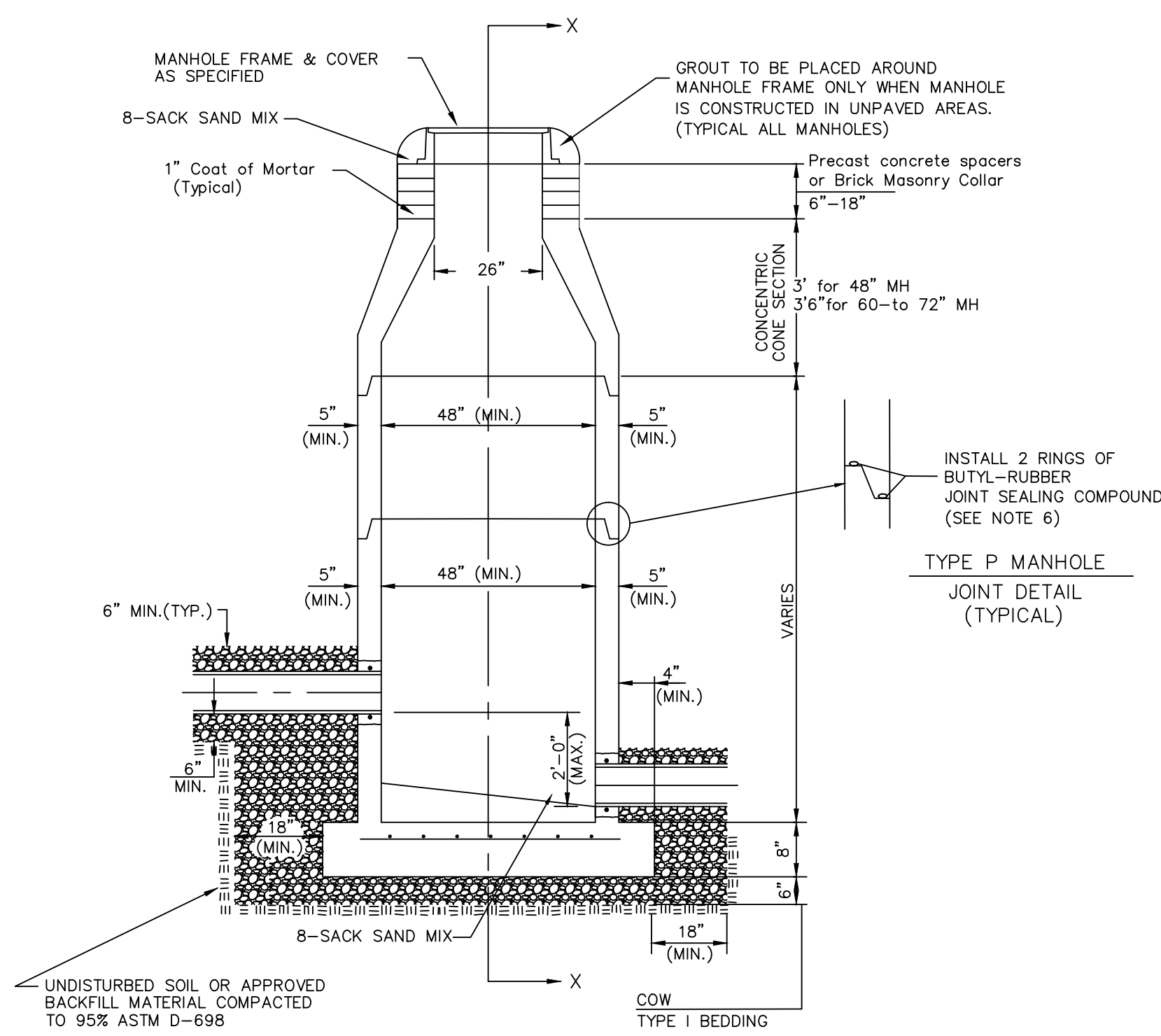
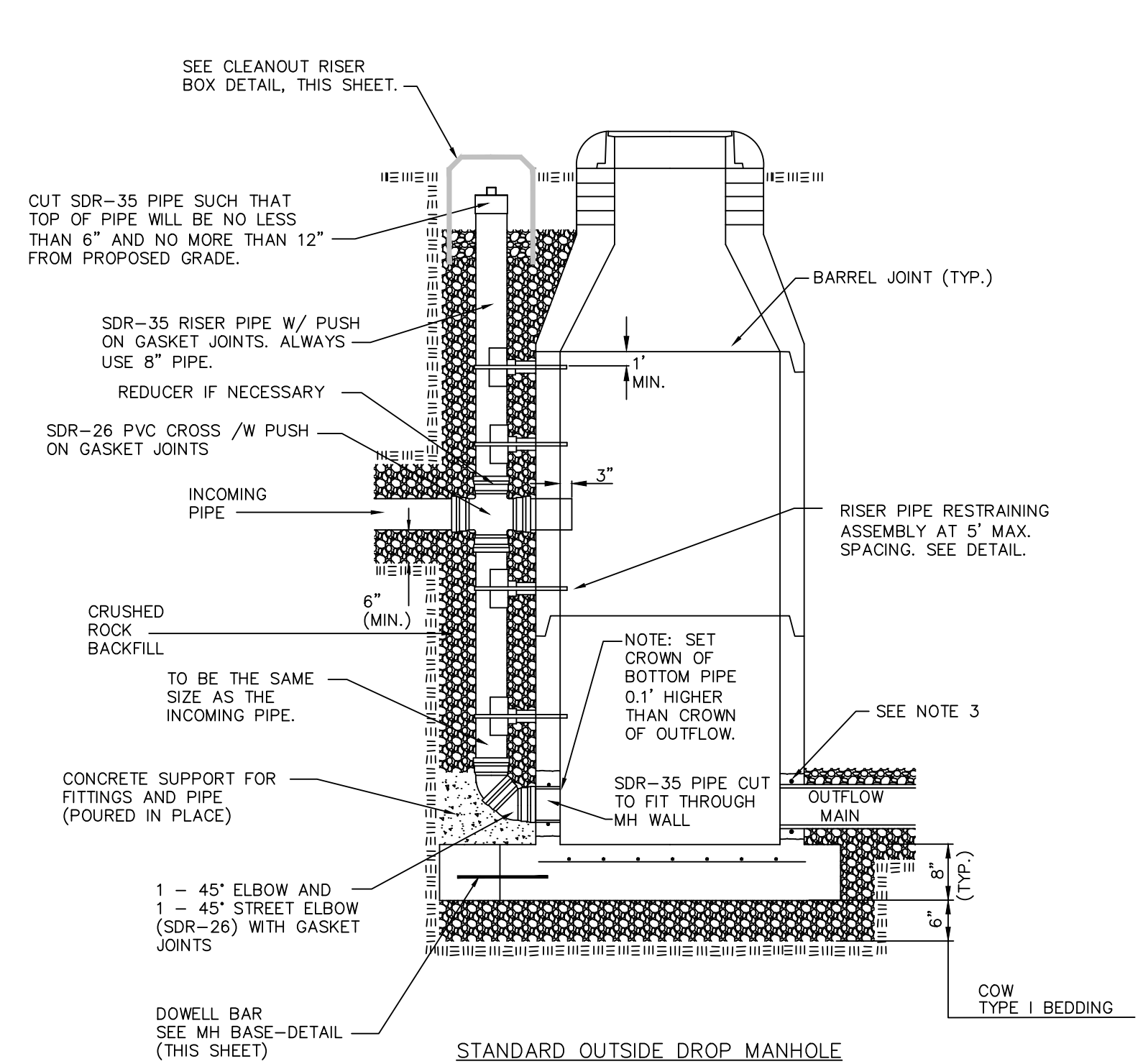


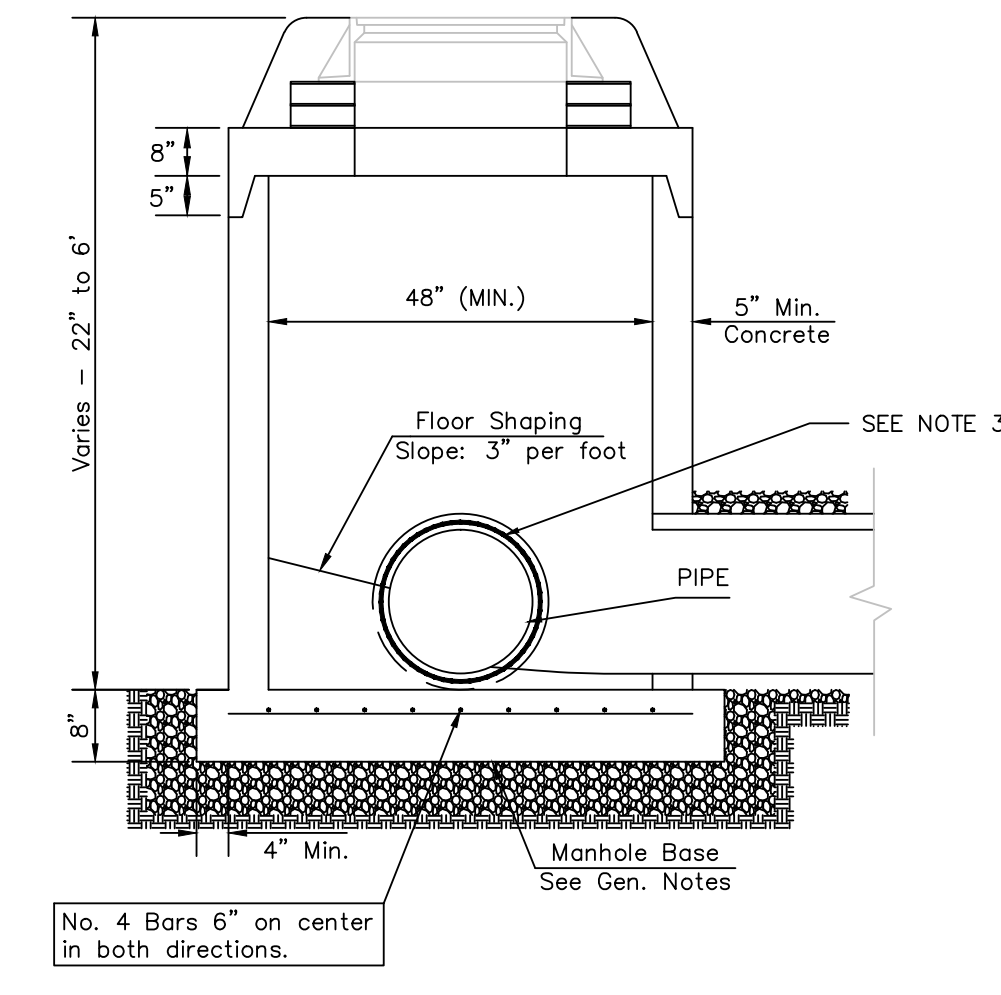
**DOG HOUSE MANHOLE**  
(OVER EXISTING PIPE)  
Not to Scale



**STANDARD MANHOLE**  
Not to Scale

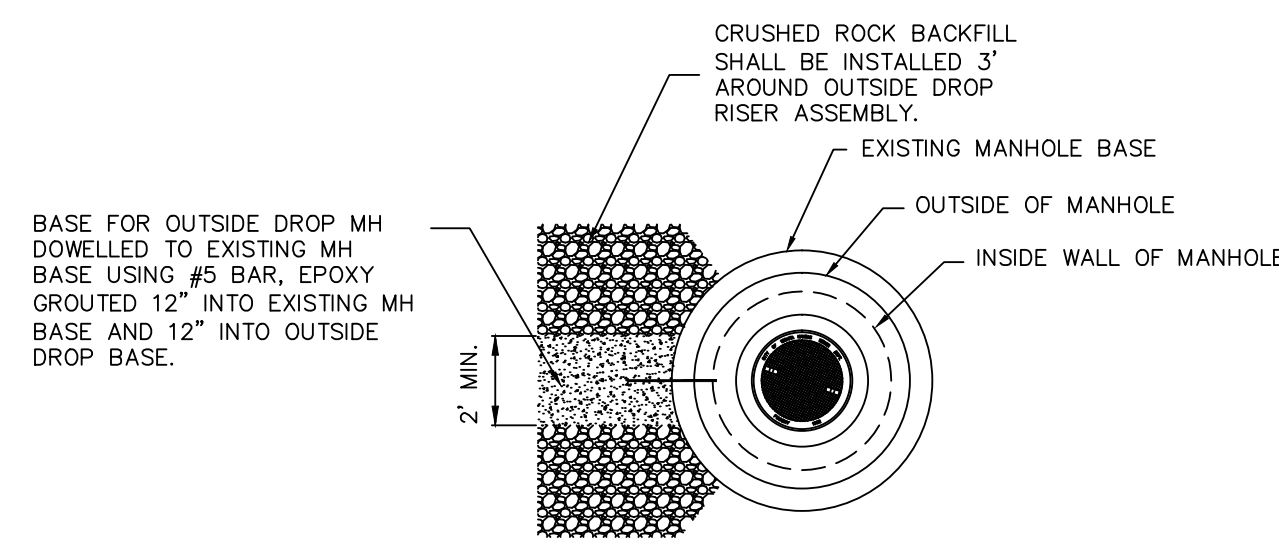


**STANDARD OUTSIDE DROP MANHOLE**  
Not to Scale

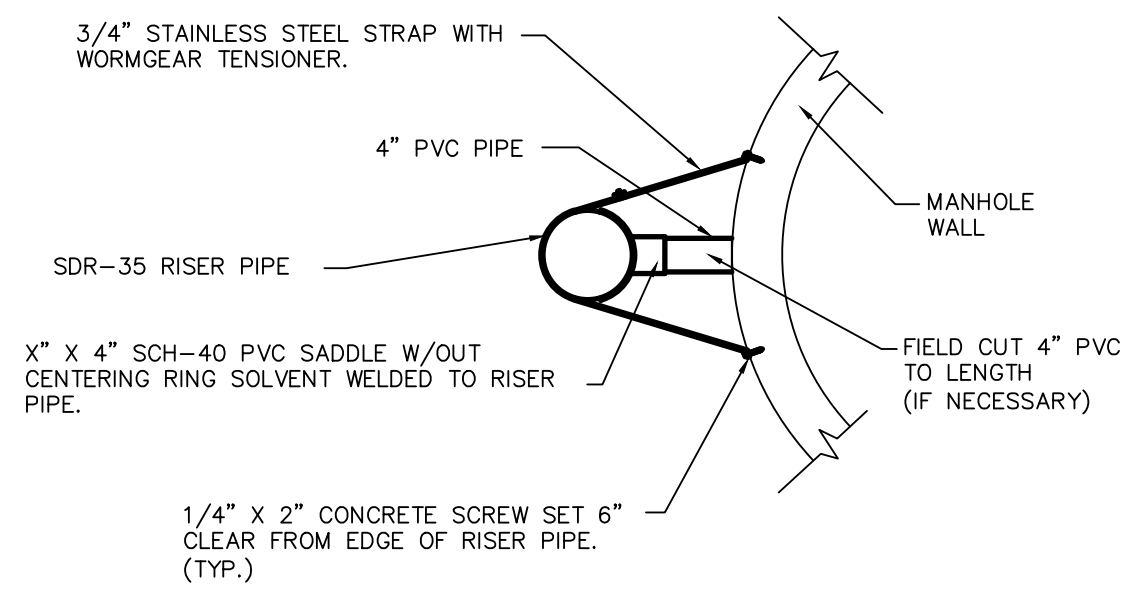


**SHALLOW MANHOLE**  
Not to Scale

= COW TYPE I BEDDING  
 = UNDISTURBED SOIL



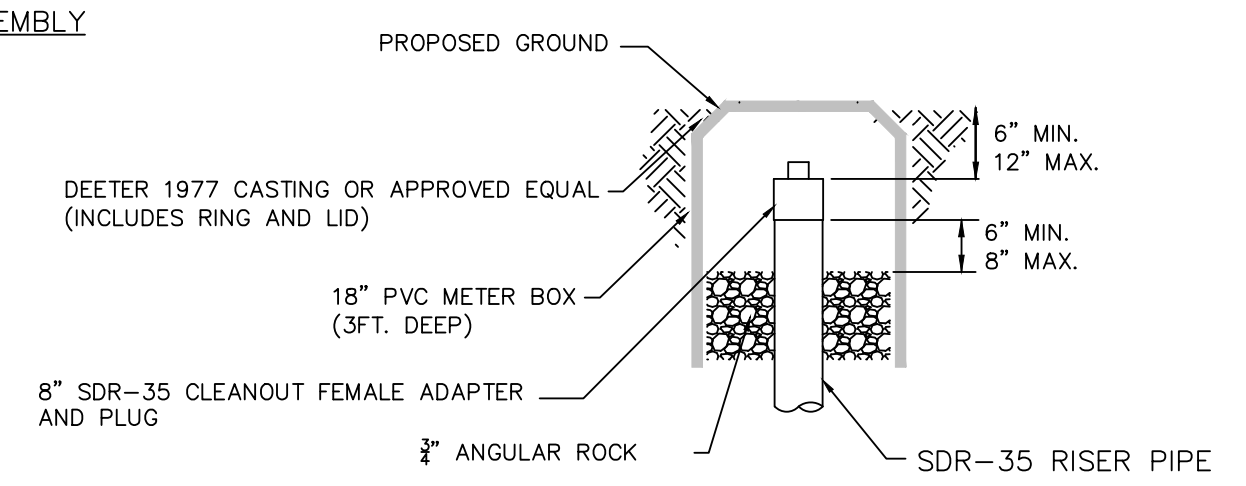
**MH BASE DETAIL**  
Not to Scale



**RISER PIPE RESTRAINING ASSEMBLY**  
Not to Scale

**SANITARY SEWER MANHOLE DIAMETERS**

DIAMETER	DEPTH	PIPE SIZE
4'	0'-15'	8"-18"
5'	15'-30'	21"-30"
6'	>30'	36"-60"



**CLEANOUT RISER BOX DETAIL**  
Not to Scale

**PRECAST MANHOLE GENERAL NOTES**

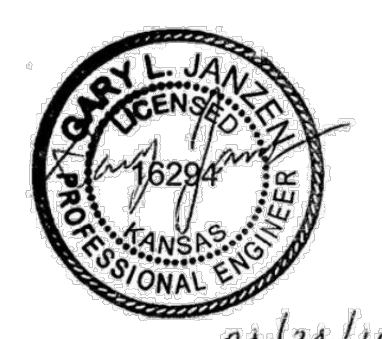
- ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
- NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
- APPROVED FLEXIBLE WATERSTOP SHALL BE INSTALLED TO JOIN THE SEWER PIPE TO THE MANHOLE WALL. THE SEWER PIPE SHALL BE SUPPORTED WITH CRUSHED ROCK 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 INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED PER SECTION 804.4 OF STANDARD SPECIFICATIONS.
- EXTERIOR MANHOLE WALLS SHALL BE COATED PER SECTION 804.4 OF STANDARD SPECIFICATIONS.
- JOINT SEALING COMPOUND SHALL BE PER 804.4 OF STANDARD SPECIFICATIONS.
- ALL MANHOLE SECTION JOINTS THAT WILL BE IN GROUNDWATER OR GREATER THAN 12' DEEP SHALL BE WRAPPED WITH AN EXTERNAL JOINT SEAL PER SECTION 804.4 OF STANDARD SPECIFICATIONS, AS INDICATED BY THE PLANS.
- PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE FOR DOG HOUSE MANHOLES.
- 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. 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.
- WALL THICKNESS SHALL BE 1" GREATER THAN MANHOLE DIAMETER IN FEET.
- OPENINGS SHALL BE CORE DRILLED INTO THE MANHOLE WALL WHEN OUTSIDE DROPS ARE CONSTRUCTED ON EXISTING MANHOLES. SUCH OPENINGS DRILLED 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. PIPE. THE NEW PIPE SHALL BE GROUTED INTO THE OPENING USING AN APPROVED NONSHRINK 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 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.
- 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 STANDARD MANHOLES SHALL NOT EXCEED 2' REGARDLESS OF PIPE SIZE. THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
- STANDARD 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.
- PRECAST CONCRETE SPACERS OR 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.
- THE FULL DIAMETER OF THE MANHOLE SHALL EXTEND THE ENTIRE DEPTH OF THE MANHOLE TO THE CONE SECTION. NO REDUCTION IN MANHOLE DIAMETER WILL BE ALLOWED.
- REFER TO PLANS FOR SIZE OF OUTSIDE DROP RISER, SADDLES AND CROSS.

**CITY OF WICHITA**  
PUBLIC WORKS & UTILITIES  
ENGINEERING DIVISION

**PRECAST SANITARY SEWER MANHOLE**  
CITY ENGINEER  
**GARY JANZEN, P.E.**

PROJECT NUMBER: OCA NUMBER: DATE:

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



**TIMOTHY R. AUSTIN**  
ENGINEER  
KS # 11496

200 N. EMPORIA, SUITE 100  
WICHITA, KANSAS 67203-4400-4309  
PH. (316) 268-4400  
www.kawvalley.com | www.keweg.com

**KAW VALLEY ENGINEERING**  
KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER ENGINEERING SERVICES IN THE STATE OF KANSAS STATE CERTIFICATE OF AUTHORIZATION # E-110. EXPIRES 12/31/14.

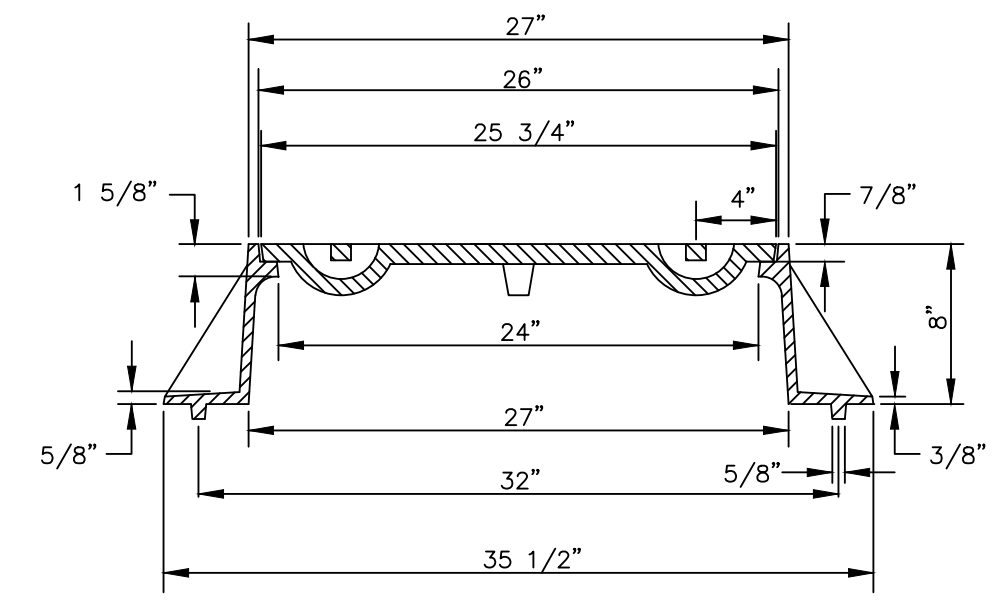
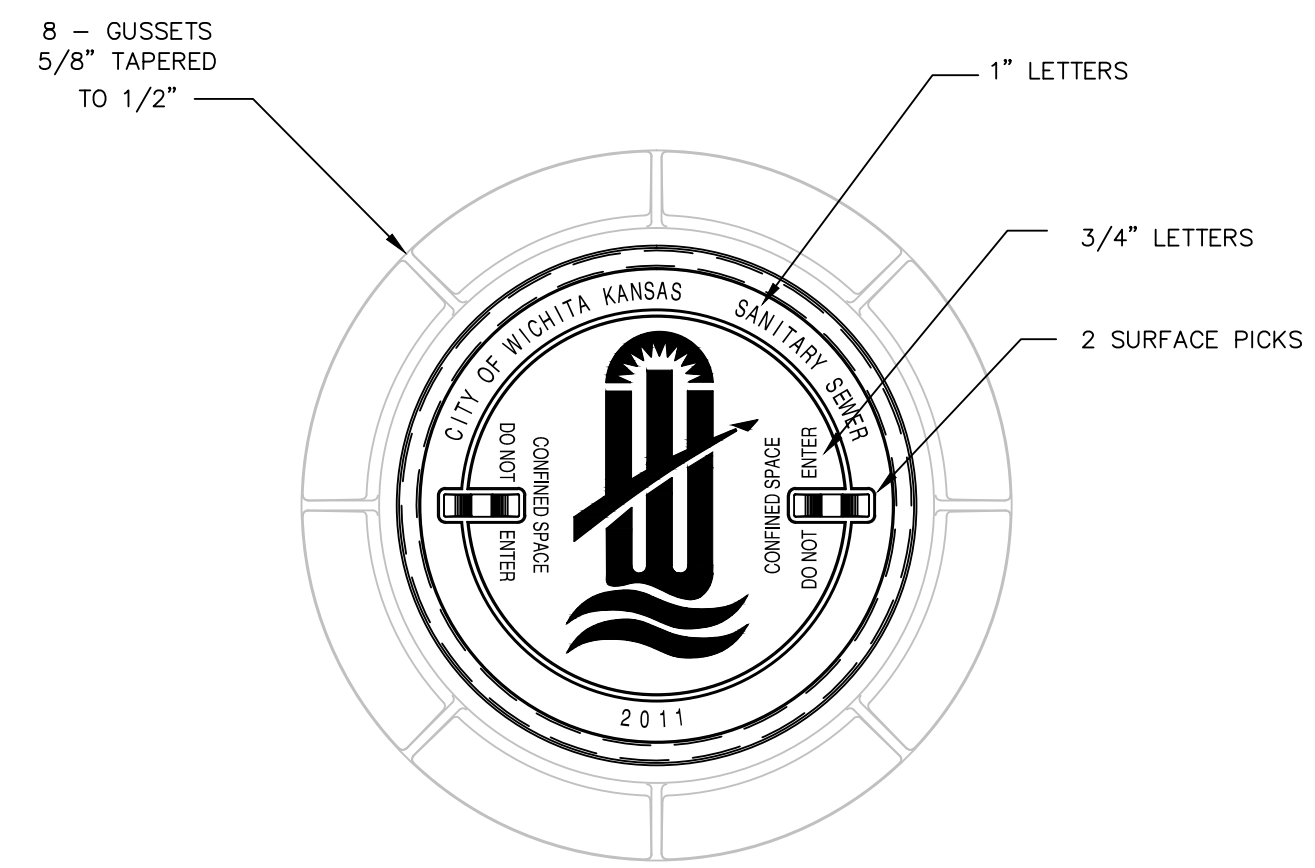
**LIFE CHURCH - 2206PPS**  
338 N 127TH ST  
WICHITA, KS

**SANITARY SEWER TITLE SHEET**

PROJ. NO. **G14D0017**  
DESIGNER **TRA**  
DRAWN BY **MLT**  
CFN **0017DET**  
SHEET **05\_SS DTL**

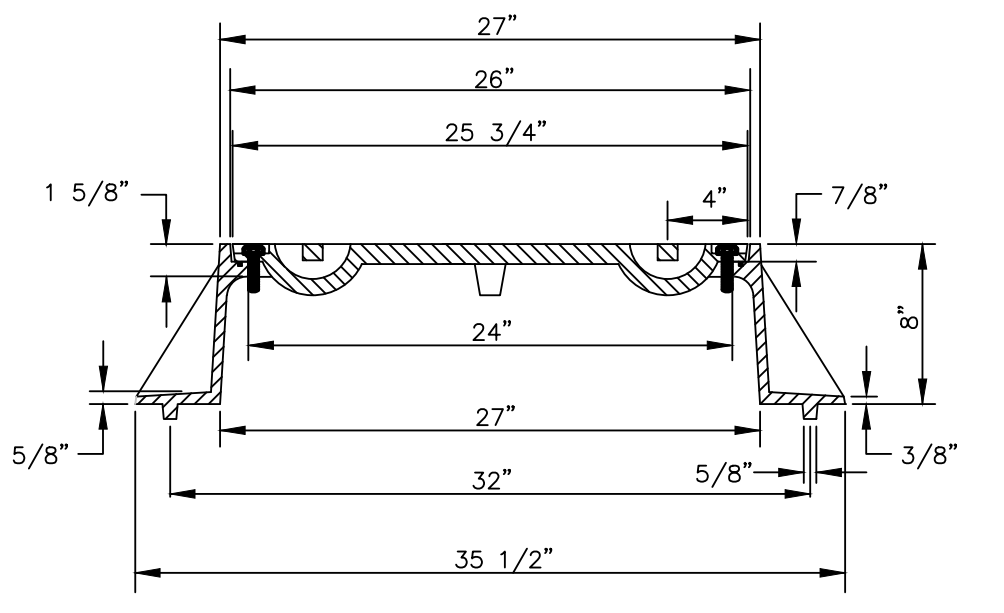
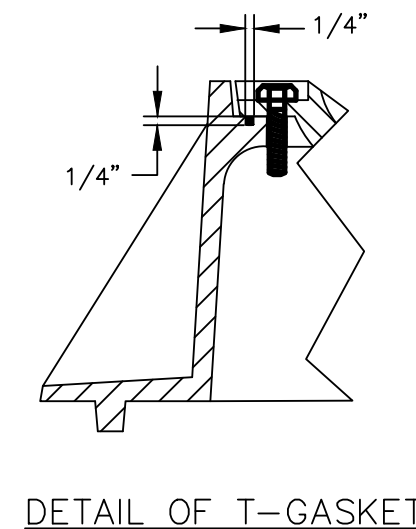
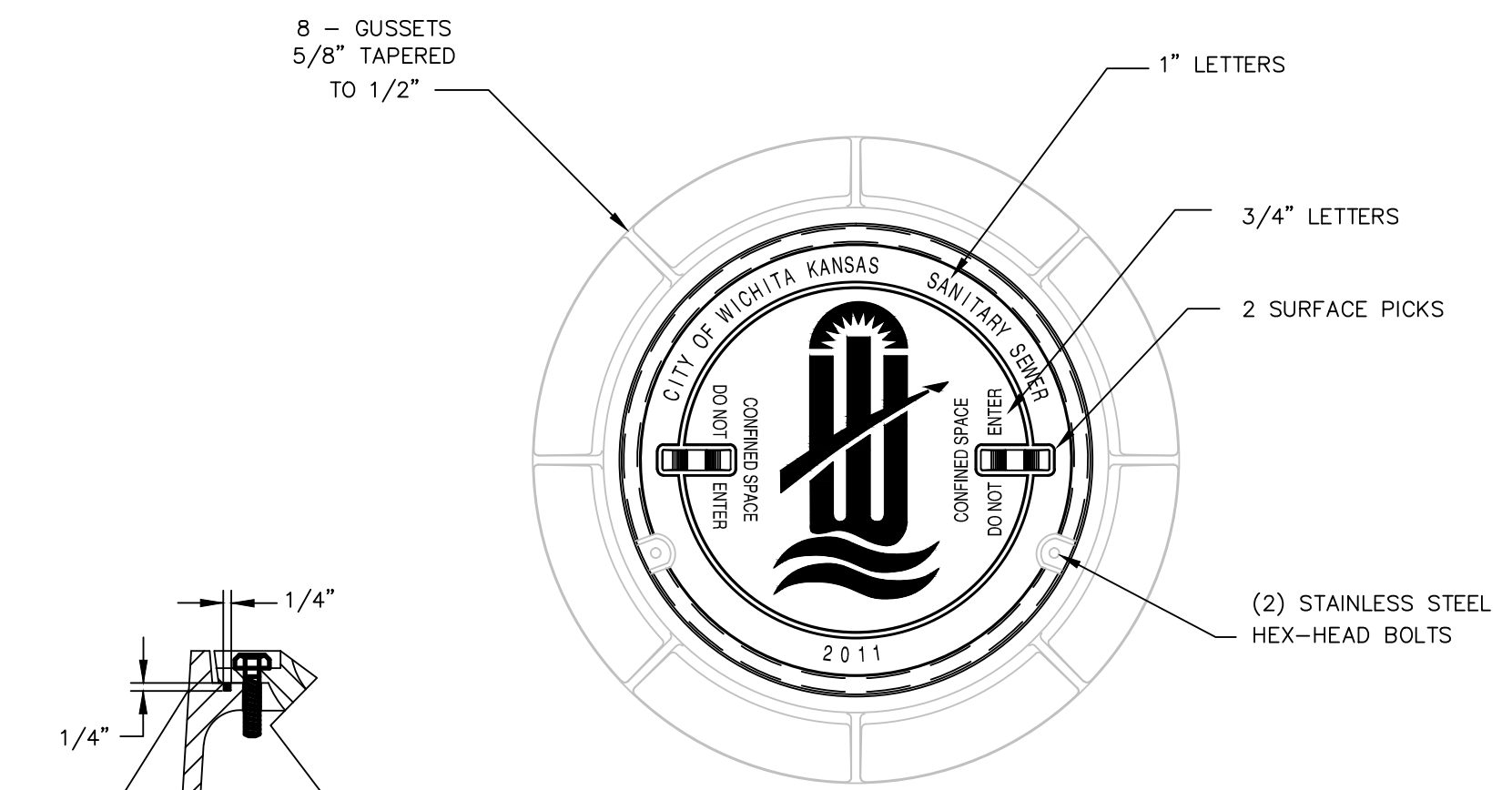
REV. DATE DESCRIPTION

DSN DWN CHK



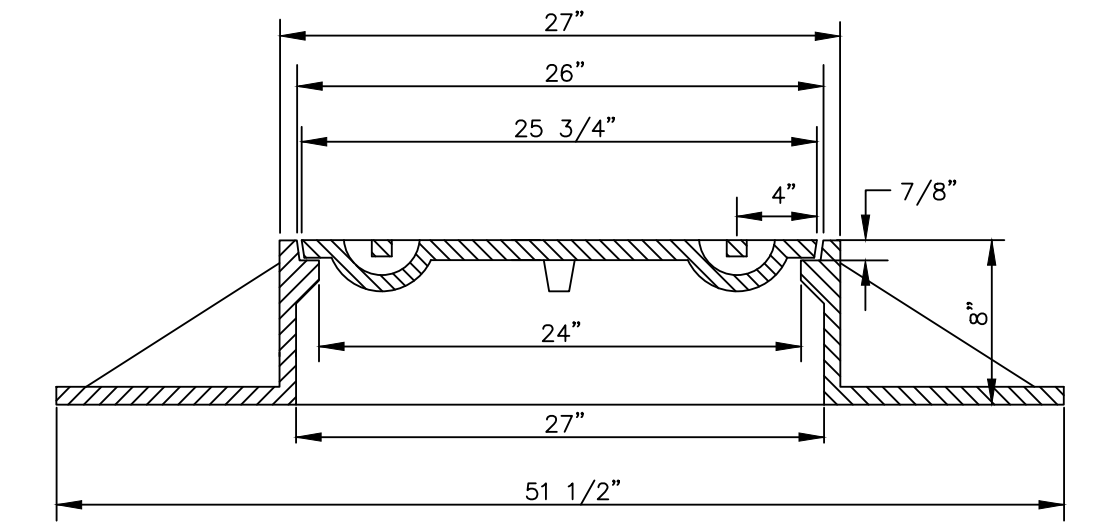
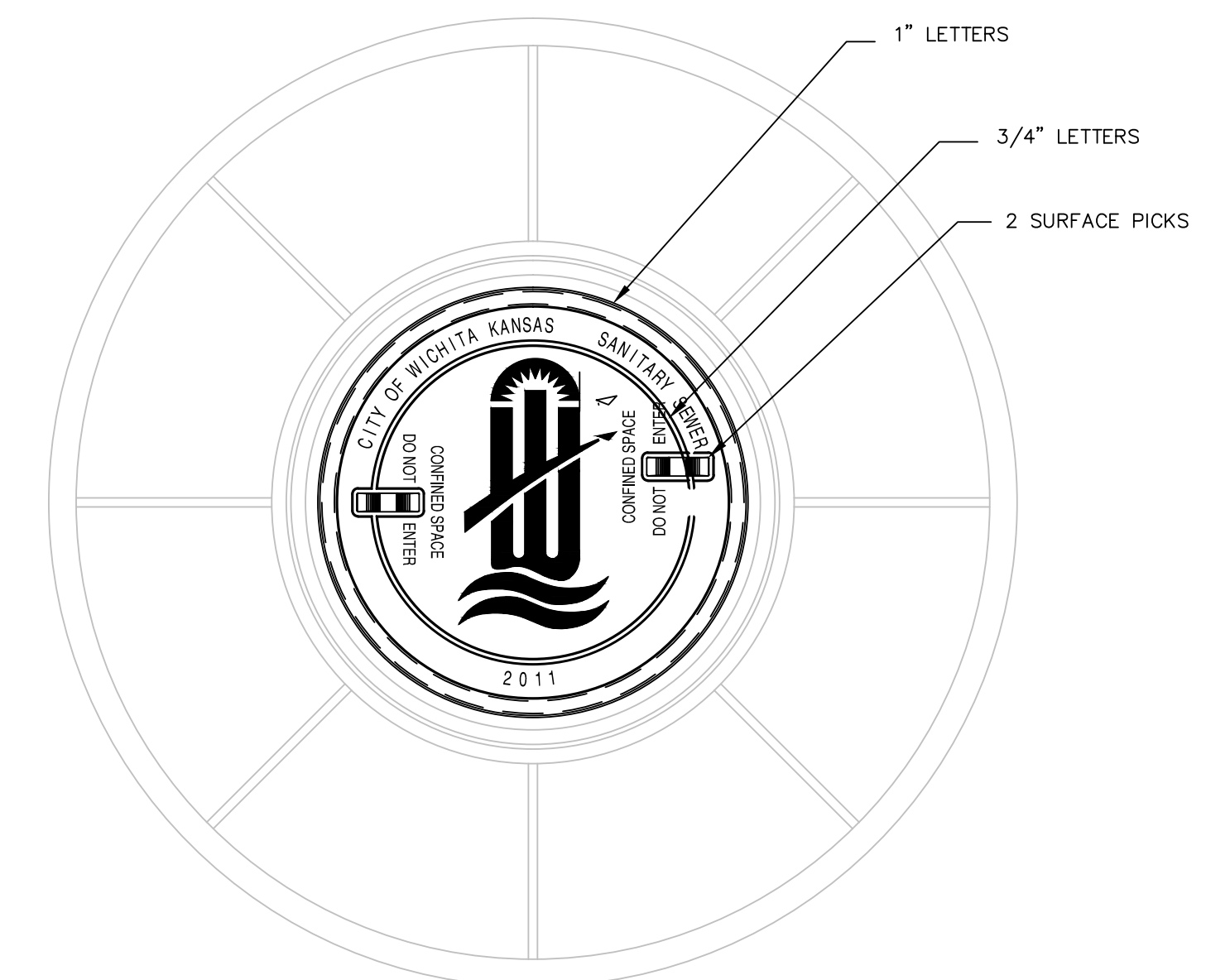
STANDARD MANHOLE FRAME & COVER  
DEETER #1261 OR EJIW #1936-Z1

NOTE:  
1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACE.



BOLT DOWN MANHOLE FRAME & COVER  
DEETER #1261 OR EJIW #1936-Z1

NOTE:  
1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACE.  
2. FURNISHED WITH A T-GASKET IN THE FRAME.



WIDE FLANGED FRAME & COVER  
DEETER #1261A

NOTE:  
1. FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACE.

GENERAL NOTES

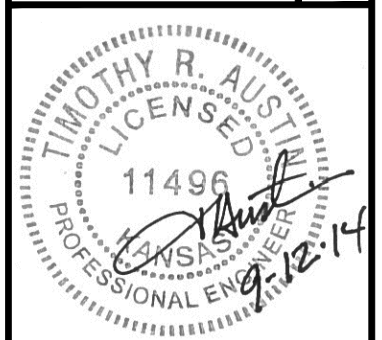
1. MANHOLE CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A.S.T.M. DESIGNATION A-48. DIMENSIONS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTIONS OR OTHER DEFECTS.
2. MANHOLE CASTINGS SHALL BE 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.
3. 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.
4. 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". THE TOP SURFACE OF THE COVER SHALL BE MANUFACTURED IN WITH CITY OF WICHITA 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 AND COVER (SANITARY SEWER)		
CITY ENGINEER GARY JANZEN, P.E.		
PROJECT NUMBER	OCA NUMBER	DATE
		12/2011
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501		SHEET
		0017DET

LIFE CHURCH - 2206PPS  
338 N 127TH ST E  
WICHITA, KS

PROJ. NO.	G14D0017
DESIGNER	TRA
DRAWN BY	MLT
CFN	0017DET
SHEET	06_SS DTL



TIMOTHY R. AUSTIN  
ENGINEER  
KS # 11496

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**KAW VALLEY ENGINEERING**

KAW VALLEY ENGINEERING, INC. IS AUTHORIZED TO OFFER ENGINEERING SERVICES UNDER THE KANSAS STATE CERTIFICATE OF AUTHORIZATION # E-113. EXPIRES 12/31/14.

REV	DATE	DESCRIPTION

SANITARY SEWER TITLE SHEET

DSN	DWN	CHK













G1-6-5

Restrictive Covenant F131 P915B1 / Restrictive Covenant F831 Pg 160  
" " R557 Pg 248 & 249

# GILDER'S GARDENS

SEDGWICK COUNTY, KANSAS.



State of Kansas  
County of Sedgwick } ss.

I, G. D. Johnson, a civil engineer, in said county and state, do hereby certify that I did this 20th day of December 1923 survey and plat Gilder's Gardens, Sedgwick County, Kansas, and that accompanying plat hereto and correct exhibit of the property as surveyed, described as follows: All the Northeast Quarter of Section 14, Township 21 N., Range 2 E., 3rd Meridian, Kansas, containing 320 acres, more or less, and the Northeast Quarter of said quarter section containing 155 acres.

S. D. Johnson, Civil Engineer.

I am known by all these present, that WC A.M. Gilder and Jessie E. Gilder (his wife) were caused the land described in the surveyor's certificate to be surveyed and platted into lots and streets, the same to be known as Gilder's Gardens - Sedgwick County, Kansas. The streets are hereby shown as follows:

Wm. S. Gilder  
Jesse E. Gilder

State of Kansas } ss.  
County of Sedgwick }

Be it remembered that on this 20 day of December 1923 before me a notary public in and for said county and State of Kansas, A.M. Gilder and Jessie E. Gilder (his wife) personally known to me, some of whose names are on the foregoing plat and duly acknowledged their execution of the same as their voluntary act and deed.

My commission expires June 24 1926.

State of Kansas } ss.  
County of Sedgwick }

I do hereby certify that this instrument was filed for record on the 27 day of Dec. 1923.

Wm. S. Gilder, Register of Deeds

Entered at Transfer record December 24 1923

Ed. A. Attn. County Clerk

G1-6-5

This digital plat record accurately reproduces in all details the original plat filed with the Sedgwick County Register of Deeds. Original plat on file with the Sedgwick County Geographic Information Systems.

Bill Meeck, Register of Deeds  
Digitized reproduction of original signature

LIFE CHURCH - 2206PPS  
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SANITARY SEWER TITLE SHEET

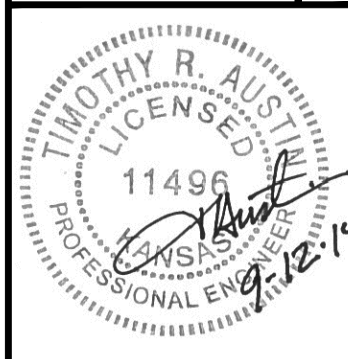
PROJ. NO.	G14D0017
DESIGNER	TRA
DRAWN BY	MLT
CFN	REV
SHEET	0017PLAT
13_PLAT	

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TIMOTHY R. AUSTIN  
ENGINEER  
KS # 11496



REV DATE DESCRIPTION

DSN DWN CHK

