

SANITARY SEWER IMPROVEMENTS

SS #23

LATERAL 142, MAIN 4

PROJ. NO. 468-83603

OCA NO. 743983

CITY OF WICHITA, KANSAS

NEIL D. CABLE P.E. - CITY ENGINEER

1. Utility service lines, poles, valve boxes, meters, etc. 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. If the Contractor will be required to work around existing utilities within the right-of-way which do not conflict with proposed construction.

2. 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
Southwestern Bell Telephone	1-316-571-2611
Cox Communications	262-4270 or 263-2061
Kansas Gas Service	832-3168
KGE Electric	264-1141
Peoples Natural Gas	942-8811
City of Wichita Water Department	268-4908
City of Wichita Sewer Department	268-4071

3. The Contractor shall be responsible for preserving property irons. The Contractor will be required to reestablish any property irons which are damaged or destroyed by his construction operations. Such irons shall be reestablished by a licensed land surveyor or a licensed professional engineer in accordance with state laws.

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

5. The Contractor must examine the construction site prior to bidding and be satisfied as to the work shown for completion. After bids have been received, the Contractor shall not assert that there was a misunderstanding of the quantities of work or of the nature of the work to be completed.

6. All construction and materials, unless otherwise noted, to comply with City of Wichita specifications and standards.

7. Any fence removed for construction shall be repaired in a condition equal to, or better than original, at no additional cost to the owner. This cost shall be considered subsidiary to other bid items.

3. **Rubble Removal** - Rubble from the removal of miscellaneous structures or 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, and site location. Locations that, 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 will require a Kansas State Board of Agriculture permit. Any material dumped in waters of the United States or wetlands is subject to US Corps of Engineers permitting regulations. Any material buried or stockpiled beyond approved subsidence limits without additional geotechnical investigation unless buried in a previously approved borrow location. The cost of disposing of rubble from the removal of miscellaneous structures and excess excavation, including loading and hauling shall be subsidiary to the other bid items.

9. 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. This cost is subsidiary to other bid items.

10. Properties within the project may have underground irrigation systems (awn sprinklers) which conflict with new construction. The Contractor shall remove such components as needed during construction of the project. The irrigation system shall be reinstalled in like kind before project completion. Any irrigation system modifications required because of project improvements shall be coordinated with the property owner. Portions of underground irrigation systems not in conflict with new construction shall be placed in a fireproof safe and remain in place. All work related to underground irrigation/sprinklers shall be subsidiary to site clearing and restoration.

11. Railroad ties and yard decorations within the limits of this project are to be stockpiled for their owner. This cost is subsidiary to the site clearing and restoration bid item.

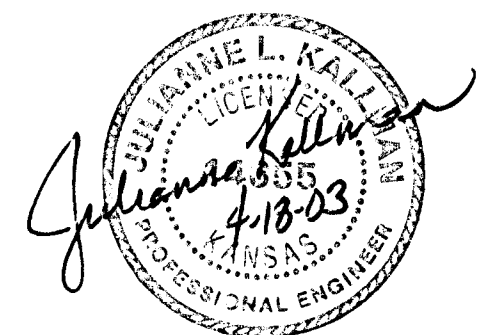
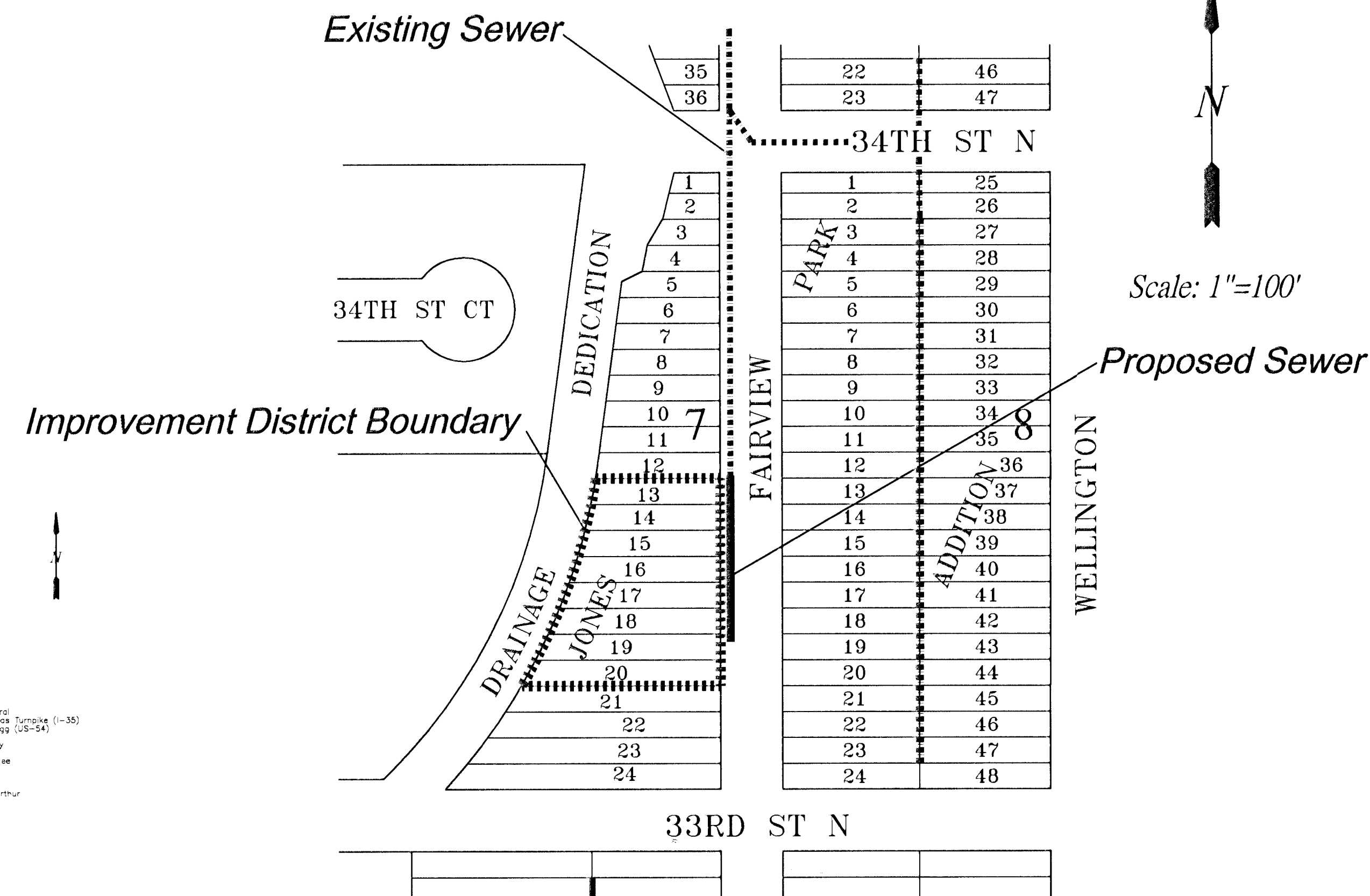
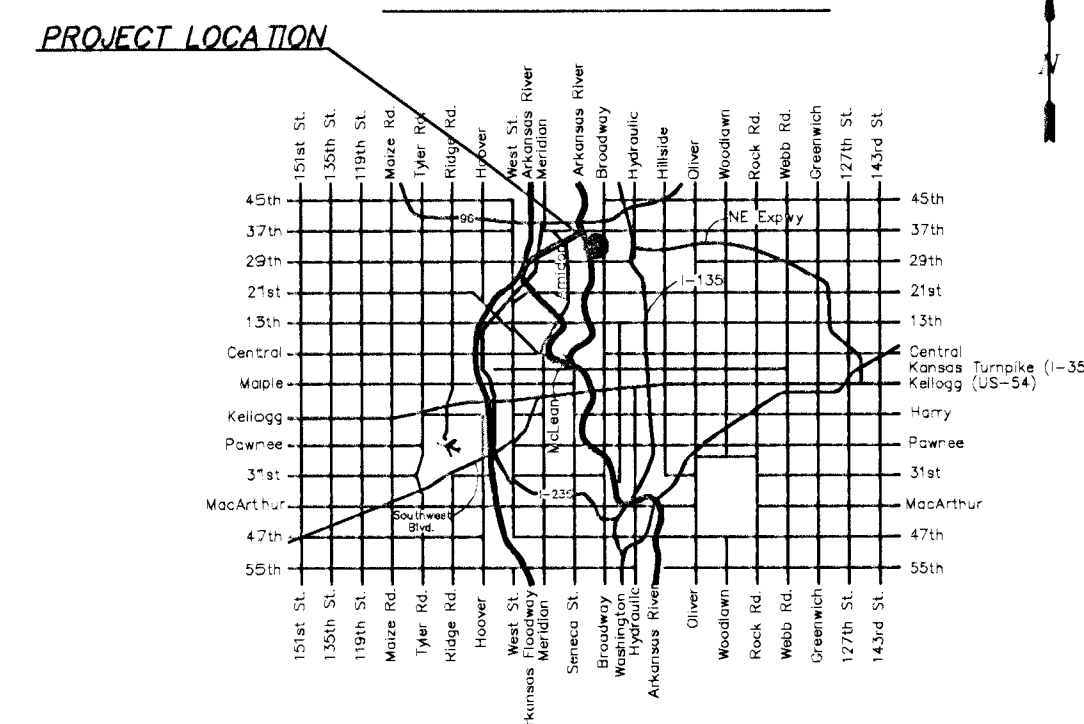
12. In undeveloped areas, the street right-of-way shall be seeded with temporary Rye grass at a rate of 300 lbs/acre. Seeding in developed areas shall conform to the City's policy AR-78.

13. 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.

INDEX OF SHEETS

SHEET 1 - TITLE SHEET
SHEET 2 - LINE 1
SHEETS 3 & 4 - Manhole Details

VICINITY MAP



AS BUILT
RDL
12/9/03
PDF



LATERAL 142
MAIN 4
SS #23

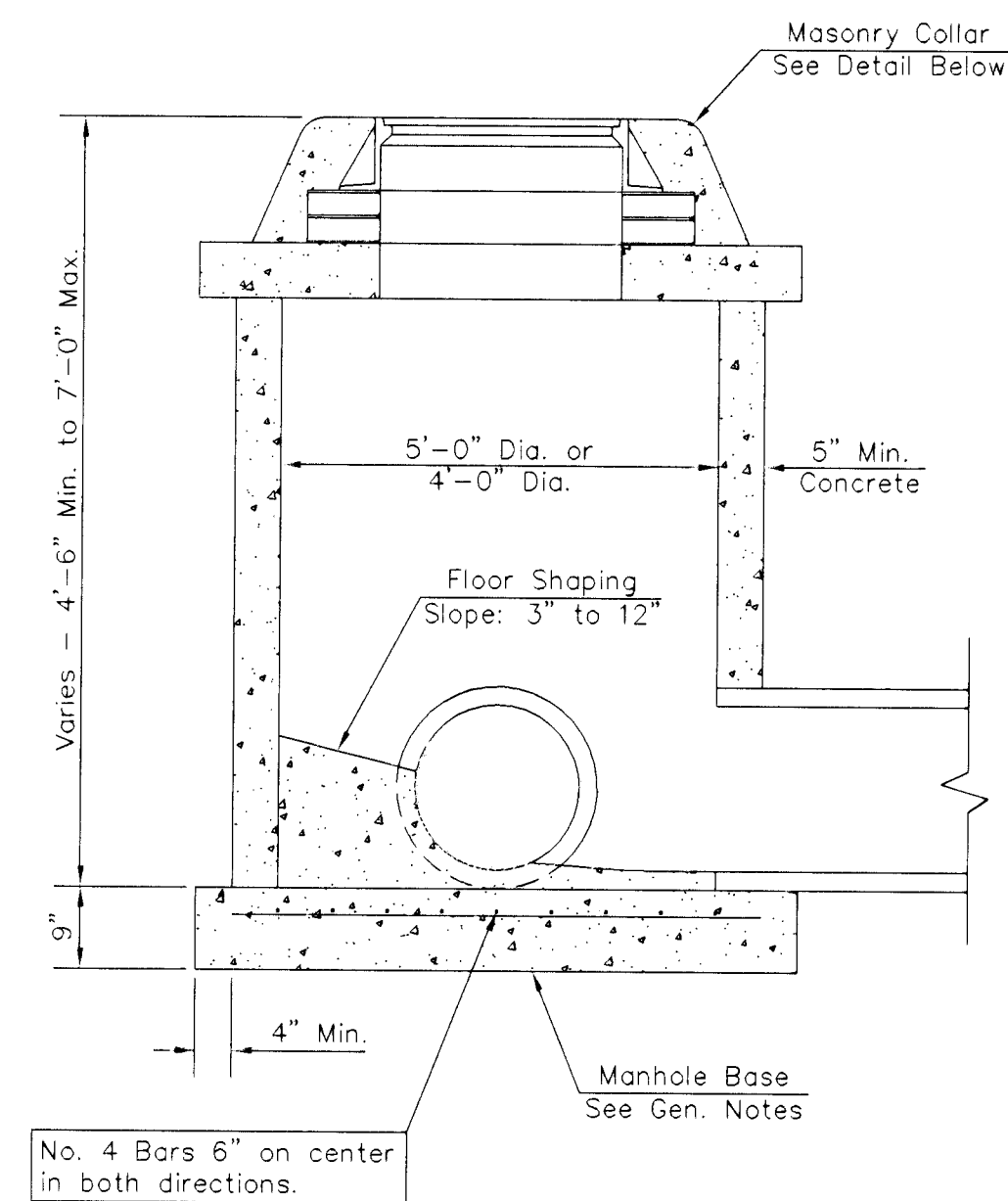
CITY ENGINEER

NEIL D. CABLE, P.E.

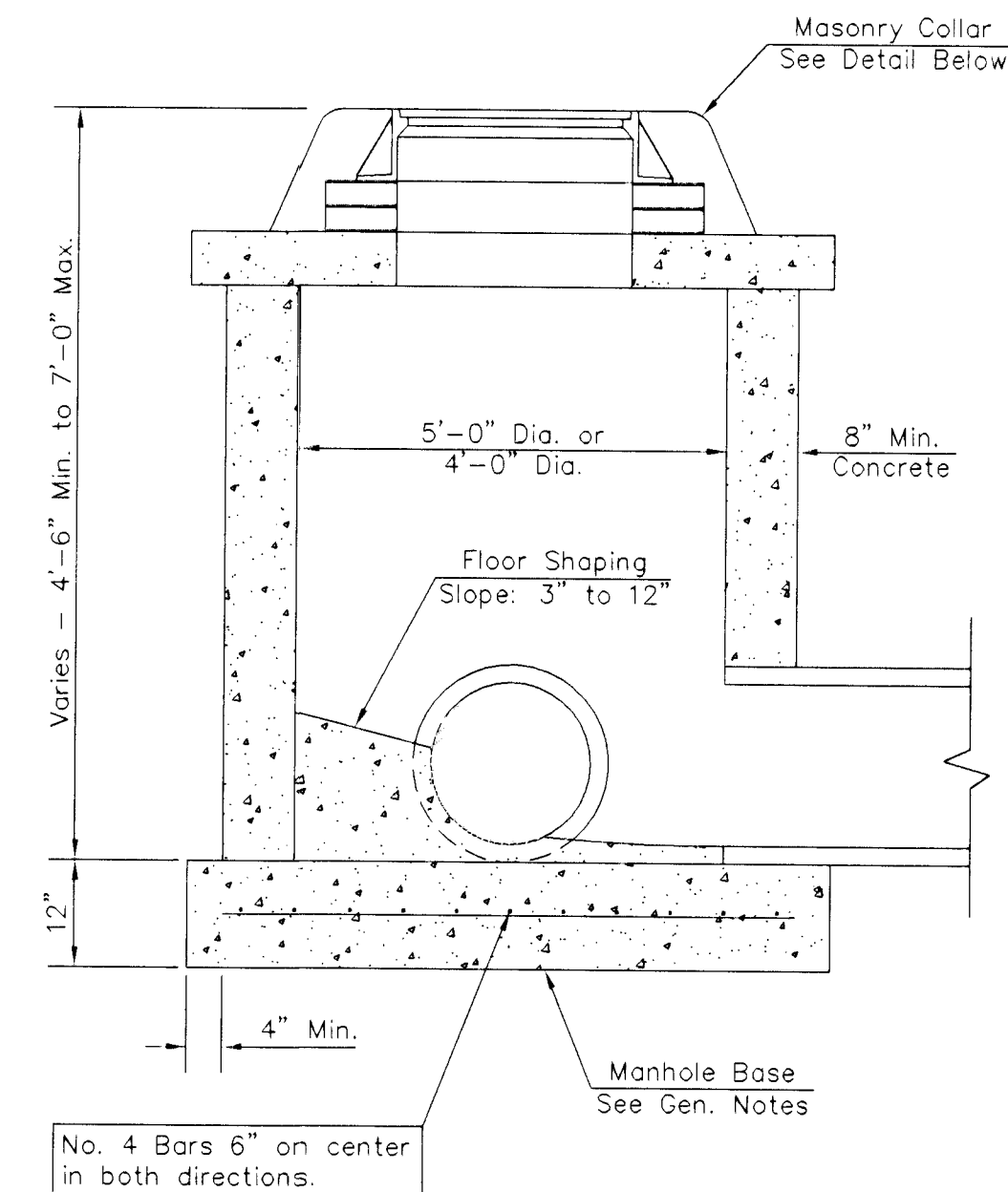
PROJECT NUMBER	OCA NUMBER	DATE
468-83603	743983	04/03

CITY ENGINEER'S OFFICE
CITY HALL - SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202-1620
(316) 268-4501
(316) 268-4114 FAX

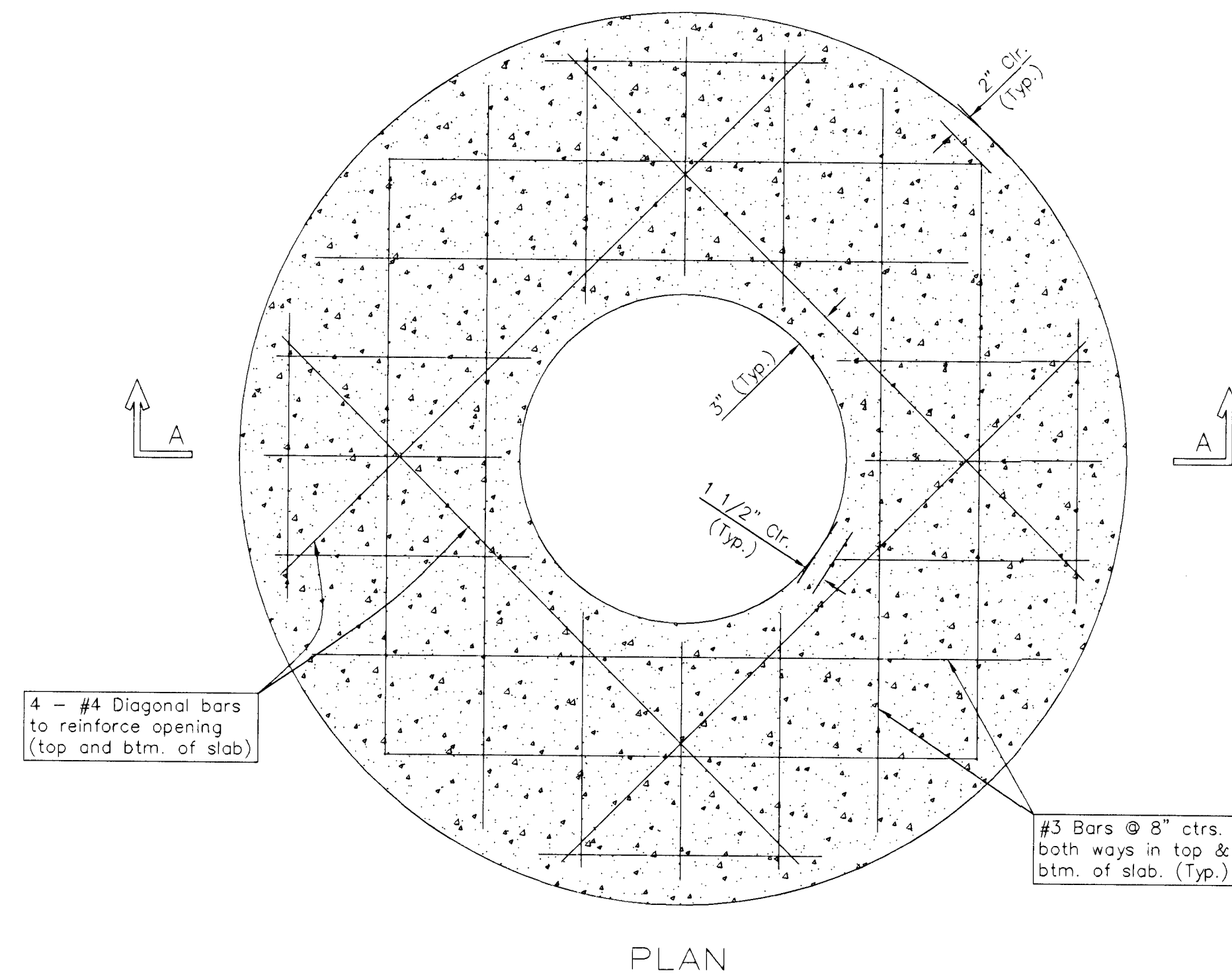
DESIGN	DRAWN
A	DA
SHEET	
OF 4	



SHALLOW TYPE "P" MANHOLE



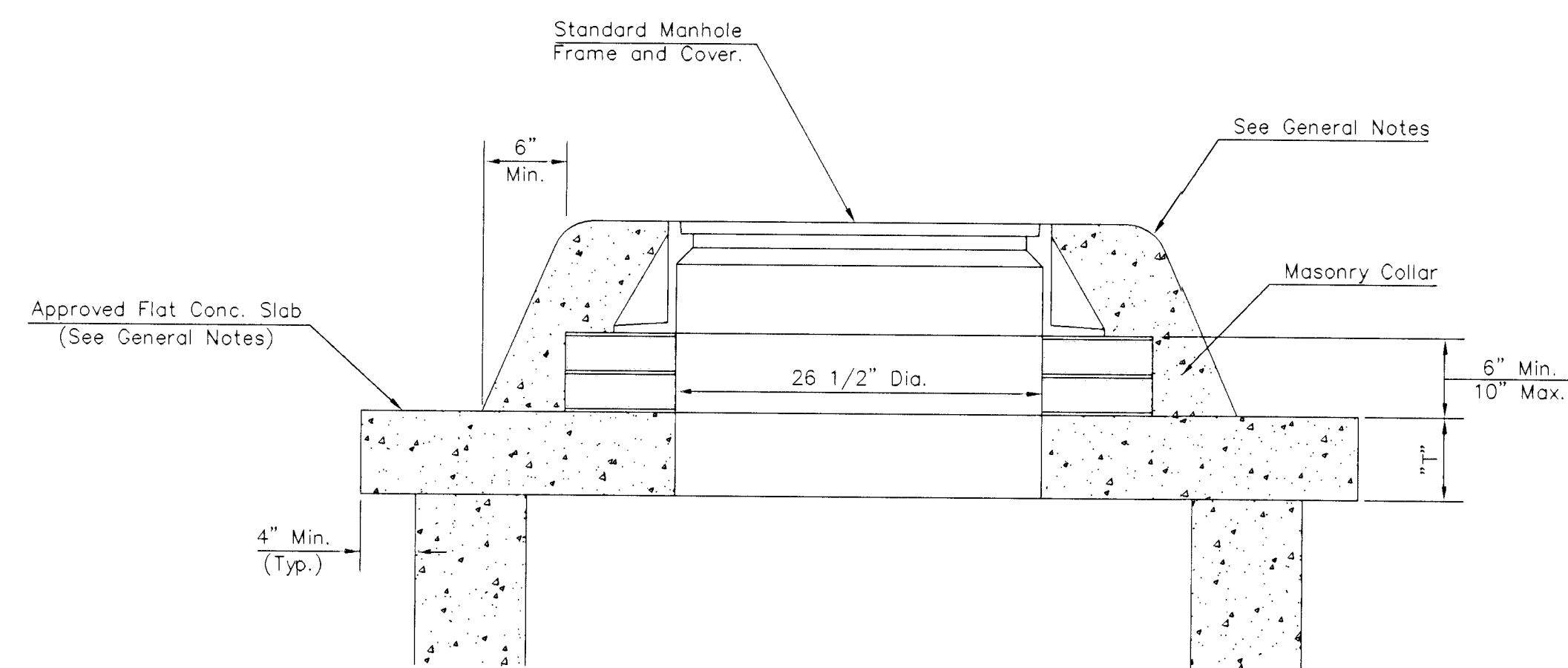
SHALLOW TYPE "C" MANHOLE



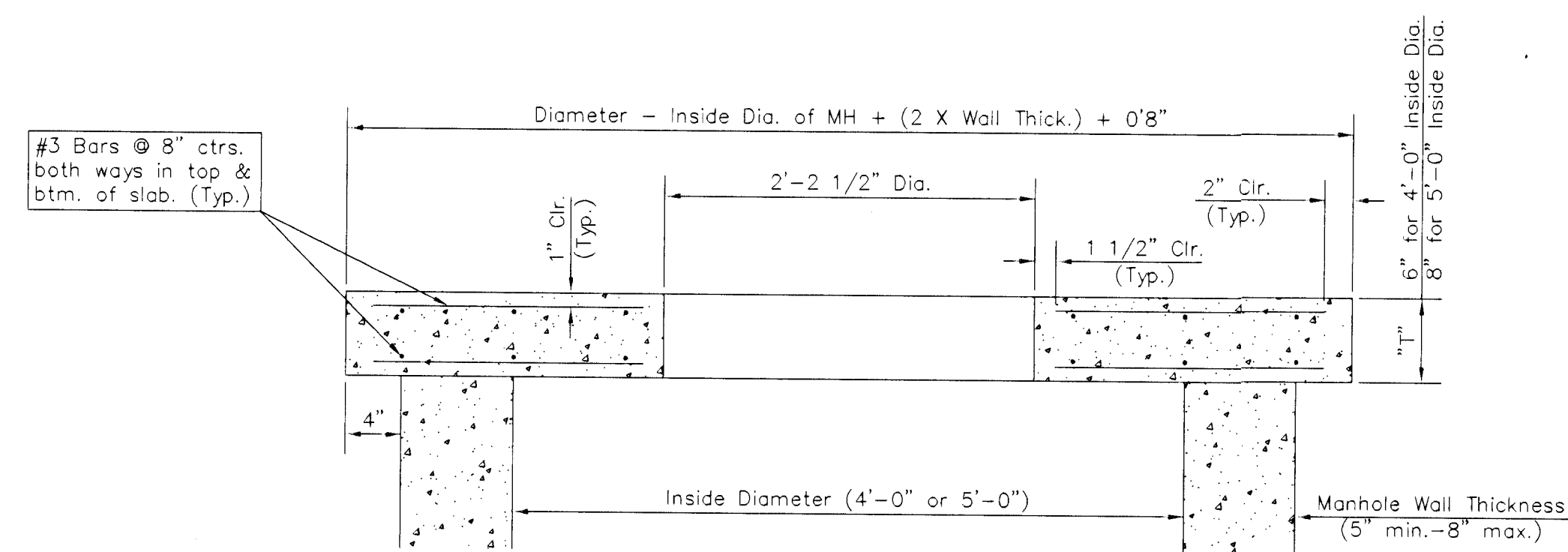
PLAN

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. 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 "P" and "C" shall be paid for at the unit price bid per each for the type and diameter indicated. All standard shallow manhole diameters will be 4' unless indicated otherwise.
8. All brick used in manhole construction shall meet Grade SW of ASTM C652 or C62-87.



MASONRY COLLAR DETAIL

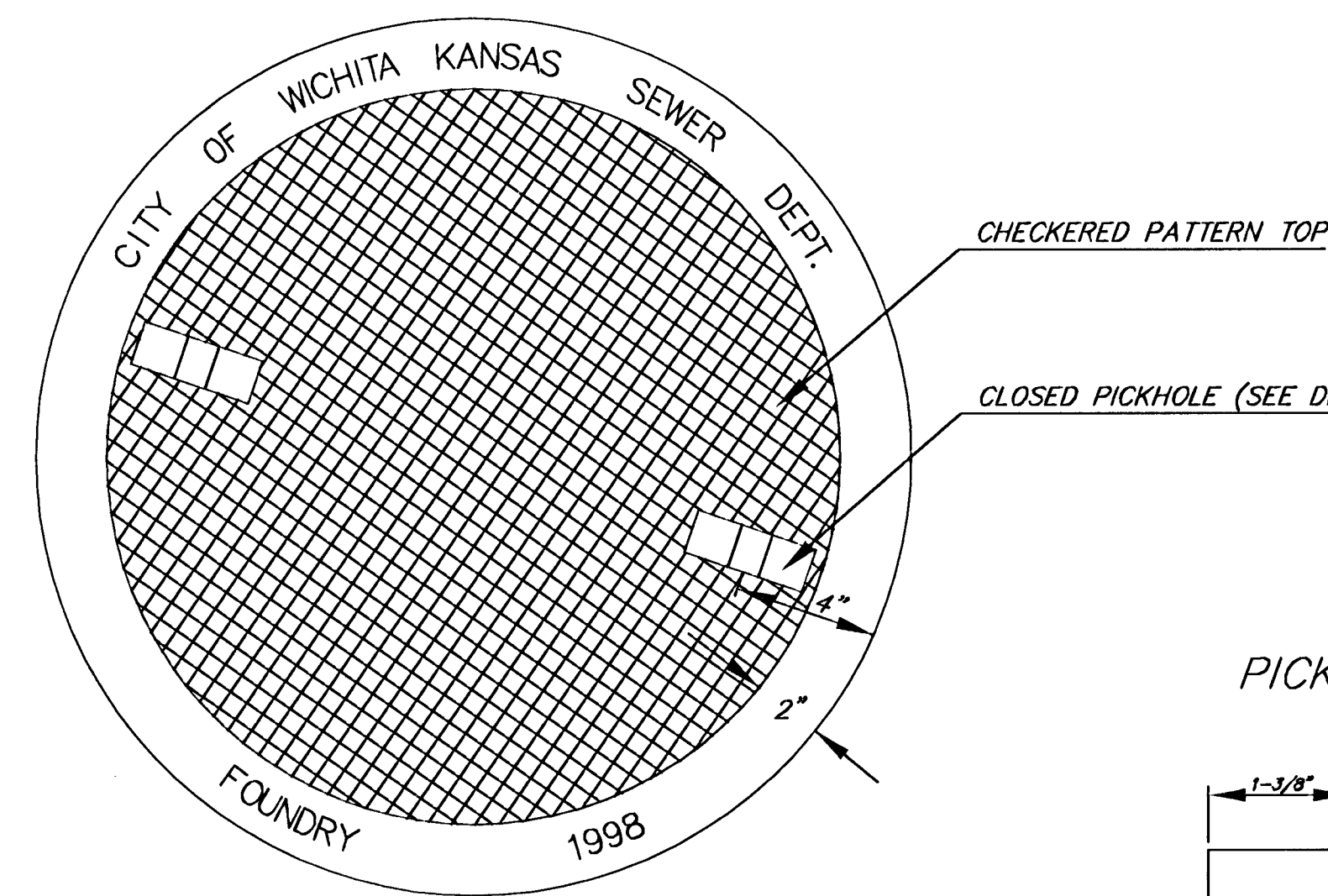


SECTION A-A

FLAT CONCRETE SLAB DETAILS

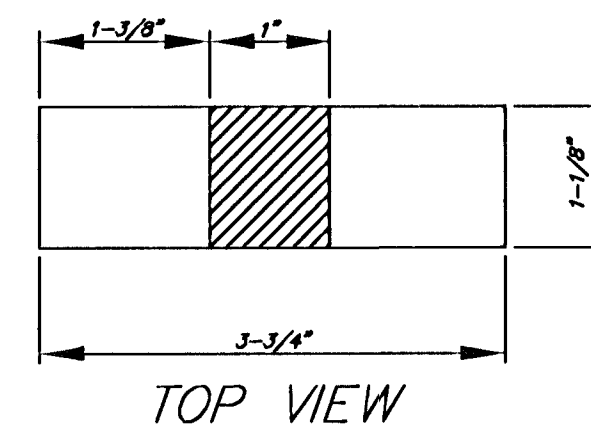
THE CITY OF WICHITA CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202 (316) 268-4501 (316) 268-4114 FAX	SHALLOW MANHOLES	
	TYPE 'P' & 'C'	
	NEIL D. CABLE, P.E. - CITY ENGINEER	
	PROJECT NUMBER	INDEX CODE
	468-83603	743983
DATE	SHEET 3 OF 4	
MAR 96		

MANHOLE COVER
Weight = 180 Lbs.

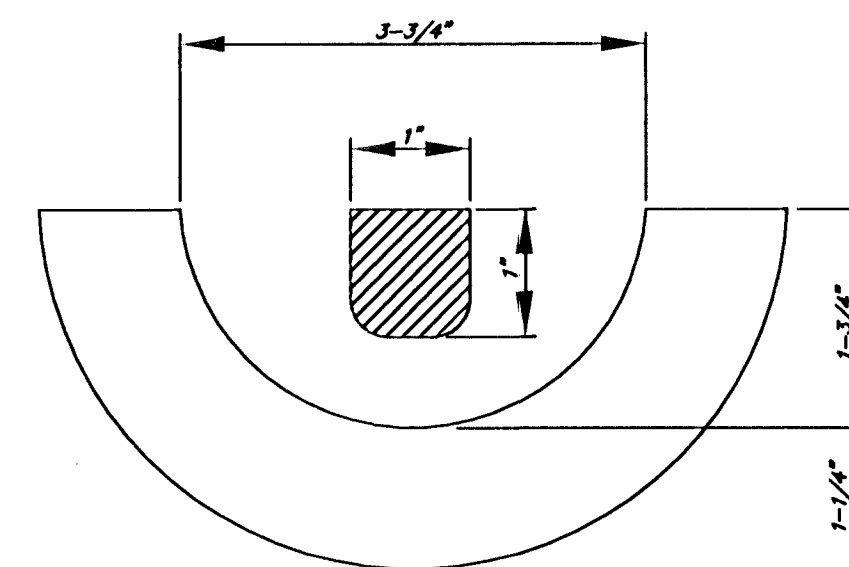


TOP VIEW

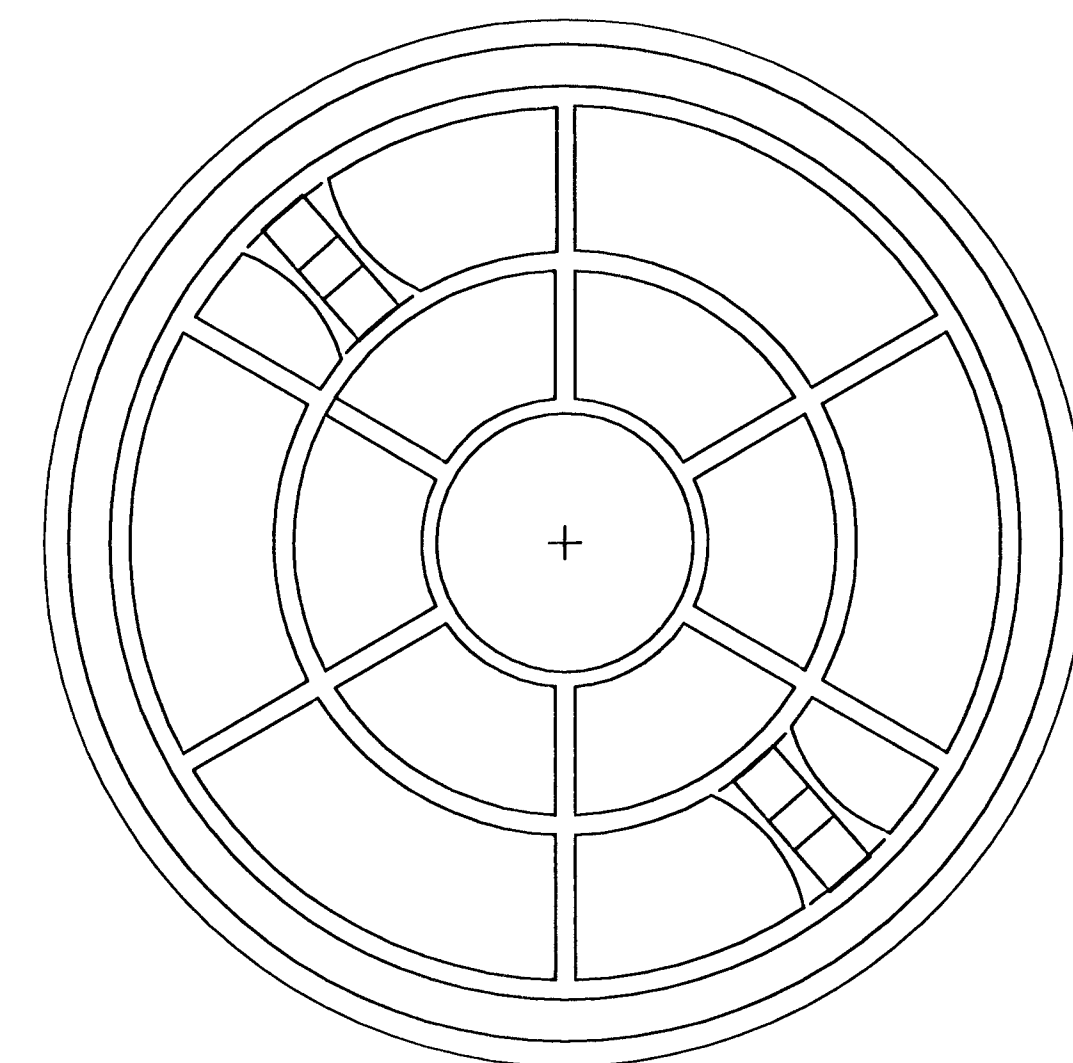
PICKHOLE DETAIL



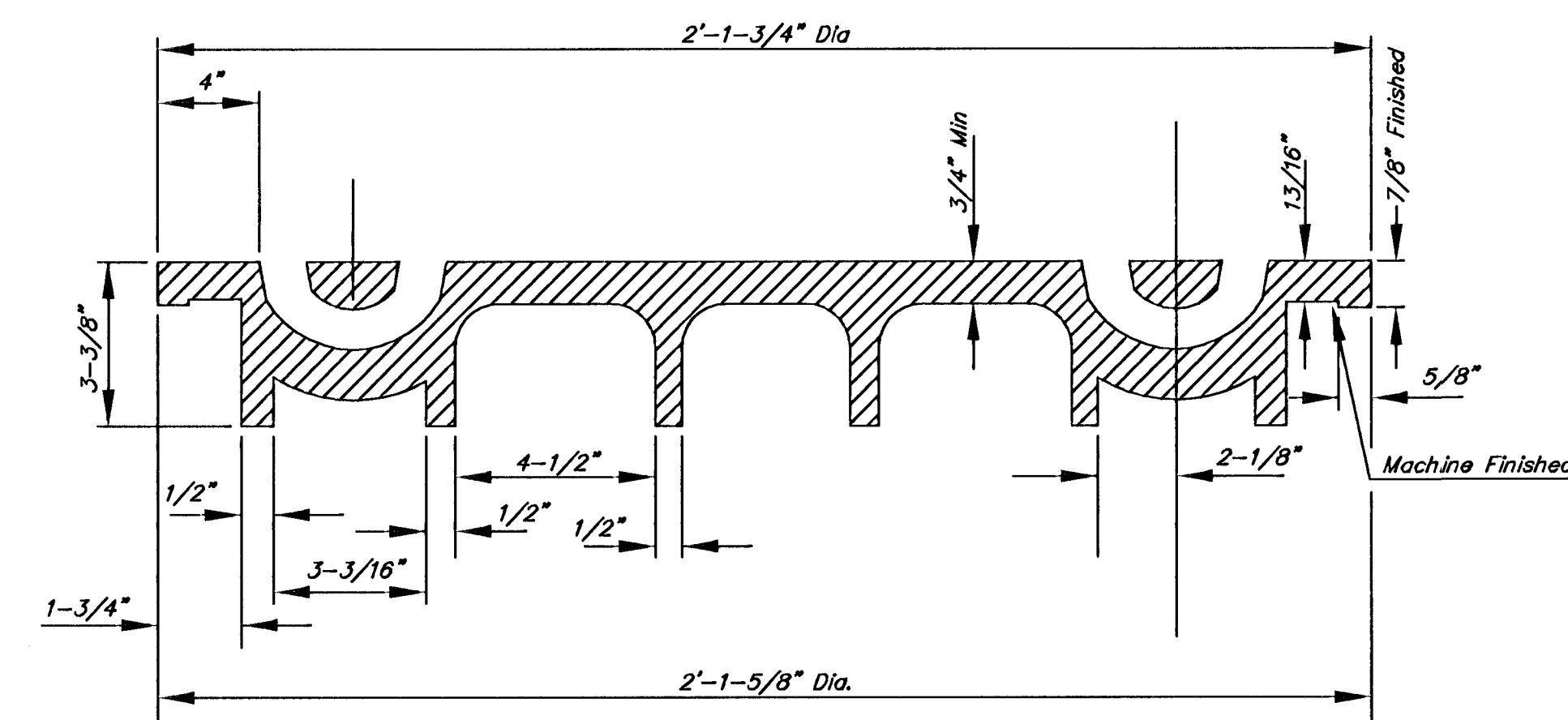
TOP VIEW



SECTION VIEW



BOTTOM VIEW

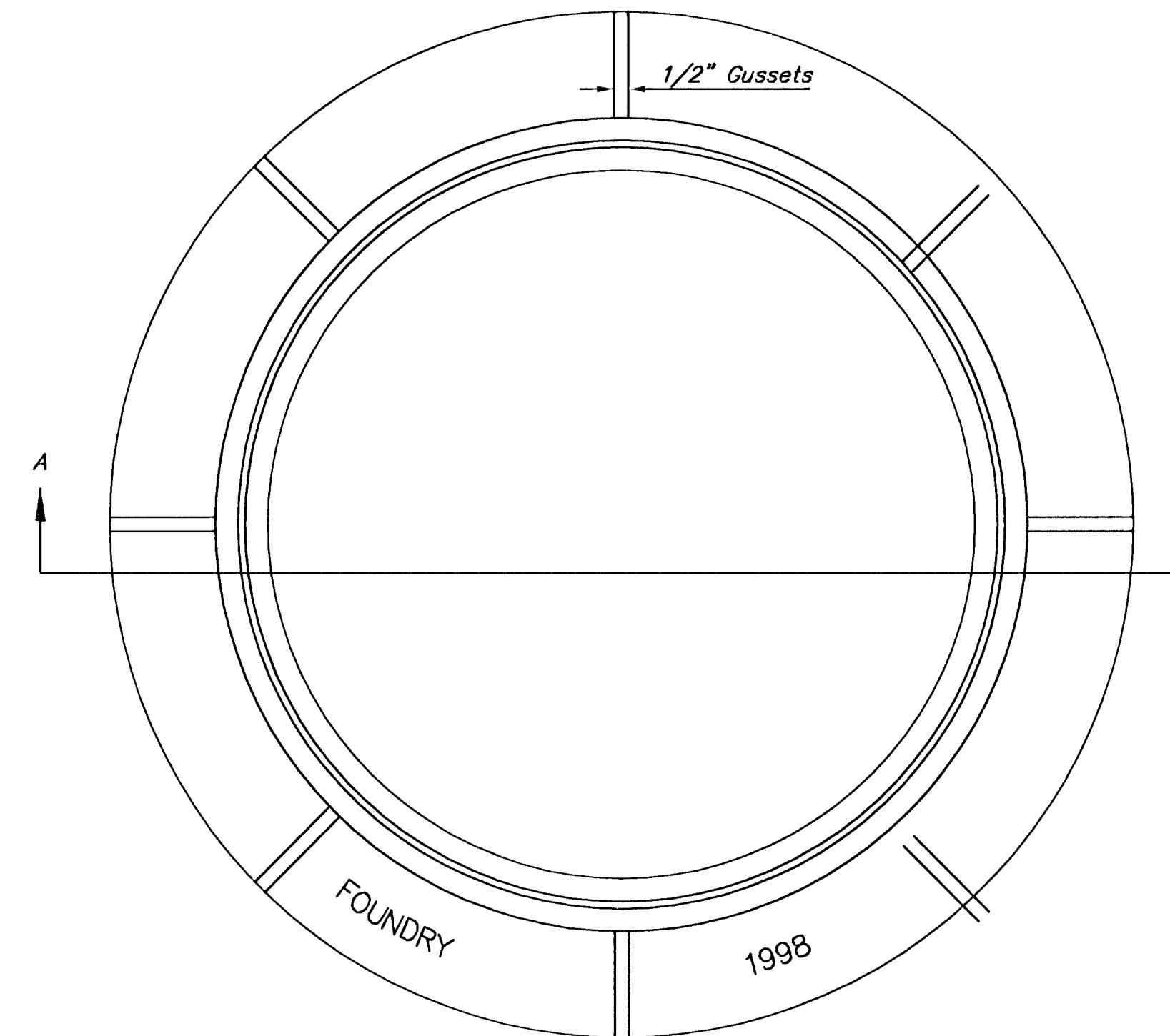


SECTION VIEW

MANHOLE FRAME AND COVER DETAIL

ADOPTED AS STANDARD DESIGN BY
CITY OF WICHITA, KANSAS

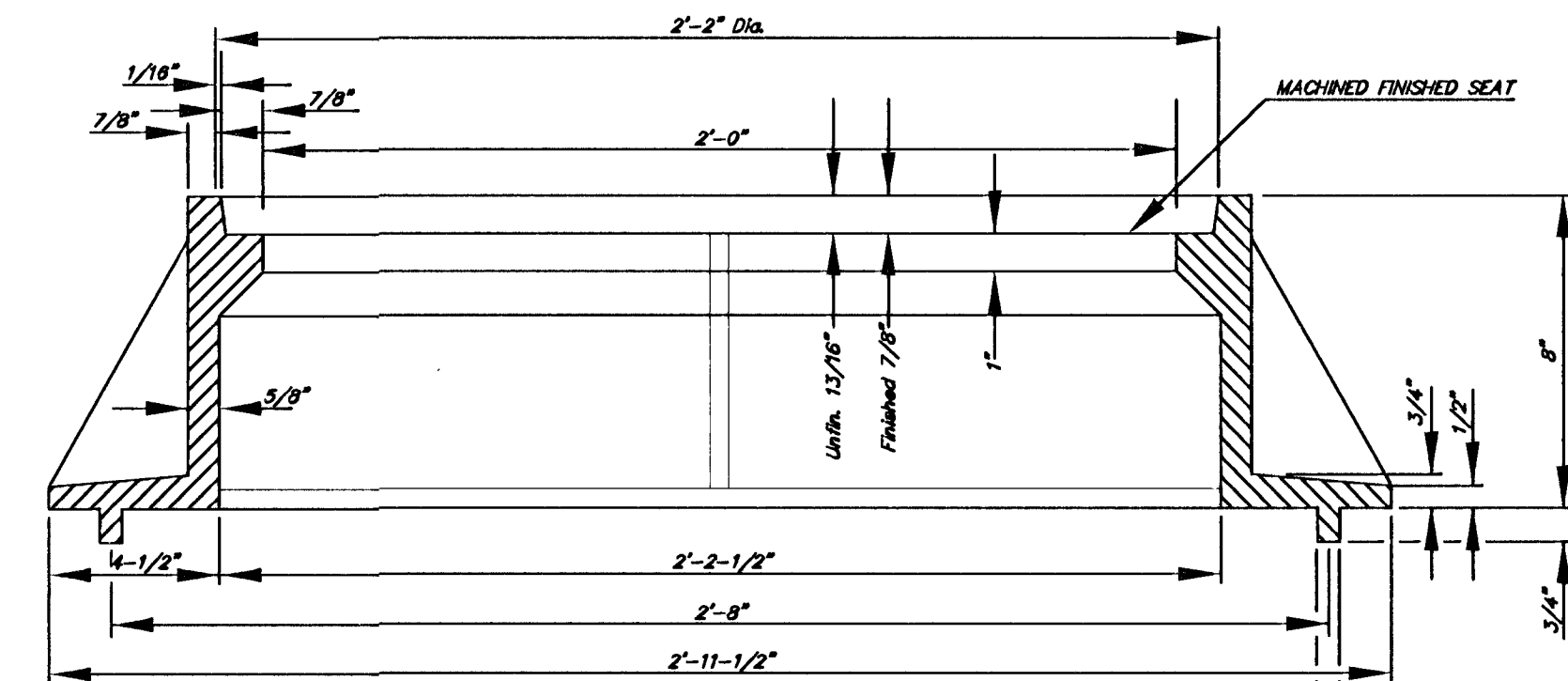
MANHOLE FRAME
Weight = 240 Lbs.



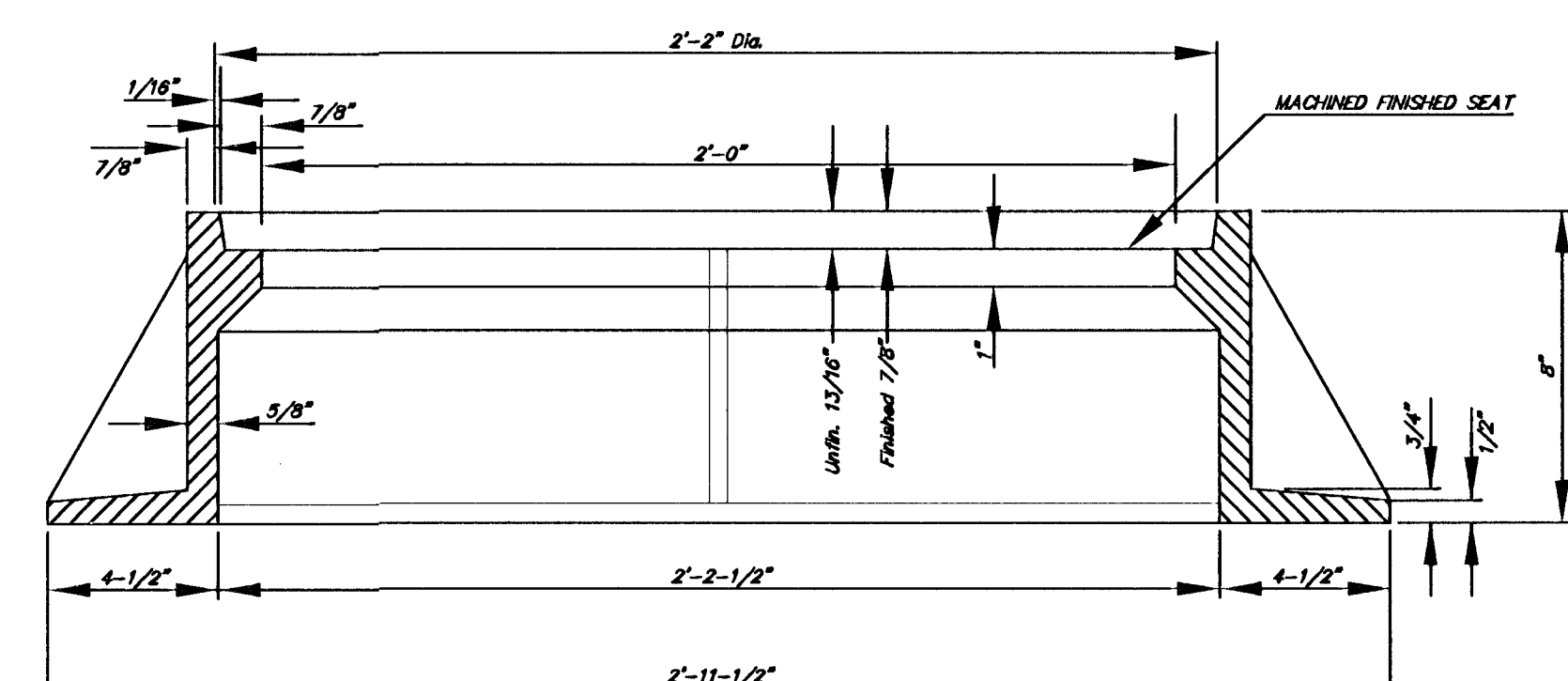
TOP VIEW

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 WEIGH A MINIMUM OF 180 POUNDS ON THE SOLID COVER AND 240 POUNDS ON THE MANHOLE RING. THIS IS A TOTAL OF 420 POUNDS ON A RING AND COVER SET. CASTINGS WEIGHING LESS THAN THE MINIMUM SPECIFICATIONS WILL NOT BE ACCEPTED.
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 SEATING 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 INCH 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.



SECTION A-A
MUD RING



SECTION A-A

 CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 425 NORTH MAIN STREET WICHITA, KANSAS 67202 (316) 268-4501 (316) 268-4114 FAX	MANHOLE FRAME AND COVER	
	NEIL D. CABLE, P.E. - CITY ENGINEER	
	PROJECT NUMBER 468-83603	INDEX CODE 743983
	DATE JUNE 98	SHEET 4 OF 4