

# GENERAL NOTES

## MARKING OF CABLE

All cable shall be marked or tagged at all pull boxes, signal supports, and controllers with tag, so as to be individually identified.

The tag shall be not less than 0.031" thick copper, brass or plastic, and shall be embossed or engraved with letters or numbers of not less than 1/4" high. It shall be securely attached with an AWG No. 14 copper wire. Markings shall consist of the following or variations thereof: Ground, Grd.; Phase A,  $\phi$  A; Common, Com; Phase A Detector, Det-A; power, ac+ or ac-; etc.

Payment for this work shall be incidental to the installation of the various cables.

## CONSTRUCTION LAYOUT STAKES FOR TRAFFIC CONTROL

The Contractor shall stake out all signs and traffic signal supports in accordance with supplemental specification 816 prior to installation of any foundations or supports.

After stakeout the Contractor shall notify the Engineer a minimum of seven (7) days in advance of scheduled work. Support locations for each support will be field checked taking into account both underground and overhead obstructions and conflicts and approved by the Engineer who shall coordinate with the district and/or city traffic engineer prior to proceeding with construction work required.

If both major and minor type supports are included within the project it will be permissible to perform the construction stakeout and field inspection in two (2) stages, one for major supports and one for minor supports.

Cost for this item or work will be included in the lump sum bid for Item 623 "Construction Layout Stakes."

## 625 COVERING OF TRAFFIC SIGNAL HEADS

All traffic signal heads, both vehicular and pedestrian, erected at locations where traffic will be maintained prior to energizing of the signal, shall be covered.

The covering shall be plastic coated burlap blankets as per 705.06. They shall be firmly attached and completely cover the signal head without damage to the head. The covering shall be maintained in place at all times while traffic is using the area and the signal is not in operation.

Payment shall be at the unit price bid per each for Item 625 "Covering of Traffic Signal Heads" which shall be full compensation for all labor, materials and equipment required to erect, maintain and remove the covering.

## 816 POLE MOUNTED SIGN ATTACHMENT

This item of work shall consist of the furnishing and installation of stainless steel straps, mounting brackets, and hardware as detailed on sheet No. 33.

Basis of payment shall be at the contract bid price per each "Pole Mounted Sign Attachment, as per plan" which price shall include all labor, material, equipment and incidentals necessary to perform the required item of work.

## TESTING OF TRAFFIC SIGNALS

The Contractor shall furnish all personnel, equipment and appliances required to successfully test the completed installations.

The Contractor shall test and demonstrate to the satisfaction of the Engineer or his authorized representative, that the circuits are properly connected, continuous and free from short circuits, crosses and unspecified grounds, and that they are connected in accordance with the wiring instructions and that each circuit is operable correctly and independently of any other circuit.

The Contractor shall test each underground circuit and spare wires for signals interconnect and detectors terminating at the traffic controller cabinet for resistance to ground. This resistance to ground shall be not less than ten (10) megohms. The Contractor shall furnish a complete report of all megohm reading of each circuit and spare conductors in cables appearing at the controller base. The ground rod at the traffic controller shall have a resistance of not more than 15 ohms to ground.

After all circuits and spare conductors have been tested the Contractor will install the traffic controller and connect the field wiring to the terminal contacts of the traffic controller. The completed installation shall operate continuously for a period of one week without interruption or failure attributable to poor workmanship or defective material prior to acceptance and after any defective parts have been replaced and all faults corrected.

The Contractor shall have the responsibility of correcting malfunctions of the installation. Power for the test will be furnished from the service installed as a part of this contract. The cost of the power to conduct the test will be borne by the Contractor. Costs of conducting tests by the Contractor shall be included in the bid price for the item tested.

## 625 CABLE SUPPORT ASSEMBLY

A cable support assembly shall be installed for each group of cables passing through each wire outlet near the top of pole, it shall be attached to the "J" hook as shown in the plans and shall consist of the following major items:

1. One piece of three-strand copper-clad messenger, length as required.
2. Two hot-dipped galvanized thimbles.
3. Two No. 6 split bolt connectors.
4. One bronze or stainless steel cable grip with single "U" eye bale
5. All other miscellaneous item that may be necessary to make the assembly complete.

The messenger shall be 0.164 inches in diameter consisting of three strands of 0.075 inch copper-covered steel wires twisted in the form of a cable. Guy thimbles shall be grooved to fit the guy strand and bent to the proper radius to prevent the strand from being sharply bent. The cable grip shall have a single "U" eye bale. The grips shall be of the proper size to fit the cable and shall have a minimum rated breaking strength of 250 lbs.

The grip shall be either the "closed," or "split with rod" type.

Payment for Item 625 "Cable Support Assembly" will be made at the contract unit price each, completely assembled in place and accepted.

## METHOD OF MEASUREMENT

Supplementing item 625.24, linear measurement for payment of various traffic signal bid items shall be made as follows:

- 1) Signal cable, power cable, interconnect cable, loop detector lead in cable, service cable.

The length measured horizontally from center to center of pullboxes, poles, foundations, or signal heads; plus the following:

1. Five feet per each pullbox, pole, or termination at controller or signal head to allow for slack and splicing of leads.
2. The length measured vertically from trench bottom to pole outlet or mast arm attachment on vertical runs.

Multipliers as contained in 625.24 paragraph (c) and (e) shall not be used for multi conductor cables covered in this note.

- 2) Loop Detector Wire

Measure horizontally from center line of pullbox to pavement edge, to loop through loop sawcuts for the number of turns required and thence returning to the pullbox, plus five feet at each end to allow for slack and splices.

- 3) Loop Detector Pavement Cutting

Measure along the sawcut from outside edge of pavement or curb, to loop and around the loop, using the rectangular perimeter dimensions shown on the plans or directed by the Engineer but not including chamfer cuts at loop corners.

- 4) Messenger Wire With Accessories

Measured horizontally from center to center of pole to pole; or bullring (aerial corner) to pole; or bullring to bullring; but not including any additional messenger required for attachment of messenger to poles, bullrings or strain insulators by wrapping or bending.

## FEDERAL AID CONSTRUCTION IDENTIFICATION SIGNS

The Contractor shall furnish, erect, maintain, and subsequently remove federal aid construction identification sign at the locations as shown on sheet No. 10.

Sign details shall be as specified on Std. Dwg. FACI-1, N-54(2)-96(3) and the signs shall be erected in accordance with Std. Dwg. FACI-2. Additional requirements shall be in accordance with note in the proposal.

## FIELD OFFICE

The Contractor shall provide a suitable field office having a minimum of 150 Sq. Ft. of floor space and, in addition to the requirements of item 619, he shall provide and maintain sanitary provisions as per 107.06. All the above is included in the lump sum price bid for item 619, Field Office.

## ESTIMATED QUANTITIES

Specific locations and usage of estimated quantities set up on the plan to be used "As Directed By The Engineer" shall be made a matter of record by incorporation into the final change order governing completion of this project. Estimated quantities of material shall not be ordered for delivery to the project unless authorized by the Engineer.