

**SECTION 01 00 00**  
**GENERAL REQUIREMENTS**

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**SECTION 01 00 00  
GENERAL REQUIREMENTS**

**1.1 GENERAL INTENTION**

- A. Contractor shall completely prepare site for building operations, including demolition and removal of existing structures, and furnish labor and materials and perform work for Build Supply, Processing and Distribution, 636-121 as required by drawings and specifications.
- B. The time and date for the site visit for this project will be announced in the solicitation.
- C. Other Visits to the site by Bidders may be made only by appointment with the Medical Center Engineering Officer.
- D. Offices of Kenneth Hahn Architects, 1343 South 75<sup>th</sup> Street, Omaha, NE, 68124 as Architect-Engineers, will render certain technical services during construction. Such services shall be considered as advisory to the Government and shall not be construed as expressing or implying a contractual act of the Government without affirmations by Contracting Officer or his duly authorized representative.
- E. Before placement and installation of work subject to tests by testing laboratory retained by the Contractor, the Contractor shall notify the COR the site in time to observe testing laboratory personnel in the taking and testing of specimens and field inspection. Such prior notice shall be not less than three business days unless otherwise designated by the COR.
- F. All employees of general contractor and subcontractors shall comply with VA security management program and obtain permission of the VA police, be identified by project and employer, and restricted from unauthorized access.
- G. Prior to commencing work, general contractor shall provide proof that a OSHA certified "competent person" (CP) (29 CFR 1926.20(b)(2)) will maintain a presence at the work site whenever the general or subcontractors are present.
- H. Training:
  - 1. All employees of general contractor or subcontractors shall have the 10-hour OSHA certified Construction Safety course and /or other relevant competency training, as determined by VA CP with input from the ICRA team.
  - 2. GC's superintendent(s)/Project Manager shall have completed the 30-hour construction training OSHA certification. The GC shall submit an appointment letter on the General Contractor's company letter head containing, the name of the designated OSHA certified superintendent(s), state the name of the Competent Person (if different than the superintendent), as well as credentials for both. The letter shall be accompanied by a copy of the individual(s) safety training records.
  - 3. Submit training records of all such employees for approval before the start of work.

- I. VHA Directive 2011-36, Safety and Health during Construction, dated 9/22/2011 in its entirety is made a part of this section.

## **1.2 STATEMENT OF BID ITEM(S)**

**A. BID ITEM I** (Base Bid): Build Supply, Processing and Distribution. Project Number 636-121: All work, including final cleanup and completion of any punch list items, shall be performed within seven hundred twenty (720) calendar days after date of receipt of Notice to Proceed.

### **SITE DEVELOPMENT**

Provide an addition for SPS and Logistics in the area south of Building 1W, north of Building 4, and west of Building 1. The current dock area south of building 1W will be replaced by a new dock area that will have access from the southwest. The proposed building site is primarily a paved surface with below grade utilities and abandoned utilities, including several waterlines, sewer, storm, HP steam, chilled water, fire service, gas, FA, telephone, data, security, primary and secondary power, emergency power, all requiring relocation and or extensions to accommodate the construction without interruption of the existing facilities service.

### **PHASING**

Due to the physical and functional elements mentioned above in Site Development, the existing dock area needs to remain functional during the construction of Phase 1. Phase 1 will include the new dock area to the west of the existing Building 4 connector. The first critical path issue in Phase 1 will be the construction of the utility tunnel & relocation of utilities as well as coordination with the Chiller project utility tunnel that will be constructed by others. Once the new dock area is operational, and the Pre-Occupancy inspection is complete the existing docks can be closed and new construction can start for the Phase 2 infill to the east of Phase 1 work.

### **ARCHITECTURAL**

The project will provide an addition for SPS and Logistics in the area south of Building 1W, north of Building 4, and west of Building 1. The first floor will house Sterile Processing Services and the Logistics Departments as well as space for new loading docks and a delivery dock to the Pharmacy in Building 1. There will be a crawl space under the central core & SPS area and a utility tunnel to Bldg. 4 as well as a utility tunnel to the SW corner dock area to re-route utilities. There will be a mechanical/electrical space at a level midway between existing 2<sup>nd</sup> and 3<sup>rd</sup> floor. This mechanical level will be a partial floor as required for the projects mechanical and electrical needs. There will be a central core containing two cart lift shafts for future cart lifts. The facility is designed to expand the mechanical floor over the first floor footprint as well as provide a future 4<sup>th</sup> floor that is anticipated to house a new surgery suite. This new 4<sup>th</sup> floor will be at the same floor level as the existing 4<sup>th</sup> floor.

### **FIRE PROTECTION**

As part of this new Building Addition a new fire water entry will be provided, to include a new fire pump system. A new space in Building #4 will serve as a dedicated fire pump/fire water entry room. New fire piping shall be routed from the new fire pump location to connect with the existing fire sprinkler/fire standpipe piping. The existing fire sprinkler risers located in the existing fire pump room shall remain

and be connected to the new fire water entry served by the new fire pump. The entire Building Addition will be sprinkled in accordance with NFPA 13 Standards and the requirements of the Department of Veterans Affairs Design Manual for Fire Protection Systems. A separate riser will be provided to serve the new addition and the planned future surgery mechanical room.

## INTERIOR DESIGN

The interior design goals for this project are to provide functional, aesthetic and serviceable finishes for all the spaces within the scope of the project.

## STRUCTURAL

The primary structural framing material will be concrete beams, columns and slabs. Most of the addition will be designed to allow for future vertical expansion. A “Core” structure will include a new vertical cart lift shafts for a future cart lift system. To ease construction, the floor of the Core will be metal beam, metal deck and concrete fill. The use of structural steel in lieu of cast-in-place concrete allows for easier connections to the existing structure columns, and minimizes the new weight to be supported by the existing columns. Structurally, the Core will be positively attached to the existing structure, and an expansion joint will be located between the Core and the adjacent portion of the new addition. An expansion joint will also be located between the existing structure and the remaining portion of the new addition. Based on the recommendations of the Geotechnical Report, deep foundations will be used to support building columns and exterior walls. One-story areas will be supported by shallow spread footings, and the supported structure is detailed to absorb any differential movement encountered. Deep foundations minimize interference with existing foundations, provide adequate support for the expected large column loads, and minimize settlements associated with the anticipated high column loads. Auger-cast concrete piles with pile caps and will be designed per the recommendations of the Geotechnical Report. A Site Specific Seismic Study has been performed, and the site has been classified as Site Class C. This results in a Seismic Design Category of B.

## MECHANICAL

**Steam and Steam Condensate Systems:** A new high pressure steam line and a low pressure condensate return system will be brought up to the mezzanine Mechanical Equipment to serve the heating needs of the new Building Addition. The high pressure steam will be reduced in pressure by a two step pressure reducing station. The first pressure reducing stage will take the pressure from 100 psig down to 60 psig medium pressure steam. The medium pressure steam will serve the needs of the sterilizers. The second pressure reducing station will take the medium pressure steam from 60 psig down to 15 psig low pressure steam. The low pressure steam will serve the air handling unit heating coils, domestic water heaters, and hot water heating system heat exchangers. The steam condensate return line will be fed into the existing flash tank in the basement chiller room of Building 1W. The steam pressure reducing station is only sized for this SPD addition and not the future Surgery Addition.

**Hot Water Heating System:** Heat will be provided to the constant volume terminal unit reheat coils through a low temperature hot water heating system. The hot water heating system will consists of two steam-to-water heat exchangers, two end suction circulating pumps, an air separator, an expansion tank, and the hot water distribution piping. The two pumps will be equipped with variable frequency drives and the heating coils will be controlled by two way control valves. The system will operate as a variable

flow system to save on pumping energy. Other equipment served by this hot water heating system will include unit heaters, and cabinet unit heaters.

**Chilled Water Cooling System:** Chilled water will be provided to the air handling unit and fancoil units from the existing chilled water system located in Building 1W. It is the Design Team's understanding that a new Chilled Water Plant will be constructed near the existing Boiler Plant southwest of the Hospital. The new chilled water system will be a primary/secondary pumping arrangement that requires this Building Addition to have a pair of chilled water pumps to distribute the chilled water to the air handling unit cooling coils and any fancoil units in the Mechanical Equipment Room. The new chilled water lines will be sized to handle the future Surgery Addition. The chilled water pumps will be furnished with variable frequency drives to operate as a variable flow chilled water system to save on pump energy. These new chilled water pumps are only sized for this SPD addition and not the future Surgery Addition.

**Supply Air Distribution System:** Heating and cooling will be provided to the different Sterilization Processing and Distribution spaces through a constant volume air distribution system. The system will consist of an air handling unit, a medium pressure supply air system, constant volume terminal units with reheat coils, and supply air diffusers. This air handling unit will provide 100% outside air to each space through the terminal units and supply diffusers. The thermostat in the room will control the reheat coil to maintain space temperature setpoint. The amount of supply air to the space remains constant at a set value and does not vary. The amount of supply air to the space will be determined either by the cooling required in the space or the VA Design Guide suggested minimum air flow rates. The air handling unit will be equipped with a steam humidifier to control the humidity in the space during winter operation.

**Exhaust Air Distribution System:** All of the supply air that is delivered to each of the different Sterilization Processing and Distribution spaces will then be exhausted from those same spaces through a central Exhaust Air Distribution System. The system will consist of a central exhaust air fan module, an exhaust air filter system, an exhaust air heat recovery system, exhaust air terminal units, a medium pressure exhaust air distribution system, a low pressure exhaust air distribution system, and exhaust air grilles in each room. This exhaust air system will be completely ducted from the exhaust fan module to the exhaust air grilles. This exhaust air system will be balanced to provide either a positive or negative pressure in the different spaces as required by the VA Design Guide. By coupling up this exhaust air distribution system with the supply air distribution system, the facility will have a "once thru" air flow pattern eliminating any possibility of cross contamination of bacteria from the soiled space to the clean spaces. The exhaust air distribution system will also operate constant air flow principle where the air flow rates do not vary. Each temperature control zones will be equipped with an exhaust air terminal unit to match up with the supply air terminal unit and provide accurate pressure control.

**Miscellaneous Exhaust Air Systems:** Separate exhaust air systems will be provided for the ETO Sterilizer, the Cart Wash System, Oxygen Storage, BioMed Waste Storage, and the other miscellaneous needs. These dedicated exhaust air systems are required due humid air conditions, NFPA 99 code requirements, and to eliminate any chance of ETO gases and BioMed gases from combining with the general exhaust air system. These special exhaust systems will each have a dedicated exhaust fan serving them. The wet exhaust systems will also have stainless steel exhaust duct systems associated the dedicated fans.

**Glycol Heat Recovery System:** As part of the Supply Air Distribution System and the Exhaust Air Distribution System a heat recovery system will be employed to recovery heat from the exhaust air stream and transfer that heat into the unconditioned supply air stream. This heat recovery system will have a propylene glycol water to air coil in the exhaust air fan module and a pre-filter to recovery the waste heat. The recovery system will also have a propylene glycol water to air coil in the outside air stream of the air handling unit to pre-condition the incoming outside air. A two pipe glycol/water distribution system will connect the two air coils together and a circulating pump will circulate the propylene glycol between the two air coils as a “wrap around” energy recovery loop. A 40% propylene glycol solution will be used.

**Basement Crawlspace Ventilation:** Ventilation and exhaust air will be provided in the basement crawlspace for odor control, mold control, and humidity control.

#### Building Automation System and Temperature Controls

**General:** Mechanical systems within the facility and the environmental conditions within the facility will be controlled and monitored through the facilities building automation system (BAS).

The BAS shall be a network configured, decentralized system utilizing multiple programmable controllers. Controllers will be capable of data sharing and will be accessible through multiple computer workstations that have access to the BAS network. Access to the system will be protected by user identification and passwords. Multiple levels of system accessibility will be provided ranging from having the ability to view information only to having the ability to revise system operating parameters. The level of accessibility to system information and / or programming will be based on each individuals need.

Communication network for BAS equipment will be separate from other building networks. Wiring for the BAS network will be copper, twisted pair, as required by the BAS equipment provided.

BAS will have the capability to communicate with the existing campus-wide Johnson Controls Inc. control system that is currently in operation on the campus. The communication interface will allow the existing Johnson Control system to monitor conditions within the facility. Control of equipment serving the facility will be performed by an ASHRAE Standard 135, BACnet/IP Control System.

All of the new HVAC equipment including the chilled water system, hot water heating system, air handling units, and fancoil units will be controlled by the new DDC control system. The building controller will then communicate with the base-wide Johnson Controls campus-wide system for energy savings control schemes.

The BAS will be capable of operating equipment in “occupied” or “unoccupied” modes as appropriate, based on the time of day and day of week. Unoccupied mode operation will allow the system to operate at reduced capacity, achieving energy savings. System scheduling capabilities will allow for multiple occupancy schedules within the facility and will allow for temporary override or revision of programmed schedules.



Individual space sensors will be located throughout the occupied areas of the facility and will provide inputs to the BAS, allowing the BAS to operate the HVAC equipment as required to maintain the required temperature and humidity in the spaces. Data pertaining to temperature, humidity, and other data from user installed sensors within the facility will be available to system operators.

Programmable controllers will be utilized to receive inputs from various sensors and provide outputs to mechanical equipment, in order to control the equipment as required by the equipment control sequences. Controllers will be electronic, microprocessor based, direct digital control devices and will provide the primary means of control for the equipment. Control algorithms and control parameters will be field or network adjustable. Controller will be capable of network communication using a BACnet communication protocol standard within the HVAC industry.

## ELECTRICAL

The existing fire alarm is a Simplex 4100U fire alarm system. A new fire alarm panel will be provided for this addition and will be tied back into the primary system. The existing system is being replaced with a new 4100ES system and the design of this system will be compatible with the new system. The system network is a fiber ring network that should be able to be expanded to the addition. New speaker/strobes are being provided throughout the addition to provide annunciation. Pull stations are being provided at the exits and smoke detection is being provided where required.

Communications for phase 1 will be fed from the existing communications room on the first floor of building 1. Communications for Phase 2 will be fed from the basement of building 1 to a new communications room. Conduits for telephone, data and paging will be brought over into a new communications room and distribution from that room will be handled by communications rooms on each level of the addition. The conduits will be routed through the existing crawl space under building 1 and into the crawl space under this addition. A multi-conductor twisted pair Cat 5 backbone cable will be provided from the punch down blocks in the telephone room in building 1 to the telecommunications room in the addition. New fiber will be provided from the existing communications room to the new communications room in the addition.

Security and CCTV will be fed from the security room in the basement in building 1. Conduits for door controls and CCTV will be routed through the crawl space in building 1 into the addition. All exterior doors will have security and camera coverage. Additionally the doors into Logistics, Decontamination and Prep and Sterile will have card readers on them.

## B. BID ITEM II:

**(Alternate Deduct 1 – Subtract 180 Days):** Perform all work described in BID ITEM I

**Except:** Delete Phasing requirement of the project construction. All work, including final cleanup and completion of any punch list items, shall be performed within five hundred forty (540) calendar days after date of receipt of Notice to Proceed. This bid item will eliminate all items of work for all trades which are required or shown in the Contract Documents strictly for the purpose of creating a second phase of construction. Under this Alternate, all work shall be constructed as one phase. However, all sequencing issues outlined in the documents will still remain in effect as they relate to their desired order of necessity.



## **SITE**

The Owner will temporarily relocate the existing south dock functions to another area for the duration of construction. The contractor will then have access to the entire construction area for the project and the Phase 1 and Phase 2 designations will lose their implied overall separations.

## **TEMPORARY WALLS AND STRUCTURES**

By this Alternate, delete the following:

1. 1-hour rated temporary walls (wall type 5) between Phase 1 and Phase 2 as shown on the Phase 1 floor plans.
2. Temporary corridors, temporary roofs, and temporary enclosures that are shown due to phasing.
3. The poured-in-place concrete foundation wall and footings on grid G between grids 4 & 6. Columns and pile caps along grid G are required to remain under this alternate.

## **FIRE SUPPRESSION/MECHANICAL/ELECTRICAL**

By this Alternate, delete the following:

1. All temporary work shown in the Contract Documents involving these trades that are shown to be installed under Phase 1 and then removed/re-worked under Phase 2, including but not limited to: ductwork, relocated VAV boxes, light fixtures, fire sprinklers, etc.

## **1.3 SPECIFICATIONS AND DRAWINGS FOR CONTRACTOR**

- A. Available electronically as posted on Fed Biz Ops.

## **1.4 CONSTRUCTION SECURITY, SAFETY AND HEALTH REQUIREMENTS**

- A. The Security and Safety Requirements pertains to station policy for construction projects performed at the Central Iowa Health Care Center. Safety and health concerns are taken seriously at this facility. All employees of the Contractor are expected to strictly adhere to these regulations and requirements. This is exceedingly important, since we must be primarily concerned for the safety and health of our patients. In this regard, OSHA Standards may protect worker safety and health, but they have minimal benefit for protecting the safety and health of our patients, due primarily to their differing medical conditions. Review this information as orientation with your personnel performing work on site. Where the requirements as outlined in this or other regulations are differing, the more stringent shall apply.
- B. Security Plan:
  1. The security plan defines both physical and administrative security procedures that will remain effective for the entire duration of the project.
  2. The General Contractor is responsible for assuring that all sub-contractors working on the project and their employees also comply with these regulations.
- C. Security Procedures:
  1. Secure all construction areas, especially mechanical and electrical rooms against entry of unauthorized individuals including patients.

2. Unless specified, working hours other than regular working hours will require authorization by the contracting officer. Regular work hours for the medical center are Monday–Friday, 8:00 a.m. to 4:30 p.m.
3. General Contractor’s employees shall not enter the project site without appropriate badge. They may also be subject to inspection of their personal effects when entering or leaving the project site.
4. For working outside the “regular hours” as defined in the contract, The General Contractor shall give 3 working days’ notice to the Contracting Officer so that arrangements can be provided for the employees. This notice is separate from any notices required for utility shutdown described later in this section.
5. No photography of VA premises is allowed without written permission of the Contracting Officer.
6. VA reserves the right to close down or shut down the project site and order General Contractor’s employees off the premises in the event of a national emergency. The General Contractor may return to the site only with the written approval of the Contracting Officer.

D. Key Control:

1. The general contractor's superintendent will be issued necessary keys daily for those areas outside the construction barriers that require their access (i.e. utility closets, electrical closets, mechanical spaces, etc.) and return these keys at the end of each business day. No more than two keys/day will be issued. The Engineering Office will maintain a logbook to account for these keys. Contractors that fail to return these keys will be assessed a \$25.00 charge.
2. Ensure all doors leading to and from construction are either monitored or locked to prevent access to the area from unauthorized persons (i.e. patients, staff).
3. The General Contractor shall provide security locks for the construction area. Duplicate keys or lock combinations are to be provided to the COR for the purpose of security inspections of every area of the project including tool boxes, powered equipment, and parked machines and take any emergency action.

E. Document Control:

1. Before starting any work, the General Contractor/Sub Contractors shall submit an electronic security memorandum describing the approach to following goals and maintaining confidentiality of “sensitive information”.
2. The General Contractor is responsible for safekeeping of all drawings, project manual and other project information. This information shall be shared only with those with a specific need to accomplish the project.
4. Certain documents, sketches, videos or photographs and drawings may be marked “Law Enforcement Sensitive” or “Sensitive Unclassified”. Secure such information in separate containers and limit the access to only those who will need it for the project. Return the information to the Contracting Officer upon request.

5. These sensitive documents shall not be removed or transmitted from the project site without the written approval of Contracting Officer.
6. All paper waste or electronic media such as CD's and diskettes shall be shredded and destroyed in a manner acceptable to the VA.
7. Notify Contracting Officer and Site Security Officer immediately when there is a loss or compromise of "sensitive information".

F. Motor Vehicle Restrictions

1. Contractor and associated sub-contractor vehicles shall be parked within the staging area of the project. The staging area shall be determined at the time of the pre-bid meeting. Parking in patient/visitor/staff will require a request and approval for such parking through the COR.

G. General Safety:

1. Follow all federal, state and local safety and health regulations.
2. Maintain safety in the construction site/area in accordance with the provisions of the contract that includes the Occupational Safety and Health Administration (OSHA) Regulations; National Electrical Codes; National Fire Protection Association, etc . Work in a safe manner and take all proper precautions while performing your work. Extra precautions shall be taken when working around persons occupying the building during construction.
3. Provide Personal Protective Equipment (PPE) for your employees.
4. Post appropriate signs in specific hazardous areas.
5. Tools, ladders, etc are to be secured when not in use.
6. Weekly Safety Inspections: The Construction Safety Committee at this facility will perform safety inspections of all contract operations periodically throughout the month. Written reports of unsafe practices or conditions will be reported to the COR and Contracting Officer for immediate attention and resolution.

H. Environmental Protection:

1. No hazardous materials will be disposed of on Government property. All waste will be hauled off-site or disposed in contractor owned and operated waste removal containers.
2. A copy of all waste manifests for special or hazardous wastes will be forwarded to the COR. Environmental requirements will be strictly enforced.

I. Fire Alarms:

1. The General Contractor is responsible for reviewing locations of fire alarm systems within their construction area.
2. In the event of a fire alarm sounding, you are to remain in your area, unless medical center personnel (Safety, Nursing or Engineering) instruct otherwise, or unless a fire situation is in your area, in which case you should immediately evacuate.

3. Any work involving the fire protection systems will require written permission to proceed from the COR and requires 48 hours' notice. An impairment number will be issued through the COR by the Fire Safety Manager.
4. Do not tamper with or otherwise disturb any fire alarm system components without prior written permission. To do so without written permission will result in an adverse action.
5. Storage of hazardous materials within buildings will be minimal with only enough on hand to perform daily work tasks. Flammable materials will either be removed from buildings at the end of the work shift or stored in approved flammable storage containers.

J. Permit Required Confined Spaces:

1. Contractors performing work on this facility will follow all requirements outlined in OSHA Standards for working in confined spaces. There are numerous permits required for confined spaces on this facility. These spaces have been identified. Some spaces have been posted, but the majority have not due to their configuration. A complete listing of these areas will be provided upon request by the contractor at the NTP meeting.
2. Confined spaces are areas that are large enough to be entered have limited egress/exit potential and are not designed for permanent human occupancy. If you encounter any space that meets this definition, and if it is a suspected confined space, please contact the COR.
3. Contractors performing work in confined spaces are responsible for compliance with all applicable standards and regulations.

K. Housekeeping:

1. Protect patients and VA personnel in occupied areas from the hazards of dust, noise, construction debris and material associated with a construction environment. Keep work area clear, clean and free of loose debris, construction materials and partially installed work that would create a safety hazard or interfere with VA personnel duties and traffic.
2. Clean and remove any accumulation of dust/debris from any surface at the end of each workday.
3. Make every effort to keep dust and noise to a minimum at all times. Take special precautions to protect VA equipment from damage including excessive dust.
4. Maintain clear access to mechanical, electrical devices, equipment and main corridors. This will ensure access to existing systems in the event of an emergency.
5. Clean area of all construction debris and dust upon completion of demolition and/or renovation.
6. During construction operations, keep existing finishes protected from damage. Cover and protect all flooring materials during construction. Any flooring materials or surfaces damaged as a result of construction activities will be replaced at the expense of the contractor.

L. Emergency Medical Services: Emergency medical services for stabilization purposes are available for contractors at this facility. For medical emergencies, dial "0" when inside any

building. Report the nature of the emergency and location. The operator will dispatch in-house personnel or coordinate an outside emergency assistance based on the nature of the emergency.

- M. Use of Government-Owned Material and Equipment: Use of Government-owned material and equipment is prohibited.
- N. Superintendent Communications: At all times during the performance of this contract, the Contractors Superintendent is to be on site and available by cellular phone. At the beginning of the contract and prior to beginning any construction, supply the COR with the telephone number for the Superintendent.
- O. Traffic:
  - 1. Traffic hazards are minimal at this facility. Drivers should be particularly concerned with pedestrian traffic.
  - 2. Seat belt use is mandatory on the station.
  - 3. Federal police officers maintain a 24-hour patrol of the area.
- P. Contractor's Trailers: Contractor's trailers shall be located at the area assigned. All utility connections to the trailer shall be installed at the contractor expense. Trailer removal is required upon completion of the contract, unless approved by the CO to leave in place.
- Q. Smoking: There are designated smoking areas around the facility. Smoking is allowed only in designated areas. Any smoking inside a government building is subject to a fine without warning.

## **1.5 FIRE SAFETY**

- A. Applicable Publications: Publications listed below form part of this Article to extent referenced. Publications are referenced in text by basic designations only.
  - 1. American Society for Testing and Materials (ASTM):
    - E84-2009 .....Surface Burning Characteristics of Building Materials
  - 2. National Fire Protection Association (NFPA):
    - NFPA 10.....Standard for Portable Fire Extinguishers
    - NFPA 30.....Flammable and Combustible Liquids Code
    - NFPA 51B .....Standard for Fire Prevention During Welding, Cutting and Other Hot Work
    - NEC 70.....National Electrical Code
    - NFPA 241.....Standard for Safeguarding Construction, Alteration, and Demolition Operations

- NFPA 101 .....Life Safety Code
- NFPA 99.....Health Care Facilities
3. Occupational Safety and Health Administration (OSHA):
- 29 CFR 1926 .....Safety and Health Regulations for Construction
- B. Fire Safety Plan: Establish and maintain a fire protection program in accordance with 29 CFR 1926. Prior to start of work, prepare a plan detailing project-specific fire safety measures, including periodic status reports, and submit to COR for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES. Prior to beginning work, all the contractor's employees and the sub-contractors shall undergo a safety briefing provided by the general contractor's competent person per OSHA requirements. This briefing shall include information on the construction limits, VAMC safety guidelines, means of egress, break areas, work hours, locations of restrooms, use of VAMC equipment, etc. Documentation shall be provided to the COR that individuals have undergone contractor's safety briefing.
- C. Site and Building Access: Maintain free and unobstructed access to facility emergency services and for fire, police and other emergency response forces in accordance with NFPA 241.
- D. Separate temporary facilities, such as trailers, storage sheds, and dumpsters, from existing buildings and new construction by distances in accordance with NFPA 241. For small facilities with less than 6 m (20 feet) exposing overall length, separate by 3m (10 feet).
- E. Fire Protection During Construction:
1. Coordinate with the facility prior to and concurrent with design.
  2. In the event that the fire protection systems within the construction space are disabled, one-fire protection is required from floor to deck per NFPA requirements.
  3. Coordinate construction as necessary to ensure that obstruction of any exit is minimized or avoided. If exits are obstructed during construction, provide alternate exit routes during each phase of construction and identify the alternate routes on the construction drawings.
  4. Minimize or avoid disruptions to fire alarm and sprinkler systems. Delineate phasing of construction to ensure that installations of new systems are expedited, and where possible, maintain existing systems in service until the replacement system is operational. If fire protection systems are to be disrupted, ensure procedures are incorporated to maintain equivalent levels of fire protection and provide formal notification to the facility while systems are down.
  5. Separations are to be maintained daily by the contractor
- F. Temporary Construction Partitions:
1. Install and maintain temporary construction partitions to provide ONE-HOUR FIRE and smoke-tight separations between construction areas and adjoining areas as per the drawings.

2. Install one-hour fire-rated temporary construction partitions as shown on drawings to maintain integrity of existing exit stair enclosures, exit passageways, fire-rated enclosures of hazardous areas, horizontal exits, smoke barriers, vertical shafts and openings enclosures.
  3. Close openings in smoke barriers and fire-rated construction to maintain fire ratings. Seal penetrations with listed through-penetration firestop materials in accordance with Section 07 84 00, FIRESTOPPING.
  4. Separations are to be maintained daily by the contractor
- G. Temporary Heating and Electrical: Install, use and maintain installations in accordance with 29 CFR 1926, NFPA 241 and NFPA 70.
- H. Means of Egress: Do not block exiting for occupied buildings, including paths from exits to roads. Minimize disruptions and coordinate with COR. When necessary an Interim Life Safety Measure (ILSM) survey will be provided by the Life Safety Manager. This document will be adhered to the construction barrier as with locations identified by the COR.
- I. Egress Routes for Construction Workers: Maintain free and unobstructed egress. Inspect daily. Contractor shall report findings and corrective actions weekly to COR.
- J. Fire Extinguishers: Provide and maintain extinguishers in construction areas and temporary storage areas in accordance with 29 CFR 1926, NFPA 241 and NFPA 10.
- K. Flammable and Combustible Liquids: Store, dispense and use liquids in accordance with 29 CFR 1926, NFPA 241 and NFPA 30.
- L. Coordinate with COR for modifications to sprinkler system so as to maintain fire protection to all portions of the building. 48 hours prior to shutting down any and all fire protection devices, submit a verbal request to the COR. An impairment number will be issued by the facility Life Safety manager for a period not to exceed four hours. Anticipated shutdowns of these systems will require written notice five days prior to the anticipated shutdown.
- M. Existing Fire Protection: Do not impair automatic sprinklers, smoke and heat detection, and fire alarm systems, except for portions immediately under construction, and temporarily for connections. Provide fire watch for impairments more than 4 hours in a 24-hour period. Request interruptions in accordance with Article, OPERATIONS AND STORAGE AREAS, and coordinate with COR and facility Safety Officer. All existing or temporary fire protection systems (fire alarms, sprinklers) located in construction areas shall be tested as coordinated with the medical center. Parameters for the testing and results of any tests performed shall be recorded by the medical center and copies provided to the COR.
- N. Smoke Detectors: Prevent accidental operation. Remove temporary covers at end of work operations each day. Coordinate with COR and facility Safety Officer.
- O. Hot Work: Any hot work operations including cutting, welding, thermal welding, brazing, soldering, grinding, thermal spraying, thawing pipes or any other similar activity, will require a



Hot Work Permit to be obtained from the COR. The Contractor will be responsible for conforming to all Medical Center regulations, policies and procedures concerning Hot Work Permits as outlined below: See also Section 01 00 11 – MEDICAL CENTER REQUIREMENTS, 1.2.N.

- a. Prior to the performance of hot work in occupied buildings, a request for a Hot Work Permit will be made to the COR.
  - b. The COR will inspect the area and ensure that the requirements of NFPA 241, 51b and OSHA standards have been satisfied. Approved Hot Work Permits will be posted in the immediate area of the work.
  - c. The Hot Work Permit will apply only to the location and work identified on the permit. If additional areas involve hot work, additional permits must be requested.
  - d. Upon completion of all hot work, the COR will be notified by the responsible individual to perform a re-inspection of the area.
1. Do not use any of the extinguishers in the medical center for standby purpose while conducting hot work. Contractors are required to supply their own Class ABC extinguishers. Medical center extinguishers are only to be used in the event of a fire.
  2. Hot work is not permitted on any roofing area unless authorized by the Authority Having Jurisdiction.
- P. Fire Hazard Prevention and Safety Inspections: Inspect entire construction areas weekly. Coordinate with, and report findings and corrective actions weekly to COR and facility Safety Officer.
- Q. Smoking: Smoking is prohibited in and adjacent to construction areas inside existing building or grounds and additions under construction. Smoking is prohibited on station except in designated smoking areas.
- R. Dispose of waste and debris in accordance with NFPA 241. Remove from buildings daily.
- S. Perform other construction, alteration and demolition operations in accordance with 29 CFR 1926.
- T. If required, submit documentation to the COR that personnel have been trained in the fire safety aspects of working in areas with impaired structural or compartmentalization features.

## **1.6 OPERATIONS AND STORAGE AREAS**

- A.. Working space and space available for storing materials shall be as determined by the COR.
- B. Workmen are subject to rules of Medical Center applicable to their conduct.
- C. Keep roads clear of construction material, debris, standing construction equipment and vehicles at all times.

- D. Execute work in such a manner as to interfere as little as possible with normal functioning of Medical Center 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. Do not store materials and equipment in other than assigned areas.
  2. Schedule delivery of materials and equipment to immediate construction working areas in quantities sufficient for not more than two work days. Provide unobstructed access to Medical Center areas required to remain in operation.
  3. Where access by Medical Center personnel to vacated portions of buildings is not required, storage of Contractor's materials and equipment will be permitted subject to fire and safety requirements.
- E. Phasing requirements: To insure such executions, Contractor shall furnish the COR with a schedule of approximate phasing dates as required by the drawings on which the Contractor intends to accomplish work in each specific area of site, building or portion thereof. In addition, Contractor shall notify the COR two weeks in advance of the proposed date of starting work in each specific area of site, building or portion thereof.
- F. Coordinate with COR for removal of existing furnishings and equipment to permit Work to proceed. Contractor shall provide the COR with a copy of their LOTO procedure within ten days of receiving the NTP.
- G. Building(s) will be occupied during performance of work; but immediate areas of alterations will be vacated.
1. Contractor shall take all measures and provide all material necessary for protecting existing equipment and property in the affected areas of construction against dust and debris, so that any equipment and affected areas of the occupied Medical Center Operations will not be hindered. Contractor shall permit access to the Department of Veterans Affairs personnel and patients through other construction areas which serve as routes of access to such affected areas and equipment. Coordinate alteration work with the COR in areas occupied by Department of Veterans Affairs in order to facilitate uninterrupted Medical Center operations during the construction period.
  2. Immediate areas of alterations not mentioned in preceding Subparagraph 1 will be temporarily vacated while alterations are performed.
- H. Construction Fence: Before construction operations begin, Contractor shall provide a chain link construction fence, 2.1m (seven-foot) minimum height, around each construction area indicated on the drawings. Provide gates as required for access with necessary hardware, including hasps and padlocks. Fasten fence fabric to terminal posts with tension bands and to line posts and top

and bottom rails with tie wires spaced at maximum 375mm (fifteen-inches). Bottom of fences shall extend to 25mm (one-inch) above grade. The Contractor shall be responsible for control over access to the site and keep gates closed at all times during working hours and shall secure them with locks at the end of each work day and outside of working hours. Remove the fence when directed by COR.

- I. When a building or construction site is turned over to Contractor, Contractor shall accept entire responsibility therefore.
  - 1. Contractor shall maintain a minimum inside temperature of 4 degrees C (40 degrees F) at all times, except as otherwise specified.
  - 2. Contractor shall maintain in operating condition existing fire protection and alarm equipment. In connection with fire alarm equipment, Contractor shall make arrangements for pre-inspection of site with Fire Department or Company (Department of Veterans Affairs or municipal) whichever will be required to respond to an alarm from Contractor's employee or watchman.
- J. Utilities Services: Maintain existing utility services for Medical Center at all times. Provide temporary facilities, labor, materials, equipment, connections, and utilities to assure uninterrupted services as required by the drawings and specifications. Where necessary to cut existing water, steam, gases, sewer or air pipes, or conduits, wires, cables, etc. of utility services or of fire protection systems and communications systems (including telephone), they shall be cut and capped at suitable places where shown; or, in absence of such indication, where directed by COR.
  - 1. No utility service such as water, gas, steam, sewers or electricity, or fire protection systems and communications systems may be interrupted without prior approval of COR. Electrical work shall be accomplished with all affected circuits or equipment de-energized. When an electrical outage cannot be accomplished, work on any energized circuits or equipment shall not commence without the Medical Center Director's prior knowledge and written approval.
  - 2. Contractor shall submit a request to interrupt any such services to the COR, in writing, a minimum of two (2) working days in advance of proposed interruption. Request shall state reason, date, exact time of, and approximate duration of such interruption. Interruptions that affect the daily operations of the facility are to be performed on non-business days. Contractor is responsible for the cost of performing this work on weekends or off hours.
  - 3. Contractor will be advised (in writing) of approval of request, or of which other date and/or time such interruption will cause least inconvenience to operations of Medical Center. Interruption time approved by Medical Center may occur at other than Contractor's normal working hours at the contractor's expense.
  - 4. Major interruptions of any system must be requested, in writing, a minimum of at least 15 work days prior to the desired time and shall be performed in cooperation with the COR and

- facility maintenance department during non-business days and at the expense of the contractor.
5. In case of a contract construction emergency, service will be interrupted on approval of COR. Such approval will be confirmed in writing as soon as practical.
  6. Whenever it is required that a connection fee be paid to a public utility provider for new permanent service to the construction project, for such items as water, sewer, electricity, gas or steam, payment of such fee shall be the responsibility of the Government and not the Contractor.
- K. Abandoned Lines: All service lines such as wires, cables, conduits, ducts, pipes and the like, and their hangers or supports, which are to be abandoned but are not required to be entirely removed as per the bid documents, shall be sealed, capped or plugged. The lines shall not be capped in finished areas, but shall be removed and sealed, capped or plugged in ceilings, within furred spaces, in unfinished areas, or within walls or partitions; so that they are completely behind the finished surfaces. All abandoned lines that remain in place are to be tagged as “abandoned in place” and dated. All abandoned lines are to be documented on the as-built drawings.
- L. Coordinate the work for this contract with other construction operations as directed by COR. This includes the scheduling of traffic and the use of roadways, as specified in Article, USE OF ROADWAYS.
- M. Hazardous Communication (HAZCOM): Contractor is to comply with the requirements for HAZCOM as per OSHA 1926 standards applicable to hazardous materials. SDS’ are to be readily available to all employees of the GC and employees of VA. Prior to performing work that could result in dust, chemicals, fumes, etc. entering any occupied space, the GC shall notify the COR 48 hours in advance. Written approval from the COR is required prior to proceeding with the operation.

## **1.7 ALTERATIONS**

- A. Survey: Before any work is started, the Contractor shall make a thorough survey with the COR of areas of buildings in which alterations occur and areas which are anticipated routes of access, and furnish a report, signed by all to the Contracting Officer. This report shall list by rooms and spaces:
1. Existing condition and types of resilient flooring, doors, windows, walls and other surfaces not required to be altered throughout affected areas of building.
  2. Existence and conditions of items such as plumbing fixtures and accessories, electrical fixtures, equipment, venetian blinds, shades, etc., required by drawings to be either reused or relocated, or both.
  3. Shall note any discrepancies between drawings and existing conditions at site.

4. Shall designate areas for working space, materials storage and routes of access to areas within buildings where alterations occur and which have been agreed upon by Contractor and the COR.
- B. Any items required by drawings to be either reused or relocated or both, found during this survey to be nonexistent, or in opinion of COR to be in such condition that their use is impossible or impractical, shall be furnished and/or replaced by Contractor with new items in accordance with specifications which will be furnished by Government. Provided the contract work is changed by reason of this subparagraph B, a request to the contracting officer shall be submitted by the GC for a contract modification. When a modification is required, no work is to be performed related to the modification until the contracting officer has authorized the change.
- C. Re-Survey: Thirty days before expected partial or final inspection date, the Contractor and COR together shall make a thorough re-survey of the areas of buildings involved. They shall furnish a report on conditions then existing, of resilient flooring, doors, windows, walls and other surfaces as compared with conditions of same as noted in first condition survey report:
1. Re-survey report shall also list any damage caused by Contractor to such flooring and other surfaces, despite protection measures; and, will form basis for determining extent of repair work required of Contractor to restore damage caused by Contractor's workmen in executing work of this contract.
- D. Protection: Provide the following protective measures:
1. Wherever existing roof surfaces are disturbed they shall be protected against water infiltration. In case of leaks, they shall be repaired immediately upon discovery at the contractors expense.
    - a. Where equipment is used on the roof or new holes are cut or the Contractor is working at one location for more than a short time (one hour or less), provide a layer of minimum 1-inch thick rigid foam insulation topped with a layer of minimum 1/2-inch thick plywood as a walking and working surface for workmen and equipment. Refer to OSHA Fall Protection guidelines for the maximum size of hole or opening.
    - b. All roof work must be done according the requirements of the current holder of the roof warranty. Contractor shall verify warranty requirements before beginning work.
  2. Temporary protection against damage for portions of existing structures and grounds where work is to be done, materials handled and equipment moved and/or relocated.
  3. Protect the interior of existing structures at all times, from damage, dust, and weather inclemency. Wherever work is performed, floor surfaces that are to remain in place shall be adequately protected prior to starting work, and this protection shall be maintained intact until all work in the area is completed.

## **1.8 INFECTION PREVENTION MEASURES**

- A. Implement the requirements of VAMC's Infection Control Risk Assessment (ICRA) team. ICRA Group may monitor dust in the vicinity of the construction work and require the Contractor to take corrective action immediately if the safe levels are exceeded.
- B. Establish and maintain a dust control program as part of the contractor's infection preventive measures in accordance with the guidelines provided by ICRA Group as specified here. Prior to start of work, prepare a plan detailing project-specific dust protection measures, including periodic status reports, and submit to COR and Facility ICRA team for review for compliance with contract requirements in accordance with Section 01 33 23, Shop Drawings, Product Data And Samples and Section 01 33 24, Electronic Submittal Procedures.
  - 1. All personnel involved in the construction or renovation activity shall be educated and trained in infection prevention measures established by the medical center.
- C. Medical Center Infection Control personnel shall monitor for airborne disease (e.g. aspergillosis) as appropriate during construction. A baseline of conditions may be established by the medical center prior to the start of work and periodically during the construction stage to determine impact of construction activities on indoor air quality. In addition:
  - 1. The COR and VAMC Infection Control personnel shall review pressure differential monitoring documentation to verify that pressure differentials in the construction zone and in the patient-care rooms are appropriate for their settings. The requirement for negative air pressure in the construction zone shall depend on the location and type of activity. Upon notification, the contractor shall implement corrective measures to restore proper pressure differentials as needed.
  - 2. In case of any problem, the medical center, along with assistance from the contractor, shall conduct an environmental assessment to find and eliminate the source.
- D. In general, the following preventive measures shall be adopted during construction to keep down dust and prevent mold.
  - 1. Dampen debris to keep down dust and provide temporary construction partitions in existing structures where directed by COR. Contractor shall blank off ducts and diffusers to prevent circulation of dust into occupied areas during construction.
  - 2. Do not perform dust producing tasks within occupied areas without the approval of the COR. For construction in any areas that will remain jointly occupied by the medical Center and Contractor's workers, the Contractor shall:
    - a. Provide dust proof one-hour fire-rated temporary drywall construction barriers from floor to deck to completely separate construction from the operational areas of the hospital in order to contain dirt debris and dust. Barriers shall be sealed and made presentable on hospital occupied side. Install a self-closing rated door in a metal frame, commensurate with the partition, to allow worker access. Maintain negative air at all times. A fire

retardant polystyrene, 6-mil thick or greater plastic barrier from floor to deck meeting local fire codes may be used where dust control is the only hazard, and an agreement is reached with the COR and Medical Center.

- b. HEPA filtration is required where the exhaust dust may reenter the breathing zone. Contractor shall verify that construction exhaust to exterior is not reintroduced to the medical center through intake vents, or building openings. Install HEPA (High Efficiency Particulate Accumulator) filter vacuum system rated at 95% capture of 0.3 microns including pollen, mold spores and dust particles. Insure continuous negative air pressures occurring within the work area. HEPA filters should have ASHRAE 85 or other prefilter to extend the useful life of the HEPA. Provide both primary and secondary filtrations units. Exhaust hoses shall be heavy duty, flexible steel reinforced and exhausted so that dust is not reintroduced to the medical center.
  - c. Adhesive Walk-off/Carpet Walk-off Mats, minimum 600mm x 900mm (24" x 36"), shall be used at all interior transitions from the construction area to occupied medical center area. These mats shall be changed daily to maintain clean work areas directly outside construction area at all times.
  - d. Vacuum and/or wet mop all transition areas from construction to the occupied medical center at the end of each workday. Vacuum shall utilize HEPA filtration. Maintain surrounding area frequently. Remove debris as they are created. Transport these outside the construction area in containers with tightly fitting lids.
  - e. The contractor shall not haul debris through patient-care areas without prior approval of the COR and the Medical Center. When, approved, debris shall be hauled in enclosed dust proof containers or wrapped in plastic and sealed with duct tape. No sharp objects should be allowed to cut through the plastic. Wipe down the exterior of the containers with a damp rag to remove dust. All equipment, tools, material, etc. transported through occupied areas shall be made free from dust and moisture by vacuuming and wipe down.
  - f. Using a HEPA vacuum, clean inside the barrier and vacuum ceiling tile prior to replacement. Any ceiling access panels opened for investigation beyond sealed areas shall be sealed immediately when unattended.
  - g. There shall be no standing water during construction. This includes water in equipment drip pans and open containers within the construction areas. All accidental spills must be cleaned up and dried within 12 hours. Remove and dispose of porous materials that remain damp for more than 72 hours.
  - h. At completion, remove construction barriers and ceiling protection carefully, outside of normal work hours. Vacuum and clean all surfaces free of dust after the removal.
- E. Contact with Asbestos Containing Materials (ACM):



1. Due to the age of buildings, many contain asbestos containing materials (ACM). Primary ACM uses in the medical center includes floor tile, mastic, piping and HVAC insulation. The medical center has performed a comprehensive asbestos survey and has identified accessible ACM. Some areas contain damaged asbestos and should not be accessed without prior abatement.
2. The most common type of ACM insulation you may encounter includes thermal system insulation (TSI) and floor tile. ACM TSI is generally covered with a cloth wrap or lagging, and the asbestos substrate generally appear white in color. Do not sand, drill, gouge or otherwise disturb this type of insulation. Contractors disturbing or releasing asbestos containing materials will be liable for all damages and cleanup costs.
3. Where disturbance of asbestos is likely, it has been addressed in the contract for removal. If contact with the presence of asbestos is presented, stop all work in the immediate area and immediately contact the COR or Safety Officer to make necessary arrangements for removal.
4. In some areas, asbestos insulation has been identified on elbows, between fiberglass piping insulation, as patching materials among the fiberglass insulation. Fiberglass insulation used in this facility is usually yellow or pink in color, wrapped either by cloth or paper lagging.
5. To protect and ensure all your employees are aware that asbestos containing materials have been used in the construction of this facility, you are required to have them review this section and complete the awareness statement included as Attachment A. Once this documentation has been signed by all employees, forward to the COR for documentation.
6. A complete assessment of asbestos materials and conditions are available for viewing by contacting the facility Safety Officer. Prior to performing work above any ceiling or starting in a new area, consult with the COR concerning existing conditions of ACM.
7. Some of the areas in the facility are identified as restricted areas due to condition of ACM. These are readily labeled. Do not enter these areas unless first contacting the COR. Entry requirements to these areas are awareness of the hazards, proper protective clothing (coveralls and respirators) and personal monitoring in accordance with OSHA requirements.
8. Submit contractor asbestos awareness statements for all persons working on the site prior to commencing work.

F. Final Cleanup:

1. Upon completion of project, or as work progresses, remove all construction debris from above ceiling, vertical shafts and utility chases that have been part of the construction.
2. Perform HEPA vacuum cleaning of all surfaces in the construction area. This includes walls, ceilings, cabinets, furniture (built-in or free standing), partitions, flooring, etc.
3. All new air ducts shall be cleaned prior to final inspection.

## **1.9 DISPOSAL AND RETENTION**

- A. Materials and equipment accruing from work removed and from demolition of buildings or structures, or parts thereof, shall be disposed of as follows:
  - 1. Reserved items which are to remain property of the Government are identified by attached tags as items to be stored. Items that remain property of the Government shall be removed or dislodged from present locations in such a manner as to prevent damage which would be detrimental to re-installation and reuse. Store such items where directed by COR.
  - 2. Items not reserved shall become property of the Contractor and be removed by Contractor from Medical Center.
  - 3. Items of portable equipment and furnishings located in rooms and spaces in which work is to be done under this contract shall remain the property of the Government. When rooms and spaces are vacated by the Department of Veterans Affairs during the alteration period, such items which are NOT required by drawings and specifications to be either relocated or reused will be removed by the Government in advance of work to avoid interfering with Contractor's operation.

## **1.10 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS**

- A. Refer to Section 01 57 19, TEMPORARY ENVIRONMENTAL CONTROLS, for additional requirements on protecting vegetation, soils and the environment. Refer to Articles, "Alterations", "Restoration", and "Operations and Storage Areas" for additional instructions concerning repair of damage to structures and site improvements.

## **1.11 RESTORATION**

- A. Remove, cut, alter, replace, patch and repair existing work as necessary to install new work. Except as otherwise shown or specified, do not cut, alter or remove any structural work, and do not disturb any ducts, plumbing, steam, gas, or electric work without approval of the COR. Existing work to be altered or extended and that is found to be defective in any way, shall be reported to the COR before it is disturbed. Materials and workmanship used in restoring work shall conform in type and quality to that of original existing construction, except as otherwise shown or specified.
- B. Upon completion of contract, deliver work complete and undamaged. Existing work (walls, ceilings, partitions, floors, mechanical and electrical work, lawns, paving, roads, walks, etc.) disturbed or removed as a result of performing required new work, shall be patched, repaired, reinstalled, or replaced with new work, and refinished and left in as good condition as existed before commencing work.
- C. At Contractor's own expense, Contractor shall immediately restore to service and repair any damage caused by Contractor's workmen to existing piping and conduits, wires, cables, etc., of utility services or of fire protection systems and communications systems (including telephone)

which are indicated on drawings and which are not scheduled for discontinuance or abandonment.

- D. See Section 01 73 29 – CUTTING AND PATCHING for additional requirements.

#### **1.12 PHYSICAL DATA**

- A. Data and information furnished or referred to below is for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor.
- B. Government does not guarantee that other materials will not be encountered nor that proportions, conditions or character of several materials will not vary from those indicated by explorations. Bidders are expected to examine site of work and logs of borings; and, after investigation, decide for themselves character of materials and make their bids accordingly. Upon proper application to Department of Veterans Affairs, bidders will be permitted to make their own subsurface explorations of the site at no cost to the government.

#### **1.13 PROFESSIONAL SERVICES**

- A. Registered professional whose services are retained and paid for by the Contractor shall perform services specified herein and in other specification sections. The Contractor shall certify that the registered professional is not one who is a regular employee of the Contractor, and that the registered professionals have no financial interest in this contract.

#### **1.14 LAYOUT OF WORK**

- A. The Contractor shall lay out the work from established base lines and bench marks, indicated on the drawings, and shall be responsible for all measurements in connection with the layout. The Contractor shall furnish, at Contractor's own expense, all stakes, templates, platforms, equipment, tools, materials, and labor required to lay out any part of the work. The Contractor shall be responsible for executing the work to the lines and grades that may be established or indicated by the Contracting Officer. The Contractor shall also be responsible for maintaining and preserving all stakes and other marks established by the Contracting Officer until authorized to remove them. If such marks are destroyed by the Contractor or through Contractor's negligence before their removal is authorized, the Contracting Officer may replace them and deduct the expense of the replacement from any amounts due or to become due to the Contractor.
- B. Establish and plainly mark lines and grades that are reasonably necessary to properly assure that location, orientation, and elevations established for roads and parking lots that are in accordance with lines and elevations shown on the drawings.
- C. Following completion of general mass excavation and before any other permanent work is performed, establish and plainly mark (through use of appropriate batter boards or other means) sufficient additional survey control points or system of points as may be necessary to assure proper alignment, orientation, and grade of all major features of work. Survey shall include, but

not be limited to, location of lines and grades of roadways, sidewalks, parking areas, light poles, and all site construction as indicated on the construction drawings.

1. Such additional survey control points or system of points thus established shall be checked and certified by a registered land surveyor or registered civil engineer. Furnish such certification to the COR before any work (such as storm sewers, roadways, sidewalks, utilities, and other major controlling features) is places.
- D. During progress of work, and particularly as work progresses, the Contractor shall have line grades of all major form work checked and certified by a registered land surveyor or registered civil engineer as meeting requirements of contract drawings. Furnish such certification to the COR.

#### **1.15 AS-BUILT DRAWINGS**

- A. The contractor shall maintain two full size sets of as-built drawings which will be kept current during construction of the project, to include all contract changes, modifications and clarifications.
- B. All variations shall be shown in the same general detail as used in the contract drawings. To insure compliance, as-built drawings shall be made available for the COR's review, as often as requested.
- C. Contractor shall deliver two approved completed sets of as-built drawings to the COR within 15 calendar days after each completed phase and after the acceptance of the project by the COR.
- D. Paragraphs A, B, & C shall also apply to all shop drawings.
- E. Paragraphs A, B, & C shall also apply to the Project Manual.

#### **1.16 USE OF ROADWAYS**

- A. For hauling, use only established public roads and roads on Medical Center property and, when authorized by the COR, such temporary roads which are necessary in the performance of contract work. Temporary roads shall be constructed by the Contractor at Contractor's expense. When necessary to cross curbing, sidewalks, or similar construction, they must be protected by well-constructed bridges.
- B. Debris tracked or hauled onto adjacent private or public roadways or rights-of-way shall be cleaned up and washed down as necessary to remove debris and dust by the Contractor at the end of each work day.

#### **1.17 COR'S FIELD OFFICE (NOT USED)**

#### **1.18 TEMPORARY USE OF MECHANICAL AND ELECTRICAL EQUIPMENT**

- A. Use of new installed mechanical and electrical equipment to provide heat, ventilation, plumbing, light and power will be permitted subject to compliance with the following provisions:

1. Permission to use each unit or system must be given by COR. If the equipment is not installed and maintained in accordance with the following provisions, the COR will withdraw permission for use of the equipment.
  2. Electrical installations used by the equipment shall be completed in accordance with the drawings and specifications to prevent damage to the equipment and the electrical systems, i.e. transformers, relays, circuit breakers, fuses, conductors, motor controllers and their overload elements shall be properly sized, coordinated and adjusted. Voltage supplied to each item of equipment shall be verified to be correct and it shall be determined that motors are not overloaded. The electrical equipment shall be thoroughly cleaned before using it and again immediately before final inspection including vacuum cleaning and wiping clean interior and exterior surfaces.
  3. Units shall be properly lubricated, balanced, and aligned. Vibrations must be eliminated.
  4. Automatic temperature control systems for preheat coils shall function properly and all safety controls shall function to prevent coil freeze-up damage.
  5. The air filtering system utilized shall be that which is designed for the system when complete, and all filter elements shall be replaced at completion of construction and prior to testing and balancing of system.
  6. All components of heat production and distribution system, metering equipment, condensate returns, and other auxiliary facilities used in temporary service shall be cleaned prior to use; maintained to prevent corrosion internally and externally during use; and cleaned, maintained and inspected prior to acceptance by the Government.
- B. Prior to final inspection, the equipment or parts used which show wear and tear beyond normal, shall be replaced with identical replacements, at no additional cost to the Government.

#### **1.19 TEMPORARY USE OF EXISTING ELEVATORS**

- A. Use of existing elevators for handling building materials and Contractor's personnel will be permitted subject to following provisions:
1. Contractor makes all arrangements with the COR for use of elevators. The COR will ascertain that elevators are in proper condition. Contractor may use elevators when permission is granted. Personnel for operating elevators will not be provided by the Department of Veterans Affairs.
  2. Contractor covers and provides maximum protection of following elevator components:
    - a. Entrance jambs, heads soffits and threshold plates.
    - b. Entrance columns, canopy, return panels and inside surfaces of car enclosure walls.
    - c. Finish flooring.

**1.20 TEMPORARY USE OF NEW ELEVATORS (NOT USED)**

**1.21 TEMPORARY TOILETS**

- A. Provide where directed, (for use of all Contractor's workmen) ample temporary sanitary toilet accommodations with suitable sewer and water connections; or, when approved by COR, provide suitable dry closets where directed. Keep such places clean and free from flies, and all connections and appliances connected therewith are to be removed prior to completion of contract, and premises left perfectly clean.
- B. Contractor may have for use of Contractor's workmen, such toilet accommodations as may be assigned to Contractor by Medical Center. Contractor shall keep such places clean and be responsible for any damage done thereto by Contractor's workmen. Failure to maintain satisfactory condition in toilets will deprive Contractor of the privilege to use such toilets.

**1.22 AVAILABILITY AND USE OF UTILITY SERVICES**

- A. The Government shall make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the contract. The amount to be paid by the Contractor for chargeable electrical services shall be the prevailing rates charged to the Government. The Contractor shall carefully conserve any utilities furnished without charge.
- B. The Contractor, at Contractor's expense and in a workmanlike manner satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines, and all meters required to measure the amount of electricity used for the purpose of determining charges. Before final acceptance of the work by the Government, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated paraphernalia.
- C. Contractor shall install meters at Contractor's expense and furnish the Medical Center a monthly record of the Contractor's usage of electricity as hereinafter specified.
- D. Heat: Furnish temporary heat necessary to prevent injury to work and materials through dampness and cold. Use of open salamanders or any temporary heating devices which may be fire hazards or may smoke and damage finished work, will not be permitted. Maintain minimum temperatures as specified for various materials:
  - 1. If written permission is obtained from the COR, heat may be obtained by connecting to Medical Center heating distribution system. See drawings for nearby sources.
- E. Electricity (for Construction and Testing): Furnish all temporary electric services.
  - 1. Obtain electricity by connecting to the Medical Center electrical distribution system. The Contractor shall meter and pay for electricity required for electric cranes and hoisting devices, electrical welding devices and any electrical heating devices providing temporary heat. Electricity for all other uses is available at no cost to the Contractor.
- F. Water (for Construction and Testing): Furnish temporary water service.

1. Obtain water by connecting to the Medical Center water distribution system. Provide reduced pressure backflow preventer at each connection. Water is available at no cost to the Contractor.
2. Maintain connections, pipe, fittings and fixtures and conserve water-use so none is wasted. Failure to stop leakage or other wastes will be cause for revocation (at COR's discretion) of use of water from Medical Center's system.

### **1.23 NEW TELEPHONE EQUIPMENT**

- A. The contractor shall coordinate with the work of installation of telephone equipment by others. This work shall be completed before the building is turned over to VA.

### **1.24 TESTS**

- A. Pre-test mechanical and electrical equipment and systems and make corrections required for proper operation of such systems before requesting final tests. Final test will not be conducted unless pre-tested.
- B. Contractor shall develop and submit a commissioning plan and submit to the COR for approval before final testing/commissioning. Conduct final tests required in various sections of specifications in presence of an authorized representative of the Contracting Officer. Contractor shall furnish all labor, materials, equipment, instruments, and forms, to conduct and record such tests.
- C. Mechanical and electrical systems shall be balanced, controlled and coordinated. A system is defined as the entire complex which must be coordinated to work together during normal operation to produce results for which the system is designed. For example, air conditioning supply air is only one part of entire system which provides comfort conditions for a building. Other related components are return air, exhaust air, steam, chilled water, refrigerant, hot water, controls and electricity, etc. Another example of a complex which involves several components of different disciplines is a boiler installation. Efficient and acceptable boiler operation depends upon the coordination and proper operation of fuel, combustion air, controls, steam, feedwater, condensate and other related components.
- D. All related components as defined above shall be functioning when any system component is tested. Tests shall be completed within a reasonably short period of time during which operating and environmental conditions remain reasonably constant.
- E. Individual test result of any component, where required, will only be accepted when submitted with the test results of related components and of the entire system.

### **1.25 INSTRUCTIONS**

- A. Contractor shall furnish Maintenance and Operating manuals and verbal instructions when required by the various sections of the specifications and as hereinafter specified.



- B. Manuals: Maintenance and operating manuals (four copies each) for each separate piece of equipment shall be delivered to the COR coincidental with the delivery of the equipment to the job site. Manuals shall be complete, detailed guides for the maintenance and operation of equipment. They shall include complete information necessary for starting, adjusting, maintaining in continuous operation for long periods of time and dismantling and reassembling of the complete units and sub-assembly components. Manuals shall include an index covering all component parts clearly cross-referenced to diagrams and illustrations. Illustrations shall include "exploded" views showing and identifying each separate item. Emphasis shall be placed on the use of special tools and instruments. The function of each piece of equipment, component, accessory and control shall be clearly and thoroughly explained. All necessary precautions for the operation of the equipment and the reason for each precaution shall be clearly set forth. Manuals must reference the exact model, style and size of the piece of equipment and system being furnished. Manuals referencing equipment similar to but of a different model, style, and size than that furnished will not be accepted.
- C. Instructions: Contractor shall provide qualified, factory-trained manufacturers' representatives to give detailed instructions to assigned Department of Veterans Affairs personnel in the operation and complete maintenance for each piece of equipment. All such training will be at the job site. These requirements are more specifically detailed in the various technical sections. Instructions for different items of equipment that are component parts of a complete system, shall be given in an integrated, progressive manner. All instructors for every piece of component equipment in a system shall be available until instructions for all items included in the system have been completed. This is to assure proper instruction in the operation of inter-related systems. All instruction periods shall be at such times as scheduled by the COR and shall be considered concluded only when the COR is satisfied in regard to complete and thorough coverage. The Department of Veterans Affairs reserves the right to request the removal of, and substitution for, any instructor who, in the opinion of the COR, does not demonstrate sufficient qualifications in accordance with requirements for instructors above.

#### **1.26 GOVERNMENT-FURNISHED PROPERTY**

- A. The Government shall deliver to the Contractor, the Government-furnished property shown on the drawings.
- B. Equipment furnished by Government to be installed by Contractor will be furnished to Contractor at the Medical Center.
- C. Storage space for equipment will be provided by the Government and the Contractor shall be prepared to unload and store such equipment therein upon its receipt at the Medical Center.
- D. Notify Contracting Officer in writing, 60 days in advance, of date on which Contractor will be prepared to receive equipment furnished by Government. Arrangements will then be made by the Government for delivery of equipment.

1. Immediately upon delivery of equipment, Contractor shall arrange for a joint inspection thereof with a representative of the Government. At such time the Contractor shall acknowledge receipt of equipment described, make notations, and immediately furnish the Government representative with a written statement as to its condition or shortages.
  2. Contractor thereafter is responsible for such equipment until such time as acceptance of contract work is made by the Government.
- E. Equipment furnished by the Government will be delivered in a partially assembled (knock down) condition in accordance with existing standard commercial practices, complete with all fittings, fastenings, and appliances necessary for connections to respective services installed under contract. All fittings and appliances (i.e., couplings, elbows, tees, nipples, piping, conduits, cables, and the like) necessary to make the connection between the Government furnished equipment item and the utility stub-up shall be furnished and installed by the contractor at no additional cost to the Government.
- F. Completely assemble and install the Government furnished equipment in place ready for proper operation in accordance with specifications and drawings.
- G. Furnish supervision of installation of equipment at construction site by qualified factory trained technicians regularly employed by the equipment manufacturer.

#### **1.27 RELOCATED EQUIPMENT ITEMS**

- A. Contractor shall disconnect, dismantle as necessary, remove and reinstall in new location, all existing equipment and items indicated by symbol "R" or otherwise shown to be relocated by the Contractor.
- B. Perform relocation of such equipment or items at such times and in such a manner as directed by the COR.
- C. Suitably cap existing service lines, such as steam, condensate return, water, drain, gas, air, vacuum and/or electrical, whenever such lines are disconnected from equipment to be relocated. Remove abandoned lines in finished areas and cap as specified herein before under paragraph "Abandoned Lines".
- D. Provide all mechanical and electrical service connections, fittings, fastenings and any other materials necessary for assembly and installation of relocated equipment; and leave such equipment in proper operating condition.
- E. Contractor shall employ services of an installation engineer, who is an authorized representative of the manufacturer of this equipment to supervise assembly and installation of existing equipment, required to be relocated.
- F. All service lines such as noted above for relocated equipment shall be in place at point of relocation ready for use before any existing equipment is disconnected. Make relocated existing equipment ready for operation or use immediately after reinstallation.

**1.28 STORAGE SPACE FOR DEPARTMENT OF VETERANS AFFAIRS EQUIPMENT (NOT USED)**

**1.29 CONSTRUCTION SIGN**

- A. Provide a Construction Sign where directed by the Resident Engineer. All wood members shall be of framing lumber. Cover sign frame with 0.7 mm (24 gage) galvanized sheet steel nailed securely around edges and on all bearings. Provide three 100 by 100 mm (4 inch by 4 inch) posts (or equivalent round posts) set 1200 mm (four feet) into ground. Set bottom of sign level at 900 mm (three feet) above ground and secure to posts with through bolts. Make posts full height of sign. Brace posts with 50 x 100 mm (two by four inch) material as directed.
- B. Paint all surfaces of sign and posts two coats of white gloss paint. Border and letters shall be of black gloss paint, except project title which shall be blue gloss paint.
- C. Maintain sign and remove it when directed by the Resident Engineer.
- D. Detail Drawings as found in SP-24.01 (11-Specialty Signs as found on VA TIL) of construction sign showing required legend and other characteristics. Ground mounted sign - refer to Construction Sign details as found on the VA TIL 11-Specialty Signs

**1.30 SAFETY SIGN**

- A. Provide a Safety Sign where directed by Resident Engineer. Face of sign shall be 19 mm (3/4 inch) thick exterior grade plywood. Provide two 100 mm by 100 mm (four by four inch) posts extending full height of sign and 900 mm (three feet) into ground. Set bottom of sign level at 1200 mm (four feet) above ground.
- B. Paint all surfaces of Safety Sign and posts with one prime coat and two coats of white gloss paint. Letters and design shall be painted with gloss paint of colors noted.
- C. Maintain sign and remove it when directed by Resident Engineer.
- D. Detail Drawings as found in SP-24.04 (11-Specialty Signs as found on VA TIL) of safety sign showing required legend and other characteristics of sign. Ground mounted sign - refer to Safety Sign details as found on the VA TIL 11-Specialty Signs
- E. Post the number of accident free days on a daily basis.

**1.31 PHOTOGRAPHIC DOCUMENTATION (NOT USED)**

**1.32 FINAL ELEVATION DIGITAL IMAGES (NOT USED)**

**1.33 HISTORIC PRESERVATION**

- A. Where the Contractor or any of the Contractor's employees, prior to, or during the construction work, are advised of or discover any possible archeological, historical and/or cultural resources, the Contractor shall immediately notify the COR verbally, and then with a written follow up.

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