

BOSTON TRANSPORTATION DEPARTMENT SIGNAL INTERCONNECTION SYSTEM

The work to be performed under this item shall consist of furnishing all labor, cable, materials, equipment, appurtenances and making electrical connections for the interconnection system, shown on the plans.

The interconnect cable shall have the number of conductors and the size as indicated on the plans.

It shall conform to I.M.S.A. Specifications 19-6 when used in the Boston Edison conduit system and 19-2 (shielded) when used in a handhole system.

All interconnect cable wires shall be connected to a terminal strip in each control box. Terminal strips for communication cable (#22 AWG) shall be R66 blocks. Larger interconnect such as #14Awg shall be installed on screw down terminals. The R66 blocks shall, unless otherwise specified, be split type, six clips wide, isolated between three (3) separate two (2) slot clips. Wire jumpers of #22awg size shall be furnished and installed to connect the three sets of clips for all terminals including spares.. Cables shall be attached to the R66 block(s) so that removal of the jumpers will isolate cables from each other. Bridge clips shall be installed in place of jumpers prior to cable testing Jumpers to local cabinet wiring shall be from one of the source cable clips to local fuses. Only a single wire may be punched to each R66 terminal slot. Bridge clips shall be left in the cabinet for use in troubleshooting the cable system. Labels shall be attached to terminal strips identifying modem numbers. At locations where existing interconnect cables are utilized in a new cabinet, the contractor shall reterminate all conductors to R66 blocks mounted on the control cabinet wall. If conductors need to be extended, matching colors shall be used and the splice shall be soldered and insulated.

All work in Boston Edison Company manholes shall be accomplished through Boston Edison Company. The Contractor shall bear the cost of such work.

The Contractor shall use standard cable pulling equipment while installing cable and take all proper precautions to protect cable from damage during installation. An unbroken run shall be installed from controller to controller without any splice.

It shall be the responsibility of the Contractor to remove, at his own expense, any water, silt or debris encountered in Edison manholes which in any way interferes with proper execution of work.

Cable in every manhole shall carry an identification tag with the legend "BOSTON TRAFFIC CONTROL." Tag and its attachment shall be of durable material suitable for manhole use, such as brass, lead or plastic.

The interconnect cable shall be tested by the Contractor in the presence of the Engineer using a megohmer. Individual readings between each conductor and every other conductor and shield, shall be 100 megohms or greater in order for the cable to be accepted.

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In addition, continuity readings shall be performed on each conductor. Readings appropriate for the length and gauge of cable shall be obtained in order for the cable to be accepted.

When a splice is required by the plans or special provisions, the following shall apply:

Before splicing existing cables to proposed cables in Edison manholes, the Contractor shall test the existing cables using a megohmer in the presence of the Engineer. The readings are to be recorded on Boston Transportation Department form F-12. Each cable which was attached by the splice shall be tested for continuity by the Contractor in the presence of the Engineer using a V.O.M. Each conductor of each cable shall be tested between the location where the splice was removed and the closest point of termination in a traffic control cabinet or post.

When the plans and or special provisions require the existing interconnect cable to be removed and reinstalled, the Contractor shall perform the following tests in the presence of the Engineer. Using a megohmer, individual readings between each conductor and every other conductor and shield shall be made and recorded on BTB form F-12. Continuity readings shall be made on each conductor and recorded on the same form.

The contractor shall provide "as-built" communication cable wiring charts to be recorded on BTB form F-63 and supplied to the BTB Engineer prior to project acceptance.

The contractor shall attach permanent labels to each cable indicating the cable's origin.

The interconnect system shall be kept in full operation during the construction period except for a maximum 72 hour switch-over period. Temporary connections shall be made by the contractor as necessary to meet this requirement.