

**DESCRIPTION**

This work shall consist of furnishing materials, equipment and labor to disconnect existing wiring, to remove and replace existing submarine cable terminal cabinets, and to re-connect all conductors of the existing submarine cables in accordance with the contract documents and as directed by the Engineer.

**MATERIALS**

- A. Shop Drawings.** The Contractor shall submit the following documents:
- a. Catalog cuts, product specification/performance sheets
  - b. Wiring layout, tabulation spreadsheets indicating the size, conductor count, specific equipment served, and wire numbers.
- B. Terminal Cabinets.** The cabinet shall be U.L. listed, Nema type 4X cabinet constructed from 14 gauge, minimum, series 316 stainless steel. All seams of the cabinet shall be continuously welded and ground smooth. The cabinet shall have rolled lip on all four (4) sides of the cabinet opening and on three (3) sides of the hinged door. The door shall be equipped with gasket to close on all sides of the cabinet opening to assure water-tight and dust-tight seal. Door clamps shall be provided for fastening the door to the cabinet. Padlocking provisions shall be provided. The internal mounting panel shall be installed on collar studs and shall be minimum 12 gauge stainless steel. All hardware shall be stainless steel.
- C. Terminal Blocks.** Terminal blocks shall be UL-listed, rated for the size of the wires to be connected, heavy-duty, 600-volt, provided with pressure-sensitive marking tape. The terminal block housing shall be flame-retardant, designed such that the contact block is protected between the molding barriers from adjacent circuits or live parts. Individual contacts shall be tubular screw type, constructed of electrical grade copper and supplied with zinc plated steel screws. Terminal blocks shall be mounted on track in cabinets or enclosures, and 20% spares shall be provided.

**CONSTRUCTION DETAILS**

This work shall be in accordance with the applicable requirements of the latest edition of the following codes and standards:

- 1. National Fire Protection Association, National Electrical Code (NEC)
- 2. National Electrical Contractors Association, NECA 1, Standard Practices for Good Workmanship in Electrical Contracting.

***Basis of Acceptance***

All shop drawings submitted shall follow the general guidelines and procedures given in the New York State Steel Construction Manual. No installation or rehabilitation work may take place until the shop drawings and procedures have been approved by the Engineer.

- A. Removal.** Prior to disconnecting existing wires from terminals, temporary power shall be provided to equipment requiring continuous power, and all wires shall be clearly labeled, numbered in accordance with actual wire numbering of the wiring system and tabulated on spreadsheets to be used for the reconnections of the wires. After the de-energization of the power, the existing cabinets shall be carefully removed such that the insulation of the wires of the existing submarine cables will not be cut, scratched or damaged.
- B. Installation.** Prior to commencing installation, the Contractor shall perform the following:

**ITEM 599.1305 10 M - SUBMARINE CABLE TERMINAL CABINETS – SB BRIDGE**

- a. Verify that all surfaces upon or in which terminal cabinets are to be mounted, are properly prepared, and that all wires are properly tagged. Take corrective action, if necessary.
- b. Verify that enclosure mounting provisions are suitable for intended mounting. Make corrective adjustments, if necessary.
- c. Install cabinets at indicated or approved locations, in accordance with the manufacturer's instructions, and at convenient operating height suitable for the existing submarine cables.
- d. Adjust, straight, plumb, and fasten securely in place all required terminal blocks. Align, plumb, and securely fasten enclosures and submarine cables.
- e. Ground, as specified in UL 67, in NEC, Articles 200 and 250.
- f. Neatly route, harness and support conductors in gutters, wiring spaces and compartments. Bending radii shall not be less than as recommended by the conductor manufacturer.
- g. Reconnect all wires and verify for correct connections in accordance with wire tabulations and ensure that there are no unintentional short circuits.
- h. Remove all debris within cabinets after the installation.

**METHOD OF MEASUREMENT**

This work will be measured for payment on a lump sum basis.

**BASIS OF PAYMENT**

The lump sum price bid shall include the cost of furnishing all labor, materials, and equipment necessary to satisfactorily complete the work.