

32" Ductile Iron Manhole Frame and Cover. Match top of cover with pavement or set cover up to 1/4" (max.) above finished grade in residential areas. See figures 20 and 21 for manhole frame and cover details.

Manholes constructed within 100 year flood plain shall have watertight ring and lid.

40" O.D x 30" I.D. Precast Concrete Grade Rings

Use double ring of 1/2" GS/5 Precast Concrete Sealant, as manufactured by General Sealants, Inc., or CS-102 Con Seal, as manufactured by Concrete Sealants, Inc., to seal ring to concrete and between grade rings. (See Note 1.)

All concrete shall be class A 3,000 psi compressive strength.

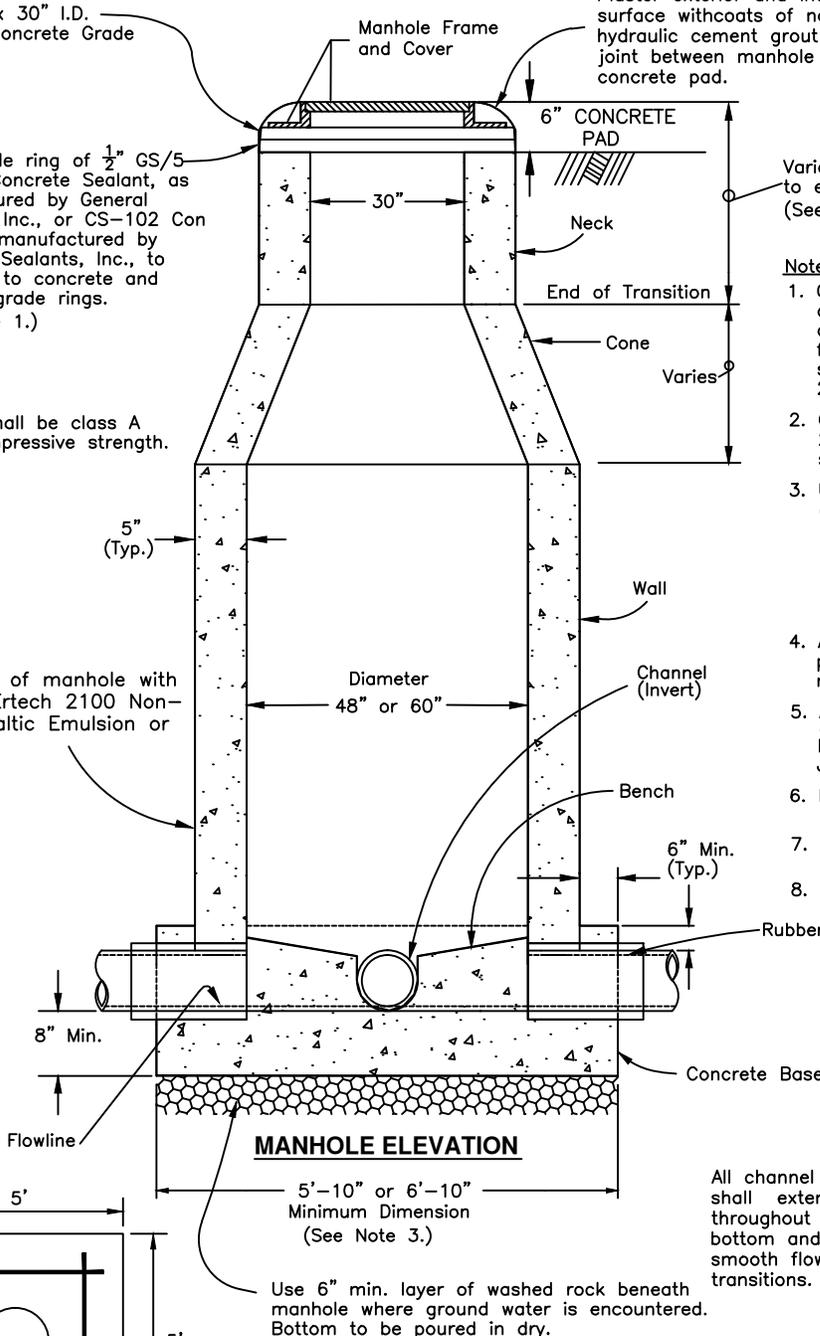
Coat exterior of manhole with 2 coats of Ertech 2100 Non-Fibred Asphaltic Emulsion or equal.

Plaster exterior and interior surface withcoats of non-shrink, hydraulic cement grout including joint between manhole top and concrete pad.

Variable, but not to exceed 2' - 6". (See Note 1.)

Notes:

- Grade rings may be used to adjust neck 12" or less. When adjustment is greater than 12", contractor shall use sono tube and place concrete for neck adjustment. Precast concrete grade rings shall be constructed by manufacturer in standard 2", 3", 6", 8" and 12" heights.
- Contractor shall not remove any forms until 24 hours after concrete is placed. No backfill shall begin until 96 hours after concrete is placed.
- Use 60" inside diameter manholes under any of the following:
 - depth from top of cover to bottom MH is 10' or greater
 - pipes into manhole are 15" diameter or larger
 - manhole is a drop manhole
- All manhole inverts shall be full depth of sewer pipes. All inverts shall be formed to center of manhole and shall provide smooth flow transitions.
- All Manholes shall be installed with 5'x5'x6" thick concrete pad with manhole covers in center of pad. Pads shall be reinforced with four No. 4 rebars. Joint Seal around concrete pads.
- Install approved 6' high fiberglass MH marker within 12" of pad in undeveloped area.
- Contractor shall rub all interior surfaces to a smooth finish.
- Grout and Seal between concrete pad and HMAC pavement.



5" (Typ.)

Diameter 48" or 60"

Wall

Channel (invert)

Bench

6" Min. (Typ.)

Rubber boot at all pipe penetrations (typ.)

Concrete Base

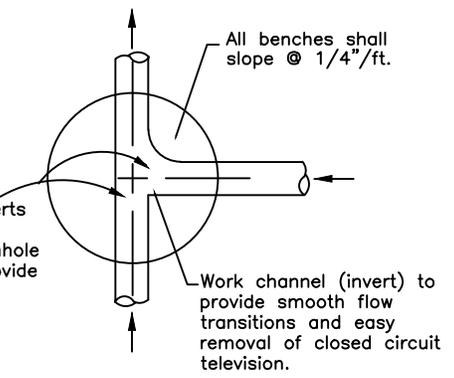
Flowline

MANHOLE ELEVATION

5'-10" or 6'-10" Minimum Dimension (See Note 3.)

Use 6" min. layer of washed rock beneath manhole where ground water is encountered. Bottom to be poured in dry.

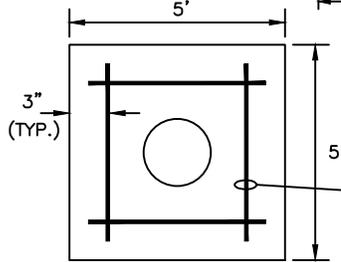
#4 BARS (TYP.)



All benches shall slope @ 1/4"/ft.

All channel inverts shall extend throughout manhole bottom and provide smooth flow transitions.

Work channel (invert) to provide smooth flow transitions and easy removal of closed circuit television.



MANHOLE PAD (6" thick) PLAN

**FIGURE 16
CAST IN PLACE SANITARY
SEWER MANHOLE
ARLINGTON WATER UTILITIES**