



DIVISION 16000 - ELECTRICAL

SECTION 16001 - BASIC ELECTRICAL REQUIREMENTS

- 1. General Conditions
2. Drawings and general provisions of contract, including general and supplementary conditions and all other specification sections, apply to this and the other sections of Division 16000.
3. The contractor for this division of work is required to read the specifications and review drawings for all divisions of work and is responsible for the coordination of their work and the work of their subcontractors with all divisions of work. It is the contractor's responsibility to provide their subcontractors with a complete set of bid documents.
4. This contractor is responsible for scheduling the completion and inspection of their work and the work of their subcontractors to comply with the schedule and the project completion date.
5. This contractor shall visit the site prior to submittal of bid to determine conditions affecting the work. Any items which are not covered in the bid documents or any proposed substitutions shall be listed separately and qualified in the contractors bid.
6. Submittal of bid shall serve as evidence of knowledge of existing conditions and any modifications which are required to meet the intent of the drawings and specifications. Failure to visit the site does not relieve the contractor of responsibility in performance of work.

SECTION 16002 - GENERAL REQUIREMENTS

- 1. This contractor shall provide all labor, materials, equipment, services, tools, transportation, incidentals and details necessary to provide a complete electrical system as shown on the drawings, called for in the specifications, and as required by job conditions. All work not specifically noted as being by the landlord shall be provided by the electrical contractor.
2. The drawings and specifications are intended to supplement each other and any material or labor called for in one shall be furnished and installed even though not specifically mentioned in both.
3. Where the drawings or specifications call for items which exceed codes or the landlord's tenant criteria, the contractor is responsible for furnishing and installing the system with the more stringent requirements as designed and described on these drawings, unless specifically noted otherwise.
4. All electrical work shall be installed so as to be readily accessible for operating, servicing, maintaining, and repairing.
5. All work shall be performed in a neat professional manner using good engineering and construction practices.
6. Unless specifically noted otherwise, materials, products, and equipment, including all components thereof, shall be new.
7. Comply with NECA 1 for common requirements of electrical installations.

SECTION 16003 - CODES

- 1. All work shall conform to the landlords' criteria, the state's, county's, city's and local codes and ordinances, safety and health codes, NFPA codes, energy codes and all other applicable codes and requirements. This contractor shall inquire into and comply with all applicable codes, ordinances, and regulations. Any changes required by codes in the bid and if these changes are not included in the bid, they must be specified as a separate line item in the bid. After contract is issued, no additional cost due to code issues shall be reimbursed by owner to the contractor.

SECTION 16004 - LICENSES, PERMITS, INSPECTIONS & FEES

- 1. This contractor shall obtain and pay for all licenses, permits, inspections, and fees required or related to their work.
2. Furnish to BIG 'O' TIRES project manager all certificates of inspection and final inspection approval at completion of project.

SECTION 16005 - TRADE NAMES, MANUFACTURERS AND SHOP DRAWINGS

- 1. Where trade names and manufacturers are used on the drawings or in the specifications, the exact equipment shall be used as a minimum for the base bid. Manufacturers considered as an equal or better in all aspects to that specified will be subject to approval in writing by project manager through prior shop drawing submittal process, for acceptance.
2. Electrical contractor shall submit only substitution requests to Project Manager for approval. Submissions shall be made early enough in the project to allow four (4) working days for project manager's review without causing delays or conflicts to the job's progress.
3. At completion of the project and before final approval, the contractor shall make any final corrections to drawings and certify the accuracy of each print by signature thereon. One copy of the most recent set of drawings with temperature control drawings included shall be delivered to Project Manager.

SECTION 16006 - GUARANTEE

- 1. This contractor shall guarantee all materials and work provided under their contract and shall make good, repair or replace at their own expense, any defective work, material, or equipment which may be discovered within a period of 12 months from the date of acceptance (in writing) of the installation by Project Manager. Extended warranties are as specified with individual equipment.

SECTION 16007 - RECORD DRAWINGS

- A. This contractor shall maintain one copy of drawings on the job site to record deviations from contract drawings, such as:
1. Location of concealed conduit and wiring.
2. Location of junction boxes.
3. Revisions, addendums, and change orders.
B. At completion of the project and before final approval, the contractor shall make any final corrections to drawings and certify the accuracy of each print by signature thereon. One copy of the most recent set of drawings with temperature control drawings included shall be delivered to Project Manager.

SECTION 16008 - DISCREPANCIES IN DOCUMENTS

- 1. Drawings (plans, specifications, and details) are diagrammatic and indicate the general location and intent of the electrical system. Where drawings, existing site conditions, specifications or other trades conflict or are unclear, advise Project Manager, in writing, of variations to contract documents prior to submission of bid. Project Manager's interpretation of contract documents or conditions shall be final with no additional compensation permitted.

SECTION 16009 DEMOLITION

- 1. This contractor shall be responsible for the coordination of the demolition of existing work and the demolition provided by the General Contractor.
2. Electrical Contractor shall verify scope of work with the general contractor for removal of all existing light fixtures, receptacles, switches, etc. not being reused on this project, unless specifically noted otherwise.
3. All extraneous items in the space or on the roof not applicable to the new work must be removed and roof/wall/floor patched/repaired to match existing structure.

SECTION 16010 - CUTTING AND PATCHING

- 1. The contractor shall perform all cutting and patching as required for the installation of the work under this specification, no cutting of the structure shall be permitted without written approval of the landlord and architect or engineer.
2. Patching shall be of the same workmanship, material and finish and shall match accurately all surrounding construction in a manner satisfactory to the architect and Project Manager.
3. Existing utilities, etc. that are damaged during the construction period, whether or not due to the contractor's negligence shall be repaired or replaced by the contractor and left in a condition suitable to the landlord and Tesla's Project Manager.

SECTION 16011 - SLEEVES

- 1. This contractor shall provide sleeves to protect equipment or facilities in the installation. Each sleeve shall extend through it's respective floor, wall or partition and shall be cut flush with each surface except sleeves that penetrate the floor, which shall extend 2" above the floor.
2. All sleeves and openings through fire rated walls and/or floors shall be fire sealed with calcium silicate, silicone "RTV" foam, 3M fire rated sealants or equal, so as to retain their fire rating.
3. Sleeves in bearing and masonry walls, floors, and partitions shall be standard weight steel pipe finished with smooth edges.

SECTION 16012 - HANGERS

- 1. Hangers shall include all miscellaneous steel such as angle iron, bands, c-clamps with retaining clips, channels, hanger rods, etc., necessary for the installation of work.
2. Hangers shall be fastened to building steel, concrete, or masonry, but not to piping. Hanging from metal deck is not permitted.
3. Complete lighting fixture installation, including aiming and adjusting of light fixtures.

DIVISION 16200 - ELECTRICAL

SECTION 16201 - SUMMARY OF WORK

- A. This contractor shall furnish all labor, materials, equipment, etc. necessary for reasonably implied and incidental to the furnishing, installation, completion and testing of all the electrical system as called for in the specifications, and as required by job conditions, to include, but not be limited to the following:
1. Work in the landlord's main distribution equipment room shall be as indicated, and/or required, by extending service to the leased space.
2. Complete power and lighting distribution systems including all panels and complete branch circuit wiring system.
3. Complete lighting fixture installation, including aiming and adjusting of light fixtures.
4. Complete telephone conduit system, including service conduit from point of connection to landlords system and all terminal devices, boxes, conduit, plates, etc.
5. Temporary electrical service as required for construction.
6. Wiring and final connection to all signs and graphics, furnished by the owner.
7. Provisions for fire alarm/smoke evacuation system and extension to landlords system (if applicable).
8. Testing of all cables and circuit wiring after installation.
9. Testing of all electrical equipment.
10. Warranty of all work for a period of one year from date of project close-out.
B. Provide electrical service as indicated on the drawing. All work not specifically noted as being by the landlord or the power company shall be provided by the electrical contractor.
C. Contractor shall make arrangements with the local telephone utility for telephone services to the space, conduit system for telephone distribution to the leased premises shall be provided for utility company wires.
D. Furnish all labor, materials, equipment and tools to perform electrical work shown, noted or scheduled for a complete and finished installation.

SECTION 16202 - MATERIALS

- A. Materials, products and equipment, including components thereof, shall be new and such as appears on the Underwriter's Laboratory list of approved items and shall meet the requirements of recognized standards.
B. Conduit shall be standard steel, IMC or EMT (thin wall) according to code requirements.
C. All conductors shall be soft drawn, annealed copper, with 600 Volt insulation:
1. #10 and smaller - solid. #8 and larger - stranded.
2. All wire and cable shall be new and shall be brought to the site in unbroken packages.
3. General wiring shall have THHN-THWN insulation.
4. Aluminum conductors, Romex or BX are not permitted.
5. Wire connectors shall be equal to Scotch-Lock for #8 and smaller and T&B for #8 and larger.
6. Wires shall be color coded in keeping with landlord's convention and color codes.
D. Outlet boxes and covers shall be one piece, galvanized or Sherardized steel, 4" x 4", lock-out type with fixture studs as required.
E. Wiring devices:
1. Receptacles and switches in waiting, sales, office and restaurant shall have gray cover plates and in service area, breakroom and storage area to have stainless steel cover plates.
2. Duplex receptacle: Hubbell #5262
3. Quadraplex receptacle: (2) Hubbell #5262
4. Isolated ground receptacle: Hubbell #IG-5262 (ORANGE)
5. Quadraplex isolated receptacle: (2) Hubbell #IG-5262
6. Weatherproof receptacle: Hubbell #GF-5262-I
7. Three way switch: Hubbell #HBL-1221
8. Hubbell #HBL-1223

- F. This contractor shall provide, install and connect a complete system of grounding for all equipment and structures.
G. All panelboards shall be standard dead-front construction with size and number of single and multi-pole bolt-on branch breakers as indicated on the panel schedule, and with main breaker and/or main lugs as indicated on the drawings.
H. Dry type step-down transformer shall have NEMA Class F insulation on units below 30 KVA and NEMA Class H insulation on units 30 KVA and above.
I. Disconnect switches and combination starter disconnect switches shall be heavy duty type, 600 Volt rated, quick-make/quick-break, weatherproof (where applicable), fused/non-fused as shown on the drawings.
J. Lighting contactors shall be definite purpose type by Global, GE or Cutler Hammer.
K. Electrical contractor shall provide electric service and make connections to the HVAC equipment, signs and grille motors (if applicable) as shown on the drawings.
L. The isolated circuit outlets at cash wrap areas shall be clearly and completely marked for unmistakable identification by the owner's employees.
M. Temporary wiring shall be removed when work is completed.
N. No conduit shall be run through HVAC ducts.

- O. Identification: On each piece of equipment, install unique designation label that is consistent with wiring diagrams and schedules.
P. FINALLY: It is the intent that the foregoing work shall be completed in every respect and that any material or work not specifically mentioned or shown on the drawings but necessary to fully complete the work shall be furnished. The location of receptacles and fixtures shown on the drawing are approximate and the owner shall have the right to relocate any receptacles or fixtures before they are installed, without additional cost.

SECTION 16 6100 - FIRE-ALARM SYSTEM

1.1 SUMMARY

- A. Section Includes:
1. Fire-alarm control unit.
2. Manual fire-alarm boxes.
3. System smoke detectors.
4. Nonsystem smoke detectors.
5. Heat detectors.
6. Notification appliances.
7. Magnetic door holders.
8. Remote annunciator.
9. Addressable interface device.
10. Digital alarm communicator transmitter.

1.2 SYSTEM DESCRIPTION

- A. Noncoded, addressable system, with multiplexed signal transmission, dedicated to fire-alarm service only.
1.3 SUBMITTALS
A. General Submittal Requirements:
1. Provide submittals to authorities having jurisdiction as required.
1.4 QUALITY ASSURANCE
A. Installer Qualifications: Personnel shall be trained and certified by manufacturer for installation of units required for this project.
B. Source Limitations for Fire-Alarm System and Components: Obtain fire-alarm system from single source from single manufacturer.
C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA70, by a qualified testing agency, and marked for intended location and application.

1.5 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Bosch Security Systems.
2. Faraday; Siemens Building Technologies, Inc.
3. Fire Control Instruments, Inc.; a Honeywell company.
4. Gamewell; a Honeywell company.
5. NOTIFIER; a Honeywell company.
6. Siemens Building Technologies, Inc.; Fire Safety Division.
7. Silent Knight; a Honeywell company.
8. SimplexGrinnell; a Tyco International company.

1.6 FIRE-ALARM CONTROL UNIT

- A. General Requirements for Fire Alarm Control Unit:
1. Field-programmable, microprocessor-based, modular, power-limited design with electronic modules, complying with UL864 and listed and labeled by an NRTL.
a. System software and programs shall be held in flash electrically erasable programmable read-only memory (EEPROM) retaining the information through failure of primary and secondary power supplies.
b. Include real-time clock for time annotation of events on the event recorder and printer.

1.7 MANUAL FIRE-ALARM BOXES

- A. General Requirements for Manual Fire-Alarm Boxes: Comply with UL38. Boxes shall be finished in red with molded, raised-letter operating instructions in contrasting color; shall show visible indication of operation; and shall be mounted on recessed outlet box.
1. Double-action mechanism requiring two actions to initiate an alarm, pull-lever type; with integral addressable module arranged to communicate manual-station status (normal, alarm, or trouble) to fire-alarm control unit.

1.8 SYSTEM SMOKE DETECTORS

- A. General Requirements for System Smoke Detectors:
1. Comply with UL268; operating at 24-V dc, nominal.
2. Detectors shall be two-wire type.
3. Base Mounting: Detector and associated electronic components shall be mounted in a twist-lock module that connects to a fixed base.
4. Self-Restoring: Detectors do not require resetting or readjustment after actuation to restore them to normal operation.
5. Integral Visual-Indicating Light: LED type indicating detector has operated.
B. Photoelectric Smoke Detectors:
1. Detector address shall be accessible from fire-alarm control unit and shall be able to identify the detector's location within the system and its sensitivity setting.
2. Duct Smoke Detectors: Photoelectric type complying with UL268A.
1. Detector address shall be accessible from fire-alarm control unit and shall be able to identify the detector's location within the system and its sensitivity setting.
2. Relay Fan Shutdown: Rated to interrupt fan motor-control circuit.

1.9 NOTIFICATION APPLIANCES

- A. General Requirements for Notification Appliances: Connected to notification appliance signal circuits, zoned as indicated, equipped for mounting as indicated and with screw terminals for system connections.
1. Combination Devices: Factory-integrated audible and visible devices in a single-mounting assembly, equipped for mounting as indicated and with screw terminals for system connections.
B. Horns: Electric-vibrating-polarized type, 24-V dc; with provision for housing the operating mechanism behind a grille.
1. Visible Notification Appliances: Xenon strobe lights comply with UL1971, with clear or nominal white polycarbonate lens mounted on an aluminum faceplate.
1. Rated Light Output:
a. 15/30/75/110 cd, selectable in the field.
2. Mounting: Wall mounted unless otherwise indicated.
3. For units with guards to prevent physical damage, light output ratings shall be determined with guards in place.
4. Flashing shall be in a temporal pattern, synchronized with other units.
5. Strobe Leads: Factory connected to screw terminals.
6. Mounting Faceplate: Factory finished, red.

1.10 ADDRESSABLE INTERFACE DEVICE

- A. Description: Microelectronic monitor module, NRTL listed for use in providing a system address for alarm-initiating devices for wired applications with normally open contacts.
B. Integral Relay: Capable of providing a direct signal to circuit-breaker shunt trip for power shutdown.

1.11 DIGITAL ALARM COMMUNICATOR TRANSMITTER

- A. Digital alarm communicator transmitter shall be acceptable to the remote central station and shall comply with UL632 and be listed and labeled by an NRTL.

1.12 EQUIPMENT INSTALLATION

- A. Comply with NFPA72 for installation of fire-alarm equipment.

PROTOTYPE TEMPLATE

NORTHLAKE v.2020.1.08.TKD

PROJECT INFORMATION

TIRE KINGDOM STORE # 945 10520 COLONIAL BLVD FT MEYERS, LEE COUNTY, FLORIDA



PROJECT NO.: 2020-0095

DRAWN BY: DVC

CHECKED BY:

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