

## University of Houston Master Specification

<Insert Project Name>

<Insert U of H Proj #>

<Insert Issue Name>

<Insert Issue Date>

### SECTION 26 0002 - ELECTRICAL SCOPE OF WORK

Maintain Section format, including the UH master spec designation and version date in bold in the center columns of the header and footer. Complete the header and footer with Project information.

Edit and finalize this Section, where prompted by Editor's notes, to suit Project specific requirements. Make selections for the Project at text identified in bold.

This Section uses the term "Engineer." Change this term to match that used to identify the design professional as defined in the General and Supplementary Conditions.

Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have changed.

Delete hidden text after this Section has been edited for the Project.

### 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.
- B. The Contractor's attention is specifically directed, but not limited, to the following documents for additional requirements:
  - 1. The current version of the *Uniform General Conditions for Construction Contracts*, State of Texas, available on the web site of the Texas Facilities Commission.
  - 2. The University of Houston's *Supplemental General Conditions and Special Conditions for Construction*.

#### 1.2 DESCRIPTION OF WORK

- A. General: Provide labor, materials, tools, machinery, equipment, appliances, fixtures, devices, and services necessary to complete the specified electrical work of this Division. Coordinate Work with other trades to prevent conflicts without impeding job progress.
- B. Utility Charges: The Contractor shall pay fees, service charges, tap charges, meter charges, and special fees assessed by the local utilities or local authorities.
- C. Work Included: The Work includes, but is not limited to, the following systems, equipment, and services:
  - 1. A complete power distribution system [**extension to supplement the Base Building System**] including, but not limited to:
    - a. Service entrance/provisions.

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- b. Switchboards/Switchgear/Unit Substations **[modifications]**.
  - c. Cable feeders and raceways.
  - d. Busway.
  - e. Automatic Transfer Switches.
  - f. Motor Control Centers/Enclosed Motor Controllers/VFD.
  - g. Emergency Generator paralleling switchgear.
  - h. Panelboards.
  - i. Transformers.
  - j. Packaged Electric Generating System.
  - k. Surge Protection Devices.
  - l. Lightning Protection System.
  - m. Grounding System
  - n. Fire Alarm System.
  - o. BAS System
  - p. Lighting Fixtures, LED Lamps and Drivers
2. A complete emergency power system **[extension to supplement the Base Building System]** including, but not limited to:
- a. **[Engine Generator(s).] [Battery Emergency Power Supply.]**
  - b. [Generator paralleling switchgear.]**
  - c. Automatic transfer switches and controls.
  - d. Cable feeders and raceways.
  - e. Distribution panels.
  - f. Panelboards.
  - g. Transformers.
  - h. Enclosed circuit breakers, switches and fuses.
  - i. All other components shown on the Drawings, specified or required for a fully operational emergency power systems.
3. A complete lighting system including, but not limited to:
- a. Lighting fixtures and LED lamps.
  - b. Exit and egress lighting fixtures and LED lamps.
  - c. Switches, dimming and controls.
  - d. Branch circuit wiring and raceways.
  - e. All other components shown on the Drawings, specified or required for a fully operational lighting system.
4. A complete branch circuit distribution system including, but not limited to:
- a. Branch circuit wiring and raceways.
  - b. Wiring devices.
  - c. Multi-outlet assemblies.

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- d. Safety and disconnect switches.
  - e. Relays, contactors and controls.
  - f. Connections to motors and equipment.
  - g. All other components shown on the Drawings, specified or required for a fully operational branch circuit distribution system.
5. A complete grounding system including, but not limited to:
- a. Ground Rods and Electrodes.
  - b. Bonding.
  - c. Ground conductors and raceways.
  - d. All other components shown on the Drawings, specified or required for a fully operational grounding system.
6. A complete system of miscellaneous electric controls and control wiring as shown on the Drawings and specified.
7. **[A complete lightning protection system.]**
8. A complete fire alarm system **[extension to supplement the Base Building System]** including, but not limited to:
- a. Fire detection.
  - b. **[Voice]**, tone and visual alarm.
  - c. **[Fire Command Station.]**
  - d. **[Firefighter's telephone system.]**
  - e. **[HVAC system control/override system.]**
  - f. **[Fire [pump and fire] protection valve supervision and flow switch monitoring.]**
  - g. **[Security access control/override.]**
  - h. All other components shown on the Drawings, specified or required for a fully operational fire alarm system.
9. **[Provisions for installation of voice/data cabling], [master antenna/cable television], [audio/visual], [and security] systems [A complete system of voice/data cabling]** including, but not limited to:
- a. **[Voice/Data] [and CATV] service entrance provisions.**
  - b. **[Terminal facilities.]**
  - c. **[Voice/Data cable.]**
  - d. Voice/Data outlet[s] **[provisions].**
  - e. Outlet boxes, junction boxes, raceways, **[cable tray,] [sleeves]** and riser provisions.
  - f. All other components shown on the Drawings, specified or required for a complete **[system of provisions to install voice/data cabling], [master antenna/cable television]**

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**system], [audio/visual systems], [and security systems] [and operational voice/data cabling system.]**

10. Electrical provisions for the **[Building Automation Systems (BAS)] [HVAC controls]** specified in Division **[23] [25]** including, but not limited to:
  - a. Provide control power to all **[BAS] [HVAC]** control panel locations as shown on the Electrical Drawings. **[Power supply to the temperature control air compressors.]** All **[BAS] [HVAC]** control wiring and other required control power shall be included in the work of Division **[23] [25]**.
  - b. Fire alarm interface relays **[and addressable input devices]** is specified in Division 26. Control wiring to these relays is specified in Division **[23] [25]**.
11. Electrical testing and certification as specified.
12. Housekeeping pads, **[concrete ductbank encasement] and other supports as required for electrical equipment and components.]**
13. **[Access doors for access to concealed electrical equipment and devices.]**
14. Connections to equipment furnished by the General Contractor or other Divisions.
15. Connections for Owner-furnished equipment where shown on the Drawings or specified.
16. **[A short circuit analysis/coordination study as specified.] [Ground grid study.] [Harmonic studies comply with IEEE 519.] [Grounding study to comply with NEC 250 requirements.] [University electrical AHJ shall provide point of common coupling location for IEEE 519 study.]**
17. **[Nurse call/code blue systems as specified.]**
18. Additional items as shown on the Drawings or specified.
19. Structural Openings:
  - a. **[The Electrical Contractor shall be responsible for coordinating all required openings in new construction with the General Contractor and furnishing and locating forms where appropriate.]**
  - b. **[The Electrical Contractor shall provide the Structural Engineer with locations, dimensions, and weights of his equipment to be supported by the floor and roof structural systems immediately following the awarding of the Contract. The final locations of his equipment shall be subject to the approval of the Structural Engineer. The Electrical Contractor shall provide accessories necessary to hang his equipment from structure at locations and in a manner approved by the Structural Engineer.]**
  - c. **[The Electrical Contractor shall provide roof jacks or pitch pockets for conduit passing through the roof which is not installed within equipment roof curbs.]**
  - d. **[The Electrical Contractor shall be responsible for coordinating all required openings in existing construction with the General Contractor and [Landlord] [Owner] and shall be responsible for cutting or drilling required openings in a manner which is acceptable to the [Landlord] [Owner] [and] Structural Engineer. Cutting and drilling**

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**operations shall be performed at times which are acceptable to the [Landlord] [Owner].**

- e. Contractor must test, and x-ray before cutting or core drilling. [Except as otherwise indicated on the Drawings, all holes of area less than 150 square inches required through concrete floors, precast concrete, masonry, and similar items, shall be provided by the Electrical Contractor. All holes required through post-tension construction and all other holes that proper electrical installation require to be of a larger area than 150 square inches will be provided by the General Contractor at locations determined by this Contractor and approved by the Structural Engineer. Any cutting and patching for holes required for proper electrical installation where information on sizes and locations is not provided to the General Contractor in sufficient time shall be the responsibility of the Electrical Contractor. All cutting and patching shall be subject to the direction and approval of the] [Engineer] [Architect.]**

**PART 2 - PRODUCTS**

**2.1 GENERAL**

- A. Refer to specific sections of the Specifications for equipment.**

**PART 3 - EXECUTION**

**3.1 GENERAL**

- A. Installation shall be in accordance with the specification section pertaining to the individual equipment.**

**END OF SECTION 26 0002**

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