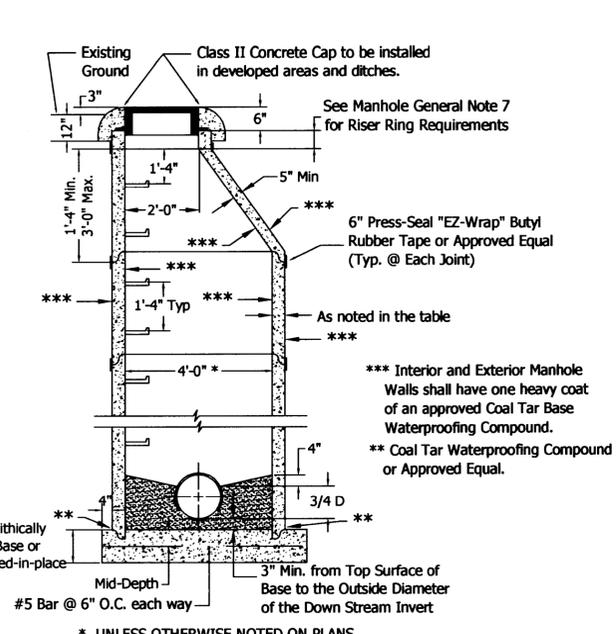
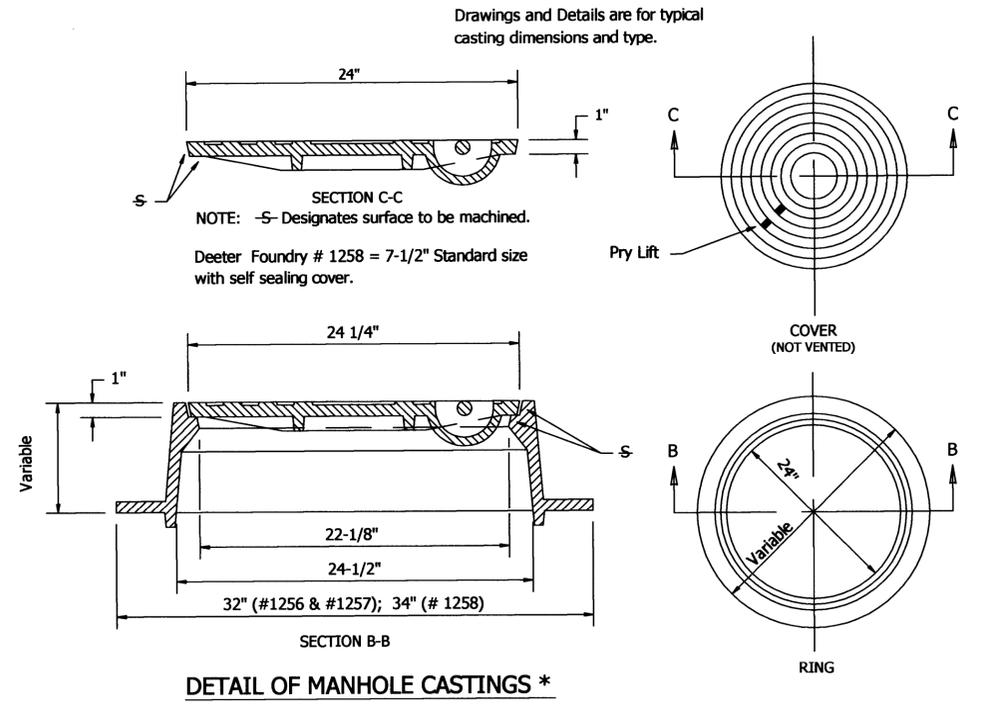


Manhole Diameter	Minimum Manhole Wall Thickness
4'-0"	5"
5'-0"	6"
6'-0"	7"
8'-0"	9"
10'-0"	11"

**5' AND GREATER STANDARD PRECAST MANHOLE (ECCENTRIC CONE)**  
No Scale



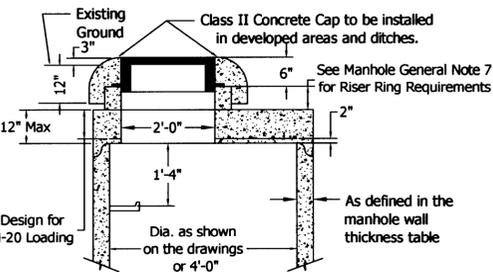
**4' DIA. STANDARD PRECAST MANHOLE (ECCENTRIC CONE)**  
No Scale



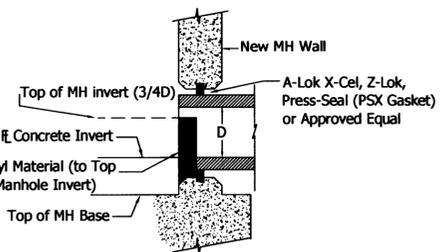
**DETAIL OF MANHOLE CASTINGS \***

**MANHOLE GENERAL NOTES:**

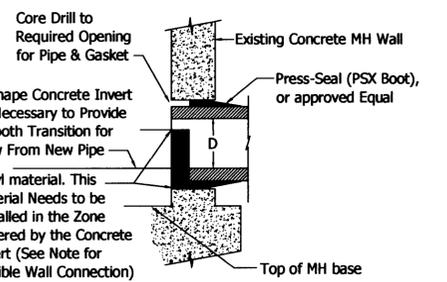
- All manhole rings shall be set in a minimum of two (2) rows of 3/4 to 1 inch pre-formed butyl joint sealer.
- The inside diameter of the manhole shall be 4'-0" for pipe diameters from 8" thru 24" and shall be 5'-0" for pipe diameters from 27" thru 36". In addition, the inside diameter (ID) of manholes up to 20 feet deep shall be 4'-0". ID shall be 5'-0" for depths up to 25 feet and ID shall be 6'-0" for depths exceeding 25 feet unless otherwise noted on the plans.
- All manhole bases (pre-cast or poured-in-place) shall have No. 5 reinforcing bars placed on 6" centers both ways.
- Maximum grade adjustment allowable is 8". Minimum allowable thickness for precast concrete grade adjustment ring is 4".
- Reinforcement in all precast sections shall equal or exceed A.S.T.M. C-478 specifications.
- Butyl material to be used at all precast sections joints. O-Rings may be used for joints below the cone section, but the cone section itself shall not have O-ring joints.
- Riser Rings:
  - Manholes in Pavement: The thickness of the recycled rubber riser rings shall not be less than one (1) inch nor greater than four (4) inches. If the required thickness of riser rings exceeds 4 inches, a 4-inch or 6-inch precast concrete riser ring may be installed between the rubber riser ring and the cone. Riser rings may be used up to a maximum of 12 inches. The minimum number of riser rings required to achieve the necessary adjustment shall be used. The rubber riser rings shall be tapered to match the slope of the existing or proposed pavement at the manhole. The joints between the cone, rubber riser rings, and casting shall be sealed with the manufacturer-supplied sealant.
  - Manholes Not in Pavement: All manholes shall be provided with riser ring(s) underneath the casting as shown on Drawings. A minimum of one (1) 4-inch riser ring shall be installed on top of the cone section. If a greater depth of adjustment rings is necessary, a combination of 4-inch and 6-inch riser rings may be used up to a maximum of 12 inches of riser rings. The minimum number of riser rings required to achieve the necessary adjustment shall be used. If precast concrete riser rings are used, the joints between the cone, riser rings, and casting shall be sealed with a double bead of preformed butyl rubber sealant. If recycled rubber riser rings are used, the joints between the cone, rubber riser rings, and casting shall be sealed with the manufacturer-supplied sealant.
- Brick and mortar adjustments will not be allowed.



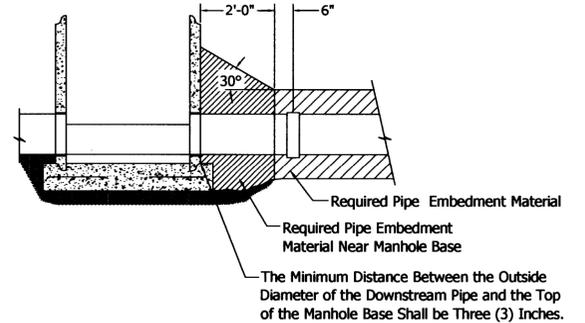
**STANDARD PRECAST MANHOLE (SHALLOW TYPE)**  
No Scale



**FLEXIBLE WALL CONNECTION DETAIL**  
No Scale



**EXISTING WALL CONNECTION DETAIL**  
No Scale



**MANHOLE BASE SECTION**  
No Scale

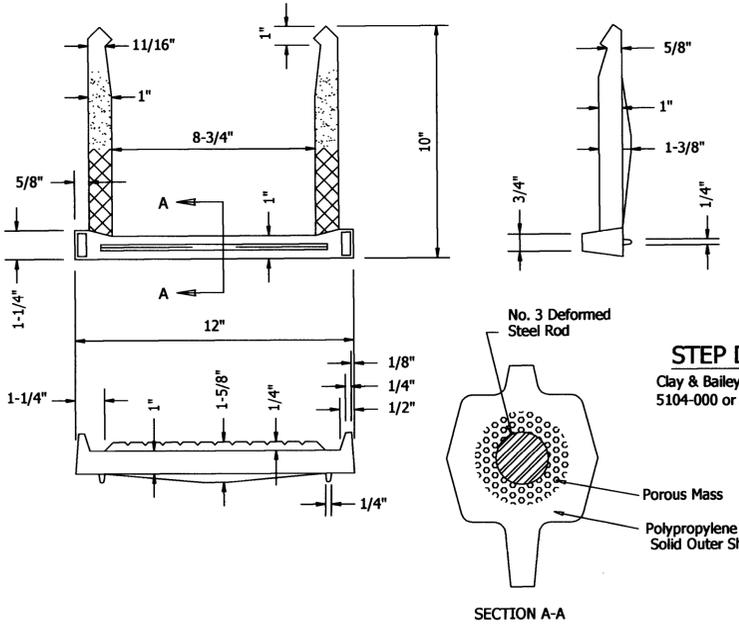
- Notes:
- First joint of RCP or VCP pipe shall be embedded in concrete to within 6" of the first joint.
  - If flexible or semi-flexible pipe is used, flexible wall connector must be used.
  - If a flexible wall connection is used in conjunction with PVC or Ductile Iron pipe, a standard flexible embedment shall be used.
  - Flexible wall connections shall be press A-LOK X-CEL, Z-LOK, Press-Seal (PSX Boot-Type Gasket) or approved equal.

**MANHOLE CONSTRUCTION NOTES:**

All manhole construction shall be water tight.  
 All precast concrete manhole sections shall conform to A.S.T.M. designation C-478.  
 Cement used in manhole walls to be Type II or Type V & shall conform to A.S.T.M. designation C-150.  
 All reinforcing bars shall be Grade 60, deformed and shall conform to A.A.S.H.T.O. M 31-74.  
 Welded wire fabric reinforcement shall conform to A.A.S.H.T.O. M55-73(A.S.T.M. 187-72).  
 Compressive strength of concrete shall be not less than 4,000 p.s.i.  
 Other pre-approved precast Manholes may be used in lieu of those shown on this sheet.

\* Manhole castings will be supplied by the City of Hutchinson Sewer Maintenance Department (694-1900) at no charge, if the project is being let by the City. If the contract is being let by the developer the Contractor shall contact the Sewer Maintenance Department to get a cost for the rings and covers which he will need to include in his bid. The typical casting provided by the City will be a Deeter #1257.

Manhole castings are to be Deeter Foundry's #1256, #1257, #1258 or approved equal.  
 Minimum Weight-Cover 110 lbs., Ring 190 lbs.  
 Manhole ring and cover shall be manufactured from Gray Cast Iron conforming to A.S.T.M. Designation A48, Class 25B.  
 The rings and covers shall be supplied with machined bearing surfaces so fitting parts will not rattle or rock under traffic.  
 For all castings grind all burrs smooth, thoroughly clean, then apply shop coat of coal tar enamel.



**STEP DETAILS**  
Clay & Bailey Mfg. Co. No 5104-000 or approved equal.

**INSTALLATION**

Steps may be driven into wet concrete wall during manufacturing or set with expanding grout.



NO.	DATE	REVISION	BY	APP'D
<b>STANDARD MANHOLE DETAILS FOR SANITARY SEWERS</b>				
<i>City of Hutchinson</i>				DRAWN BY <b>GTD</b>
<i>City of Hutchinson</i>				APPROVED BY <b>JSP</b>
Date 10/15/2013	Standard Detail 04	Sheet No. ####	OF	####