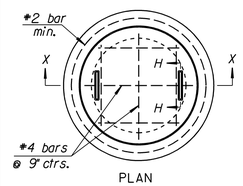
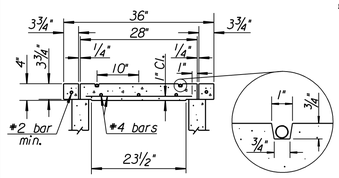
STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	87 N-0502-01	2009	44	226



PLAN

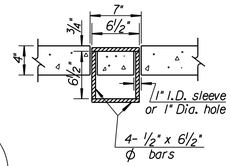
NOTE: Precast ring and cover may be substituted for light type cast iron ring and cover.

Handles shall be painted with two coats of zinc rich paint (commercial grade).



SECTION X-X

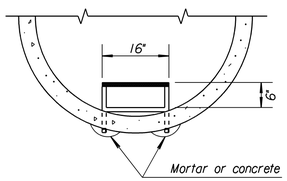
HANDLE RECESS



SECTION H-H

WELDED HANDLES (2 required)

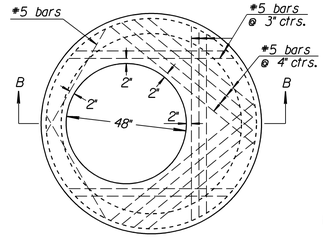
PRECAST RING AND COVER (LIGHT TYPE) (Optional)



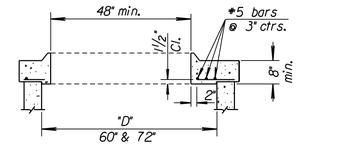
SECTION

SIDE VIEW

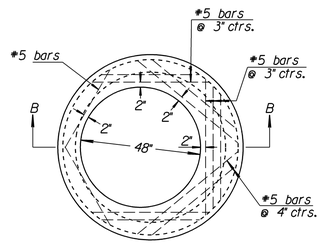
STEP IN MANHOLE WALL



PLAN (D=72")



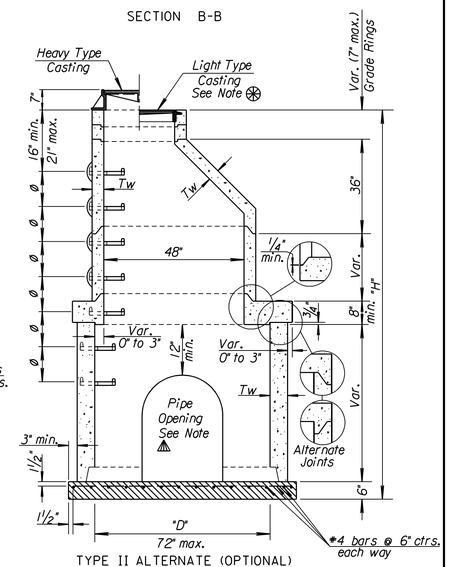
SECTION B-B



PLAN (D=60")

TYPICAL REINFORCING FOR REDUCING FLAT SLABS

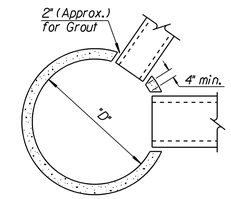
NOTE: Eccentric pipe decreasers may be used for transition of manhole diameter when "H" is sufficiently large.



TYPE II ALTERNATE (OPTIONAL) (SECTION)

May be used when "H" is sufficiently large.

DIMENSIONS & REQUIREMENTS			
Type	"D"	Tw(min.)	◊
I or II	48"	‡ 4"	24"
II	60"	5"	30"
II	72"	6"	48"



SKETCH SHOWING MIN. WALL BETWEEN PIPES

LEGEND (Concrete)

Precast

Cast in field

Ø Steps shall be uniformly spaced. Spacing shall be 12 minimum and 16½" maximum.

‡ 5" Tw (min.) for portion of sanitary sewer manhole below 16 feet.

◊ Maximum sewer pipe allowed for "D" shown. Increase "D" to provide 4 inch minimum wall between pipes. (see sketch)

(NOTE) Type II manhole required:
1. When distance from top of manhole to top of sewer pipe is less than 42 inches.
2. For sewer pipes greater than 24 inches.
3. To provide 4" min. wall between pipes. (see sketch)

GENERAL NOTE

Precast risers, cones, flat top slabs, reducing flat slabs, floors, grade rings, and rings and covers shall be manufactured according to the most recent ASTM C-478 Specifications and special provisions with specific details as shown on this sheet. Cone section shall be the eccentric type.

All manhole construction shall be water tight. All joints shall be filled with mortar or plastic joint compound as specified in the Standard Specifications. No payment will be made for this work.

When so ordered by the Engineer the top of the manhole shall be sloped slightly to approximately fit the ground line or other conditions.

Grade rings shall be formed with tongue and groove or lugs and notches. Grade rings shall be set in mortar.

When field conditions require "H" to be adjusted additional grade rings may be used as directed by the Engineer.

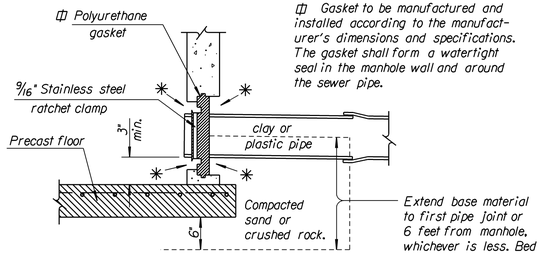
Contractor shall determine pipe locations in the field prior to ordering manholes, to insure proper positioning of pipe openings.

All dimensions relative to reinforcing steel are to center of bars unless otherwise noted.

Floor of manhole to be shaped as shown on Standard Drawing RD633. No additions in concrete quantities shall be made for shaping floor of manholes.

Steps shall be installed in all storm sewer manholes when specified in the plans or when "H" is equal to or greater than six feet. Steps shall comply with the requirements of the KDOT Standard Specification.

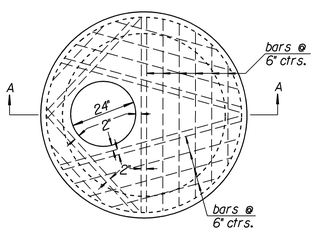
For notes and details on Cast Iron Manhole Covers and Rings see Standard Drawing RD633.



Gasket to be manufactured and installed according to the manufacturer's dimensions and specifications. The gasket shall form a watertight seal in the manhole wall and around the sewer pipe.

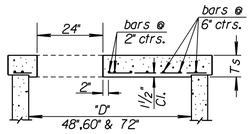
MANHOLE WITH POLYURETHANE GASKET (OPTIONAL)

✳ Fill opening in manhole wall, around Sewer Pipe, with grout or concrete. (to prevent pipe movement)



PLAN

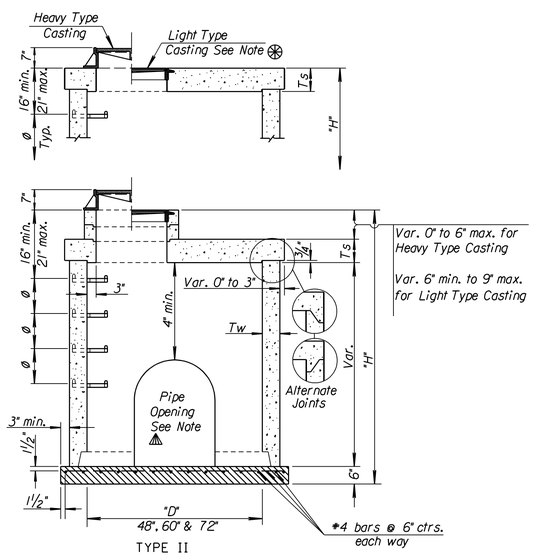
TYPICAL REINFORCING FOR FLAT TOP SLABS



SECTION A-A

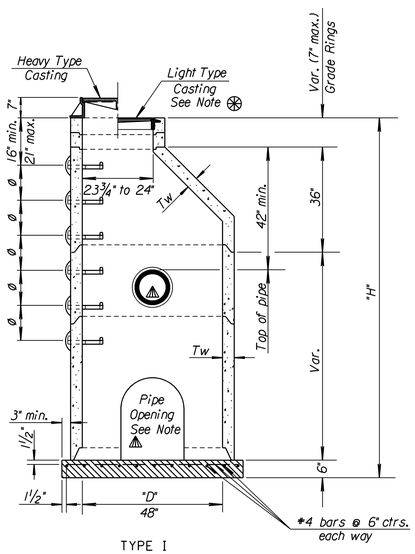
SLAB & BAR TABLE		
"D"	Ts(min.)	Bar size
48"	6"	#4
60"	6"	#4
72"	8"	#5

NOTE: Welded wire mesh of equivalent cross-sectional area may be substituted for bars @ 6" ctrs. (4 layers max.). Bars @ 2" ctrs. around opening to be as shown.



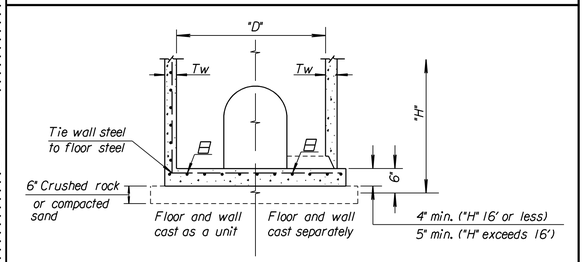
TYPE II (SECTION)

⚠ Openings for sewer pipes to be as follows:
Formed Openings: A one inch keyway shall be formed around the pipe opening.
Roughed In Openings: Reinforcing shall be left in place around the sewer pipe to reinforce the grout. Concrete shall be left rough to provide bond for grout.



TYPE I (SECTION)

✳ NOTE: Light type cast iron ring shall be set in flat top slab or grade ring as shown. This grade ring may be precast or cast in the field. Reinforcing for grade ring cast in the field shall be a #2 circular bar (min.).



PRECAST FLOOR

⊟ Floor reinforcing shall be double the reinforcing required for wall or #4 bars @ 6" ctrs. each way.

NO.	DATE	REVISIONS	BY	APP'D
6	12-11-97	Revised step spacing	R.J.S.	J.O.B.
5	10-23-92	Revised step & detailed on CADD	R.J.S.	J.O.B.
4	10-10-83	Added pipe location note	W.L.H.	L.R.P.

KANSAS DEPARTMENT OF TRANSPORTATION

PRECAST MANHOLES

RD629

FHWA APPROVAL	02-02-98	APP'D. James O. Brewer	
DESIGNED	DETAILED	QUANTITIES	TRACED M.R.R.
DESIGN CK.	DETAIL CK.	QUAN.CK.	TRACE CK. R.J.S.

Drawn By : $$USERNAME$$ Plotted : $$$$$SYTIME$$$$$$
File : $$$$$$$$$$$$$$DGNSPEC$$$$$$$$$$$$$$$$