

SECTION 02701 - PRECAST CONCRETE MANHOLES

City of San Diego, CWP Guidelines

PART 1 -- GENERAL

1.1 WORK OF THIS SECTION

- A. The WORK of this Section includes providing precast concrete manholes and related appurtenances.

1.2 RELATED SECTIONS

- A. The WORK of the following Sections applies to the WORK of this Section. Other Sections of the Specifications, not referenced below, shall also apply to the extent required for proper performance of this WORK.

1. Section 02140 Dewatering
2. Section 02200 Earthwork
3. Section 03400 Precast Concrete
4. Section 06650 Plastic Liner for Concrete Surfaces
5. Section 09800 Protective Coating

1.3 SPECIFICATIONS AND STANDARDS

- A. Except as otherwise indicated, the current editions of the following apply to the WORK of this Section:

1. ASTM A 48 Specification for Gray Iron Castings
2. ASTM C 478 Specification for Precast Reinforced Concrete Manhole Sections

1.4 SHOP DRAWINGS AND SAMPLES

- A. The following shall be submitted in compliance with Section 01300:
 1. Design calculations and detailed drawings of manhole component sections.
 2. Shop drawings of cast iron frames and covers, and all appurtenances.

1.5 INSPECTION

- A. After installation, the CONTRACTOR shall demonstrate to the CONSTRUCTION MANAGER that all manholes have been properly installed, level, with tight joints, and at the correct elevations.

PART 2 -- PRODUCTS

2.1 MANHOLE SECTIONS

- A. Precast concrete manhole risers, grade rings, tops, cones, and base sections shall be designed and constructed in accordance with the requirements of ASTM C 478.
- B. Mortar for joining manhole sections shall consist of 1 part cement to 2-1/2 parts of sand by volume.
- C. Risers, base sections, and all exposed concrete shall be lined with PVC sheet complying with Section 06650. PVC shall be T-Lock or Linabond.

2.2 FRAMES AND COVERS

- A. Manhole frames and covers shall be non-rocking and shall conform to the requirements of ASTM A 48, Class 30. Unless otherwise indicated, manhole frames and covers shall be heavy duty cast iron type with 36-inch opening. Manhole cover insert shall be 24-inch diameter with lettering "CITY OF SAN DIEGO" and "SEWER" following the arrangement similar to what is indicated on Standard Drawing M-1.

Manholes located outside of the public right-of-way shall have covers locked to the frame as indicated on Standard Drawing M-4.

Imported covers, cover inserts, and frames shall have the country of origin marking in compliance with federal regulations.

2.3 WARNING SIGNS

- A. The entrance to every unventilated manhole shall be fitted with a plastic warning sign, located 12 inches below the top of the manhole frame, with the inscription "CAUTION -VENTILATE BEFORE ENTERING" in clear letters no smaller than 1/2-inch in height. The sign shall be attached to the concrete with four Type 316 stainless steel screws and anchors.

2.4 MANUFACTURERS

- A. Products shall be manufactured by one of the following (or equal):
 1. Manhole Sections: Ameron; Associated Concrete Products
 2. Frames and Covers: Neenah Foundry Co.; Vulcan Foundry, Inc.
 3. Warning Sign: W.H. Brady Company; Seton Nameplate Corporation

PART 3 -- EXECUTION

3.1 INSTALLATION

- A. Precast concrete manholes shall be installed in strict conformance with the manufacturer's written instructions, on a well-compacted foundation.

3.2 INSPECTION

- A. Upon request, the CONTRACTOR shall provide the CONSTRUCTION MANAGER a workman with ladder or other safe and adequate means for inspection access.

**** END OF SECTION ****