

SECTION 260500 - COMMON WORK RESULTS FOR ELECTRICAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SCOPE

- A. Provide all labor, materials, equipment, fees, licenses, and services to complete and coordinate all electrical work with Architect, suppliers, subcontractors, inspectors, and utility authorities, as indicated on the drawings, as specified herein or both except as for items specifically indicated as "NIC ITEMS".
- B. Drawings for the work are diagrammatic, intended to convey the Scope of the Work and to indicate the general arrangement and locations of the work. Because of the scale of the drawings, certain basic items such as conduit fittings, access panels, sleeves, pull and junction boxes may not be shown. Where such items are required by Code or by other sections, such items shall be included.
- C. Equipment Specification may not deal individually with minute items such as components, parts, controls and devices which may be required to produce the equipment performance specified or as required to meet the equipment warranties. Where such items are required, they shall be included by the supplier of the equipment, whether or not specifically indicated.
- D. Coordinate with all trades in submittal of shop drawings. Shop drawings shall detail space conditions to the satisfaction of all concerned trades, subject to review and final acceptance by the Owner. In the event that the Contractor installs his work before coordinating with other trades or so as to cause any interference with work of other trades, the necessary changes shall be made in the work to correct the condition, at no additional cost to the Owner.
- E. The drawings and Specifications shall both be considered as part of the Contract. Any work or material shown in one and omitted in the other, or which may fairly be implied by both or either, shall be provided in order to give a complete job.

1.3 DEFINITIONS

- A. Appurtenances- All required items and equipment for a complete working system.
- B. Concealed- Hidden from sight; includes items in shafts and above ceilings.
- C. Conduit- Includes metallic and non-metallic raceways, wireway, auxiliary gutters, outlets boxes, pull boxes, and junction boxes comprising a complete system.

- D. Exposed- Not concealed; work within equipment rooms shall be considered exposed.
- E. Furnish- Procure and deliver to the site equipment, devices and items indicated and required for a complete installation.
- F. Indicated- As indicated on Contact Documents.
- G. Install- Labor, miscellaneous materials, services and tools to receive, store, locate, secure in place, connect, and place into operation equipment for a complete installation.
- H. Provide- Furnish and install
- I. Wiring- Includes all conductors, connectors, and terminations necessary for a complete installation.

1.4 TEMPORARY LIGHTING AND POWER

- A. Furnish, install and maintain temporary lighting and power to be used by all trades during construction. The entire system shall be grounded. Contractor shall be responsible for all utility costs for temporary service.

1.5 SUPERVISION OF THE WORK

- A. Provide field superintendent who has had a minimum of four (4) years previous successful experience on projects of comparable sizes and complexity. Superintendent shall be present at all times that work under this Division is being installed or affected.

1.6 DELIVERY AND STORAGE

- A. Handle, store and protect equipment and materials in accordance with the manufacturer's recommendations and with the requirements of NFPA 70B, Appendix J, titled "Equipment Storage and Maintenance During Construction". Replace damaged or defective items with new items.

1.7 ELECTRICAL CONNECTIONS

- A. All connections shall be tightened to the torque values recommended by that device manufacturer's instructions.

1.8 TESTS

- A. Perform ground resistance tests per requirements of Section 260526.

1.9 DEMONSTRATIONS

- A. Prior to acceptance of the work, the Contractor shall demonstrate to the Owner, or his designated representative, all features and functions of all systems and shall instruct the Owner in the proper operation of the systems. Each system shall be demonstrated once.
- B. The demonstrations shall consist of not less than the following:
 - 1. Point out the actual location of each component of a system and demonstrate its function and its relationship to other components within the system.
 - 2. Demonstrate the electrical systems by actual "start-stop" operation showing how to work controls, how to reset protective devices, and what to do in an emergency.
- C. Systems to be demonstrated shall include but not be limited to the following:
 - 1. Power distribution systems
 - 2. Lighting and lighting control systems
 - 3. Motor and equipment control
 - 4. Telephone cabling system and terminations
 - 5. Data cabling system and terminations
 - 6. Telephone system
 - 7. TV system

1.10 IDENTIFICATION

- A. Provide phenolic plastic nameplates or stenciled painted for all meter centers, non-residential/house panels, disconnect switches, telephone/TV terminal cabinets and fire alarm panels/terminal cabinets.
- B. Contractor shall provide identification for wiring systems and equipment, including identification of disconnecting means per NEC 110.22.
- C. Panelboards shall have type-written or laser printed circuit directories installed inside the doors under transparent plastic covers.

1.11 SUBMITTALS

- A. Submittal data for electrical equipment shall consist of Shop Drawings and/or catalog cuts showing technical data necessary to evaluate the material or equipment, to include dimensions, wiring diagrams, performance curves, ratings, control sequence and other descriptive data necessary to describe fully the item proposed and its operating characteristics. Any submittal data in following electrical sections, specific to that section, is in addition to submittal requirements of this section.

1.12 FIRE STOPPING

- A. Penetrations of rated walls and floors shall be sealed to prevent passage of fire, smoke, toxic gases and water. Maintain the fire/or smoke rating of all rated wall and floors.
- B. Sealing material shall be performed with the use of material specifically intended for the purpose and application. Method of installation shall conform to the manufacturer's instructions and to applicable codes and standards.

1.13 RECORD DRAWINGS

- A. At the job site, maintain a set of prints on which are recorded all formal field changes and other portions of the work that vary significantly from the contract documents. Indicate actual routing of electrical feeders.
- B. Within 30 days after the date of electrical systems acceptance, record drawings of the actual installation shall be provided to the owner (per FL Energy Conservation Code C405.7.4.1) including:
 - 1. A single line diagram of the building electrical distribution system.
 - 2. Floor plans indicating location and area served for all distribution.

1.14 O & M

- A. Operating manual and maintenance manual shall be provided to the owner (per FL Energy Conservation Code 405.7.4.2), and shall include as a minimum, the following:
 - 1. Submittal data stating equipment rating and selected options for each piece of equipment requiring maintenance.
 - 2. Operating manuals and maintenance manuals for each piece of equipment requiring maintenance. Required routine maintenance actions shall be clearly identified.
 - 3. Names and addresses of at least one qualified service agency.

PART 2 - PRODUCTS

2.1 STANDARDS

- A. All material shall be new and shall conform to the applicable standard or standards where such have been established for the particular material in question.
- B. Material of the same type shall be the product of one manufacturer.
- C. U.L. listed material shall bear U.L. Label.

2.2 PLYWOOD

A. Interior Applications:

1. Fire-retardant-treated plywood with a flame spread of 25 or less identified as "Interior Type A"

PART 3 - EXECUTION

3.1 COORDINATION

- A. Prior to rough-in of any materials, coordinate with other subcontractors the physical clearances for the sequencing of Division 16000 work as it interfaces with and relates to Civil, Architectural, Structural, Plumbing, Sprinkler and HVAC systems.
- B. Coordinate and verify power, telephone and CATV company service requirements prior to bid. Bid to include all work required.
- C. Piping, ductwork, conduit, and equipment installed at variance with the above requirements shall be relocated and/or revised at the expense of the Contractor and without incurring additions to the Contract.

3.2 CODES AND REGULATIONS

- A. Comply with the following codes, regulations, and laws:
 1. National Electric Code – NFPA 70 - 2014 edition
 2. American National Standards Institute
 3. Americans with Disabilities Act
 4. Florida Building Code – 6th edition - 2017
 5. Florida Fire Prevention Code – 2017 edition
 6. National Electrical Safety Code
 7. All other applicable codes and standards including the requirements of local utilities companies.
- B. In the event of a conflict between codes, the more restrictive code shall apply.
- C. Other codes and regulations as referenced herein after in this specification are applicable to this Section.

3.3 PERMITS AND INSPECTIONS

- A. Secure and pay for all Division 26/27/28

3.4 STANDARDS FOR MATERIALS AND WORKMANSHIP

- A. Use materials that are new and, where U.L. has established standards, U.L. listed and labeled.

END OF SECTION 260500