



**TEST FIRE DAMPERS**

**437-23-150**

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**REVIEWED BY**

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**VA**

**U.S. Department of  
Veterans Affairs**

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**DEPARTMENT OF VETERANS AFFAIRS  
VHA PROJECT SPECIFICATIONS**

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**SECTION 00 01 15**  
**LIST OF DRAWINGS**

The Drawings listed below and the Scope of Work (SOW) are to accompany this specification, and be included as part of the contract documents.

**Scope of Work (SOW)**: The SOW requirements are not included in the specification.

<b><u>Drawing Number:</u></b>	<b><u>Drawing Sheet Name</u></b> <span style="float: right;"><b><u>(7 Sheets):</u></b></span>
COVER	Campus Site Plan/Drawing Index
FD-0	Fire Damper Locations, Basement Floor
FD-1	Fire Damper Locations, First Floor
FD-2	Fire Damper Locations, Second Floor
FD-3	Fire Damper Locations, Third Floor
FD-4	Fire Damper Locations, Fourth Floor
FD-5	Fire Damper Locations, Fifth Floor

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**SECTION 00 01 20**  
**SCOPE OF WORK SUMMARY**

**1. PART I - GENERAL, SCOPE OF CONTRACT**

**A. Work Requirements:**

The Contractor shall provide all labor, materials, and equipment to accomplish the project per the construction Drawings, Specifications, and Scope of Work (SOW) document. The Scope of Work (SOW) and Drawings are separate attachments to these project specifications. Collectively, they outline the extent of work, and the execution and work-quality requirements. The project work includes, but is not limited to the following items:

1. Demolition: Reference project documents. Provide demolition work as outlined, and as required to facilitate the new work.
2. Disposal: On a daily basis, remove from the VA facility and dispose of all material not scheduled to be reused.
3. New Construction (Replacement): Reference project documents. Install work at areas noted in Drawings, and as outlined in specifications.
4. Project Coordination: Demolition and installation requires planning and coordination to minimizing facility disruptions. Work is occurring within a medical facility. Infection disease controls setup, and noise and vibration impacts, shall be accounted for in the schedule. Demolition shall not occur unless all new materials required are on site. In some instances, demo and install shall be required on the same day, to minimize facility disruptions.

**B. Tentative Schedule: (Calendar Days)**

Contract award <b>(D)</b>	June 2024
Pre-construction conference	D+15
Administrative Notice to Proceed (A-NTP)	D+25
Final Notice to Proceed <b>(NTP)</b>	TBD (July/Aug)
Construction Start <i>(No later than)</i>	NTP+15
Construction Completion	NTP+150 (Dec/Jan)

**C. Cost Range:**

1. The anticipated cost range for this project is \$100K to \$300K.

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**SECTION 01 00 00  
GENERAL REQUIREMENTS**

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

**1.1 GENERAL INTENTION**

- A. Contractor shall completely prepare and perform work at each marked area. Construction activities are to include the safety requirement preparation and staggging, demolition and removal of existing materials, finish work, and furnishing all the labor and materials required for the project. Updates shall be as required by these Specifications, and the attached Drawings and Scope of Work.
- B. Visits to the site by Bidders are to be scheduled through Contracting OFFICE ONLY. Only one organized site visit shall be conducted per FAR 52.26.27 Alternate 1.
- C. All employees of general contractor and subcontractors shall comply with VA security management program and obtain permission of the VA police. Each employee shall be identified by project and employer. Access shall be limited to work locations, as coordinated with COR.

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

- A. Base Bid: Work shall include, but not be limited to the following: planning, scheduling, and coordination; equipment, materials, and labor; general construction work; demolition; fabrication; and, installation of piers, fill material, steel, and concrete. The Base Bid shall include the total cost for all work as outlined in the Scope of Work (SOW), Drawings, and Specifications.

**1.3 SPECIFICATIONS AND DRAWINGS FOR CONTRACTOR**

- A. Drawings and contract documents may be obtained from the website where the project solicitation is posted. Any additional copies will be at Contractor's expense.

**1.4 CONSTRUCTION SECURITY REQUIREMENTS**

- A. Security Plan:
  - 1. The security plan defines both physical and administrative security procedures that will remain effective for the duration of project.
  - 2. The General Contractor is responsible in assuring that all workers, including subcontractors and their employees, comply with regulations.
- B. Security Procedures:
  - 1. General Contractor's employees shall not enter the project site without appropriate badge. They may be subject to inspection of their personal effects when entering or leaving the project site.

2. Before starting work, the General Contractor shall give a two week notice to the Contracting Officer so security arrangements can be provided for the employees. This notice is separate from notices required for utility shutdowns, as described later in this section.
3. No photography of VA premises is allowed without written permission from the Contracting Officer.
4. VA reserves the right to close or shut down the project site and order General Contractor's employees off the premises, should such an actions be required in the event of a national emergency. The General Contractor may return to the site only with the written approval of the Contracting Officer.

C. Key Control:

1. The Contractor shall utilize seven pin Best Corporation cores, matching what is in use at the Fargo VA, and provides keys, to Contracting Officers Representative (COR) for the purpose of security inspections, for every project area. This includes both General Contractor and Subcontractor tool and storage boxes, and parked machinery. The COR my utilize for emergency action.
2. The General Contractor shall turn over all permanent lock cylinders to the VA locksmith for permanent installation.

D. Document Control:

1. The General Contractor is responsible for the safekeeping of all drawings, project manual and other project information. This information shall be shared only with individuals with a specific need to know as required to accomplish the project.
2. These security documents shall not be removed or transmitted from project site, without the written approval by Contracting Officer.
3. All paper waste or electronic media such as CD's and diskettes shall be shredded and destroyed in a manner acceptable to the VA.

#### **1.5 OPERATIONS AND STORAGE AREAS**

- A. The Contractor shall confine all operations (including storage of materials) on Government premises to areas authorized or approved by the Contracting Officer. The Contractor shall hold and save the Government, and it's officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance.

- B. Temporary buildings (e.g., storage sheds, shops, offices) and utilities may be erected by Contractor only with approval of Contracting Officer, and shall be built with labor and materials furnished by the Contractor without expense to the Government. The temporary buildings and utilities shall remain the property of Contractor and shall be removed by the Contractor at its expense, upon completion of work. With written consent of Contracting Officer, the buildings and utilities may be abandoned.
- C. The Contractor shall, under regulations prescribed by the Contracting Officer, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Contracting Officer. When materials are transported in prosecuting the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any Federal, State, or local law or regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks, or roads.
- E. Workers are subject to Medical Center rules related to their conduct.
- F. Execute work so as to interfere as little as possible with the normal functioning of the Medical Center, including operations of equipment, utility services, fire protection systems, and employee work functions.
- G. Use of equipment and tools that transmit vibrations and noises through the building structure, are not permitted in buildings that are occupied by patients and/or medical personnel. Deviation from this approach may be allowable with prior written approval by VA Contracting Officer or COR.
- H. Do not store materials and equipment in other than assigned areas.
- I. Schedule delivery of materials and equipment to immediate construction areas within buildings, in limited quantities, so negative impacts on work areas and staging areas do not result. Maintain unobstructed access to the Medical Center.
  - 1. Storage of construction materials and equipment will be permitted at designated areas, subject to fire and safety requirements.



J. Phasing / Sequence of Work:

1. The Medical Center must maintain its operation 24 hours a day 7 days a week. Therefore, any interruption in service must be scheduled and coordinated with the COR, to ensure no lapses in operation occur. While work occurring in this project should not impact utilities, other general disruption will occur. It is the Contractor's responsibility to develop a work plan to account for all service and utility outages, and to account for disruptions to egress and building circulation. The work plan shall identify time durations for disruptions, by location. It shall outline any utility and service disruptions, and note interim life safety measures to be used during construction.
2. To ensure such executions, Contractor shall furnish the COR with a schedule of approximate dates on which the Contractor intends to accomplish the work. In addition, Contractor shall notify the COR two weeks in advance of the proposed date of starting work in each specific area of site, building or portion thereof. Arrange such dates to ensure accomplishment of this work in successive phases mutually agreeable to COR and Contractor.

J. When a building and/or construction site is turned over to Contractor, Contractor shall accept entire responsibility including upkeep and maintenance therefore:

1. Contractor shall maintain in operating condition existing fire protection and alarm equipment, or make provision to ensure smoke detectors are turned off while Contractor is working and restored when not working. In connection with fire alarm equipment, Contractor shall make arrangements for pre-inspection of site with Fire Department or Company (Department of Veterans Affairs or municipal) whichever will be required to respond to an alarm from Contractor's employee or watchman.

K. To minimize interference of construction activities with flow of Medical Center traffic, comply with the following:

1. Keep roads, walks and entrances to grounds, to parking and to occupied areas of buildings clear of construction materials, debris and standing construction equipment and vehicles.

L. Coordinate the work for this contract with other construction operations as directed by COR. This includes the scheduling of traffic and the use of roadways.

**1.6 DISPOSAL AND RETENTION**

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

**1.7 RESTORATION**

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

**1.8 LAYOUT OF WORK**

- A. The Contractor shall lay out the work from Government established base lines and benchmarks, indicated on the drawings or in the SOW, and shall be responsible for all measurements in connection with the layout. The Contractor shall furnish, at Contractor's own expense, all templates, platforms, equipment, tools, materials, and labor required to lay out any part of the work. The Contractor shall be responsible for executing the work to the lines and grades that may be established or indicated by the Contracting Officer. The Contractor shall also be responsible for maintaining and preserving all stakes and other marks established by the Contracting Officer until authorized to remove them. If such marks are destroyed by the Contractor or through Contractor's negligence before their removal is authorized, the Contracting Officer may replace them and deduct the expense of the replacement from any amounts due or to become due to the Contractor.

(FAR 52.236-17)

**1.9 AS-BUILT DRAWINGS**

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

**1.10 WARRANTY MANAGEMENT**

- A. Warranty Management Plan: Develop a warranty management plan which contains information relevant to FAR 52.246-21 Warranty of Construction in at least 30 days before the planned pre-warranty conference, submit one set of the warranty management plan. Include within the warranty management plan all required actions and documents to assure that the Government receives all warranties to which it is entitled. The plan must be in narrative form and contain sufficient detail to render it suitable for use by future maintenance and repair personnel, whether tradesman, or of engineering background, not necessarily familiar with this contract. The term "status" as indicated below must include due

date and whether item has been submitted or was approved. Warranty information made available during the construction phase must be submitted to the Contracting Officer for approval prior to each monthly invoice for payment. Assemble approved information in a binder and turn over to the Government upon acceptance of the work. The construction warranty period will begin on the date of the project acceptance and continue for the product warranty period. A joint 4 month and 9 month warranty inspections will be conducted, measured from time of acceptance, by the Contactor and the Contracting Officer. Include in the warranty management plan, but not limited to, the following:

1. Roles and responsibilities of all personnel associated with the warranty process, including contacts and telephone numbers for the Contractor, subcontractors, manufacturers or suppliers involved.
2. Furnish with each warranty the name, address and telephone number of each of the guarantor's representatives nearest project location.
3. Listing and status of delivery of all Certificates of Warranty for extended warranty items, to include roofs, HVAC balancing, pumps, motors, transformers and for all commissioned systems such as fire protection and alarm systems, sprinkler systems and lightning protection systems, etc.
4. The plans for attendance at the 4 and 9-month post construction warranty inspections conducted by the government.

B. Performance Bond: Bond to remain effective throughout construction.

1. In the event the Contractor fails to commence and diligently pursue any construction warranty work required, the Contracting Officer will have the work performed by others, and after completion of the work, will charge the remaining construction warranty funds of expenses incurred by the Government while performing the work, including, but not limited to administrative expenses.
2. In the event sufficient funds are not available to cover the construction warranty work performed by the Government at the contractor's expenses, the Contracting Officer will have the right to recoup expenses from the bonding company.
3. Following oral or written notification of required construction warranty repair work, the Contractor shall respond in a timely manner. Written verification will follow oral instructions. Failure to respond will be cause for the Contracting Officer to proceed against the Contractor.

- C. Pre-Warranty Conference: Prior to contract completion, and at a time designated by the Contracting Officer, the Contractor shall meet with the Contracting Officer to develop a mutual understanding with respect to the requirements of this section. Communication procedures for Contractor notification of construction warranty defects, priorities with respect to the type of defect, reasonable time required for Contractor response, and other details deemed necessary by the Contracting Officer for the execution of the construction warranty will be established/ reviewed at this meeting. In connection with these requirements and at the time of the Contractor's quality control completion inspection, furnish the name, telephone number and address of a licensed and bonded company which is authorized to initiate and pursue construction warranty work action on behalf of the Contractor. This point of contract will be located within the local service area of the warranted construction, be continuously available and be responsive to Government inquiry on warranty work action and status. This requirement does not relieve the Contractor of any of its responsibilities in conjunction with other portions of this provision.
- D. Contractor's Response to Construction Warranty Service Requirements: Following oral or written notification by the Contracting Officer, the Contractor shall respond to construction warranty service requirements in accordance with the "Construction Warranty Service Priority List" and the three categories of priorities listed below. Submit a report on any warranty item that has been repaired during the warranty period. Include within the report the cause of the problem, date reported, corrective action taken, and when the repair was completed. If the Contractor does not perform the construction warranty within the timeframe specified, the Government will perform the work and back charge the construction warranty payment item established.
1. First Priority Code 1. Perform onsite inspection to evaluate situation, and determine course of action within 4 hours, initiate work within 6 hours and work continuously to completion or relief.
  2. Second Priority Code 2. Perform onsite inspection to evaluate situation, and determine course of action within 8 hours, initiate work within 24 hours and work continuously to completion or relief.
  3. Third Priority Code 3. All other work to be initiated within 3 work days and work continuously to completion or relief.

**1.11 USE OF ROADWAYS**

- A. For hauling, use only established public roads and roads on Medical Center property.
- B. When certain buildings (or parts of certain buildings) are required to be completed in advance of general date of completion, all roads leading thereto must be completed and available for use at time set for completion of such buildings or parts thereof.

**1.12 TEMPORARY TOILETS**

- A. Contractor may have for use of Contractor's workers, such toilet accommodations as may be assigned to Contractor by Medical Center. Contractor shall keep such places clean and be responsible for any damage done thereto by Contractor's workers. Failure to maintain satisfactory condition in toilets will deprive Contractor of the privilege to use such toilet access.

**1.13 AVAILABILITY AND USE OF UTILITY SERVICES**

- A. The Government shall make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the contract. The Contractor shall carefully conserve any utilities furnished without charge.
- B. The Contractor, at Contractor's expense and in a workmanlike manner, in compliance with code and as satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines for use of electricity. Before final acceptance of the work by the Government, the Contractor shall remove all the temporary connections, distribution lines, and other associated paraphernalia and restore the infrastructure as required.
- C. Water (for Construction and Testing): Furnish temporary water service.
  - 1. Obtain water by connecting to the Medical Center water distribution system. Provide reduced pressure backflow preventer at each connection, per code. Water is available at no cost to Contractor.
  - 2. Maintain connections, pipe, fittings, drains, and fixtures, and conserve water-use so none is wasted. Failure to stop leakage or other wastes will be cause for revocation (at COR discretion) of use of water from Medical Center's system.

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**SECTION 01 32 16  
PROJECT SCHEDULES**

**PART 1- GENERAL**

**1.1 DESCRIPTION:**

- A. The Contractor shall develop a plan and schedule demonstrating fulfillment of the contract requirements (Project Schedule). The Project Schedule shall be kept up-to-date in accordance with the requirements of this section and shall be utilized for coordinating and monitoring of work under this contract, including all activities of subcontractors and suppliers.

**1.2 CONTRACTOR'S REPRESENTATIVE:**

- A. The Contractor shall designate an authorized representative responsible for the Project Schedule including preparation, review, and progress reporting to the Contracting Officer's Representative (COR).
- B. The Contractor shall have the option of developing the project schedule within their organization, or utilizing a scheduling consultant.

**1.4 COMPUTER PRODUCED SCHEDULES**

- A. The contractor shall provide an updated schedule on a monthly basis, and a three-week look ahead at each construction meeting. Provide schedule to the VA Contracting Officer's Representative (COR).

**1.5 THE COMPLETE PROJECT SCHEDULE SUBMITTAL**

- A. Draft Schedule: A draft schedule shall be developed during the administrative notice to proceed period. This will enable the initial (interim) project schedule, required as per the timeline noted below, to be ready for a formal submission and approval shortly after the full and formal project Notice to Proceed (NTP).
- B. Interim Project Schedule: Within 15 calendar days after receipt of Notice to Proceed, Contractor shall submit for the COR/Contracting Officer's review; an electronic schedule. The submittal shall also include a computer-based activity or event schedule, showing work durations; phase completion dates; and other data, including each work event cost. As alternative, the cost per each event requirement could be satisfied via the approved Schedule of Values (SOV).
- C. Within 15 calendar days after receipt of the project interim schedule the Contracting Officer will do one or both of the following:

1. Notify Contractor concerning his actions, opinions, and objections.
  2. Review with the Contractor any questions, correction, or adjustment of the proposed plan, if required. Within 14 calendar days after the joint review, Contractor shall revise and shall submit a revised electronic file. The revised submission will be reviewed by the Contracting Officer again, and if found to be as previously agreed upon, will be approved.
- D. An updated Project Schedule shall be provided monthly and shall contain contract changes and delays, which may have been incurred during the project. These changes, or delays, shall be entered into each monthly update. The Contractor should include their requests for time extensions to the contract in responses proposal requests. Request for Information (RFI) may also include insight into the potential for delays based on unforeseen site issues, contract documents issues or updates, or other potential claim type items.

#### **1.7 PROJECT SCHEDULE REQUIREMENTS**

- A. Show on the schedule the sequence of work activities/events required for complete performance of all work items. The Contractor Shall:
1. Show activities/events as:
    - a. Contractor's time required for shop drawing submittals, templates, fabrication, delivery and other similar pre-construction work.
    - b. Contracting Officer's review and approval of shop drawings, equipment schedules, samples, templates, or other similar pre-construction and construction items.
    - c. Interruption of VA Facilities utilities, delivery of Government furnished equipment, and rough-in drawings, project phasing and any other specification requirements.
    - e. VA inspection and acceptance activity/event with minimum durations of five workdays at the end of each phase and immediately preceding any VA move activity required by contract phasing for that phase.
  2. Show not only the activities/events for actual construction work for each trade category of the project, but also trade relationships to indicate the movement of trades from one area, floor, or building, to another area, floor, or building, for at least five trades who are performing major work under this contract.
  3. Break up the work activities durations of no more than 5 days.



4. Describe work activities/events clearly, so the work is readily identifiable for assessment of completion. Activities/events labeled "start," "continue," or "completion," are not specific and will not be allowed. Lead and lag time activities will not be acceptable.
  5. The schedule shall be generally numbered in such a way to reflect either discipline, phase or location of the work.
- B. To the extent that the Project Schedule or any revised Project Schedule shows anything not jointly agreed upon, it shall not be deemed to have been approved by the COTR. Failure to include any element of work required for the performance of this contract shall not excuse the Contractor from completing all work required within any applicable completion date of each phase regardless of any prior approval.

**1.8 PAYMENT TO THE CONTRACTOR:**

- A. Monthly, the contractor shall submit an application and certificate for payment using VA Form 10-6001a or AIA application and certificate for payment documents G702 & G703, as requested by the Contracting Officer, reflecting updated schedule activities and cost data in accordance with the provisions of the following Article, PAYMENT AND PROGRESS REPORTING. The Contractor shall be entitled to a monthly progress payment upon approval of estimates as determined from the currently approved updated project schedule. Monthly payment requests shall include: a listing of all agreed upon project schedule changes and associated data; and an electronic file (s) of the resulting monthly updated schedule.
- B. Approval of the Contractor's monthly Application for Payment shall be contingent, among other factors, on the submittal of a satisfactory monthly update of the project schedule.

**1.9 RESPONSIBILITY FOR COMPLETION**

- A. If it becomes apparent from the current revised monthly progress schedule that phasing or contract completion dates will not be met, the Contractor shall execute some or all of the following remedial actions:
1. Increase construction manpower in such quantities and crafts as necessary to eliminate the backlog of work.
  2. Increase the number of working hours per shift, shifts per working day, working days per week, the amount of construction equipment, or any combination of the foregoing to eliminate the backlog of work.
  3. Reschedule work in conformance with the specification requirements.

- B. Prior to proceeding with any of the above actions, the Contractor shall notify and obtain approval from the COTR for the proposed schedule changes. If such actions are approved, the representative schedule revisions shall be incorporated by the Contractor into the Project Schedule before the next update, at no additional cost to Government.

**1.10 ADJUSTMENT OF CONTRACT COMPLETION**

- A. The contract completion time will be adjusted only for causes specified in this contract. Request for an extension of the contract completion date by the Contractor shall be supported with a justification, CPM data and supporting evidence as the COTR may deem necessary for determination as to whether or not the Contractor is entitled to an extension of time under the provisions of the contract. Submission of proof based on revised activity/event logic, durations (in work days) and costs is obligatory to any approvals. The schedule must clearly display that the Contractor has used, in full, all the float time available for the work involved in this request. The Contracting Officer's determination as to the total number of days of contract extension will be allowed based upon the current computer-produced calendar-dated schedule for the time periods in question.
- B. Actual delays in activities/events which, according to the computer-produced calendar-dated schedule, do not affect the extended and predicted contract completion dates shown by the critical path in the network, will not be the basis for a change to the contract completion date. The Contracting Officer will within a reasonable time after receipt of such justification and supporting evidence, review the facts and advise the Contractor in writing of the Contracting Officer's decision.
- C. The Contractor shall submit each request for a change in the contract completion date to the Contracting Officer in accordance with the provisions specified under FAR 52.243 - 4 (Changes). The Contractor shall include, as a part of each change order proposal, a sketch showing all CPM logic revisions, duration (in work days) changes, and cost changes, for work in question and its relationship to other activities on the approved network diagram.
- D. All delays due to non-work events, such as RFI's, weather, strikes, and similar non-work activities, shall be analyzed on a monthly basis.

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**SECTION 01 33 23**  
**SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

- A. This specification defines the general requirements and procedures for submittals. A submittal is information submitted for VA review to establish compliance with the contract documents.
- B. Detailed submittal requirements are found in the technical sections of the contract specifications. The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective technical specifications at no additional cost to the government.
- C. VA approval of a submittal does not relieve the Contractor of the responsibility for any error which may exist. The Contractor is responsible for fully complying with all contract requirements and the satisfactory construction of all work, including the need to check, confirm, and coordinate the work of all subcontractors for the project. Non-compliant material incorporated in the work will be removed and replaced at the Contractor's expense.

**1.2 DEFINITIONS**

- A. Preconstruction Submittals: Submittals which are required prior to issuing contract notice to proceed or starting construction. For example, Certificates of insurance; Surety bonds; Site-specific safety plan; Construction progress schedule; Schedule of values; Submittal register; List of proposed subcontractors.
- B. Shop Drawings: Drawings, diagrams, and schedules specifically prepared to illustrate some portion of the work. Drawings prepared by or for the Contractor to show how multiple systems and interdisciplinary work will be integrated and coordinated.
- C. Product Data: Catalog cuts, illustrations, schedules, diagrams, performance charts, instructions, and brochures, which describe and illustrate size, physical appearance, and other characteristics of materials, systems, or equipment for some portion of the work. Samples of warranty language when the contract requires extended product warranties.
- D. Samples: Physical examples of materials, equipment, or workmanship that illustrate functional and aesthetic characteristics of a material or

product and establish standards by which the work can be judged. Color samples from the manufacturer's standard line (or custom color samples if specified) to be used in selecting or approving colors for the project. Field samples and mock-ups constructed to establish standards by which the ensuing work can be judged.

- E. Design Data: Calculations, mix designs, analyses, or other data pertaining to a part of work.
- F. Test Reports: Report which includes findings of a test required to be performed by the Contractor on an actual portion of the work. Report which includes finding of a test made at the job site or on sample taken from the job site, on portion of work during or after installation.
- G. Certificates: Document required of Contractor, or of a manufacturer, supplier, installer, or subcontractor through Contractor. The purpose is to document procedures, acceptability of methods, or personnel qualifications for a portion of the work.
- H. Manufacturer's Instructions: Pre-printed material describing installation of a product, system, or material, including special notices and MSDS concerning impedances, hazards, and safety precautions.
- I. Manufacturer's Field Reports: Documentation of the testing and verification actions taken by manufacturer's representative at the job site on a portion of the work, during or after installation, to confirm compliance with manufacturer's standards or instructions. The documentation must indicate whether the material, product, or system has passed or failed the test.
- J. Operation and Maintenance Data: Manufacturer data that is required to operate, maintain, troubleshoot, and repair equipment, including manufacturer's help, parts list, and product line documentation. This data shall be incorporated in an operations and maintenance manual.
- K. Closeout Submittals: Documentation necessary to properly close out a construction contract. For example, Record Drawings and as-built drawings. Also, submittal requirements necessary to properly close out a phase of construction on a multi-phase contract.

### **1.3 SUBMITTAL REGISTER**

- A. The submittal register will list items of equipment and materials for which the contract documents but which have been omitted from the submittal register.

- B. The submittal register will serve as a scheduling document for submittals and will be used to control submittal actions throughout the contract period.
- C. The VA will provide a blank submittal register in electronic format. Thereafter, the Contractor shall fill in the blank register with the required submittals as documented in the project spec. The Contractor shall track all submittals by maintaining a complete list, including completion of all data columns, including dates on which submittals are received and returned by the VA.
- D. Blank digital register provided for Contractor use below:



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pdf

- D. The Contractor shall update the submittal register as submittal actions occur and maintain the submittal register at the project site until final acceptance of all work by Contracting Officer.
- E. The Contractor shall submit formal monthly updates to the submittal register in electronic format. Each monthly update shall document actual submission and approval dates for each submittal.

#### **1.4 SUBMITTAL SCHEDULING**

- A. Submittals are to be scheduled, submitted, reviewed, and approved prior to the acquisition of the material or equipment.
- B. Coordinate scheduling, sequencing, preparing, and processing of submittals with performance of work so that work will not be delayed by submittal processing. Allow time for potential resubmittal.
- C. No delay costs or time extensions will be allowed for time lost in late submittals or resubmittals.
- D. All submittals are required to be approved prior to the start of the specified work activity.

#### **1.5 SUBMITTAL PREPARATION**

- A. Each submittal is to be complete and in sufficient detail to allow ready determination of compliance with contract requirements.
- B. Collect required data for each specific material, product, unit of work, or system into a single submittal. Prominently mark choices, options, and portions applicable to the submittal. Partial submittals will not be accepted for expedition of construction effort. Submittal will be returned without review if incomplete.

- C. If available product data is incomplete, provide Contractor-prepared documentation to supplement product data and satisfy submittal requirements.
- D. All irrelevant or unnecessary data shall be removed from the submittal to facilitate accuracy and timely processing. Submittals that contain the excessive amount of irrelevant or unnecessary data will be returned without review.
- E. Provide a transmittal form for each submittal with the following information:
  - 1. Project title, location and number.
  - 2. Construction contract number.
  - 3. Date of the drawings and revisions.
  - 4. Name, address, and telephone number of subcontractor, supplier, manufacturer, and any other subcontractor associated with the submittal.
  - 5. List paragraph number of the specification section and sheet number of the contract drawings by which the submittal is required.
  - 6. When a resubmission occurs, add an alphabetic suffix on submittal description. For example, submittal 18, if resubmitted, would become 18A, to indicate the first resubmission.
  - 7. Product identification and location in project.
- F. The Contractor is responsible for reviewing and certifying that all submittals are in compliance with the contract requirements before submitting for VA review. Proposed deviations from contract requirements are to be clearly identified. All deviations submitted must include a side by side comparison of item being proposed against item specified. Failure to point out deviations will result in the VA requiring removal and replacement of such work at the Contractor's expense.
- G. Stamp, sign, and date submittal transmittal forms indicating action taken.
- H. Stamp used by the Contractor on the submittal transmittal form to certify that the submittal meets contract requirements is to be similar to the following:

CONTRACTOR
(Firm Name)
_____ Approved
_____ Approved with corrections as noted on submittal data and/or attached sheets(s)
SIGNATURE: _____
TITLE: _____
DATE: _____

**1.6 SUBMITTAL FORMAT AND TRANSMISSION**

- A. Provide submittals in electronic format, with the exception of material samples. Use PDF as the electronic format, unless otherwise specified or directed by the Contracting Officer.
- B. Compile the electronic submittal file as a single, complete document. Name the electronic submittal file specifically according to its contents.
- C. Electronic files must be of sufficient quality that all information is legible. Generate PDF files from original documents so that the text included in the PDF file is both searchable and can be copied. If documents are scanned, Optical Character Resolution (OCR) routines are required.
- D. E-mail electronic submittal documents smaller than 5MB in size to e-mail addresses as directed by the Contracting Officer.

- E. Provide electronic documents over 5MB through an electronic FTP file sharing system. Confirm that the electronic FTP file sharing system can be accessed from the VA computer network. The Contractor shall be responsible for providing, setting up, and maintaining the electronic an FTP file sharing system for the construction contract period of performance (POP).
- F. Provide hard copies of submittals when requested by the Contracting Officer or Contracting Officer Representative. Up to 3 additional hard copies of any submittal may be requested at the discretion of the Contracting Officer, at no additional cost to the VA.

#### **1.7 SAMPLES**

- A. Submit two sets of physical samples showing range of variation, for each required item.
- B. Where samples are specified for selection of color, finish, pattern, or texture, submit the full set of available choices for the material or product specified.
- C. When color, texture, or pattern is specified by naming a particular manufacturer and style, include one sample of that manufacturer and style, for comparison.
- D. Before submitting samples, the Contractor is to ensure that the materials or equipment will be available in quantities required in the project. No change or substitution will be permitted after a sample has been approved.
- E. The VA reserves the right to disapprove any material or equipment which previously has proven unsatisfactory in service.
- F. Physical samples supplied maybe requested back for use in the project after reviewed and approved.

#### **1.8 OPERATION AND MAINTENANCE DATA**

- A. Submit data specified for a given item within 30 calendar days after the item is delivered to the contract site.
- B. In the event the Contractor fails to deliver O&M Data within the time limits specified, the Contracting Officer may withhold from progress payments 50 percent of the price of the item with which such O&M Data are applicable.



**1.9 TEST REPORTS**

COR may require specific test after work has been installed or completed which could require contractor to repair test area at no additional cost to contract.

**1.10 VA REVIEW OF SUBMITTALS AND RFIS**

- A. The VA will review all submittals for compliance with the technical requirements of the contract documents. The Architect-Engineer for this project will assist the VA in reviewing all submittals and determining contractual compliance. Review will be only for conformance with the applicable codes, standards and contract requirements.
- B. Period of review for submittals begins when the VA COR receives submittal from the Contractor.
- C. Period of review for each resubmittal is the same as for initial submittal.
- D. VA review period is 15 business days for submittals.
- E. VA review period is 10 business days for RFIs.
- F. The VA will return submittals to the Contractor with the following:
  - 1. "Approved": authorizes the Contractor to proceed with the work covered in the submittal.
  - 2. "Approved as noted": authorizes the Contractor to proceed with the work covered provided the Contractor incorporates the noted comments and makes the noted corrections.
  - 3. "Disapproved, revise and resubmit": indicates noncompliance with the contract requirements or that submittal is incomplete. Resubmit with appropriate changes and corrections. No work shall proceed for this item until resubmittal is approved.
  - 4. "Not reviewed": indicates submittal does not have evidence of being reviewed and approved by Contractor or is not complete. A submittal marked "not reviewed" will be returned with an explanation of the reason it is not reviewed. Resubmit submittals after taking appropriate action.

**1.11 APPROVED SUBMITTALS**

- A. The VA approval of submittals is not to be construed as a complete check, and indicates only that the general method of construction, materials, detailing, and other information are satisfactory.
- B. VA approval of a submittal does not relieve the Contractor of the responsibility for any error which may exist. The Contractor is

responsible for fully complying with all contract requirements and the satisfactory construction of all work, including the need to check, confirm, and coordinate the work of all subcontractors for the project. Non-compliant material incorporated in the work will be removed and replaced at the Contractor's expense.

- C. After submittals have been approved, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.
- D. Retain a copy of all approved submittals at project site, including approved samples.

**1.12 WITHHOLDING OF PAYMENT**

Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

- - - E N D - - -

SECTION 01 35 26  
SAFETY REQUIREMENTS

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**SECTION 01 35 26**  
**SAFETY REQUIREMENTS**

**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 Professionals (ASSP):

A10.1-2011.....Pre-Project & Pre-Task Safety and Health  
Planning

A10.34-2012.....Protection of the Public on or Adjacent to  
Construction Sites

A10.38-2013.....Basic Elements of an Employer's Program to  
Provide a Safe and Healthful Work Environment  
American National Standard Construction and  
Demolition Operations

Z359.0-2012.....Definitions and Nomenclature Used for Fall  
Protection and Fall Arrest

Z359.1-2016.....The Fall Protection Code

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

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

D. The Facilities Guidelines Institute (FGI):

FGI Guidelines-2010Guidelines for Design and Construction of  
Healthcare Facilities

E. National Fire Protection Association (NFPA):

10-2018.....Standard for Portable Fire Extinguishers

30-2018.....Flammable and Combustible Liquids Code

51B-2019.....Standard for Fire Prevention During Welding,  
Cutting and Other Hot Work

- 70-2020.....National Electrical Code
- 70B-2019.....Recommended Practice for Electrical Equipment Maintenance
- 70E-2018 .....Standard for Electrical Safety in the Workplace
- 241-2019.....Standard for Safeguarding Construction, Alteration, and Demolition Operations
- 703-2024.....Standard for Fire Retardant-Treated Wood and Fire-Retardant Coatings for Building Materials

F. 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 2-0.124.....Multi-Employer Citation Policy

G. US Army Corps of Engineers Safety and Health Requirements Publication No. EM 385-1-1, 2014 edition

**1.2 DEFINITIONS:**

- A. 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)).
- B. Competent Person, Fall Protection  
The CP, Fall Protection, is a person meeting the competent person requirements as defined in EM 385-1-1 Appendix Q and in accordance with ASSE/SAFE Z359.0, who has been designated in writing by the employer to be responsible for immediate supervising, implementing and monitoring of the fall protection program, who through training, knowledge and experience in fall protection and rescue systems and equipment, is capable of identifying, evaluating and addressing

existing and potential fall hazards and, who has the authority to take prompt corrective measures with regard to such hazards.

C. Competent Person, Scaffolding

The CP, Scaffolding is a person meeting the competent person requirements in EM 385-1-1 Appendix Q and designated in writing by the employer to be responsible for immediate supervising, implementing and monitoring of the scaffolding program. The CP for Scaffolding has enough training, knowledge and experience in scaffolding to correctly identify, evaluate and address existing and potential hazards and has the authority to take prompt corrective measures with regard to these hazards. CP qualifications must be documented and include experience on the specific scaffolding systems/types being used, assessment of the base material that the scaffold will be erected upon, load calculations for materials and personnel, and erection and dismantling. The CP for scaffolding must have a documented, minimum of 8-hours of scaffold training to include training on the specific type of scaffold being used (e.g. mast-climbing, adjustable, tubular frame), in accordance with EM 385-1-1 Section 22.B.02.

D. Competent Person (CP) Trainer

A competent person trainer as defined in EM 385-1-1 Appendix Q, who is qualified in the material presented, and who possesses a working knowledge of applicable technical regulations, standards, equipment and systems related to the subject matter on which they are training Competent Persons. A competent person trainer must be familiar with the typical hazards and the equipment used in the industry they are instructing. The training provided by the competent person trainer must be appropriate to that specific industry. The competent person trainer must evaluate the knowledge and skills of the competent persons as part of the training process.

E. "Qualified Person" means 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.

F. Qualified Person, Fall Protection (QP for FP)

- A QP for FP is a person meeting the requirements of EM 385-1-1 Appendix Q, and ASSE/SAFE Z359.0, with a recognized degree or professional certificate and with extensive knowledge, training and experience in the fall protection and rescue field who is capable of designing, analyzing, and evaluating and specifying fall protection and rescue systems.
- G. Mishap: Mishap in this specification is defined according to the EM 385-1-1. A mishap is any unplanned, undesired event that occurs during the course of work being performed. This includes accidents, incidents, and near misses.
- H. Mishap Criticality Categories
1. No impact/Near-Miss - near miss incidents that shall be investigated and reported to the VA within 24 hours.
  2. Minor incident/impact - incidents that require first aid or result in minor equipment damage (less than \$5000). These incidents must be investigated and reported to the VA within 24 hours.
  3. Moderate incident/impact - Any work-related injury or illness that results in:
    - a. Days away from work (any time lost after day of injury/illness onset);
    - b. Restricted work;
    - c. Transfer to another job;
    - d. Medical treatment beyond first aid;
    - e. Loss of consciousness;
    - f. 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,
    - g. any incident that leads to major equipment damage (greater than \$5000). These incidents must be investigated and are required to be reported to the VA within 2 hours.

h. 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 major property damage (greater than \$20,000) 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.

I. Load Handling Equipment (LHE)

LHE is a term used to describe cranes, hoists and all other hoisting equipment (hoisting equipment means equipment, including crane, derricks, hoists and power operated equipment used with rigging to raise, lower or horizontally move a load).

J. 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 through provided by physician or registered personnel.

**1.3 SUBMITTAL REQUIRMENTS:**

A. Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are submitted for information only.

B. Preconstruction Submittals

1. Accident Prevention Plan (APP); G

C. Reports

1. Monthly Contractor Health Safety and Environmental (HS&E) Performance Report;

2. Notifications and Reports;

3. Mishap Reports; G

4. Near-Miss Reports;

5. LHE Inspection Reports

D. Work Plans

1. Activity Hazard Analysis (AHA)

2. Hot Work Permit



**1.4 REGULATORY REQUIREMENTS:**

- A. In addition to the detailed requirements included in the provisions of this contract, comply with the most recent edition of USACE EM 385-1-1, comply with 29 CFR 1926, comply with 29 CFR 1910 as incorporated by reference within 29 CFR 1926, comply with ASSP 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 Resident Engineer// Regional Safety Engineer or Contracting Officer Representative or Government Designated Authority.

**1.5 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 Mishap 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. Specifically articulating the safety requirements found within these VA contract safety specifications and the United States Army Corps of Engineers - Safety and Health Requirements Manual - EM 385-1-1-2014. Model language and format can be found in Appendix A of the EM 385-1-1-2014 Manual
  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 / 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. The Statement of Safety and Health Policy must be signed by a company executive.

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 or EM 385-1-1 Competent/Qualified Person(s) requirements must be attached.;
- 4) Requirements that no work shall be performed unless a designated competent person 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 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 Construction Outreach training within the past five years is required for all workers on site and the OSHA 30-hour Construction Outreach training within the past five years 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. MISHAP INVESTIGATION & REPORTING.**

- 1) The APP shall include identify person(s) responsible to provide the following to the Resident Engineer // Contracting Officer Representative // Government Designated Authority :
  - a) Mishap investigation reports;
  - b) Project site injury and illness logs;

**i. PLANS (PROGRAMS, PROCEDURES) REQUIRED.** Based on a risk assessment of contracted activities and on mandatory OSHA and/or EM 385-1-1 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 limited to procedures for addressing the risks associates with the following:

- 1) Emergency response;
- 2) Fire Prevention;
- 3) Medical Support;

- 4) Posting of emergency telephone numbers;
- 5) Prevention of alcohol and drug abuse;
- 6) Hazard communication program;
- 7) Welding/Cutting "Hot" work;
- 8) Electrical Safe Work Practices (Electrical LOTO/NFPA 70E);
- 9) General Electrical Safety;
- 10) Hazardous energy control (LOTO);
- 11) Site-Specific Fall Protection & Prevention;
- 12) Asbestos abatement;
- 13) Health hazard control program;
- 14) Radiation Safety Program;
- 15) Crystalline Silica Monitoring (Assessment);
- 16) Demolition plan (to include engineering survey);
- 17) Public (Mandatory compliance with ANSI/ASSP A10.34-2012).

- C. Submit the APP to the Contracting Officer Representative for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES 15 calendar days prior to the date of the preconstruction conference for acceptance. Work cannot proceed without an accepted APP.
- D. Once accepted by the Contracting Officer 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 Resident Engineer, Contracting Officer Representative or Government Designated Authority. 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 Resident Engineering Office and Contracting Officer within 2 hours of discovery. Eliminate/remove the hazard. In the interim, take all necessary action to restore and maintain safe working conditions to safeguard onsite personnel, visitors, the public and the environment.

#### **1.6 ACTIVITY HAZARD ANALYSES (AHAs) :**

- 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 Resident Engineer, Contracting Officer Representative or Government Designated Authority 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, other activities as specified by OSHA, EM 385-1-1, or other State and Local agencies) shall be identified and included in the AHA. Certification of their competency/qualification shall be submitted to the Government Designated Authority (GDA) 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 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 Contracting Officer 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 15 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 weekly) 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 Contracting Officer Representative or Government Designated Authority for review for compliance.

#### **1.7 PRECONSTRUCTION CONFERENCE:**

- A. 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 pre-construction conference to gain a mutual understanding of its implementation. This includes the project superintendent, subcontractor superintendents, and any other assigned safety and health professionals.
- B. 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.

#### **1.8 SAFETY MEETINGS:**

Conduct safety meetings to review past activities, plan for new or changed operations, review pertinent aspects of appropriate AHA (by trade), establish safe working procedures for anticipated hazards, and provide pertinent Safety and Occupational Health (SOH) training and motivation. Conduct meetings at least once a month for all supervisors on the project location. The SSHO, supervisors, foremen, or CDSOs must conduct meetings at least once a week for the trade workers. Document meeting minutes to include the date, persons in attendance, subjects discussed, and names of individual(s) who conducted the meeting. Maintain documentation on-site and furnish copies to the Contracting Officer on request. Notify the Contracting Officer of all scheduled meetings 7 calendar days in advance.

#### **1.9 "SITE SAFETY & HEALTH OFFICER" (SSHO) AND "COMPETENT PERSON" (CP) :**

- A. The Prime Contractor shall provide a Safety oversight team that includes a minimum of one (1) person at each project site, for each shift, to function as the Site Safety and Health Officer (SSHO), and an Alternate Safety Officer. The Prime Contractor shall provide a minimum of one "Full-Time" SSHO at each project site, for each shift (with no other duties) that holds as current, a professional safety certification with at least 3 years of dedicated construction safety related experience. The SSHO shall ensure that the requirements of the VA and of 29 CFR 1926.16 are met for the project. The SSHO must be at the work site at all times, during construction activities, to implement and administer the Contractor's safety program and government-accepted Accident Prevention Plan. If the SSHO is off-site for a period longer than 8 hours, or one shift, and not exceeding 40 hours, or 5 shifts, a qualified Alternate Safety Officer shall be provided and shall fulfill the same roles and responsibilities as the primary SSHO. The Alternate Safety Officer shall have the required training, experience, and qualifications in accordance with EM 385-1-1



Section 01.A.17, and all associated sub-paragraphs. When the Primary SSHO is temporarily (not to exceed 8 hours) off-site, a Designated Representative (DR) from the Prime Contractors' staff, as identified in the AHA may be used in lieu of an Alternate Safety Officer and shall be on the project site, at all times, when work is being performed. Note that the DR is a collateral duty safety position, with safety duties in addition to their full-time occupation. 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. 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, Demolition, Fall Protection, Fire Safety/Life Safety, Ladder, Rigging, and Scaffolds). 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
- C. 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.
- D. 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*, Paragraph (c).

#### **1.10 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.

- B. As a minimum the SSHO must have completed the OSHA 30-hour Construction Safety Outreach class within the past five (5) years, and the following:
1. Seven (7) years of construction industry safety related experience.
  2. (OR) have a safety and health degree from an accredited university or college and five (5) years of construction industry safety related experience
  3. (OR) hold as current, a Certified Safety Professional (CSP) or a Construction Health and Safety Technician (CHST) certification and five (3) years of construction industry safety related experience.
- C. The Alternate Safety Officer shall meet, at a minimum, the requirements of EM 385-1-1 Section 1 and have five (5) years of construction industry safety experience If the SSHO does not have a current certification, certification must be obtained within 90 days, maximum, of contract award.
- D. All designated CPs shall have completed the OSHA 30-hour Construction Safety course and/or EM 385-1-1 40-hour training within the past 5 years. In addition, 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 and control associated with those high hazard work operations. Documented "repeat" deficiencies in the execution of safety requirements will require retaking the requisite formal course.
- E. All other construction workers shall have the OSHA 10-hour Construction Safety Outreach course within the past 5 years and any necessary safety training to be able to identify hazards within their work environment.
- F. Submit training records associated with the above training requirements to Contracting Officer Representative or Government Designated Authority for review for compliance with contract requirements in

accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES 15 calendar days prior to the date of the preconstruction conference for acceptance.

- G. 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, VAMC safety guidelines, means of egress, break areas, work hours, locations of restrooms, use of VAMC equipment, emergency procedures, accident reporting etc... Documentation shall be provided to the COR that individuals have undergone contractor's safety briefing.
- H. Ongoing safety training will be accomplished in the form of weekly documented safety meeting.

#### **1.11 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 with a written report 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 Contracting Officer Representative or Government Designated Authority.
- B. A Certified Safety Professional (CSP) with specialized knowledge in construction safety or a certified Construction Safety and Health Technician (CSHT) shall randomly conduct a monthly site safety inspection. The CSP or CSHT shall be one that is not a part of the immediate site project team. The individual can be a corporate safety professional or independently contracted who is not an immediate member of the construction project site team. The CSP or CSHT will 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 Contracting Officer Representative or Government Designated Authority will be notified immediately prior to start of the inspection and invited to accompany the inspection.
3. Identified hazard and controls will be discussed to come to a mutual understanding to ensure abatement and prevent future reoccurrence.
4. A report of the inspection findings with status of abatement will be provided to the Contracting Officer Representative or Government Designated Authority within one week of the onsite inspection.

#### **1.12 MISHAPS, OSHA 300 LOGS, AND MAN-HOURS:**

- A. The prime contractor shall establish and maintain a Near-Miss and Mishap reporting, recordkeeping, and analysis system to track and analyze all injuries and illnesses, high visibility incidents, accidental property damage (both government and contractor) and Near-Misses that occur on site. Notify and provide an initial report to the Contracting Officer Representative or Government Designated Authority as soon as practical, but no more than two hours after any Moderate or Major Mishap, High Visibility Incidents, or any weight handling and hoisting equipment mishap. No Impact/Near-Miss and Minor Mishaps shall be reported within 24 hours or as soon as practical. Within the notification the sender shall include contractor name; contract title; type of contract; name of activity, installation or location where mishap 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 mishap (to include type of construction equipment used, PPE used, etc.). Preserve the conditions and evidence on the Mishap site until the Contracting Officer Representative or Government Designated Authority determines whether a government investigation will be conducted.
- B. Conduct a mishap investigation for all Mishaps including mishaps resulting in at least \$20,000 in damages without injury, to establish the root cause(s) of the mishap. The Mishap investigation shall include images, 5 whys, the injured person's firsthand account, any witness accounts, methods of procedures, related AHA to the task, and corrective action plan signed by the president, vice president, or appropriate corporate-level leadership identified in the company's org chart for the project. Additionally, complete the VA Form 2162 (or

equivalent) and provide the report to the Contracting Officer Representative or Government Designated Authority within 7 calendar days of the accident. The Contracting Officer Representative or Government Designated Authority will provide copies of any required or special forms.

- C. A summation of all man-hours worked by the contractor and associated sub-contractors for each month will be reported to Contracting Officer Representative or Government Designated Authority.
- D. A summation of all Minor, Moderate, and Major incidents experienced on site by the contractor and associated sub-contractors for each month will be provided to the Contracting Officer Representative or Government Designated Authority monthly. The contractor and associated sub-contractors' OSHA 300 logs will be made available to the Contracting Officer Representative or Government Designated Authority upon request.

#### **1.13 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. Any PPE above and beyond the Mandatory PPE identified below and determined by the Contracting Officer or their Representative to be necessary in the performance of the Governments duties relative to this contract, shall be provided to the Government upon written notification by the Contracting Officer and at no additional expense to the Government. All PPE provided to the Government shall also be accompanied by any relevant or required training necessary to ensure its proper use.
- C. Mandatory Minimum PPE includes:
  - 1. Hard Hats - unless written authorization is given by the Contracting Officer Representative or Government Designated Authority 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 and/or EM 385-1-1 regulations.

2. Safety glasses - unless written authorization is given by the Contracting Officer Representative or Government Designated Authority 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 unless written authorization is given by Contracting Officer Representative or Government Designated Authority in circumstances of no foot hazards.
4. Hearing protection - Use personal hearing protection at all times in designated noise hazardous areas or when performing noise hazardous tasks.

#### **1.14 PRE-CONSTRUCTION RISK ASSESSMENT**

- A. Control of all construction-associated hazards that affect VA medical facilities, their occupants, services and mission-essential functions and capabilities is critical in all medical center facilities. VHA Pre-Construction Risk Assessments (PCRAs) for construction, renovation and maintenance projects are included with this contract solicitation with required mitigations of identified hazards. VHA-PCRAs will be re-validated and updated as needed based on but not limited to changes from original designs, affected individuals, areas/locations, scope, contractor means and methods, safety requirements, phasing, contractor competencies and capabilities.
- B. Infection Prevention and 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. A detailed analysis of potential risks for infectious disease transmission affecting the care, treatment or services of patients or residents has been conducted. VHA Infection Control Risk Assessments (ICRAs) are included with this contract solicitation with required mitigation actions/activities. VHA-ICRAs

will be re-validated and updated as needed based on changes in original designs, affected individuals, area(s) or location(s), scope, contractor means and methods, infection prevention and control requirements, differing site conditions, phasing, contractor competencies and capabilities, and infectious disease outbreaks.

C. For work occurring at a VA medical facility, coordinate with the facility Safety Manager/Officer, as several aspects of this section directly relate to infection control risk assessments required in or adjacent to construction affecting occupied buildings accredited by The Joint Commission.

D. Products and Materials:

1. Sheet Plastic: Fire retardant polyethylene, 6-mil thickness meeting local fire codes. (Use is limited per ICRA/PCRA requirements.)
2. Barrier Doors: Self Closing, keyed to the VA master key system. Fire-rated, where work is impacted existing rated wall assemblies. Rating requirements determined by assembly being impacted.
3. High Efficiency Particulate Air-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 prefilter 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.
4. Exhaust Hoses: Heavy duty, flexible steel reinforced; Ventilation Blower Hose
5. Adhesive Walk-off Mats: Provide minimum size mats of 24" x 36"
7. Disinfectant: EPA-registered, Hospital-approved disinfectant or equivalent product

#### **1.15 DUST CONTROL**

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.

#### **1.16 TUBERCULOSIS SCREENING**

- A. Contractor shall provide written certification that all contract employees assigned to the worksite have had a pre-placement tuberculin screening within 90 days prior to assignment on site, and 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 an employee is found without evidence of active (infectious) pulmonary TB, a statement documenting examination by a physician shall be on file with 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.

#### **1.17 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 Contracting Officer Representative or Government Designated Authority 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. Means of Egress: Do not block exiting for occupied buildings, including paths from exits to roads. Minimize disruptions and coordinate with Contracting Officer Representative or Government Designated Authority.
- D. Egress Routes for Construction Workers: Maintain free and unobstructed egress. Inspect daily. Report findings and corrective actions weekly to Contracting Officer Representative or Government Designated Authority.
- E. Fire Extinguishers: Provide and maintain extinguishers in construction areas and temporary storage areas in accordance with 29 CFR 1926, NFPA 241 and NFPA 10.
- F. Flammable and Combustible Liquids: Store, dispense and use liquids in accordance with 29 CFR 1926, NFPA 241 and NFPA 30.
- G. 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 via coordination with Contracting Officer Representative or Government Designated Authority. 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.
- H. Smoke Detectors: Prevent accidental operation. Remove temporary covers at end of work operations each day. Coordinate with Contracting Officer Representative or Government Designated Authority.
- I. Hot Work: Perform and safeguard hot work operations in accordance with NFPA 241 and NFPA 51B. Coordinate w/ Contracting Officer Representative or Government Designated Authority at least 24 hours in advance. Designate contractor's responsible project-site fire prevention program manager to permit hot work.

- J. Fire Hazard Prevention and Safety Inspections: Inspect entire construction areas weekly. Coordinate with, and report findings and corrective actions weekly to Contracting Officer Representative or Government Designated Authority.
- K. Smoking: Smoking is prohibited in and adjacent to construction areas inside existing buildings and additions under construction. In separate and detached buildings under construction, smoking is prohibited except in designated smoking rest areas.
- L. Dispose of waste and debris in accordance with NFPA 241. Remove from buildings daily.

#### **1.18 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 when 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 Contracting Officer Representative or Government Designated Authority, 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 Contracting Officer Representative or Government Designated Authority.
- 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 Contracting Officer Representative or Government Designated Authority, and discussed with all engaged in the activity, including 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).

**1.19 FALL PROTECTION**

- A. The fall protection (FP) threshold height requirement is 4ft for ALL WORK, unless specified differently or the OSHA 29 CFR 1926 or EM 385-1-1 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 more stringent of OSHA and EM 385-1-1 requirements.

**1.20 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 4 ft 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.

#### **1.21 EXCAVATION AND TRENCHES (OMITTED FOR PROJECT)**

#### **1.22 CRANES (OMITTED FOR PROJECT)**

#### **1.23 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.

#### **1.24 CONFINED SPACE ENTRY (OMITTED FOR PROJECT)**

#### **1.25 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 permit requirements with Contracting Office Representative or other Government Designated Authority. at least 48 hours in advance. Designate contractor's responsible project-site fire prevention program manager to permit hot work.

**1.26 LADDERS**

- A. All Ladder use shall comply with 29 CFR 1926 Subpart X and EM 385-1-1.
- 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.

**1.27 FLOOR & WALL OPENINGS (OMITTED FOR PROJECT)**

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**SECTION 02 21 13  
WORK AREA SURVEYS**

**1.1 SUMMARY**

A. Section Includes:

1. Collecting and documenting the existing building conditions, via vision inspections, pictures, and video surveys, to outline the conditions inside the construction area of work, and the conditions where material and labor is routed to and from work areas. Existing condition surveys shall occur prior to start of work, for each area.

**1.2 SUBMITTALS**

A. Submittal Procedure: Section 01 33 23, Shop Drawings, Products, & Samples.

B. Survey Drawings / Video / Pictures:

1. Video and Photos: Record existing building conditions, outlining the work areas and building condition subject to damage from construction.
2. Drawings: If required to support the video or pictures, provide two sets of full-sized prints, linking survey locations to images and/or videos that outline existing condition prior to the start of work.
3. Electronic Files: Any submitted drawing file shall utilize computer aided design (CAD), submitted as a PDF.

**PART 2 - PRODUCTS (N/A)**

**PART 3 - EXECUTION**

**3.1 PREPARATION**

- A. Coordinate with the Contracting Officer's Representative for site and building access, performing survey reviews for each phased work area, three to five days prior to the start of work in a given location.

**3.2 SURVEY DRAWING REQUIREMENTS**

- A. Consult Contracting Officer's Representative (COR) to confirm required survey scale and drawing size, if applicable.
1. Drawing Size: Maximum 760 by 1070 mm (30 by 42 inches).
  2. Enlarged Detail Areas: Scale as required to present dimensional data and survey information clearly. Maintain orientation aligned with smaller scale view(s).
  3. Plan Orientation: North at top of drawing sheet.

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**SECTION 02 41 00**  
**DEMOLITION**

**PART 1 - GENERAL**

**1.1 DESCRIPTION:**

- A. This section specifies demolition and removal of material, portions of buildings, utilities, and/or debris, to and from trash dumps.

**1.2 RELATED WORK:**

- B. Safety Requirements: Section 01 35 26 Safety Requirements Article, ACCIDENT PREVENTION PLAN (APP).
- C. Disconnecting utility services prior to demolition: Section 01 00 00, GENERAL REQUIREMENTS.
- D. Reserved items that are to remain the property of the Government: Section 01 00 00, GENERAL REQUIREMENTS.
- E. Infectious Control: Section 01 35 26, SAFETY REQUIREMENTS.

**1.3 PROTECTION:**

- A. Perform demolition in such manner as to eliminate hazards to persons and property; to minimize interference with use of adjacent areas, utilities and structures, or interruption of use of such utilities; and to provide free passage to and from such adjacent areas within the facility. Comply with GENERAL CONDITIONS Article, ACCIDENT PREVENTION.
- B. Provide safeguards, including barricades, temporary barriers, warning signs, and other similar items that are required for protection of all personnel and facility users during demolition and removal operations. Comply with Section 01 00 00, GENERAL REQUIREMENTS.
- E. Prevent spread of flying particles and dust. Sprinkle rubbish and debris with water to keep dust to a minimum. Do not use water if it results in hazardous or objectionable condition such as, but not limited to; ice, flooding, or pollution. Vacuum and dust the work area daily.
- F. In addition to previously listed fire and safety rules to be observed in performance of work, include following:
  - 1. Coordinate and develop demolition plans and execution with COR.
  - 2. Keep fire hydrants and fire extinguishers clear and accessible at all times. Prohibit debris from accumulating within a radius of 15 feet of a fire hydrant and within 5 feet of an extinguisher.
- G. Before beginning any demolition work, the Contractor shall survey the site and examine the drawings and specifications to determine the extent of the work. The contractor shall take necessary precautions to avoid damages to existing items to remain in place, to be reused, or to remain



the property of the Medical Center; any damaged items shall be repaired or replaced as approved by Resident Engineer. Contractor shall coordinate the work of this section with all other work and shall construct and maintain temporary barriers and other demolition systems as required.

- I. The work shall comply with the requirements of Section 01 00 00, GENERAL REQUIREMENTS and Section 01 35 26, SAFETY REQUIREMENTS.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION**

**3.1 DEMOLITION:**

- A. All debris material shall become property of Contractor and shall be disposed of by him/her daily, off the Medical Center Property to avoid accumulation at the demolition site. Materials that cannot be removed daily shall be stored in areas specified by the Resident Engineer or COR. Contractor shall dispose debris in compliance with applicable federal, state or local permits, rules and/or regulations.
- B. Remove and legally dispose of all materials from trash dumps. Locations of trash dumps is to be determined, however they are typically located at the southwest edge on the campus. Materials removed shall become property of contractor and shall be disposed of in compliance with applicable federal, state or local permits, rules and/or regulations.
- C. The requirements for removal of hazardous material shall be outlined in the Hazardous Materials specifications.

**3.2 CLEAN-UP:**

On completion of work of this section and after removal of all debris, leave site in clean condition satisfactory to Resident Engineer or COR. Clean-up shall include off the Medical Center disposal of all items and materials not required to remain property of the Government, as well as all debris and rubbish resulting from demolition operations.

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**SECTION 02 82 13**  
**ASBESTOS CONTAINING MATERIAL (ACM)**

**PART 1 - GENERAL**

**1.1 SUMMARY OF WORK CONDITIONS**

- A. No known asbestos containing material (ACM) locations are anticipated by performing activities outlined in the scope of the work. However, the contractor should survey the work area prior to executing any work to determine if suspicious materials are present, or in the general proximity of the work area. If suspicious materials are present, or near work areas, notify the VA Contracting Officer Representative (COR) immediately, prior to starting any work activity. An evaluation will occur with subject matter experts.
- B. Related Work:
  - 1. Section 02 41 00, DEMOLITION

**1.2 STOP WORK - ASBESTOS IMPACT**

- A. If the Contracting Officer; their field representative; the facility Safety Officer or their designee, or the VA Professional Industrial Hygienist/Certified Industrial Hygienist (VPIH/CIH) presents a verbal **Stop Work - Asbestos Concern**, the Contractor/Personnel shall immediately stop all work in areas adjacent to the ACM concern while maintaining HEPA filtered negative pressure air flow within the work area, and adequately wet any exposed ACM, or potential ACM. If a verbal Stop Work - Asbestos Concern Order is issued, the VA shall follow-up with a written order to the Contractor as soon as it is practicable. The Contractor shall not resume any work activity until authorized to do so in writing by the VA Contracting Officer. The work stoppage will continue until conditions have been corrected to the satisfaction of the VA.
- B. If suspicious materials are encountered, suspected of containing asbestos, the Contractor shall stop work immediately and notify the COR and VA Contracting Officer. The initial notification shall be followed up in writing within 48 hours, documenting the date and suspicious material encountered. The Contractor shall not resume any work in the area where suspicious material was identified. The Contractor shall not attempt to remove and suspicious materials until authorized to do so, in writing by the VA Contracting Officer. A work stoppage shall continue until an agree upon plan of execution for resolving the material(s) of concerns has been implemented to the satisfaction of both the VA and Contractor. The impacts of standby time and costs for corrective actions will be evaluated following the material evaluation and any possible corrective action. If abatement activities are required, written notification shall be provided by the VA prior to the start of work, and prior to a restart of the previously halted activity.

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**SECTION 07 92 00**  
**JOINT SEALANTS**

**PART 1 - GENERAL**

**1.1 DESCRIPTION:**

- A. This section covers interior sealant requirements and their application, for mechanical duct penetrations through masonry and gypsum board partitions. It also covers firestopping for abandoned penetrations resulting from miscellaneous demolition work.

**1.2 RELATED WORK (INCLUDING BUT NOT LIMITED TO THE FOLLOWING):**

- A. Mechanical Work: Section 23 05 11, COMMON WORK RESULTS FOR HVAC.

**1.3 SUBMITTALS:**

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Manufacturer's installation instructions for each product used.
- C. Manufacturer's Literature and Data:
  - 1. Primers
  - 2. Sealing compound, each type, including compatibility when different sealants are in contact with each other.
- D. Manufacturer warranty.

**1.4 PROJECT CONDITIONS:**

- A. Environmental Limitations:
  - 1. Do not proceed with installation of joint sealants under following conditions: When joint substrates are wet.
- B. Joint-Width Conditions:
  - 1. Do not proceed with installation of joint sealants where joint widths are less than those allowed by joint sealant manufacturer for applications indicated.
- C. Joint-Substrate Conditions:
  - 1. Do not proceed with installation of joint sealants until contaminants capable of interfering with adhesion are removed from joint substrates.

**1.5 DELIVERY, HANDLING, AND STORAGE:**

- A. Deliver materials in manufacturers' original unopened containers, with brand names, date of manufacture, shelf life, and material designation clearly marked thereon.
- B. Carefully handle and store to prevent inclusion of foreign materials.
- C. Do not subject to sustained temperatures exceeding 32 degrees C (90 degrees F) or less than 5 degrees C (40 degrees F).

**1.6 DEFINITIONS:**

- A. Definitions of terms in accordance with ASTM C717 and as specified.
- B. Backing Rod: A type of sealant backing.
- C. Bond Breakers: A type of sealant backing.
- D. Filler: A sealant backing used behind a back-up rod.

**1.7 APPLICABLE PUBLICATIONS:**

- A. Publications listed below form a part of this specification to extent referenced. Publications are referenced in text by basic designation.
- B. ASTM International (ASTM):
  - C509-06.....Elastomeric Cellular Preformed Gasket and Sealing Material
  - C612-14.....Mineral Fiber Block and Board Thermal Insulation
  - C717-14a.....Standard Terminology of Building Seals and Sealants
  - C734-06 (R2012).....Test Method for Low-Temperature Flexibility of Latex Sealants after Artificial Weathering
  - C794-10.....Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants
  - C919-12.....Use of Sealants in Acoustical Applications.
  - C920-14a.....Elastomeric Joint Sealants.
  - C1021-08 (R2014).....Laboratories Engaged in Testing of Building Sealants
  - C1193-13.....Standard Guide for Use of Joint Sealants.
  - C1248-08 (R2012).....Test Method for Staining of Porous Substrate by Joint Sealants
  - C1330-02 (R2013).....Cylindrical Sealant Backing for Use with Cold Liquid Applied Sealants
  - C1521-13.....Standard Practice for Evaluating Adhesion of Installed Weatherproofing Sealant Joints
  - D217-10.....Test Methods for Cone Penetration of Lubricating Grease
  - D1056-14.....Specification for Flexible Cellular Materials—Sponge or Expanded Rubber
  - E84-09.....Surface Burning Characteristics of Building Materials

**PART 2 - PRODUCTS****2.1 SEALANTS:**

## A. Acoustical Sealant:

1. Conforming to ASTM C919; flame spread of 25 or less; and a smoke developed rating of 50 or less when tested in accordance with ASTM E84. Acoustical sealant have a consistency of 250 to 310 when tested in accordance with ASTM D217; remain flexible and adhesive after 500 hours of accelerated weathering as specified in ASTM C734; and be non-staining.
2. Provide location(s) of acoustical sealant as follows:
  - a. Joints or gaps where mechanical ductwork passes through a masonry of gypsum board wall partitions.

## B. Firestop Sealant:

1. Provide location(s) of firestop sealant as follows: Subject to use where miscellaneous components are removed during demolition that result in a hole or penetration through the full wall partition or a single membrane of the partion. When this occurs, the opening shall be covered or protected to the satisfaction of the VA COR.
2. The firestop sealant shall have the following properties:
  - a. Contain no flammable or toxic solvents.
  - b. Release no dangerous or flammable out gassing during the drying or curing of products.
  - c. Water-resistant after drying or curing and unaffected by high humidity, condensation or transient water exposure.
  - d. When installed in exposed areas, capable of being sanded and finished with similar surface treatments as used on the surrounding wall or floor surface.
  - e. VOC Content: Firestopping sealants and primers to comply with the following limits for VOC content when calculated according to 40 CFR 59, (EPA Method 24): Sealant and Primers for Nonporous Substrates: 250 g/L. Primers for Porous Substrates: 775 g/L.

**2.3 JOINT SEALANT BACKING:**

- A. General: Provide sealant backings of material and type that are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.

- B. Cylindrical Sealant Backings: ASTM C1330, of type indicated below and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance:
  - 1. Type C: Closed-cell material with a surface skin.
- C. Elastomeric Tubing Sealant Backings: Neoprene, butyl, EPDM, or silicone tubing complying with ASTM D1056 or synthetic rubber (ASTM C509), nonabsorbent to water and gas, and capable of remaining resilient at temperatures down to minus 32 degrees C (minus 26 degrees F). Provide products with low compression set and of size and shape to provide a secondary seal, to control sealant depth, and otherwise contribute to optimum sealant performance.

**2.5 FILLER:**

- A. Mineral fiberboard: ASTM C612, Class 1.
- B. Thickness same as joint width.

**2.6 PRIMER:**

- A. As recommended by manufacturer of caulking or sealant material.

**2.7 CLEANERS-NON POROUS SURFACES:**

- A. Chemical cleaners compatible with sealant and acceptable to manufacturer of sealants and sealant backing material. Cleaners to be free of oily residues and other substances capable of staining or harming joint substrates and adjacent non-porous surfaces and formulated to promote adhesion of sealant and substrates.

**PART 3 - EXECUTION****3.1 INSPECTION:**

- A. Inspect substrate surface for bond breaker contamination and unsound materials at adherent faces of sealant.
- B. Coordinate for repair and resolution of unsound substrate materials.
- C. Inspect for uniform joint widths and that dimensions are within tolerance established by sealant manufacturer.

**3.2 PREPARATIONS:**

- A. Prepare joints in accordance with manufacturer's instructions and SWRI (The Professionals' Guide).
- B. Clean surfaces of joint to receive caulking or sealants leaving joint dry to the touch, free from moisture, grease, oil, wax, or other foreign matter that would tend to destroy or impair adhesion.

1. Remove loose particles remaining from above cleaning operations by vacuuming or blowing out joints with oil-free compressed air. Porous joint surfaces include but are not limited to the following:
  - a. Concrete.
  - b. Masonry.
- C. Do not cut or damage joint edges.
- D. Apply primer to sides of joints wherever required by compound manufacturer's printed instructions or as indicated by pre-construction joint sealant substrate test. Joint sealant applications are to occur on each side of the wall penetration.

#### **3.4 SEALANT DEPTHS AND GEOMETRY (NON FIRE STOP SEALANTS) :**

- A. At widths up to 1/4 inch, sealant depth equal to width.
- B. At widths over 6 mm (1/4 inch), sealant depth 1/2 of width up to 13 mm (1/2 inch) maximum depth at center of joint with sealant thickness at center of joint approximately 1/2 of depth at adhesion surface.
- C. At firestop caulking, apply per manufacture recommendation and ensure to obtain a 1 hour fire rating. (Both sides of the wall to be sealed.)

#### **3.5 INSTALLATION:**

- A. General:
  1. Apply sealants and caulking only when ambient temperature is between 5 degrees C and 38 degrees C (40 degrees and 100 degrees F).
  2. Do not install polysulfide base sealants where sealant may be exposed to fumes from bituminous materials, or where water vapor in continuous contact with cementitious materials may be present.
  3. Do not install sealant type listed by manufacture as not suitable for use in locations specified.
  4. Apply caulking and sealing compound in accordance with manufacturer's printed instructions.
  5. Avoid dropping or smearing compound on adjacent surfaces.
  6. Fill joints solidly with compound and finish compound smooth.
  7. Tool exposed joints to form smooth and uniform beds, with slightly concave surface conforming to joint configuration per Figure 5A in ASTM C1193 unless shown or specified otherwise in construction documents. Remove masking tape immediately after tooling of sealant and before sealant face starts to "skin" over. Remove any excess sealant from adjacent surfaces of joint, leaving the working in a clean finished condition.

9. Apply compounds with nozzle size to fit joint width.
  10. Test sealants for compatibility with each other and substrate. Use only compatible sealant. Submit test reports.
  11. Replace sealant which is damaged during construction process.
- B. For application of sealants, follow requirements of ASTM C1193 unless specified otherwise. Take all necessary steps to prevent three-sided adhesion of sealants.
- C. Interior Sealants: Where gypsum board partitions are of sound rated, fire rated, or smoke barrier construction, follow requirements of ASTM C919 only to seal all cut-outs and intersections with the adjoining construction unless specified otherwise.
1. Apply a 6 mm (1/4 inch) minimum bead of sealant each side of runners (tracks), including those used at partition intersections with dissimilar wall construction.
  2. Coordinate with application of gypsum board to install sealant immediately prior to application of gypsum board.
  3. Partition intersections: Seal edges of face layer of gypsum board abutting intersecting partitions, before taping and finishing or application of veneer plaster-joint reinforcing.
  4. Openings: Apply a 6 mm (1/4 inch) bead of sealant around all cutouts to seal openings of electrical boxes, ducts, pipes and similar penetrations. To seal electrical boxes, seal sides and backs.
  5. Control Joints: Before control joints are installed, apply sealant in back of control joint to reduce flanking path for sound through control joint.

### **3.6 CLEANING:**

- A. Fresh compound accidentally smeared on adjoining surfaces: Scrape off immediately and rub clean with a solvent as recommended by manufacturer of the adjacent material or if not otherwise indicated by the caulking or sealant manufacturer.
- B. Leave adjacent surfaces in a clean and unstained condition.

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**SECTION 09 51 00**  
**ACOUSTICAL CEILINGS**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
1. Acoustical units.
  2. Metal ceiling suspension system for acoustical ceilings.

**1.2 APPLICABLE PUBLICATIONS**

- A. Comply with references to extent specified in this section.
- B. ASTM International (ASTM):
1. A641/A641M-09a(2014) - Zinc-coated (Galvanized) Carbon Steel Wire.
  2. A653/A653M-15e1 - Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-coated (Galvannealed) by the Hot-Dip Process.
  3. C423-09a - Sound Absorption and Sound Absorption Coefficients by the Reverberation Room Method.
  4. C634-13 - Terminology Relating to Environmental Acoustics.
  5. C635/C635M-13a - Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings.
  6. C636/C636M-13 - Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels.
  7. D1779-98(2011) - Adhesive for Acoustical Materials.
  8. E84-15b - Surface Burning Characteristics of Building Materials.
  9. E119-16 - Fire Tests of Building Construction and Materials.
  10. E413-16 - Classification for Rating Sound Insulation.
  11. E1264-14 - Classification for Acoustical Ceiling Products.
- C. International Organization for Standardization (ISO):
1. ISO 14644-1 - Classification of Air Cleanliness.

**1.3 SUBMITTALS**

- A. Submittal Procedures: Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Submittal Drawings:
1. Show size, configuration, and fabrication and installation details.
- C. Manufacturer's Literature and Data:
1. Description of each product. (Verify match to existing profile(s).)
  2. Installation instructions for new and/or patching of grid.
- D. Samples:
1. Suspension system, trim and molding, 300 mm (12 inches) long.

**1.4 WARRANTY**

- A. Construction Warranty: FAR clause 52.246-21, "Warranty of Construction."

**PART 2 - PRODUCTS****2.1 SYSTEM DESCRIPTION**

- A. Ceiling System: Acoustical ceilings grid suspension systems.

**2.2 PRODUCTS - GENERAL**

- A. Basis of Design: (None: Match existing ceiling grid provide.)
- B. Provide suspension system from one manufacturer - preferred.
  - 1. Salvage and reuse existing grid to the extent possible.
  - 2. Grid profiles are subject to change in different locations.
  - 3. Verify color and profile match when if new grid is required.
  - 4. Review work sequencing or ceiling removal location required to remove fire dampers. Prior to executing fire damper removal, ensure ceiling removal and potential replacement is minimized.

**2.3 ACOUSTICAL UNITS**

- A. General: (Reuse Existing Tile)
  - 1. Ceiling Panel and Tile: Remove existing ceiling tiles as required to facilitate work. Store in a manner that protects the product to ensure material are available for reinstallation.
  - 2. Document condition of tile prior to removal.

**2.4 METAL SUSPENSION SYSTEM**

- A. General:
  - 1. Suspension System: Provide the following:
    - a. Galvanized cold-rolled steel, bonderized or Extruded aluminum.  
Selection based on material and provide match of existing.
- B. Exposed Grid Suspension System: Support of lay-in panels.
  - 1. Grid Width: Match existing
  - 2. Molding: Match existing
  - 3. Finish: Match existing
- C. Anchors and Inserts: Provide anchors or inserts to support twice the loads imposed by hangers.
- D. Clips: Galvanized steel, designed to secure framing member in place.
- E. Tile Splines: ASTM C635.

- F. Wire: ASTM A641.
  - 1. Size:
    - a. Wire Hangers: Minimum diameter 2.68 mm (0.1055 inch).
    - b. Bracing Wires: Minimum diameter 3.43 mm (0.1350 inch).

### **PART 3 - EXECUTION**

#### **3.1 PREPARATION**

- A. Examine and verify substrate suitability for product installation.
- B. Protect existing construction and completed work from damage.
- C. Remove existing acoustical panels to permit new installation of grid.
  - 1. Retain existing acoustical panels, suspension system, and grid for reuse.
  - 2. Dispose of removed materials. If material is will not be salvaged, dispose of daily.

#### **3.2 INSTALLATION - GENERAL**

- A. Install products according to manufacturer's instructions.

#### **3.3 ACOUSTICAL UNIT INSTALLATION**

- A. Applications:
  - 1. Cut acoustic units for perimeter borders and penetrations to fit tight against penetration for joint not concealed by molding.
- B. Layout acoustical unit symmetrically, restoring existing grid.
- C. Installation:
  - 1. Install acoustic tiles after completion of all overhead work, unless directed differently by COR to support ICRA/PCRA requirements.
- D. Touch up damaged factory finishes.
  - 1. Repair painted surfaces with touch up primer.

#### **3.4 CEILING SUSPENSION SYSTEM INSTALLATION**

- A. General: Install according to ASTM C636.
  - 1. Use direct or indirect hung suspension system, or a combination.
  - 2. Support a maximum area of 16 sq. feet of ceiling per hanger.
  - 3. Provide additional hangers located at each corner of support components.
  - 4. Provide minimum 4 inch clearance from the exposed face of the acoustical units to the underside of ducts, pipe, conduit, secondary suspension channels, concrete beams or joists; and steel beam or bar joist unless furred system is shown.

5. Provide main runners minimum 1200 mm (48 inches) in length.
  6. Install hanger wires vertically. Angled wires are not acceptable except for seismic restraint bracing wires.
- B. Direct Hung Suspension System: ASTM C635.
1. Support main runners by hanger wires attached directly to the structure overhead.
  2. Maximum spacing of hangers, 1200 mm (4 feet) on centers unless interference occurs by mechanical systems. Use indirect hung suspension system where not possible to maintain hanger spacing.
- C. Anchorage to Structure:
1. Concrete:
    - a. Install hanger inserts and wire loops required for support of hanger and bracing wire. Install hanger wires with looped ends through steel deck when deck does not have attachment device.
  2. Steel:
    - a. Install carrying channels for attachment of hanger wires.
      - 1) Size and space carrying channels to support load within performance limit.
      - 2) Attach hangers to steel carrying channels, spaced four feet on center, unless area supported or deflection exceeds the amount specified.
    - b. Attach carrying channels to the bottom flange of steel beams spaced not 1200 mm (4 feet) on center before fireproofing is installed. Weld or use steel clips for beam attachment.
    - c. Attach hangers to bottom chord of bar joists or to carrying channels installed between the bar joists when hanger spacing prevents anchorage to joist. Rest carrying channels on top of the bottom chord of the bar joists, and securely wire tie or clip to joist.
- D. Indirect Hung Suspension System: ASTM C635.
1. Space carrying channels for indirect hung suspension system maximum 1200 mm (4 feet) on center. Space hangers for carrying channels maximum 2400 mm (8 feet) on center or for carrying channels less than 1200 mm (4 feet) on center so as to insure that specified requirements are not exceeded.
  2. Support main runners by specially designed clips attached to carrying channels.

**3.5 CEILING TREATMENT**

A. Existing ceiling:

1. Where extension of existing ceilings occurs, match existing.
2. Where acoustical units are salvaged and reinstalled or joined, use salvaged units within a space. Do not mix new and salvaged units within a space which results in contrast between old and new acoustic units.
3. Comply with specifications for new acoustical units for new units required to match appearance of existing units.

**3.6 CLEANING**

- A. Remove excess adhesive before adhesive sets.
- B. Clean exposed surfaces. Remove contaminants and stains.

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**SECTION 23 05 11  
COMMON WORK RESULTS FOR HVAC**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

A. The requirements of this Section apply to all sections of Division 23, HEATING, VENTILATING, AND AIR CONDITIONING (HVAC).

**1.2 RELATED WORK**

A. Section 07 92 00, JOINT SEALANTS.

**1.3 APPLICABLE PUBLICATIONS**

A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only. Where conflicts occur these specifications and the VHA standard will govern.

B. American Society of Mechanical Engineers (ASME):

B31.1-//2020//.....Power Piping

B31.9-//2020//.....Building Services Piping

ASME Boiler and Pressure Vessel Code:

BPVC Section IX-//2021// Welding, Brazing, and Fusing Qualifications

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

A36/A36M-//2019//.....Standard Specification for Carbon Structural Steel

A575-//1996(2020)//.....Standard Specification for Steel Bars, Carbon, Merchant Quality, M-Grades

D. National Fire Protection Association (NFPA):

101-//2021//.....Life Safety Code

**1.4 QUALITY ASSURANCE**

A. Mechanical, electrical and associated systems shall be safe, reliable, efficient, durable, easily and safely operable and maintainable, easily and safely accessible, and in compliance with applicable codes as specified. The systems shall be comprised of high quality institutional-class and industrial-class products of manufacturers that are experienced specialists in the required product lines. All construction firms and personnel shall be experienced and qualified specialists in industrial and institutional HVAC.

B. Execution (Installation, Construction) Quality:

1. Apply and install all items in accordance with manufacturer's written instructions. Refer conflicts between the manufacturer's instructions and the contract documents to the COR for resolution. Provide written hard copies and computer files on CD or DVD of manufacturer's installation instructions to the COR with submittals prior to commencing installation of any item. Installation of the item will not be allowed to proceed until the recommendations are received and approved by the VA. Failure to furnish these recommendations is a cause for rejection of the material.
2. All items that require access, such as for operating, cleaning, servicing, maintenance, and calibration, shall be easily and safely accessible by persons standing at floor level, or standing on permanent platforms, without the use of portable ladders. Examples of these items include, but are not limited to, all types of valves, filters and strainers, transmitters, control devices. Prior to commencing installation work, refer conflicts between this requirement and contract documents to the COR for resolution. Failure of the Contractor to resolve, or point out any issues will result in the Contractor correcting at no additional cost or time to the Government.
3. Complete coordination/shop drawings shall be required in accordance with paragraph SUBMITTALS. Construction work shall not start on any system until the coordination/shop drawings have been approved by VA.
4. Workmanship/craftsmanship will be of the highest quality and standards. The VA reserves the right to reject any work based on poor quality of workmanship this work shall be removed and done again at no additional cost or time to the Government.

C. Upon request by Government, provide lists of previous installations for selected items of equipment. Include contact persons who will serve as references, with current telephone numbers and e-mail addresses.

D. Guaranty: Warranty of Construction, FAR Clause 52.246-21.

**1.5 DELIVERY, STORAGE AND HANDLING**

A. Protection of Equipment:

1. Equipment and material placed on the job site shall remain in the custody of the Contractor until phased acceptance, whether or not the Government has reimbursed the Contractor for the equipment and

material. The Contractor is solely responsible for the protection of such equipment and material against any damage or theft.

B. Cleanliness of Piping and Equipment Systems:

1. Exercise care in storage and handling of equipment and piping material to be incorporated in the work. Remove debris arising from cutting, threading and welding of piping.
2. Piping systems shall be flushed, blown or pigged as necessary to deliver clean systems.
3. Clean interior of all tanks prior to delivery for beneficial use by the Government.
4. Boilers shall be left clean following final internal inspection by Government, insurance representative, or inspector.
5. Contractor shall be fully responsible for all costs, damage, and delay arising from failure to provide clean systems.

**1.6 JOB CONDITIONS - WORK IN EXISTING BUILDING**

- A. Building Operation: Government employees will be continuously operating and managing all facilities, including temporary facilities that serve the VAMC.
- B. Maintenance of Service: Schedule all work to permit continuous service as required by the VAMC.
- C. Phasing of Work: Contractor shall submit a complete a general phasing plan an complete fire damper removal and duct replacement in one location at a time.

**PART 2 - PRODUCTS**

**2.1 LIFTING ATTACHMENTS**

- A. Provide equipment with suitable lifting attachments to enable equipment to be lifted from its location. Lifting attachments shall withstand any handling conditions that might be encountered, without bending or distortion of shape, such as rapid lowering and braking of load.

**2.2 ASBESTOS**

- A. Materials containing asbestos are prohibited.

**PART 3 - EXECUTION**

**3.1 GENERAL**

- A. If an installation is unsatisfactory to the COR, the Contractor shall correct the installation at no additional cost or time to the Government.

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**SECTION 23 07 11**  
**HVAC INSULATION**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

- A. Field applied insulation for thermal efficiency and condensation control for HVAC ductwork, and re-insulation of HVAC ductwork.
- B. Definitions
  - 1. ASJ: All service jacket, white finish facing or jacket.
  - 2. Air conditioned space: Space having air temperature and/or humidity controlled by mechanical equipment.
  - 3. Cold: Equipment, ductwork or piping handling media at design temperature of 16 degrees C (60 degrees F) or below.
  - 4. Concealed: Ductwork and piping above ceilings and in chases, interstitial space, and pipe spaces.
  - 5. FSK: Foil-scrim-kraft facing.
  - 6. Hot: HVAC Ductwork handling air at design temperature above 16 degrees C (60 degrees F).
  - 7. Density: kg/m<sup>3</sup> - kilograms per cubic meter (Pcf-pounds per cubic ft)
  - 9. Runouts: Branch pipe connections up to 25-mm (one-inch) nominal size to fan coil units or reheat coils for terminal units.
  - 10. Vapor Retarder (Vapor Barrier): A material which retards the transmission (migration) of water vapor. Performance of the vapor retarder is rated in terms of permeance (perms). For the purpose of this specification, vapor retarders shall have a maximum published permeance of 0.1 perms and vapor barriers shall have a maximum published permeance of 0.001 perms.
  - 11. PVDC: Polyvinylidenechloride vapor retarder jacketing, white.

**1.2 RELATED WORK**

- A Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, and SAMPLES.
- B. Section 23 05 11, COMMON WORK RESULTS FOR HVAC.

**1.3 QUALITY ASSURANCE**

- A. Refer to article QUALITY ASSURANCE, in Section 23 05 11, COMMON WORK RESULTS FOR HVAC.
- B. Every package or container of insulation or accessory delivered to the job site for use must have a manufacturer's stamp or label giving the name of the manufacturer and description of the material.

**1.4 SUBMITTALS**

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, and SAMPLES.
- B. Shop Drawings:
  - 1. All information, clearly presented, shall be included to determine compliance with drawings and specifications and ASTM, federal and military specifications.
    - a. Insulation materials: Specify each type used and state surface burning characteristics.
    - b. Insulation facings and jackets: Each type used. Make it clear that white finish will be furnished for exposed ductwork, casings and equipment.
    - c. Insulation accessory materials: Each type used.
    - d. Manufacturer's installation and fitting fabrication instructions for flexible unicellular insulation.

**1.5 STORAGE AND HANDLING OF MATERIAL**

Store materials in clean and dry environment. Place and keep adhesives in original containers. Maintain ambient temperatures and conditions as required by printed manufacturers instructions of adhesives and mastics.

**PART 2 - PRODUCTS****2.1 MINERAL FIBER OR FIBER GLASS**

- A. Match existing insulation type as present on existing ductwork where work is occurring. If no insulation is present on the ductwork, then no new or replacement insulation shall be required.
- B. ASTM C553 (Blanket, Flexible) Type I, // Class B-3, Density 16 kg/m<sup>3</sup> (1 pcf), k = 0.045 (0.31) // Class B-5, Density 32 kg/m<sup>3</sup> (2 pcf), k = 0.04 (0.27) // at 75 degrees F, for use at temperatures up to 400 degrees F with foil scrim (FSK) facing.

**2.2 MINERAL WOOL OR REFRACTORY FIBER**

- A. Match existing insulation type as present on existing ductwork where work is occurring. If no insulation is present on the ductwork, then no new or replacement insulation shall be required.
- B. Comply with Standard ASTM C612, Class 3, 450 degrees C (850 degrees F).

### 2.3 INSULATION FACINGS AND JACKETS

- A. Match existing insulation type as present on existing ductwork where work is occurring. If no insulation is present on the ductwork, then no new or replacement insulation shall be required.
- B. Vapor Retarder, higher strength with low water permeance  $\leq 0.02$  or less perm rating, Beach puncture 50 units for insulation facing on exposed ductwork, casings and equipment.
- C. ASJ jacket shall be white kraft bonded to 0.025 mm (1 mil) thick aluminum foil, fiberglass reinforced, with pressure sensitive adhesive closure. Comply with ASTM C1136. Beach puncture 50 units, Suitable for painting without sizing. Jackets shall have minimum 40 mm (1-1/2 inch) lap on longitudinal joints and minimum 75 mm (3 inch) butt strip on end joints. Butt strip material shall be same as the jacket. Lap and butt strips shall be self-sealing type with factory-applied pressure sensitive adhesive.
- D. Vapor Retarder medium strength with low water vapor permeance of 0.02 or less perm rating), Beach puncture 25 units: Foil-Scrim-Kraft (FSK) or PVDC vapor retarder jacketing type for concealed ductwork.

### 2.4 ADHESIVE, MASTIC, CEMENT

- A. Mil. Spec. MIL-A-3316, Class 1: Jacket and lap adhesive and protective finish coating for insulation.
- B. Mil. Spec. MIL-A-3316, Class 2: Adhesive for laps and for adhering insulation to metal surfaces.
- C. Mil. Spec. MIL-C-19565, Type I or Type II: Vapor barrier compound for indoor use.
- D. Other: Insulation manufacturers' published recommendations.

### 2.5 REINFORCEMENT AND FINISHES

- A. Glass fabric, open weave: ASTM D1668, Type III (resin treated) and Type I (asphalt treated).
- B. Glass fiber fitting tape: Mil. Spec MIL-C-20079, Type II, Class 1.
- C. Tape for Flexible Elastomeric Cellular Insulation: As recommended by the insulation manufacturer.

### 2.16 FLAME AND SMOKE

Unless shown otherwise all assembled systems shall meet flame spread 25 and smoke developed 50 rating as developed under ASTM, NFPA and UL standards and specifications.

**PART 3 - EXECUTION****3.1 GENERAL REQUIREMENTS**

- A. Required pressure tests of duct and piping joints and connections shall be completed and the work approved by the Resident Engineer for application of insulation. Surface shall be clean and dry with all foreign materials, such as dirt, oil, loose scale and rust removed.
- B. Except for specific exceptions, insulate entire specified equipment, piping (pipe, fittings, valves, accessories), and duct systems. Insulate each pipe and duct individually. Do not use scrap pieces of insulation where a full length section will fit.
- C. Where removal of insulation of piping, ductwork and equipment is required, comply with Section 02 82 11, TRADITIONAL ASBESTOS ABATEMENT and Section 02 82 13, ASBESTOS CONTAININ MATERIAL.
- D. Insulation materials shall be installed in a first-class manner with smooth and even surfaces, with jackets and facings drawn tight and smoothly cemented down at all laps. Insulation shall be continuous through all sleeves and openings, except at fire dampers and duct heaters (NFPA 90A). Vapor retarders shall be continuous and uninterrupted throughout systems with operating temperature 16 degrees C (60 degrees F) and below. Lap and seal vapor retarder over ends and exposed edges of insulation. Anchors, supports and other metal projections through insulation on cold surfaces shall be insulated and vapor sealed for a minimum length of 150 mm (6 inches).
- E. HVAC work not to be insulated:
  - 1. Internally insulated ductwork and air handling units.
  - 2. Relief air ducts (Economizer cycle exhaust air).
  - 3. Exhaust air ducts and plenums, and ventilation exhaust air shafts.
- F. Apply insulation materials subject to the manufacturer's recommended temperature limits. Apply adhesives, mastic and coatings at the manufacturer's recommended minimum coverage.

**3.2 INSULATION INSTALLATION**

- A. Flexible Mineral Fiber Blanket:
  - 1. Adhere insulation to metal with 75 mm (3 inch) wide strips of insulation bonding adhesive at 200 mm (8 inches) on center all around duct. Additionally secure insulation to bottom of ducts exceeding 600 mm (24 inches) in width with pins welded or adhered on 450 mm (18 inch) centers. Secure washers on pins. Butt insulation edges and seal joints with laps and butt strips. Staples may be used

to assist in securing insulation. Seal all vapor retarder penetrations with mastic. Sagging duct insulation will not be acceptable. Install firestop duct insulation where required.

2. Supply air ductwork to be insulated includes main and branch ducts from AHU discharge to room supply outlets, and the bodies of ceiling outlets to prevent condensation. Insulate sound attenuator units, coil casings and damper frames. To prevent condensation insulate trapeze type supports and angle iron hangers for flat oval ducts that are in direct contact with metal duct.

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**SECTION 23 31 00  
HVAC DUCTS AND CASINGS**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

- A. A complete listing of common acronyms and abbreviations are included in Section 23 05 11, COMMON WORK RESULTS FOR HVAC.
- B. Ductwork and accessories for HVAC including the following:
  - 1. Supply air, return air, outside air, exhaust, make-up air, and relief systems.
- C. Definitions:
  - 1. Seal or Sealing: Use of liquid or mastic sealant, with or without compatible tape overlay, or gasketing of flanged joints, to keep air leakage at duct joints, seams and connections to an acceptable minimum.
  - 2. Duct Pressure Classification: SMACNA HVAC Duct Construction Standards, Metal and Flexible.

**1.2 RELATED WORK**

- A. Section 01 00 00, GENERAL REQUIREMENTS.
- B. Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, and SAMPLES.
- J. Section 23 05 11, COMMON WORK RESULTS FOR HVAC.

**1.5 QUALITY ASSURANCE**

- A. Duct System Construction and Installation: Referenced SMACNA Standards are the minimum acceptable quality.
- B. Duct Sealing, Air Leakage Criteria, and Air Leakage Tests: Ducts shall be sealed as per duct sealing requirements of SMACNA HVAC Air Duct Leakage Test Manual for duct pressure classes shown in the contract documents.

**PART 2 - PRODUCTS**

**2.1 DUCT MATERIALS AND SEALANTS**

- A. General: Except for systems specified otherwise, construct ducts, casings, and accessories of galvanized sheet steel, ASTM A653/A653M, coating G90; or, aluminum sheet, ASTM B209, alloy 1100, 3003 or 5052.
- B. Specified Corrosion Resistant Systems: Stainless-steel sheet, Class 302 or 304, Condition A (annealed) Finish No. 4 for exposed ducts and Finish No. 2B for concealed duct or ducts located in mechanical rooms.
- D. Joint Sealing: Refer to SMACNA HVAC Duct Construction Standards, Metal and Flexible.

1. Sealant: Elastomeric compound, gun or brush grade, maximum 25 flame spread, and 50 smoke developed (dry state) compounded specifically for sealing ductwork as recommended by the manufacturer. Generally, provide liquid sealant, with or without compatible tape, for low clearance slip joints and heavy, permanently elastic, mastic type where clearances are larger. Oil base caulking and glazing compounds are prohibited because they do not retain elasticity and bond.

## **2.2 DUCT CONSTRUCTION AND INSTALLATION**

- A. Regardless of the pressure classifications outlined in the SMACNA Standards, fabricate and seal the ductwork in accordance with the following pressure classifications:
- B. Duct Pressure Classification:
  1. 0 to 13 mm (0 to 1/2 inch)
  2. 13 mm to 25 mm (1/2 inch to 1 inch)
  3. 25 mm to 50 mm (1 inch to 2 inch)
  4. 50 mm to 75 mm (2 inch to 3 inch)
  5. 75 mm to 100 mm (3 inch to 4 inch)
- C. Seal Class: All ductwork shall receive Class A Seal.
- Q. Duct Hangers and Supports: Refer to SMACNA Standards. Avoid use of trapeze hangers for round duct.

## **PART 3 - EXECUTION**

### **3.1 INSTALLATION**

- A. If an installation is unsatisfactory to the COR, the contractor shall correct the installation at no additional cost or time to the Govt.
- B. Comply with provisions of Section 23 05 11, COMMON WORK RESULTS FOR HVAC, particularly regarding coordination with other trades and work in existing buildings.
- C. Fabricate and install ductwork and accessories in accordance with referenced SMACNA Standards:
  1. Contract documents show the general layout of ductwork and accessories but do not show all required fittings and offsets that may be necessary to connect ducts to equipment, boxes, diffusers, grilles, etc., and to coordinate with other trades. Fabricate ductwork based on field measurements. Provide all necessary fittings and offsets at no additional cost to the Government. Coordinate with other trades for space available and relative location of HVAC equipment and accessories on ceiling grid. Duct sizes in the contract documents are inside dimensions which shall be altered by

- Contractor to other dimensions with the same air handling characteristics where necessary to avoid interferences and clearance difficulties.
2. Provide duct transitions, offsets and connections to dampers, coils, and other equipment in accordance with SMACNA Standards. Provide streamliner, when an obstruction cannot be avoided and must be taken in by a duct. Repair galvanized areas with galvanizing repair compound.
  3. Provide bolted construction and tie-rod reinforcement in accordance with SMACNA Standards.
  4. Construct casings, eliminators, and pipe penetrations in accordance with SMACNA Standards. Design casing access doors to swing against air pressure so that pressure helps to maintain a tight seal.
- D. Install duct hangers and supports in accordance with SMACNA Standards.

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