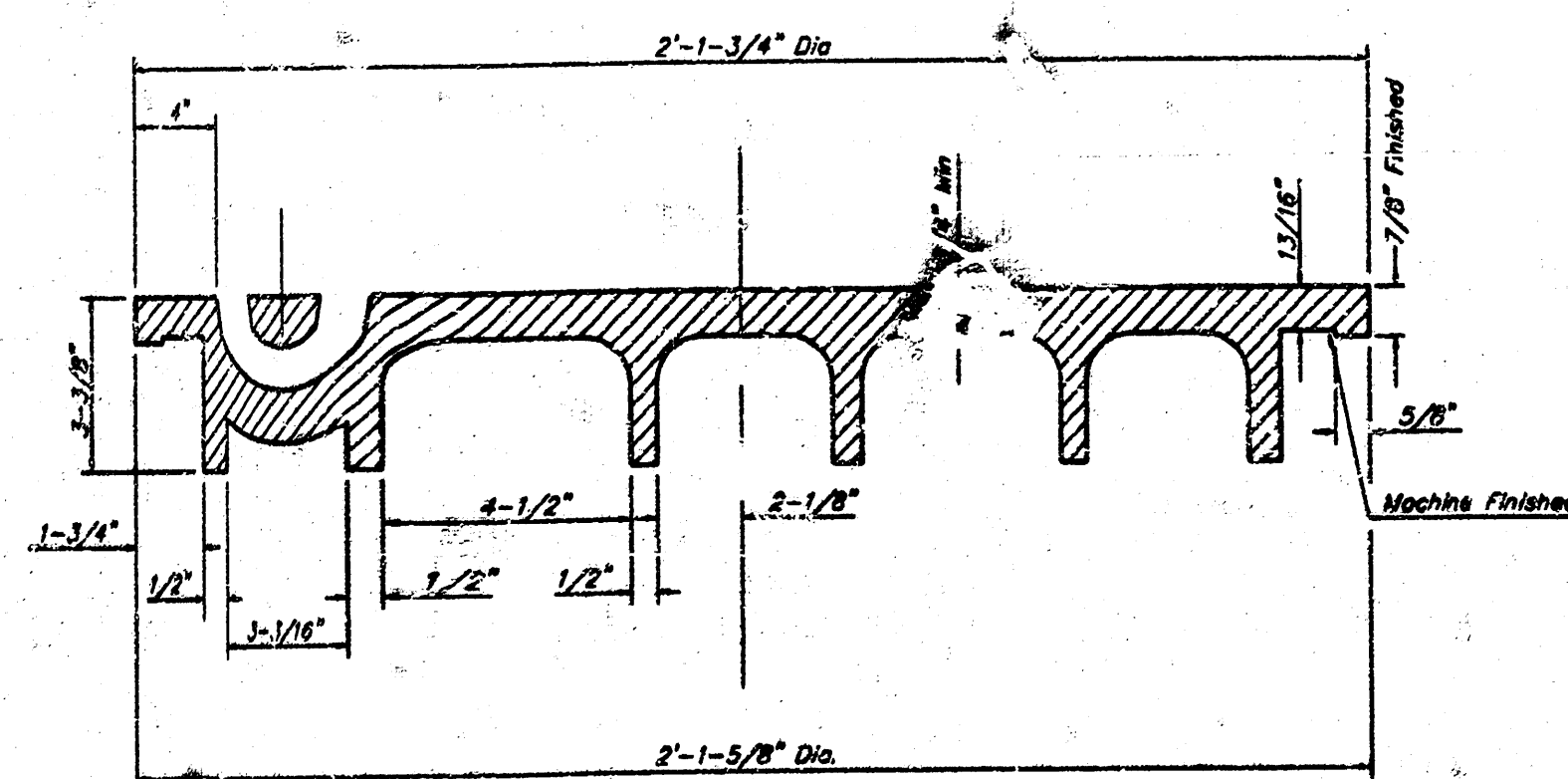
TOP VIEW



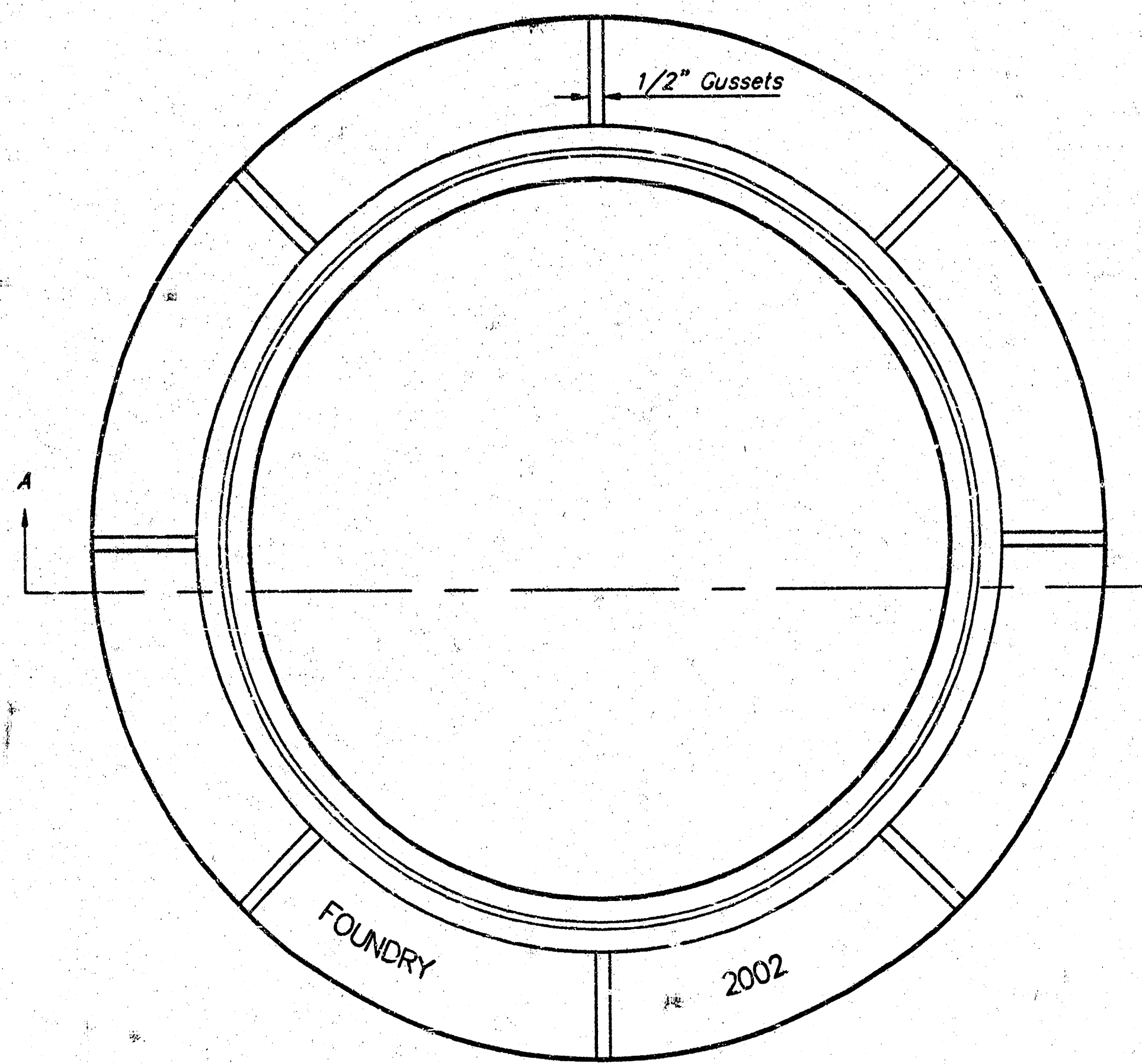
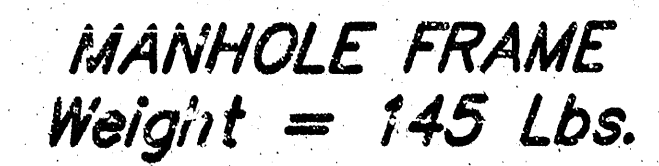
SECTION VIEW



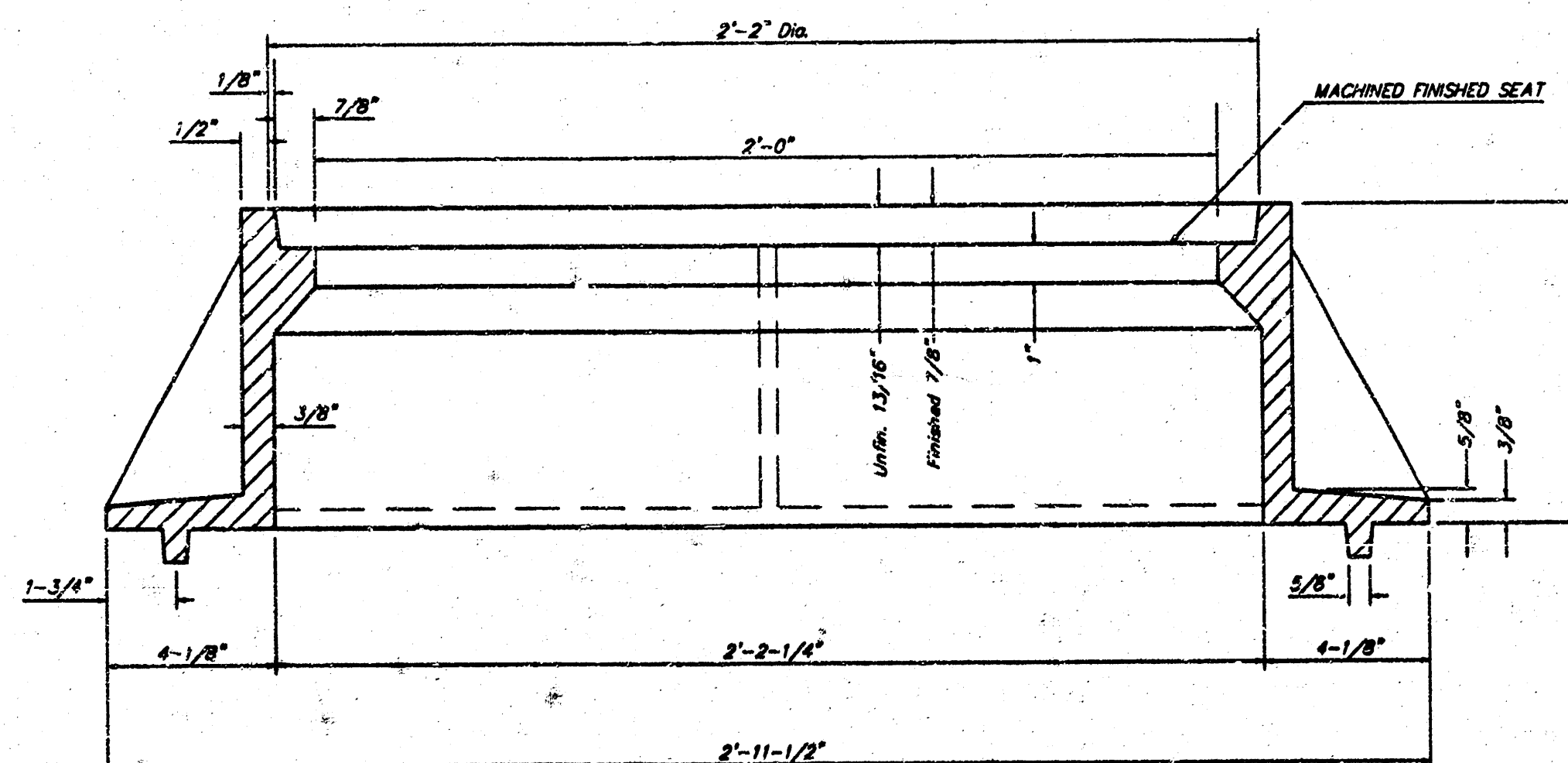
BOTTOM VIEW



SECTION VIEW



TOP VIEW



SECTION A-A

GENERAL NOTES

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.

MANHOLE CASTINGS SHALL BE COATED WITH AN ASPHALT PAINT RESULTING IN A SMOOTH, TOUGH AND TENACIOUS COATING WHICH IS NOT BRITTLE OR TACKY.

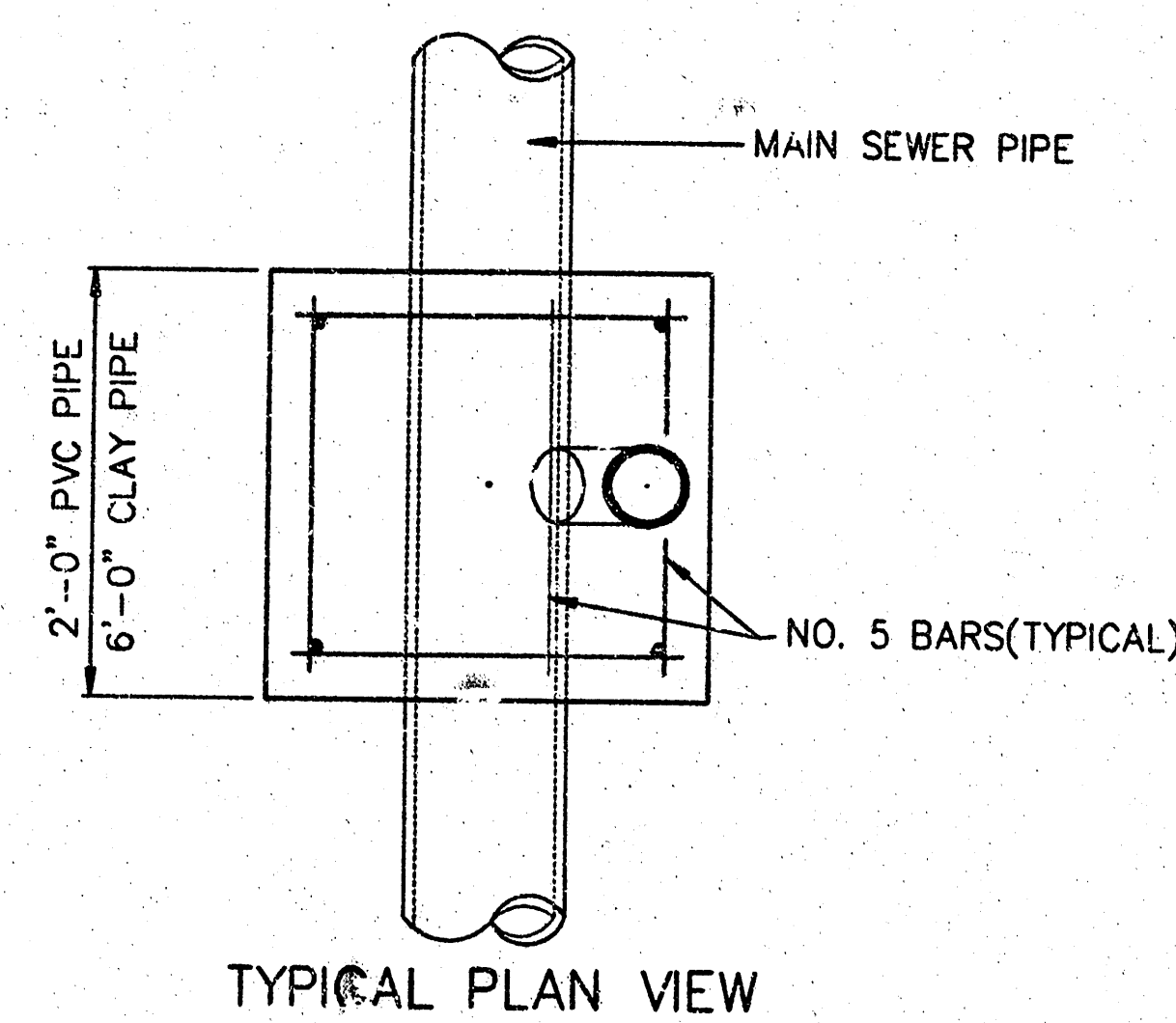
MANHOLE CASTINGS SHALL BE MANUFACTURED SUCH THAT A COVER MANUFACTURED BY ANY ONE
FOUNDRY WILL FIT INTERCHANGEABLY INTO A FRAME MANUFACTURED BY ANOTHER FOUNDRY AND
STILL MEET ALLOWABLE CLEARANCES AND NON-ROCKING REQUIREMENTS. THIS WILL REQUIRE
MANUFACTURING OF THE MATCHING FACES ON THE COVER AND THE FRAME TO CLOSE TOLERANCES.

THE OUTSIDE CIRCUMFERENCE OF THE VERTICAL FACE OF THE COVER AND THE INSIDE CIRCUMFERENCE OF THE VERTICAL FACE OF 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 AS THESE SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUMFERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.

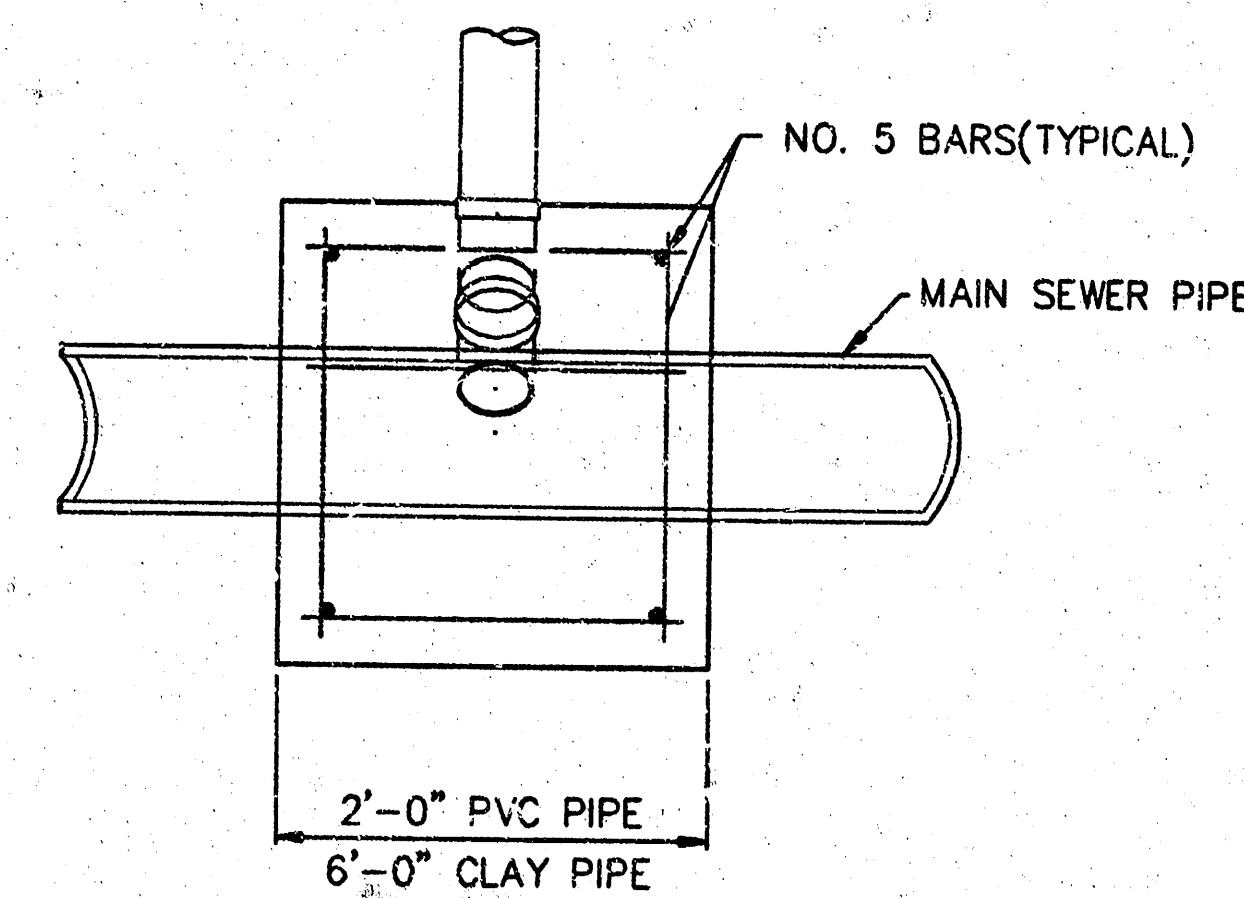
THE MANHOLE FRAME AND COVER SHALL BE MARKED WITH LETTERING INDICATING THE NAME OF THE MANUFACTURER AND THE YEAR WHEN THE COVER OR FRAME WAS CAST. THE COVER SHALL BE FURTHER IDENTIFIED WITH REGARDS TO OWNERSHIP USING LETTERS AT LEAST 1 INCH IN HEIGHT. THIS IDENTIFICATION SHALL BE "CITY OF MICHITA SEWER DEPARTMENT". THE WORD DEPARTMENT MAY BE ABBREVIATED. THE TEXTURE OF THE TOP SURFACE OF THE COVER SHALL MANUFACTURED IN A MANNER THAT IS PAINLESS TO THE HAND AND THE SHOWN 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.

MANHOLE FRAME AND COVER DETAIL				
ADOPTED AS STANDARD DESIGN BY CITY OF WICHITA, KANSAS				
 BAUGHMAN COMPANY P.A. ENGINEERING, SURVEYING, & PLANNING 316-282-7272 • 316-282-7273 • WICHITA, KANSAS 67211 FRO. QUINN				
468-83368				
DESIGN STAFF	DRAWN STAFF	APPROVED	DATE	SCALE NONE

VERTICAL RISER DETAILS ADOPTED AS STANDARD DESIGN BY CITY OF WICHITA, KANSAS OCTOBER 1992



TYPICAL PLAN VIEW

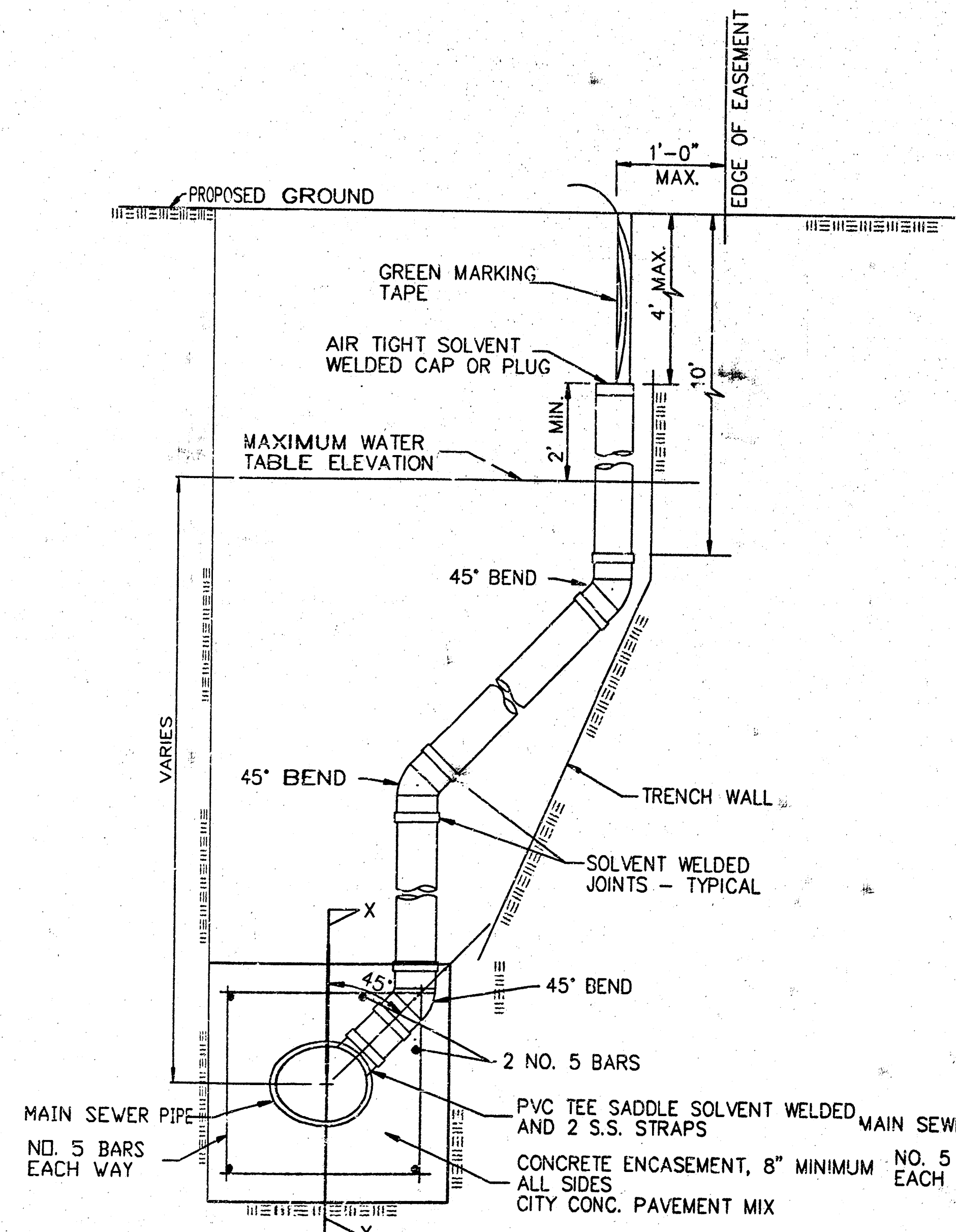


TYPICAL SECTION X-X

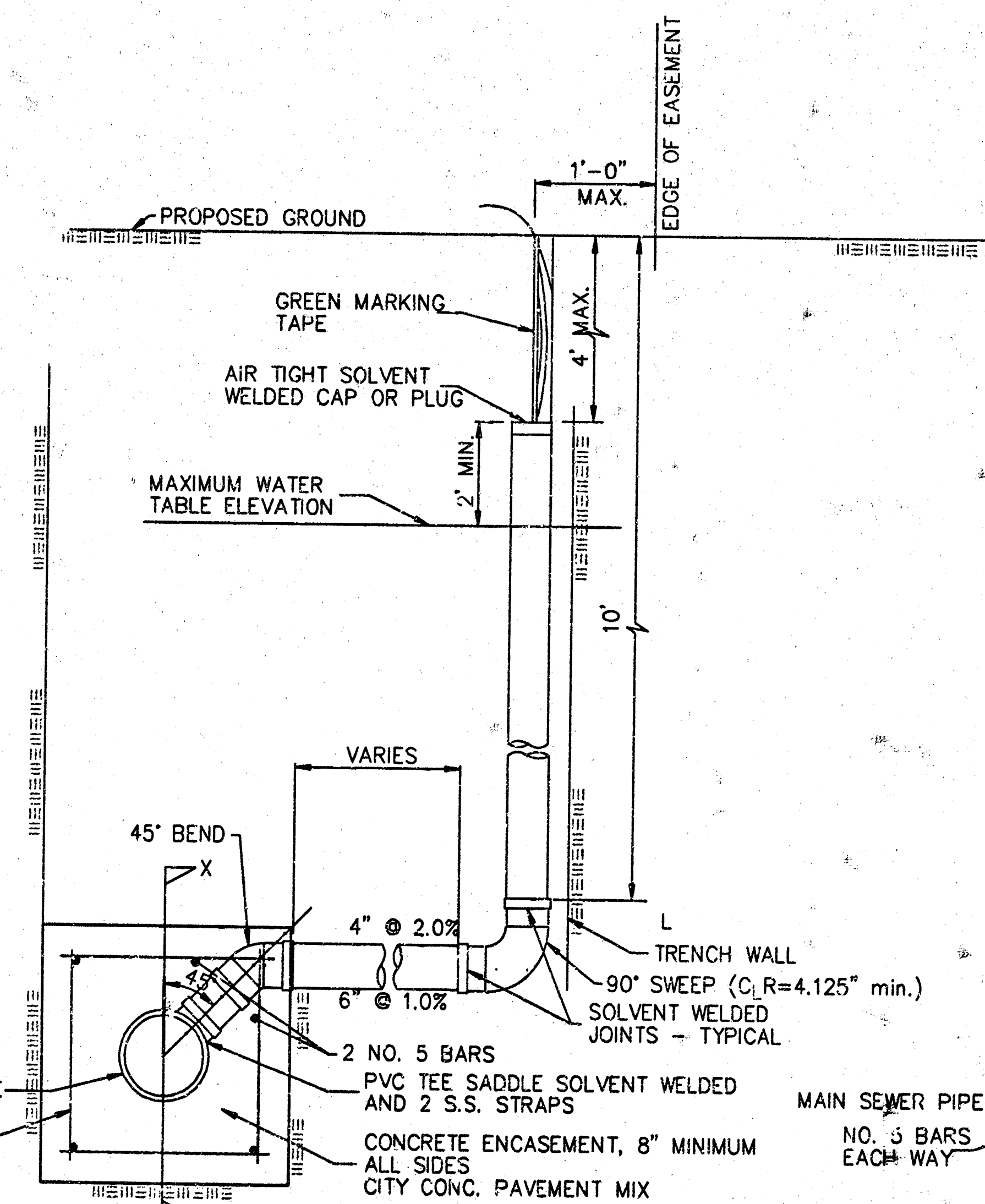
GENERAL NOTES

1. RISERS. Risers shall be installed to serve all lots or tracts where the sanitary sewer main is below the water table. Risers shall also be installed to serve all lots and tracts where the sanitary sewer main depth is greater than 12 feet below the proposed ground elevation. Installation of risers because of field conditions shall be as approved by the Construction Engineer. The location of the risers to serve developed property shall be approved by the property owner and the Construction Engineer.
2. PIPE STUBS. Pipe stubs shall be installed in manholes where locations of manholes will provide satisfactory service connection as determined by the Construction Engineer. The vertical distance between the flowing of the manhole pipe stub and the flowing of the sanitary sewer main out of the manhole shall not exceed 2 feet. Riser stubs shall be utilized at manhole pipe stubs as indicated in Note 1. Manhole pipe stubs shall be set such that the top of the stub is not lower than the top of the sanitary sewer main.
3. SIZING. Pipe stubs and risers shall be sized according to the plans and riser table where risers are indicated by the plans. Where risers or pipe stubs are required because of field conditions, the risers and stubs shall be six-inch diameter for commercial or industrial properties and 4" or 6" diameter for residential properties, based on lot size and sanitary sewer main depth. Sizing of risers and stubs shall be approved by the Construction Engineer prior to installation.
4. RISER OR STUB MATERIAL. Risers and stubs shall be constructed of Schedule 40 PVC Pipe, meeting the requirements of the latest revision of A.S.T.M. All pipe joints shall be solvent welded.
5. REINFORCED CONCRETE ENCASEMENT. Riser connections to clay pipe sanitary sewers shall be reinforced concrete encased both ways from the riser centerline. The reinforced concrete encasement shall extend three feet from the riser centerline or stop at the first sanitary sewer pipe joint within three feet of the riser centerline. Riser connections to PVC Sanitary Sewer mains shall be reinforced concrete encased one foot each way from the riser centerline. The concrete encasement shall be reinforced using reinforcing steel as shown in the appropriate drawing. The concrete shall conform to the City Standard Specifications for concrete pavement.
6. BEDDING. Bedding around the sanitary sewer riser shall be compacted Pipe Bedding Type 1 or 2. The bedding shall be placed and compacted from the depth of the sanitary sewer main to the top of the sanitary sewer riser pipe. Compacted Pipe Bedding Type 1 or 2 shall be required for all risers whether constructed in vertical wall or sloped wall trenches. Bedding material and construction practices shall be approved by the Construction Engineer prior to installation.
7. SUPPORT OF RISERS. Sanitary sewer riser pipe shall be supported during trench backfill. The riser pipe shall be held in a vertical position at all times until trench backfill and compaction has been completed. Contractor's methods for supporting and backfilling the riser pipe shall be approved by the Construction Engineer.
8. PLUGGING. The ends of the riser pipes and manhole stubs shall be plugged using an airtight solvent welded cap or plug. Cap or plug fittings shall be approved by the Construction Engineer prior to installation. Caps or plugs which do not provide an airtight seal will not be accepted.
9. TOP OF THE RISER PIPE. The top elevation of the sanitary sewer riser pipe shall be built per plan elevations, unless otherwise directed by the Construction Engineer. Where riser elevations are not shown on the plans, the top of the risers shall be set at an elevation four feet below the proposed ground surface. If ground water is encountered, the top of the riser pipe shall be set at an elevation two feet (min.) above the maximum water table elevation, regardless of the riser elevation shown on the plans.
10. MARKING. Locations of the ends of the sanitary sewer riser pipe shall be marked by fastening green colored plastic tape to the riser pipe. The tape shall be supported by a wooden 2 x 4, extending from the top of the riser pipe to the proposed ground surface. The green tape shall be visible and extend one foot above the proposed ground surface. The green tape shall be 4 mil Polyethylene film with a minimum width of three inches, specifically manufactured for the purpose of identification of underground sewers.
11. LOCATION MEASURES. The project inspector shall record and document the location of all risers constructed as measured from the nearest manhole, indicating the direction from the manhole, the direction and distance from the main, riser size, and elevation of the top of the riser.
12. RISER LOCATION. The riser shall be located per plan if shown. If not shown on the plan, the riser shall be located at the center of the lot, within one foot of the property side of the easement for the lot being served. All riser locations shall be approved by the Construction Engineer prior to installation.
13. PAYMENT. "Sanitary sewer risers" shall be paid for at the contract unit price per each, which price shall be full compensation for all pipe, fittings, marking tape, length of wooden 2 x 4, reinforced concrete encasement, support during backfill, backfill, labor, site restoration, and any other items necessary to complete the work.

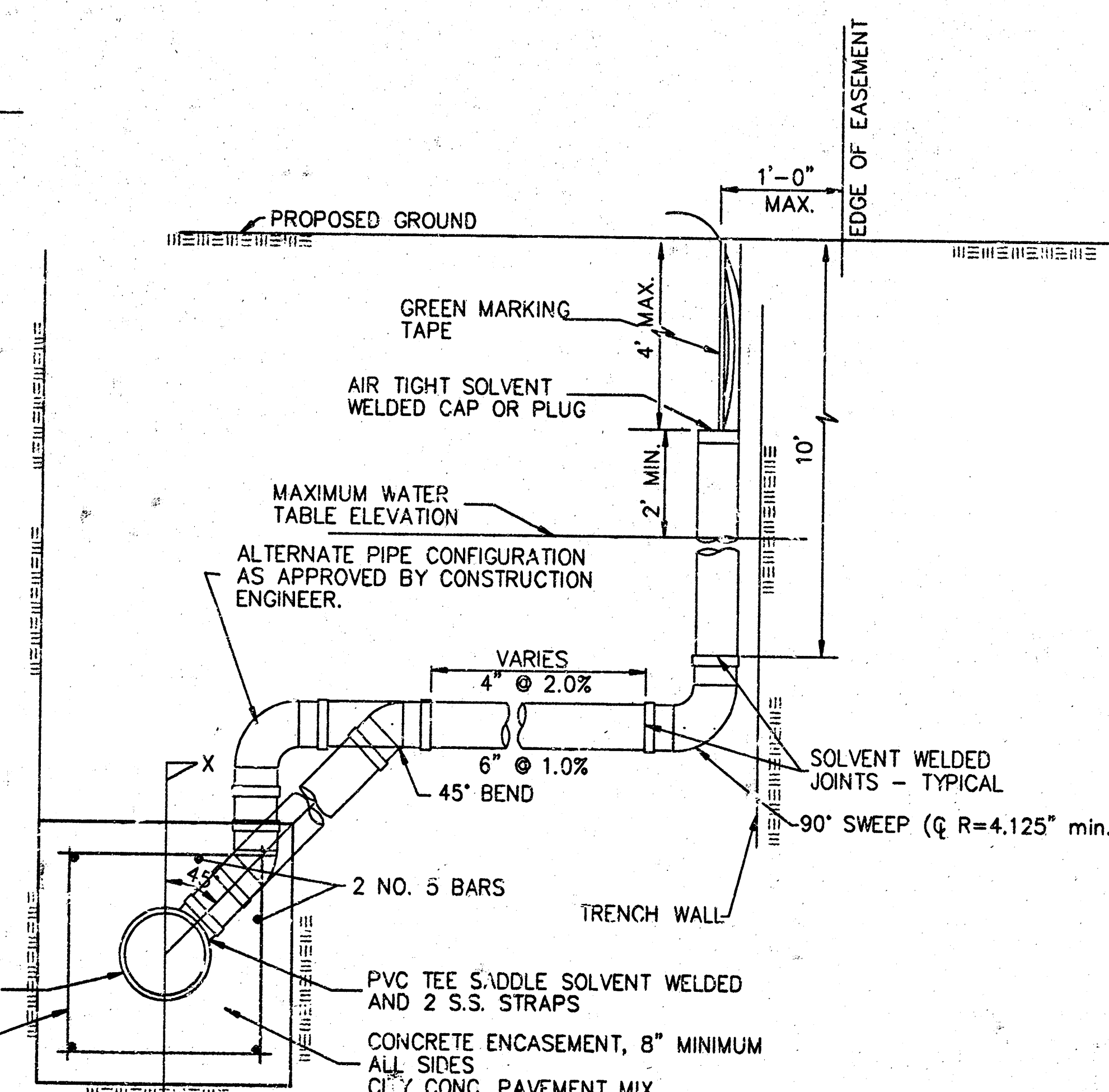
"Manhole stubs" shall be paid for at the contract unit price per each, which shall be full compensation for all labor, material, and incidentals necessary to complete the work, including all pipe, fittings, reinforced concrete encasement, and all other items as required and listed for "Sanitary Sewer Risers".



METHOD "A"



METHOD "B"



METHOD "C"

NOTE: RISER PIPE REQUIREMENTS AT MANHOLE STUBS SHALL BE SIMILAR TO THOSE SHOWN ABOVE.

City of Wichita Standard			
Riser Details			
BAUGHMAN COMPANY P.A.			
ENGINEERING, SURVEYING, & PLANNING			
318-282-7271 • 315 ELLIS • WICHITA, KANSAS 67211			
PROJECT NUMBER	408-8-385	SHEET	10
DESIGN	Staff	DRAWN	Staff
APPROVED	DATE	SCALE	NONE

RIDGE PORT COMMERCIAL PARK WICHITA, SEDGWICK COUNTY, KANSAS

State of Kansas) SS We, Baughman Company, P.A., Surveyors in
Sedgwick County) and state do hereby certify that we have surveyed
and plotted "RIDGE PORT COMMERCIAL PARK", Wichita, Sedgwick County,
Kansas, and that the accompanying plot is a true and correct exhibit
of the property surveyed, described as and being a portion of Lots 1,
2, 3, 4, 5, and 6, inclusive, Block A, Ridge Port 2nd Addition, Wichita,
Sedgwick County, Kansas, TOGETHER with that part of the SE 1/4 of
Sec. 33, Twp. 26-S, R-1-W of the 6th P.M., Sedgwick County, Kansas
lying northerly and northeasterly of Ridge Port 2nd Addition, Wichita,
Sedgwick County, Kansas.

Existing public easements and dedications
being vacated by virtue of K.S.A. 12-512(o).

Baughman Company, P.A.

Michael G. Conrey, Surveyor
LA 281-1-2002

This plot of "RIDGE PORT COMMERCIAL PARK",
Wichita, Sedgwick County, Kansas has been submitted to and approved
by the Wichita-Sedgwick County Metropolitan Area Planning Commission,
Wichita, Kansas.

Dated this _____ day of _____, 2002.
Wichita-Sedgwick County Metropolitan Area Planning Commission

J. D. Michaelis, Chair

Marvin S. Krout, Secretary

This plot approved and all dedications
shown hereon accepted by the City Council of the City of Wichita,
Kansas, this _____ day of _____, 2002.

At the direction of the City Council

Chris Charches, City Manager

Pat Burnett, City Clerk

Reviewed in accordance with K.S.A. 58-2005
on this _____ day of _____, 2002.

Tricia L. Rabella, L.S. #1246
Deputy County Surveyor
Sedgwick County, Kansas

Entered on transfer record this _____ day
of _____, 2002.

Don Brace, County Clerk

State of Kansas) SS The foregoing instrument acknowledged before
me, this _____ day of _____, 2002, by My W. Russell, Member of
RRGNL, L.L.C., on behalf of the limited liability company.

JUDITH M. TERHUNE
Notary Public
My App'l. Exp. 11-7-2006

We the undersigned holders of a mortgage on the
above described property, do hereby consent to this plot of "RIDGE PORT
COMMERCIAL PARK", Wichita, Sedgwick County, Kansas.

Conway Bank f/a The First National Bank
Chris A. Anderson, Sec. P

State of Kansas) SS This is to certify that this plot has been
Sedgwick County) filed for record in the office of the Register of Deeds, this _____ day
of _____, 2002 at _____ o'clock _____ M., and is duly recorded.

Bill Meek, Register of Deeds

Linda Kizore, Deputy

State of Kansas) SS The foregoing instrument acknowledged be-
fore me, this _____ day of _____, 2002, by _____, _____
of Conway Bank f/a The First National Bank, on
behalf of the bank.

JUDITH M. TERHUNE
Notary Public
My App'l. Exp. 11-7-2006

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
311-285-7271 • 311-285-7271 • WICHITA, KANSAS 67211
P. LEAHY/BAUGHMAN COMPANY P.A. 10/10/02

- = 64' Diameter of "Shoreline" (in feet)
- = 64' Diameter of "Shoreline" (in feet)
- = 1/2" from 1/2" (in feet)
- = 1/2" from 1/2" (in feet)
- = 1/2" from 1/2" (in feet)

(M) = Measured
(P) = Plotted
(C-P) = Calculated per
Plotted info.

Lot	Block	Direction
1-13	A	City Datum 1010
1-13	B	City Datum 1010

NOTE:
No building permits are to be issued for Lot 1, Block A, in
"RIDGE PORT COMMERCIAL PARK" until the lowest flood
can be constructed at or above the Base Flood Elevation
or unless the City of Wichita has received a Letter
of Map Amendment from the Federal Emergency Management
Agency, which will then also allow the construction
of the lowest opening to specific area.

BENCHMARK:
City Datum - SW Corner of Ridge Port 2nd
Addition, 2nd Street North,
0.00' S. & 63.7' W. of 6th St.
Elev. = 1331.15 City Datum (1331.15 NGVD)

"13" cut on SE Corner of Ridge Port 2nd
Addition, 2nd Street North & Ridge Port 2nd
Elev. = 143.02 City Datum (143.02 NGVD)

NOTE:
A drainage plan has been drawn for the subdivision and is
on file with the City of Wichita. Drainage Arterial shall
remain as depicted or as modified with the approval of the
City Engineer of the City of Wichita. No subdivisions
which impede the flow of the drainage plan shall be allowed.

14-08-03-11

14-08-03-11