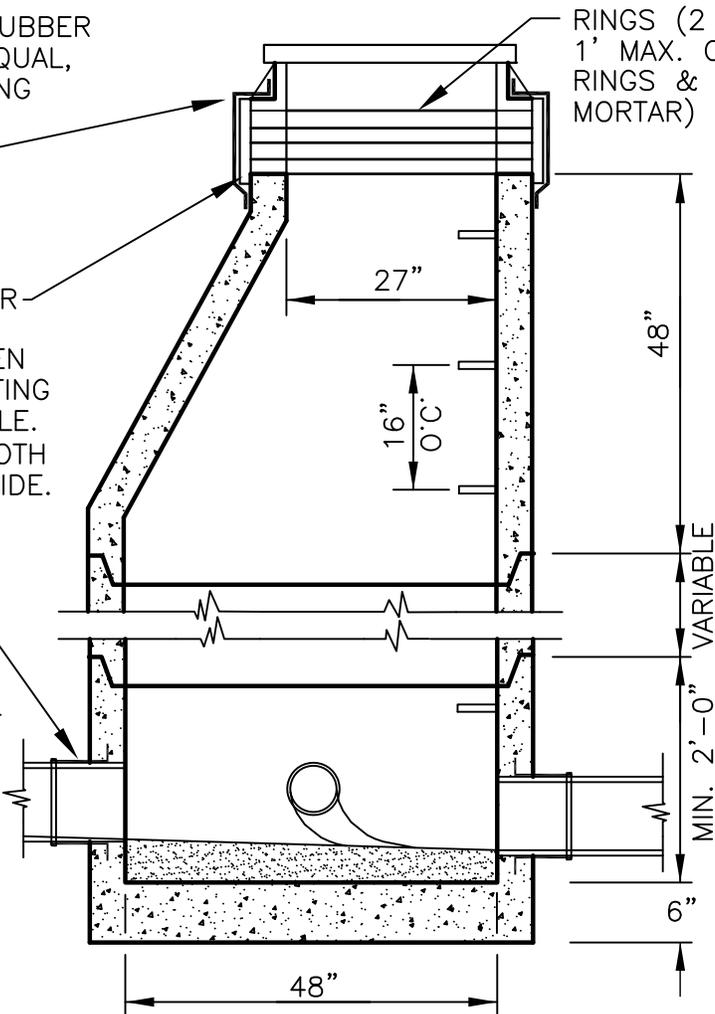


INFI-SHIELD
EXTERNAL RUBBER
SEAL, OR EQUAL,
FROM CASTING
OVER RINGS
TO CONE.

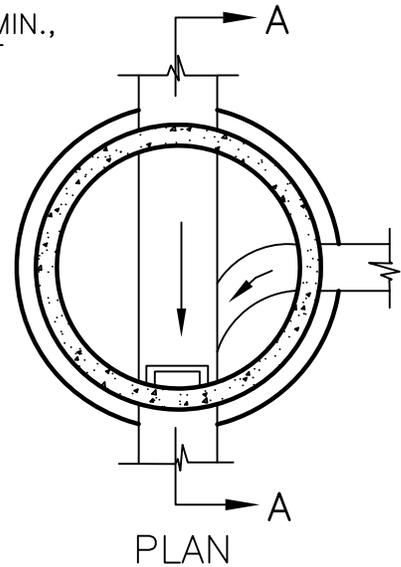
1/2" MORTAR
ON OUTSIDE
AND BETWEEN
RINGS, CASTING
AND MANHOLE.
FINISH SMOOTH
ON THE INSIDE.

MANHOLE
SLEEVE
SEE DETAIL

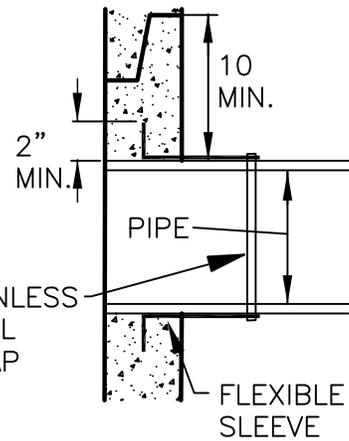
RINGS (2 MIN.,
1' MAX. OF
RINGS &
MORTAR)



SECTION A-A



PLAN



MANHOLE SLEEVE

NO WOOD SHALL BE USED FOR ADJUSTING CASTING; CEMENT MORTAR ONLY.

CAST IRON MANHOLE FRAME & COVER AS PER SPECIFICATIONS (1642 B).

MANHOLE STEPS SHALL BE CAST IRON, ALUMINUM, OR STEEL REINFORCED PLASTIC, PER ASTM C478, LOCATED OVER DOWNSTREAM PIPE.

PRECAST REINFORCED CONCRETE MANHOLE SECTIONS PER ASTM C478, FURNISHED WITH O-RING GASKETS & LUBRICANT EXCEPT AS OTHERWISE SPECIFIED.

LIFT HOLES NOT PERMITTED IN MANHOLE SECTIONS.

A 12" OR 16" BARREL SECTION SHALL BE INSTALLED UNDER THE CONE WHENEVER POSSIBLE.

PIPE CONNECTIONS TO MANHOLE SHALL BE MADE WATER TIGHT BY CAST INPLACE RUBBER SLEEVE & CEMENT MORTAR. INSIDE SURFACE SHALL BE FINISHED SMOOTH.

PLACE "RAM-NECK" OUTSIDE OF O-RING GASKET ON ALL MANHOLE JOINTS BELOW WATER TABLE.

ALL MORTAR SHALL CONFORM TO ASTM C270 AND MEET THE REQUIREMENTS OF MNDOT 2506.2B.

SANITARY SEWER MANHOLE, TYPE 301 (PIPES 27" OR LESS)

5/22/06



STANDARD DRAWING
NO.
301B

1/2" MORTAR ON OUTSIDE;
BETWEEN RINGS, CASTING &
MANHOLE. FINISH SMOOTH
ON THE INSIDE.

RINGS (2 MIN., 1.0'
MAX. OF RINGS
AND MORTAR)

MJDIP (CL.50) PIPE AND FITTINGS TO
BE USED FOR DROP SECTION.

END OF DIP PIPE TO BEAR
ON UNDISTURBED SOIL

18' MIN. DIP

CONSTRUCTION JOINT
IF NECESSARY.

OUTSIDE DROP TO BE SECURED
TO MANHOLE WITH 3" X 14 GA.
GALV. STRAPS ANCHORED W/4
EA. 3/8" KWIK BOLTS @ 5' O.C.

VARIES (SEE PLAN)

WATERTIGHT
SEAL

12"
OR
16"

VARIABLE

2'-0"
MIN.

SLOPE INVERT
AS SHOWN

D/2

6"

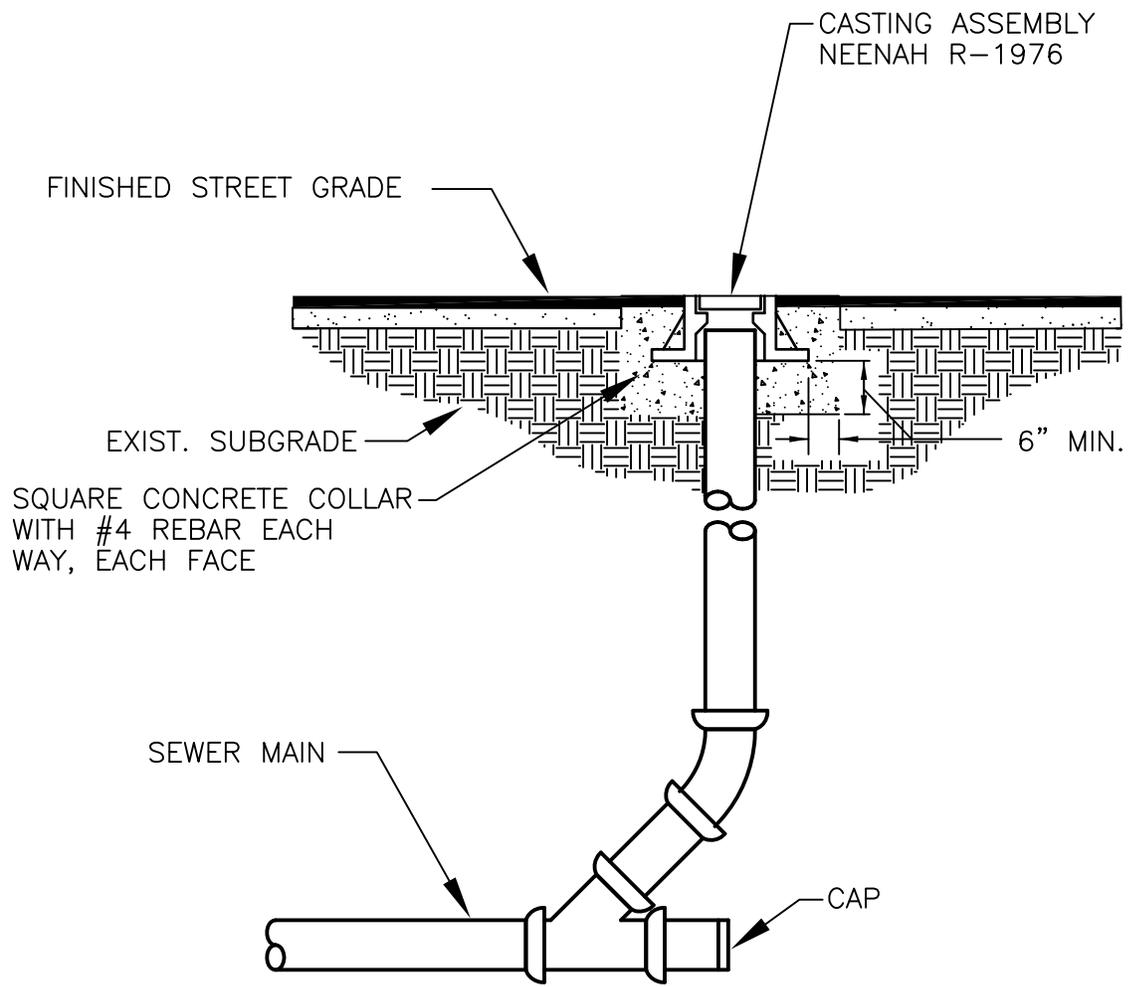
ALL MORTAR SHALL CONFORM TO ASTM C270 AND MEET THE REQUIREMENTS OF MNDOT 2506.2B.

OUTSIDE DROP SANITARY SEWER MANHOLE

5/22/06



STANDARD DRAWING
NO.
306A



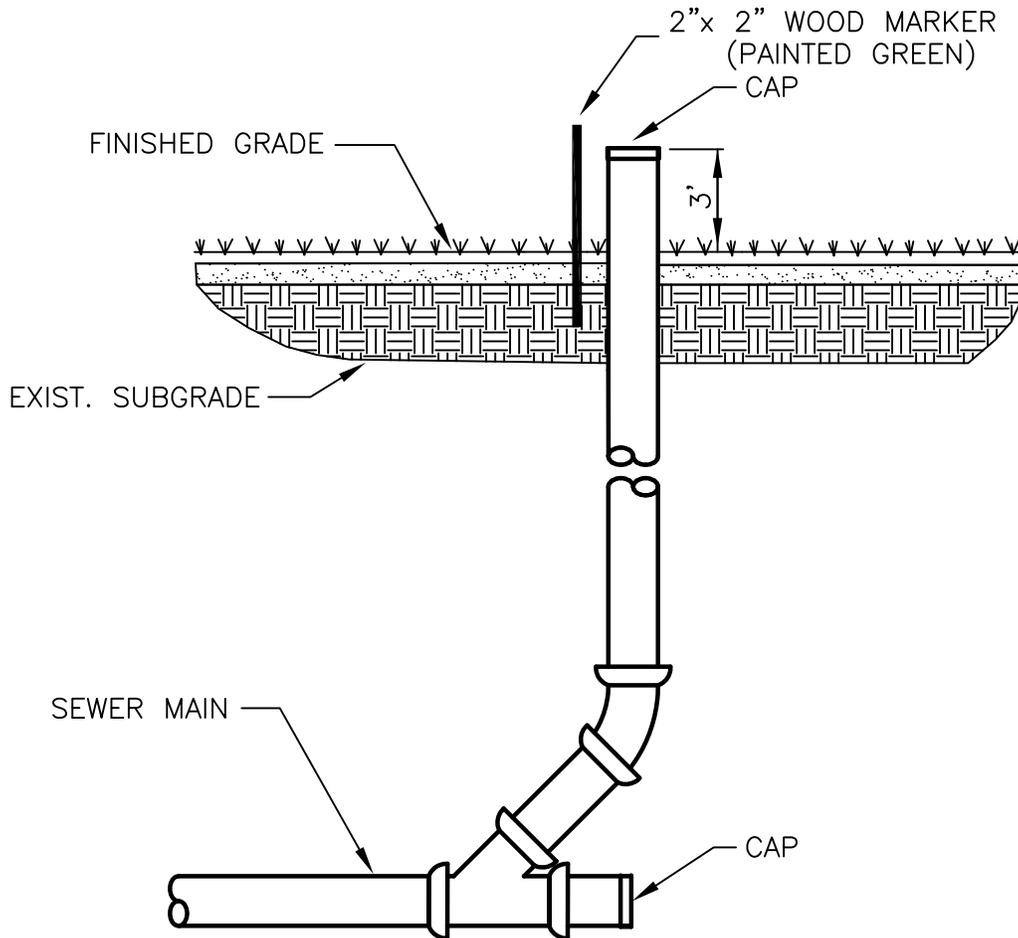
NOTE:
BENDS AND RISER TO BE 8"

MAINLINE SANITARY SEWER CLEANOUT (IN STREET)

5/22/06



STANDARD DRAWING
NO.
309



NOTE:
BENDS AND RISER TO BE 8"

TEMPORARY CLEANOUT
MAINLINE SANITARY SEWER
(OUTSIDE OF STREET)

5/22/06

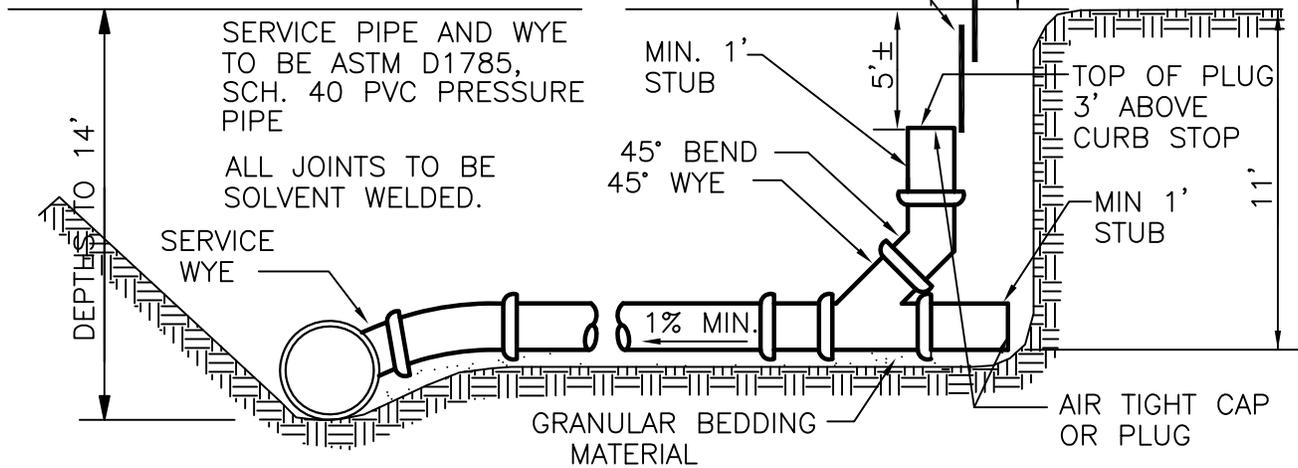


STANDARD DRAWING
NO.
310

NOTES: SAN SERVICE PIPE TO BE 3' FROM WATER SERVICE

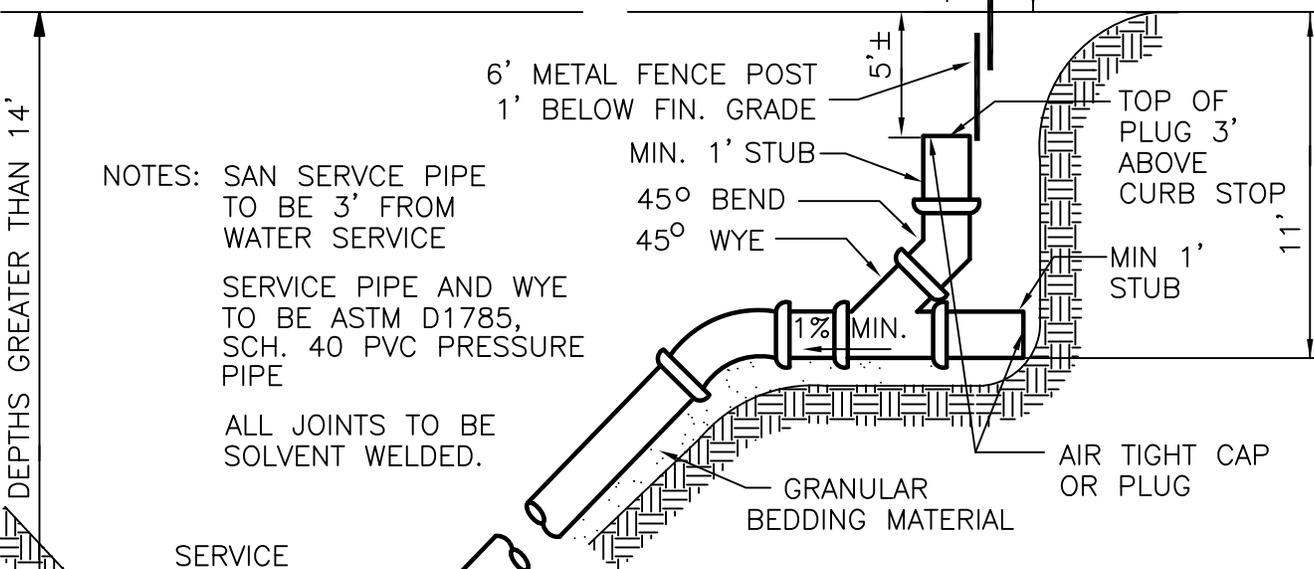
6' METAL FENCE POST 1' BELOW FIN. GRADE

4' METAL FENCE POST MARKER PAINTED GREEN



WITHOUT RISER

4' METAL FENCE POST MARKER PAINTED GREEN



NOTES: SAN SERVICE PIPE TO BE 3' FROM WATER SERVICE

6' METAL FENCE POST 1' BELOW FIN. GRADE

MIN. 1' STUB
45° BEND
45° WYE

TOP OF PLUG 3' ABOVE CURB STOP

MIN 1' STUB

WITH RISER

SANITARY SEWER SERVICE DETAIL (WITH CLEANOUT)

SERVICE WYE TO BE EMBEDDED IN CONCRETE (2 BAGS MINIMUM)

5/22/06



STANDARD DRAWING NO. 312B