Group Health Cooperative of South Central Wisconsin
1265 John Q. Hammons Drive
Madison, WI 53717
POC: Carol Meyer, Corporate Compliance Officer
Ph: 608-662-4873
Email: cmeyer@ghcscw.com

Iconica, Inc.
901 Deming Way, Suite 102
Madison, WI 53717
POC: Zain Heitz, Senior Project Manager
Ph: 608-664-3627
E-mail: zain.heitz@iconicacreates.com

REQUEST FOR PROPOSALS (RFP)

 # 3 – Electrical Switchgear

Group Health Cooperative of South Central Wisconsin ("GHC-SCW") has hired **Iconica, Inc. ("Iconica")** as their Architect, Engineer and Construction Manager and is seeking proposals from qualified contractor/vendor to assist with repair and/or mitigation of GHC-SCW's Sauk Trails Clinic damaged as a result of the August – September 2018 floods.

GHC-SCW and Iconica will select the qualified firm(s) that is best suited to support and represent GHC-SCW in accordance with the criterion outlined below.

Please submit your Proposals to Iconica, Inc. **via email** no later than **March 15, 2019, at 12:00 p.m. Central Standard Time (CST),** to Zain Heitz at zain.heitz@iconicacreates.com.

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List of Attachments

1. INTRODUCTION AND INFORMATION

1.1 General

It is the intent of Group Health Cooperative of South Central Wisconsin ("GHC-SCW") to contract with a contractor/vendor, hereafter referred to as the "Contractor", to furnish all materials, equipment and labor for its Sauk Trails Clinic Project (hereinafter the "Project"). All Contractors are responsible for any addendums issued for this Project.

1.2 Project Timeline

RFP Posted	2/26/19
All Questions Due to Iconica	3/11/19 by 10:00 am
All Questions Answered by Iconica	3/13/19 by 2:00 pm
RFP Responses Due from Contractors	3/15/19 by 12:00 pm
GHC-SCW Selection of Contractor (tentative)	3/22/19

1.3 Pre-Proposal and Site Inspection Meeting

If desired, request date and time through Iconica by contacting Zain Heitz at zain.heitz@iconicacreates.com.

1.4 Selection Criteria

Selection based on qualified, responsible and responsive proposer.

1.5 Proposal Questions

All questions related to this RFP must be in writing and received by Zain Heitz, Project Manager, no later than 3/11/19 by 10:00 am. Email questions to zain.heitz@iconicacreates.com. Phone call and faxed questions will not be accepted.

Answers to all written questions will be re-issued in the form of an addendum and entered on the GHC-SCW website, on 3/13/19 by 2:00 pm. It is the responsibility of all interested Contractors to access the web site for this information.

1.6 Project Changes

GHC-SCW reserves the right to make changes to this Project. Any changes in the scope of work shall be mutually agreed upon by the GHC-SCW and the Contractor.

1.7 Project Representative

Contractor shall provide a Project Representative who will act as a single point of contact for GHC-SCW.

1.8 Guarantees and Warranties

Guarantees and warranties on workmanship and materials shall be stated in your proposal.

1.9 Proposal and Performance/Payment Bonds

Bid, Performance, and Payment Bonds are not required for this solicitation due the lack of construction services being provided. Additional bonding requirements may be introduced at the time of contracting dependent on the proposed schedule of payment relative to the status of equipment delivery.

1.10 State of Wisconsin Requirements

This contract shall be subject to the laws of the State of Wisconsin. In connection with the performance of work under this contract, the Contractor agrees not to discriminate against any employee or applicant for employment because of age, race, religion, color, handicap, sex, physical condition, developmental disability as defined in Wis. Stat. § 51.01(5), Stats., sexual orientation as defined in Wis. Stat. § 111.32(13m), or national origin.

1.11 Contractor Verification Prior to Award

Contractor's financial solvency may be verified through financial background checks prior to contract award. GHC-SCW reserves the right to reject RFPs based on information obtained through these background checks if it's deemed to be in the best interest of GHC-SCW.

1.12 Insurance Requirements

Any issue of insurance and/or equipment warranty shall be introduced at the time of contracting.

1.13 Additional Contract Clauses

Contractor shall be responsible for adhering to the additional clauses outline in Appendix E, as applicable to the scope of work.

1.14 Other

1.14.1 All work shall conform to all applicable Industry, Federal, State and Local Laws, Codes, Ordinances, OSHA requirements and Standards.

1.14.2 Site protection/cleanup: Contractor is responsible for the proper handling of materials to include discard of debris and keeping the work site clean. Any cutting of sidewalks or parking areas must be patched accordingly. Contractor is

responsible for restoring any ground or landscaping disruption due to construction of this Project.

1.14.3 All Contractors performing work are required to have a Contractor's License for the State of Wisconsin. All Licenses for any contractors must be current on the day of bidding and throughout the length of the Project.

1.14.4 All Contractors must indicate in their proposals if they intend to apply for any rebate incentives from Focus on Energy related to this Project.

1.14.5 Rejection of proposals: GHC-SCW reserves the right to accept or reject any or all proposals and to waive any informality in proposals.

2. STATEMENT OF WORK AND REQUIRED SUBMITTALS

2.1 Scope of Work

See Attachment A for the Project's Scope of Work.

2.2 Submittal Requirements

2.2.1 General Submittal: Contractors shall submit one electronic copy of their proposal to Zain Heitz at zain.heitz@iconicacreates.com by the deadline stated above.

2.2.2 Valuation of Submittal: GHC-SCW will base its scoring of proposals on the following Score Card criteria:

Factors	Weight/Pts
Contractor Qualifications and Experience	0-20 pts
Conformance with Scope of Work and specifications	0-25 pts
Pricing in response to Attachment A	0-25 pts
Material and Shop Drawing Lead Times	0-25 pts
Minority, women-owned and other small business participation	0-5 pts

2.2.3 Required Documentation

i. *Main Proposal*:

- Letter of Interest: Provide a letter of interest from a duly authorized representative confirming the Contractor's active business status and authority to conduct work in the State of Wisconsin. Provide point of contact information for the Contractor's proposal.

- Contractor Qualification and Experience: Provide a brief history of the company's formation. Provide project specific experience completed by the Contractor similar to the scope of work described in Attachment A.

- Key Personnel: Provide a brief explanation of Contractor's key personnel and make up of team that will be responsible for this Project.

- Federal Grant Program Experience: Provide brief history of the Contractor's experience constructing projects in accordance with disaster recovery funding requirements.

- Small Business Participation: Provide certification as a minority, woman-owned, or other government certified small business. If inapplicable, provide a brief explanation of how Contractor intends on soliciting small business participation to help meet the needs of this scope of work – if needed.

ii. *Additional Documents*:

- Attachment A (Scope of Work & Pricing Schedule) – Provide a pricing quote for all items listed.

- Attachment C (Addendum Receipts) – Submit a signed copy of Attachment C if any addendums are issued to this RFP.

- Licenses and Certifications – Provide required licenses and certifications necessary to complete the scope of work.

ATTACHMENT A – Scope of Work and Pricing Sheet

RFP 3 – Electrical Switch Gear

Provide equipment per plan, specifications and equipment list.

GHC-SCW is a non-profit organization, all materials will be tax-exempt.

Provide a separate detailed cost breakdown sheet.

Include delivery to site, 8202 Excelsior Drive, Madison, WI 53717.

Exclude unloading and installation costs.

Materials :_____

Delivery:_____

Total:_____

Equipment List
For additional detail see riser & specs.

- Pad mounted 1600A transocket with meter socket. Alliant Energy.
- Service entrance switchboard HDMS 480Y277V with breakers and SPD and ARC FLASH MITIGATION TO COMPLY WITH 2017 NEC.
- Power distribution panelboard HMDP 480Y277V with breakers.
- Power distribution panelboard LMDP 208Y120V with breakers and SPD.
- Emergency panelboard LEM 208Y120V with breakers and SPD.
- Optional Standby panelboard HSB 480Y277V with breakers.
- Optional Standby panelboard LSB 208Y120V with breakers.
- Transformer T1, 225kVA, 480V 3 phase primary, 208Y120 secondary 3 phase 4 wire.
- Transformer TEM, 15kVA, 480V 3 phase primary, 208Y120 secondary 3 phase 4 wire.
- Transformer TSB, 45kVA, 480V 3 phase primary, 208Y120 secondary 3 phase 4 wire.
- 60A circuit breaker in enclosure for TEM secondary.
- Switchboard GFCI Injection Testing per 2017 NEC

Iconica
901 Deming Way
Madison, WI 53717

608.664.3500 Ph
608.664.3535 Fx
iconicacreates.com

SECTION 262416 - PANELBOARDS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Distribution panelboards.
2. Lighting and appliance branch-circuit panelboards.

1.2 DEFINITIONS

A. MCCB: Molded-case circuit breaker.

B. SPD: Surge protective device.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of panelboard.

B. Shop Drawings: For each panelboard and related equipment.

1. Include dimensioned plans, elevations, sections, and details.
2. Detail enclosure types including mounting and anchorage, environmental protection, knockouts, corner treatments, covers and doors, gaskets, hinges, and locks.
3. Detail bus configuration, current, and voltage ratings.
4. Short-circuit current rating of panelboards and overcurrent protective devices.
5. Include evidence of NRTL listing for SPD as installed in panelboard.
6. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices and auxiliary components.
7. Include wiring diagrams for power, signal, and control wiring.
8. Include time-current coordination curves for each type and rating of overcurrent protective device included in panelboards.

1.4 CLOSEOUT SUBMITTALS

A. Operation and maintenance data.

1.5 FIELD CONDITIONS

A. Service Conditions: NEMA PB 1, usual service conditions, as follows:

1. Ambient temperatures within limits specified.
2. Altitude not exceeding 6600 feet.

1.6 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace panelboards that fail in materials or workmanship within specified warranty period.

1. Panelboard Warranty Period: 18 months from date of Substantial Completion.

1.7 REGULATORY REQUIREMENTS

A. All work and materials are to conform in every detail to applicable rules and requirements of the Wisconsin State Electrical Code (SPS 316), the National Electrical Code (NFPA 70), other applicable National Fire Protection Association codes, the National Electrical Safety Code, and present manufacturing standards (including NEMA).

B. All Division 26 work shall be done under the direction of a currently certified State of Wisconsin Certified Master Electrician.

PART 2 - PRODUCTS

2.1 PANELBOARDS COMMON REQUIREMENTS

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 1.

C. Comply with NFPA 70.

D. Enclosures: Flush and Surface-mounted, dead-front cabinets.

1. Rated for environmental conditions at installed location.

a. Indoor Dry and Clean Locations: NEMA 250, Type 1.
b. Outdoor Locations: NEMA 250, Type 3R.

2. Height: 84 inches maximum.
3. Hinged Front Cover: Entire front trim hinged to box and with standard door within hinged trim cover. Trims shall cover all live parts and shall have no exposed hardware.

E. Incoming Mains Location: Convertible between top and bottom

F. Phase, Neutral, and Ground Buses: Tin-plated aluminum.

G. Conductor Connectors: Suitable for use with conductor material and sizes.

1. Material: Tin-plated aluminum.
2. Main and Neutral Lugs: Mechanical type, with a lug on the neutral bar for each pole in the panelboard.
3. Ground Lugs and Bus-Configured Terminators: Compression type, with a lug on the bar for each pole in the panelboard.

4. Feed-Through Lugs: Compression type, suitable for use with conductor material. Locate at opposite end of bus from incoming lugs or main device. See schedules on plans.

H. NRTL Label: Panelboards shall be labeled by an NRTL acceptable to authority having jurisdiction for use as service equipment with one or more main service disconnecting and overcurrent protective devices.

I. Future Devices: Panelboards shall have mounting brackets, bus connections, filler plates, and necessary appurtenances required for future installation of devices.

J. Panelboard Short-Circuit Current Rating: Fully rated to interrupt symmetrical short-circuit current available at terminals. Assembly listed by an NRTL for 100 percent interrupting capacity.

2.2 POWER PANELBOARDS

A. Manufacturers: Subject to compliance with plan and specification requirements, provide products by a complying manufacturer.

B. Panelboards: NEMA PB 1, distribution type.

C. Doors: Secured with vault-type latch with tumbler lock; keyed alike.

1. For doors more than 36 inches high, provide two latches, keyed alike.

D. Mains: see schedule on plans..

E. Branch Overcurrent Protective Devices for Circuit-Breaker Frame Sizes 125 A and Smaller: Bolt-on circuit breakers or Plug-in circuit breakers where individual positive-locking device requires mechanical release for removal.

F. Branch Overcurrent Protective Devices for Circuit-Breaker Frame Sizes Larger Than 125 A: Bolt-on circuit breakers or Plug-in circuit breakers where individual positive-locking device requires mechanical release for removal.

2.3 LIGHTING AND APPLIANCE BRANCH-CIRCUIT PANELBOARDS

A. Manufacturers: Subject to compliance with plan and specification requirements, provide products by a complying manufacturer.

B. Panelboards: NEMA PB 1, lighting and appliance branch-circuit type.

C. Mains: Circuit breaker or lugs only - See schedule on plans.

D. Branch Overcurrent Protective Devices: Bolt-on circuit breakers, replaceable without disturbing adjacent units.

E. Doors: Concealed hinges; secured with flush latch with tumbler lock; keyed alike.

2.4 SURGE PROTECTION DEVICES

A. Manufacturers: Subject to compliance with plan and specification requirements, provide products by a complying manufacturer.

B. SPDs: Listed and labeled by an NRTL acceptable to authorities having jurisdiction as complying with UL 1449, Type 2.

C. Features and Accessories:

1. Integral disconnect switch.
2. Internal thermal protection that disconnects the SPD before damaging internal suppressor components.
3. Indicator light display for protection status.
4. Form-C contacts rated at 5 A and 250-V ac, one normally open and one normally closed, for remote monitoring of protection status. Contacts shall reverse on failure of any surge diversion module or on opening of any current-limiting device. Coordinate with building power monitoring and control system.
5. Surge counter.

D. Peak Surge Current Rating: The minimum single-pulse surge current withstand rating per phase shall not be less than 100 kA and does not need to exceed 200kA. The peak surge current rating shall be the arithmetic sum of the ratings of the individual MOVs in a given mode.

E. Protection modes and UL 1449 VPR for grounded wye circuits with 208Y/120 V, three-phase, four-wire circuits shall not exceed the following:

1. Line to Neutral: 800 V for 208Y/120 V.
2. Line to Ground: 800 V for 208Y/120 V.
3. Neutral to Ground: 800 V for 208Y120 V.
4. Line to Line: 1200 V for 208Y/120 V.

F. Protection modes and UL 1449 VPR for grounded wye circuits with 480Y/277 V, three-phase, four-wire circuits shall not exceed the following:

1. Line to Neutral: 1200 V for 480Y/277 V.
2. Line to Ground: 1200 V for 480Y/277 V.
3. Neutral to Ground: 1200 V for 480y/277 V.
4. Line to Line: 2000 V for 480Y/277 V.

G. SCCR: Equal or exceed 100 kA and does not need to exceed 200kA.

H. INominal Rating: 20 kA.

2.5 DISCONNECTING AND OVERCURRENT PROTECTIVE DEVICES

A. Manufacturers: Subject to compliance with plan and specification requirements, provide products by a complying manufacturer.

B. MCCB: Comply with UL 489, with interrupting capacity to meet available fault currents.

1. Thermal-Magnetic Circuit Breakers:

a. Inverse time-current element for low-level overloads.

b. Instantaneous magnetic trip element for short circuits.
c. Adjustable magnetic trip setting for circuit-breaker frame sizes 250 A and larger.

2. GFCI Circuit Breakers: Single- and double-pole configurations with Class A ground-fault protection (6-mA trip).
3. GFEP Circuit Breakers: Class B ground-fault protection (30-mA trip).
4. Subfeed Circuit Breakers: Vertically mounted.
5. MCCB Features and Accessories:

a. Standard frame sizes, trip ratings, and number of poles.
b. Breaker handle indicates tripped status.
c. UL listed for reverse connection without restrictive line or load ratings.
d. Lugs: Mechanical style, suitable for number, size, trip ratings, and conductor materials.
e. Application Listing: Appropriate for application; Type SWD for switching fluorescent lighting loads; Type HID for feeding fluorescent and HID lighting circuits.
f. Ground-Fault Protection: Integrally mounted relay and trip unit with adjustable pickup and time-delay settings, push-to-test feature, and ground-fault indicator.
g. Shunt Trip: 120-V trip coil energized from separate circuit, set to trip at 75 percent of rated voltage.
h. Handle Padlocking Device: Fixed attachment, for locking circuit-breaker handle in on or off position.
i. Handle Clamp: Loose attachment, for holding circuit-breaker handle in on position.

2.6 IDENTIFICATION

A. Panelboard Label: Manufacturer's name and trademark, voltage, amperage, number of phases, and number of poles shall be located on the interior of the panelboard door.

B. Breaker Labels: Faceplate shall list current rating, UL and IEC certification standards, and AIC rating.

C. Circuit Directory: Directory card inside panelboard door, mounted in metal frame with transparent protective cover.

PART 3 - EXECUTION (For reference only)

3.1 INSTALLATION

A. Comply with NECA 1.

B. Install panelboards and accessories according to NECA 407.

C. Mount top of trim 90 inches above finished floor unless otherwise indicated.

D. Mount panelboard cabinet plumb and rigid without distortion of box.

E. Mount recessed panelboards with fronts uniformly flush with wall finish and mating with back box.

F. Install overcurrent protective devices and controllers not already factory installed.

1. Set field-adjustable, circuit-breaker trip ranges.

G. Make grounding connections and bond neutral for services and separately derived systems to ground. Make connections to grounding electrodes, separate grounds for isolated ground bars, and connections to separate ground bars.

H. Install filler plates in unused spaces.

I. For recess mounted panelboards stub four 1-inch empty conduits from panelboard into accessible ceiling space or space designated to be ceiling space in the future. Arrange conductors in gutters into groups and bundle and wrap with wire ties.

3.2 IDENTIFICATION

A. Identify field-installed conductors, interconnecting wiring, and components; install warning signs complying with requirements in Section 260553 "Identification for Electrical Systems."

B. Create a directory to indicate installed circuit loads; incorporate Owner's final room designations. Obtain approval before installing. Handwritten directories are not acceptable. Install directory inside panelboard door.

C. Panelboard Nameplates: Label each panelboard with a nameplate complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

D. Device Nameplates: Label each branch circuit device in power panelboards with a nameplate complying with requirements for identification specified in Section 260553 "Identification for Electrical Systems."

E. Install warning signs complying with requirements in Section 260553 "Identification for Electrical Systems" identifying source of remote circuit.

3.3 FIELD QUALITY CONTROL

A. Perform tests and inspections.

B. Acceptance Testing Preparation:

1. Test insulation resistance for each panelboard bus, component, connecting supply, feeder, and control circuit.
2. Test continuity of each circuit.

C. Tests and Inspections:

1. Perform each visual and mechanical inspection and electrical test for low-voltage air circuit breakers 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.

D. Panelboards will be considered defective if they do not pass tests and inspections.

E. Prepare test and inspection reports, including a certified report that identifies panelboards included and that describes scanning results, with comparisons of the two scans. Include notation of deficiencies detected, remedial action taken, and observations after remedial action.

END OF SECTION 262416

SECTION 262413 - SWITCHBOARDS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Service and distribution switchboards rated 600 V and less.
2. Surge protection devices.
3. Disconnecting and overcurrent protective devices.
4. Instrumentation.
5. Control power.
6. Accessory components and features.
7. Identification.

1.2 ACTION SUBMITTALS

A. Product Data: For each switchboard, overcurrent protective device, ground-fault protector, accessory, and component.

B. Shop Drawings: For each switchboard and related equipment.

1. Include dimensioned plans, elevations, sections, and details, including required clearances and service space around equipment. Show tabulations of installed devices, equipment features, and ratings.
2. Detail enclosure types for types other than NEMA 250, Type 1.
3. Detail bus configuration, current, and voltage ratings.
4. Detail short-circuit current rating of switchboards and overcurrent protective devices.
5. Detail features, characteristics, ratings, and factory settings of individual overcurrent protective devices and auxiliary components.
6. Include time-current coordination curves for each type and rating of overcurrent protective device included in switchboards. Submit on translucent log-log graft paper; include selectable ranges for each type of overcurrent protective device.
7. Include schematic and wiring diagrams for power, signal, and control wiring.

C. Delegated Design Submittal:

1. For arc-flash hazard analysis.
2. For arc-flash labels.

1.3 CLOSEOUT SUBMITTALS

A. Operation and maintenance data.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: An employer of workers qualified as defined in NEMA PB 2.1 and trained in electrical safety as required by NFPA 70E.

B. Testing Agency Qualifications: Member company of NETA or an NRTL.

1.5 FIELD CONDITIONS

A. Installation Pathway: Remove and replace access fencing, doors, lift-out panels, and structures to provide pathway for moving switchboards into place.

B. Environmental Limitations:

1. Do not deliver or install switchboards until spaces are enclosed and weathertight, wet work in spaces is complete and dry, work above switchboards is complete, and HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.
2. Rate equipment for continuous operation under the following conditions unless otherwise indicated:

a. Ambient Temperature: Not exceeding 104 deg F.
b. Altitude: Not exceeding 6600 feet.

1.6 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to repair or replace switchboard enclosures, buswork, overcurrent protective devices, accessories, and factory installed interconnection wiring that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Three years from date of Substantial Completion.

B. Manufacturer's Warranty: Manufacturer's agrees to repair or replace surge protection devices that fail in materials or workmanship within specified warranty period.

1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SWITCHBOARDS

A. Manufacturers: Subject to compliance with plan and specification requirements, provide products by a complying manufacturer.

B. Source Limitations: Obtain switchboards, overcurrent protective devices, components, and accessories from single source from single manufacturer.

C. Product Selection for Restricted Space: Drawings indicate maximum dimensions for switchboards including clearances between switchboards and adjacent surfaces and other items. Comply with indicated maximum dimensions.

D. Comply with NEMA PB 2.

E. Comply with NFPA 70.

F. Comply with UL 891.

G. Switchboard shall be front access only. Right and left sides may be accessible, but rear access is unacceptable.

H. Front-Connected, Front-Accessible Switchboards:

1. Main Devices: Fixed, individually mounted.
2. Branch Devices: Panel mounted.
3. Sections front and rear aligned.

I. Nominal System Voltage: 480Y/277 V.

J. Main-Bus Continuous: 1600 A.

K. Indoor Enclosures: Steel, NEMA 250, Type 1.

L. Service Entrance Rating: Switchboards intended for use as service entrance equipment shall contain from one to six service disconnecting means with overcurrent protection, a neutral bus with disconnecting link, a grounding electrode conductor terminal, and a main bonding jumper.

M. Bus Transition and Incoming Pull Sections: Matched and aligned with basic switchboard.

N. Hinged Front Panels: Allow access to circuit breaker, metering, accessory, and blank compartments.

O. Buses and Connections: Three phase, four wire unless otherwise indicated.

1. Provide phase bus arrangement A, B, C from front to back, top to bottom, and left to right when viewed from the front of the switchboard.
2. Phase- and Neutral-Bus Material: Tin-plated, high-strength, electrical-grade aluminum alloy with tin-plated aluminum circuit-breaker line connections.
3. Tin-plated aluminum feeder circuit-breaker line connections.
4. Load Terminals: Insulated, rigidly braced, runback bus extensions, of same material as through buses, equipped with compression connectors for outgoing circuit conductors. Provide load terminals for future circuit-breaker positions at full-ampere rating of circuit-breaker position.
5. Ground Bus: Minimum-size required by UL 891, hard-drawn copper of 98 percent conductivity, equipped with compression connectors for feeder and branch-circuit ground conductors.
6. Main-Phase Buses and Equipment-Ground Buses: Uniform capacity for entire length of switchboard's main and distribution sections. Provide for future extensions from accessible ends.
7. Disconnect Links:

a. Isolate neutral bus from incoming neutral conductors.

b. Bond neutral bus to equipment-ground bus for switchboards utilized as service equipment or separately derived systems.

8. Neutral Buses: 100 percent of the ampacity of phase buses unless otherwise indicated, equipped with compression connectors for outgoing circuit neutral cables. Brace bus extensions for busway feeder neutral bus.

P. Future Devices: Equip compartments with mounting brackets, supports, bus connections, and appurtenances at full rating of circuit-breaker compartment.

Q. Submittal shall include cost to perform and meet the requirements of the 2017 National Electrical Code GFCI injection testing.

2.2 SURGE PROTECTION DEVICES

A. Manufacturers: Subject to compliance with plan and specification requirements, provide products by a complying manufacturer.

B. SPDs: Listed and labeled by an NRTL acceptable to authorities having jurisdiction as complying with UL 1449, Type 2.

C. Features and Accessories:

1. Integral disconnect switch.
2. Internal thermal protection that disconnects the SPD before damaging internal suppressor components.
3. Indicator light display for protection status.
4. Form-C contacts rated at 5 A and 250-V ac, one normally open and one normally closed, for remote monitoring of protection status. Contacts shall reverse on failure of any surge diversion module or on opening of any current-limiting device. Coordinate with building power monitoring and control system.
5. Surge counter.

D. Peak Surge Current Rating: The minimum single-pulse surge current withstand rating per phase shall not be less than 200 kA. The peak surge current rating shall be the arithmetic sum of the ratings of the individual MOVs in a given mode.

E. Protection modes and UL 1449 VPR for grounded wye circuits with 480Y/277 V, three-phase, four-wire circuits shall not exceed the following:

1. Line to Neutral: 1200 V for 480Y/277 V.
2. Line to Ground: 1200 V for 480Y/277 V.
3. Neutral to Ground: 1200 V for 480y/277 V.
4. Line to Line: 2000 V for 480Y/277 V.

F. SCCR: Equal or exceed 200 kA.

G. INominal Rating: 20 kA.

2.3 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 adjustments.
    d. Ground-fault pickup level, time delay, and I squared t response.
4. GFCI Circuit Breakers: Single- and double-pole configurations with Class A ground-fault protection (6-mA trip).
5. Ground-Fault Equipment Protection (GFEP) Circuit Breakers: Class B ground-fault protection (30-mA trip).
6. MCCB Features and Accessories:

    a. Standard frame sizes, trip ratings, and number of poles.
    b. Lugs: Compression 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.
    d. Ground-Fault Protection: Integrally mounted relay and trip unit with adjustable pickup and time-delay settings, push-to-test feature, and ground-fault indicator.
    e. Zone-Selective Interlocking: Integral with electronic trip unit; for interlocking ground-fault protection function.
    f. Shunt Trip: 120-V trip coil energized from separate circuit, set to trip at 75 percent of rated voltage.
    g. Auxiliary Contacts: One SPDT switch with "a" and "b" contacts; "a" contacts mimic circuit-breaker contacts, "b" contacts operate in reverse of circuit-breaker contacts.

2.4 INSTRUMENTATION

A. Instrument Transformers: NEMA EI 21.1, and the following:

1. Potential Transformers: NEMA EI 21.1; 120 V, 60 Hz, single tapped secondary; disconnecting type with integral fuse mountings. Burden and accuracy shall be consistent with connected metering and relay devices.
2. Current Transformers: NEMA EI 21.1; 5 A, 60 Hz, secondary; bushing type; single secondary winding and secondary shorting device. Burden and accuracy shall be consistent with connected metering and relay devices.

3. Control-Power Transformers: Dry type, mounted in separate compartments for units larger than 3 kVA.
4. Current Transformers for Neutral and Ground-Fault Current Sensing: Connect secondary wiring to ground overcurrent relays, via shorting terminals, to provide selective tripping of main and tie circuit breaker. Coordinate with feeder circuit-breaker, ground-fault protection.

B. 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 0.5 percent.
b. Phase-to-Phase Voltages, Three Phase: Plus or minus 0.5 percent.
c. Phase-to-Neutral Voltages, Three Phase: Plus or minus 0.5 percent.
d. Megawatts: Plus or minus 1 percent.
e. Megavars: Plus or minus 1 percent.
f. Power Factor: Plus or minus 1 percent.
g. Frequency: Plus or minus 0.1 percent.
h. Accumulated Energy, Megawatt Hours: Plus or minus 1 percent; accumulated values unaffected by power outages up to 72 hours.
i. Megawatt Demand: Plus or minus 1 percent; demand interval programmable from five to 60 minutes.
j. Contact devices to operate remote impulse-totalizing demand meter.

2. Mounting: Display and control unit flush or semi flush mounted in instrument compartment door.

2.5 CONTROL POWER

A. Control Circuits: 120-V ac, supplied through secondary disconnecting devices from control-power transformer.

B. Electrically Interlocked Main and Tie Circuit Breakers: Two control-power transformers in separate compartments, with interlocking relays, connected to the primary side of each control-power transformer at the line side of the associated main circuit breaker. 120-V secondaries connected through automatic transfer relays to ensure a fail-safe automatic transfer scheme.

C. Control-Power Fuses: Primary and secondary fuses for current-limiting and overload protection of transformer and fuses for protection of control circuits.

D. 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.

2.6 ACCESSORY COMPONENTS AND FEATURES

A. Portable Test Set: For testing functions of solid-state trip devices without removing from switchboard. Include relay and meter test plugs suitable for testing switchboard meters and switchboard class relays.

2.7 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 (For Reference Only)

3.1 INSTALLATION

A. Receive, inspect, handle, and store switchboards according to NEMA PB 2.1.

B. Install switchboards and accessories according to NEMA PB 2.1.

C. Equipment Mounting: Install switchboards on concrete base, 6-inch nominal thickness. Comply with requirements for concrete base specified in Section 033000 "Cast-in-Place Concrete."

1. Install conduits entering underneath the switchboard, entering under the vertical section where the conductors will terminate. Install with couplings flush with the concrete base. Extend 2 inches above concrete base after switchboard is anchored in place.
2. 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.
3. For supported equipment, install epoxy-coated anchor bolts that extend through concrete base and anchor into structural concrete floor.
4. Place and secure anchorage devices. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
5. Install anchor bolts to elevations required for proper attachment to switchboards.
6. Anchor switchboard to building structure at the top of the switchboard if required or recommended by the manufacturer.

D. Temporary Lifting Provisions: Remove temporary lifting eyes, channels, straps and brackets, and temporary blocking of moving parts from switchboard units and components.

E. Operating Instructions: Frame and mount the printed basic operating instructions for switchboards, including control and key interlocking sequences and emergency procedures. Fabricate frame of finished wood or metal and cover instructions with clear acrylic plastic. Mount on front of switchboards.

F. Install filler plates in unused spaces of panel-mounted sections.

G. Install overcurrent protective devices, surge protection devices, and instrumentation.

1. Set field-adjustable switches and circuit-breaker trip ranges.

H. Install spare-fuse cabinet.

I. 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. Perform the following tests and inspections with the assistance of a factory-authorized service representative:

1. Acceptance Testing:

a. Test insulation resistance for each switchboard bus, component, connecting supply, feeder, and control circuit. Open control and metering circuits within the switchboard and remove neutral connection to surge protection and other electronic devices prior to insulation test. Reconnect after test.
b. Test continuity of each circuit.

2. Test ground-fault protection of equipment for service equipment per NFPA 70.
3. Perform each visual and mechanical inspection and electrical test stated in NETA Acceptance Testing Specification. Certify compliance with test parameters.
4. Correct malfunctioning units on-site where possible, and retest to demonstrate compliance; otherwise, replace with new units and retest.

B. Switchboard will be considered defective if it does not pass tests and inspections.

C. 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.

3.4 DEMONSTRATION

A. Train Owner's maintenance personnel to adjust, operate, and maintain switchboards, overcurrent protective devices, instrumentation, and accessories.

END OF SECTION 262413

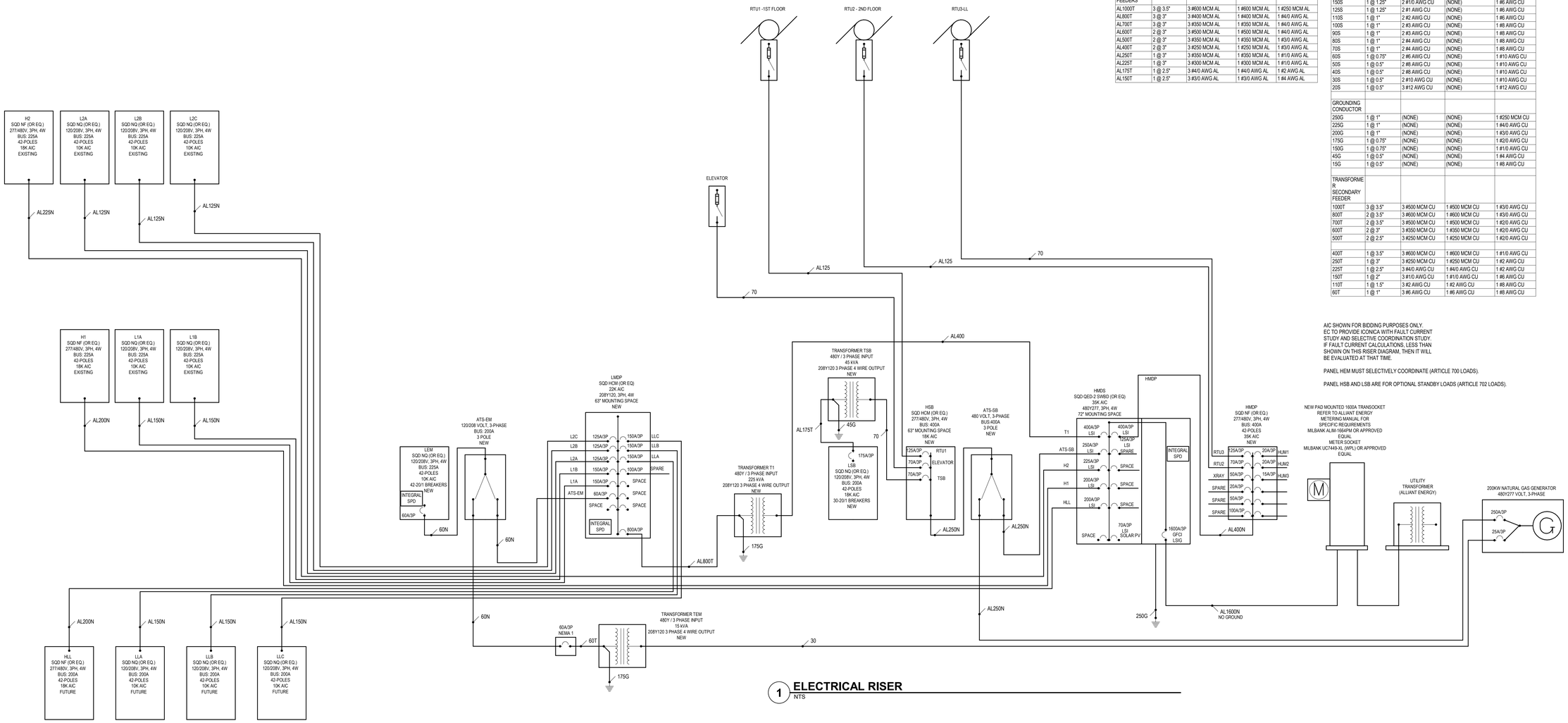
TRANSFORMER SCHEDULE			
Xfmr Number	**kVA**	**Description**	**MODEL NUMBER**
T1	225KVA	480V PRIMARY TO 120/208V, 3-PHASE, 4-WIRE SECONDARY	EE225T3H
TEM	15KVA	480V PRIMARY TO 120/208V, 3-PHASE, 4-WIRE SECONDARY	EE15T3H
TSB	45KVA	480V PRIMARY TO 120/208V, 3-PHASE, 4-WIRE SECONDARY	EE45T3H

ALUMINUM FEEDER SCHEDULE

FEEDER NUMBER	CONDUIT QTY & SIZE	PHASE COND QTY & SIZE	NEUT COND QTY & SIZE	GND COND QTY & SIZE
3 PHASE WITH NEUTRAL				
AL3000N	9 @ 3.5"	3 #600 MCM AL	1 #600 MCM AL	1 # 600 MCM AL
AL2500N	7 @ 4"	3 #700 MCM AL	1 #700 MCM AL	1 #600 MCM AL
AL2000N	6 @ 3.5"	3 #600 MCM AL	1 #600 MCM AL	1 #400 MCM AL
AL1600N	5 @ 3.5"	3 #600 MCM AL	1 #600 MCM AL	1 #350 MCM AL
AL1200N	4 @ 3"	3 #500 MCM AL	1 #500 MCM AL	1 #250 MCM AL
AL1000N	4 @ 3"	3 #350 MCM AL	1 #350 MCM AL	1 #4/0 AWG AL
AL800N	3 @ 3"	3 #400 MCM AL	1 #400 MCM AL	1 #3/0 AWG AL
AL700N	3 @ 2.5"	3 #300 MCM AL	1 #300 MCM AL	1 #3/0 AWG AL
AL600N	2 @ 3"	3 #500 MCM AL	1 #500 MCM AL	1 #2/0 AWG AL
AL500N	2 @ 3"	3 #350 MCM AL	1 #350 MCM AL	1 #1/0 AWG AL
AL400N	2 @ 2.5"	3 #4/0 AWG AL	1 #4/0 AWG AL	1 #1 AWG AL
AL350N	1 @ 3.5"	3 #600 MCM AL	1 #600 MCM AL	1 #1 AWG AL
AL300N	1 @ 3"	3 #500 MCM AL	1 #500 MCM AL	1 #2 AWG AL
AL250N	1 @ 3"	3 #350 MCM AL	1 #350 MCM AL	1 #2 AWG AL
AL225N	1 @ 2.5"	3 #300 MCM AL	1 #300 MCM AL	1 #2 AWG AL
AL200N	1 @ 2.5"	3 #250 MCM AL	1 #250 MCM AL	1 #4 AWG AL
AL175N	1 @ 2"	3 #4/0 AWG AL	1 #4/0 AWG AL	1 #4 AWG AL
AL150N	1 @ 2"	3 #3/0 AWG AL	1 #3/0 AWG AL	1 #4 AWG AL
AL125N	1 @ 1.5"	3 #1/0 AWG AL	1 #1/0 AWG AL	1 #4 AWG AL
3 PHASE NO NEUTRAL				
AL1600	5 @ 3"	3 #600 MCM AL	(NONE)	1 #350 MCM AL
AL1200	4 @ 3"	3 #500 MCM AL	(NONE)	1 #250 MCM AL
AL1000	4 @ 2.5"	3 #350 MCM AL	(NONE)	1 #4/0 AWG AL
AL800	3 @ 2.5"	3 #400 MCM AL	(NONE)	1 #3/0 AWG AL
AL700	3 @ 2.5"	3 #300 MCM AL	(NONE)	1 #3/0 AWG AL
AL600	2 @ 3"	3 #500 MCM AL	(NONE)	1 #2/0 AWG AL
AL500	2 @ 2.5"	3 #350 MCM AL	(NONE)	1 #1/0 AWG AL
AL400	2 @ 2"	3 #4/0 AWG AL	(NONE)	1 #1 AWG AL
AL350	1 @ 3"	3 #600 MCM AL	(NONE)	1 #1 AWG AL
AL300	1 @ 3"	3 #500 MCM AL	(NONE)	1 #2 AWG AL
AL250	1 @ 2.5"	3 #350 MCM AL	(NONE)	1 #2 AWG AL
AL225	1 @ 2"	3 #300 MCM AL	(NONE)	1 #2 AWG AL
AL200	1 @ 2"	3 #250 MCM AL	(NONE)	1 #4 AWG AL
AL175	1 @ 2"	3 #4/0 AWG AL	(NONE)	1 #4 AWG AL
AL150	1 @ 1.5"	3 #3/0 AWG AL	(NONE)	1 #4 AWG AL
AL125	1 @ 1.25"	3 #1/0 AWG AL	(NONE)	1 #4 AWG AL
SINGLE PHASE NO NEUTRAL				
AL200S	1 @ 1.5"	2 #250 MCM AL	(NONE)	1 #4 AWG AL
AL175S	1 @ 1.5"	2 #4/0 AWG AL	(NONE)	1 #4 AWG AL
AL150S	1 @ 1.25"	2 #3/0 AWG AL	(NONE)	1 #4 AWG AL
AL125S	1 @ 1.25"	2 #1/0 AWG AL	(NONE)	1 #4 AWG AL
TRANSFORMER SECONDARY FEEDERS				
AL1000T	3 @ 3.5"	3 #600 MCM AL	1 #600 MCM AL	1 #250 MCM AL
AL800T	3 @ 3"	3 #400 MCM AL	1 #400 MCM AL	1 #4/0 AWG AL
AL700T	3 @ 3"	3 #350 MCM AL	1 #350 MCM AL	1 #4/0 AWG AL
AL600T	2 @ 3"	3 #500 MCM AL	1 #500 MCM AL	1 #4/0 AWG AL
AL500T	2 @ 3"	3 #350 MCM AL	1 #350 MCM AL	1 #3/0 AWG AL
AL400T	2 @ 3"	3 #250 MCM AL	1 #250 MCM AL	1 #3/0 AWG AL
AL250T	1 @ 3"	3 #350 MCM AL	1 #350 MCM AL	1 #1/0 AWG AL
AL225T	1 @ 3"	3 #300 MCM AL	1 #300 MCM AL	1 #1/0 AWG AL
AL175T	1 @ 2.5"	3 #4/0 AWG AL	1 #4/0 AWG AL	1 #2 AWG AL
AL150T	1 @ 2.5"	3 #3/0 AWG AL	1 #3/0 AWG AL	1 #4 AWG AL

COPPER FEEDER SCHEDULE

FEEDER NUMBER	CONDUIT QTY & SIZE	PHASE COND QTY & SIZE	NEUTRAL COND QTY & SIZE	GND COND QTY & SIZE
3 PHASE WITH NEUTRAL				
1600N	5 @ 3.5"	3 #500 MCM CU	1 #500 MCM CU	1 #4/0 AWG CU
1200N	4 @ 3"	3 #350 MCM CU	1 #350 MCM CU	1 #3/0 AWG CU
1000N	3 @ 3.5"	3 #500 MCM CU	1 #500 MCM CU	1 #2/0 AWG CU
800N	2 @ 3.5"	3 #500 MCM CU	1 #500 MCM CU	1 #1/0 AWG CU
600N	2 @ 3"	3 #350 MCM CU	1 #350 MCM CU	1 #1 AWG CU
500N	2 @ 2.5"	3 #250 MCM CU	1 #250 MCM CU	1 #2 AWG CU
400N	1 @ 3.5"	3 #500 MCM CU	1 #500 MCM CU	1 #3 AWG CU
350N	1 @ 3.5"	3 #500 MCM CU	1 #500 MCM CU	1 #3 AWG CU
300N	1 @ 3"	3 #350 MCM CU	1 #350 MCM CU	1 #4 AWG CU
250N	1 @ 2.5"	3 #250 MCM CU	1 #250 MCM CU	1 #4 AWG CU
225N	1 @ 2.5"	3 #4/0 AWG CU	1 #4/0 AWG CU	1 #4 AWG CU
200N	1 @ 2"	3 #3/0 AWG CU	1 #3/0 AWG CU	1 #6 AWG CU
175N	1 @ 2"	3 #2/0 AWG CU	1 #2/0 AWG CU	1 #6 AWG CU
150N	1 @ 2"	3 #1/0 AWG CU	1 #1/0 AWG CU	1 #6 AWG CU
125N	1 @ 1.5"	3 #1 AWG CU	1 #1 AWG CU	1 #6 AWG CU
110N	1 @ 1.25"	3 #2 AWG CU	1 #2 AWG CU	1 #6 AWG CU
100N	1 @ 1.25"	3 #3 AWG CU	1 #3 AWG CU	1 #8 AWG CU
90N	1 @ 1.25"	3 #3 AWG CU	1 #3 AWG CU	1 #8 AWG CU
80N	1 @ 1.25"	3 #4 AWG CU	1 #4 AWG CU	1 #8 AWG CU
70N	1 @ 1.25"	3 #4 AWG CU	1 #4 AWG CU	1 #8 AWG CU
60N	1 @ 1"	3 #6 AWG CU	1 #6 AWG CU	1 #10 AWG CU
50N	1 @ 0.75"	3 #8 AWG CU	1 #8 AWG CU	1 #10 AWG CU
40N	1 @ 0.75"	3 #8 AWG CU	1 #8 AWG CU	1 #10 AWG CU
30N	1 @ 0.5"	3 #10 AWG CU	1 #10 AWG CU	1 #10 AWG CU
3 PHASE NO NEUTRAL				
250	1 @ 2"	3 #250 MCM CU	(NONE)	1 #4 AWG CU
225	1 @ 2"	3 #4/0 AWG CU	(NONE)	1 #4 AWG CU
200	1 @ 2"	3 #3/0 AWG CU	(NONE)	1 #6 AWG CU
175	1 @ 1.5"	3 #2/0 AWG CU	(NONE)	1 #6 AWG CU
150	1 @ 1.5"	3 #1/0 AWG CU	(NONE)	1 #6 AWG CU
125	1 @ 1.25"	3 #1 AWG CU	(NONE)	1 #6 AWG CU
110	1 @ 1.25"	3 #2 AWG CU	(NONE)	1 #6 AWG CU
100	1 @ 1.25"	3 #3 AWG CU	(NONE)	1 #8 AWG CU
90	1 @ 1.25"	3 #3 AWG CU	(NONE)	1 #8 AWG CU
80	1 @ 1"	3 #4 AWG CU	(NONE)	1 #8 AWG CU
70	1 @ 1"	3 #4 AWG CU	(NONE)	1 #8 AWG CU
60	1 @ 0.75"	3 #6 AWG CU	(NONE)	1 #10 AWG CU
50	1 @ 0.75"	3 #8 AWG CU	(NONE)	1 #10 AWG CU
40	1 @ 0.75"	3 #8 AWG CU	(NONE)	1 #10 AWG CU
30	1 @ 0.5"	3 #10 AWG CU	(NONE)	1 #10 AWG CU
SINGLE PHASE NO NEUTRAL				
150S	1 @ 1.25"	2 #1/0 AWG CU	(NONE)	1 #6 AWG CU
125S	1 @ 1.25"	2 #1 AWG CU	(NONE)	1 #6 AWG CU
110S	1 @ 1"	2 #2 AWG CU	(NONE)	1 #6 AWG CU
100S	1 @ 1"	2 #3 AWG CU	(NONE)	1 #8 AWG CU
90S	1 @ 1"	2 #3 AWG CU	(NONE)	1 #8 AWG CU
80S	1 @ 1"	2 #4 AWG CU	(NONE)	1 #8 AWG CU
70S	1 @ 1"	2 #4 AWG CU	(NONE)	1 #8 AWG CU
60S	1 @ 0.75"	2 #6 AWG CU	(NONE)	1 #10 AWG CU
50S	1 @ 0.5"	2 #6 AWG CU	(NONE)	1 #10 AWG CU
40S	1 @ 0.5"	2 #8 AWG CU	(NONE)	1 #10 AWG CU
30S	1 @ 0.5"	2 #10 AWG CU	(NONE)	1 #10 AWG CU
20S	1 @ 0.5"	3 #12 AWG CU	(NONE)	1 #12 AWG CU
GROUNDING CONDUCTOR				
250G	1 @ 1"	(NONE)	(NONE)	1 #250 MCM CU
225G	1 @ 1"	(NONE)	(NONE)	1 #4/0 AWG CU
200G	1 @ 1"	(NONE)	(NONE)	1 #3/0 AWG CU
175G	1 @ 0.75"	(NONE)	(NONE)	1 #2/0 AWG CU
150G	1 @ 0.75"	(NONE)	(NONE)	1 #1/0 AWG CU
45G	1 @ 0.5"	(NONE)	(NONE)	1 #4 AWG CU
15G	1 @ 0.5"	(NONE)	(NONE)	1 #8 AWG CU
TRANSFORMER SECONDARY FEEDER				
1000T	3 @ 3.5"	3 #500 MCM CU	1 #500 MCM CU	1 #3/0 AWG CU
800T	2 @ 3.5"	3 #600 MCM CU	1 #600 MCM CU	1 #3/0 AWG CU
700T	2 @ 3.5"	3 #500 MCM CU	1 #500 MCM CU	1 #2/0 AWG CU
600T	2 @ 3"	3 #350 MCM CU	1 #350 MCM CU	1 #2/0 AWG CU
500T	2 @ 2.5"	3 #250 MCM CU	1 #250 MCM CU	1 #2/0 AWG CU
400T	1 @ 3.5"	3 #600 MCM CU	1 #600 MCM CU	1 #1/0 AWG CU
250T	1 @ 3"	3 #250 MCM CU	1 #250 MCM CU	1 #2 AWG CU
225T	1 @ 2.5"	3 #4/0 AWG CU	1 #4/0 AWG CU	1 #2 AWG CU
150T	1 @ 2"	3 #1/0 AWG CU	1 #1/0 AWG CU	1 #6 AWG CU
110T	1 @ 1.5"	3 #2 AWG CU	1 #2 AWG CU	1 #8 AWG CU
60T	1 @ 1"	3 #6 AWG CU	1 #6 AWG CU	1 #8 AWG CU



1 **ELECTRICAL RISER**
NTS

AIC SHOWN FOR BIDDING PURPOSES ONLY.
EC TO PROVIDE ICONICA WITH FAULT CURRENT STUDY AND SELECTIVE COORDINATION STUDY.
IF FAULT CURRENT CALCULATIONS, LESS THAN SHOWN ON THIS RISER DIAGRAM, THEN IT WILL BE EVALUATED AT THAT TIME.

PANEL HEM MUST SELECTIVELY COORDINATE (ARTICLE 700 LOADS).

PANEL HSB AND LSB ARE FOR OPTIONAL STANDBY LOADS (ARTICLE 702 LOADS).

ICONICA
901 DEMING WAY // MADISON, WI 53717
Ph: 608.664.3500 // Fx: 608.664.3535
iconicacreates.com

GHC SAUK CLINIC REMODEL PHASE 1

8202 Excelsior Dr, Madison, WI 53717

GROUP HEALTH COOPERATIVE
1265 JOHN Q HAMMONS DRIVE
MADISON, WI

ISSUE DATES:

Issue	Description	Date
RFP3	SWITCHGEAR RFP	12-06-18
RFP4	GENERATOR RFP	12-06-18

Sheet Title
ELECTRICAL SCHEDULES

Project Number: 20180640

Sheet Number
E701

12/4/2018 1:49:08 PM

ATTACHMENT B – RESERVED

ATTACHMENT C

(If Addendums exist for this project, please sign and date and send with your Proposal. Do not submit this form if there are no addendums issued.)

The undersigned acknowledges receipt of the following addendum:

Addendum #1 _____ Initials _____

Addendum #2 _____ Initials _____

Addendum #3 _____ Initials _____

Addendum #4 _____ Initials _____

ATTACHMENT D – RESERVED

ATTACHMENT E – Additional Contract Clauses

(Potential contractors are required to meet the following contract obligations
in addition to the GHC-SCW contract.)

The Contractor and any sub-contractors acquired to provide services arising out of this RFP agree to abide by the following clauses and requirements:

1. **Disadvantaged Business Enterprises (DBE) and Labor Surplus Firms.** The following affirmative steps should be taken to ensure small businesses, minority and women's owned businesses (DBEs), and labor surplus area firms (LSA) are used when possible:
    a. Place DBEs/LSAs on solicitation lists and solicit to them when they are a potential source.
    b. Use the services of organizations such as the Small Business Administration and the Minority Business Development Agency.
    c. When economically feasible, divide total requirements into smaller tasks or quantities and establish delivery schedules.
    d. Require subcontractors to follow these affirmative steps.

2. **Suspension and Debarment**.
    a. This contract is a covered transaction for purposes of 2 C.F.R. pt. 180 and 2 C.F.R. pt. 3000. As such the Contractor is required, and will, verify that neither Contractor, its principals (defined at 2 C.F.R. § 180.995), nor its affiliates (defined at 2 C.F.R. § 180.905) are excluded (defined at 2 C.F.R. § 180.940) or disqualified (defined at 2 C.F.R. § 180.935).
    b. The Contractor will comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C and must include a requirement to comply with these regulations in any lower tier covered transaction it enters into.
    c. Contractor's certification is a material representation of fact relied upon by the City. If it is later determined that the Contractor did not comply with 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C, in addition to remedies available to the State of Wisconsin, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.
    d. The Contractor agrees to comply with the requirements of 2 C.F.R. pt. 180, subpart C and 2 C.F.R. pt. 3000, subpart C throughout the period this Agreement. The Contractor further agrees to include a provision requiring such compliance in its lower-tier covered transactions.

3. **Access to Records**. The following access to records requirements apply to this contract:
    a. The Contractor agrees to provide GHC-SCW, the State, the FEMA Administrator, the Comptroller General of the United States, or any of their authorized representatives access to any books, documents, papers, and records of the Contractor which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts, and transcriptions.
    b. The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

c. The Contractor agrees to provide the FEMA Administrator or his authorized representatives access to construction or other work sites pertaining to the work being completed under the contract.

4. **DHS Seals, Logos, and Flags**. The Contractor shall not use the DHS seal(s), logos, crests, or reproductions of flags or likenesses of DHS agency officials without specific FEMA pre-approval.

5. **Compliance with Federal Law, Regulations, and Executive Orders**. The Contractor acknowledges that FEMA financial assistance will be used to fund the contract only. The Contractor will comply will all applicable federal law, regulations, executive orders, FEMA policies, procedures, and directives.

6. **No Obligation by Federal Government**. The Federal Government is not a party to this contract and is not subject to any obligations or liabilities to the non-Federal entity, Contractor, or any other party pertaining to any matter resulting from the contract.

7. **Program Fraud and False or Fraudulent Statements or Related Acts**. The Contractor acknowledges that 31 U.S.C. Chap. 38 (Administrative Remedies for False Claims and Statements) applies to the Contractor actions pertaining to this Agreement.

8. **Procurement of Recovered Materials**. As required by federal program legislation, Contractor agrees to the following:
    a. In the performance of this contract, the Contractor shall make maximum use of products containing recovered materials that are EPA-designated items unless the product cannot be acquired:
        i. competitively within a timeframe providing for compliance with the contract performance schedule;
        ii. meeting contract performance requirements; or
        iii. at a reasonable price.
    b. Information about this requirement, along with the list of EPA-designate items, is available at EPA's Comprehensive Procurement Guidelines web site, https://www.epa.gov/smm/comprehensive-procurement-guideline-cpg-program.

9. **Equal Employment Opportunity**. During the performance of this Agreement, the Contractor agrees as follows:
    a. Contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
    b. Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.

c. Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of Contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
d. Contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations, and relevant orders of the Secretary of Labor.
e. Contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
f. In the event of Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this Agreement may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions as may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
g. The Contractor will include the portion of the sentence immediately preceding paragraph (a) and the provisions of paragraphs (a) through (g) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, That in the event that Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the Contractor may request the United States to enter into such litigation to protect the interests of the United States.

10. **Byrd Anti-Lobbying Amendment, 31 U.S.C. § 1352 (as amended)**
    a. The Contractor certifies to GHC-SCW that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant, or any other award covered by 31 U.S.C. § 1352. The required Certification must be provided as an addendum to any Agreement arising from this procurement.
    b. Contractor will also ensure that each tier of subcontractor(s) shall also disclose any lobbying with non-Federal funds that takes place in connection with obtaining any Federal award. Such disclosures will be forwarded from tier-to-tier up to GHC-SCW.

11. **Compliance with the Contract Work Hours and Safety Standards Act**.
    a. Overtime requirements. The Contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall not require nor permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless

such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

b. Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the clause set forth in paragraph (1) of this section the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, the Contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a) of this section.

c. Withholding for unpaid wages and liquidated damages. GHC-SCW shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the *Contract Work Hours and Safety Standards Act*, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b) of this section.

d. Subcontracts. The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (a) through (d) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a) through (d) of this section.

12. **Clean Air Act and Federal Water Pollution Control Act**. As required by Federal program legislation: Contractor agrees to comply with the following federal requirements:

a. *Clean Air Act*.

i. The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. 7401 et seq.

ii. The Contractor agrees to report each violation to GHC-SCW and understands and agrees that GHC-SCW will, in turn, report each violation as required to assure notification to the State, the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.

iii. The Contractor agrees to include these requirements in each subcontract exceeding $150,000 financed in whole or in part with Federal assistance provided by FEMA.

b. *Federal Water Pollution Control Act*

i. The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq.

ii. The Contractor agrees to report each violation to GHC-SCW and understands and agrees that GHC-SCW will, in turn, report each violation as required to assure notification to the State, the Federal Emergency Management Agency, and the appropriate Environmental Protection Agency Regional Office.

iii. The Contractor agrees to include these requirements in each subcontract exceeding $150,000 financed in whole or in part with Federal assistance provided by FEMA.