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KAUA'I REGION

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## ADDENDUM #1

August 22, 2024

TO: Potential Offerors

FROM: Maia Guirao, Contract Manager

RE: Solicitation Addendum #1 to RFP #25-01/KVMH Emergency Department Renovation, Phase 3

This correspondence serves as Addendum #1 to the subject Request for Proposals ("RFP"). Your response to this RFP should be governed by the content of the original RFP and the revisions/corrections/additions/clarifications provided in this addendum notice.

The following questions were asked:

1. Q: Specification book only goes up to Division 10. Can you provide the specification for Divisions 11 through 33?  
A: Please refer to Sheets M002 & M003 for HVAC, Plumbing, Medical Gas and Fire Protection specification. Electrical specifications attached.

## **SECTION 26 00 00 – ELECTRICAL WORK**

### **PART 1 - GENERAL**

#### **1.1 SUMMARY**

- A. Furnish all articles, materials, equipment, operations and services necessary to construct and install all electrical work specified and listed herein, including but not limited to:
  - 1. Demolition work.
  - 2. Luminaires.
  - 3. Complete lighting and receptacle system.
  - 4. Fire alarm system devices.
  - 5. Complete branch circuits to new mechanical equipment.
  - 6. Empty conduit system for telecommunications and data.

#### **1.2 RULES AND PERMITS**

- A. The entire installation shall be made in strict accordance with the Ordinances of the County of Kauai and applicable provisions of the latest edition of the National Electrical Code.
- B. The Contractor shall obtain the required electrical permit and shall arrange for periodic inspection by the local authorities as work progresses so that certificate of completion and approval may be delivered to the Architect on the day scheduled for final inspection.

#### **1.3 EXAMINATION OF SITE**

- A. The Contractor shall examine the project site before submitting his bid so that he may be fully informed of the conditions existing and the amount and kind of work to be performed therein for demolition and new work.
- B. The Contractor shall be deemed to have complied with this stipulation of these specifications upon submitting his bid. No request for extra payment for work claimed by reason of misunderstanding the amount and kind of work required will be granted.

#### **1.4 DRAWINGS AND SPECIFICATIONS**

- A. These specifications are accompanied by plans of this project containing diagrammatic electrical layouts of interior installations. The intended locations of branch circuits, outlets, controls and other electrical equipment are indicated. Before installing, the Contractor shall study the adjacent architectural and structural details and the equipment details so that the actual installations may be made in the most logical manner within the intent of the drawings. Lighting fixtures, locations, spacings and mounting heights shown in the drawings shall not be deviated from without obtaining the prior approval of the Architect.
- B. Any outlet may be relocated within ten feet (10') before installation at the direction of the

Architect without additional cost to the Owner.

- C. Should it appear that any part of the electrical drawings have been omitted or require clarification, the Bidder shall call such to the attention of the Architect not less than fourteen (14) days before the date of bid opening so that clarification or correction may be made. Otherwise, the Contractor shall furnish and install all items in a manner corresponding with the rest of the work as if same were specifically provided for and specified.
- D. Circuit routing shown is typical of the preferred installation, but may be deviated in any logical manner with prior approval of the Architect. Should some unforeseen structural obstacle make it necessary to radically reroute a circuit, consult with the Architect and request a revised electrical plan. In any case, a set of "as-built" drawings incorporating all of the changes, including addendum and change order items, prepared by the Contractor, shall be delivered to the Architect not later than two (2) days before final inspection. One set of plans shall be used to accurately record the day to day changes during the progress of the project. Note that where a detail of a circuit routing, or installation, is shown in the drawings, no deviation is permitted. As-built plans shall be prepared and submitted in accordance with the requirements of the project specifications.
- E. Refer to Section 02 04 00 – Selective Demolition for requirements relating to demolition work.

#### 1.5 SUBMITTALS

- A. Contractor shall procure and deliver to the Architect for approval shop drawings, six (6) sets of the manufacturer's technical brochures and detailed description of the following listed items:
  - 1. Luminaires and lighting control devices.
  - 2. Wiring devices.
  - 3. Panelboards.
  - 4. Electrical apparatus.
  - 5. Fire alarm system components.
- B. All submittals shall be certified by the Contractor that he has checked and coordinated each item regarding layout, dimensions, electrical rating, programming or conflicts with other trades, and compliance with plans and specifications. Non-certified and certified but inadequately coordinated submittals shall be returned to the Contractor without approval and no extension of completion time or waiver of any contract requirements will be granted. The judgment of the Architect as to the adequacy of the delineation of shop drawings and technical data submitted shall govern.

#### 1.6 MATERIAL AND WORKMANSHIP

- A. All materials shall be new and of the best grade. They shall bear the label of approval of the Underwriter's Laboratories, Inc., wherever standards have been established and label service is furnished by the agency.

- B. All materials that are normally contained in packages shall be delivered in unopened packages to the job site.
- C. Brand names and catalog numbers when noted in the drawings or listed in these specifications indicate the standards of quality of the items required. When other manufacturers' products are not mentioned, the Contractor may bid on substitutes only after obtaining written approval from the Architect.
- D. All work shall be installed in a workmanlike manner and, when completed, shall be neat and symmetrical, plumb, uniform, properly aligned and firmly secured in place presenting a high quality of workmanship.
- E. The Architect shall be afforded every opportunity to ascertain the quality of materials and the skill and competency of labor. Concealed work may be opened at random for formal inspection by the Architect.

## 1.7 GUARANTEE

- A. Any item of material, apparatus or workmanship furnished by the Contractor that develops defects in quality design, construction or serviceability within one (1) year of final acceptance by the Architect shall be replaced by the Contractor, without cost to the owner, with such new material, apparatus, replacement parts, or work as may be found necessary to make the defective portion of the complete system conform to the true intent and meaning of the plans and specifications; EXCEPT that light sources with user replaceable lamps shall be guaranteed for one-half (1/2) of their respective published estimated life hours.

## 1.8 SEISMIC SUPPORTS

- A. Non-structural components which may require structural seismic supports, such as light fixtures and conduits, shall be provided with seismic bracing per the requirements of ASCE 7. The design of this seismic bracing shall be contractor-provided as necessary to fulfill the requirements of ASCE 7.

## PART 2 - PRODUCTS

### 2.1 GENERAL

- A. New and UL labeled: Material and equipment new and free of defects and suited to the intended use; and be listed by the Underwriters' Laboratories, Inc., meet their requirements and bear their label whenever standards have been established and label service is regularly furnished by that agency.
- B. Standards established: Where materials, equipment, apparatus, or other products are specified by manufacturer, brand name, type, or catalog number; such designations are to establish standards or desired quality and style and be the basis of the bid.

- C. Product continuity: All equipment or materials for any one system by the same manufacturer. Items such as conduit fittings, wire, wiring devices, etc., to be the same throughout the project.
- D. Exterior and wet locations materials: To be weathertight and of such design for the purpose. All ferrous materials on the exterior galvanized. Exterior fixtures to be constructed of aluminum or bonderized steel with an epoxy coating except as specifically noted.

## 2.2 RACEWAYS

- A. Rigid metallic: Conform to industry standards, steel, full weight, threaded fittings, factory bends over 1" in diameter. Protected inside and outside by galvanizing or sherardizing.
- B. Electrical metallic tubing: Protected inside and outside by galvanizing or sherardizing 4" maximum. Same manufacturers as for rigid steel conduits.
  - 1. Connectors: With insulated throats.
  - 2. Couplings and Connectors: 3/4" and smaller may be set screw or compression threadless. Use compression type or other approved raintight for 1" and larger.
  - 3. "LB" fittings: Not allowed for conduits 2" and larger.
- C. Flexible conduit: National Flexsteel or equal. Where exposed to weather use American Brass "Sealtite" Type UA, or equal, complete with waterproof fittings. Provide ground wire for length 6' and longer.
- D. PVC: UL listed, rigid, Schedule 40 or 80 as indicated.

## 2.3 WIRE AND CABLE

- A. Conductors: All conductors shall be copper. Single conductor of soft drawn copper with 600-volt insulation as hereinafter specified. All wires and cables must be delivered to the building in standard coils or reels with a tag bearing the manufacturer's name and trade name of the wire and the Underwriters' Label.
- B. Size: #12 AWG minimum. Branch circuit runs over 100' must be #10 AWG minimum. #14 AWG minimum for fire alarm system conductors.
- C. Insulation types:
  - 1. #8 AWG and Smaller - THWN or as noted.
  - 2. #6 AWG and Larger - THW, RHW, THWN, XHHW, or as noted.
- D. Lugs and connectors:
  - 1. #6 AWG to #2 AWG: Thomas & Betts "Lock-Tite" or Burndy "Quicklug."
  - 2. #8 AWG and Smaller: "Scotchlok" with insulator, Thomas & Betts "Sta-Kon" with

- insulator or Buchanan Series 2002 with insulator.
3. Cable Taps #1 AWG and Larger: ILSCO type GTA/PTA or equal.

E. Splicing insulation: Electrical tape - Scotch #33 or equal.

## 2.4 WIRING DEVICES

- A. Switches: Switches shall be provided where indicated on the drawings. Switches shall be flush type where connected to conceal wiring in furred space. One-inch clearance shall be maintained between switch plates and the door casing, or if there is no casing, 6" shall be left clear between the door jamb and the edge of the switch plate. Switches shall be heavy duty, 20 Amp., 120/277 V., ac, specification grade, quiet, non-mercury rocker type, equal to Pass & Seymour #CS120, white. Where more than one switch occurs at the same locations, they shall be ganged under one plate. Interchangeable type switches not permitted.
- B. Receptacles: 15 A., 125 V. duplex grounding type, 2-pole, 3-wire. Receptacles on the normal power system shall be white colored. Receptacles on the emergency power system shall be red colored. Types as listed below.
1. Hospital Grade: Shall be provided for all receptacles in exam/procedure rooms and other patient care areas. 20A, 125V rated. Leviton #8300 or approved equal
  2. Commercial Specification Grade, Tamper-resistant: Shall be provided for receptacles primarily in nonpatient staff areas, such as offices, workrooms, etc. 15A, 125V rated. Leviton #TBR15 or approved equal.
  3. Ground-Fault Circuit Interrupter Receptacles: UL 943, duplex type for mounting in standard outlet box. Device shall be capable of detecting current leak of 5 milliamperes or greater and tripping per requirements of UL 943 for Class A GFI devices. Provide screw-type, side-wired wiring terminals or pre-wired pigtail leads, tamper-resistant type. Provide hospital-grade device in exam rooms and other patient care areas.
  4. Tamper-Resistant Receptacles: Shall be provided in all areas which may be subject to patient tampering (exam rooms, waiting areas, etc.). Grade/type as noted above.
- C. Cover plates: For switches, outlets, and receptacles shall be nylon for both switches and receptacles, white colored. Gangs as required.
- D. Weatherproof Receptacles: 15 A. specification grade GFCI, weather-resistant grounding-type duplex receptacle with gasketed cover. Pass & Seymour CA26 series or equal.
- E. Dimmer switches: Preset type (slider control with separate on/off switch). Dimming control configuration as necessary for the respective light source/driver requirements. Provide light control capability from multiple locations where shown on plans. Lutron "Diva" series or equal.
- F. Manual and magnetic starters: Shall be horsepower rated with overload relays and NEMA 1 enclosures. Overload relay heaters shall be suitable for 208-volt service as required

with one per phase (3 for 3 phase starters). Verify with mechanical equipment suppliers.

- G. Disconnect switches: Ampere rating as indicated. Type HD, with enclosures as indicated.

## 2.5 OUTLETS

- A. General: Outlet boxes shall be of the size and kind best suited to the particular use or location but in any case shall be of sufficient size to contain, without crowding, all conductors and connections which may be required in any outlet box. Boxes shall, where necessary, have suitable covers. All boxes shall be pressed steel, zinc-coated, except that exposed boxes shall be cast type with threaded hubs and matching plates.
- B. Support: Fixture studs shall be provided as required and shall be a 3/8" malleable iron type, zinc-coated, four-bolt type or "no-bolt" type as desired by the Contractor, except that all must be the same type.
- C. Sizes: Boxes shall be installed with particular attention paid to compliance with NEC Article 314 except that 4" standard trade size shall be the minimum. Outlet boxes for auxiliary systems shall be indicated on the drawings. Locations of all outlets shall be checked against the architectural elevations.

## 2.6 LUMINAIRES

- A. Luminaires shall be provided complete with lamps. LED units shall have protected electronic drivers, dimmable type where noted. Where luminaires are installed outdoors, a gasket shall be provided between the outlet box and the fixture and also between the fixture hood and the globe or enclosure. Luminaires installed in dropped ceilings shall have earthquake clips. Provide 90 minutes integral battery back-up where indicated.

## 2.7 PANELBOARDS

- A. Enclosures: Single door, dead front, of code gauge steel with trim, and door of 12 gauge stretcher leveled steel, flush or surface as indicated on drawings. Flush trims to have no exposed hardware. Box 20" wide x 5<sup>3</sup>/<sub>4</sub>" deep minimum except as otherwise noted. Where box is deeper than wall, provide frame to seat trim flush. Copper busses.
- B. Finish: One coat rust resisting primer and one coat gray enamel inside and out. Flush panels and adjacent cabinets or pull boxes, etc., to be the same color.
- C. Lockable: With flush type combination latch with all panel locks keyed alike.
- D. Directory: Provide a printed directory behind glass or plastic on inside of panel door, giving circuit number and complete "as-built" description of all outlets controlled by each circuit breaker. (6" x 8" minimum) Directory to be arranged to match actual circuit breaker arrangement within panel, i.e., 2, 4, 6 on right side, or in sequence on schedule.

- E. Manufacturers: For panel and breakers: Square D, Gould, GE, CH, Westinghouse, or approved equal.
- F. Branch Breakers: Molded case, bolt-on, quick-make, quick-break, A. I.C. ratings as noted, thermal magnetic with on and off tripped positions. 14,000 A. I.C. minimum for 277/480 V. lighting panels. Half-sized and plug-in breakers not acceptable.
- G. Equipment Nameplates: Laminated plastic, black-white, engraved with 3/8" high commercial letters to expose white.

## 2.8 FIRE ALARM SYSTEM

- A. General: The Contractor shall provide all equipment and accessories for the extension of the existing electrically supervised, zoned, non-coded fire alarm system. Components shall have UL label and shall be compatible with the existing system control panel.
  - 1. The system shall include evacuation alarm devices, initiating devices, and system wiring.
  - 2. The system shall comply with the applicable provisions of the National Board of Fire Underwriters Standard Number 72 and with all requirements of the local authorities having jurisdiction. All equipment and devices shall be listed by the Underwriters' Laboratories Inc., or approved by the Factory Mutual Laboratories.
  - 3. Evacuation signals shall match the existing facility signals. Visual devices shall have synchronized output xenon flashers.
- B. The system shall be electrically supervised against open circuits and grounds on the wiring to the alarm initiating and indicating devices. An open or ground in the system shall cause the trouble buzzer in the control unit to sound continuously until the system is restored to normal or until the signal is silenced by means of a cut-off switch on the control unit. When the cut-off switch is thrown to "off" position, a red pilot light shall be illuminated to show that the trouble signal has been cut off. When the system is restored to normal operation, the trouble signal shall sound again and shall be silenced only by restoring the cut-off switch to its normal position, thereby also extinguishing the pilot light. Open and grounded circuits in the system shall not cause the sounding of false alarms.
- C. The various components shall be as follows:
  - 1. Visual Flashers: Xenon flasher, low voltage DC, gasketed lens, semi-flush mount, user-selectable 15/30/75 candela output level. Multiple flashers which are visible from a room or area shall have synchronized outputs.
  - 2. Audible Devices: Low voltage dc, sound tone/type (bell, horn, chime, etc.) to match that of the facility's existing audible devices. Minimum audibility as required to meet code levels with installed locations, surface mount.
  - 3. Combination audible/visual devices: As specified, in a single combination enclosure. Separate devices mounted adjacent to each other may be used in



- lieu of combination-type devices.
4. Smoke detectors: 2- or 4-wire photoelectric, with separate detector base, latching alarm LED and a single Form C contact (if required).
  5. Output Expander Panels: Where necessary, alarm/amplifier output expander panels shall be provided to supplement the alarm output(s) from the control panel. The expander panels shall be electrically supervised from the control panel, and shall have backup batteries as necessary to provide code-minimum system standby and alarm operation in the event of loss of AC power.

## PART 3 - EXECUTION

### 3.1 WORKMANSHIP

- A. All electrical work shall be neatly executed, workmanlike in appearance, symmetrical, plumb, uniform, properly aligned, and firmly secured in place. Dimensions and locations shown on the drawings shall be verified in the field. Discrepancies and interferences with other work shall be immediately called to the attention of the Architect and corrections or adjustments shall be made as he directs. All cutting and patching necessary for electrical work shall be done by artisans skilled in the trade. Conduit system shall be free of dust and debris.

### 3.2 CONDUIT SYSTEM

#### A. Permitted uses:

1. Rigid steel:
  - a. Conduit exposed to weather.
  - b. Exposed conduit stubbed up or exposed below 8 feet.
2. EMT:
  - a. All branch circuiting above grade slab.
  - b. All branch circuits in drywalls and furring.
  - c. All feeders with ground wire.
3. PVC:
  - a. All grade slab branch circuits, or underground site wiring.

#### B. Installation:

1. The conduit system shall be continuous from outlet to outlet or fitting to fitting so that electrical continuity is obtained between all conduits of the system. Factory threads shall be cleaned with a die before conduit is installed.
2. Ends of all conduits shall be cut square and inner edges reamed. Adjoining lengths shall butt together evenly in the couplings to provide passage for installing conductors.
3. Conduits shall be of ample size to allow drawing in or removing of wires and cables without undue strain, and suitable chaffing bushings shall be installed on each end of every run of conduit where wires are installed.
4. Where necessary, powdered soapstone shall be used as a lubricant for drawing

- wires through conduit. No other means of lubrication will be allowed.
5. Conduit shall be installed entirely free from other piping, valves, or mechanical equipment, and shall not be installed nearer than 6" to hot water pipes and steam pipes.
  6. Bends, offsets, and crossing of conduits shall be avoided wherever possible. When bends and offsets are necessary, they shall be made with an approved hickey or a conduit-bending machine. The use of a vise or pipe tee will not be permitted. Bends shall be made so that the interior cross-sectional area will not be reduced. The radius of the curve of the inner edge of any field bend shall not be less than ten times the internal diameter of the conduit. A run of conduit between outlets or other boxes shall not include more than the equivalent of three 90-degree angle bends, including those bends located immediately at the outlet or fitting. Junction boxes with blank covers shall be installed as necessary to meet this requirement. The use of running threads will not be permitted. Where conduits cannot be joined by standard threaded couplings, approved watertight conduit unions shall be used with prior approval.
  7. Conduits shall be capped during construction with metal capped bushings to prevent the entrance of dirt or moisture. All conduits shall be thoroughly swabbed out and dried before wires or cables are pulled in.
  8. Fish wires, cords, strings, chains, or the like shall not be placed or inserted in the conduit system during installation.
  9. After the conduit system has been installed and thoroughly dried out, the empty conduits shall be left with a No. 12 galvanized iron drag wire.
  10. Concealed conduit to be laid in concrete slabs, behind wall furring, above false ceiling, in special riser chases and shafts, or underground, shall be installed as the building construction or work progresses. All metallic underground conduit shall be painted with two coats of approved bituminous compound.
  11. When making threaded conduit joints underground, in concrete or exposed to weather, the threads shall be first coated with red lead and immediately screwed together. All such joints shall be made watertight. All abrasions or coating shall be painted with approved moisture-proof paint.
  12. Where conduits cross construction and/or expansion joints, a rigid steel conduit sleeve shall be provided on both sides of the joint. The inside diameter of the sleeve shall be three times the outside diameter of the conduit, and shall be 3-feet long.
  13. All conduits which is deformed or crushed in any way shall be removed from the job at once.
  14. Final connections to equipment shall be with liquid-tight flexible conduit.
  15. All conduits and wiring penetrations into the new Autopsy Room shall be sealed as shown on the plans to prevent odors from passing outside the room via the conduit/wiring system.

### 3.4 WIRING

- A. All wiring shall be installed after conduit system is complete.
- B. No conductor in the branch circuit shall be smaller than the homerun conductor size. The branch circuit conductors in a continuous row of luminaires (wired through their own

wireways from one ceiling outlet) shall not be decreased in size from panelboard to farthest ballast. Conductors in fixture wire ways shall be of type approved for such use as per NEC.

- C. Where the Contractor finds it necessary to radically reroute any conduit run resulting in marked increase in circuit length from what is indicated on the plans, he shall change the conductor size to prevent a voltage drop to the farthest outlet exceeding 3% under load or notify the Architect, who shall then stipulate the conductor size.

### 3.5 PAINTING

- A. Paint all exposed conduit, boxes, and cabinets and panel fronts to match the color of surrounding surfaces. Painting will be done by the Painting Subcontractor.

### 3.6 GROUNDING

- A. All branch circuit runs shall contain a separate green insulated ground wire. Conduit ground as the sole means of equipment grounding is not acceptable.

### 3.7 TESTING AND COMPLETION

- A. The Contractor shall provide suitable and neatly stenciled nameplate identifications on feeder breakers and/or apparatus installed. Nameplates, legible from distance of 10-feet, letters not less than 3/4" high, shall indicate the circuit termination operational directions and/or apparatus and load controlled.
- B. The Contractor shall provide the personnel and equipment, including necessary instruments to perform the following tests
  1. Insulation resistance test in accordance with NEC, use a 500-volt megger. A record of the readings shall be submitted to the Architect for approval. Any defects discovered shall be immediately corrected. Required for cables #6 and larger.
  2. Upon completion of the above test, turn on all lights and balance the loading of each phase of the panelboard. Continue to balance load with other equipment being turned on. Continue balancing, if necessary, the loading of each phase at the subfeeders and mains until a practical or, as closely as possible, load balance has been obtained. Submit a complete load reading record of all panels, subfeeders, and mains installed and balanced to the Architect for approval.
  3. Thereafter, request final inspection of the system by the local Electrical Inspector. At the final inspection each circuit and piece of equipment shall be tested for proper operation. The entire electrical and auxiliary systems shall be in good working condition upon acceptance by the Architect.
  4. Fire Alarm System: It shall be tested in the presence of the Fire Safety Inspector of the Fire Department and the County's Construction Inspector.

END OF SECTION