

OVERVIEW**PART 1 - GENERAL****1.01 SECTION INCLUDES**

An overview of the work, standards, submittals, substitutions, scheduling and conflicts, testing and maintenance, guarantee, surface restoration, and measurement for payment expected with each traffic signal installation.

1.02 DESCRIPTION OF WORK

Includes the furnishing of all material, equipment, and labor necessary to complete, in place and operational, a traffic control signal(s) as described in the project plans.

1.03 STANDARDS

Electrical equipment shall conform to the standards of the National Electrical Manufacturers Association (NEMA), and all material and work shall conform to the requirements of the National Electrical Code (NEC), International Municipal Signal Association (IMSA), the Standards of the American Society for Testing Materials (ASTM), the American Standards Association (ASA), and local ordinances that are in effect at the date of advertising of the project documents. Miscellaneous electrical equipment and materials shall be UL approved.

1.04 SUBMITTALS

Follow the General Provisions (Requirements) and Covenants, as well as the following:

- A. Preapproved shop drawings: For projects utilizing shop drawings for steel mast arm poles, preapproved by the Engineer, furnish a copy of the drawings from the manufacturer. The drawings shall be marked to show applicable configurations and quantities for the project. Any minor variations from the preapproved shop drawings, such as alternate finishes, as described in the plans or specifications, are to be noted.
- B. For projects not utilizing preapproved shop drawings, six (6) copies of shop drawings shall be furnished for steel mast arm poles to be furnished on the Project.
- C. Six (6) copies of catalog cuts and manufacturer's specifications shall be furnished for all standard "off-the-shelf" items. Engineer review of shop drawings and catalog cuts shall not relieve the Contractor of any responsibility under the Contract documents.
- D. Manufacturers shall certify electrical equipment, signal equipment, and materials to ensure compliance with these project documents.
- E. Forward to the Engineer three (3) copies of a list of unit costs for each item listed on the Schedule of Unit Prices attached to the Specifications by the preconstruction meeting. The sum of the costs for each item shall equal the total Contract Lump Sum price for the traffic signal installation(s).

1.05 SUBSTITUTIONS

Follow the General Provisions (Requirements) and Covenants.

1.06 SCHEDULING AND CONFLICTS

Follow the General Provisions (Requirements) and Covenants, as well as the following:

- A. Schedule work to minimize disruption of public streets and facilities. Develop traffic control in accordance with the MUTCD. Submit a schedule of planned work activities.
- B. Immediately notify Engineer of any conflicts discovered or any changes needed to accommodate unknown or changed conditions as soon as found.

1.07 TESTING AND MAINTENANCE OF SIGNAL EQUIPMENT

- A. Notify the Engineer the date the signal or signal system will be ready for testing once the project is open to traffic.
- B. A representative from the manufacturer and/or supplier of signal controller shall be at the project site when the signal controllers are ready to be turned on to provide technical assistance including, as a minimum, programming of all necessary input data. Required signal timing data shall be provided by the Engineer.
- C. Upon authorization of the Engineer, place the signal or signal system in operation for a consecutive 30-day test period. The signal(s) shall not be placed into operation without prior notification and authorization of the Engineer. Any failure or malfunction of the equipment furnished by the Contractor due to workmanship and/or material defects, exclusive of minor malfunctions (such as lamp burnouts) occurring during the test period, shall be corrected at the Contractor's expense and the signal or system tested for an additional 30 consecutive day period. This procedure shall be repeated until the signal equipment has operated satisfactorily for 30 consecutive days.
- D. Respond, within 24 hours, to perform maintenance or repair of any failure or malfunction reported, after signal turn on and prior to final acceptance of the completed traffic signal system.

1.08 GUARANTEE

- A. Fully guarantee the traffic control signal installation against defective equipment and materials for 12 months, and workmanship for 6 months. If defects develop under normal operating conditions within these specified periods after acceptance of the completed installation by the Owner, the defects shall be corrected by, and at the expense of the Contractor.
- B. Provide guarantee in writing on Company or Corporation letterhead stationery to the Owner prior to final acceptance. Transfer required equipment warranties prior to the date of final acceptance to the Owner.

1.09 SURFACE RESTORATION

- A. Replace or reconstruct sidewalks, curbs, driveways, roadway pavement and any other surfaces, removed, broken, or damaged with the same kind/quality of materials. Whenever a part of a square or slab of existing concrete sidewalk, driveway, or pavement is broken or damaged, the entire square or slab shall be removed and reconstructed. Restoration is incidental to this bid item.
- B. Whenever excavation is made across parkways, driveways or sodded areas, the sod, topsoil, crushed stone or gravel shall be replaced or restored as nearly as possible to its original condition and the whole area involved shall be left in a neat and presentable condition. Concrete sidewalks, pavements, base courses and bituminous surfaces shall be replaced with new materials.

1.10 MEASUREMENT FOR PAYMENT

- A. The Traffic Signal Installation(s) will be paid for at the contract lump sum price bid. This price shall be full compensation for furnishing all equipment, materials, and labor necessary or incidental to the construction of the complete signal installation.
- B. Monthly estimates of the work performed will be made based on the Schedule of Unit Prices and will be used to prepare progress payments to the Contractor. The Schedule of Unit Prices will also be used to establish the total cost for any extra work orders related to traffic signal installation work items unless otherwise negotiated.

END OF SECTION