

SECTION 26 00 00 – ELECTRICAL

1. BASIC ELECTRICAL METHODS AND MATERIALS

The contractor and consultant shall assist the University in maintaining the existing electrical equipment inventory and electrical systems drawings. The University will provide the policy and procedures guidelines to the consultant to incorporate into the project manual.

All rooftop HVAC equipment shall have a receptacle located within 50 feet of the unit in accordance with code. Each rooftop HVAC unit that includes refrigerant in its system shall be equipped with a 120-volt convenience receptacle mounted on the unit and fed by a circuit separate from the HVAC equipment.

2. RACEWAYS

All wiring shall be in conduit. MC or AC cable shall not be allowed except for whips to lighting fixtures (Limit fixture whips to 6 linear feet maximum). EMT conduit fittings shall be insulated throat compression type for indoor installations unless code requirements prohibit their use.

3. BACKUP POWER SOURCES

Natural gas is the preferred fuel for emergency generators.

4. VARIABLE FREQUENCY CONTROLLERS

Provide variable frequency drives that include the capability to record the last 15 faults. The read out shall be a minimum two row, 16 character alphanumeric display that includes the date, time, and description of the fault in English without the use of program codes. Read outs that supply codes that must be looked up in an instruction manual are not acceptable. Provide drives with a manual bypass switch so the equipment can be operated if the drive malfunctions. A sample specification can be provided by the MSU Maintenance Department.

Variable frequency drives shall not be mounted inside the motor compartment of any air handling unit or rooftop unit. Variable frequency drives shall be installed inside the building and shall be provided with the proper environment as specified by the equipment manufacturer.

5. INTERIOR LIGHTING

Exit lights shall be LED type with Ni-Cad batteries. Prescolite model PEXL3REN or approved. Where a generator is provided for emergency power omit the batteries and modify the model number accordingly.

Fluorescent fixtures shall be equipped with solid-state electronic ballasts (total harmonic distortion not to exceed 10%).

Fluorescent lamps shall be T-8 with 4100 k color temperature Phillips "Alto" number F32T8/TL741 or approved equal. Use 4' long lamps where possible and avoid the use of 8' long lamps.

Where suspended fluorescent strip or industrial fixtures are required to be suspended they shall be suspended on stems, conduit, or "Unistrut" type systems. Do not use chain or similar methods to suspend fixtures. Chain allows the fixture to sway excessively during relamping, making relamping difficult and sometimes dangerous.

6. EXTERIOR LIGHTING

Pedestrian scale exterior lighting shall be McGraw Edison "Credenza" series cutoff type yoke mount luminaire with luminous top globe, 175 watt metal halide lamp (medium base lamp preferred), in-line fusing,

and gray finish. The fixture shall be mounted on 12' tall, 5" diameter, straight aluminum gray painted pole with hinged base. All hardware, including anchor bolts, shall be stainless steel.

Lighting fixtures for general parking lot and large area lighting shall be Kim type 5SQ square cutoff type lighting fixtures. The fixture shall be provided with either 1000 watt or 400 watt high pressure sodium lamp as required to meet the necessary lighting levels. The fixture shall be mounted on a 39' square tapered steel pole with the manufacturer's post top mounting system. The fixture and pole shall have a dark bronze finish. All hardware, including anchor bolts shall be stainless steel.

Exterior walkways and Parking area shall be lit to an average level of 2.5 foot candles with a max to min uniformity ratio of not more than 5:1.

7. FIRE ALARM SYSTEMS

All fire alarm systems shall be addressable type. The contractor shall provide an "As-Built" plan indicating the location all devices in the building and their address.

8. GPS CLOCK SYSTEMS

GPS clock systems are preferred in new construction and major renovations. Clocks shall be BRG Precision Products, 15" diameter face analog clock with 12-hour dial and sweep second hand. In rooms and spaces other than classrooms where space constraints do not allow the installation analog clocks digital clocks may be used. Various mounting configurations of BRG440-RS flat mount or double-sided digital. (120vac or 12vdc) as required for building. Digital clocks shall not be allowed in classrooms. .

END OF SECTION 26 00 00