

FURNISH AND INSTALL HANDHOLE

**\*\*From Hartford-Sharon FITS(503)**

- xx. DESCRIPTION. This work shall consist of placing one (1) 3' x 5' x 3' and one (1) 6' x 6' x 3' Quazite style, or approved equal, handhole at each location indicated in the Plans.
- xx. GENERAL REQUIREMENTS. The handhole placement shall be staggered linearly as well as laterally as shown in the Plans. This unit of work includes the offsetting of the six (6) 1.25" HDPE innerducts so that conduits Nos. 1 and 2 enter and leave the 3' x 5' x 3' handhole. The remaining 4 conduits Nos. 3, 4, 5, and 6 enter and leave the 5' x 7' x 3' handhole in accordance with manufacturer recommended installation methods. On leaving the handholes the innerduct will be transitioned back to the standard method of duct installation within 20 feet of the respective handholes. The handholes will be placed so that they will have 24" of earth cover after the final grading of the handhole site. Complete installation of the handhole setup will require all empty conduits to be plugged with the approved end plugs, all conduit penetrations to be sealed with the approved gap sealant, ½" wire mesh screen below the handholes, with a minimum depth of 8" of ¾" stone compacted atop a geotextile matting at the bottom of the excavated trench, and the restoration of all excavated soils in the area. The Contractor is responsible for furnishing and installing Electronic Marker System (EMS) units to facilitate locating the handholes after they are covered. It is the Contractor's responsibility for the programming of each individual sensor. Each sensor shall be programmed to indentify each handhole in a unique trend. Specific programming information to be provided by VTrans.
- xx. MATERIALS. The Contractor is required to submit material specification sheets for all materials used, for approval by the Engineer.

Unless otherwise specified, materials required include: 3' x 5' x 3' Handhole, 4' x 6' x 3' Handhole, 1-¼" conduit end plugs, protective foam sealant, EMS Sensors, and all materials required for excavation, including but not limited to ¾" stone, ½" grid wire mesh, and protective geotextile matting.

The 3' x 5' x 3' handholes installed shall meet or exceed the following requirements:

- (a) The handhole shall be Quazite, or an approved equal.
- (b) The handhole must be UL listed and approved.
- (c) Suitable for off-roadway applications.
- (d) Must meet or exceed the ANSI tier classification of "Tier 22" vertical and horizontal load ratings.
- (e) Internal dimensions: 3 feet in width, 5 feet in length, and 3 feet deep.
- (f) Shall have an open bottom.

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- (g) Shall include lift assisting attachments for ease of installation.
- (h) Shall include two (2) 4" x 4" cut outs for conduit penetration ingress and egress. Conduit cutouts shall be cut by the manufacturer.
- (i) The handhole lid must meet or exceed the ANSI tier classification of "Tier 22" vertical and horizontal load ratings.
- (j) The handhole lid shall be constructed from the same material as the handhole body casting.
- (k) The handhole lid shall include a minimum of two lift assisting pull slots.

The 4' x 6' x 3' handholes installed shall meet or exceed the following requirements:

- (a) The handhole shall be Quazite, or an approved equal.
- (b) The handhole must be UL listed and approved.
- (c) Suitable for off-roadway applications.
- (d) Must meet or exceed the ANSI tier classification of "Tier 22" vertical and horizontal load ratings.
- (e) Internal dimensions: 4 feet in width, 6 feet in length, and 3 feet deep.
- (f) Shall have an open bottom.
- (g) Shall incorporate support and strength members for the lid.
- (h) Shall include lift assisting attachments for ease of installation.
- (i) Shall include two (2) 6" x 8" cut outs for conduit penetration ingress and egress. Conduit cutouts shall be cut by the manufacturer.
- (j) The handhole lid must meet or exceed the ANSI tier classification of "Tier 22" vertical and horizontal load ratings.
- (k) The handhole lid shall be constructed from the same material as the handhole body casting.
- (l) The handhole lid shall include a minimum of two lift assisting pull slots.

The EMS units shall meet or exceed the following requirements:

- (a) The EMS unit shall be 3M 1250 Full Range Markers, or an approved equal.
- (b) Shall have a depth range of 8 feet.

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- (c) Shall have a passive antenna encased in a waterproof polyethylene shield.
- (d) Colored orange to reflect communications infrastructure.
- (e) Operating Temperatures: -40°F to 150°F.
- (f) Installed at a minimum distance of 6" above the buried infrastructure.
- (g) Shall be capable of programming the following information:
  - (1) Device Owner(s) and contact information.
  - (2) Utility Type.
  - (3) Handhole contents, including fiber count.
  - (4) Depth.
  - (5) Date installed.

xx. METHOD OF MEASUREMENT. The quantity of Special Provision (Furnish and Install Handhole) to be measured for payment will be the number of dual handhole setups installed in the complete and accepted work.

xx. BASIS OF PAYMENT. The accepted quantity of Special Provision (Furnish and Install Handhole) will be paid for at the Contract unit price per each. Payment will be full compensation for performing the work specified and for furnishing all materials, labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

| <u>Pay Item</u>  | <u>Pay Unit</u> |
|--|-----------------|
| 900.620 Special Provision (Furnish and Install Handhole) | Each            |