

SCOPE OF WORK

EHRM INFRASTRUCTURE UPGRADES – Lufkin CBOC

PROJECT NO: 580-21-705BZ

PROJECT NAME: EHRM Infrastructure Upgrades – Lufkin CBOC – Houston, TX

1. GENERAL INTENT:

The Contractor shall provide design and construction work necessary at this CBOC site to support the Veterans Health Administration's (VHA) change to the new Electronic Health Record Management (EHRM). VHA requests the provide design and construction services to include all labor, materials, tools, equipment, transportation, supervision and other services necessary to upgrade the leased property in accordance with this scope of work.

1.1 General Requirements

- 1.1.1 The Contractor shall provide a complete package containing design drawings, bid drawings and specifications. The design drawing shall follow all applicable codes and standards and shall meet Technical Information Library (TIL) references:
Telecommunications and Special Telecommunications Systems Design Manual, <https://www.cfm.va.gov/til/dManual/dmTelecomm.pdf> and *Infrastructure Standard for Telecommunications Spaces, Version 3.0*, <https://www.cfm.va.gov/til/dguide/OIT-InfrastrucStdTelecomSpaces.pdf>.
- 1.1.2 The Contractor shall provide construction period services for the following infrastructure improvements, as necessary to meet listed requirements:
 - 1.1.2.1 Electrical infrastructure including electrical bonding, Uninterruptible Power Supply (UPS) system and Building Management (BMS) interfaces to manage and monitor UPS. This includes remote access and control via IP.
 - 1.1.2.2 HVAC infrastructure including temperature and humidity upgrades, rack and space sensors, and BMS interfaces to manage and monitor temperature and humidity. This includes remote access and controls of HVAC system via IP.
 - 1.1.2.3 Identification and appropriate remediation of hazardous materials, as needed for project.
- 1.1.3 VA shall reimburse the Contractor for the total cost of the alteration upon successful completion and inspection by the VA. Contractor shall be responsible for submitting their invoice for the project to the Tungsten payment portal system so that the VHA is able to reimburse Contractor. Total cost shall not exceed the amount agreed upon per the Lease Amendment. Invoice to Tungsten shall reference the Purchase Order number, which can be found in the Lease Amendment.

1.2 Design Effort

- 1.2.1 Contractor shall coordinate a Design Intent Drawings (DID) workshop with their respective design and construction team and VHA to develop, review, and complete final DIDs before pricing is established and prior to award of the Lease Amendment.
- 1.2.2 The LCO will advise the Contractor when the workshop should commence. The Contractor shall base the overall pricing on the VA's approved DIDs and specifications. It is anticipated that the effort shall require a maximum of 2 meetings prior to approval by all parties. The Contractor shall be responsible for meeting minutes and signed by both parties.
- 1.2.3 The final/awarded Lease Amendment will include the amended SOW.

1.3 Clinic Operations

- 1.3.1 Execute work so as to interfere as little as possible with normal functioning of the Community Based Outpatient Clinic as a whole, including operations of utility services, fire protection systems and any existing equipment, and with work being done by others. Use of equipment and tools that transmit vibrations and noises through the building structure, are not permitted in buildings that are occupied, during construction, jointly by patients or medical personnel, and Contractor's personnel, except as permitted by COR where required by limited working space.
- 1.3.2 Do not store materials and equipment in other than assigned areas.
- 1.3.3 Schedule delivery of materials and equipment to immediate construction working areas within buildings in use by VHA in quantities sufficient for not more than two work days. Provide unobstructed access to CBOC areas required to remain in operation.
- 1.3.4 Utilities Services: Where necessary to cut existing pipes, electrical wires, conduits, cables, etc., of utility services, or of fire protection systems or communications systems (except telephone), they shall be cut and capped at suitable places as directed by Contractor and approved by VHA COR. All such actions shall be coordinated with the Lessor and VHA COR. Contractor shall submit a request to interrupt any such services to VHA COR, in writing, 7 days in advance of proposed interruption. Request shall state reason, date, exact time of, and approximate duration of such interruption. Interruptions may have to be scheduled outside of normal CBOC operational hours.
- 1.3.5 It is the Contractor's responsibility to provide a work plan allowing for continued operations of the CBOC. The VHA COR shall review and approve the work plan. The work plan may require after hours or weekend work.
- 1.3.6 The Contractor shall take all measures and provide all material necessary for protecting existing equipment and property in affected areas of construction against dust and debris, so that equipment and affected areas to be used in CBOC operations will not be

hindered. Contractor shall permit access to Department of Veterans Affairs personnel and patients through other construction areas which serve as routes of access to such affected areas and equipment. These routes whether access or egress shall be isolated from the construction area by temporary partitions and have walking surfaces, lighting etc. to facilitate patient and staff access. Coordinate alteration work in areas occupied by Department of Veterans Affairs so that CBOC operations will continue during the construction period.

1.4 Testing

1.4.1 The Contractor shall provide a written testing plan in accordance with specifications and BICSI standards. The plan will provide a schedule and a written sequence of what will be tested, how and what the expected outcome will be. This document will be submitted for approval prior to commencing work. The Contractor shall document the results of the approved plan and submit for approval with the as built documentation.

1.4.2 Conduct final tests required in various sections of specifications in presence of the VHA COR or designee. Contractor shall furnish all labor, materials, equipment, instruments, and forms, to conduct and record such tests.

1.5 Safety During Construction

1.5.1 The Contractor shall designate a minimum of one Site Safety and Health Officer (SSHO) at each project site that will be identified as the SSHO to administer the Contractor's safety program.

1.5.2 The designated SSHO must meet the requirements of all applicable OSHA standards and be capable (through training, experience, and qualifications) of ensuring that the requirements of 29 CFR 1926.16 and other appropriate Federal, State and local requirements are met for the project. As a minimum the SSHO must have completed the OSHA 30-hour Construction Safety class and have five (5) years of construction industry safety experience or three (3) years if he/she possesses a Certified Safety Professional (CSP) or certified Construction Safety and Health Technician (CSHT) certification or have a safety and health degree from an accredited university or college.

1.6 Infection Control

1.6.1 An Accident Hazard Analysis associated with infection control will be performed by the Contractor and VHA COR in accordance with FGI Guidelines (i.e. Infection Control Risk Assessment (ICRA)). The ICRA procedure found on the American Society for Healthcare Engineering (ASHE) website will be utilized.

1.6.2 The approved ICRA shall be reviewed and approved by the VHA COR and posted at the work site.

1.6.3 The Contractor shall implement all measures required by the ICRA.

2. STATEMENT OF WORK:

2.1 The Contractor shall ensure all below requirements from the *VA Office of Electronic Healthcare Modernization Site Infrastructure and End User Device Requirements* are met.

2.2 Local Area Network (LAN)

2.2.1 References: *Telecommunications and Special Telecommunications Systems Design Manual*, <https://www.cfm.va.gov/til/dManual/dmTelecomm.pdf> and *Infrastructure Standard for Telecommunications Spaces, Version 3.0*, <https://www.cfm.va.gov/til/dguide/OIT-InfrastrucStdTelecomSpaces.pdf>.

2.2.2 Installation shall be compliant with the BICSI standards (ANSI/NECA/BICSI 568, Standard for Installing Commercial Building Telecommunications Cabling and ANSI/TIA-1179-A Healthcare Facility Telecommunications Infrastructure for new installations).

2.2.3 Network Infrastructure devices supported by UPS and/or Emergency Power / Backup Generator as described below in 2.4.

2.3 Power

2.3.1 UPS Functional Requirements: This Scope of Work includes UPS requirements for OIT equipment only. All OIT equipment in the Telecommunications Room shall be connected to the UPS.

2.3.1.1 All UPS units supporting Information Technology infrastructure shall be functional and maintain a 10-minute run-time.

2.3.1.2 UPS shall be managed and report the following information to a management system.

2.3.1.2.1 Overload

2.3.1.2.2 Battery Temperature High

2.3.1.2.3 Battery Charge Low

2.3.1.2.4 Battery Failure

2.3.1.2.5 Critical Condition (fan failure, low output voltage, etc)

2.3.1.3 UPS shall support both monitoring and remote management to include full compliance with RFC-1628 – UPS Management Information Base Support for Simple Network Management Protocol (SNMP) v3.0, BACnet and Modbus protocols.

2.3.1.4 UPS shall be connected to a monitoring system by Ethernet (wired or wireless) or serial interface (RS-232 or RS-485).

- 2.3.1.5 All units within one (1) year of end of life by facility Go-Live shall be replaced with new units.
 - 2.3.1.5.1 End of Life for stand-alone units assumed to be six (6) years from date placed into service.
 - 2.3.1.5.2 End of Life for UPS batteries assumed to be three (3) years from date replaced.
- 2.3.1.6 Most Community Based Outpatient Clinics and other leased spaces are defined as Life Safety Protected for Physical Security and Resiliency design. However, if a specific location was designated as Mission Critical, all equipment in TR shall be connected to the critical electrical branch and Emergency Power / Backup Generator.
- 2.3.2 Upstream bonding requirements to the Secondary Bonding Busbar or Primary Bonding Busbar must use two lugs. Bonding for telecommunications equipment must be performed per manufacturer's specifications. All grounding shall comply with ANSI/NECA/BICSI 607-C, Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises, November 2015.
- 2.3.3 If the facility is officially designated as a Health Care Center, verify with VHA HEFP SEP if the site will require Joint Security Architecture and a Forward Deployed Server Stack. If this equipment is required by OIT and Cerner, additional language from VA OEHRM Site Infrastructure Requirements, paragraphs 2.4.A and 2.4.B is required.
- 2.4 Heating, Ventilation, and Air Conditioning (HVAC) Design Requirements
 - 2.4.1 Reference: *U.S. Department of Veterans Affairs Office of Construction & Facilities Management HVAC Design Manual, dated May 1, 2019, <https://www.cfm.va.gov/til/dManual/dmHVAC.pdf>.*
 - 2.4.2 Telecommunications Rooms, Class B space temperature range 41°F to 95°F, relative humidity: 8 to 80% noncondensing.
 - 2.4.2.1 Shall provide dedicated HVAC unit for room. Temperature and humidity shall be monitored in proximity to the OIT equipment rack. Place sensors either on populated rack or within 6 feet of rack.
 - 2.4.2.2 Temperature and humidity shall be connected to a monitoring system by Ethernet (wired or wireless) or serial interface (RS-232 or RS-485). Shall be accessible from remote location via IP.
 - 2.4.2.3 In areas where there are environmental issues (e.g., steam pipes, lack of ventilation, etc.), the use of thermal curtains and additional vents will be considered as a temporary alternative, not permanent resolution.

- 2.5 Contractor/Contractor Provided Equipment – Coordinate equipment based on local design standards. Below is an example of required equipment. Confirm with VA.

2.6.1 Uninterruptable Power Supply (UPS)

2.6.1.1 Manufacturer: APC

2.6.1.2 Model: Smart - UPS X 1500VA Rack/Tower LCD 120V with Network Card –
SMX1500RM2UNC

2.6.2 Rack Sensor

2.6.2.1 Manufacturer: APC

2.6.2.2 Model: NetBotz Rack Sensor Pod 150 – NBPD0150

2.6.3 IT Equipment Room CheckPoint Wireless Temperature and Humidity Sensor

2.6.3.1 Manufacturer: Medical Resources

2.6.3.2 Model: TEMP125

3. PERIOD OF PERFORMANCE:

- 3.1 Work timelines and completion progress shall be communicated to the COR for tracking purposes.
- 3.2 Work described in Section 2 shall be completed within 90 days of NTP.

4. REFERENCES:

- 4.1 VA OEHRM Site Infrastructure and End User Device (EUD) Requirements Version 1.9 (Attachment 1)
- 4.2 [Infrastructure Standards for Telecommunications Spaces Version 3.0](#) (dated August 21, 2020)
- 4.3 [Telecommunications and Special Telecommunications System Design Manual](#) (dated February 2016)
- 4.4 [HVAC Design Manual](#) (dated November 1, 2017 with Rev dated March 1, 2020)
- 4.5 [VA Division 27 – Communications Specifications](#)