

SECTION 02605

CAST-IN-PLACE INLETS, HEADWALLS, AND WINGWALLS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Cast-in-place inlets for storm sewers, including cast iron frame and plate or grate.
- B. Cast-in-place headwalls and wingwalls for storm sewers.

1.02 UNIT PRICES

- A. Measurement for normal depth inlets is on a lump sum basis for each inlet installed.
- B. Measurement for extra depth inlets is on a vertical foot basis for each foot in excess of normal depth.
- C. Measurement for headwalls and wingwalls is on a lump sum basis for each headwall and wingwall installed.
- D. Payment for inlets and for culvert headwalls and wingwalls includes connection of lines and furnishing and installing frames, grates, rings and covers.

1.03 DEFINITIONS

- A. Normal Depth Type BB Inlet: Depth of 2.55 feet (2'-6 5/8") plus pipe inside diameter when measured from curb beam to flow line of inlet lead.
- B. Extra Depth Inlet: Specified depth exceeding normal depth for the type inlet used.

1.04 SUBMITTALS

- A. Submittals shall conform to requirements of all section and provisions of these specifications.
- B. Submit shop drawings for approval of design and construction details for cast-in-place units which differ from units shown on Drawings.
- C. Submit manufacturers' data and details for frames, grates, rings, and covers.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Concrete: Class A concrete with minimum compressive strength of 4000 psi conforming to requirements of Section 03305, unless otherwise indicated on Drawings or approved by the Owner's Representative.
- B. Reinforcing steel: Conform to requirements of Section 03305.
- C. Mortar: Conform to requirements of ASTM C270, Type S using Portland cement.
- D. Miscellaneous metals: Cast-iron frames, grates, rings, and covers conforming to requirements of Section 02603.
- E. Steel beams for Type BB inlets shall conform to ASTM A36.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify lines and grades are correct.
- B. Verify compacted subgrade will support loads imposed by inlets.

3.02 INSTALLATION

- A. Construct inlets, headwalls, and wingwalls complete in place to the dimensions, lines and grades as shown on Drawings.
- B. Excavate in accordance with requirements of Section 02227.
- C. The box section of inlet shall be constructed of Class A concrete.
- D. Forms will be required for both the outside and inside faces of concrete inlet walls; however, if the nature of the material excavated for the inlet is such that it can be hand trimmed to a smooth vertical face, the outside forms may be omitted with approval of the Owner's Representative.
- E. Place reinforcing steel to conform to details shown on the Drawings. Provide a positive means for holding steel cages in place during concrete placement. Welding of reinforcing steel is not permitted unless noted on the Drawings. The maximum variation in reinforcement position is plus or minus 10 percent of wall thickness or plus or minus 1/2 inch whichever is less. Regardless of variation, the minimum cover of concrete over reinforcement as shown on the Drawings shall be maintained.
- F. Chamfer exposed edges unless otherwise indicated on Drawings.

3.03 FINISHES

- A. Cut off inlet leads neatly at the inside face of inlet wall. Point up with mortar.
- B. When the box section of the inlet has been completed, shape the floor of the inlet with mortar to conform to the detailed Drawings.
- C. Finish concrete surfaces in accordance with requirements of Section 03305.

3.04 INLET WATERTIGHTNESS

- A. Test each inlet for leaks with static water test. Verify that inlets are free of visible leaks. Repair leaks in an approved manner.

3.05 BACKFILL

- A. Backfill the area of excavation surrounding each completed inlet according to the requirements of Section 02227.

END OF SECTION