

**SECTION 01 35 26
SAFETY REQUIREMENTS**

TABLE OF CONTENTS

| | | |
|------|--|----|
| 1.1 | APPLICABLE PUBLICATIONS..... | 3 |
| 1.2 | DEFINITIONS..... | 4 |
| 1.3 | REGULATORY REQUIREMENTS..... | 6 |
| 1.4 | ACCIDENT PREVENTION PLAN (APP)..... | 6 |
| 1.5 | ACTIVITY HAZARD ANALYSES (AHAs) | 11 |
| 1.6 | PRECONSTRUCTION CONFERENCE | 13 |
| 1.7 | “SITE SAFETY AND HEALTH OFFICER” (SSHO) and “COMPETENT PERSON” (CP)..... | 14 |
| 1.8 | TRAINING | 15 |
| 1.9 | INSPECTIONS | 16 |
| 1.10 | ACCIDENTS, OSHA 300 LOGS, AND MAN-HOURS | 17 |
| 1.11 | PERSONAL PROTECTIVE EQUIPMENT (PPE)..... | 18 |
| 1.12 | INFECTION CONTROL..... | 18 |
| 1.13 | TUBERCULOSIS SCREENING | 19 |
| 1.14 | FIRE SAFETY..... | 20 |
| 1.15 | ELECTRICAL | 22 |
| 1.16 | FALL PROTECTION..... | 24 |
| 1.17 | SCAFFOLDS AND OTHER WORK PLATFORMS | 24 |
| 1.18 | EXCAVATION AND TRENCHES | 25 |
| 1.19 | CRANES..... | 27 |
| 1.20 | CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT)..... | 28 |
| 1.21 | CONFINED SPACE ENTRY | 28 |
| 1.22 | WELDING AND CUTTING..... | 28 |
| 1.23 | LADDERS | 28 |
| 1.24 | FLOOR & WALL OPENINGS | 29 |

537-17-144 Replace SPS Cart Washer

**SECTION 01 35 26
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1.1 APPLICABLE PUBLICATIONS:

A. Latest publications listed below form part of this Article to extent referenced. Publications are referenced in text by basic designations only.

B. American Society of Safety Engineers (ASSE):

| | |
|--------|--|
| A10.1 | Pre-Project & Pre-Task Safety and Health Planning |
| A10.6 | Safety & Health Program Requirements for Demolition Operations |
| A10.8 | Safety Requirements for Scaffolding |
| A10.34 | Protection of the Public on or Adjacent to Construction Sites |
| A10.38 | Basic Elements of an Employer's Program to Provide a Safe & Healthful Work Environment |
| Z117.1 | Safety Requirements for Confined Spaces |
| Z244.1 | Control of Energy Sources (Lockout/Tagout) for Construction & Demolition Operations |
| Z359 | Fall Protection Code |
| Z490.1 | Criteria for Accepted Practices in SH&E Training |

C. American Society for Testing and Materials (ASTM):

E84-2013Surface Burning Characteristics of Building Materials

D. The Facilities Guidelines Institute (FGI):

FGI Guidelines-2014 Guidelines for the Design and Construction of Hospitals and Outpatient Clinics

E. National Fire Protection Association (NFPA):

NFPA 1 Fire Code

| | |
|----------|---|
| 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 |
| NFPA 70 | National Electric Code |
| NFPA 70B | Recommended Practice for Electrical Equipment Maintenance |
| NFPA 70E | Standard for Electrical Safety in the Workplace |
| NFPA 99 | Health Care Facilities Code |
| NFPA 101 | Life Safety Code |
| NFPA 241 | Standard for Safeguarding Construction, Alteration, and Demolition Operations |

F. The Joint Commission (TJC)

TJC Manual Comprehensive Accreditation and Certification Manual

G. U.S. Nuclear Regulatory Commission

10 CFR 20 Standards for Protection Against Radiation

H. U.S. Occupational Safety and Health Administration (OSHA):

29 CFR 1904 Reporting and Recording Injuries & Illnesses

29 CFR 1910 Safety and Health Regulations for General Industry

29 CFR 1926 Safety and Health Regulations for Construction Industry

CPL 2-00.124 Multi-Employer Citation Policy

1.2 DEFINITIONS:

- A. Critical Lift. A lift with the hoisted load exceeding 75% of the crane's maximum capacity; lifts made out of the view of the operator (blind picks); lifts involving two or more cranes; personnel being hoisted; and special hazards such as lifts over occupied facilities, loads lifted close to

power-lines, and lifts in high winds or where other adverse environmental conditions exist; and any lift which the crane operator believes is critical.

- B. General Contractor, also referred to as Prime Contractor here, is the contractor with whom VA has a contract for this work.
- C. OSHA “Competent Person” (CP). One who is capable of identifying existing and predictable hazards in the surroundings and working conditions which are unsanitary, hazardous or dangerous to employees, and who has the authorization to take prompt corrective measures to eliminate them (see 29 CFR 1926.32(f)).
- D. Qualified Person. One who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training and experience, has successfully demonstrated his ability to solve or resolve problems relating to the subject matter, the work, or the project.
- E. High Visibility Accident. Any mishap which may generate publicity or high visibility.
- F. Accident/Incident Criticality Categories:

No impact – near miss incidents that should be investigated but are not required to be reported to the VA;

Minor incident/impact – incidents that require first aid or result in minor equipment damage (less than \$5000). These incidents must be investigated but are not required to be reported to the VA;

Moderate incident/impact – Any work-related injury or illness that results in:

1. Days away from work (any time lost after day of injury/illness onset);
2. Restricted work;
3. Transfer to another job;
4. Medical treatment beyond first aid;
5. Loss of consciousness;
6. A significant injury or illness diagnosed by a physician or other licensed health care professional, even if it did not result in (1) through (5) above or,

7. Any incident that leads to major equipment damage (greater than \$5000 but less than \$20,000).

Major incident/impact – Any mishap that leads to fatalities, hospitalizations, amputations, and losses of an eye as a result of contractors' activities. Or any incident which leads to property damage (\$20,000 or greater) and/or may generate publicity or high visibility. These incidents must be investigated and are required to be reported to the VA as soon as practical, but not later than 2 hours after the incident.

- G. The following types of incidents must be investigated, and are required to be reported to VA as soon as practical, but not later than 2 hours after occurrence:
 1. Any Minor, Moderate, or Major incident/impact, as defined above.
 2. Medical Treatment. Treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even though provided by a physician, other medical practitioners, or first responders.

1.3 REGULATORY REQUIREMENTS:

- A. In addition to the detailed requirements included in the provisions of this contract, comply with 29 CFR 1926, comply with 29 CFR 1910 as incorporated by reference within 29 CFR 1926, comply with ASSE A10.34, and all applicable [federal, state, and local] laws, ordinances, criteria, rules and regulations. Submit matters of interpretation of standards for resolution before starting work. Where the requirements of this specification, applicable laws, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirements govern except with specific approval and acceptance by the Facility Safety Officer and Contracting Officer's Representative .

1.4 ACCIDENT PREVENTION PLAN (APP):

- A. The APP (aka Construction Safety & Health Plan) shall interface with the Contractor's overall safety and health program. Include any portions of the Contractor's overall safety and health program referenced in the APP in the applicable APP element and ensure it is site-specific. The Government considers the Prime Contractor to be the "controlling authority" for all worksite safety and health of each subcontractor(s). Contractors are responsible for informing their subcontractors of the safety provisions under the terms of the contract and the penalties for

noncompliance, coordinating the work to prevent one craft from interfering with or creating hazardous working conditions for other crafts, and inspecting subcontractor operations to ensure that accident prevention responsibilities are being carried out.

B. The APP shall be prepared as follows:

1. Written in English by a qualified person who is employed by the Prime Contractor articulating the specific work and hazards pertaining to the contract (model language can be found in ASSE A10.33). Specifically articulating the safety requirements found within these VA contract safety specifications.
2. Address both the Prime Contractors and the subcontractors work operations.
3. State measures to be taken to control hazards associated with materials, services, or equipment provided by suppliers.
4. Address all the elements/sub-elements and in order as follows:
 - a. SIGNATURE SHEET. Title, signature, and phone number of the following:
 - 1) Plan preparer (Qualified Person such as corporate safety staff person or contracted Certified Safety Professional with construction safety experience);
 - 2) Plan approver (company/corporate officers authorized to obligate the company);
 - 3) Plan concurrence (e.g., Chief of Operations, Corporate Chief of Safety, Corporate Industrial Hygienist, project manager or superintendent, project safety professional). Provide concurrence of other applicable corporate and project personnel (Contractor).
 - b. BACKGROUND INFORMATION. List the following:
 - 1) Contractor;
 - 2) Contract number;
 - 3) Project name;
 - 4) Brief project description, description of work to be performed, and location; phases of work anticipated (these will require an AHA).

- c. **STATEMENT OF SAFETY AND HEALTH POLICY.** Provide a copy of current corporate/company Safety and Health Policy Statement, detailing commitment to providing a safe and healthful workplace for all employees. The Contractor's written safety program goals, objectives, and accident experience goals for this contract should be provided.
- d. **RESPONSIBILITIES AND LINES OF AUTHORITIES.** Provide the following:
 - 1) A statement of the employer's ultimate responsibility for the implementation of his SOH program;
 - 2) Identification and accountability of personnel responsible for safety at both corporate and project level. Contracts specifically requiring safety or industrial hygiene personnel shall include a copy of their resumes.
 - 3) The names of Competent and/or Qualified Person(s) and proof of competency/qualification to meet specific OSHA Competent/Qualified Person(s) requirements must be attached.;
 - 4) Requirements that no work shall be performed unless a designated competent person employed by the General Contractor is present on the job site;
 - 5) Requirements for pre-task Activity Hazard Analysis (AHAs);
 - 6) Lines of authority;
 - 7) Policies and procedures regarding noncompliance with safety requirements (to include disciplinary actions for violation of safety requirements) should be identified;
- e. **SUBCONTRACTORS AND SUPPLIERS.** If applicable, provide procedures for coordinating SOH activities with other employers on the job site:
 - 1) Identification of subcontractors and suppliers (if known);
 - 2) Safety responsibilities of subcontractors and suppliers.
- f. **TRAINING.**
 - 1) Site-specific SOH orientation training at the time of initial hire or assignment to the project for every employee before working on the project site is required.

- 2) Mandatory training and certifications that are applicable to this project (e.g., explosive actuated tools, crane operator, rigger, crane signal person, fall protection, electrical lockout/NFPA 70E, machine/equipment lockout, confined space, etc.) and any requirements for periodic retraining/ recertification are required.
 - 3) Procedures for ongoing safety and health training for supervisors and employees shall be established to address changes in site hazards/conditions.
 - 4) OSHA 10-hour training is required for all workers on site and the OSHA 30-hour training is required for Trade Competent Persons (CPs)
- g. SAFETY AND HEALTH INSPECTIONS.
- 1) Specific assignment of responsibilities for a minimum daily job site safety and health inspection during periods of work activity: Who will conduct (e.g., “Site Safety and Health CP”), proof of inspector’s training/qualifications, when inspections will be conducted, procedures for documentation, deficiency tracking system, and follow-up procedures.
 - 2) Any external inspections/certifications that may be required (e.g., contracted CSP or CSHT)
- h. ACCIDENT/INCIDENT INVESTIGATION & REPORTING. The Contractor shall conduct mishap investigations of all Moderate and Major as well as all High Visibility Incidents. The APP shall include accident/incident investigation procedure and identify person(s) responsible to provide the following to the Facility Safety Manager and Contracting Officer’s Representative :
- 1) Exposure data (man-hours worked);
 - 2) Accident investigation reports;
 - 3) Project site injury and illness logs.
- i. PLANS (PROGRAMS, PROCEDURES) REQUIRED. Based on a risk assessment of contracted activities and on mandatory OSHA compliance programs, the Contractor shall address all applicable occupational, patient, and public safety risks in site-specific compliance and accident prevention plans. These Plans shall include but are not be limited to procedures for addressing the risks associates with the following:

- 1) Emergency response;
- 2) Contingency for severe weather;
- 3) Fire Prevention;
- 4) Medical Support;
- 5) Posting of emergency telephone numbers;
- 6) Prevention of alcohol and drug abuse;
- 7) Site sanitation (housekeeping, drinking water, toilets);
- 8) Night operations and lighting;
- 9) Hazard communication program;
- 10) Welding/Cutting “Hot” work;
- 11) Electrical Safe Work Practices (Electrical LOTO/NFPA 70E);
- 12) General Electrical Safety;
- 13) Hazardous energy control (Machine LOTO);
- 14) Site-Specific Fall Protection & Prevention;
- 15) Excavation/trenching;
- 16) Asbestos abatement;
- 17) Lead abatement;
- 18) Crane Critical lift;
- 19) Respiratory protection;
- 20) Health hazard control program;
- 21) Radiation Safety Program;
- 22) Abrasive blasting;

- 23) Heat/Cold Stress Monitoring;
 - 24) Crystalline Silica Monitoring (Assessment);
 - 25) Demolition plan (to include engineering survey);
 - 26) Formwork and shoring erection and removal;
 - 27) PreCast Concrete;
 - 28) Public (Mandatory compliance with ANSI/ASSE A10.34-2012).
- C. Submit the APP to the Facility Safety Manager and Contracting Officer's Representative for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES 14 calendar days prior to the date of the preconstruction conference for acceptance. Work cannot proceed without an accepted APP.
- D. Once accepted by the Facility Safety Manager and Contracting Officer's Representative, the APP and attachments will be enforced as part of the contract. Disregarding the provisions of this contract or the accepted APP will be cause for stopping of work, at the discretion of the Contracting Officer in accordance with FAR Clause 52.236-13, *Accident Prevention*, until the matter has been rectified.
- E. Once work begins, changes to the accepted APP shall be made with the knowledge and concurrence of the Facility Safety Manager and Contracting Officer's Representative. Should any severe hazard exposure, i.e. imminent danger, become evident, stop work in the area, secure the area, and develop a plan to remove the exposure and control the hazard. Notify the Contracting Officer within 24 hours of discovery. Eliminate/remove the hazard. In the interim, take all necessary action to restore and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public and the environment.

1.5 ACTIVITY HAZARD ANALYSES (AHA):

- A. AHAs are also known as Job Hazard Analyses, Job Safety Analyses, and Activity Safety Analyses. Before beginning each work activity involving a type of work presenting hazards not experienced in previous project operations or where a new work crew or sub-contractor is to perform the work, the Contractor(s) performing that work activity shall prepare an AHA (Example electronic AHA forms can be found on the US Army Corps of Engineers web site)

- B. AHAs shall define the activities being performed and identify the work sequences, the specific anticipated hazards, site conditions, equipment, materials, and the control measures to be implemented to eliminate or reduce each hazard to an acceptable level of risk.
- C. Work shall not begin until the AHA for the work activity has been accepted by the Facility Safety Manager and Contracting Officer's Representative, and discussed with all engaged in the activity, including the Contractor, subcontractor(s), and Government on-site representatives at preparatory and initial control phase meetings.
 - 1. The names of the Competent/Qualified Person(s) required for a particular activity (for example, excavations, scaffolding, fall protection, or other activities as specified by OSHA and/or other State and Local agencies shall be identified and included in the AHA. Certification of their competency/qualification shall be submitted to the Facility Safety Manager and Contracting Officer's Representative for acceptance prior to the start of that work activity.
 - 2. The AHA shall be reviewed and modified as necessary to address changing site conditions, operations, or change of competent/ qualified person(s).
 - a. If more than one Competent/Qualified Person is used on the AHA activity, a list of names shall be submitted as an attachment to the AHA. Those listed must be Competent/Qualified for the type of work involved in the AHA and familiar with current site safety issues.
 - b. If a new Competent/Qualified Person (not on the original list) is added, the list shall be updated (an administrative action not requiring an updated AHA). The new person shall acknowledge in writing that he or she has reviewed the AHA and is familiar with current site safety issues.
 - 3. Submit AHAs to the Facility Safety Manager and Contracting Officer's Representative for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES for review at least 14 calendar days prior to the start of each phase. Subsequent AHAs as shall be formatted as amendments to the APP. The analysis should be used during daily inspections to ensure the implementation and effectiveness of the activity's safety and health controls.

4. The AHA list will be reviewed periodically (at least monthly) at the Contractor supervisory safety meeting and updated as necessary when procedures, scheduling, or hazards change.
5. Develop the activity hazard analyses using the project schedule as the basis for the activities performed. All activities listed on the project schedule will require an AHA. The AHAs will be developed by the contractor, supplier, or subcontractor and provided to the prime contractor for review and approval and then submitted to the Facility Safety Manager and Contracting Officer's Representative.

1.6 PRECONSTRUCTION CONFERENCE:

- A. In accordance with FAR Clause 52.236-26 - Preconstruction Conference, a project kickoff meeting shall be held to communicate requirements, project-specific concerns, and the project plan of execution. The Contracting Officer's Representative may also call for Preconstruction Conferences for planned portions of the work requiring collaborative planning to avoid quality and safety issues. The Prime Contractor and affected subcontractor project leads are required to attend and actively participate.
- B. Contractor representatives who have a responsibility or significant role in implementation of the accident prevention program, as required by 29 CFR 1926.20(b)(1), on the project shall attend the preconstruction conference to gain a mutual understanding of its implementation. This includes the project superintendent, subcontractor superintendents, and any other assigned safety and health professionals.
- C. Discuss the details of the submitted APP to include incorporated plans, programs, procedures and a listing of anticipated AHAs that will be developed and implemented during the performance of the contract. This list of proposed AHAs will be reviewed at the conference and an agreement will be reached between the Contractor and the Contracting Officer's representative as to which phases will require an analysis. In addition, establish a schedule for the preparation, submittal, review, and acceptance of AHAs to preclude project delays.
- D. Deficiencies in the submitted APP will be brought to the attention of the Contractor within 14 days of submittal, and the Contractor shall revise the plan to correct deficiencies and re-submit it for acceptance. Do not begin work until there is an accepted APP.

1.7 “SITE SAFETY AND HEALTH OFFICER” (SSHO) AND “COMPETENT PERSON” (CP):

NOTE: If the contract involves: (a) work of a long duration or hazardous nature, or (b) performance within a Government facility, that on the advice of VA construction safety representatives involves hazardous operations which might endanger the safety of the public, patients, and/or Government personnel or property, the SSHO and Superintendent and/or Quality Control Manager must be separate persons.

- A. The Prime Contractor shall designate a minimum of one SSHO at each project site that will be identified as the SSHO to administer the Contractor's safety program and government-accepted Accident Prevention Plan. Each subcontractor shall designate a minimum of one CP in compliance with 29 CFR 1926.20 (b)(2) that will be identified as a CP to administer their individual safety programs.
- B. Further, all specialized Competent Persons for the work crews will be supplied by the respective contractor as required by 29 CFR 1926 (i.e. Asbestos, Electrical, Cranes, & Derricks, Demolition, Fall Protection, Fire Safety/Life Safety, Ladder, Rigging, Scaffolds, and Trenches/Excavations).
- C. These Competent Persons can have collateral duties as the subcontractor’s superintendent and/or work crew lead persons as well as fill more than one specialized CP role (i.e. Asbestos, Electrical, Cranes, & Derricks, Demolition, Fall Protection, Fire Safety/Life Safety, Ladder, Rigging, Scaffolds, and Trenches/Excavations). However, the SSHO has be a separate qualified individual from the Prime Contractor’s Superintendent and/or Quality Control Manager with duties only as the SSHO.
- D. The SSHO or an equally-qualified Designated Representative/alternate will maintain a presence on the site during construction operations in accordance with FAR Clause 52.236-6: *Superintendence by the Contractor*. CPs will maintain presence during their construction activities in accordance with above mentioned clause. A listing of the designated SSHO and all known CPs shall be submitted prior to the start of work as part of the APP with the training documentation and/or AHA as listed in Section 1.8 below.
- E. The repeated presence of uncontrolled hazards during a contractor’s work operations will result in the designated CP as being deemed incompetent and result in the required removal of the employee in accordance with FAR Clause 52.236-5: Material and Workmanship and other Clauses and Contract requirements.

1.8 TRAINING:

- A. The designated Prime Contractor SSHO must meet the requirements of all applicable OSHA standards and be capable (through training, experience, and qualifications) of ensuring that the requirements of 29 CFR 1926.16 and other appropriate Federal, State and local requirements are met for the project. As a minimum the SSHO must have completed the OSHA 30-hour Construction Safety class and have five (5) years of construction industry safety experience or three (3) years if he/she possesses a Certified Safety Professional (CSP) or certified Construction Safety and Health Technician (CSHT) certification or have a safety and health degree from an accredited university or college.
- B. All designated CPs shall have completed the OSHA 30-hour Construction Safety course within the past 5 years.
- C. In addition to the OSHA 30 Hour Construction Safety Course, all CPs with high hazard work operations such as operations involving asbestos, electrical, cranes, demolition, work at heights/fall protection, fire safety/life safety, ladder, rigging, scaffolds, and trenches/excavations shall have a specialized formal course in the hazard recognition & control associated with those high hazard work operations. Documented “repeat” deficiencies in the execution of safety requirements will require retaking the requisite formal course.
- D. All other construction workers shall have completed the OSHA 30-hour Construction Safety Outreach course and any necessary safety training to be able to identify hazards within their work environment. Contractor employees visiting the site for administrative purposes shall have completed at least the 10-hour Construction Safety Outreach course, and any necessary site-specific safety hazard training. Submit an employee roster along with legible copies of all training cards to the Contracting Officer’s Representative prior to allowing any worker to enter the site.
- E. Submit training records associated with the above training requirements to the Facility Safety Manager and Contracting Officer’s Representative for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES 14 calendar days prior to the date of the preconstruction conference for acceptance.
- F. Prior to any worker for the contractor or subcontractors beginning work, they shall undergo a safety briefing provided by the SSHO or his/her designated representative. As a minimum, this

briefing shall include information on the site-specific hazards, construction limits, JBVAMC safety guidelines, means of egress, break areas, work hours, locations of restrooms, use of JBVAMC equipment, emergency procedures, accident reporting etc. Documentation shall be provided to the Resident Engineer that individuals have undergone contractor's safety briefing.

- G. Ongoing safety training will be accomplished in the form of a (minimum) weekly documented safety meeting. Submit records of these meetings to the Contracting Officer's Representative as part of the requirements for daily reporting without fail.

1.9 INSPECTIONS:

- A. The SSHO shall conduct frequent and regular safety inspections (daily) of the site and each of the subcontractors CPs shall conduct frequent and regular safety inspections (daily) of their work operations as required by 29 CFR 1926.20(b)(2). Each week, the SSHO shall conduct a formal documented inspection of the entire construction areas with the subcontractors' "Trade Safety and Health CPs" present in their work areas. Coordinate with, and report findings and corrective actions weekly to Facility Safety Manager and Contracting Officer's Representative.
- B. The Prime Contractor shall retain the services of an independent Certified Safety Professional (CSP) with specialized knowledge in construction safety or a certified Construction Safety and Health Technician (CSHT), who shall randomly conduct a monthly site safety inspection. The CSP or CSHT shall provide their certificate number on the required report for verification as necessary.
 - 1. Results of the inspection will be documented with tracking of the identified hazards to abatement.
 - 2. The Facility Safety Manager and Contracting Officer's Representative shall be notified directly by the CSP or CSHT at least 24 hours prior to start of the inspection and invited to accompany the inspection.
 - 3. Identified hazards and controls will be discussed to enable mutual understanding, ensure abatement, and prevent future reoccurrence.
 - 4. A report of the inspection findings with status of abatement will be provided to the Facility Safety Manager and Contracting Officer's Representative within two business days of the on-site inspection.

1.10 ACCIDENTS, OSHA 300 LOGS, AND MAN-HOURS:

- A. The prime contractor shall establish and maintain an accident reporting, recordkeeping, and analysis system to track and analyze all injuries and illnesses, high visibility incidents, and accidental property damage (both government and contractor) that occur on site. Notify the Facility Safety Manager and Contracting Officer's Representative as soon as practical, but no more than two hours after any accident meeting the definition of a Minor, Moderate, or Major incidents, or any weight handling and hoisting equipment accident. Within notification include contractor name; contract title; type of contract; name of activity, installation or location where accident occurred; date and time of accident; names of personnel injured; extent of property damage, if any; extent of injury, if known, and brief description of accident (to include type of construction equipment used, PPE used, etc.). Preserve the conditions and evidence on the accident site until the Facility Safety Manager and Contracting Officer's Representative determine whether a government investigation will be conducted.
- B. Conduct an accident investigation for all Minor, Moderate, and Major incidents (as defined in paragraph DEFINITIONS), and or property damage accidents – regardless of value, to establish the root cause(s) of the accident. Complete the VA Form 2162 (or equivalent), and provide the report to the Facility Safety Manager and Contracting Officer's Representative within two business days of the accident. The Facility Safety Manager and Contracting Officer's Representative will provide copies of any required or special forms.
- C. A summation of all man-hours worked by the contractor and associated subcontractors for each month will be reported to the Facility Safety Manager and Contracting Officer's Representative within the first two days of each month.
- D. A summation of all Minor, Moderate, and Major incidents experienced on site by the contractor and associated subcontractors for each month will be provided to the Facility Safety Manager and Contracting Officer's Representative within the first two days of each month. The contractor and associated subcontractors' OSHA 300 logs shall be submitted to the Facility Safety Manager and Contracting Officer's Representative prior to the preconstruction meeting, and then prior to any new subcontractor mobilizing on site.

1.11 PERSONAL PROTECTIVE EQUIPMENT (PPE):

- A. PPE is governed in all areas by the nature of the work the employee is performing. For example, specific PPE required for performing work on electrical equipment is identified in NFPA 70E, Standard for Electrical Safety in the Workplace.
- B. Mandatory PPE includes:
 - 1. Hard Hats – unless written authorization is given by the Facility Safety Manager and Contracting Officer’s Representative in circumstances of work operations that have limited potential for falling object hazards such as during finishing work or minor remodeling. With authorization to relax the requirement of hard hats, if a worker becomes exposed to an overhead falling object hazard, then hard hats would be required in accordance with the OSHA regulations.
 - 2. Safety glasses - unless written authorization is given by the Facility Safety Manager and Contracting Officer’s Representative in circumstances of no eye hazards, appropriate safety glasses meeting the ANSI Z.87.1 standard must be worn by each person on site.
 - 3. Appropriate Safety Shoes – based on the hazards present, safety shoes meeting the requirements of ASTM F2413-11 shall be worn by each person on site regardless of craft or administrative position.
 - 4. Hearing protection - Use personal hearing protection at all times in designated noise hazard areas, or when performing noise-hazardous tasks. Hint: If people must raise their voices above normal tone to communicate, the environment requires hearing protection.

1.12 INFECTION CONTROL

- A. Review and comply with the requirements enumerated throughout Specification 01 35 33 INFECTION CONTROL REQUIREMENTS.
- B. Infection Control is critical in all medical center facilities. Interior construction activities causing disturbance of existing dust, or creating new dust, must be conducted within ventilation-controlled areas which prevent the flow of airborne particles outside of the construction area. Exterior construction activities causing disturbance of soil or creating dust in some other manner must also be controlled.

- C. An AHA associated with infection control will be performed by VA personnel in accordance with FGI Guidelines (i.e. Infection Control Risk Assessment (ICRA)). The ICRA procedure and form used by JBVAMC is based on the template found on the American Society for Healthcare Engineering (ASHE) website.
- D. Infection Control Permits, where required, will be issued by the Contracting Officer's Representative in collaboration with the Facility Safety Manager and the Facility Infection Control and Prevention Officer – all of whom have both the authority and responsibility to inspect work areas for compliance, and revoke permits for work sites which are found noncompliant. Delays and costs associated with such revocations are solely borne by the Prime Contractor. No modification to the Contract for time or cost shall be allowed.
- E. All Infection Control Permits shall be posted outside the appropriate construction area. More than one permit may be issued for a construction project if the work is located in separate areas requiring separate classes.

1.13 TUBERCULOSIS SCREENING

- A. Contractor shall provide written certification that all contract employees assigned to the work site have had a pre-placement tuberculin screening within 90 days prior to assignment to the worksite and been found have negative TB screening reactions. Contractors shall be required to show documentation of negative TB screening reactions for any additional workers who are added after the 90-day requirement before they will be allowed to work on the work site. NOTE: This can be the Center for Disease Control (CDC) and Prevention and two-step skin testing or a Food and Drug Administration (FDA)-approved blood test.
 - 1. Contract employees manifesting positive screening reactions to the tuberculin shall be examined according to current CDC guidelines prior to working on VHA property.
 - 2. Subsequently, if the employee is found without evidence of active (infectious) pulmonary TB, a statement documenting examination by a physician shall be on file with the employer (construction contractor), noting that the employee with a positive tuberculin screening test is without evidence of active (infectious) pulmonary TB.
 - 3. If the employee is found with evidence of active (infectious) pulmonary TB, the employee shall require treatment with a subsequent statement to the fact on file with the employer before being allowed to return to work on VHA property.

1.14 FIRE SAFETY

- A. Fire Safety Plan: Establish and maintain a site-specific 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 Facility Safety Manager and Contracting Officer's Representative for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES. This plan may be an element of the Accident Prevention Plan.
- B. 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.
- C. 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).
- D. Temporary Construction Partitions:
 - 1. Install and maintain temporary construction partitions to provide smoke-tight separations between construction areas, or areas that are described in phasing requirements, and adjoining areas. Construct partitions of metal studs and channels and fire-rated gypsum wall board (flame spread rating of 25 or less in accordance with ASTM E84) on both sides of fire retardant treated wood or metal steel studs. Extend the partitions through suspended ceilings to floor slab deck or roof. Seal joints and penetrations. At door openings, install Class C, $\frac{3}{4}$ hour fire/smoke rated doors with self-closing devices.
 - 2. Install 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, and or 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.
- E. Temporary Heating and Electrical: Install, use and maintain installations in accordance with 29 CFR 1926, NFPA 241 and NFPA 70.

- F. Means of Egress: Do not block exiting for occupied buildings, including paths from exits to roads. Minimize disruptions and coordinate with Facility Safety Manager and Contracting Officer's Representative.
- G. Egress Routes for Construction Workers: Maintain free and unobstructed egress. Inspect daily. Report findings and corrective actions weekly to Facility Safety Manager and Contracting Officer's Representative.
- H. Fire Extinguishers: Provide and maintain extinguishers in construction areas and temporary storage areas in accordance with 29 CFR 1926, NFPA 241 and NFPA 10.
- I. Flammable and Combustible Liquids: Store, dispense and use liquids in accordance with 29 CFR 1926, NFPA 241 and NFPA 30.
- J. Standpipes: Install and extend standpipes up with each floor in accordance with 29 CFR 1926 and NFPA 241. Do not charge wet standpipes subject to freezing until weather protected.
- K. Sprinklers: Install, test, and activate new automatic sprinklers prior to removing existing sprinklers.
- L. 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 Facility Safety Manager and Contracting Officer's Representative. 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 Resident Engineer.
- M. Smoke Detectors: Prevent accidental operation. Remove temporary covers at end of work operations each day. Coordinate with Facility Safety Manager and Contracting Officer's Representative.
- N. Hot Work: Perform and safeguard hot work operations in accordance with NFPA 241 and NFPA 51B. The Prime Contractor's Safety Manager, and the safety managers of each subcontractor involved with the planned work, shall prepare required Pre-Activity Hazard Analyses and Hot Work Permit, and submit it for review to the Facility Safety Manager and Contracting Officer's Representative at least five business days in advance of planned activity(s). While several

subcontractor's safety managers may be involved in the planning, ultimately the Prime Contractor is responsible for all activities. Therefore, the Prime Contractor's safety manager shall be designated as responsible project-site fire prevention program manager under the hot work permit.

- O. Fire Hazard Prevention and Safety Inspections: Inspect the entire construction area(s) every day. Coordinate with, and report findings and corrective actions each day to Facility Safety Manager and Contracting Officer's Representative.
- P. Smoking: Smoking is prohibited throughout all existing buildings, including rooftops. Smoking is prohibited in and adjacent to all construction areas and additions or new structures under construction.
- Q. Dispose of waste and debris in accordance with NFPA 241. Remove from buildings daily for single-shift days, or at least once during each shift for multiple-shift days.
- R. Where conditions warrant it, prepare and 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.

1.15 ELECTRICAL

- A. All electrical work shall comply with NFPA 70 (NEC), NFPA 70B, NFPA 70E, 29 CFR Part 1910 Subpart J – General Environmental Controls, 29 CFR Part 1910 Subpart S – Electrical, and 29 CFR 1926 Subpart K in addition to other references required by contract.
- B. All qualified persons performing electrical work under this contract shall be licensed journeyman or master electricians. All apprentice electricians performing under this contract shall be deemed unqualified persons unless they are working under the immediate supervision of a licensed electrician or master electrician.
- C. All electrical work will be accomplished de-energized and in the Electrically Safe Work Condition (refer to NFPA 70E for Work Involving Electrical Hazards, including Exemptions to Work Permit). Any Contractor, subcontractor or temporary worker who fails to fully comply with this requirement is subject to immediate termination in accordance with FAR clause 52.236-5(c). Only in rare circumstance where achieving an electrically safe work condition prior to beginning work would increase or cause additional hazards, or is infeasible due to equipment design or operational limitations is energized work permitted. The Chief Engineer, as the

Authority Having Jurisdiction (AHJ), with approval of the Medical Center Director, will make the determination if the circumstances would meet the exception outlined above. An AHA and permit specific to energized work activities will be developed, reviewed, and accepted by the VA prior to the start of that activity.

1. Development of a Hazardous Electrical Energy Control Procedure is required prior to de-energization. A single Simple Lockout/Tagout Procedure for multiple work operations can only be used for work involving qualified person(s) de-energizing one set of conductors or circuit part source. Task specific Complex Lockout/Tagout Procedures are required at all other times.
 2. Verification of the absence of voltage after de-energization and lockout/tagout is considered “energized electrical work” (live work) under NFPA 70E, and shall only be performed by qualified persons wearing appropriate shock protective (voltage rated) gloves and arc rate personal protective clothing and equipment, using Underwriters Laboratories (UL) tested and appropriately rated contact electrical testing instruments or equipment appropriate for the environment in which they will be used.
 3. Personal Protective Equipment (PPE) and electrical testing instruments will be readily available for inspection by the The Chief Engineer, Facility Safety Manager, and or Contracting Officer’s Representative.
- D.** Before beginning any electrical work, an Activity Hazard Analysis (AHA) will be conducted to include Shock Hazard and Arc Flash Hazard analyses (NFPA Tables can be used only as a last alternative and it is strongly suggested a full Arc Flash Hazard Analyses be conducted). Work shall not begin until the AHA for the work activity and permit for energized work has been reviewed and accepted by the Facility Safety Manager and Contracting Officer’s Representative and discussed with all engaged in the activity, including the Contractor, subcontractor(s), and Government on-site representatives at preparatory and initial control phase meetings.
- E.** Ground-fault circuit interrupters. GFCI protection shall be provided where an employee is operating or using cord- and plug-connected tools related to construction activity supplied by 125-volt, 15-, 20-, or 30- ampere circuits. Where employees operate or use equipment supplied by greater than 125-volt, 15-, 20-, or 30- ampere circuits, GFCI protection or an assured equipment grounding conductor program shall be implemented in accordance with NFPA 70E - 2015, Chapter 1, Article 110.4(C)(2).

1.16 FALL PROTECTION

- A. The fall protection (FP) threshold height requirement is 6 ft. (1.8 m) for ALL WORK, unless specified differently or the OSHA 29 CFR 1926 requirements are more stringent, to include steel erection activities, systems-engineered activities (prefabricated) metal buildings, residential (wood) construction and scaffolding work.
 - 1. The use of a Safety Monitoring System (SMS) as a fall protection method is prohibited.
 - 2. The use of Controlled Access Zone (CAZ) as a fall protection method is prohibited.
 - 3. A Warning Line System (WLS) may ONLY be used on floors or flat or low-sloped roofs (between 0 - 18.4 degrees or 4:12 slope) and shall be erected around all sides of the work area (See 29 CFR 1926.502(f) for construction of WLS requirements). Working within the WLS does not require FP. No worker shall be allowed in the area between the roof or floor edge and the WLS without FP. FP is required when working outside the WLS.
 - 4. Fall protection while using a ladder will be governed by the OSHA requirements.

1.17 SCAFFOLDS AND OTHER WORK PLATFORMS

- A. All scaffolds and other work platforms construction activities shall comply with 29 CFR 1926 Subpart L.
- B. The fall protection (FP) threshold height requirement is 6 ft. (1.8 m) as stated in Section 1.16.
- C. The following hierarchy and prohibitions shall be followed in selecting appropriate work platforms.
 - 1. Scaffolds, platforms, or temporary floors shall be provided for all work except that can be performed safely from the ground or similar footing.
 - 2. Ladders less than 20 feet may be used as work platforms only when use of small hand tools or handling of light material is involved.
 - 3. Ladder jacks, lean-to, and prop-scaffolds are prohibited.
 - 4. Emergency descent devices shall not be used as working platforms.
- D. Contractors shall use a scaffold tagging system in which all scaffolds are tagged by the Competent Person. Tags shall be color-coded: green indicates the scaffold has been inspected and

is safe to use; red indicates the scaffold is unsafe to use. Tags shall be readily visible, made of materials that will withstand the environment in which they are used, be legible and shall include:

1. The Competent Person's name and signature;
2. Dates of initial and last inspections.

E. Mast Climbing work platforms: When access ladders, including masts designed as ladders, exceed 20 ft. (6 m) in height, positive fall protection shall be used.

1.18 EXCAVATION AND TRENCHES

- A. All excavation and trenching work shall comply with 29 CFR 1926 Subpart P. Excavations less than 5 feet in depth require evaluation by the contractor's "Competent Person" (CP) for determination of the necessity of an excavation protective system where kneeling, laying in, or stooping within the excavation is required.
- B. All excavations and trenches 15 inches in depth or greater shall require a written trenching and excavation permit (NOTE – some States and other local jurisdictions require separate state/jurisdiction-issued excavation permits). The permit shall have two sections, one section will be completed prior to digging or drilling and the other will be completed and submitted at least five business days in advance to the Facility Safety Manager and Contracting Officer's Representative for review and approval – and accepted, prior to personnel entering any excavations greater than 5 feet in depth. Each section of the permit shall be provided to the Facility Safety Manager and Contracting Officer's Representative prior to proceeding with digging or drilling and prior to proceeding with entering the excavation. After completion of the work and prior to opening a new section of an excavation, the permit shall be closed out and provided to the Facility Safety Manager and Contracting Officer's Representative. The permit shall be maintained on site and the first section of the permit shall include the following:
 1. Estimated start time & stop time
 2. Specific location and nature of the work.
 3. Indication of the contractor's Excavation Competent Person with qualifications and signature.
A formal course in excavation safety is required by the contractor's Excavation Competent Person.
 4. Indication of whether soil or concrete removal to an off-site location is necessary.
 5. Indication of whether soil samples are required to determine soil contamination.

6. Indication of coordination with local authority (i.e. “One Call”) or contractor’s effort to determine utility location with search and survey equipment.
7. Indication of review of site drawings for proximity of utilities to digging/drilling.

The second section of the permit for excavations greater than five feet in depth shall include the following:

1. Determination of OSHA classification of soil. Soil samples will be from freshly dug soil with samples taken from different soil type layers as necessary and placed at a safe distance from the excavation by the excavating equipment. A pocket penetrometer will be utilized in determination of the unconfined compression strength of the soil for comparison against OSHA table (Less than 0.5 Tons/FT² – Type C, 0.5 Tons/FT² to 1.5 Tons/FT² – Type B, greater than 1.5 Tons/FT² – Type A without condition to reduce to Type B).
 2. Indication of selected protective system (sloping/benching, shoring, shielding). When soil classification is identified as “Type A” or “Solid Rock”, only shoring or shielding or Professional Engineer designed systems can be used for protection. A Sloping/Benching system may only be used when classifying the soil as Type B or Type C. Refer to Appendix B of 29 CFR 1926, Subpart P for further information on protective systems designs.
 3. Indication of the spoil pile being stored at least 2 feet from the edge of the excavation and safe access being provided within 25 feet of the workers.
 4. Indication of assessment for a potential toxic, explosive, or oxygen deficient atmosphere where oxygen deficiency (atmospheres containing less than 19.5 percent oxygen) or a hazardous atmosphere exists or could reasonably be expected to exist. Internal combustion engine equipment is not allowed in an excavation without providing force air ventilation to lower the concentration to below OSHA PELs, providing sufficient oxygen levels, and atmospheric testing as necessary to ensure safe levels are maintained.
- C. As required by OSHA 29 CFR 1926.651(b)(1), the estimated location of utility installations, such as sewer, telephone, fuel, electric, water lines, or any other underground installations that reasonably may be expected to be encountered during excavation work, shall be determined prior to opening an excavation.
1. The planned dig site will be outlined/marked in white prior to locating the utilities.

2. Used of the American Public Works Association Uniform Color Code is required for the marking of the proposed excavation and located utilities.
 3. 811 will be called two business days before digging on all local or State lands and public Right-of Ways.
 4. Digging will not commence until all known utilities are marked.
 5. Utility markings will be maintained
- D. Excavations will be hand dug or excavated by other similar safe and acceptable means as excavation operations approach within 5 feet of identified underground utilities. Exploratory bar or other detection equipment will be utilized as necessary to further identify the location of underground utilities.
- E. Excavations greater than 20 feet in depth require a Professional Engineer designed and stamped excavation protective system plan.

1.19 CRANES

- A. All crane work shall comply with 29 CFR 1926 Subpart CC.
- B. Prior to operating a crane, the operator must be licensed, qualified or certified to operate the crane. Thus, all the provisions contained with Subpart CC are effective and there is no “Phase In” date.
- C. A detailed lift plan for all lifts shall be submitted to the Facility Safety Manager and Contracting Officer’s Representative and/or other Government Designated Authority no less than 10 business days prior to the scheduled lift complete with route for truck carrying load, crane load analysis, siting of crane and path of swing and all other elements of a critical lift plan where the lift meets the definition of a critical lift. Critical lifts require a more comprehensive lift plan to minimize the potential of crane failure and/or catastrophic loss. The plan must be reviewed and accepted by the General Contractor before being submitted to the VA for review. The lift will not be allowed to proceed without prior acceptance of this document.
- D. Crane operators shall not carry loads:
1. over the general public or VAMC personnel
 2. over any occupied building unless:

- a. the top two floors are vacated
- b. or overhead protection with a design live load of 300 psf is provided

1.20 CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT)

- A. All installation, maintenance, and servicing of equipment or machinery shall comply with 29 CFR 1910.147 except for specifically referenced operations in 29 CFR 1926 such as concrete & masonry equipment [1926.702(j)], heavy machinery & equipment [1926.600(a)(3)(i)], and process safety management of highly hazardous chemicals (1926.64). Control of hazardous electrical energy during the installation, maintenance, or servicing of electrical equipment shall comply with Section 1.15 to include NFPA 70E and other VA specific requirements discussed in the section.

1.21 CONFINED SPACE ENTRY

- A. All confined space entry shall comply with 29 CFR 1926, Subpart AA except for specifically referenced operations in 29 CFR 1926 such as excavations/trenches [1926.651(g)].
- B. A site-specific Confined Space Entry Plan (including permitting process) shall be developed and submitted to the Facility Safety Manager and Contracting Officer's Representative.

1.22 WELDING AND CUTTING

As specified in section 1.14, Hot Work: Perform and safeguard hot work operations in accordance with NFPA 241 and NFPA 51B. Coordinate with Facility Safety Manager and Contracting Officer's Representative. Obtain permits from Facility Safety Manager and Contracting Officer's Representative at least 5 business days in advance. Designate contractor's responsible project-site fire prevention program manager to permit hot work (See Hot Work section of this Specification).

1.23 LADDERS

- A. All Ladder use shall comply with 29 CFR 1926 Subpart X.
- B. All portable ladders shall be of sufficient length and shall be placed so that workers will not stretch or assume a hazardous position.
- C. Manufacturer safety labels shall be in place on ladders
- D. Step Ladders shall not be used in the closed position
- E. Top steps or cap of step ladders shall not be used as a step

- F. Portable ladders, used as temporary access, shall extend at least 3 ft. (0.9 m) above the upper landing surface.
 - 1. When a 3 ft. (0.9-m) extension is not possible, a grasping device (such as a grab rail) shall be provided to assist workers in mounting and dismounting the ladder.
 - 2. In no case shall the length of the ladder be such that ladder deflection under a load would, by itself, cause the ladder to slip from its support.
- G. Ladders shall be inspected for visible defects on a daily basis and after any occurrence that could affect their safe use. Broken or damaged ladders shall be immediately tagged "DO NOT USE," or with similar wording, and withdrawn from service until restored to a condition meeting their original design.

1.24 FLOOR & WALL OPENINGS

- A. All floor and wall openings shall comply with 29 CFR 1926 Subpart M.
- B. Floor and roof holes/openings are any that measure over 2 in (51 mm) in any direction of a walking/working surface which persons may trip or fall into or where objects may fall to the level below. See 21.F for covering and labeling requirements. Skylights located in floors or roofs are considered floor or roof hole/openings.
- C. All floor, roof openings or hole into which a person can accidentally walk or fall through shall be guarded either by a railing system with toe boards along all exposed sides or a load-bearing cover. When the cover is not in place, the opening or hole shall be protected by a removable guardrail system or shall be attended when the guarding system has been removed, or other fall protection system.
 - 1. Covers shall be capable of supporting, without failure, at least twice the weight of the worker, equipment and material combined.
 - 2. Covers shall be secured when installed, clearly marked with the word "HOLE", "COVER" or "Danger, Roof Opening-Do Not Remove" or color-coded or equivalent methods (e.g., red or orange "X"). Workers must be made aware of the meaning for color coding and equivalent methods.

3. Roofing material, such as roofing membrane, insulation or felts, covering or partly covering openings or holes, shall be immediately cut out. No hole or opening shall be left unattended unless covered.
4. Non-load-bearing skylights shall be guarded by a load-bearing skylight screen, cover, or railing system along all exposed sides.
5. Workers are prohibited from standing/walking on skylights.

- - - E N D - - -

SECTION 01 35 33

INFECTION CONTROL REQUIREMENTS

1.1 INFECTION CONTROL

1. Infection Control is critical in all medical center facilities. Interior construction activities causing disturbance of existing dust, or creating new dust, must be conducted within ventilation-controlled areas that minimize the flow of airborne particles into patient areas. Exterior construction activities causing disturbance of soil or creates dust in some other manner must also be controlled.
2. An AHA associated with infection control will be performed by VA personnel in accordance with FGI Guidelines (i.e. Infection Control Risk Assessment; ICRA). The ICRA procedure similar to the one found on the American Society for Healthcare Engineering (ASHE) website will be utilized.
 - 1) Risk classifications of Class II or lower will require approval by the Facility Safety Manager and Contracting Officer Representative before beginning any construction work.
 - 2) Risk classifications of Class III or higher will require a permit before beginning any construction work. Infection Control permits will be issued by the Facility Safety Manager and Contracting Officer Representative.
3. The Infection Control Permits will be posted outside the appropriate construction area. More than one permit may be issued for a construction project if the work is located in separate areas requiring separate classes.
4. The primary project scope area for this project is:

Class IV

However, work outside the primary project scope area may vary.

The required infection control precautions with each class are as follows:

A. Class I requirements:

- 1) During Construction Work:
 - a. Notify the Contracting Officer Representative.
 - b. Execute work using methods to minimize raising dust from construction operations.
 - c. Ceiling tiles: Immediately replace a ceiling tiles displaced for visual inspection.
- 2) Upon Completion:
 - a. Clean work area upon completion of task.
 - b. Notify the Contracting Officer Representative.

B. Class II requirements:

- 1) During Construction Work:
 - a. Notify the Contracting Officer.

537-17-144 Replace SPS Cart Washer

- b. Provide active means to prevent airborne dust from dispersing into atmosphere such as wet methods or tool mounted dust collectors where possible.
- c. Water mist work surfaces to control dust while cutting.
- d. Seal unused doors with painters tape (unless you also intend to replace the door and frame, or sand it to bare metal and refinish it).
- e. Block off and seal air vents.
- f. Remove or isolate HVAC system in areas where work is being performed.

2) Upon Completion:

- a. Wipe work surfaces with cleaner/disinfectant.
- b. Contain construction waste before transport in tightly covered containers.
- c. Damp (NOT Wet) mop and/or vacuum with HEPA filtered vacuum before leaving work area.
- d. Upon completion, restore HVAC system where work was performed
- e. Notify the Contracting Officer Representative.

C. Class III requirements:

1) During Construction Work:

- a. Obtain permit from the Contracting Officer Representative.
- b. Remove or Isolate HVAC system in area where work is being done to prevent contamination of duct system.
- c. Complete all critical barriers i.e. sheetrock, plywood, plastic, to seal area from non-work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. Install construction barriers and ceiling protection carefully, outside of normal work hours.
- d. Maintain negative air pressure, 0.01 inches of water gauge, within work site utilizing HEPA equipped air filtration units and continuously monitored with a digital display, recording and alarm instrument, which must be calibrated on installation, maintained with periodic calibration and monitored by the contractor.
- e. Contain construction waste before transport in tightly covered containers.
- f. Cover transport receptacles or carts. Tape covering unless solid lid.

2) Upon Completion:

- a. Do not remove barriers from work area until completed project thoroughly cleaned, and is inspected by the Contracting Officer Representative and by the VA Environmental Services Department.
- b. Remove construction barriers and ceiling protection carefully to minimize spreading of dirt and debris associated with construction, outside of normal work hours.
- c. Vacuum work area with HEPA filtered vacuums.
- d. Wet mop area with cleaner/disinfectant.
- e. Upon completion, restore HVAC system where work was performed.

537-17-144 Replace SPS Cart Washer

- f. Return permit to the Contracting Officer Representative.

D. Class IV requirements:

1) During Construction Work:

- a. Obtain permit from the Contracting Officer Representative
- b. Isolate HVAC system in area where work is being done to prevent contamination of duct system.
- c. Complete all critical barriers i.e. sheetrock, plywood, plastic, to seal area from non-work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. Install construction barriers and ceiling protection carefully, outside of normal work hours.
- d. Maintain negative air pressure, 0.01 inches of water gauge, within work site utilizing HEPA equipped air filtration units and continuously monitored with a digital display, recording and alarm instrument, which must be calibrated on installation, maintained with periodic calibration and monitored by the contractor.
- e. Seal holes, pipes, conduits, and punctures.
- f. Construct anteroom and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving work site or they can wear cloth or paper coveralls that are removed each time they leave work site.
- g. All personnel entering work site are required to wear shoe covers. Shoe covers must be changed each time the worker exits the work area.

2) Upon Completion:

- a. Do not remove barriers from work area until completed project thoroughly cleaned, and is inspected by the Contracting Officer Representative and by the VA Environmental Services Department.
- b. Remove construction barriers and ceiling protection carefully to minimize spreading of dirt and debris associated with construction, outside of normal work hours.
- c. Contain construction waste before transport in tightly covered containers.
- d. Cover transport receptacles or carts. Tape covering unless solid lid.
- e. Vacuum work area with HEPA filtered vacuums.
- f. Wet mop area with cleaner/disinfectant.
- g. Upon completion, restore HVAC system where work was performed.
- h. Return permit to the Contracting Officer Representative.

- 5. Barriers shall be erected as required based upon classification (Class III & IV requires barriers) and shall be constructed as follows:

- A. Class III and IV - closed door with masking tape applied over the frame and door is acceptable for projects that can be contained in a single room.

537-17-144 Replace SPS Cart Washer

- B. Construction, demolition or reconstruction not capable of containment within a single room must have the following barriers erected and made presentable on hospital occupied side:
 - 1) Class III & IV (where dust control is the only hazard, and an agreement is reached with the Resident Engineer and Medical Center) - Airtight plastic barrier that extends from the floor to ceiling. Seams must be sealed with duct tape to prevent dust and debris from escaping
 - 2) Class III & IV - Drywall barrier erected with joints covered or sealed to prevent dust and debris from escaping.
 - 3) Class III & IV - Seal all penetrations in existing barrier air-tight.
 - 4) Class III & IV - Barriers at penetration of ceiling envelopes, chases and ceiling spaces to stop movement air and debris.
 - 5) Class IV only - Anteroom or double entrance openings that allow workers to remove protective clothing or vacuum off existing clothing.
 - 6) Class III & IV - At elevators shafts or stairways within the field of construction, overlapping flap minimum of two feet wide of polyethylene enclosures for personnel access.
- 6. Products and Materials:
 - A. Sheet Plastic: Fire retardant polystyrene, 6-mil thickness meeting local fire codes
 - B. Barrier Doors: Self Closing fire-rated solid core steel within steel frame, painted to match adjacent finishes.
 - C. Dust-proof, fire-rated drywall.
 - D. High Efficiency Particulate Air (HEPA)-Equipped filtration machine rated at 95% capture of 0.3 microns including pollen, mold spores and dust particles. HEPA filters should have ASHRAE 85 or other pre-filter to extend the useful life of the HEPA. Provide both primary and secondary filtrations units. Maintenance of equipment and replacement of the HEPA filters and other filters will be in accordance with manufacturer's instructions.
 - E. Exhaust Hoses: Heavy duty, flexible steel reinforced; Ventilation Blower Hose
 - F. Adhesive Walk-off Mats: Provide minimum size mats of 24 inches x 36 inches
 - G. Disinfectant: Hospital-approved disinfectant or equivalent product
 - H. Portable Ceiling Access Module
- 7. Before any construction on site begins, all contractor personnel involved in the construction or renovation activity shall be educated and trained in infection prevention measures established by the medical center.
- 8. A dust control program will be establish and maintained as part of the contractor's infection preventive measures in accordance with the FGI Guidelines for Design and Construction of Healthcare Facilities. Prior to start of work, prepare a plan detailing project-specific dust protection measures with associated product data, including periodic status reports, and submit to the COR for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.
- 9. Medical center Infection Control personnel will monitor for airborne disease (e.g. aspergillosis) during construction. A baseline of conditions will be established by the medical center prior to the

537-17-144 Replace SPS Cart Washer

start of work and periodically during the construction stage to determine impact of construction activities on indoor air quality with safe thresholds established.

10. In general, the following preventive measures shall be adopted during construction to keep down dust and prevent mold.
 - A. Contractor shall verify that construction exhaust to exterior is not reintroduced to the medical center through intake vents, or building openings. HEPA filtration is required where the exhaust dust may reenter the medical center.
 - B. Exhaust hoses shall be exhausted so that dust is not reintroduced to the medical center.
 - C. Adhesive Walk-off/Carpet Walk-off Mats shall be used at all interior transitions from the construction area to occupied medical center area. These mats shall be changed as often as required to maintain clean work areas directly outside construction area at all times.
 - D. Vacuum and 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 it is 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 Resident Engineer 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. 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 1 hour. Remove and dispose of porous materials that remain damp for more than 12 hours.
 - G. 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.
11. Final Cleanup:
 - A. 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.
 - B. 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.
 - C. All new air ducts shall be cleaned prior to final inspection.
12. Exterior Construction
 - A. Contractor shall verify that dust will not be introduced into the medical center through intake vents, or building openings. HEPA filtration on intake vents is required where dust may be introduced.
 - B. Dust created from disturbance of soil such as from vehicle movement will be wetted with use of a water truck as necessary
 - C. All cutting, drilling, grinding, sanding, or disturbance of materials shall be accomplished with tools equipped with either local exhaust ventilation (i.e. vacuum systems) or wet suppression controls.

537-17-144 Replace SPS Cart Washer

1.2 TUBERCULOSIS SCREENING

1. Contractor shall provide written certification that all contract employees assigned to the work site have had a pre-placement tuberculin screening within 90 days prior to assignment to the worksite and been found have negative TB screening reactions. Contractors shall be required to show documentation of negative TB screening reactions for any additional workers who are added after the 90-day requirement before they will be allowed to work on the work site. NOTE: This can be the Center for Disease Control (CDC) and Prevention and two-step skin testing or a Food and Drug Administration (FDA)-approved blood test.
 - A. Contract employees manifesting positive screening reactions to the tuberculin shall be examined according to current CDC guidelines prior to working on VHA property.
 - B. Subsequently, if the employee is found without evidence of active (infectious) pulmonary TB, a statement documenting examination by a physician shall be on file with the employer (construction contractor), noting that the employee with a positive tuberculin screening test is without evidence of active (infectious) pulmonary TB.
 - C. If the employee is found with evidence of active (infectious) pulmonary TB, the employee shall require treatment with a subsequent statement to the fact on file with the employer before being allowed to return to work on VHA property.

1.3 INFECTION CONTROL FOR STERILE ENVIRONMENTS

1. All persons entering sterile environments shall comply with all requirements of the Infection Control Risk Assessment (ICRA) and Permit without exception. Violators shall be escorted from the property, accompanied by the General Contractor's Site Safety and Health Officer (Competent Person) or if the offenders include the Competent Person, then the Superintendent shall also leave. Failure to promptly comply with this requirement will result in VA Police escorting offenders.
2. Never allow eating or drinking within a sterile environment.
3. Do not bring dirty work boots, ladders, tools, materials, and consumables into a sterile environment. Ensure that all such materials are "as-new" clean.
4. Prior to beginning work, erect a dust-tight enclosure around the work area and associated pathway to it from the entrance to the sterile environment. Plan and execute this activity using modular materials and systems specifically made for these purposes. Ensure that the size of the work area accommodates the number of workers planned, their tools, parts, and other necessities, as well as the equipment planned for removal or replacement, and sufficient quantities of HEPA filter units to maintain dust-free air. Ensure that any and all dust or other airborne particulates are contained within the enclosure, and filtered through a HEPA air purification system prior to opening the enclosure. Uncontrolled releases will result in time and expense associated with very detailed cleaning of the effected space at the contractor's expense.
5. Provide within the temporary enclosure a negative pressure environment which employs HEPA air filtration to isolate specific work areas from rest of the space, ensuring that no airborne particulates are released out of the enclosure.
6. Prior to removing equipment or tools from within the enclosure, wrapping them in plastic film is one of the effective ways of ensuring that dirty products are not allowed to contaminate clean areas outside the containment.
7. One the work is complete, and equipment and tools are methodically removed from the containment, the contractor shall use a HEPA-filtered commercial-grade shop vacuum to clean all surfaces within the enclosure prior to breaking it down for removal.

537-17-144 Replace SPS Cart Washer

8. All workers shall utilize sterile environment PPE for the prevention of transmission of infection while working within Surgical Service and SPS. For these activities, the contractor shall provide sufficient quantities of PPE for use by their employees and subcontractors without re-use after leaving the space. Employees are required to don new PPE when they re-enter the space.
9. PPE includes coveralls, boot covers, bouffant caps and surgical masks. Below are explanatory notes and example manufacturers and model numbers. You are free to source the materials from any manufacturer, however, we require pre-submittal of the products you intend to purchase and use, as typical.
 - A. Lint free, sterile disposable Cleanroom Coveralls: Not plastic suits as one would for hazmat, or general purpose suits one would use for painting. Examples: Kimberly Clark KIMTECH PURE A5 Sterile Cleanroom Coverall Code 88803 (25/case), and DuPont IsoClean sterile cleanroom coveralls CRC-IC182-CS (25/case). Important performance factors include anti-static properties, lint production prevention, elastic wrists and ankles. Hoods are not required, and are likely to impede donning of surgical mask and hair (and beard) covers.
 - B. Lint free disposable shoe/boot covers. Examples: Kimberly Clark KIMTECH PURE A8 Code 3971 (300/case), CT International CSC-SCRXL200 or CSC-SCRX200-NS (anti-skid model) (400/case), Criti-Clean Blue Polypropylene anti-skid CSC-P-300-XL or CSC-P-CON (with conductive strip) (300/case).
 - C. Lint free disposable Cleanroom Bouffant Caps. Single ply polypropylene. DuPont Model REG3274 (750/case), or Medline Model CRI1003 or CRI1004 (500/case)
 - D. Lint free disposable surgical masks. Not dust masks used in construction. Pleated adjustment to cover mouth and nose even while talking, and elastic ear loops to secure it to user (vs. tying strings). Example: Kimberly Clark Professional Procedure Mask, Pleat-Style w/Ear Loops, Blue. Part No.: KCC47080 (50/box) or 3M Catalog No. 1826 with similar specs.
10. Prior to commencement of the work, the Contractor shall don special sterile environment PPE defined in this Specification erect a temporary barrier system to contain dust along the route from the door to the work area, sizing the work area sufficiently enabling all planned work without having to modify or repair the wall system.
 - A. The wall system must be dust-tight, affecting a containment. Within the containment the Contractor shall operate and maintain multiple HEPA filtration units to remove airborne particulates within the containment.
 - B. Sterile area personal protective equipment is required to be worn while erecting the containment. If the containment is properly constructed and maintained, the special PPE should no longer be required until removal of the containment begins.
 - C. To help ensure an effective and efficient plan, submit the containment wall system planned for use with this project, along with the HEPA filtration equipment, and a sketch reflecting proposed planning to the COR no less than 21 calendar days prior to commencement of work (and allowing time to procure materials and equipment needed).
 - D. Basis of specification for the system are:
 - Edge Guard (www.edge-guard.com)
 - Hepa Cart (www.hepacart.com)
 - Starc Systems (www.starcsystems.com)
 - Abatement Technologies (www.abatement.com)

537-17-144 Replace SPS Cart Washer

- E. Equipment and systems purchased, rented, or otherwise provided by the Contractor for this project must arrive in like-new (clean) state, and remain so for the duration of use. The equipment and systems shall not be stored at the facility while not in use. VA cannot be responsible for any loss or damage to Contractor property.
- F. Prior to removal of the containment, first ensure that all work is complete, then thoroughly vacuum all surfaces using a commercial-grade HEPA filtered shop-type vacuum cleaner. Inspect for residual dust. Vacuum all surfaces again. Inspect for residual dust. Being certain that there is no residual dust, don special PPE, and then begin methodically disassembling and removing the containment system.

SECTION 01 40 00
QUALITY REQUIREMENTS

Quality Control

FAR 52.232-5 and VAAR 852.236 - 83 *Payments Under Fixed Price Construction Contracts incl. addl. reqmts for Bar Chart Schedule*; 52.236-3 *Site Investigation and Conditions Affecting the Work*; 52.236-5 *Material and Workmanship*, VAAR 852.236-80 *Subcontracts and Work Coordination* incl. Alternate1; 52.236-6 *Superintendence by the Contractor*; 52.236-7 *Permits and Responsibilities*; FAR 52.246-12 and VAAR 852.236-74 *Inspection of Construction*, FAR 52.236-16 *Quantity Surveys* incl. alt. 1; FAR 52.236-17 *Layout of Work*, FAR 52.236-19 *Organization and Direction of the Work*; FAR 52.236-21 incl. alt.1, and VAAR 852.236-71 *Specifications and Drawings for Construction*, VAAR 852.236-77 *Reference to "Standards"*; FAR 52.236-5(a) and VAAR 852.236-90 *Restriction on submission and use of equal products*; FAR 52.246-12 *Inspection of Construction* is supplemented and clarified by the following:

1. Quality Control is defined by the contract documents and associated resources referenced therein.
2. A Quality Control Plan shall be prepared and transmitted to the VA COR for review and approval prior to approval to mobilize.
3. This Scope of Services presents narrative quantitative and qualitative direction and guidance to enable the efficient and compliant delivery of the work.
4. Where questions arise, or opportunities for improvement present themselves, please prepare a request for information and transmit it to the VA right away.
5. At the forefront of the compliance effort is the Project Manager whose prime responsibility is quality in its many forms. Quality, safety, timeliness, profitability, and company sustainability are compromised by the failure of the firm and its management to focus first on quality as a means to their desired ends.
6. Common terminology used in contract terminations for default includes "Failure to provide authoritative oversight and on-site presence in the person of a competent on-site superintendent ensuring adequate quality control and driving the construction schedule to completion of all work including correction of deficiencies... failed to make progress toward completion, poorly managed the project, and provided non-compliant work". (FAR 52.236-6). This shall apply to the PM and the expectations of the team regarding managerial leadership and technical competencies.
7. The contractor is responsible for performing, or having performed, all calculations, independent technical reviews, and other activities necessary to substantiate that the work under this contract conforms to contract requirements, including any applicable technical requirements (Code, regulation, industry standards, specifications, graphic direction, manufacturer's requirements or guidelines, etc.).
8. Where brand names are used within the documents, they are to be expressly presented as performance standards as a basis of specification unless required under specific circumstances, in which case a Sole Source Justification and Analysis will have been performed.
 - A. Alternative equivalents may be presented at the pre-construction / kickoff meeting by preparing in advance the complete technical data for the specified products, and also the products which are to be presented as alternative equivalents, along with an orderly crosswalk document charting the two sets of characteristics side by side.

- B. Where attributes of materials and systems alternatives may differ, reductions shall only be allowed in performance characteristics associated with Non-Critical Factors (the subjective, undefinable).
- C. Critical Factors are objective, and defined by life, safety, and health codes, industry and VA standards, UL or FM fire resistance/combustibility, volatile organic compound (VOC) emissivity (or any other indoor air quality impacting metrics), durability, acoustic performance, energy usage, and similar metrics which are objective and defined empirically.
- D. Where the contractor offers an alternative equivalent which is superior in non-critical or critical factors, the COR shall determine which is the best value to the Government based on objective factors such as lifecycle cost, warranty terms, manufacturer's inclusion of proprietary parts or technologies which effectively lock VA situations where future work could be compromised by exclusivity.

Quality Assurance

FAR Part 46 Quality Assurance; FAR 52.232-5 and VAAR 852.236 - 83 *Payments Under Fixed Price Construction Contracts incl. addl. reqmts for Bar Chart Schedule*; FAR 52.236-3 *Site Investigation and Conditions Affecting the Work*; 52.236-5 *Material and Workmanship*; FAR 52.236-6 *Superintendence by the Contractor*; 52.236-7 *Permits and Responsibilities* and VAAR 852.237-70 *Contractor Responsibilities*; VAAR 852.236-80 *Subcontracts and Work Coordination* incl. Alternate 1, FAR 52.246-12 and VAAR 852.236-74 *Inspection of Construction*, FAR 52.236-16 *Quantity Surveys* incl. Alt. 1, FAR 52.236-17 *Layout of Work*, FAR 52.236-19 *Organization and Direction of the Work*, FAR 52.236-21 incl. Alt.1, and VAAR 852.236-71 *Specifications and Drawings for Construction*, VAAR 852.236-77 *Reference to "Standards"*, FAR 52.236-5(a) and VAAR 852.236-90 *Restriction on submission and use of equal products* is supplemented and clarified by the following:

1. Quality Assurance is the process developed and carried out to ensure compliance with the documents developed under Quality Control.
2. A Quality Assurance Plan shall be prepared and transmitted to the VA COR for review and approval prior to approval to mobilize.
3. All products and systems planned for inclusion in this work shall be submitted by the General Contractor to the COR for review and response within 15 business days.
4. All preliminary submittals shall be submitted within 10 business days of Notice to Proceed (NTP) by the Contracting Officer. The General Contractor will NOT be allowed to mobilize unless and until the VA has approved their submissions for SOV, CPM schedule, safety plan, quality plan, mobilization plan, subcontractor and supplier information, and shop drawings, product data, samples, etc. for the first phase of the work.
5. The COR is willing to plan and conduct a collaborative review session with the general contractor and AE Design Firm, and review the submittal packages in round-table fashion. In the past this has resulted in clearing all, or nearly all submittals within a day or two with contractors who focused on quality as a path toward profitability.
6. If approached and executed correctly, Administrative Closeout should start immediately after Notice to Proceed with the preparation of proper submittals which after approval, updating, use in procurement, and submission become part of the project archive. The same is true of daily reporting and progress photos which are required to be transmitted each day to the COR. Project planning, correspondence, financials, and the as-built drawings, if progressively developed from the beginning of the project, only require a final update at the very end. If the contractor heeds this

advice, the time gap between Conditional Acceptance of the construction, and Administrative Closeout of the contract (including Final Payment) should be quick.

7. Provide a submittal tracker log listing all submittals. Include a column for the Masterformat® number and name, product name, brand, model, date submitted to VA, and date returned from VA. Resubmittals shall be tracked as separate submissions labeled “Resubmission”.
8. General Contractors are responsible for thoroughly reviewing the submittals of each subcontractor, and expecting the same of their subcontractors down through the tiers. A signed and sworn affidavit is required with each submission. If it is not present, reject the submittal.
9. Contractors are required to include a cover sheet listing each submittal (included in a packet if part of a system), along with a signed attestation of compliance. Many contractors fail to properly compile the packages, preferring to assemble them by subcontractor rather than system. An example is a plumbing submittal package missing the mechanical insulation and or firestopping systems.
10. Contractors are required to provide one complete set of shop drawings, product data, product sample, and Safety Data Sheets (aka MSDS), clearly indicating which systems or products are proposed, and which options or characteristics are being selected using the manufacturer’s standard forms.
11. The COR will evaluate each submittal for compliance, and either *Accept* or *Reject* each. There will be no category “*Approved as Noted*” given our collective experience of observing the disregard for notations offered to aid forward movement.
12. Alternatively, the COR has 21 calendar days to review each submittal and respond.
13. Submittals which are rejected shall be resubmitted with corrections. If a submittal is then found to be substantively incomplete or technically noncompliant, the issue shall be turned over to the Contracting Officer for remediation, including but not limited to directing the General Contractor to immediately replace their Project Manager assigned to the project, and replace the offending Subcontractor. Additionally, under 52.246-12, *Inspection of Construction*, this quality assurance effort entitles the Government to charge to the Contractor any additional cost for inspection and re-inspection of the submitted work. Based on experience, contractors who persist in attempting to submit noncompliant work tend to persist in attempting to deliver noncompliant work – often to their own detriment. We do not intend to allow our AE to be victimized by this behavior.
14. Approval of a submittal never constitutes a change to the quantity, quality, cost, or duration of a contract. While this language is clearly essential for inclusion in the construction documents (likely multiple times), it applies equally to the AE and the GC.
15. The contractor is solely responsible for submitting and delivering complete and compliant work. Defective work shall be removed and replaced at the contractor’s expense.
16. Products and systems delivered to the site, and installed in the field, are subject to verification of conformity at any time throughout construction, and even throughout the warranty term (in which they become classified as Latent Defects), and shall be required to be removed and replaced with compliant products and systems immediately and without cost to the Government. Where this occurs as a result of actions, or failure to act on the part of the AE, the AE bears the responsibility.

537-17-144 Replace SPS Cart Washer

Section 01 41 00

Regulatory Requirements

Applicable Publications

VAAR 852.236-77 Reference to “Standards” is supplemented and clarified by the following:

1. Federal Law:

10 CFR 433-436, *Federal Buildings Energy Efficiency Code*, Standards, and Programs

29 CFR 1910, 1926, & 1960 of the *Occupational Safety and Health Act of 1970*, as amended)

- Including CPL 2-00.124 *Multi-Employer Citation Policy*

29 USC 701 et seq., *The Rehabilitation Act* of 1973, as amended

40 USC 601-619, Chapter 12--Construction, Alteration and Acquisition of Public Buildings.
Public Buildings Amendment Act of 1959, as amended (Public Buildings Act)

40 USC 3313, *Use of Energy Efficient Lighting and Fixtures*

42 USC 4151 et seq., *The Architectural Barriers Act* (ABA) of 1968, as amended

42 USC 13201 et seq., *Energy Policy Act of 2005* (EPAct)

42 U.S.C. 12101 et seq., *The Americans with Disabilities Act* (ADA) of 1990, as amended) - 28
CFR part 36 (title III), esp. incl. but not limited to Subpart D – New Construction and Alterations.

Executive Order 13423: *Strengthening Federal Environmental, Energy, and Transportation Management*.

Federal Leadership in High Performance and Sustainable Buildings Memorandum of Understanding (MOU)

OMB Circular No. A-119, *Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities*

2. Compliance with Nationally Recognized Codes and Standards:

VA has adopted the latest edition of nationally recognized codes and standards as a minimum requirement for all projects performed in the modernization, alteration, addition, or improvement of its real property and the construction of new structures.

VA Design Manuals and Master Specifications specify codes and standards expected to be followed on its projects. In all cases, regardless of edition cited within VA Design Manuals and Master Specifications, the most current edition published at the time the contract is executed shall apply.

By no means can it be practical to list each and every consensus standard, nor should it be necessary. Federal Acquisition Regulations require each contractor bidding a project to maintain a greater than working knowledge of the science, technologies, and best practices governing the work.

Should a conflict exist between VA requirements elaborated within Design Manuals and Master Specifications, and nationally recognized codes and standards, the conflict shall be brought to the attention of VA. The resolution of the conflict shall be made by the Authority Having Jurisdiction – which for this facility is the Chief, Engineering Service.

Local Codes:

As an agency of the federal government, VA is not subject to local imposition of code enforcement procedures such as drawing reviews, building permits, inspections, fees, etc. VA must function as the Authority Having Jurisdiction (AHJ) and thus has the responsibility to guard public health and safety through enforcing its adopted codes. In select cases VA may elect to notify local authorities about

537-17-144 Replace SPS Cart Washer

planned projects and offer the opportunity to review drawings provided that VA does not pay for review or inspection fees.

American Concrete Institute (ACI):

- ACI 318 *Building Code Requirements for Structural Concrete and Commentary*
- ACI 701 *Materials for Concrete Construction*
- ACI 706 *Repair Application Procedures*

American Institute of Steel Construction (AISC):

Manual of Steel Construction, Load and Resistance Factor Design Specifications for Structural Steel Buildings

American Society of Civil Engineers (ASCE) as applicable

American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)

- ASHRAE 15 *Safety Standard for Refrigeration Systems*
- ASHRAE 62.1 *Ventilation for Acceptable Indoor Air Quality*
- ASHRAE 170 *Ventilation of Health Care Facilities* (incl. mult. Appendixes incl. by ref. by FGI/TJC)

American Society of Mechanical Engineers (ASME):

- ASME A 17.1 *Safety Code for Elevators and Escalators*
- ASME Boiler and Pressure Vessel Code*
- ASME Code for Pressure Piping*

American Society of Safety Engineers (ASSE):

- A10.1 *Pre-Project & Pre-Task Safety and Health Planning*
- A10.6 *Safety & Health Program Requirements for Demolition Operations*
- A10.8 *Safety Requirements for Scaffolding*
- A10.34 *Protection of the Public on or Adjacent to Construction Sites*
- A10.38 *Basic Elements of an Employer's Program to Provide a Safe & Healthful Work Environment*
- Z117.1 *Safety Requirements for Confined Spaces*
- Z244.1 *Control of Energy Sources (Lockout/Tagout) for Construction & Demolition Operations*
- Z359 *Fall Protection Code*
- Z490.1 *Criteria for Accepted Practices in SH&E Training*

American Society of Testing and Materials (ASTM)

- E84-2013 *Surface Burning Characteristics of Building Materials*

International Code Council (ICC):

- International Energy Conservation Code (IECC) 2015
- International Fire Code (IFC) 2015

537-17-144 Replace SPS Cart Washer

International Building Code (IBC) 2015

International Green Construction Code (IgCC) 2015

International Plumbing Code (IPC) 2015

International Mechanical Code (IPC) 2015

National Fire Protection Association (NFPA):

| | |
|----------|--|
| NFPA 1 | <i>Fire Code</i> |
| NFPA 10 | <i>Standard for Portable Fire Extinguishers</i> |
| NFPA 30 | <i>Flammable and Combustible Liquids Code</i> |
| NFPA 51B | <i>Standard for Fire Prevention During Welding, Cutting and Other Hot Work</i> |
| NFPA 70 | <i>National Electric Code</i> |
| NFPA 70B | <i>Recommended Practice for Electrical Equipment Maintenance</i> |
| NFPA 70E | <i>Standard for Electrical Safety in the Workplace</i> |
| NFPA 99 | <i>Health Care Facilities Code</i> |
| NFPA 101 | <i>Life Safety Code</i> |
| NFPA 241 | <i>Standard for Safeguarding Construction, Alteration, and Demolition Operations</i> |

3. US Department of Veterans Affairs:

A. VHA Directive 2011-036 *Safety and Health During Construction*:

Requires inclusion of FAR Clause 52.236-13, *Accident Prevention* in all construction contracts with paragraph f as prescribed in the clause. Additionally, VAAR 836.513, *Accident Prevention* requires the inclusion of VAAR Clause 852.236-87, *Accident Prevention* with the above mentioned FAR Clause.

B. VHA Directive 2008-052 *Smoke-Free Policy for VA Health Care Facilities*

C. VHA Handbook 1042.01 Criteria and Standards for VA Dialysis Programs (May 23, 2016):

http://www.va.gov/vhapublications/ViewPublication.asp?pub_ID=3205

D. VHA Directive 1116(2) Sterile Processing Services (SPS) March 23, 2016:

https://www.va.gov/vhapublications/ViewPublication.asp?pub_ID=3186

E. VA Office of Construction and Facilities Management, Technical Information Library

(<http://www.cfm.va.gov/til/>)

- 1) Master Specification Templates associated with each part of the work, identified and cataloged using Masterformat® and Sectionformat®, especially with regard to general requirements, referenced applicable publications specific to each system, assembly, or product, and submittal/shop drawing preparation and submission.
<http://www.cfm.va.gov/til/spec.asp> Edit to project-specific requirements.
- 2) VA Seismic Design Requirements, H-18-8 (where applicable)
- 3) Design Guides for mechanical, electrical, plumbing, fire protection, data and communication infrastructure, etc. which should apply to any project being planned within a VA medical center. <http://www.cfm.va.gov/til/dManual.asp>
- 4) VA Design Review Checklists per <http://www.cfm.va.gov/til/aeDesSubReq.asp> and

537-17-144 Replace SPS Cart Washer

<http://www.cfm.va.gov/til/alert.asp> and

<http://www.cfm.va.gov/til/criteria.asp>

- 5) VA CAD standards and details per <http://www.cfm.va.gov/til/projReq.asp>. No custom or special fonts.
4. Government agencies other than VA which propagate research, guidance, and standards for industry performance (and in some cases enforce these), as applicable to materials, equipment, machines, processes, systems, or other regulated modes and methods associated design, construction, testing, and maintenance of health care facilities:

Centers for Disease Control and Prevention (CDC)

Recommendations for Preventing Transmission of Infections Among Chronic Hemodialysis Patients

2011 Guidelines for the Prevention of Intravascular Catheter-Related Infections

Centers for Medicare and Medicaid Services (CMS)

Department of Labor, including Occupational Safety and Health Administration (OSHA), and Wage and Hour Division.

Environmental Protection Agency (EPA)

Food and Drug Administration (FDA)

National Institutes of Health (NIH)

Nuclear Regulatory Commission (10 CFR 20 *Standards for Protection Against Radiation*)

5. The Joint Commission:

Comprehensive Accreditation and Certification Manual

6. Facilities Guidelines Institute:

2014 Guidelines for the Design and Construction of Hospitals and Outpatient Clinics

7. Medical Industry Standards:

Association for Professionals in Infection Control and Epidemiology (APIC)

APIC Text of Infection Control and Epidemiology (2015)

American National Standard Institute (ANSI) / Association for the Advancement of Medical Instrumentation (AAMI)

Association of Perioperative Registered Nurses (AORN) publishes standards and recommended practices to ensure safe patient care and a safe work environment in all settings where surgical and other invasive procedures are performed.

8. Certain City of Chicago and Chicago Medical District requirements apply regarding planning exterior work with facades, or around the grounds, and especially where the work connects to city utilities, public walks and drives, etc.

SECTION 01 42 16

DEFINITIONS, ABBREVIATIONS, AND ACRONYMS

FAR 46.101 and FAR 52.202-1 *Definitions* is supplemented and clarified by the following:

1. *Acceptance and Final Completion*: Occurs only when the Contracting Officer specifically accepts the work in writing, indicating that all parts of the contract, except the required warranty term support, are complete without exception, including all field work, all administrative closeout documentation, and Release of Claims (in addition to other open deliverables required of the Contracting Officer). Releases *Final Payment* for the outstanding balance, or balance withheld for incomplete items.
2. *Activity*: A distinct, scheduled portion of work performed during the course of a project, typically representing a number of associated Tasks.
3. *Conditional Acceptance* means acceptance of supplies or services that do not conform to contract quality requirements, or are otherwise incomplete, that the contractor is required to correct or otherwise complete by a specified date.
4. *Contracting Officer*: As described at VAAR 852.236-78 *Government Supervision*: The VA Contracting Officer is the one person with the authority to enter into, administer, and/or terminate contracts and make related determinations and findings, and may fulfill the role of Administrative Contracting Officer or Termination Contracting Officer unless others are assigned those duties.

Reference in regulation (48 CFR Chapter 1) to administrative contracting officer or termination contracting officer does not—
 - A. Require that a duty be performed at a particular office or activity; or
 - B. Restrict in any way a contracting officer in the performance of any duty properly assigned.
5. *Contract Quality Requirements*: means the technical requirements in the contract relating to the quality of the product or service and those contract clauses prescribing inspection, and other quality controls incumbent on the contractor, to assure that the product or service conforms to the contractual requirements.
6. *COR: Contracting Officer's Representative*: As described at VAAR 852.236-78 *Government Supervision*: The VA employee designated and authorized in writing by the Contracting Officer to act as resident engineer at the construction site, perform specific technical or administrative functions for the Contracting Officer, as defined in the COR Delegation signed by the Contracting Officer and the Contractor. Under no circumstances shall any direction, guidance, or other communication, expressed or implied by any architect, engineer, consultant, or VA employee other than the Contracting Officer conflict with or change contract requirements.
7. *Critical Path*: The sequence of activities that represents the longest path through a project, which determines the shortest possible duration. By definition, changes to the early start, or late finish of these activities can change the project completion date.
8. *Critical Path Activity*: Any activity on the critical path in a project schedule.
9. *Critical Path Method (CPM)*: A method used to estimate the minimum project duration and determine the amount of scheduling flexibility on the logical network paths within the schedule model.
10. *Day*: Unless otherwise specified, a calendar day, noting that in many cases associated with short-term deliverables such as submittal reviews, etc., will be adjusted to accommodate government holidays.

537-17-144 Replace SPS Cart Washer

11. *Gantt Chart*: a bar chart of schedule information where activities are listed on the vertical axis, start and finish dates are shown on the horizontal axis, and a series of horizontal lines shows the amount of work done or production completed in certain periods of time in relation to the amount planned for those periods.
12. *Government contract quality assurance*: means the various functions, including inspection, performed by the Government to determine whether a contractor has fulfilled the contract obligations pertaining to quality and quantity.
13. *JBVAMC*: Jesse Brown Veterans Affairs Medical Center, or Jesse Brown VAMC.
14. *Latent Defect*: a defect in the contractor's work that was latent or hidden, that was not discovered during inspections leading up to final acceptance, and therefore by nature excluded from Final Acceptance and even the limits of the warranty term (applicable statute limitations).
15. *Major nonconformance*: means a nonconformance, other than critical, that is likely to result in failure of the supplies or services, or to materially reduce the usability of the supplies or services for their intended purpose.
16. *Minor Nonconformance*: means a nonconformance that is not likely to materially reduce the usability of the supplies or services for their intended purpose, or is a departure from established standards having little bearing on the effective use or operation of the supplies or services.
17. *Milestone*: A significant point or event in a project, program, or portfolio, occurring along the critical path, reflected as having no time or cost value, graphically depicted as a diamond-shaped object in bar charts, generally indicating the start or completion of a phase, or attainment of an essential resource or activity completion.
18. *Patent defect* means any defect which exists at the time of acceptance and is not a latent defect.
19. *Provide*: Includes as a minimum Supply (and similarly Furnish): Delivering materials, systems, equipment, to the customer which may be commercial off-the-shelf, custom fabricated, pre-assembled, designed, tested, or other activities of value in order to make ready for installation and use; *Install*: Management/supervision, labor, misc. materials, and equipment required to complete the construction, assembly, installation, etc. of materials, systems, equipment supplied, including testing and certification, etc. to result in a complete system or project fit for purpose and meeting all customer expectations; *Warranty*: Process and procedure for the General Contractor to pay for and deliver management/supervision, materials, labor, and services required in response to materials, systems, equipment, failures to perform as required by the customer with a fixed period of time at no additional cost to the customer. (adapted from CSI Manual of Practice)
20. *Schedule Baseline*: (or Baseline Schedule) The approved version of a schedule model that can be changed only through formal change control procedures and is used as a basis for comparison to actual results.
21. *Substantially Complete*: Is determined by the VA based on the work meeting all requirements of the contract, which by definition are the requirements for the work to meet its intended purpose. If there is a punch list, and the contractor delays turnover causing the government to begin moving into the space, and either the work or parts of the work are incomplete, or staff must vacate to allow the contractor to complete their work at a later date, even if temporarily, the space by definition is not fit for purpose. Too many contractors fall into the trap of allowing their subcontractors to demobilize and disengage in the work prior to its completion, and compound this error with failure to deliver complete and compliant closeouts.

When the field and administrative work described in the contract is complete, including fulfillment of punch list items describing deficient and incomplete work, cleanup, certifications, inspections, O&M

537-17-144 Replace SPS Cart Washer

manuals, as-built drawings, VA maintenance employee orientation and or system-specific training (required of all MEP/FP and biomedical systems work), warranty documents (projecting the start date out to Acceptance and Final Completion, are complete throughout the common and other areas of the building, and all other things necessary for the Government's access to the premises and occupancy, possession, use for intended purpose and enjoyment thereof, have been completed or obtained, excepting only such minor matters as do not interfere with or materially diminish such access, occupancy, possession, use or enjoyment. While the Government may intermittently or progressively move into or make use of the work (equipment, space, etc.), the contractor shall be allowed reasonable access to it in order to complete deficient or incomplete items during non-business hours. The Government shall withhold payment for incomplete work equal in value to the projected cost for the Government to perform the work or retain others to complete the work. Upon successful completion of all requirements, the Government shall release withheld funds and issue Acceptance and Final Completion per 52.237-4 *Payment by Government to Contractor*, at which time the warranty(s) shall commence.

22. *Task*: Finite or specific parts of an activity typically performed by one trade, for no more than one or two days, which are often planned and executed with other tasks to form an Activity.
23. *VAAR*: VA Acquisition Regulations propagated under Title 48, Chapter 8. Reference: <http://www.va.gov/oal/library/vaar/>