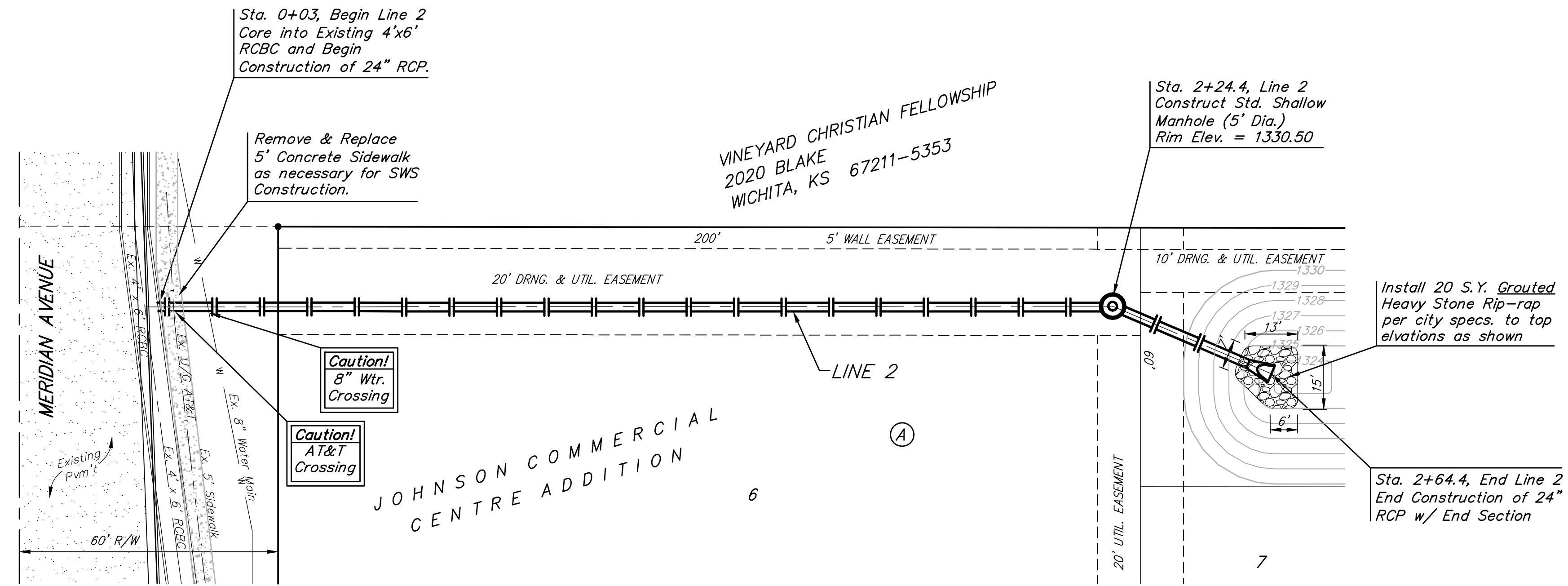
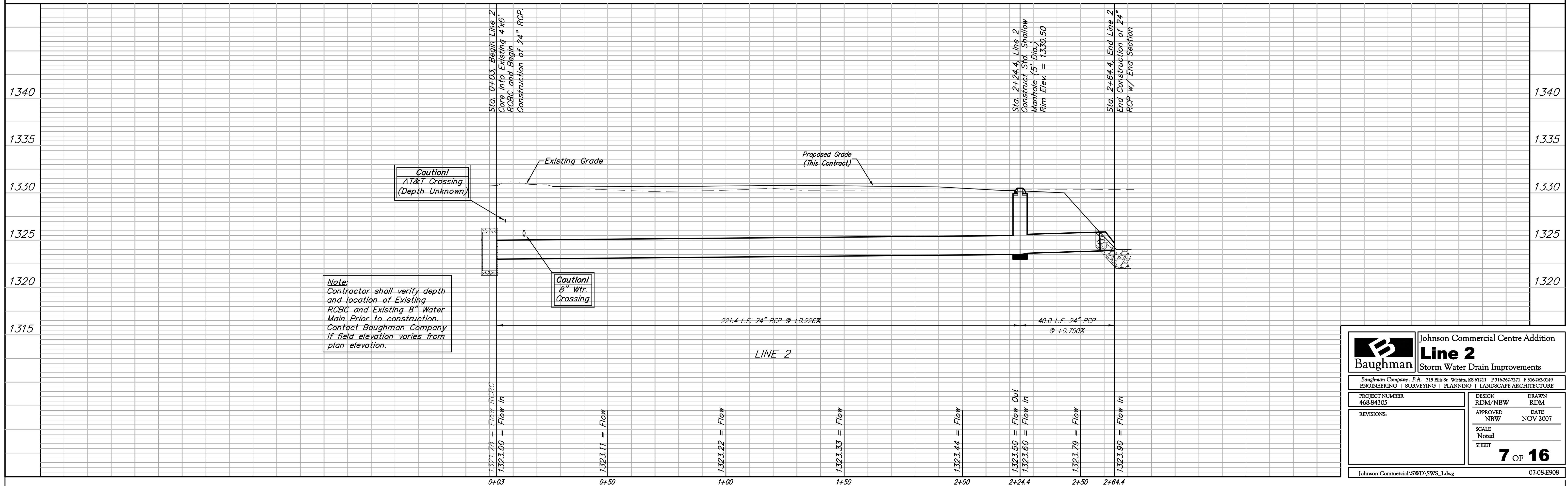


BENCHMARK:
 COW Benchmark at the Intersection of
 Meridian and 53rd St. N., NE Corner,
 Top of Concrete Headwall
 44' North of Centerline
 37' East of Centerline
 50.90' NE of Section Corner
 9' NE of and Radial to Curb
 26' East of Section Line
 Elev. = 1331.37 NGVD29

Note:
 Contractor shall coordinate
 with AT&T for construction
 near Ex. U/G AT&T Cable.



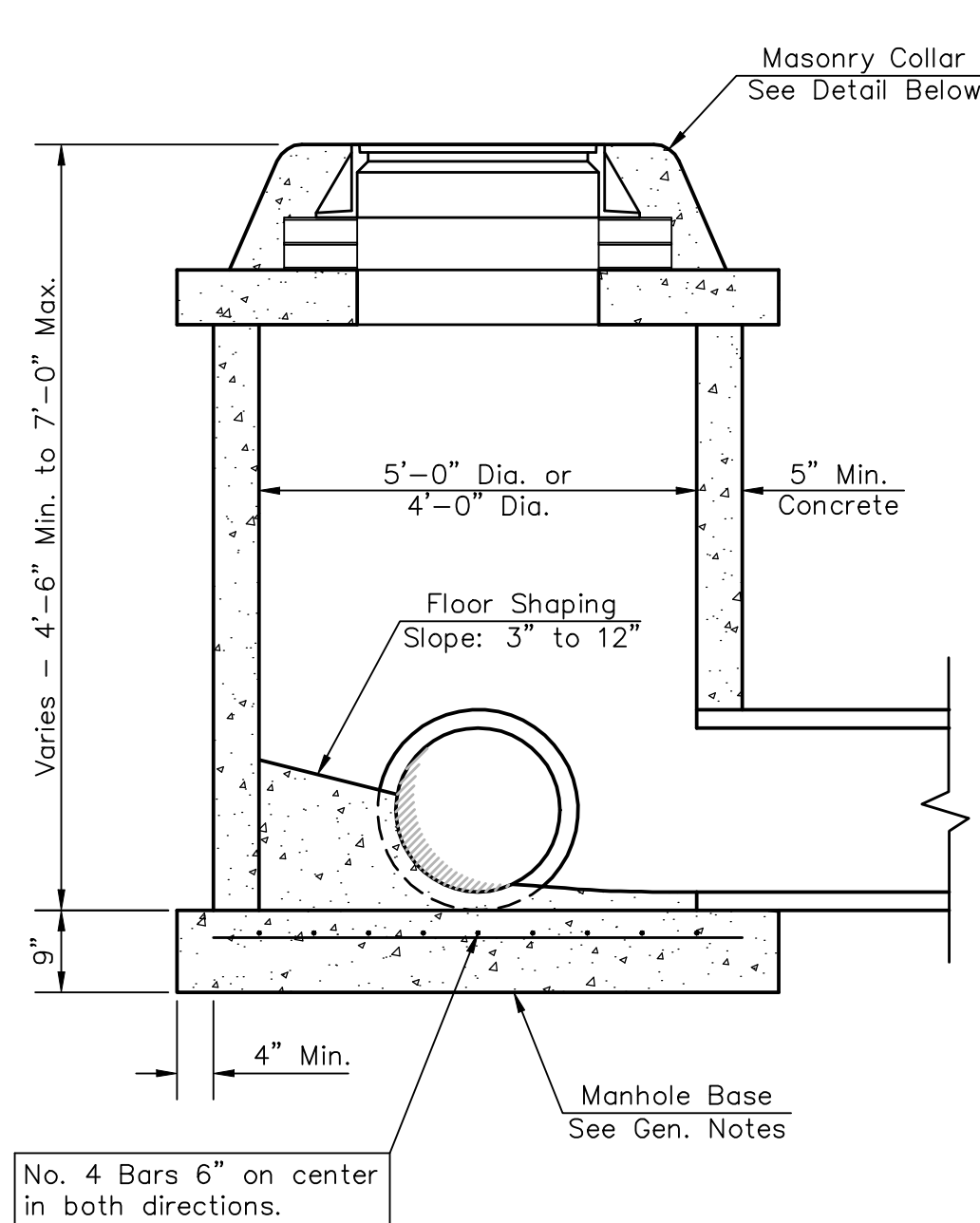
Scale: 1" = 20' Horizontal
 1" = 5' Vertical
 • = Iron



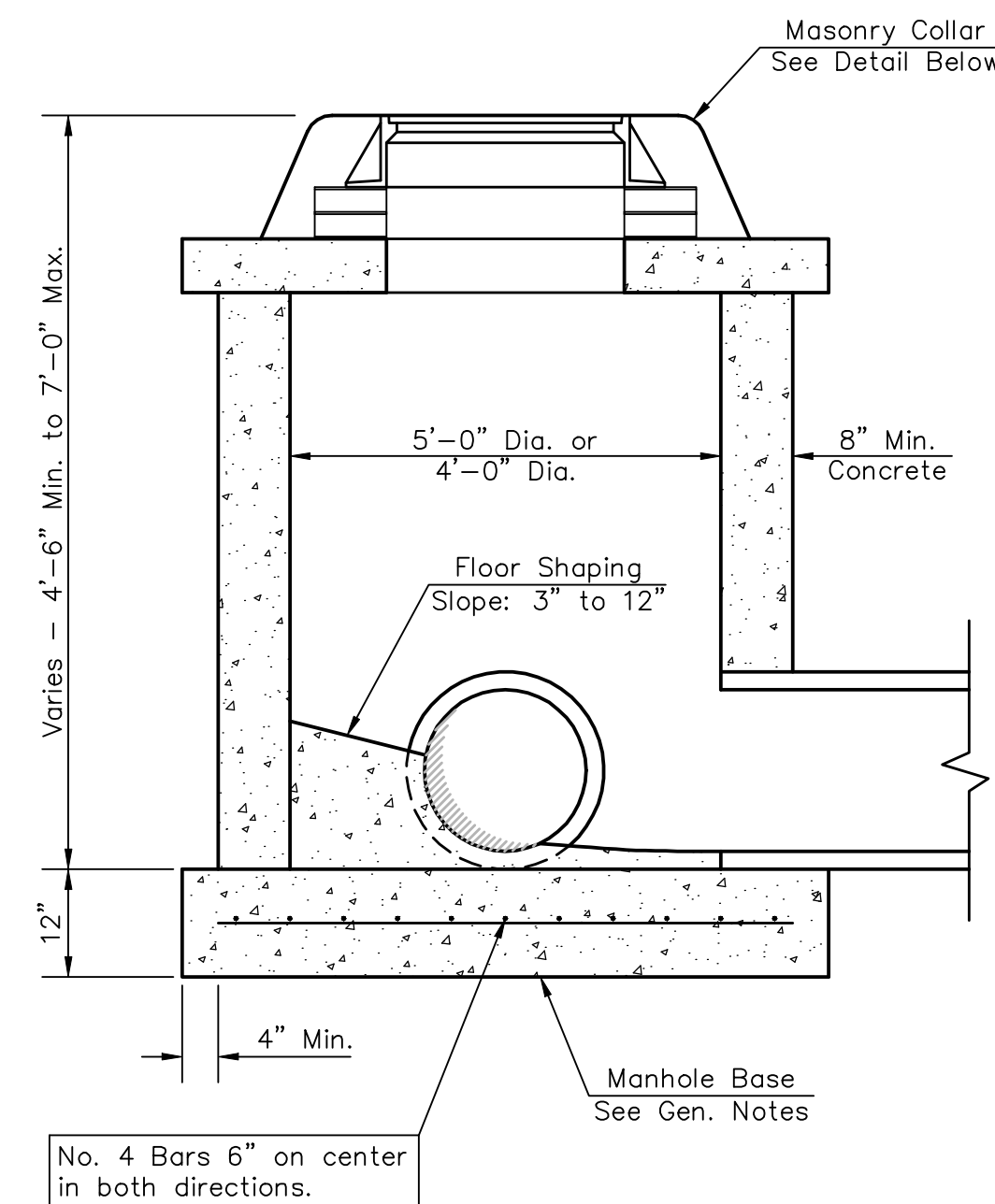
	Line 2 Storm Water Drain Improvements	
	Johnson Commercial Centre Addition	
<small>Baughman Company, P.A. 315 Ellis St. Wichita, KS 67211 P 316-262-7271 F 316-262-0149 ENGINEERING SURVEYING PLANNING LANDSCAPE ARCHITECTURE</small>		
PROJECT NUMBER 468-84305	DESIGN RDM/NBW	DRAWN RDM
REVISIONS:	APPROVED NBW	DATE NOV 2007
SCALE Noted		SHEET 7 OF 16
<small>Johnson Commercial\SWD\SWS_1.dwg</small>		<small>07-08-E908</small>

GENERAL NOTES

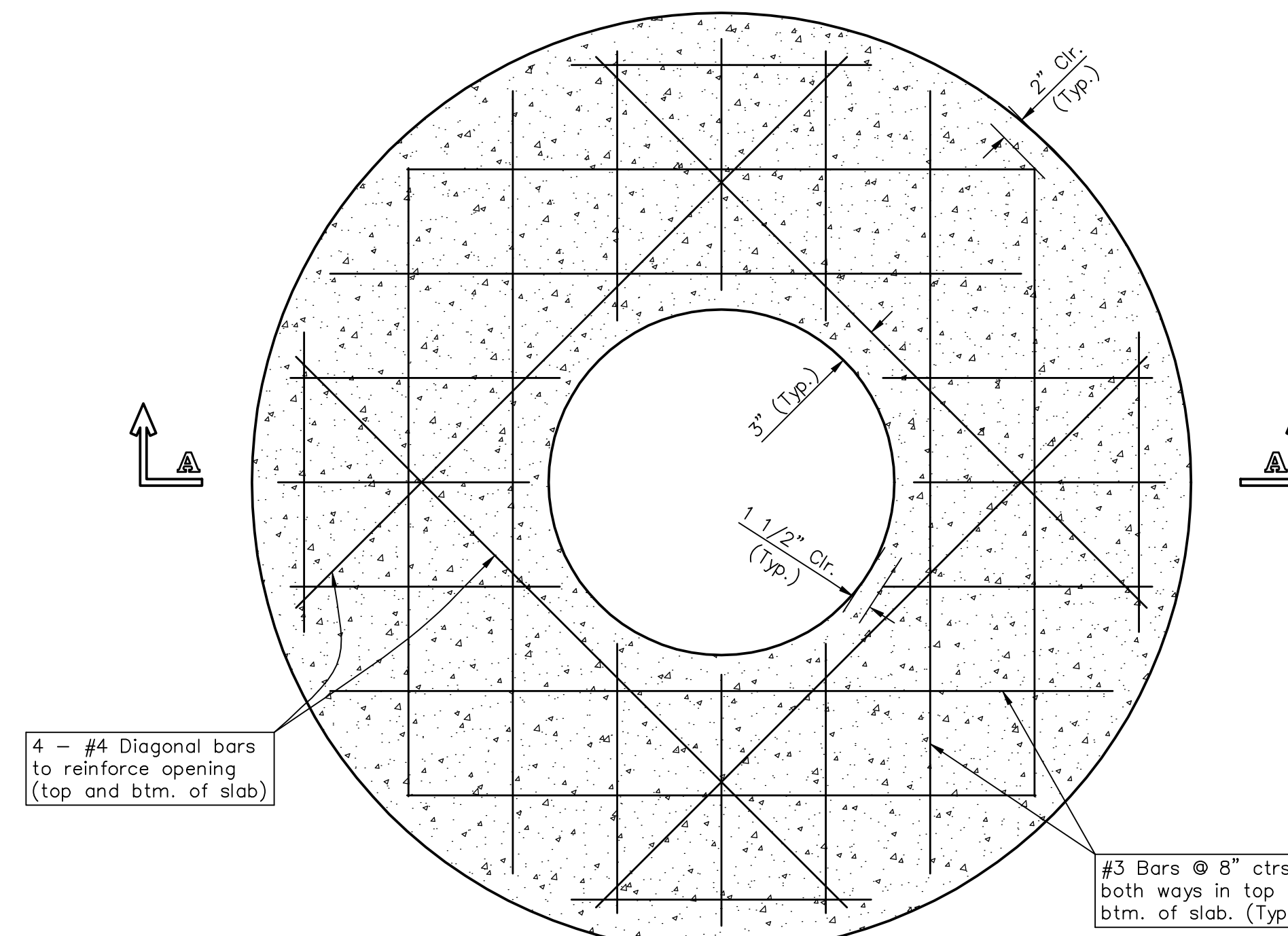
- Mortar used in masonry construction shall contain 8 sacks of cement per cubic yard. Concrete used in manhole bases shall conform to the requirements of concrete for concrete pavement construction as specified in the city standard paving specifications using city concrete cement mix without air entraining admixture. Mortar shall be placed around the manhole ring as shown on the drawings when manholes are constructed in unpaved areas. 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 "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.
- All brick used in manhole construction shall meet Grade SW of ASTM C652 or C62-87.



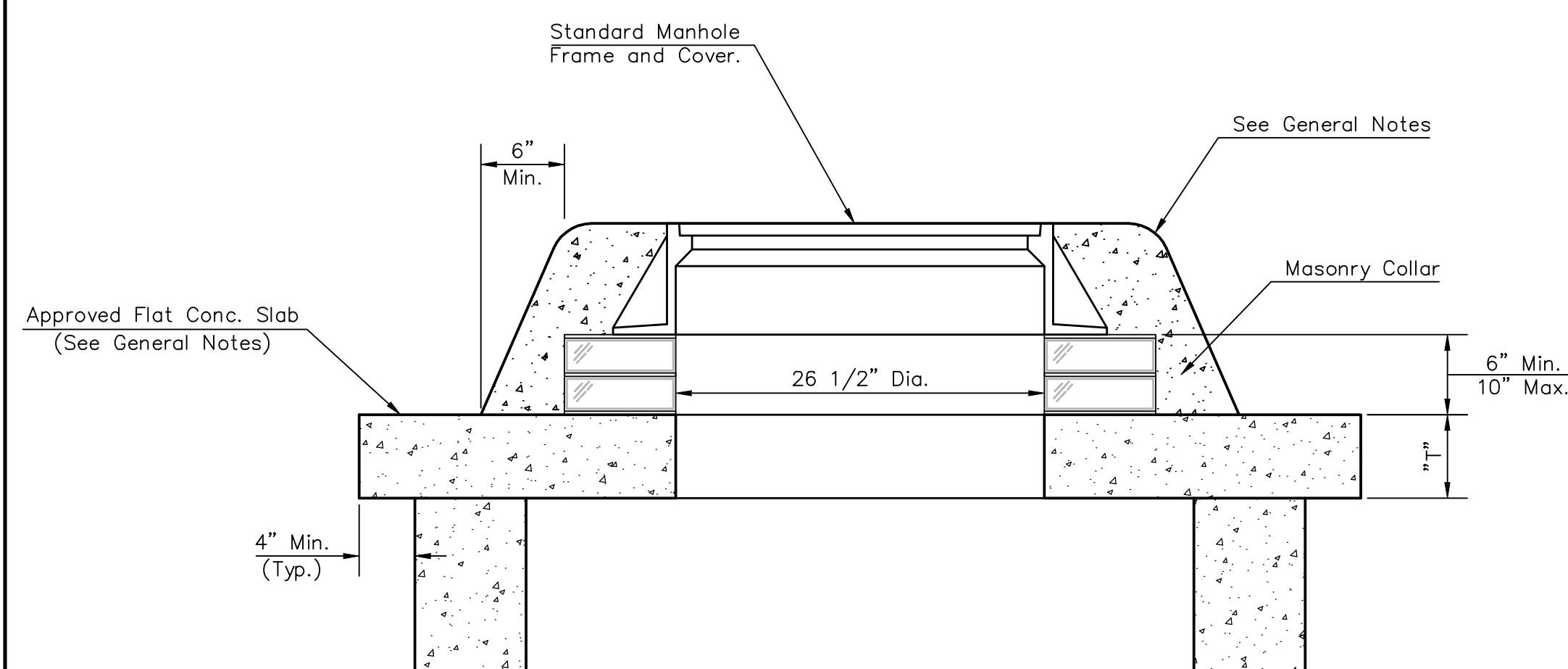
SHALLOW TYPE "P" MANHOLE



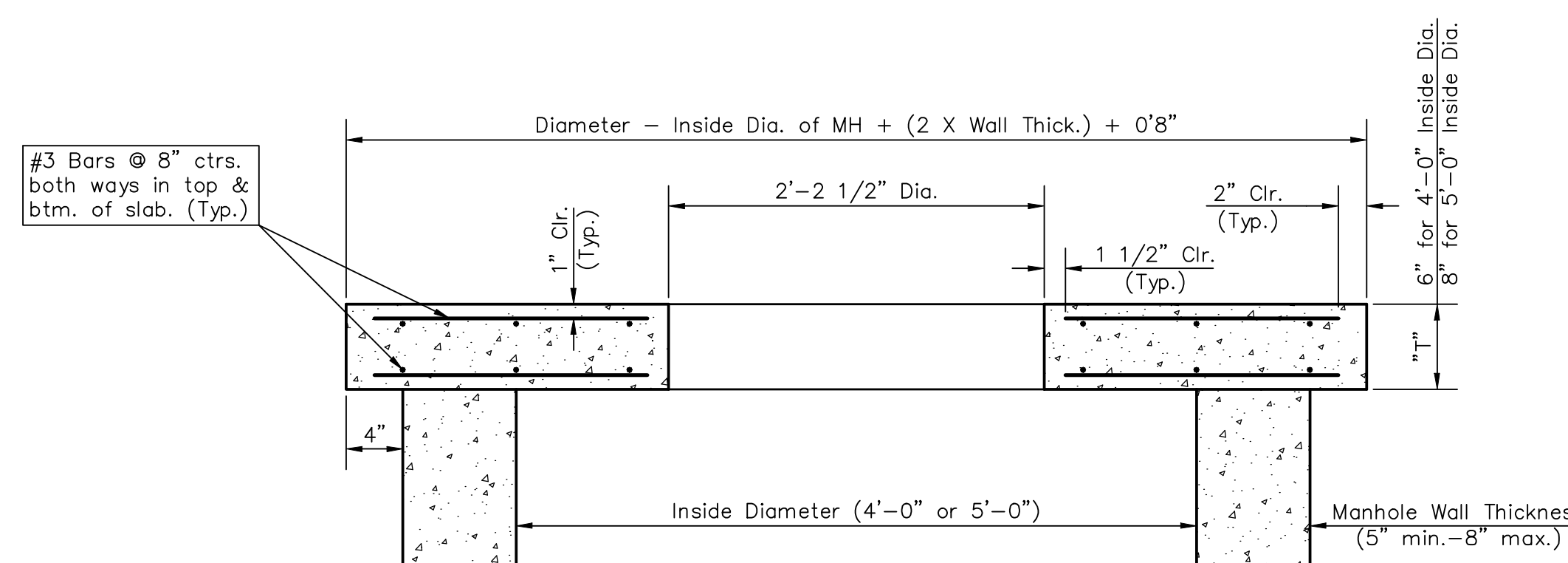
SHALLOW TYPE "C" MANHOLE



PLAN



MASONRY COLLAR DETAIL



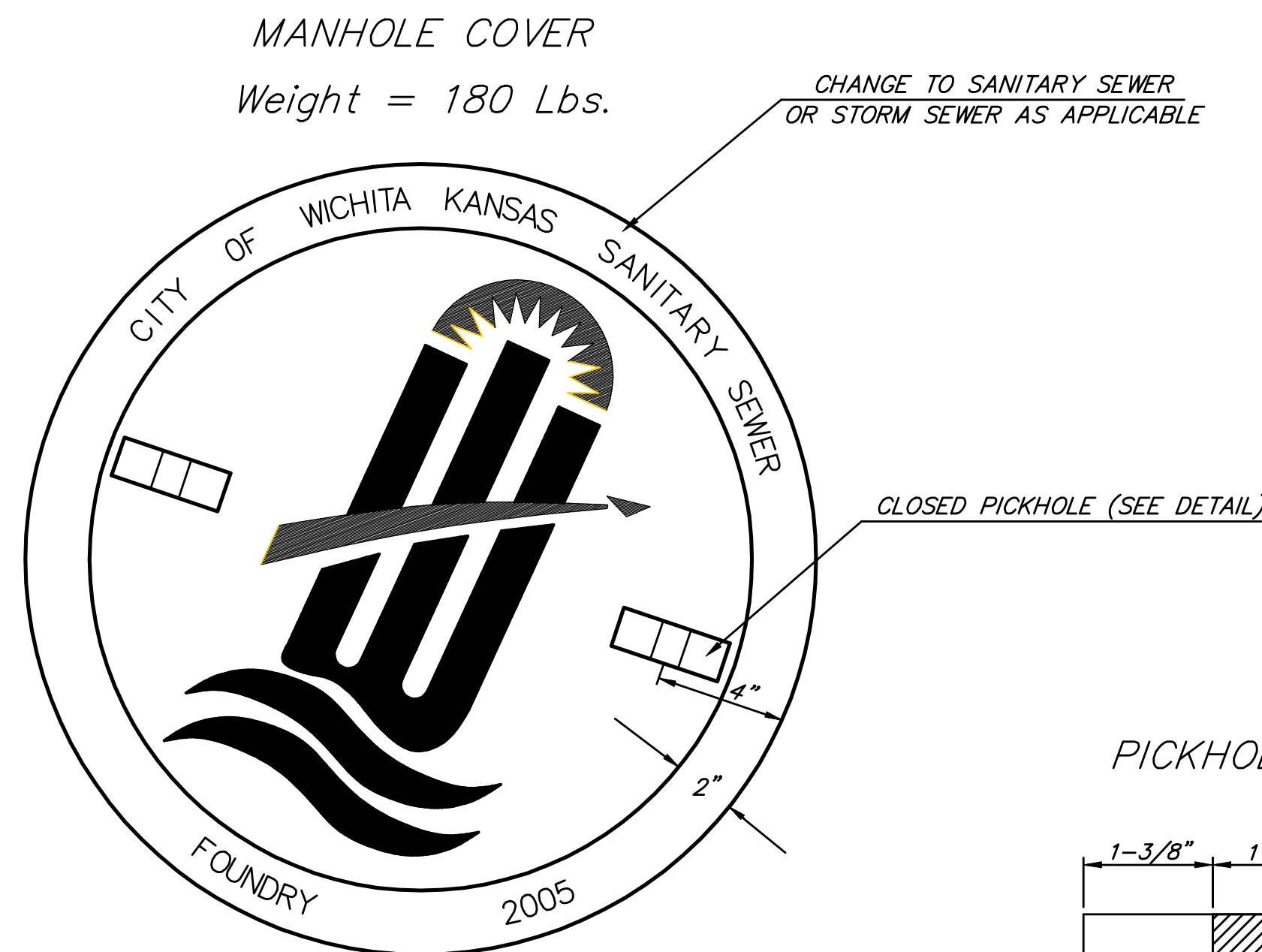
SECTION A-A

FLAT CONCRETE SLAB DETAILS

	CITY OF WICHITA, KANSAS Standard Shallow Manhole Detail TYPE "A" AND TYPE "B"	
	Baughman Company, P.A. 315 Ellis St. Wichita, KS 67211 P 316-262-7271 F 316-262-0149 ENGINEERING SURVEYING PLANNING LANDSCAPE ARCHITECTURE	
PROJECT NUMBER 468-84305	DESIGN C.O.W.	DRAWN STAFF
REVISIONS:	APPROVED DATE NOV 2007	SCALE NONE
		SHEET 8 OF 16

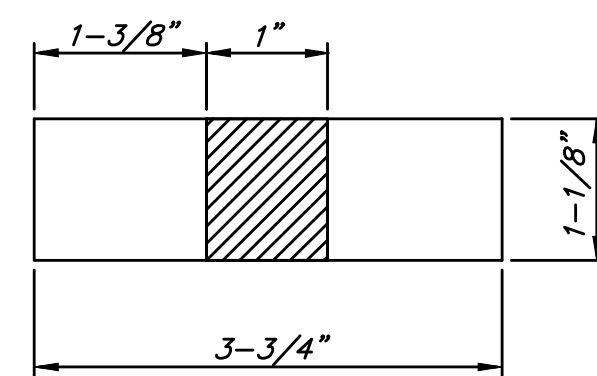
STANDARD AND LIGHT WEIGHT MANHOLE FRAME AND COVER DETAIL

ADOPTED AS STANDARD DESIGN BY
CITY OF WICHITA, KANSAS

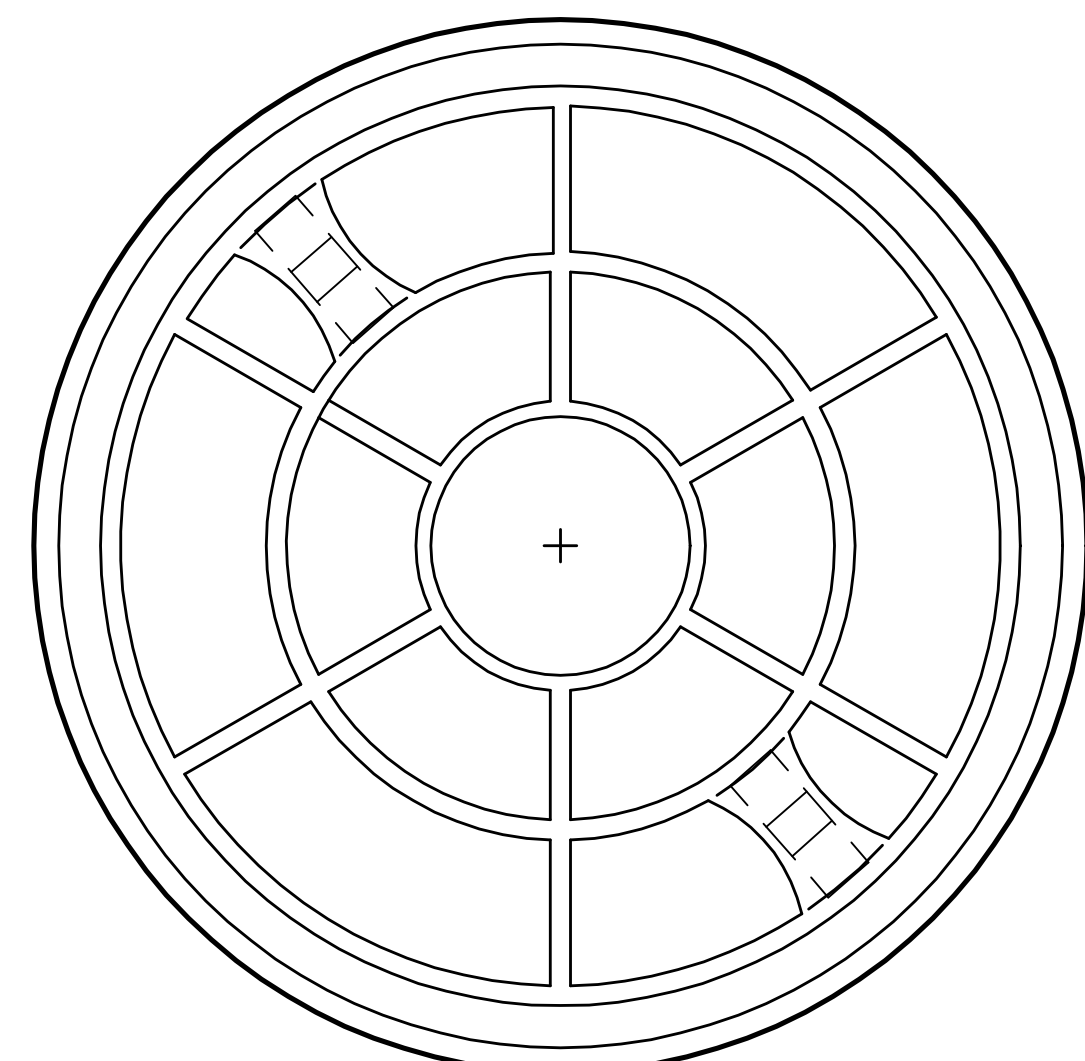


TOP VIEW

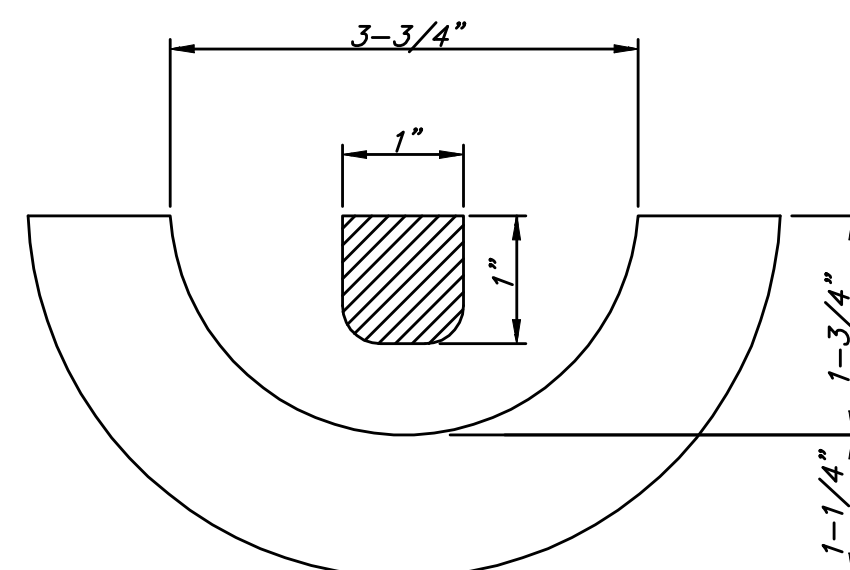
PICKHOLE DETAIL



TOP VIEW

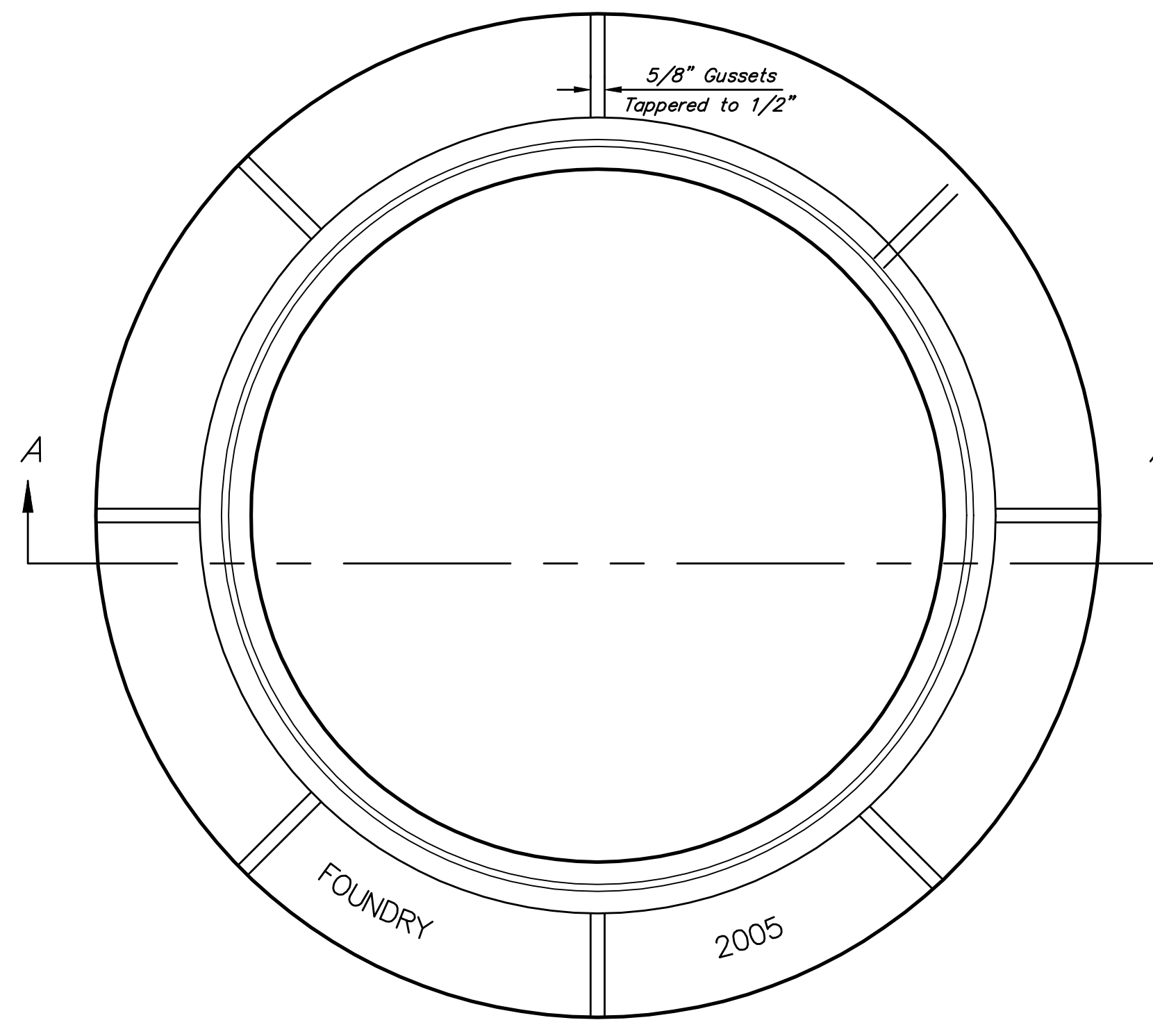


BOTTOM VIEW



SECTION VIEW

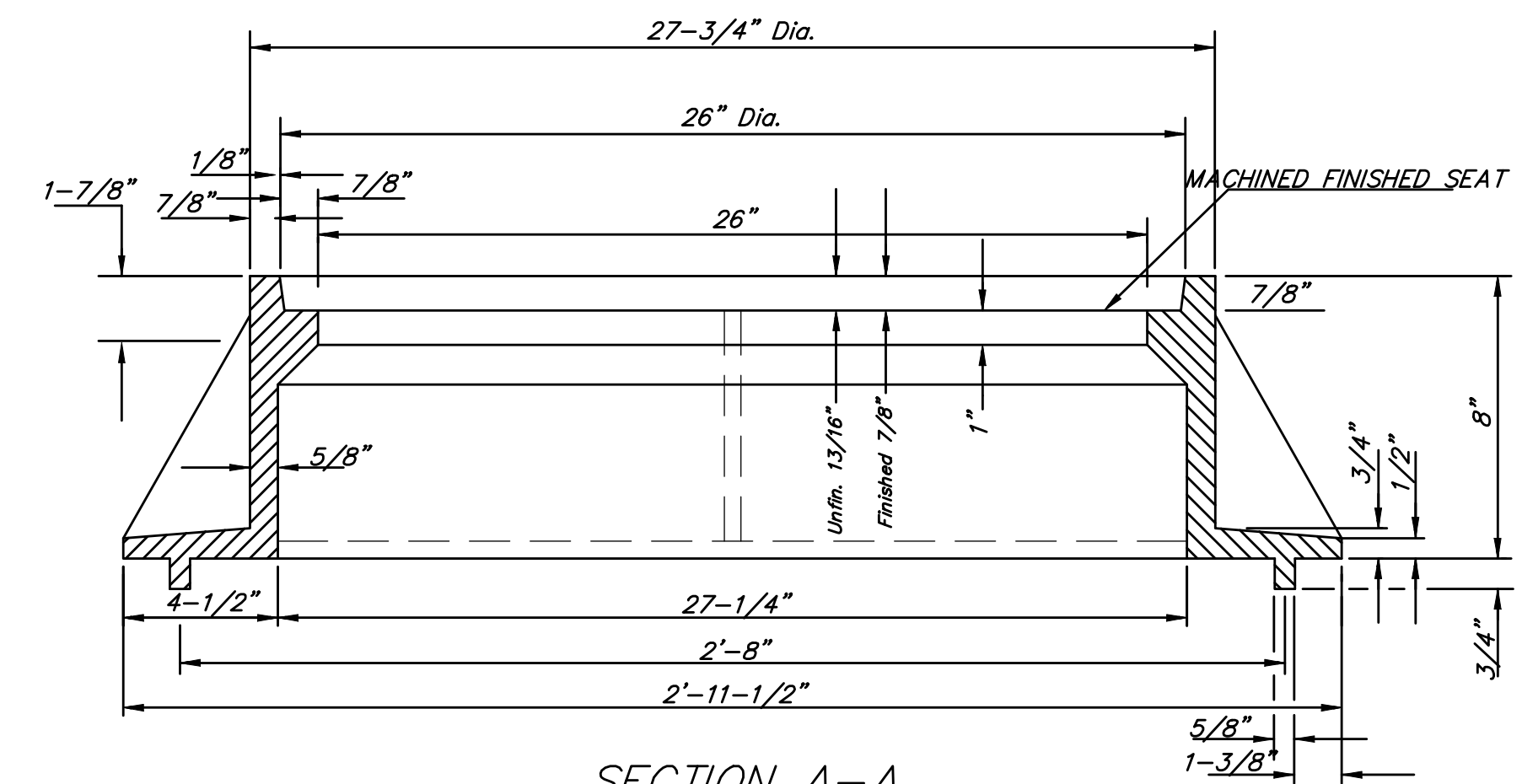
LIGHT WEIGHT
MANHOLE FRAME
Weight = 161 Lbs.



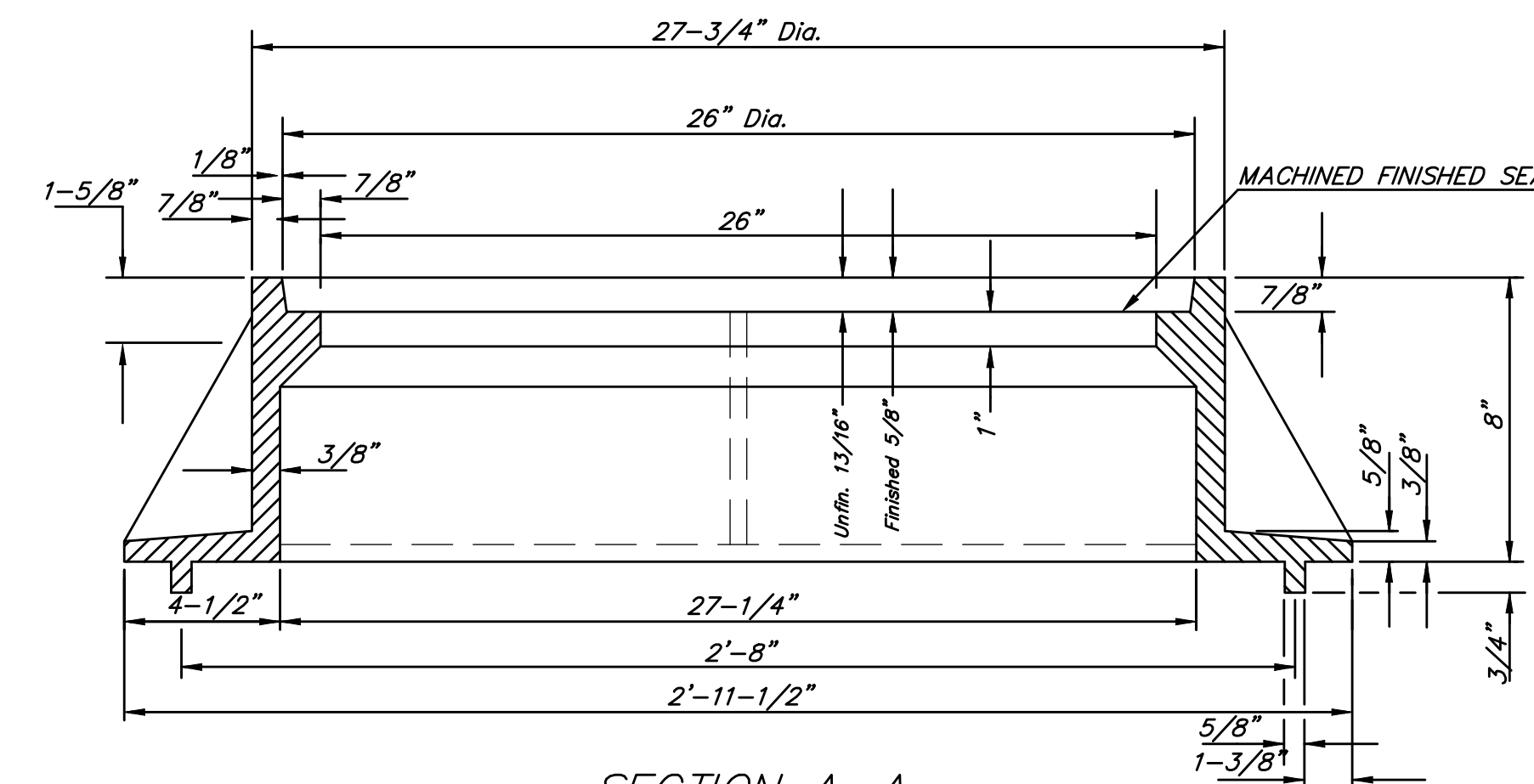
TOP VIEW

GENERAL NOTES

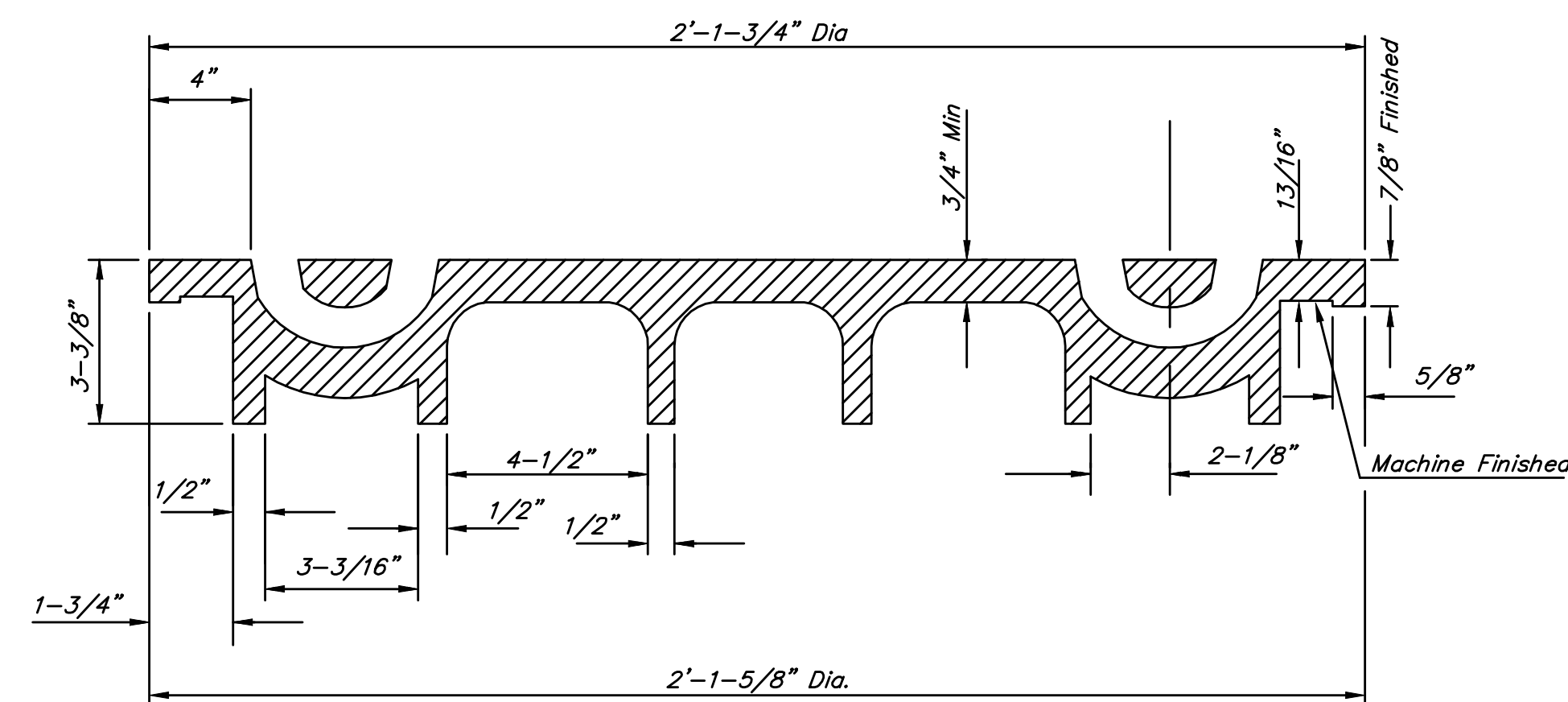
- MANHOLE CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A.S.T.M. DESIGNATION A-48. DIMENSIONS AND WEIGHTS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTIONS OR OTHER DEFECTS.
- LIGHT WEIGHT MANHOLE CASTINGS SHALL WEIGH A MINIMUM OF 180 POUNDS ON THE SOLID COVER AND 161 POUNDS ON THE MANHOLE RING. THIS IS A TOTAL OF 341 POUNDS ON A RING AND COVER SET. CASTINGS WEIGHING LESS THAN THE MINIMUM SPECIFICATIONS WILL NOT BE ACCEPTED.
- STANDARD MANHOLE CASTINGS SHALL WEIGH A MINIMUM OF 180 POUNDS ON THE SOLID COVER AND 430 POUNDS ON THE MANHOLE RING. THIS IS A TOTAL OF 430 POUNDS ON A RING AND COVER SET. CASTINGS WEIGHING LESS THAN THE MINIMUM SPECIFICATIONS WILL NOT BE ACCEPTED.
- 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 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.
- 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 SANITARY SEWER", OR "CITY OF WICHITA STORM SEWER". 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.
- MANHOLE FRAME WITHOUT MUDRING TO BE USED ONLY ON RECONSTRUCTION PROJECTS WHERE ADDITIONAL CLEARANCE IS NEEDED.



SECTION A-A
STANDARD
MANHOLE FRAME
Weight = 250 Lbs.



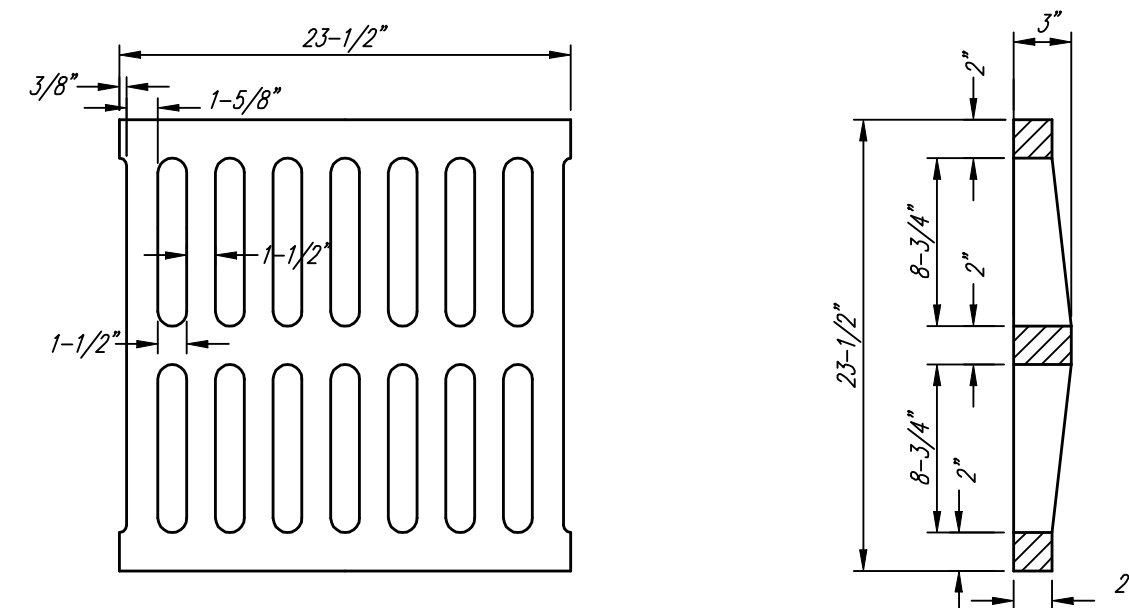
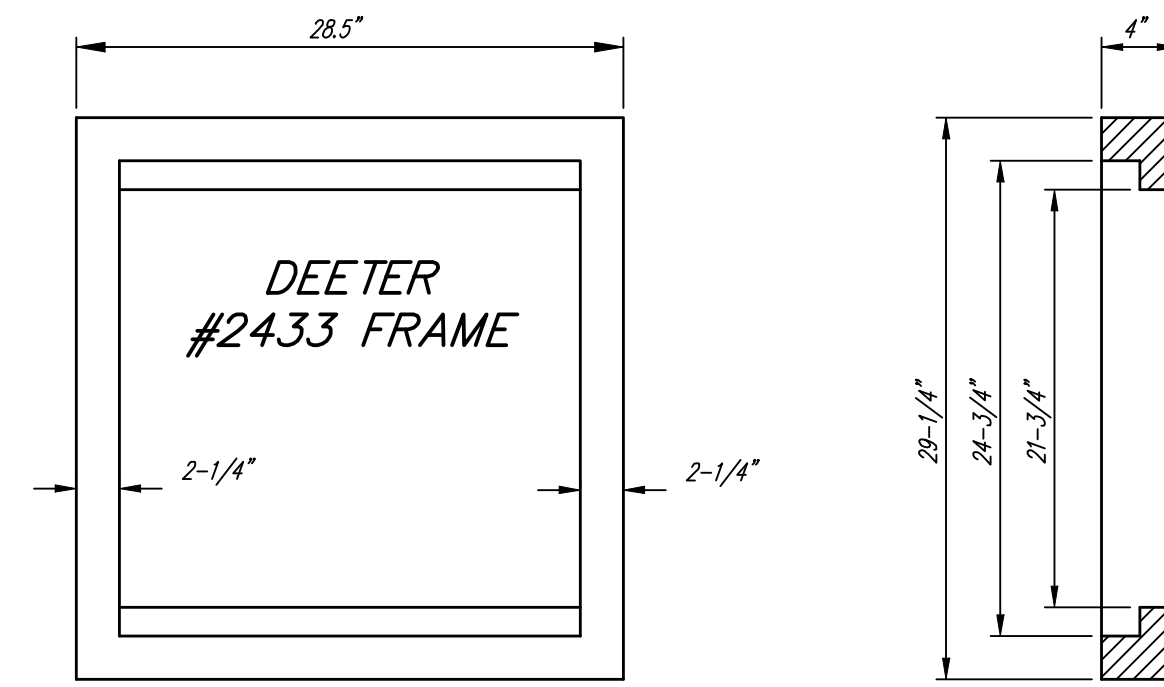
SECTION A-A
LIGHT WEIGHT
MANHOLE FRAME
Weight = 161 Lbs.



SECTION VIEW

REV. 3-13-02, MCG

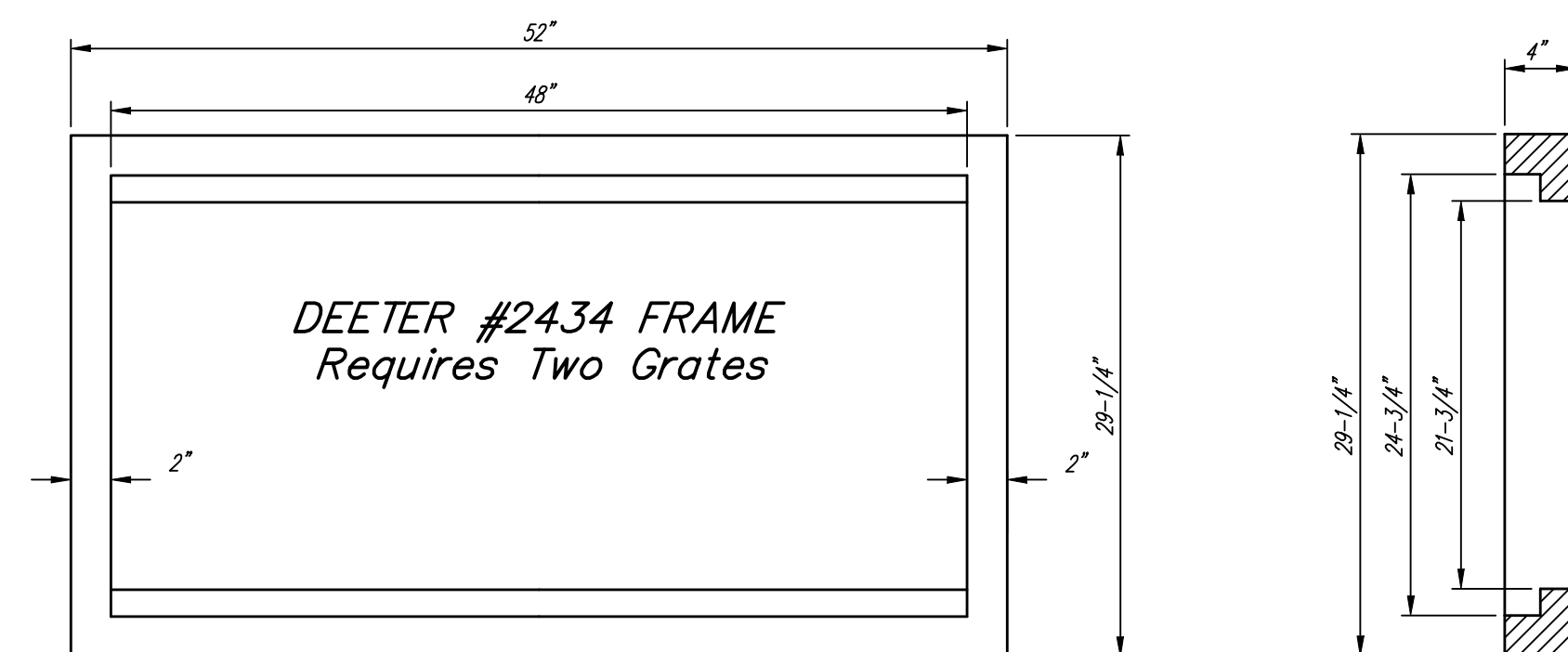
<p>CITY OF WICHITA PUBLIC WORKS ENGINEERING</p>	<p>STANDARD & LIGHT WEIGHT MANHOLE FRAME AND COVER</p>		
	<p>CITY ENGINEER JAMES L. ARMOUR, P.E. CITY ENGINEER</p>		
	<p>PROJECT NUMBER 468-84305</p>	<p>OCA NUMBER 751449</p>	<p>DATE NOV 2007</p>
	<p>CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501 (316) 268-4114 FAX</p>		
<p>DESIGN COW</p>		<p>DRAWN COW</p>	
<p>SHEET 9</p>		<p>OF 16</p>	



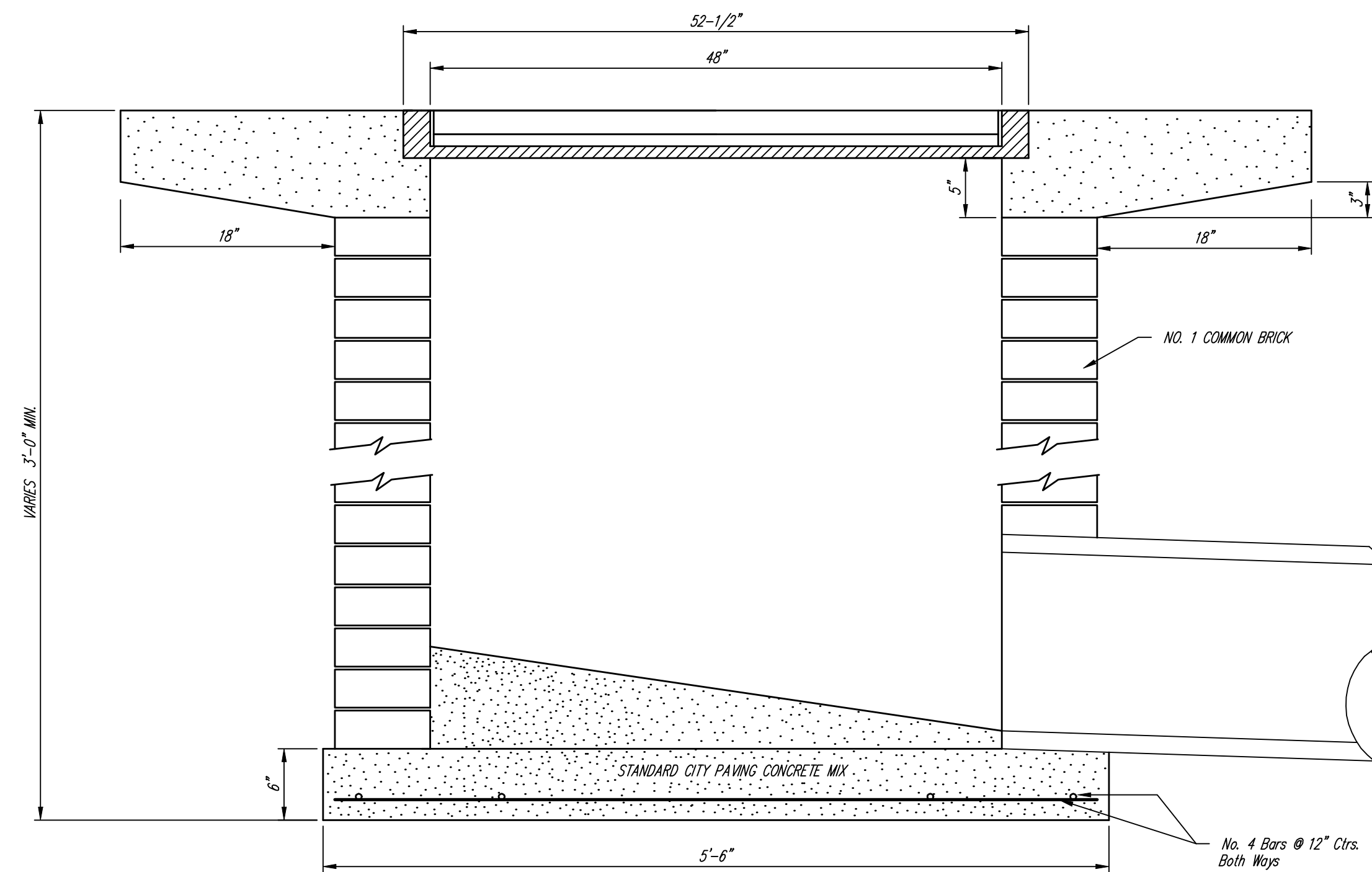
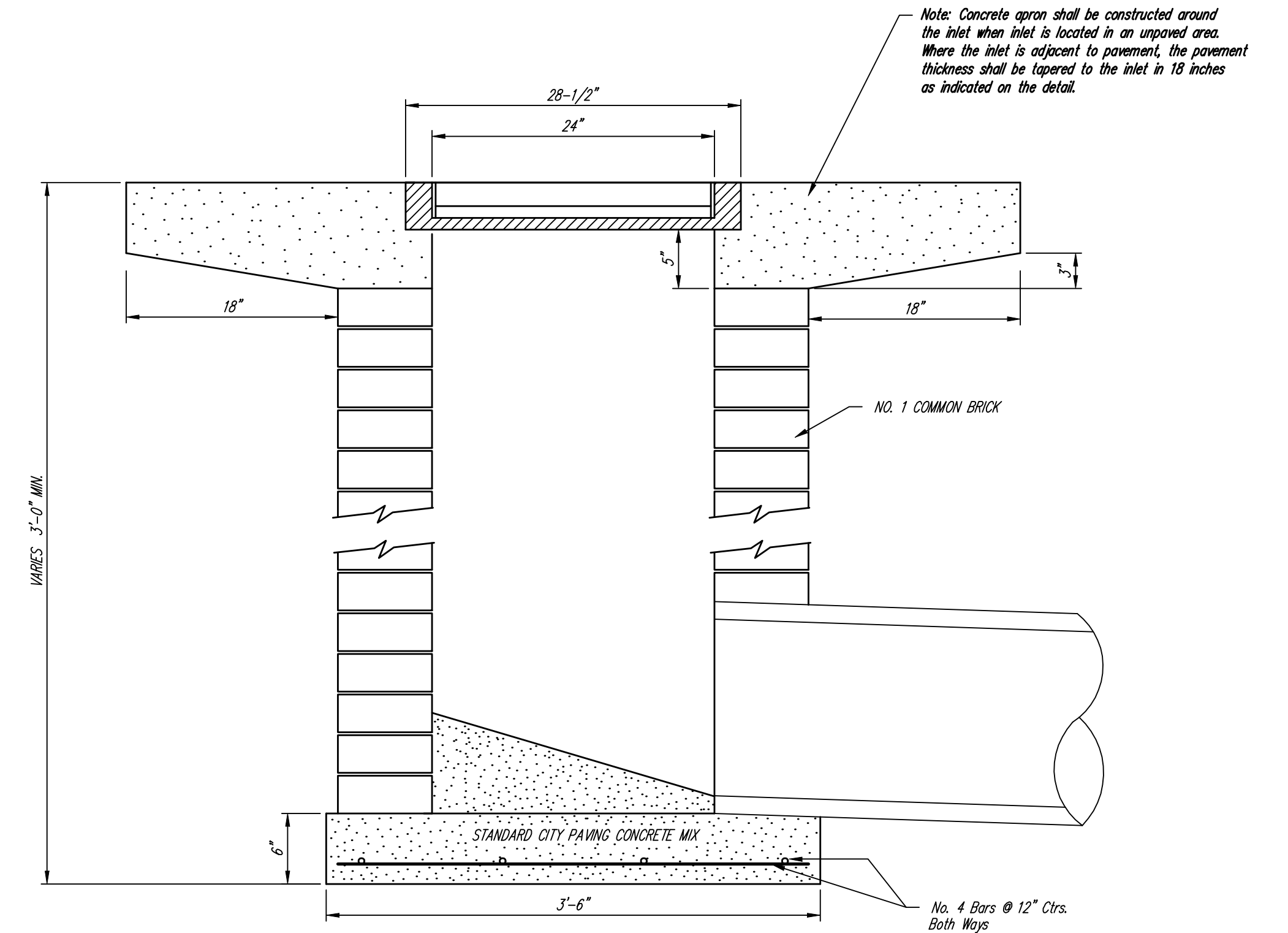
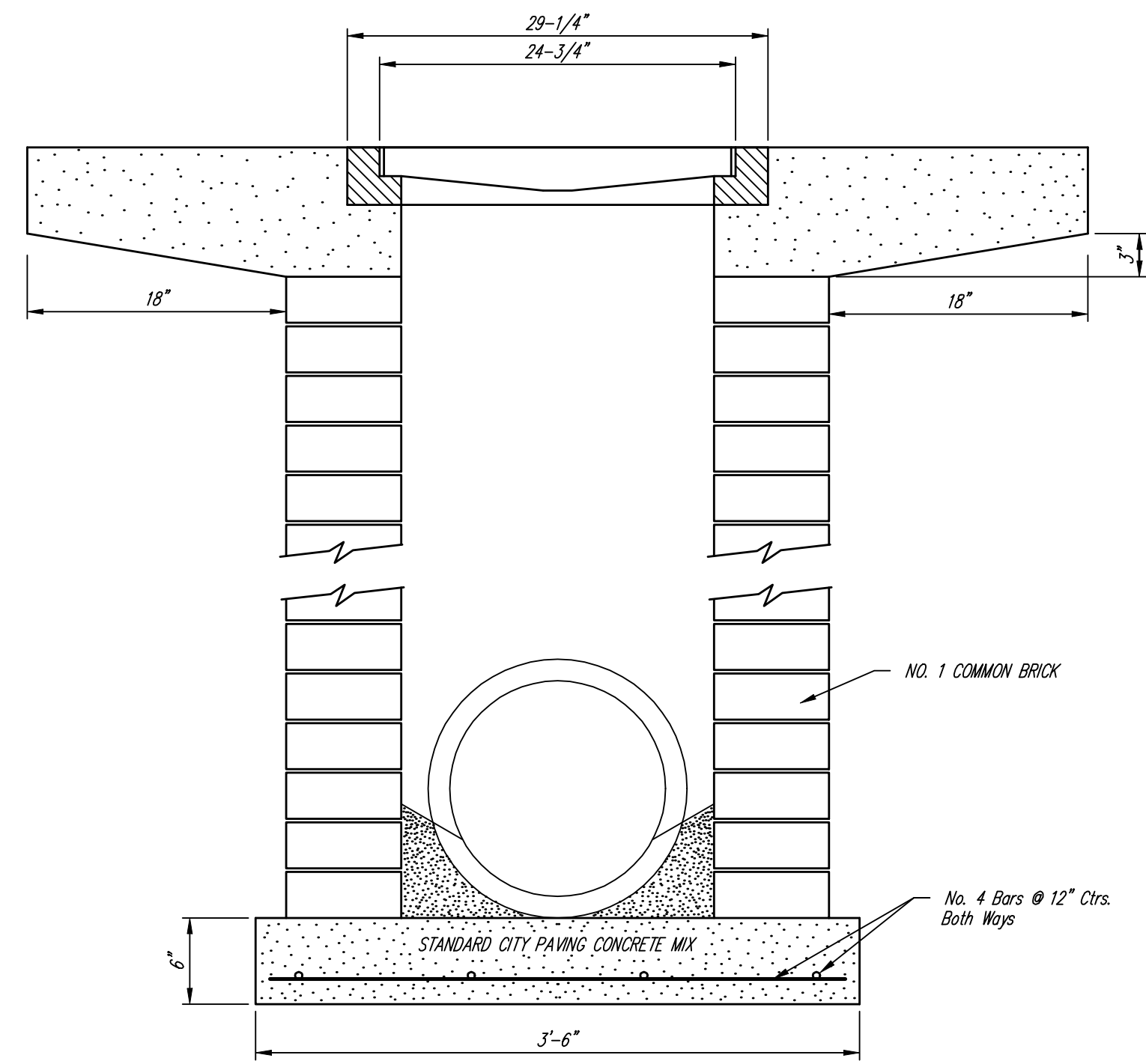
DEETER #2433 GRATE

24" x 24" Frame and Grate Detail

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 approved by the engineer.



Double 24" x 24" Frame Detail



	City of Wichita Standard	
	Drop Inlet Detail	
<small>Baughman Company, P.A. 315 Ellis St. Wichita, KS 67211 P 316-262-7271 F 316-262-0149 ENGINEERING SURVEYING PLANNING LANDSCAPE ARCHITECTURE</small>		
PROJECT NUMBER	DESIGN	DRAWN
	C.O.W.	Staff
REVISIONS:	APPROVED	DATE
	SCALE	
	None	
	SHEET	
		10 OF 16
<small>F:\Eng\Details\Sewers\DROPINT2.dwg</small>		