



ADDENDUM # 004

Date: 04/18/18

RE: Cherokee Nation Entertainment
Tahlequah Casino

From: James R Childers Architect, Inc.
45 South 4th Street
Fort Smith, Arkansas 72901

This addendum forms part of the Contract Documents, and modifies the documents as noted below. Bidder must acknowledge receipt of this addendum in the FMC Bid Form. Failure to do so may subject the bidder to disqualification.

Item 1 Switchboard Spec Section 262413

Item 2 Sheet E0.10 Single Line Diagram - Main Service Switchboard

SECTION 26 24 13

SWITCHBOARDS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Service and distribution switchboards rated 600 V and less.
 - 2. Disconnecting and overcurrent protective devices.
 - 3. Instrumentation.
 - 4. Control power.
 - 5. Accessory components and features.
 - 6. Identification.

1.2 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data.

1.3 QUALITY ASSURANCE

- A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
- B. Comply with NEMA PB 2.
- C. Comply with NFPA 70.
- D. Comply with UL 891.

PART 2 - PRODUCTS

2.1 MANUFACTURED UNITS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Eaton Electrical Inc.; Cutler-Hammer Business Unit.
 - 2. General Electric Company; GE Consumer & Industrial - Electrical Distribution.
 - 3. Siemens Energy & Automation, Inc.
 - 4. Square D; a brand of Schneider Electric.

- B. Front-Connected, Front-Accessible Switchboards:
 - 1. Main Devices: Fixed, individually mounted.
 - 2. Branch Devices: Panel mounted.
 - 3. Sections front aligned.
- C. Nominal System Voltage: 480Y/277 V.
- D. Main-Bus Continuous: As indicated on drawings.
- E. Enclosure: Steel, NEMA 250, Type 3R.
 - 1. Enclosure Finish: Factory-applied finish in manufacturer's standard gray finish over a rust-inhibiting primer on treated metal surface.
 - 2. Enclosure: Downward, rearward sloping roof; bolt-on rear covers for each section, with provisions for padlocking.
- F. Utility Metering Compartment: Fabricated, barrier compartment and section complying with utility company's requirements. If separate vertical section is required for utility metering, match and align with basic switchboard. Provide service entrance label and necessary applicable service entrance features.
- G. Bus Transition and Incoming Pull Sections: Matched and aligned with basic switchboard.
- H. Hinged Front Panels: Allow access to circuit breaker, metering, accessory, and blank compartments.
- I. Phase and Neutral Buses and Connections: Three phase, four wire unless otherwise indicated. Tin-plated, high-strength, electrical-grade aluminum alloy with tin-plated aluminum circuit-breaker line connections.
 - 1. Ground Bus: 1/4-by-2-inch- minimum size, hard-drawn copper of 98 percent conductivity, equipped with pressure connectors for feeder and branch-circuit ground conductors.
 - 2. Main Phase Buses and Equipment Ground Buses: Uniform capacity for entire length of switchboard's main and distribution sections. Provide for future extensions from both ends.
 - 3. Neutral Buses: 100 percent of the ampacity of phase buses unless otherwise indicated, equipped with pressure connectors for outgoing circuit neutral cables.
- J. Future Devices: Equip compartments with mounting brackets, supports, bus connections, and appurtenances at full rating of circuit-breaker compartment.

2.2 DISCONNECTING AND OVERCURRENT PROTECTIVE DEVICES

- A. Molded-Case Circuit Breaker (MCCB): Comply with UL 489, with interrupting capacity to meet available fault currents.
 - 1. Thermal-Magnetic Circuit Breakers: Inverse time-current element for low-level overloads, and instantaneous magnetic trip element for short circuits. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.
 - 2. Adjustable Instantaneous-Trip Circuit Breakers: Magnetic trip element with front-mounted, field-adjustable trip setting.
 - 3. Electronic trip circuit breakers with rms sensing; field-replaceable rating plug or field-replicable electronic trip; and the following field-adjustable settings:
 - a. Instantaneous trip.
 - b. Long- and short-time pickup levels.
 - c. Long- and short-time time adjustments.
 - d. Ground-fault pickup level, time delay, and I²t response.
 - 4. Molded-Case Circuit-Breaker (MCCB) Features and Accessories:
 - a. Standard frame sizes, trip ratings, and number of poles.
 - b. Lugs: Mechanical style, suitable for number, size, trip ratings, and conductor material.
 - c. Application Listing: Appropriate for application; Type SWD for switching fluorescent lighting loads; Type HID for feeding fluorescent and high-intensity discharge (HID) lighting circuits.

2.3 INSTRUMENTATION

- A. Multifunction Digital-Metering Monitor: Microprocessor-based unit suitable for three- or four-wire systems and with the following features:
 - 1. Switch-selectable digital display of the following values with maximum accuracy tolerances as indicated:
 - a. Phase Currents, Each Phase: Plus or minus 1 percent.
 - b. Phase-to-Phase Voltages, Three Phase: Plus or minus 1 percent.
 - c. Phase-to-Neutral Voltages, Three Phase: Plus or minus 1 percent.
 - d. Megawatts: Plus or minus 2 percent.
 - e. Megavars: Plus or minus 2 percent.
 - f. Power Factor: Plus or minus 2 percent.
 - g. Frequency: Plus or minus 0.5 percent.
 - h. Accumulated Energy, Megawatt Hours: Plus or minus 2 percent; accumulated values unaffected by power outages up to 72 hours.
 - i. Megawatt Demand: Plus or minus 2 percent; demand interval programmable from five to 60 minutes.
 - 2. Mounting: Display and control unit flush or semiflush mounted in instrument compartment door.

2.4 CONTROL POWER

- A. Control Circuits: 120-V ac, supplied through secondary disconnecting devices from control-power transformer.
 - 1. Control-Power Fuses: Primary and secondary fuses for current-limiting and overload protection of transformer and fuses for protection of control circuits.
 - 2. Control Wiring: Factory installed, with bundling, lacing, and protection included. Provide flexible conductors for No. 8 AWG and smaller, for conductors across hinges, and for conductors for interconnections between shipping units.

2.5 IDENTIFICATION

- A. Service Equipment Label: NRTL labeled for use as service equipment for switchboards with one or more service disconnecting and overcurrent protective devices.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Receive, inspect, handle, store and install switchboards and accessories according to NECA 400.
- B. Equipment Mounting: Install switchboards on concrete base, 4-inch nominal thickness. Comply with requirements for concrete base specified in Section 033000 "Cast-in-Place Concrete."
 - 1. Install dowel rods to connect concrete base to concrete floor. Unless otherwise indicated, install dowel rods on 18-inch centers around the full perimeter of concrete base.
 - 2. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base and anchor into structural concrete floor.
 - 3. Place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - 4. Install anchor bolts to elevations required for proper attachment to switchboards.
- C. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, and brackets and temporary blocking of moving parts from switchboard units and components.
- D. Install filler plates in unused spaces of panel-mounted sections.
- E. Install overcurrent protective devices, transient voltage suppression devices, and instrumentation.
 - 1. Set field-adjustable switches and circuit-breaker trip ranges.
- F. Install spare-fuse cabinet.
- G. Comply with NECA 1.

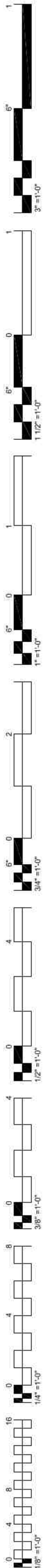
3.2 IDENTIFICATION

- A. Identify field-installed conductors, interconnecting wiring, and components; provide warning signs complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."
- B. Switchboard Nameplates: Label each switchboard compartment with a nameplate complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."
- C. Device Nameplates: Label each disconnecting and overcurrent protective device and each meter and control device mounted in compartment doors with a nameplate complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

3.3 FIELD QUALITY CONTROL

- A. Acceptance Testing Preparation:
 - 1. Test insulation resistance for each switchboard bus, component, connecting supply, feeder, and control circuit.
 - 2. Test continuity of each circuit.
- B. Tests and Inspections:
 - 1. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
 - 2. Correct malfunctioning units on-site, where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.
 - 3. Test and adjust controls, remote monitoring, and safeties. Replace damaged and malfunctioning controls and equipment.
- C. Switchboard will be considered defective if it does not pass tests and inspections.
- D. Prepare test and inspection reports, including a certified report that identifies switchboards included and that describes scanning results. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

END OF SECTION

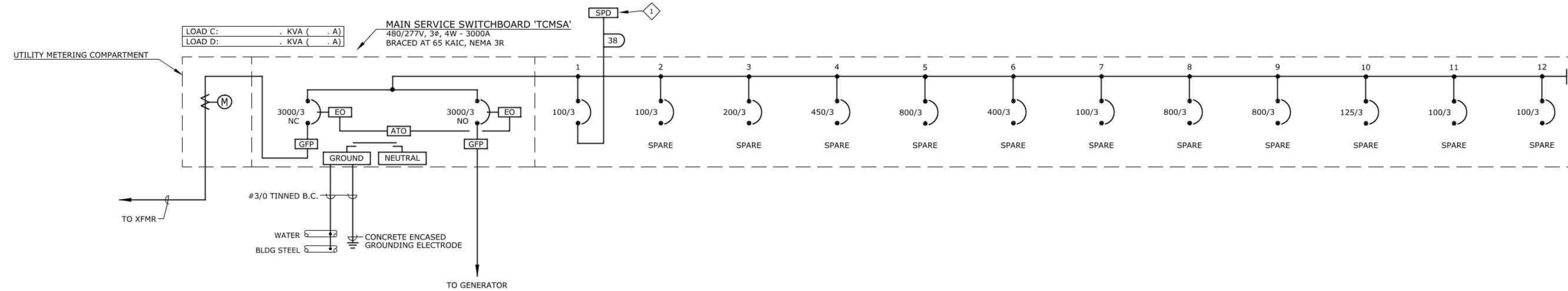


GENERAL NOTES:

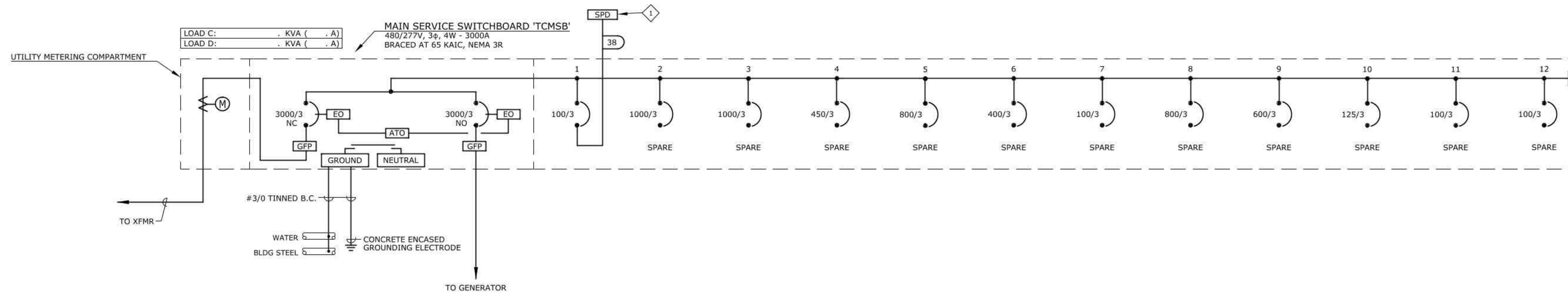
1. MINIMUM EQUIPMENT A.I.C. RATINGS ARE 14K A.I.C. @ 480/277V AND 10K A.I.C. @ 208/120V UNLESS OTHERWISE NOTED.
2. THE DESIGN PROFESSIONAL HAS PERFORMED ALL REQUIRED SHORT CIRCUIT CALCULATIONS AND THE A.I.C. RATINGS INDICATED FOR EACH DEVICE ARE ADEQUATE TO PROTECT THE EQUIPMENT AND THE ELECTRICAL SYSTEM.
3. THE DESIGN PROFESSIONAL HAS PERFORMED ALL THE REQUIRED VOLTAGE DROP CALCULATIONS FOR ALL BRANCH CIRCUITS AND FEEDERS PER 2008 NATIONAL ELECTRICAL CODE ARTICLE 210.19(A)(1), FPN NO. 4.
4. PANELBOARD LOAD SUMMARIES INCLUDE ADDITIONAL 25% OF ALL CONTINUOUS AND LARGEST MOTOR LOADS WHERE APPLICABLE.
5. AS PART OF THE PHASED CONSTRUCTION, ALL EQUIPMENT FEEDER UNDERGROUND RACEWAYS WILL BE FURNISHED AND INSTALLED AS PART OF BID PACKAGE 01. THE REMAINING RACEWAY SYSTEM INCLUDING INSTALLATION OF FEEDER CONDUCTORS WILL BE FURNISHED AND INSTALLED AS PART OF BID PACKAGE 02. VERIFY ADDITIONAL REQUIREMENTS WITH THE GENERAL CONTRACTOR/OWNERS REPRESENTATIVE/CONSTRUCTION MANAGER
6. REFER TO SHEET E0.2 FOR SINGLE LINE NOTES, SEQUENCE OF OPERATION AND FEEDER SCHEDULE.
7. NORMAL ELECTRICAL SERVICE AND GENERATOR ELECTRICAL SERVICE TO ENTER BUILDING AS SEPARATE DUCTBANKS AND AT SEPARATE LOCATIONS. THE CONTRACTOR SHALL MARK THE PAVEMENT SHOWING ROUTING OF EACH SYSTEM.

SHEET NOTES:

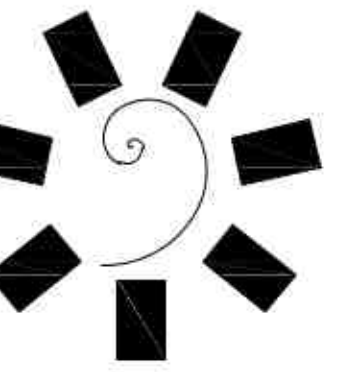
1. PROVIDE SURGE PROTECTIVE DEVICE AS DEFINED IN SPECIFICATIONS UNDER TVSS SECTION.



SINGLE LINE DIAGRAM - MAIN SERVICE SWITCHBOARD 'TCMSA'
A
E0.10 NTS



SINGLE LINE DIAGRAM - MAIN SERVICE SWITCHBOARD 'TCMSB'
B
E0.10 NTS



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CHEROKEE NATION ENTERTAINMENT
TAHLEQUAH CASINO
TAHLEQUAH, OKLAHOMA

PROJECT PHASE

BID PACKAGE 01

REVISIONS		
#	DATE	DESCRIPTION

DATE: 03/27/18 JOB NUMBER: 17-06

SHEET NUMBER: E0.10

SINGLE LINE DIAGRAM
- MAIN SERVICE SWITCHBOARDS