

**SECTION 02744**  
**SIGNAL HANDBOXES**

**02744.01 GENERAL**

**A. Description**

Signal handboxes shall include, but not necessarily be limited to, furnishing and installing handboxes as shown on the Plans and in accordance with the Contract Documents or as directed by the Engineer.

**B. Related Work Included Elsewhere**

1. Concrete foundations; Section 02734.
2. Portland cement concrete; Section 03310.

**C. Quality Assurance**

The Engineer will inspect all materials and work to ensure compliance with the Contract Documents and the following:

1. When the cover is pushed to its maximum sideway position, the resultant opening between frame and cover shall be less than 5/16 inch and greater than 1/8 inch.
2. Units shall not be accepted if the cover projects more than 1/16 inch above the frame or is recessed more than 1/16 inch below the frame for more than one third of the perimeter.
3. Castings that have obvious warps, cracks, blowholes, or any such major defects shall be rejected.

**D. Submittals**

Shop drawings shall be submitted as specified in the "General Provisions" for all signal handbox components. The shop drawings shall show the overall dimensions of the handboxes and shall include information and/or details on concrete, brick, block, castings, and frames and covers.

**02744.02 MATERIALS**

**A. Materials Furnished by the County**

The County will not furnish any material for signal handboxes.

**B. Contractor's Options**

Contractor may utilize signal handboxes listed on the Maryland Department of Transportation's (MDOT) Qualified Product List.

**C. Detailed Material Requirements**

Handboxes shall be traffic bearing and constructed of cast-in-place concrete, brick, precast concrete, concrete block, or composite .

## 1. Portland Cement Concrete

Portland cement concrete for signal handboxes shall be Mix No. 2 as specified in Section 03310.

## 2. Frames and Covers, Hot-Rolled Steel

Frames and covers shall meet the requirements of AISC 1020 and shall be galvanized to meet the requirements of ASTM A 123.

## 3. Cast Iron

Gray iron castings shall meet the requirements of ASTM A 48, Class 30B.

## 4. Bolts

Bolts shall be stainless steel, Type 304.

## 5. Composite

Precast polymer concrete fiberglass reinforced construction

**02744.03 EXECUTION**

Handboxes shall be installed flush with the ground or sidewalk. Concrete shall be mixed, placed, and tested in accordance with Section 03310. Excavation and backfill shall be in accordance with Section 02734.

All parts manufactured for one handbox shall be interchangeable on other handboxes. Ready assembly and removal of the cover is required.

All metal conduit ends shall be bonded with all other conduit ends using groundings bushings and No. 8 AWG solid or stranded copper ground wire.

Any spaces between the conduit and the handbox wall shall be filled or patched with concrete or other sealer approved by the Engineer.

**02744.04 METHOD OF MEASUREMENT**

Measurement for signal handboxes will be made of the number of each type and size shown on the Plans and satisfactorily installed.

**02744.05 BASIS OF PAYMENT**

Payment for signal handboxes will be made at the price bid for each type and size installed complete in place. The price bid shall include furnishing and installing each handbox including concrete or precast bases, brick, frames and covers, ground wire, grounding bushings, excavation and backfill, and for furnishing all labor, equipment, and materials necessary to complete the item of work as shown and specified in strict accordance with the Contract Documents.

END OF SECTION