1.4 STATEMENT OF WORK: PROJECT 537-16-130 Site Prep Infectious Disposal (rev1, dated 09/19/2017)

Part 1: Project Scope of Work Overview:
Contractor shall provide fully functional connection of the building steam, electric, communications and plumbing including all tools, materials, components, labor and supervision for construction to complete site prep for the outdoor steam Infectious Disposal equipment San-i-Pak system. The San-i-Pak system has been purchased and will arrive, Fall 2017.

The San-i-Pak system will be installed by the vendor and all final utility terminations and utility service extensions of electrical, steam, tele-data shall be provided by the contractor. The contractor shall be responsible for coordinating all work including all equipment requirements with the vendor and Jesse Brown prior to the fabrication and installation of the new san-i-pak system. The contractor will coordinate final connection of steam, water, and electrical to the San-I-Pak during equipment installation.

All MEP systems system shut down downs and loading dock shut downs shall be closely coordinated with Jesse Brown, including durations duration of shut downs and advance written notice provided as required by Jesse Brown. The contractor shall assure that the sequence of MEP work does is coordinated with the sequence of the installation of the san-i-pak system and the san-i-pak platform. Contractor shall provide all demolish, cutting and patching, and new work required to support the installation of the san-i-pak system. The hospital and loading dock will remain in operation during construction and the contractor shall not interfere or impact the operation of the hospital during construction.

Part 2: Period of Performance (POP) and Project Construction Cost Magnitude:
Complete all work including submittals, reviews, quality control and training within the calendar days from Notice to Proceed (NTP) as shown below. Construction award may be delayed until weather permits:

PERIOD OF PERFORMANCE: 160 Calendar Days Upon NTP					
Part 2.1: Kick-Off Meeting	**Part 2.2a: Contractor Submittals**	**Part 2.2b: VA Submittal Reviews & Approvals**	**Part 4.3: Contractor Mobilization, Site Work & Training**	**Part 4.4 Acceptance & Close Out**	**Total days**
14	14+21 = 35	35+14 = 49	49+90 = 139	139+21 = 160	160

Part 3: Detailed Project Scope of Work:
The contractor shall

1. Existing Conditions
    a. For reference pictures and existing drawings are included as an attachment however the contractor is fully responsible to coordinate all field conditions.
    b. The existing crawl space is sprinklered.
    c. The existing crawl space has extensive piping and electrical conduits and is approximately 80 inch clear where there are no systems installed and 66 inches clear below the concrete beams.
    d. The first-floor slab is a concrete and the crawl space slab floor is a mud slab.
    e. Distance between building columns is approximately 18 feet centerline.
2. General
    a. New san-i-pak general information. Refer to vendor drawings for additional information.
        i. The Dumpster System has additional features provided with the equipment Stage I/II Cold Weather Package" (see vendor data sheet)

ii. Insulation on Chamber
iii. Blanket insulation (removable) for plumbing and valves
iv. PLC programmed to maintain temp of 120 degree F in the chamber when idle and chamber door is secured
v. Heat trace on internal water lines. ***REFER TO PART 3, SECTION 2.C FOR ADDITIONAL HEAT TRACE AND INSULATION DETAILS.***
vi. Tank heater for hydraulic reservoir

b. For additional project information refer to reference drawings and pictures.
c. Coordinate the extent of pre-manufactured equipment piping insulation and heat tracing with the san-i-pak manufacturer. ***The San-i-pack system is prepackaged and has internal heat tracing and controls for its own function and freeze protection. The Contractor shall provide heat tracing and insulation, as specified elsewhere in this SOW. However, allow for an additional 5 feet of heat tracing and insulation on each line at the connection point to San-i-pak equipment to accommodate for adjustments in field conditions. Coordinate with San-i-pak in the field during installation.***
d. Contractor shall coordinate main system steam and condensate shut down and duration with the VA prior to any work. The allowable shut down period for the contractor to perform the connection to the existing steam and condensate system is 1 hour and 30 minutes for the domestic water system. All premium time required to accomplish the statement of work shall be included in the contractor's bids.
e. Prior to any work the contractor shall field verify the existing conditions and the termination location and interface of the new Mechanical, Electrical, Tele-data and Plumbing locations with eth san-i-pak fabrication drawings and Jesse Brown.
f. Prior to bids contractor shall investigate, and survey the site and crawl space to determine how the material will be staged and brought into the building and crawl space. The contractor shall be fully responsible for all material and labor costs associated with located all the material in the building including any building modifications and repairs required.
g. Contractor shall be responsible for legal disposal of construction debris from the site including labor and material. Site shall be kept broom clean at all times.
h. Contractor shall coordinate material removal and receiving with the operations of the loading dock and hospital.
i. The contractor shall remove and relocate existing systems that interfere with the new pipe routing and installation of the new san-i-pak system.
j. Contractor shall maintain on site supervision during construction activities.
k. VA Jesse brown will provide a workspace only for the Contractors project manager.
l. Contractors shall be responsible for their own means of communication.
m. Submit all equipment and material shop drawings and prior to any work for review and approval.
n. Provide O and M and as-built drawings for the Mechanical, Electrical, Fire Protection and Plumbing systems, including indoor and outdoor work.

3. Existing dumpster:
   a. The existing dumpster shall be removed by the VA.
   b. The Contractor shall remove and disconnect all and permanent services from the existing dumpster that is not reused, included but not limited to electrical, hydraulic systems and loading dock bumpers/seals. Field coordinate exact requirements.
   c. Remove the existing ground mounted dumpster roller plates and patch concrete slab. The existing apron / slab are to remain.
   d. Patch the opening previously used for the hydraulic lines in the exterior masonry and concrete wall. Match existing construction.
   e. Relocate the existing dumpster and reconnect utilities to the adjacent loading dock.

4. Site Work
    a. Verify existing site utilities and inverts prior to any work.
    b. The existing truck dock trench shall remain. Protect and keep clean.
    c. Clean the existing loading dock trench drain.
    d. Rot out and clean the existing loading dock trench drain from the trench drain to the manhole.
    e. Remove debris from the existing manhole.
    f. Provide an open site sanitary hub drain for the san-i-pak wash down cycle, rate is approximately 30gpm for a 10 minute duration once an hour.
    g. Saw-cut existing pavement and excavate as required to perform underground work.
    h. Extend sanitary pipe and connect to the existing manhole.
        i. Underground sanitary piping shall be 4-inch, bell and spigot service weight.
        ii. Vent and Trap hub drain.
        iii. Provide a clean out every 25 feet and at the connection to the existing manhole.
        iv. Extent 2" vent into the crawl, up the inside of the dock and penetrate the dock roof. Roof patch to match existing manufacturer and 1 year manufacturer warrantee.
    i. Furnish and install a new stainless steel trench drain under the area where the San-I-Pak's compactor and the roll-off container connect. See san-i-pak drawings for size and location.
        i. Connect trench drain underground to the existing open site hub drain vertical pipe. Provide 4-inch hub and spigot sanitary pipe.
    j. Trench and back fill all site work with approved compacted aggregate. Concrete to match existing construction with a minimum 5000 PSI with a 28-day compressive strength.
    k. Slope all underground piping ¼ inch per foot.
    l. Remove spoils and use fresh fill compact to 95% and patch to match.

5. Building and Miscellaneous Work
    a. Remove portion of the existing truck trailer shroud as it conflicts with the dumpster loading platform and patch any fastener holes in the masonry wall with grout matching existing color. Rework and patch shroud.
    b. Remove the existing ground guide rails and provide new rails.
    c. The ground mounted guide channels and the san-i-pak walking platform is provided with equipment by the VA vendor.

6. Steam System:
    a. The san-i-pak system has an integral steam pressure reducing valve and control valve.
    b. The existing steam system is 125 psi and the condensate is a gravity return.
    c. Insulate and heat trace all exterior san-i-pak prefabricated piping, new steam and condensate piping valves and all accessories, refer to electrical write up for heat trace. ***REFER TO PART 3, SECTION 2.C FOR ADDITIONAL HEAT TRACE AND INSULATION DETAILS.***
    d. Connect a new 1-inch steam and 2-inch condensate to the existing 6" 125 psi steam and 4" (field verify existing pipe sizes) condensate return located in the crawl space of Building 30. The steam line at the dumpster must be between 65-90 psi. Provide a steam pressure reducing valve. Include all hangers, expansion and contraction devices, isolation valves, strainers, check valves, unions condensate traps, pressure powered condensate pump with reservoir. Equipment and material shall include but not limited to:
        i. **ALL-STEAM** pipe shall be schedule 80 screwed rated at 250psi.
        ii. Condensate pipe shall be schedule 80 screwed rated at 250 psi.
        iii. Pipe interior Insulation and Jacket:
        iv. Pipe exterior insulation and Jacket:
        v. High Pressure full port steam isolation valves.
        vi. Condensate traps: High Pressure F and T

vii. Air vents
viii. Pressure Power Pump, Cemline V18CCP-1X1 or equal and vent to atmosphere.

e. New and existing piping system shall be vented upon start-up.
f. Extend new **1"** supply and **2"** steam and piping condensate return in the crawl to the dumpster. Insulate all interior and exterior piping including valves and provide jacket. All exterior piping will be heat traced, see electrical system description.
g. Piping and Equipment Installation
    i. Core drill through foundation walls, provide a link seal and fire seal all steam and condensate piping. Field coordinate the route as existing obstructions make a straight route unachievable.
    ii. Provide new isolation valves at the connection to the existing steam and condensate pipes.
    iii. Provide isolation valves near the foundation wall in the new steam and condensate pipes prior to exiting the wall.
    iv. Take off from the existing steam and condensate main shall include a minimum of 3 elbows to allow for expansion and contraction.
    v. Provide an expansion loop in steam and condensate pipe run.
    vi. Pitch steam piping ¼ inch per foot to avoid trapping condensate in the pipe.
    vii. Pitch condensate pipe ¼ per foot to existing condensate main.
    viii. Pitch outdoor steam piping back into building and provide end of main steam trap.
    ix. Pitch san-i-pak outdoor condensate piping back to building and connect to the pressure powered pump.
    x. Install pressure powered pump on concrete base.
    xi. Provide a steam pressure gauge at the new take off, prior to exiting the building and in the outdoor steam pipe.
    xii. Label all piping every 25 feet and match existing labeling nomenclature.
    xiii. Insulate all piping with 2inch fiberglass insulation and all weather PVC Jacket

7. Domestic Water supply
    a. Connect a new **½-** inch copper pipe to the existing 2" 100 psi potable water located in the crawl space of Building 30.
        i. Provide Backflow Preventer (RPZ) watts 009 at take and drain to crawl space floor.
        ii. Provide an adjustable pressure reducing valve to 40 PSI. Provide shutoff valves on both side of the RPZ and a by-pass.
        iii. Piping shall be press-fit connections.
        iv. Provide an isolation valve at the take from the existing water main.
        v. Extend the new water supply though the foundation wall. Provide link-seal penetration and valve on the exterior at the foundation wall. Insulate and heat trace. Extend the water line to final connection per the san-i-pak instructions. ***REFER TO PART 3, SECTION 2.C FOR ADDITIONAL HEAT TRACE AND INSULATION DETAILS.***
        vi. Provide an exterior non-freeze sill cock and coordinate location with the new san-i-pak system.
        vii. Insulate exterior piping with 1-inch Armaflex and provide an all service pvc jacket.
        viii. Label all piping every 25 feet and match existing labeling nomenclature.

8. Building Automation System
    a. On secondary side of the steam pressure reducing station provide both digital pressure and digital temperature sensors connected to and that report the Building Automation System. Provide connection to the existing BAS terminal unit in building 11 and programming.

b. Provide remote digital readout of both sensors wall mounted on the inside of the dock at the dumpster, intended to be viewed by those loading the dumpster.
c. Connect to contact closures for general alarm for heat trace and dumpster controller.
d. Provide an audible and visual alarm in the same location of the remote readers that alerts if: temperature or pressure is outside of range and heat trace or dumpster general alarm.

9. Electrical
    a. *Power CCT:* Provide local Nema 3R non-fused disconnect from the dumpster to the existing 30A 480V 3 phase normal power electrical distribution panel in switchgear 11A/11B behind building 42.
    b. *Control CCT:* in addition to the power CCT, provide 120V 40A-1P normal power from panel in switchgear 11A/11B behind building 42.
    c. *Communications CCT:* Provide two Cat 6 cables from the dumpster controller to the data closet in bldg 11. Connection must have internet access. Final terminations and testing to VA standards.
    d. Provide dark sky compliant Led light on exterior over the dock door to illuminate the dumpster loading platform only.
    e. Conduit: outside, in the crawl or in the dock shall be threaded rigid. All other conduit EMT with steel compression fittings.
    f. Provide 120V variable wattage heat trace system for the steam and water piping outside the building under the pipe insulation. Provide snow, moisture, temperature sensors outside and supervised controller inside the dock next to the dumpster door. Controller shall be UL Listed with GFI. Connect 60A 3 phase 4 wire to the 208Y120V normal power panel in Switchgear Room 11A/11B. Provided local alarm at the panel and contact closure connected to the BAS for remote alarm notification.

10. Construction Progress Meetings: The Contractor's Project Manager and Field Supervisor shall provide weekly telephone conference construction progress meetings with the COR for the entire period of performance. Include minutes of the meeting and issue past minutes not later than 3 days after the meeting. Construction Progress Meetings Minutes shall contain: list of attendees, list any issues or concerns, indicate days remaining per the contract, detail any safety incidents, RFI log, Shop Drawing Log, detailed 2 week look ahead.

11. Daily Report: The Contractor shall provide a Daily Report in compliance with VAAR 852.236-79 DAILY REPORT OF WORKERS AND MATERIAL. The Daily Report shall contain: list any issues or concerns, indicate days remaining per the contract, detail any safety incidents, detail daily construction safety inspections including items checked and corrective actions taken, and include relevant construction progress photo(s). Email the Daily Report to the COR not later than 9 am the next working day.

<u>Part 4: Submittals and Milestone Deliverables:</u>

1. KICK-OFF MEETING with DOCUMENTATION
    a. The Contractor Project Manager and Field Supervisor shall attend a Preconstruction Safety Meeting, to discuss the project details.
    b. Submit: Provide a FULLY LOADED COST SCHEDULE meeting the requirements of the VAAR 852.236-84 SCHEDULE OF WORK PROGRESS. Not less than 1 item per subcontractor. In addition include any expected system shutdowns and off hours work.
    c. Submit: LIST OF ALL CONTRACTORS AND SUBCONTRACTORS: company names, office address and main point of contact name with telephone number
    d. Submit: CONSTRUCTION SAFETY PRECAUTIONS with project specific procedures, processes, analysis and details including but not limited to:

        i. CONSTRUCTION SAFETY PLAN, LOCK OUT TAG OUT (LOTO), PERSONAL FALL ARREST SYSTEM, CONFINED SPACE PLAN
        ii. ACCIDENT PREVENTION PLAN (APP)
        iii. ACTIVITY HAZARD ANALYSIS (AHA)
    e. Submit: CONSTRUCTION INFECTION CONTROL RISK ASSESSMENT / DUST CONTROL PRECAUTIONS including:
        i. Utilize project specific details and assist the COR in completing the VA's Infection Control Risk Assessment documentation
    f. Submit: SHOP DRAWINGS AND PRODUCT LOG:
        i. List all shop drawings and products in the submittal log.
    g. Submit: Scanned copy of all workers OSHA Construction Safety Training certificates.

2. SHOP DRAWINGS AND PRODUCT SUBMITTALS
    a. The Contractor shall provide all shop drawings and product submittals by email to the COR.
    b. Allow 14 days for VA review.

3. MOBILIZATION ON SITE INCLUDING PERFORMANCE OF THE WORK
    a. Contractor shall not mobilize on site until all KICK-OFF MEETING AND DOCUMENTATION and SHOP DRAWINGS AND PRODUCT SUBMITTALS are reviewed and accepted by the VA.
    b. Approval to mobilize shall be in writing by the COR.
    c. Post and maintain emergency contact information, VA's Infection Control Risk Assessment and other information required by the COR, on the wall at all entry points to the worksite.

4. ACCEPTANCE AND CLOSE OUT
    a. Acceptance Criteria for the work:
        i. Demonstrate the operation of the system
        ii. Provide factory startup and certification of all systems.
        iii. Schedule the demonstration with the COR 21 days in advance.
    b. Factory Training
        i. Provide factory personnel for training for all equipment
        ii. Provide 2 session of 2 hours each
        iii. Schedule the factory training with the COR not less than 21 days in advance.
    c. Close Out Records: provide three printed sets and three compact discs with electronic files of the following:
        i. Plan as built record drawings of the installed condition. As built plans are to be CAD drawn. Floor plan CAD files are available from the VA
        ii. Approved shop drawings
        iii. Operations and Maintenance Manuals
        iv. Spare parts listing

<u>Part 5: Applicable Performance Standards</u>

1. All work shall comply with
    a. All VA Policies including and not limited to: VA Construction Safety and VA Infection Control Policies.
    b. Codes, Standards and Executive Orders (Topic 1) found http://www.cfm.va.gov/til/cPro.asp .

2. All persons including subcontractors shall have completed the 30 Hour OSHA Construction Safety Training program.

3. The Prime Contractor shall have a Competent Supervisory Person on site at all times when any worker(s) or sub-contractors are present.

4. All persons working on any electrical systems rated 50 volts or more shall have the minimum qualification as a State Licensed Master Electrician or Registered Journeyman Electrician, all activities shall follow the safe work practices in compliance with NFPA 70E Electrical Safety in the Workplace.

5. The Contractor shall provide mitigating activities as outlined in the CONSTRUCTION SAFETY PRECAUTIONS and CONSTRUCTION INFECTION CONTROL RISK ASSESSMENT / DUST CONTROL PRECAUTIONS including but not less than the following:
    a. Fire extinguishers, pedestal mounted in the area of work
    b. Walk off dust mats, inside and outside all entry / exit points to the workspace, changed not less than daily or more as required by the construction or COR.
    c. Block off all HVAC return ductwork and lovers so not to introduce dust into the HVAC system.
    d. Provide a plastic dust tight temporary construction barrier to isolate the area of work. Provide dust containment tent or portable containment cube, with HEPA filter negative air system when working above ceilings.
    e. High-Efficiency Particulate Arresting / High-Efficiency Particulate Air Filtration (HEPA) recirculating air equipment inside the workspace
    f. Seal the area of work and provide HEPA exhaust equipment to make the area of work negative air pressure with respect to the surrounding area
    g. HEPA recirculating air equipment outside the workspace at every entry / exit point
    h. No trash, used packaging or construction spoils shall be stored on site. Remove each day using covered gondolas.
    i. Broom sweep the work area at the end of each day. Provide HEPA vacuum and wet mop daily where broom sweeping creates undesired dust.

6. All work will be provided with 1 year parts and labor guarantee from date of acceptance by the VA.

<u>Part 6: Jesse Brown VAMC Additional Requirements</u>

1. Comply with all Jesse Brown VAMC site specific requirements and SOPs including and not limited to: Key Policy, Badging Policy, Rules of Behavior, and Smoking Policy.

2. Normal construction work hours are 7:00 am to 3:30 pm Monday through Friday.
    a. Normal work hours can be modified only by written approval of the COR.
    b. No work by the Contractor on Federal Holidays and no work on the weekend when the Federal Holiday is on the respective Monday or Friday.
    c. Work in stairs, interior / exterior public areas shall be between 6:00 pm through midnight concluding by 6:00 am on the following day.
    d. Any work including and not limited to: noise, vibration, dust, odors, core drilling, hammer drilling, saw cutting, equipment moving in public corridors, soil compaction shall be performed between 6:00 pm through midnight concluding by 6 am on the following day.
    e. Crane lifts, any work that closes drive isles, closes building entries or closes public corridors shall be during low patient time and performed Sundays.
    f. The Contractor shall check in (in person) with the Administrative Officer of the Day (AOD), located in Patient Admitting for any work between 6:00 pm through midnight to 6:00 am or any time on weekends. Provide the name and cell number of the on-site supervisor to the AOD. At the completion of the work, check out with the AOD.

3. All building systems will be maintained in full operation at all times:
    a. Request system shutdowns in writing not less than 21 calendar days in advance.
    b. Shutdown work shall be during low patient time and performed between Saturday 6 pm through midnight concluding by 6 pm on the following Sunday.

4. Fire-seal all penetrations through any wall or floor with UL or equivalent approved listed fire rated assembly.

5. Deliveries, Parking, Elevators:
    a. Deliveries only at the Polk Street dock, and coordinated with the COR. At time of delivery: provide vehicle information to the VA Police and remove the vehicle as soon as delivery is complete. Move materials in public corridors during low patient time and performed between 6 pm through midnight concluding by 6 am on the following day.
    b. No on-site parking. Utilize street parking or park in the Cook County Juvenile Parking Garage at their daily rate. The existing JB VAMC parking garage is at capacity and reserved for patients and staff.

6. Contractor shall provide construction dumpsters with a surrounding safety fence and located on the Polk Street Dock. Provide recycling and receipts from the salvage / deposal service in compliance with VA's GEMS Policy.

7. No on-site office or on-site storage / office container shall be allowed. Provide 'just in time delivery and pickup'. Coordinate with COR for staging within the area of work.

8. No music radios. Two way communications radios are allowed where broadcast frequency is approved by COR.

9. All work in the crawl spaces shall be planned and carried out as OSHA Permit Required Confined Space.

10. Immediately stop work and notify the COR if asbestos is noticed or suspected in the work area.

11. Sole Source Procurement: the Contractor shall provide fully functional complete systems, however include the following sole source procurements for the following special systems:
    a. Building Automation: components, programming and start up: Johnson Controls

(End of Section 1.4)