

**DEPARTMENT OF VETERANS AFFAIRS  
VHA MASTER SPECIFICATIONS**

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**SECTION 00 01 15**  
**LIST OF DRAWING SHEETS**

The drawings listed below accompanying this specification form a part of the contract.

<u>Drawing No.</u>	<u>Title</u>
	<u>GENERAL INFORMATION</u>
GI-001	TITLE SHEET
	<u>ARCHITECTURAL</u>
AD-101	ROOF DEMOLITION PLAN
AE-101	NEW ROOF REPLACEMENT PLAN
AE-102	ROOF DETAILS
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**SECTION 01 00 00  
GENERAL REQUIREMENTS**

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**SECTION 01 00 00  
GENERAL REQUIREMENTS**

**1.1 SAFETY REQUIREMENTS**

Refer to section 01 35 26, SAFETY REQUIREMENTS for safety and infection control requirements.

**1.2 GENERAL INTENTION**

- A. Contractor shall completely prepare site for building operations, including demolition and removal of existing structures, and furnish labor and materials and perform work for Replace Roof Building #1 Project, as required by drawings and specifications.
- B. There shall only be one site visit/pre-bid walkthrough allowed. Details may be found on the solicitation.
- E. All employees of general contractor and subcontractors shall comply with VA security management program and obtain permission of the VA police, be identified by project and employer, and restricted from unauthorized access.

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

- A. BID ITEM I, BASE BID, ROOFING REPLACEMENT: Contractor shall provide all necessary labor, equipment, materials, etc. for the installation of new roofing system for Bldg. #1 at New York Harbor Healthcare System – Veterans Affairs (VA) Brooklyn Campus, 800 Poly Place, Brooklyn, NY 11209 as shown on the contract drawings and specifications. Work includes, but is not limited to replacing the entire existing Building #1 South Roofing System.

**SCOPE:**

Work includes installing a new Kemper (or approved equal fluid applied, waterproof, rot resistant, and thermally insulated throughout 20 year warranty of roof) Roofing System along with roof drain strainers, copper flashing, walking pads, and parapet wall repairs, as shown on the contract drawings and specifications. Contractor is responsible to:

- 1. Adhere to all OSHA safety requirements, including but not limited to installing fall protection, according to OSHA Standards.
- 2. Abate all ACM from entire roofing system.
- 3. Install temporary roofing after hot material removal.
- 4. Remove all coping stones (if applicable) and replace with wood blocking securely installed on top of brick parapet wall and cap with aluminum coping caps.

5. Repair and/or fill and seal damage in parapet wall with mortar.
6. Repair/replace all flashing under current coping stones (if applicable) to be installed under newly aluminum encapsulated wood blocking.
7. Unclog and snake all roof drains to the basement.
8. Re-insulate the drain sleeves up to the elbow, after abatement is complete.
9. Temporarily remove all necessary roof equipment and/or electrical/mechanical systems (not limited to units shown on drawings) and replace/reinstall upon installation of new roofing system.
10. Demolish and remove from the field the entire existing roofing system to the concrete deck.
11. Inspect the concrete/metal deck and patch/repair as necessary and prepare for membrane installation.
12. Install new cast iron drains and lower as required to create a proper pitch.
13. Install rigid and tapered insulation to create a proper pitch to the roof drains.
14. Adhere ½” cement cover board using InstaStick Foam Adhesive (or approved equal).
15. Strip all joints using resin saturated 4” fleece.
16. Prime with Kempertec EP Primer (or approved equal primer that will properly bond to chosen liquid roofing system’s material, throughout 20 year warranty of roof) and spread kiln dried silica sand into the wet aggregate.
17. Apply Kemperol 2K-PUR/165 (or approved equal that is easy to clean, highly durable, waterproof/airtight & leak free throughout 20 year warranty of roof) on flashings, penetrations, drains and the field.
18. Provide and install traffic pads where required.
19. Re-caulk all wood blocking on roof perimeter (if applicable).
20. Coat all flashing seams with flashing bond and mesh.
21. Install construction fence around the building roof’s perimeter, to ensure safety of materials and personnel on roof.
22. Asbestos-containing roof flashing and caulking materials must be abated to facilitate the replacement of the roof. All roofing materials shall be treated as asbestos-containing materials (ACM), unless proven otherwise, including: roof perimeter and curb flashing; caulking on metal vent caps; coping stone caulking; louvre caulking; HVAC unit mastic/flashing; roof hatch flashing; roof drain flashing; mastic at base of fencing; and pitch pocket mastic.
23. The Contractor is to abate the ACM in accordance with New York City Department of Environmental Protection (NYCDEP) Title 15, Chapter 1 and New York State Department of Labor (NYSDOL)

Industrial Code Rule 56 (12 NYCRR Part 56)., the VAMC specification and applicable federal regulations.

24. The entire roof shall be considered the asbestos abatement work area. Only NYCDEP and NYSDOL certified asbestos workers and authorized visitors shall be permitted in the roof work area during abatement. A minimum distance of twenty-five feet (25') shall be maintained between the asbestos work area and adjacent non-asbestos work areas.
25. Roof work areas shall not require clearance air samples. The roof will be considered abated when there is no visible debris or dust remaining and the VA's project monitor has performed a successful visual inspection.
26. The location of the remote decontamination units and waste dumpster shall be mutually agreed upon during the preconstruction meeting by the VAMC and asbestos abatement contractor.
27. The asbestos abatement work shall be carefully coordinated with the roofing replacement so that the building is not left exposed to water damage. At no time shall more roofing material be removed than what can be replaced in one (1) day.
28. The contractor shall be responsible for any and all damages resulting from asbestos abatement activities.
29. The contractor shall comply with all regulations concerning OSHA fall protection.
30. HVAC intakes and exhausts, vents and drains that cannot be shutoff or sealed with two (2) layers of 6-mil plastic sheeting must be extended using an airtight rigid sheathing to a minimum height of ten feet (10') above the work area during roof abatement.
31. All work area decontamination units (personal and waste) shall be fully framed and sheathed because they will be located in areas of public access.
32. All utilities, mechanical systems and piping shall be locked out and tagged before the contractor is to begin abatement activities.
33. Proper construction and safety signage shall be utilized throughout the construction site, where applicable, during work.
34. All associated debris and waste must be properly disposed of immediately. Storage of construction debris and waste, on the facility, is prohibited unless otherwise authorized by the VA.
35. Contractor shall provide "As-Built" drawings, as per contract specification.
36. All construction must comply with the latest NFPA 101 Life Safety, NFPA 99 Health Care Facilities.
37. All work must fully comply with contract drawings and specifications.

**COMPLETION: 150 CALENDAR DAYS.**

The installed roof system must have a minimum twenty (20) year warranty. The warranty letter must be provided to the VA after completion of the new roof system. All work must be coordinated with the COR, Maintenance & Repair Manager and Brooklyn Engineering Chief. All work shall be in accordance with the contract drawings and specifications. All work shall comply with Occupational Safety & health Administration (OSHA) Regulations, National Fire Protection Association (NFPA) 101 Life safety Code and VA Standards and Regulations.

#### **1.4 SPECIFICATIONS AND DRAWINGS FOR CONTRACTOR**

- A. AFTER AWARD OF CONTRACT, zero (0) sets of specifications and drawings will be furnished.
- B. Additional sets of drawings may be made by the Contractor, at the Contractor's expense.

#### **1.5 CONSTRUCTION SECURITY REQUIREMENTS**

##### **A. Security Plan:**

- 1. The security plan defines both physical and administrative security procedures that will remain effective for the entire duration of the project.
- 2. The General Contractor is responsible for assuring that all sub-contractors working on the project and their employees also comply with these regulations.

##### **B. Security Procedures:**

- 1. General Contractor's employees shall not enter the project site without appropriate badge. They may also be subject to inspection of their personal effects when entering or leaving the project site.
- 2. Before starting work the General Contractor shall give one week's notice to the Contracting Officer so that security arrangements can be provided for the employees. This notice is separate from any notices required for utility shutdown described later in this section.
- 3. For working outside the "regular hours" as defined in the contract, The General Contractor shall give 3 day advance notice to the Contracting Officer so that security arrangements can be provided for the employees. This notice is separate from any notices required for utility shutdown described later in



section.

4. No photography of VA premises is allowed without written permission of the Contracting Officer.
5. VA reserves the right to close down or shut down the project site and order General Contractor's employees off the premises in the event of a national emergency. The General Contractor may return to the site only with the written approval of the Contracting Officer.

C. Guards: N/A

D. Key Control:

1. The General Contractor shall provide duplicate keys and lock combinations to the Contracting officers representative (COR) for the purpose of security inspections of every area of project including tool boxes and parked machines and take any emergency action.

E. Document Control:

1. Before starting any work, the General Contractor/Sub Contractors shall submit an electronic security memorandum describing the approach to following goals and maintaining confidentiality of "sensitive information".
2. The General Contractor is responsible for safekeeping of all drawings, project manual and other project information. This information shall be shared only with those with a specific need to accomplish the project.
3. Certain documents, sketches, videos or photographs and drawings may be marked "Law Enforcement Sensitive" or "Sensitive Unclassified". Secure such information in separate containers and limit the access to only those who will need it for the project. Return the information to the Contracting Officer upon request.
4. These security documents shall not be removed or transmitted from the project site without the written approval of Contracting Officer.
5. All paper waste or electronic media such as CD's and diskettes shall be shredded and destroyed in a manner acceptable to the VA.
6. Notify Contracting Officer and Site Security Officer immediately when there is a loss or compromise of "sensitive information".

All electronic information shall be stored in specified location following VA standards and procedures using an Engineering Document Management Software (EDMS).

- a. Security, access and maintenance of all project drawings, both scanned and electronic shall be performed and tracked through the EDMS system.
- b. "Sensitive information" including drawings and other documents may be attached to e-mail provided all VA encryption procedures are followed.

**F. Motor Vehicle Restrictions**

1. Vehicle authorization request shall be required for any vehicle entering the site and such request shall be submitted 24 hours before the date and time of access. Access shall be restricted to picking up and dropping off materials and supplies.
2. A limited number of (2 to 5) permits shall be issued for General Contractor and its employees for parking in designated areas only.

**1.6 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, its 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 the Contractor only with the approval of the 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 the Contractor and shall be removed by the Contractor at its expense upon completion of the work. With the written consent of the Contracting Officer, the buildings and utilities may be abandoned and need not be removed.
- 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.

D. Working space and space available for storing materials shall be as determined by the COR.

E. Workmen are subject to rules of Medical Center applicable to their conduct.

1. Do not store materials and equipment in other than assigned areas.
2. Schedule delivery of materials and equipment to immediate construction working areas within buildings in use by Department of Veterans Affairs in quantities sufficient for not more than two work days. Provide unobstructed access to Medical Center areas required to remain in operation.
3. Where access by Medical Center personnel to vacated portions of buildings is not required, storage of Contractor's materials and equipment will be permitted subject to fire and safety requirements.

G. Phasing:

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 that no lapses in operation occur. It is the CONTRACTOR'S responsibility to develop a work plan and schedule detailing, at a minimum, the procedures to be employed, the equipment and materials to be used, the interim life safety measure to be used during the work, and a schedule defining the duration of the work with milestone subtasks.

To insure such executions, Contractor shall furnish the COR with a schedule of approximate dates on which the Contractor intends to accomplish work in each specific area of site, building or portion thereof. In addition, Contractor shall notify the COR two weeks in advance of the proposed date of starting work in each specific area of site, building or portion thereof. Arrange such dates to insure accomplishment of this work in successive phases mutually agreeable to the Medical Center Director, COR and Contractor, as follows:

#### **Phase I: Bldg. #1 Roofing System**

H. Building No. 1 will be occupied during performance of work.

Contractor shall take all measures and provide all material necessary for protecting existing equipment and property in affected areas of construction against dust and debris, so that equipment and affected areas to be used in the Medical Centers operations will not be hindered.

Contractor shall permit access to Department of Veterans Affairs' personnel and patients through other construction areas which serve as routes of access to such affected areas and equipment. These routes whether access or egress shall be isolated from the construction area by temporary partitions and have walking surfaces, lighting, etc. to facilitate patient and staff access. Coordinate alteration work in areas occupied by Department of Veterans Affairs so that Medical Center operations will continue during the construction period. Contractor is responsible for working after 5:00 pm and on weekends if, and only if, work impacts the Medical Center operation or directed by the COR.

- I. Construction Fence: Before construction operations begin, Contractor shall provide a chain link construction fence, seven feet minimum height, around the construction area indicated on the drawings. Provide gates as required for access with necessary hardware, including hasps and padlocks. Fasten fence fabric to terminal posts with tension bands and to line posts and top and bottom rails with tie wires spaced at maximum 15 inches. Bottom of fences shall extend to one inch above grade. Remove the fence when directed by the COR.
- 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. 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. Utilities Services: Maintain existing utility services for Medical Center at all times. Provide temporary facilities, labor, materials, equipment, connections, and utilities to assure uninterrupted services. Where necessary to cut existing water, steam, gases, sewer or air pipes, or conduits, wires, cables, etc. of utility services or of fire protection systems and communications systems (including telephone), they shall be cut and capped at suitable places where shown; or, in absence of such indication, where directed by COR.
  - 1. No utility service such as water, gas, steam, sewers or electricity, or fire protection systems and communications systems may be interrupted without prior approval of COR and Facility Manager.

Electrical work shall be accomplished with all affected circuits or equipment de-energized. When an electrical outage cannot be accomplished, work on any energized circuits or equipment shall not commence without a detailed work plan, the Medical Center Director's prior knowledge and written approval.

2. Contractor shall submit a request to interrupt any such services to COR, in writing, 7 days in advance of proposed interruption. Request shall state reason, date, exact time of, and approximate duration of such interruption.
  3. Contractor will be advised (in writing) of approval of request, or of which other date and/or time such interruption will cause least inconvenience to operations of Medical Center. Interruption time approved by Medical Center may occur at other than Contractor's normal working hours.
  4. Major interruptions of any system must be requested, in writing, at least 15 calendar days prior to the desired time and shall be performed as directed by the COR .
  5. In case of a contract construction emergency, service will be interrupted on approval of COR. Such approval will be confirmed in writing as soon as practical.
  6. Whenever it is required that a connection fee be paid to a public utility provider for new permanent service to the construction project, for such items as water, sewer, electricity, gas or steam, payment of such fee shall be the responsibility of the Government and not the Contractor.
- L. Abandoned Lines: All service lines such as wires, cables, conduits, ducts, pipes and the like, and their hangers or supports, which are to be abandoned but are not required to be entirely removed, shall be sealed, capped or plugged at the main, branch or panel they originate from. The lines shall not be capped in finished areas, but shall be removed and sealed, capped or plugged in ceilings, within furred spaces, in unfinished areas, or within walls or partitions; so that they are completely behind the finished surfaces.
- M. 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.
  2. Method and scheduling of required cutting, altering and removal of existing roads, walks and entrances must be approved by the COR and the Facility Manager.

N.

Coordinate the work for this contract with other construction operations as directed by COR and Facility Manager. This includes the scheduling of traffic and the use of roadways, as specified in Article, USE OF ROADWAYS.

## 1.7 ALTERATIONS

- A. Survey: Before any work is started, the Contractor shall make a thorough survey with the COR and the Facility Manager, of areas of buildings in which alterations occur and areas which are anticipated routes of access, and furnish a report, signed by both to the Contracting Officer and the COR. This report shall list roofs and spaces:
1. Existing condition and types of resilient flooring, doors, windows, walls and other surfaces not required to be altered throughout affected areas of the building.
  2. Existence and conditions of items such as plumbing fixtures and accessories, electrical fixtures, equipment, venetian blinds, shades, etc., required by drawings to be either reused or relocated, or both.
  3. Shall note any discrepancies between drawings and existing conditions at site.
  4. Shall designate areas for working space, materials storage and routes of access to areas within buildings where alterations occur and which have been agreed upon by Contractor and COR.
- B. Any items required by drawings to be either reused or relocated or both, found during this survey to be nonexistent, or in opinion of COR, to be in such condition that their use is impossible or impractical, shall be furnished and/or replaced by Contractor with new items in accordance with specifications which will be furnished by Government. Provided the contract work is changed by reason of this subparagraph B, the contract will be modified accordingly, under provisions of clause entitled "DIFFERING SITE CONDITIONS" (FAR 52.236-2) and "CHANGES" (FAR 52.243-4 and VAAR 852.236-88).
- C. Re-Survey: Fifteen (15) days before expected partial or final inspection date, the Contractor and COR together shall make a thorough re-survey of the areas of buildings involved. They shall furnish a report on conditions then existing, of resilient flooring, doors, windows, walls and other surfaces as compared with conditions of same as noted in first condition survey report:

Re-survey report shall also list any damage caused by Contractor to such flooring and other surfaces, despite protection measures; and, will form basis for determining extent of repair work required of Contractor to restore damage caused by Contractor's workmen in executing work of this contract.

D. Protection: Provide the following protective measures:

1. Wherever existing roof surfaces are disturbed they shall be protected against water infiltration. In case of leaks, they shall be repaired immediately upon discovery.
2. Temporary protection against damage for portions of existing structures and grounds where work is to be done, materials handled and equipment moved and/or relocated.
3. Protection of interior of existing structures at all times, from damage, dust and weather inclemency. Wherever work is performed, floor surfaces that are to remain in place shall be adequately protected prior to starting work, and this protection shall be maintained intact until all work in the area is completed.

## **1.8 DISPOSAL AND RETENTION**

A. Materials and equipment accruing from work removed and from demolition of buildings or structures, or parts thereof, shall be disposed of as follows:

1. Reserved items which are to remain property of the Government are noted on drawings or in specifications as items to be stored. Items that remain property of the Government shall be removed or dislodged from present locations in such a manner as to prevent damage which would be detrimental to re-installation and reuse. Store such items where directed by COR and Facility Manager.
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.

**1.9****PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS**

- A. The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, that are not to be removed and which do not unreasonably interfere with the work required under this contract. The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during contract performance, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.
- B. The Contractor shall protect from damage all existing improvements and utilities at or near the work site and on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

**(FAR 52.236-9)**

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

**1.10 RESTORATION**

- A. Remove, cut, alter, replace, patch and repair existing work as necessary to install new work. Except as otherwise shown or specified, do not cut, alter or remove any structural work, and do not disturb any ducts, plumbing, steam, gas, or electric work without approval of the COR. Existing work to be altered or extended and that is found to be defective in any way, shall be reported to the COR before it is disturbed. Materials and workmanship used in restoring work, shall conform in type and quality to that of original existing construction, except as otherwise shown or specified.
- B. Upon completion of contract, deliver work complete and undamaged. Existing work (walls, ceilings, partitions, floors, mechanical and electrical work, lawns, paving, roads, walks, etc.) disturbed or removed as a result of performing required new work, shall be patched, repaired, reinstalled, or



replaced with new work, and refinished and left in as good condition as existed before commencing work.

- C. At Contractor's own expense, Contractor shall immediately restore to service and repair any damage caused by Contractor's workmen to existing piping and conduits, wires, cables, etc., of utility services or of fire protection systems and communications systems (including telephone) which are not scheduled for discontinuance or abandonment.
- D. Expense of repairs to such utilities and systems not shown on drawings or locations of which are unknown will be covered by adjustment to contract time and price in accordance with clause entitled "CHANGES" (FAR 52.243-4 and VAAR 852.236-88) and "DIFFERING SITE CONDITIONS" (FAR 52.236-2).

#### **1.11 PHYSICAL DATA: N/A**

#### **1.12 PROFESSIONAL SURVEYING SERVICES: N/A**

#### **1.13 LAYOUT OF WORK: N/A**

#### **1.14 AS-BUILT DRAWINGS**

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

#### **1.15 USE OF ROADWAYS**

- A. For hauling, use only established public roads and roads on Medical Center property and, when authorized by the COR, such temporary roads which are necessary in the performance of contract work. Temporary roads shall be constructed and restoration performed by the Contractor at Contractor's expense. When necessary to cross curbing, sidewalks, or similar construction, they must be protected by well-constructed bridges.

**1.16****RESIDENT ENGINEER'S FIELD OFFICE: N/A****1.17 TEMPORARY USE OF MECHANICAL AND ELECTRICAL EQUIPMENT: N/A****1.18 TEMPORARY USE OF EXISTING ELEVATORS**

- A. Contractor will not be allowed the use of existing elevators. Outside type hoist shall be used by Contractor for transporting materials and equipment.

**1.19 TEMPORARY USE OF NEW ELEVATORS: N/A****1.20 TEMPORARY TOILETS**

- A. Provide where directed, (for use of all Contractor's workmen) ample temporary sanitary toilet accommodations with suitable sewer and water connections; or, when approved by the COR, provide suitable dry closets where directed. Keep such places clean and free from flies, and all connections and appliances connected therewith are to be removed prior to completion of contract, and premises left perfectly clean.

**1.21 AVAILABILITY AND USE OF UTILITY SERVICES**

- A. The Government shall make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the contract. The amount to be paid by the Contractor for chargeable electrical services shall be the prevailing rates charged to the Government. The Contractor shall carefully conserve any utilities furnished without charge.
- B. The Contractor, at Contractor's expense and in a workmanlike manner, in compliance with code and as satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines, and all meters required to measure the amount of electricity used for the purpose of determining charges. Before final acceptance of the work by the Government, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated paraphernalia and repair restore the infrastructure as required.
- C. Contractor shall install meters at Contractor's expense and furnish the Medical Center a monthly record of the Contractor's usage of electricity as hereinafter specified.
- D. Heat: Furnish temporary heat necessary to prevent injury to work and materials through dampness and cold. Use of open salamanders or any temporary heating devices which may be fire hazards or may smoke and damage finished work, will not be permitted. Maintain minimum temperatures as specified for various materials:

Obtain heat by connecting to Medical Center heating distribution system.

- a. Steam is available at no cost to Contractor.

E. Electricity (for Construction and Testing): Furnish all temporary electric services.

1. Obtain electricity by connecting to the Medical Center electrical distribution system. The Contractor shall meter and pay for electricity required for electric cranes and hoisting devices, electrical welding devices and any electrical heating devices providing temporary heat. Electricity for all other uses is available at no cost to the Contractor.

F. Water (for Construction and Testing): Furnish temporary water service.

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

G. Fuel: Natural and LP gas and burner fuel oil required for boiler cleaning, normal initial boiler-burner setup and adjusting, and for performing the specified boiler tests will be furnished by the Government. Fuel required for prolonged boiler-burner setup, adjustments, or modifications due to improper design or operation of boiler, burner, or control devices shall be furnished and paid by the Contractor at Contractor's expense.

**1.23 NEW TELEPHONE EQUIPMENT: N/A**

**1.24 TESTS: N/A**

**1.24 INSTRUCTIONS: N/A**

**1.25 GOVERNMENT-FURNISHED PROPERTY: N/A**

**1.26 RELOCATED EQUIPMENT**

- A. Contractor will be responsible for removing existing roof equipment to install new roof. Contractor will be responsible for re-installing the equipment once the new roofing system is installed.

**1.27 STORAGE SPACE FOR DEPARTMENT OF VETERANS AFFAIRS EQUIPMENT: N/A**

**1.28 CONSTRUCTION SIGN: N/A**

**1.29 SAFETY SIGN: N/A**

**1.30 PHOTOGRAPHIC DOCUMENTATION: N/A**

**1.31 FINAL ELEVATION DIGITAL IMAGES: N/A**

**1.32 HISTORIC PRESERVATION: N/A**

**1.33 VA TRIRIGA CPMS: N/A**

- - - E N D OF SECTION - - -

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

- 1-1. Refer to Articles titled SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FAR 52.236-21) and, SPECIAL NOTES (VAAR 852.236-91), in GENERAL CONDITIONS.
- 1-2. For the purposes of this contract, samples, test reports, certificates, and manufacturers' literature and data shall also be subject to the previously referenced requirements. The following text refers to all items collectively as SUBMITTALS.
- 1-3. Submit for approval, all of the items specifically mentioned under the separate sections of the specification, with information sufficient to evidence full compliance with contract requirements. Materials, fabricated articles and the like to be installed in permanent work shall equal those of approved submittals. After an item has been approved, no change in brand or make will be permitted unless:
- A. Satisfactory written evidence is presented to, and approved by Contracting Officer, that manufacturer cannot make scheduled delivery of approved item or;
  - B. Item delivered has been rejected and substitution of a suitable item is an urgent necessity or;
  - C. Other conditions become apparent which indicates approval of such substitute item to be in best interest of the Government.
- 1-4. Forward the submittals in sufficient time to permit proper consideration and approval action by Government. Time the submission to assure adequate lead time for procurement of contract required items. Delays attributable to untimely and rejected submittals will not serve as a basis for extending contract time for completion.
- 1-5. Submittals will be reviewed for compliance with contract requirements by Resident Engineer, and action thereon will be taken by Resident Engineer on behalf of the Contracting Officer.
- 1-6. Upon receipt of submittals, Resident Engineer will assign a file number thereto. Contractor, in any subsequent correspondence, shall refer to this file and identification number to expedite replies relative to previously approved or disapproved submittals.
- 1-7. The Government reserves the right to require additional submittals, whether or not particularly mentioned in this contract. If additional submittals beyond those required by the contract are furnished pursuant to request therefor by Contracting Officer, adjustment in contract price and time will be made in accordance with Articles titled CHANGES (FAR 52.243-4) and CHANGES - SUPPLEMENT (VAAR 852.236-88) of the GENERAL CONDITIONS.

1-8.

Schedules called for in specifications and shown on shop drawings shall be submitted for use and information of Department of Veterans Affairs and Resident Engineer. However, the Contractor shall assume responsibility for coordinating and verifying schedules. The Contracting Officer and Resident Engineer assumes no responsibility for checking schedules or layout drawings for exact sizes, exact numbers and detailed positioning of items.

1-9. Submittals must be submitted by Contractor only and shipped prepaid. Contracting Officer assumes no responsibility for checking quantities or exact numbers included in such submittals.

- A. Submit samples in single units unless otherwise specified. Submit shop drawings, schedules, manufacturers' literature and data, and certificates in quadruplicate, except where a greater number is specified.
- B. Submittals will receive consideration only when covered by a transmittal letter signed by Contractor. Letter shall be sent via first class mail and shall contain the list of items, name of Medical Center, name of Contractor, contract number, applicable specification paragraph numbers, applicable drawing numbers (and other information required for exact identification of location for each item), manufacturer and brand, ASTM or Federal Specification Number (if any) and such additional information as may be required by specifications for particular item being furnished. In addition, catalogs shall be marked to indicate specific items submitted for approval.
  - 1. A copy of letter must be enclosed with items, and any items received without identification letter will be considered "unclaimed goods" and held for a limited time only.
  - 2. Each sample, certificate, manufacturers' literature and data shall be labeled to indicate the name and location of the Medical Center, name of Contractor, manufacturer, brand, contract number and ASTM or Federal Specification Number as applicable and location(s) on project.
  - 3. Required certificates shall be signed by an authorized representative of manufacturer or supplier of material, and by Contractor.
- C. In addition to complying with the applicable requirements specified in preceding Article 1.9, samples which are required to have Laboratory Tests (those preceded by symbol "LT" under the separate sections of the specification shall be tested, at the expense of Contractor, in a commercial laboratory approved by Contracting Officer.
  - 1. Laboratory shall furnish Contracting Officer with a certificate stating that it is fully equipped and qualified to perform intended work, is fully acquainted with specification requirements and intended use of materials and is an independent establishment in no way connected with organization of Contractor or with manufacturer or supplier of materials to be tested.
  - 2. Certificates shall also set forth a list of comparable projects which laboratory has performed similar functions during past five years.
  - 3. Samples and laboratory tests shall be sent directly to an approved commercial testing laboratory.
  - 4. Contractor shall send a copy of transmittal letter to the COR with submission of material to a commercial testing laboratory.
  - 5. Laboratory test reports shall be sent directly to Resident Engineer for appropriate action.
  - 6. Laboratory reports shall list contract specification test requirements and a comparative list of the laboratory test results. When tests show that the material meets specification requirements, the laboratory shall so certify on test report.

7. Laboratory test reports shall also include a recommendation for approval or disapproval of tested item.
- D. If submittal samples have been disapproved, resubmit new samples as soon as possible after notification of disapproval. Such new samples shall be marked "Resubmitted Sample" in addition to containing other previously specified information required on label and in transmittal letter.
- E. Approved samples will be kept on file by the Resident Engineer at the site until completion of contract, at which time such samples will be delivered to Contractor as Contractor's property. Where noted in technical sections of specifications, approved samples in good condition may be used in their proper locations in contract work. At completion of contract, samples that are not approved will be returned to Contractor only upon request and at Contractor's expense. Such request should be made prior to completion of the contract. Disapproved samples that are not requested for return by Contractor will be discarded after completion of contract.
- F. Submittal drawings (shop, erection or setting drawings) and schedules, required for work of various trades, shall be checked before submission by technically qualified employees of Contractor for accuracy, completeness and compliance with contract requirements. These drawings and schedules shall be stamped and signed by Contractor certifying to such check.
  1. For each drawing required, submit one legible photographic paper or vellum reproducible.
  2. Reproducible shall be full size.
  3. Each drawing shall have marked thereon, proper descriptive title, including Medical Center location, project number, manufacturer's number, reference to contract drawing number, detail Section Number, and Specification Section Number.
  4. A space 120 mm by 125 mm (4-3/4 by 5 inches) shall be reserved on each drawing to accommodate approval or disapproval stamp.
  5. Submit drawings, ROLLED WITHIN A MAILING TUBE, fully protected for shipment.
  6. One reproducible print of approved or disapproved shop drawings will be forwarded to Contractor.
  7. When work is directly related and involves more than one trade, shop drawings shall be submitted to Architect-Engineer under one cover. 1-10. Samples, shop drawings, test reports, certificates and manufacturers' literature and data, shall be submitted for approval to

**Resident Engineer/COR (138)**

**800 Poly Place Bldg. #4 Room**

**Brooklyn, New York 11209**

--- E N D OF SECTION ---

**SECTION 01 42 19**  
**REFERENCE STANDARDS**

**PART 1 - GENERAL**

**1.1 DESCRIPTION**

This section specifies the availability and source of references and standards specified in the project manual under paragraphs APPLICABLE PUBLICATIONS and/or shown on the drawings.

**1.2 AVAILABILITY OF SPECIFICATIONS LISTED IN THE GSA INDEX OF FEDERAL SPECIFICATIONS, STANDARDS AND COMMERCIAL ITEM DESCRIPTIONS FPMR PART 101-29 (FAR 52.211-1) (AUG 1998)**

- A. The GSA Index of Federal Specifications, Standards and Commercial Item Descriptions, FPMR Part 101-29 and copies of specifications, standards, and commercial item descriptions cited in the solicitation may be obtained for a fee by submitting a request to – GSA Federal Supply Service, Specifications Section, Suite 8100, 470 East L’Enfant Plaza, SW, Washington, DC 20407, Telephone (202) 619-8925, Facsimile (202) 619- 8978.
- B. If the General Services Administration, Department of Agriculture, or Department of Veterans Affairs issued this solicitation, a single copy of specifications, standards, and commercial item descriptions cited in this solicitation may be obtained free of charge by submitting a request to the addressee in paragraph (a) of this provision. Additional copies will be issued for a fee.

**1.3 AVAILABILITY FOR EXAMINATION OF SPECIFICATIONS NOT LISTED IN THE GSA INDEX OF FEDERAL SPECIFICATIONS, STANDARDS AND COMMERCIAL ITEM DESCRIPTIONS (FAR 52.211-4) (JUN 1988)**

The specifications and standards cited in this solicitation can be examined at the following location:

**DEPARTMENT OF VETERANS AFFAIRS**

Office of Construction & Facilities Management

Facilities Quality Service (00CFM1A)

811 Vermont Avenue, NW - Room 462

Washington, DC 20420



Telephone Number: (202) 565-5214

Between 9:00 AM - 3:00 PM

#### **1.4 AVAILABILITY OF SPECIFICATIONS NOT LISTED IN THE GSA INDEX OF FEDERAL SPECIFICATIONS, STANDARDS AND COMMERCIAL ITEM DESCRIPTIONS (FAR 52.211-3) (JUN 1988)**

The specifications cited in this solicitation may be obtained from the associations or organizations listed below.

AA Aluminum Association Inc.

<http://www.aluminum.org>

AABC Associated Air Balance Council

<http://www.aabchq.com>

AAMA American Architectural Manufacturer's Association

<http://www.aamanet.org>

AAN American Nursery and Landscape Association

<http://www.anla.org>

AASHTO American Association of State Highway and Transportation Officials

<http://www.aashto.org>

AATCC American Association of Textile Chemists and Colorists

<http://www.aatcc.org>

ACGIH American Conference of Governmental Industrial Hygienists

<http://www.acgih.org>

ACI American Concrete Institute

<http://www.aci-int.net>

ACPA American Concrete Pipe Association

<http://www.concrete-pipe.org>

ACPPA American Concrete Pressure Pipe Association

<http://www.acppa.org>

ADC ~~AFGI~~

<http://flexibleduct.org>

AGA ~~AGA~~

<http://www.aga.org>

AGC Associated General Contractors of America

<http://www.agc.org>

AGMA American Gear Manufacturers Association, Inc. <http://www.agma.org>

AHAM Association of Home Appliance Manufacturers <http://www.aham.org>

AISC ~~American Institute of Steel Construction~~

<http://www.aisc.org>

AISI ~~American Iron and Steel Institute~~

<http://www.steel.org>

AITC ~~American Institute of Timber Construction~~

<http://www.aitc-glulam.org>

AMCA Air Movement and Control Association, Inc. <http://www.amca.org>

ANLA American Nursery & Landscape Association <http://www.anla.org>

ANSI ~~American National Standards Institute~~

<http://www.ansi.org>

APA ~~The American Plywood Association~~

<http://www.apawood.org>

ARI ~~American Refrigeration Institute~~

<http://www.ari.org>

ASAE ~~American Society of Agricultural Engineers~~

<http://www.asae.org>

ASCE ~~American Society of Civil Engineers~~

<http://www.asce.org>

ASHRAE American Society of Heating, Refrigerating, and Air-Conditioning Engineers <http://www.ashrae.org>

ASME American Society of Mechanical Engineers <http://www.asme.org>

ASSE American Society of Sanitary Engineering  
<http://www.asse-plumbing.org>

ASTM ~~American Society of Mechanical Engineers~~  
<http://www.astm.org>

AWI Architectural Woodwork Institute  
<http://www.awinet.org>

AWS American Welding Society  
<http://www.aws.org>

AWWA American Water Works Association <http://www.awwa.org>

BHMA Builders Hardware Manufacturers Association  
<http://www.buildershardware.com>

BIA Brick Institute of America  
<http://www.bia.org>

CAGI Compressed Air and Gas Institute  
<http://www.cagi.org>

CGA Compressed Gas Association, Inc.  
<http://www.cganet.com>

CI The Chlorine Institute, Inc.  
<http://www.chlorineinstitute.org>

CISCA Ceilings and Interior Systems Construction Association <http://www.cisca.org>

CISPI Cast Iron Soil Pipe Institute  
<http://www.cispi.org>

CLFMI Chain Link Fence Manufacturers Institute  
<http://www.chainlinkinfo.org>

CPMB Concrete Plant Manufacturers Bureau  
<http://www.cpm.org>

CRA	California Redwood Association <a href="http://www.calredwood.org">http://www.calredwood.org</a>	
CRSI	<del>CRSI</del> <a href="http://www.crsi.org">http://www.crsi.org</a>	
CTI	Cooling Technology Institute <a href="http://www.cti.org">http://www.cti.org</a>	
DHI	Door and Hardware Institute <a href="http://www.dhi.org">http://www.dhi.org</a>	
EGSA	Electrical Generating Systems Association <a href="http://www.egsa.org">http://www.egsa.org</a>	
EEI	Edison Electric Institute <a href="http://www.eei.org">http://www.eei.org</a>	
EPA	Environmental Protection Agency <a href="http://www.epa.gov">http://www.epa.gov</a>	
ETL	ETL Testing Laboratories, Inc. <a href="http://www.etl.com">http://www.etl.com</a>	
FAA	Federal Aviation Administration <a href="http://www.faa.gov">http://www.faa.gov</a>	
FCC	Federal Communications Commission <a href="http://www.fcc.gov">http://www.fcc.gov</a>	
FPS	The Forest Products Society <a href="http://www.forestprod.org">http://www.forestprod.org</a>	
GANA	Glass Association of North America <a href="http://www.cssinfo.com/info/gana.html/">http://www.cssinfo.com/info/gana.html/</a>	FM
		Factory Mutual Insurance <a href="http://www.fmglobal.com">http://www.fmglobal.com</a>
GA	Gypsum Association <a href="http://www.gypsum.org">http://www.gypsum.org</a>	
GSA	General Services Administration <a href="http://www.gsa.gov">http://www.gsa.gov</a>	

HI	Hydraulic Institute <a href="http://www.pumps.org">http://www.pumps.org</a>
HPVA	Hardwood Plywood & Veneer Association <a href="http://www.hpva.org">http://www.hpva.org</a>
ICBO	International Conference of Building Officials <a href="http://www.icbo.org">http://www.icbo.org</a>
ICEA	Insulated Cable Engineers Association Inc. <a href="http://www.icea.net">http://www.icea.net</a>
\ICAC	Institute of Clean Air Companies <a href="http://www.icac.com">http://www.icac.com</a>
IEEE	Institute of Electrical and Electronics Engineers <a href="http://www.ieee.org">http://www.ieee.org</a>
IMSA	International Municipal Signal Association <a href="http://www.imsasafety.org">http://www.imsasafety.org</a>
IPCEA	Insulated Power Cable Engineers Association NBMA Metal Buildings Manufacturers Association <a href="http://www.mbma.com">http://www.mbma.com</a>
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry Inc. <a href="http://www.mss-hq.com">http://www.mss-hq.com</a>
NAAMM	National Association of Architectural Metal Manufacturers <a href="http://www.naamm.org">http://www.naamm.org</a>
NAPHCC	Plumbing-Heating-Cooling Contractors Association <a href="http://www.phccweb.org.org">http://www.phccweb.org.org</a>
NBS	National Bureau of Standards See - NIST
NBBPVI	National Board of Boiler and Pressure Vessel Inspectors <a href="http://www.nationboard.org">http://www.nationboard.org</a>
NEC	National Electric Code See - NFPA National Fire Protection Association

NEMA National Electrical Manufacturers Association <http://www.nema.org>

NFPA National Fire Protection Association  
<http://www.nfpa.org>

NHLA National Hardwood Lumber Association  
<http://www.natlhardwood.org> NIH National Institute of Health  
<http://www.nih.gov>

NIST National Institute of Standards and Technology  
<http://www.nist.gov>

NLMA Northeastern Lumber Manufacturers Association, Inc. <http://www.nelma.org>

NPA National Particleboard Association  
18928 Premiere Court  
Gaithersburg, MD 20879  
(301) 670-0604

NSF National Sanitation Foundation  
<http://www.nsf.org>

NWWDA Window and Door Manufacturers Association  
<http://www.nwwda.org>

OSHA Occupational Safety and Health Administration  
Department of Labor  
<http://www.osha.gov>

PCA Portland Cement Association  
<http://www.portcement.org>

PCI ~~Portland Cement Institute~~  
<http://www.pci.org>

PPI The Plastic Pipe Institute  
<http://www.plasticpipe.org>

PEI Porcelain Enamel Institute, Inc. <http://www.porcelainenamel.com>

PTI Post-Tensioning Institute <http://www.post-tensioning.org>

RFCI The Resilient Floor Covering Institute  
<http://www.rfci.com>

RIS ~~Rubber Institute~~  
See - CRA

RMA Rubber Manufacturers Association, Inc.  
<http://www.rma.org>

SCMA Southern Cypress Manufacturers Association  
<http://www.cypressinfo.org> SDI Steel Door Institute  
<http://www.steeldoor.org>

IGMA Insulating Glass Manufacturers Alliance  
<http://www.igmaonline.org> SJI Steel Joist Institute  
<http://www.steeljoist.org>

SMACNA Sheet Metal and Air-Conditioning Contractors National Association, Inc. <http://www.smacna.org>

SSPC ~~Tile Council of America~~  
<http://www.sspc.org>

STI Steel Tank Institute  
<http://www.steeltank.com> SWI Steel Window Institute  
<http://www.steelwindows.com>

TCA Tile Council of America, Inc.  
<http://www.tileusa.com>

TEMA Tubular Exchange Manufacturers Association <http://www.tema.org>

TPI Truss Plate Institute, Inc.  
583 D'Onofrio Drive; Suite 200  
Madison, WI 53719  
(608) 833-5900

UBC The Uniform Building Code  
See ICBO

UL Underwriters' Laboratories Incorporated  
<http://www.ul.com>

ULC Underwriters' Laboratories of Canada  
<http://www.ulc.ca>

WCLIB West Coast Lumber Inspection Bureau  
6980 SW Varns Road, P.O. Box 23145 Portland, OR 97223  
(503) 639-0651

WRCLA Western Red Cedar Lumber Association  
P.O. Box 120786  
New Brighton, MN 55112  
(612) 633-4334

WWPA Western Wood Products Association <http://www.wwpa.org>

- - - E N D OF SECTION - - -



## 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 Engineers (ASSE):

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

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):

10-2013 .....Standard for Portable Fire Extinguishers

30-2012 .....Flammable and Combustible Liquids Code

51B-2014.....Standard for Fire Prevention During Welding, Cutting and Other Hot  
Work

70-2014 .....National Electrical Code

70B-2013.....Recommended Practice for Electrical Equipment Maintenance

70E-2012 .....Standard for Electrical Safety in the Workplace

99-2012 .....Health Care Facilities Code

## 2013 Standard for Safeguarding Construction, Alteration, and Demolition Operations

### F. The Joint Commission (TJC)

TJC Manual .....Comprehensive Accreditation and Certification Manual

### G. U.S. Nuclear Regulatory Commission

10 CFR 20 .....Standards for Protection Against Radiation

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

29 CFR 1904 .....Reporting and Recording Injuries & Illnesses

29 CFR 1910 .....Safety and Health Regulations for General Industry

29 CFR 1926 .....Safety and Health Regulations for Construction Industry

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

### I. VHA Directive 2005-007

## 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. "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.
- C. High Visibility Accident. Any mishap which may generate publicity or high visibility.
- D. Medical Treatment. Treatment administered by a physician or by registered professional personnel under the standing orders of a physician. Medical treatment does not include first aid treatment even though provided by a physician or registered personnel.
- E. Recordable Injuries or Illnesses. Any work-related injury or illness that results in:

Death, regardless of the time between the injury and death, or the length of the illness;

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

### **1.3 REGULATORY REQUIREMENTS:**

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

### **1.4 ACCIDENT PREVENTION PLAN (APP):**

- A. The APP (aka Construction Safety & Health Plan) shall interface with the Contractor's overall safety and health program. Include any portions of the Contractor's overall safety and health program referenced in the APP in the applicable APP element and ensure it is site-specific. The Government considers the Prime Contractor to be the "controlling authority" for all worksite safety and health of each subcontractor(s). Contractors are responsible for informing their subcontractors of the safety provisions under the terms of the contract and the penalties for noncompliance, coordinating the work to prevent one craft from interfering with or creating hazardous working conditions for other crafts, and inspecting subcontractor operations to ensure that accident prevention responsibilities are being carried out.
- B. The APP shall be prepared as follows:

1. Written in English by a qualified person who is employed by the Prime Contractor articulating the specific work and hazards pertaining to the contract (model language can be found in ASSE A10.33). Specifically articulating the safety requirements found within these VA contract safety specifications.
2. Address both the Prime Contractors and the subcontractors work operations.
3. State measures to be taken to control hazards associated with materials, services, or equipment provided by suppliers.
4. Address all the elements/sub-elements and in order as follows:
  - a. **SIGNATURE SHEET.** Title, signature, and phone number of the following:
    - 1) Plan preparer (Qualified Person such as corporate safety staff person or contracted Certified Safety Professional with construction safety experience);
    - 2) Plan approver (company/corporate officers authorized to obligate the company);
    - 3) Plan concurrence (e.g., Chief of Operations, Corporate Chief of Safety, Corporate Industrial Hygienist, project manager or superintendent, project safety professional). Provide concurrence of other applicable corporate and project personnel (Contractor).
  - b. **BACKGROUND INFORMATION.** List the following:
    - 1) Contractor;
    - 2) Contract number;
    - 3) Project name;
    - 4) Brief project description, description of work to be performed, and location; phases of work anticipated (these will require an AHA).
  - c. **STATEMENT OF SAFETY AND HEALTH POLICY.** Provide a copy of current corporate/company Safety and Health Policy Statement, detailing commitment to providing a safe and healthful workplace for all employees. The Contractor's written safety program goals, objectives, and accident experience goals for this contract should be provided.
  - d. **RESPONSIBILITIES AND LINES OF AUTHORITIES.** Provide the following:

A statement of the employer's ultimate responsibility for the implementation of his SOH program;

- 2) Identification and accountability of personnel responsible for safety at both corporate and project level. Contracts specifically requiring safety or industrial hygiene personnel shall include a copy of their resumes.
- 3) The names of Competent and/or Qualified Person(s) and proof of competency/qualification to meet specific OSHA Competent/Qualified Person(s) requirements must be attached.;
- 4) Requirements that no work shall be performed unless a designated competent person is present on the job site;
- 5) Requirements for pre-task Activity Hazard Analysis (AHAs);
- 6) Lines of authority;
- 7) Policies and procedures regarding noncompliance with safety requirements (to include disciplinary actions for violation of safety requirements) should be identified;

e. **SUBCONTRACTORS AND SUPPLIERS.** If applicable, provide procedures for coordinating SOH activities with other employers on the job site:

- 1) Identification of subcontractors and suppliers (if known);
- 2) Safety responsibilities of subcontractors and suppliers.

f. **TRAINING.**

- 1) Site-specific SOH orientation training at the time of initial hire or assignment to the project for every employee before working on the project site is required.
- 2) Mandatory training and certifications that are applicable to this project (e.g., explosive actuated tools, crane operator, rigger, crane signal person, fall protection, electrical lockout/NFPA 70E, machine/equipment lockout, confined space, etc.) and any requirements for periodic retraining/recertification are required.
- 3) Procedures for ongoing safety and health training for supervisors and employees shall be established to address changes in site hazards/conditions.

OSHA 10-hour training is required for all workers on site and the OSHA 30-hour training is required for Trade Competent Persons (CPs)

**g. SAFETY AND HEALTH INSPECTIONS.**

- 1) Specific assignment of responsibilities for a minimum daily job site safety and health inspection during periods of work activity: Who will conduct (e.g., “Site Safety and Health CP”), proof of inspector’s training/qualifications, when inspections will be conducted, procedures for documentation, deficiency tracking system, and follow-up procedures.
- 2) Any external inspections/certifications that may be required (e.g., contracted CSP or CSHT)

**h. ACCIDENT INVESTIGATION & REPORTING.** The Contractor shall conduct mishap investigations of all OSHA Recordable Incidents. The APP shall include accident/incident investigation procedure & identify person(s) responsible to provide the following to the Facility Safety Manager and Contracting Officer Representative (COR) or Government Designated Authority:

- 1) Exposure data (man-hours worked);
- 2) Accident investigations, reports, and logs.

**i. PLANS (PROGRAMS, PROCEDURES) REQUIRED.** Based on a risk assessment of contracted activities and on mandatory OSHA compliance programs, the Contractor shall address all applicable occupational risks in site-specific compliance and accident prevention plans. These Plans shall include but are not be limited to procedures for addressing the risks associates with the following:

- 1) Emergency response;
- 2) Contingency for severe weather;
- 3) Fire Prevention;
- 4) Medical Support;
- 5) Posting of emergency telephone numbers;
- 6) Prevention of alcohol and drug abuse;



Site sanitation (housekeeping, drinking water, toilets);

- 8) Night operations and lighting;
- 9) Hazard communication program;
- 10) Welding/Cutting “Hot” work;
- 11) Electrical Safe Work Practices (Electrical LOTO/NFPA 70E);
- 12) General Electrical Safety
- 13) Hazardous energy control (Machine LOTO);
- 14) Site-Specific Fall Protection & Prevention;
- 15) Excavation/trenching;
- 16) Asbestos abatement;
- 17) Lead abatement;
- 18) Crane Critical lift;
- 19) Respiratory protection;
- 20) Health hazard control program;
- 21) Radiation Safety Program;
- 22) Abrasive blasting;
- 23) Heat/Cold Stress Monitoring;
- 24) Crystalline Silica Monitoring (Assessment);
- 25) Demolition plan (to include engineering survey);
- 26) Formwork and shoring erection and removal;
- 27) PreCast Concrete.

C. Submit the APP to the Facility Safety Manager and Contracting Officer Representative (COR) or Government Designated Authority for review for compliance with contract requirements in accordance

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 Facility Safety Manager and Contracting Officer Representative (COR) or Government Designated Authority, 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, until the matter has been rectified.
- E. Once work begins, changes to the accepted APP shall be made with the knowledge and concurrence of the Facility Safety Manager and Contracting Officer Representative (COR) 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 Contracting Officer within 24 hours of discovery. Eliminate/remove the hazard. In the interim, take all necessary action to restore and maintain safe working conditions in order to safeguard onsite personnel, visitors, the public (as defined by ASSE/SAFE A10.34) and the environment.

### **1.5 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 Facility Safety Manager and Contracting Officer Representative (COR) 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 and/or other State and Local agencies) shall be identified and included in the AHA. Certification of their

competency/qualification shall be submitted to the 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 current site safety issues.
  - b. If a new Competent/Qualified Person (not on the original list) is added, the list shall be updated (an administrative action not requiring an updated AHA). The new person shall acknowledge in writing that he or she has reviewed the AHA and is familiar with current site safety issues.
3. Submit AHAs to the Facility Safety Manager and Contracting Officer Representative (COR) or Government Designated Authority 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 monthly) at the Contractor supervisory safety meeting and updated as necessary when procedures, scheduling, or hazards change.
5. Develop the activity hazard analyses using the project schedule as the basis for the activities performed. All activities listed on the project schedule will require an AHA. The AHAs will be developed by the contractor, supplier, or subcontractor and provided to the prime contractor for review and approval and then submitted to the Facility Safety Manager and Contracting Officer Representative (COR) or Government Designated Authority.

## **1.6 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 preconstruction conference to gain a mutual understanding of its implementation. This includes the

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.
- C. Deficiencies in the submitted APP will be brought to the attention of the Contractor within 14 days of submittal, and the Contractor shall revise the plan to correct deficiencies and re-submit it for acceptance. Do not begin work until there is an accepted APP.

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

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

- E. The repeated presence of uncontrolled hazards during a contractor's work operations will result in the designated CP as being deemed incompetent and result in the required removal of the employee in accordance with FAR Clause 52.236-5: Material and Workmanship, Paragraph (c).

## **1.8 TRAINING:**

- A. The designated Prime Contractor SSHO must meet the requirements of all applicable OSHA standards and be capable (through training, experience, and qualifications) of ensuring that the requirements of 29 CFR 1926.16 and other appropriate Federal, State and local requirements are met for the project. As a minimum the SSHO must have completed the OSHA 30-hour Construction Safety class and have five (5) years of construction industry safety experience or three (3) years if he/she possesses a Certified Safety Professional (CSP) or certified Construction Safety and Health Technician (CSHT) certification or have a safety and health degree from an accredited university or college.
- B. All designated CPs shall have completed the OSHA 30-hour Construction Safety course within the past 5 years.
- C. In addition to the OSHA 30 Hour Construction Safety Course, all CPs with high hazard work operations such as operations involving asbestos, electrical, cranes, demolition, work at heights/fall protection, fire safety/life safety, ladder, rigging, scaffolds, and trenches/excavations shall have a specialized formal course in the hazard recognition & control associated with those high hazard work operations. Documented "repeat" deficiencies in the execution of safety requirements will require retaking the requisite formal course.
- D. All other construction workers shall have the OSHA 10-hour Construction Safety Outreach course and any necessary safety training to be able to identify hazards within their work environment.
- E. Submit training records associated with the above training requirements to the Contracting Officer Representative (COR) 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.
- F. Prior to any worker for the contractor or subcontractors beginning work, they shall undergo a safety briefing provided by the SSHO or his/her designated representative. As a minimum, this briefing shall include information on the site-specific hazards, construction limits, VAMC safety guidelines, means of

break areas, work hours, locations of restrooms, use of VAMC equipment, emergency procedures, accident reporting etc... Documentation shall be provided to the Resident Engineer that individuals have undergone contractor's safety briefing.

G. Ongoing safety training will be accomplished in the form of weekly documented safety meeting.

## **1.9 INSPECTIONS:**

A. The SSHO shall conduct frequent and regular safety inspections daily of the site and each of the subcontractors CPs shall conduct frequent and regular safety inspections daily of the their work operations as required by 29 CFR 1926.20(b)(2). Each week, the SSHO shall conduct a formal documented inspection of the entire construction areas with the subcontractors' "Trade Safety and Health CPs" present in their work areas. Coordinate with, and report findings and corrective actions weekly to the Contracting Officer Representative (COR).

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

A. Notify the Facility Safety Manager and the Contracting Officer Representative (COR) or Government Designated Authority as soon as practical, but no more than four hours after any accident meeting the definition of OSHA Recordable Injuries or Illnesses or High Visibility Accidents, property damage equal to or greater than \$5,000, or any weight handling equipment accident. Within notification include contractor name; contract title; type of contract; name of activity, installation or location where accident occurred; date and time of accident; names of personnel injured; extent of property damage, if any; extent of injury, if known, and brief description of accident (to include type of construction equipment used, PPE used, etc.). Preserve the conditions and evidence on the accident site until the Facility Safety Manager and Contracting Officer Representative (COR) or Government Designated Authority determine whether a government investigation will be conducted.

B. Conduct an accident investigation for recordable injuries and illnesses, for Medical Treatment defined in paragraph DEFINITIONS, and property damage accidents resulting in at least \$20,000 in damages, to establish the root cause(s) of the accident. Complete the VA Form 2162, and provide the report to the Facility Safety Manager and Contracting Officer Representative (COR) or Government Designated Authority within 5 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 the Contracting Officer Representative (COR).

D. A summation of all OSHA recordable accidents experienced on site by the contractor and associated sub-contractors for each month will be provided to the Facility Safety Manager and Contracting Officer Representative (COR) or Government Designated Authority weekly. The contractor and associated sub-contractors' OSHA 300 logs will be made available to the Facility Safety Manager and Contracting Officer Representative (COR) or Government Designated Authority as requested.

### **1.11 PERSONAL PROTECTIVE EQUIPMENT (PPE):**

A. PPE is governed in all areas by the nature of the work the employee is performing. For example, specific PPE required for performing work on electrical equipment is identified in NFPA 70E, Standard for Electrical Safety in the Workplace.

B. Mandatory PPE includes:

1. Hard Hats – unless written authorization is given by the Contracting Officer Representative (COR) in circumstances of work operations that have limited potential for falling object hazards such as during finishing work or minor remodeling. With authorization to relax the requirement of hard hats, if a worker becomes exposed to an overhead falling object hazard, then hard hats would be required in accordance with the OSHA regulations.
2. Safety glasses - unless written authorization is given by the Contracting Officer Representative (COR) 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 the Contracting Officer Representative (COR).
4. Hearing protection - Use personal hearing protection at all times in designated noise hazardous areas or when performing noise hazardous tasks.

### **1.12 INFECTION CONTROL**

A. Infection Control is critical in all medical center facilities. Interior construction activities causing disturbance of existing dust, or creating new dust, must be conducted within ventilation-controlled areas

minimize the flow of airborne particles into patient areas. Exterior construction activities causing disturbance of soil or creates dust in some other manner must be controlled.

- B. An AHA associated with infection control will be performed by VA personnel in accordance with FGI Guidelines (i.e. Infection Control Risk Assessment (ICRA)). The ICRA procedure found on the American Society for Healthcare Engineering (ASHE) website will be utilized. Risk classifications of Class II or lower will require approval by the Contracting Officer Representative (COR) before beginning any construction work. Risk classifications of Class III or higher will require a permit before beginning any construction work. Infection Control permits will be issued by the Project Engineer. The Infection Control Permits will be posted outside the appropriate construction area. More than one permit may be issued for a construction project if the work is located in separate areas requiring separate classes. The primary project scope area for this project is: **Class II** , however, work outside the primary project scope area may vary. The required infection control precautions with each class are as follows:

1. Class I requirements:

a. During Construction Work:

- 1) Notify the Facility Safety Manager and Contracting Officer Representative (COR).
- 2) Execute work by methods to minimize raising dust from construction operations.
- 3) Ceiling tiles: Immediately replace a ceiling tiles displaced for visual inspection.

b. Upon Completion:

- 1) Clean work area upon completion of task
- 2) Notify the Facility Safety Manager and Contracting Officer Representative (COR).

2. Class II requirements:

a. During Construction Work:

- 1) Notify the Facility Safety Manager and Contracting Officer Representative (COR).



Provide active means to prevent airborne dust from dispersing into atmosphere such as wet methods or tool mounted dust collectors where possible.

- 3) Water mist work surfaces to control dust while cutting.
- 4) Seal unused doors with duct tape.
- 5) Block off and seal air vents.
- 6) Remove or isolate HVAC system in areas where work is being performed.

b. Upon Completion:

- 1) Wipe work surfaces with cleaner/disinfectant.
- 2) Contain construction waste before transport in tightly covered containers.
- 3) Wet mop and/or vacuum with HEPA filtered vacuum before leaving work area.
- 4) Upon completion, restore HVAC system where work was performed
- 5) Notify the Facility Safety Manager and Contracting Officer Representative (COR).

3. Class III requirements:

a. During Construction Work:

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

Contain construction waste before transport in tightly covered containers.

- 6) Cover transport receptacles or carts. Tape covering unless solid lid.

b. Upon Completion:

- 1) Do not remove barriers from work area until completed project is inspected by the Facility Safety Manager and Contracting Officer Representative (COR) and thoroughly cleaned by the VA Environmental Services Department.
- 2) Remove construction barriers and ceiling protection carefully to minimize spreading of dirt and debris associated with construction, during normal work hours.
- 3) Vacuum work area with HEPA filtered vacuums.
- 4) Wet mop area with cleaner/disinfectant.
- 5) Upon completion, restore HVAC system where work was performed.
- 6) Return permit to the Contracting Officer Representative (COR).

4. Class IV requirements:

a. During Construction Work:

- 1) Obtain permit from the Contracting Officer Representative (COR).
- 2) Isolate HVAC system in area where work is being done to prevent contamination of duct system.
- 3) Complete all critical barriers i.e. sheetrock, plywood, plastic, to seal area from non work area or implement control cube method (cart with plastic covering and sealed connection to work site with HEPA vacuum for vacuuming prior to exit) before construction begins. Install construction barriers and ceiling protection carefully, during normal work hours.
- 4) Maintain negative air pressure within work site utilizing HEPA equipped air filtration units.
- 5) Seal holes, pipes, conduits, and punctures.

Construct anteroom and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving work site or they can wear cloth or paper coveralls that are removed each time they leave work site.

- 7) All personnel entering work site are required to wear shoe covers. Shoe covers must be changed each time the worker exits the work area.

b. Upon Completion:

- 1) Do not remove barriers from work area until completed project is inspected by the Facility Safety Manager and Contracting Officer Representative (COR) or with thorough cleaning by the VA Environmental Services Dept.
- 2) Remove construction barriers and ceiling protection carefully to minimize spreading of dirt and debris associated with construction, during normal work hours.
- 3) Contain construction waste before transport in tightly covered containers.
- 4) Cover transport receptacles or carts. Tape covering unless solid lid.
- 5) Vacuum work area with HEPA filtered vacuums.
- 6) Wet mop area with cleaner/disinfectant.
- 7) Upon completion, restore HVAC system where work was performed.
- 8) Return permit to the Contracting Officer Representative (COR).

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

1. Class III and IV - closed door with masking tape applied over the frame and door is acceptable for projects that can be contained in a single room.
2. Construction, demolition or reconstruction not capable of containment within a single room must have the following barriers erected and made presentable on hospital occupied side:
  - a. Class III & IV (where dust control is the only hazard, and an agreement is reached with the Resident Engineer and Medical Center) - Airtight plastic barrier that extends from the floor to ceiling. Seams must be sealed with duct tape to prevent dust and debris from escaping

Class III & IV - Drywall barrier erected with joints covered or sealed to prevent dust and debris from escaping.

- c. Class III & IV - Seal all penetrations in existing barrier airtight
- d. Class III & IV - Barriers at penetration of ceiling envelopes, chases and ceiling spaces to stop movement air and debris
- e. Class IV only - Anteroom or double entrance openings that allow workers to remove protective clothing or vacuum off existing clothing
- f. Class III & IV - At elevators shafts or stairways within the field of construction, overlapping flap minimum of two feet wide of polyethylene enclosures for personnel access.

D. Products and Materials:

- 1. Sheet Plastic: Fire retardant polystyrene, 6-mil thickness meeting local fire codes
- 6. Adhesive Walk-off Mats: Provide minimum size mats of 24 inches x 36 inches

- E. Before any construction on site begins, all contractor personnel involved in the construction or renovation activity shall be educated and trained in infection prevention measures established by the medical center.
- F. Medical center Infection Control personnel will monitor for airborne disease (e.g. aspergillosis) during construction. A baseline of conditions will be established by the medical center prior to the start of work and periodically during the construction stage to determine impact of construction activities on indoor air quality with safe thresholds established.
- H. In general, the following preventive measures shall be adopted during construction to keep down dust and prevent mold.
  - 1. Contractor shall verify that construction exterior dust is not reintroduced to the medical center through intake vents, or building openings. HEPA filtration is required where the exhaust dust may reenter the medical center.
  - 2. Exhaust hoses shall be exhausted so that dust is not reintroduced to the medical center.

3. Adhesive Walk-off/Carpet Walk-off Mats shall be used at all interior transitions from the construction area to occupied medical center area. These mats shall be changed as often as required to maintain clean work areas directly outside construction area at all times.
4. Vacuum and wet mop all transition areas from construction to the occupied medical center at the end of each workday. Vacuum shall utilize HEPA filtration. Maintain surrounding area frequently. Remove debris as it is created. Transport these outside the construction area in containers with tightly fitting lids.
5. The contractor shall not haul debris through patient-care areas without prior approval of the Resident Engineer and the Medical Center. When, approved, debris shall be hauled in enclosed dust proof containers or wrapped in plastic and sealed with duct tape. No sharp objects should be allowed to cut through the plastic. Wipe down the exterior of the containers with a damp rag to remove dust. All equipment, tools, material, etc. transported through occupied areas shall be made free from dust and moisture by vacuuming and wipe down.
6. There shall be no standing water during construction. This includes water in equipment drip pans and open containers within the construction areas. All accidental spills must be cleaned up and dried within 12 hours. Remove and dispose of porous materials that remain damp for more than 72 hours.

I. Final Cleanup:

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

J. Exterior Construction

1. 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.
2. Dust created from disturbance of soil such as from vehicle movement will be wetted with use of a water truck as necessary

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.

### **1.13 TUBERCULOSIS SCREENING**

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

### **1.14 FIRE SAFETY**

- A. Fire Safety Plan: Establish and maintain a site-specific fire protection program in accordance with 29 CFR 1926. Prior to start of work, prepare a plan detailing project-specific fire safety measures, including periodic status reports, and submit to Facility Safety Manager and Contracting Officer Representative (COR) 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

be an element of the Accident Prevention Plan.

- B. Site and Building Access: Maintain free and unobstructed access to facility emergency services and for fire, police and other emergency response forces in accordance with NFPA 241.
- C. Separate temporary facilities, such as trailers, storage sheds, and dumpsters, from existing buildings and new construction by distances in accordance with NFPA 241. For small facilities with less than 6 m (20 feet) exposing overall length, separate by 3m (10 feet).
- F. Means of Egress: Do not block exiting for occupied buildings, including paths from exits to roads. Minimize disruptions and coordinate with the Facility Safety Manager and Contracting Officer Representative (COR) or Government Designated Authority.
- G. Egress Routes for Construction Workers: Maintain free and unobstructed egress. Inspect daily. Report findings and corrective actions weekly, to Contracting Officer Representative.
- H. Fire Extinguishers: Provide and maintain extinguishers in construction areas and temporary storage areas in accordance with 29 CFR 1926, NFPA 241 and NFPA 10.
- I. Flammable and Combustible Liquids: Store, dispense and use liquids in accordance with 29 CFR 1926, NFPA 241 and NFPA 30.
- L. Existing Fire Protection: Do not impair automatic sprinklers, smoke and heat detection, and fire alarm systems, except for portions immediately under construction, and temporarily for connections. Provide fire watch for impairments more than 4 hours in a 24-hour period. Request interruptions in accordance with Article, OPERATIONS AND STORAGE AREAS, and coordinate with Facility Safety Manager and Contracting Officer Representative (COR) 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 COR or Government Designated Authority.
- M. Smoke Detectors: Prevent accidental operation. Remove temporary covers at end of work operations each day. Coordinate with Facility Safety Manager and Contracting Officer Representative (COR).
- N. Hot Work: Perform and safeguard hot work operations in accordance with NFPA 241 and NFPA 51B.

Coordinate with Facility Safety Manager, Fire Safety Officer and Contracting Officer's Representative (COR) at least 72 hours in advance. Designate contractor's responsible project-site fire prevention program manager to permit hot work.

- O. Fire Hazard Prevention and Safety Inspections: Inspect entire construction areas weekly. Coordinate with, and report findings and corrective actions weekly to Facility Safety Manager and Contracting Officer Representative (COR) or Government Designated Authority.
- P. 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.
- Q. Dispose of waste and debris in accordance with NFPA 241. Remove from buildings daily.

## **1.15 ELECTRICAL**

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



developed, reviewed, and accepted prior to the start of that work.

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 (COR) 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 has been accepted by the Contracting Officer Representative (COR) 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.
- E.** Ground-fault circuit interrupters. All 120-volt, single-phase 15- and 20-ampere receptacle outlets on construction sites shall have approved ground-fault circuit interrupters for personnel protection. “Assured Equipment Grounding Conductor Program” only is not allowed.

## **1.16 FALL PROTECTION**

- A.** The fall protection (FP) threshold height requirement is 6 ft (1.8 m) for ALL WORK, unless specified differently or the OSHA 29 CFR 1926 requirements are more stringent, to include steel erection activities, systems-engineered activities (prefabricated) metal buildings, residential (wood) construction and scaffolding work.
1. The use of a Safety Monitoring System (SMS) as a fall protection method is prohibited.

The use of Controlled Access Zone (CAZ) as a fall protection method is prohibited.

3. A Warning Line System (WLS) may ONLY be used on floors or flat or low-sloped roofs (between 0 - 18.4 degrees or 4:12 slope) and shall be erected around all sides of the work area (See 29 CFR 1926.502(f) for construction of WLS requirements). Working within the WLS does not require FP. No worker shall be allowed in the area between the roof or floor edge and the WLS without FP. FP is required when working outside the WLS.
4. Fall protection while using a ladder will be governed by the OSHA requirements.

### **1.17 SCAFFOLDS AND OTHER WORK PLATFORMS**

- A. All scaffolds and other work platforms construction activities shall comply with 29 CFR 1926 Subpart L.
- B. The fall protection (FP) threshold height requirement is 6 ft (1.8 m) as stated in Section 1.16.
- C. The following hierarchy and prohibitions shall be followed in selecting appropriate work platforms.
  1. Scaffolds, platforms, or temporary floors shall be provided for all work except that can be performed safely from the ground or similar footing.
  2. Ladders less than 20 feet may be used as work platforms only when use of small hand tools or handling of light material is involved.
  3. Ladder jacks, lean-to, and prop-scaffolds are prohibited.
  4. Emergency descent devices shall not be used as working platforms.
- D. Contractors shall use a scaffold tagging system in which all scaffolds are tagged by the Competent Person. Tags shall be color-coded: green indicates the scaffold has been inspected and is safe to use; red indicates the scaffold is unsafe to use. Tags shall be readily visible, made of materials that will withstand the environment in which they are used, be legible and shall include:
  1. The Competent Person's name and signature;
  2. Dates of initial and last inspections.
- E. Mast Climbing work platforms: When access ladders, including masts designed as ladders, exceed 20 ft (6 m) in height, positive fall protection shall be used.

**1.18****EXCAVATION AND TRENCHES: N/A****1.19 CRANES**

- A. All crane work shall comply with 29 CFR 1926 Subpart CC.
- B. Prior to operating a crane, the operator must be licensed, qualified or certified to operate the crane.  
Thus, all the provisions contained with Subpart CC are effective and there is no “Phase In” date of November 10, 2014.
- C. A detailed lift permit shall be submitted 14 days prior to the scheduled lift complete with route for truck carrying load, crane load analysis, siting of crane and path of swing. The lift will not be allowed without approval of this document.
- D. Crane operators shall not carry loads
  - 1. over the general public or VAMC personnel
  - 2. over any occupied building unless
    - a. the top two floors are vacated
    - b. or overhead protection with a design live load of 300 psf is provided

**1.20 CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT): N/A****1.21 CONFINED SPACE ENTRY: N/A****1.22 WELDING AND CUTTING**

As specified in section 1.14, Hot Work: Perform and safeguard hot work operations in accordance with NFPA 241 and NFPA 51B. Coordinate with Facility Safety Manager and the COR or other Government Designated Authority. Obtain permits from Facility Safety Manager or other Government Designated Authority at least 72 hours in advance. Designate contractor's responsible project-site fire prevention program manager to permit hot work.

**1.23 LADDERS**

- A. All Ladder use shall comply with 29 CFR 1926 Subpart X.
- B. All portable ladders shall be of sufficient length and shall be placed so that workers will not stretch or assume a hazardous position.
- C. Manufacturer safety labels shall be in place on ladders

D.

Step Ladders shall not be used in the closed position

E. Top steps or cap of step ladders shall not be used as a step

F. Portable ladders, used as temporary access, shall extend at least 3 ft (0.9 m) above the upper landing surface.

1. When a 3 ft (0.9-m) extension is not possible, a grasping device (such as a grab rail) shall be provided to assist workers in mounting and dismounting the ladder.
2. In no case shall the length of the ladder be such that ladder deflection under a load would, by itself, cause the ladder to slip from its support.

G. Ladders shall be inspected for visible defects on a daily basis and after any occurrence that could affect their safe use. Broken or damaged ladders shall be immediately tagged "DO NOT USE," or with similar wording, and withdrawn from service until restored to a condition meeting their original design.

## **1.24 FLOOR & WALL OPENINGS**

A. All floor and wall openings shall comply with 29 CFR 1926 Subpart M.

B. Floor and roof holes/openings are any that measure over 2 in (51 mm) in any direction of a walking/working surface which persons may trip or fall into or where objects may fall to the level below. See 21.F for covering and labeling requirements. Skylights located in floors or roofs are considered floor or roof hole/openings.

C. All floor, roof openings or hole into which a person can accidentally walk or fall through shall be guarded either by a railing system with toeboards along all exposed sides or a load-bearing cover. When the cover is not in place, the opening or hole shall be protected by a removable guardrail system or shall be attended when the guarding system has been removed, or other fall protection system.

1. Covers shall be capable of supporting, without failure, at least twice the weight of the worker, equipment and material combined.
2. Covers shall be secured when installed, clearly marked with the word "HOLE", "COVER" or "Danger, Roof Opening-Do Not Remove" or color-coded or equivalent methods (e.g., red or orange "X"). Workers must be made aware of the meaning for color coding and equivalent methods.

Roofing material, such as roofing membrane, insulation or felts, covering or partly covering openings or holes, shall be immediately cut out. No hole or opening shall be left unattended unless covered.

4. Non-load-bearing skylights shall be guarded by a load-bearing skylight screen, cover, or railing system along all exposed sides.
5. Workers are prohibited from standing/walking on skylights.

- - - E N D   O F   S E C T I O N   - - -

**SECTION 01 57 19**

**TEMPORARY ENVIRONMENTAL CONTROLS****PART 1 - GENERAL****1.1 DESCRIPTION**

- A. This section specifies the control of environmental pollution and damage that the Contractor must consider for air, water, and land resources. It includes management of visual aesthetics, noise, solid waste, radiant energy, and radioactive materials, as well as other pollutants and resources encountered or generated by the Contractor. The Contractor is obligated to consider specified control measures with the costs included within the various contract items of work.
- B. Environmental pollution and damage is defined as the presence of chemical, physical, or biological elements or agents which:
  - 1. Adversely affect human health or welfare,
  - 2. Unfavorably alter ecological balances of importance to human life,
  - 3. Effect other species of importance to humankind, or;
  - 4. Degrade the utility of the environment for aesthetic, cultural, and historical purposes.
- C. Definitions of Pollutants:
  - 1. Chemical Waste: Petroleum products, bituminous materials, salts, acids, alkalis, herbicides, pesticides, organic chemicals, and inorganic wastes.
  - 2. Debris: Combustible and noncombustible wastes, such as leaves, tree trimmings, ashes, and waste materials resulting from construction or maintenance and repair work.
  - 3. Sediment: Soil and other debris that has been eroded and transported by runoff water.
  - 4. Solid Waste: Rubbish, debris, garbage, and other discarded solid materials resulting from industrial, commercial, and agricultural operations and from community activities.
  - 5. Surface Discharge: The term "Surface Discharge" implies that the water is discharged with possible sheeting action and subsequent soil erosion may occur. Waters that are surface discharged may terminate in drainage ditches, storm sewers, creeks, and/or "water of the United States" and would require a permit to discharge water from the governing agency.
  - 6. Rubbish: Combustible and noncombustible wastes such as paper, boxes, glass and crockery, metal and lumber scrap, tin cans, and bones.

#### Sanitary Wastes:

- a. Sewage: Domestic sanitary sewage and human and animal waste.
- b. Garbage: Refuse and scraps resulting from preparation, cooking, dispensing, and consumption of food.

### 1.2 QUALITY CONTROL

- A. Establish and maintain quality control for the environmental protection of all items set forth herein.
- B. Record on daily reports any problems in complying with laws, regulations, and ordinances. Note any corrective action taken.

### 1.3 REFERENCES

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.
- B. U.S. National Archives and Records Administration (NARA):  
33 CFR 328 .....Definitions

### 1.4 SUBMITTALS

- A. In accordance with Section, 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES, furnish the following:
  1. Environmental Protection Plan: After the contract is awarded and prior to the commencement of the work, the Contractor shall meet with the Resident Engineer to discuss the proposed Environmental Protection Plan and to develop mutual understanding relative to details of environmental protection. Not more than 20 days after the meeting, the Contractor shall prepare and submit to the Resident Engineer and the Contracting Officer for approval, a written and/or graphic Environmental Protection Plan including, but not limited to, the following:
    - a. Name(s) of person(s) within the Contractor's organization who is (are) responsible for ensuring adherence to the Environmental Protection Plan.
    - b. Name(s) and qualifications of person(s) responsible for manifesting hazardous waste to be removed from the site.
    - c. Name(s) and qualifications of person(s) responsible for training the Contractor's environmental protection personnel.
    - d. Description of the Contractor's environmental protection personnel training program.
    - e. A list of Federal, State, and local laws, regulations, and permits concerning environmental protection, pollution control, noise control and abatement that are applicable to the Contractor's proposed operations and the requirements imposed by those laws, regulations, and permits.
    - f. Methods for protection of features to be preserved within authorized work areas including trees,

shrubs, vines, grasses, ground cover, landscape features, air and water quality, fish and wildlife, soil, historical, and archeological and cultural resources.

- g. Procedures to provide the environmental protection that comply with the applicable laws and regulations. Describe the procedures to correct pollution of the environment due to accident, natural causes, or failure to follow the procedures as described in the Environmental Protection Plan.
- h. Permits, licenses, and the location of the solid waste disposal area.
- i. Drawings showing locations of any proposed temporary excavations or embankments for haul roads, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials. Include as part of an Erosion Control Plan approved by the District Office of the U.S. Soil Conservation Service and the Department of Veterans Affairs.
- j. Environmental Monitoring Plans for the job site including land, water, air, and noise.
- k. Work Area Plan showing the proposed activity in each portion of the area and identifying the areas of limited use or nonuse. Plan should include measures for marking the limits of use areas.

This plan may be incorporated within the Erosion Control Plan.

- B. Approval of the Contractor's Environmental Protection Plan will not relieve the Contractor of responsibility for adequate and continued control of pollutants and other environmental protection measures.

## **1.5 PROTECTION OF ENVIRONMENTAL RESOURCES**

- A. Protect environmental resources within the project boundaries and those affected outside the limits of permanent work during the entire period of this contract. Confine activities to areas defined by the specifications and drawings.
- B. Protection of Land Resources: Prior to construction, identify all land resources to be preserved within the work area. Do not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, top soil, and land forms without permission from the Resident Engineer. Do not fasten or attach ropes, cables, or guys to trees for anchorage unless specifically authorized, or where special emergency use is permitted.
  - 1. Work Area Limits: Prior to any construction, mark the areas that require work to be performed under this contract. Mark or fence isolated areas within the general work area that are to be saved and protected. Protect monuments, works of art, and markers before construction operations begin. Convey to all personnel the purpose of marking and protecting all necessary objects.



Protection of Landscape: Protect trees, shrubs, vines, grasses, land forms, and other landscape features shown on the drawings to be preserved by marking, fencing, or using any other approved techniques.

- a. Box and protect from damage existing trees and shrubs to remain on the construction site.
  - b. Immediately repair all damage to existing trees and shrubs by trimming, cleaning, and painting with antiseptic tree paint.
  - c. Do not store building materials or perform construction activities closer to existing trees or shrubs than the farthest extension of their limbs.
3. Reduction of Exposure of Unprotected Erodible Soils: Plan and conduct earthwork to minimize the duration of exposure of unprotected soils. Clear areas in reasonably sized increments only as needed to use. Form earthwork to final grade as shown. Immediately protect side slopes and back slopes upon completion of rough grading.
  4. Temporary Protection of Disturbed Areas: Construct diversion ditches, benches, and berms to retard and divert runoff from the construction site to protected drainage areas approved under paragraph 208 of the Clean Water Act.
  5. Handle and dispose of solid wastes in such a manner that will prevent contamination of the environment. Place solid wastes (excluding clearing debris) in containers that are emptied on a regular schedule. Transport all solid waste off Government property and dispose of waste in compliance with Federal, State, and local requirements.
  6. Store chemical waste away from the work areas in corrosion resistant containers and dispose of waste in accordance with Federal, State, and local regulations.
  7. Handle discarded materials other than those included in the solid waste category as directed by the Resident Engineer.
- E. Protection of Air Resources: Keep construction activities under surveillance, management, and control to minimize pollution of air resources. Burning is not permitted on the job site. Keep activities, equipment, processes, and work operated or performed, in strict accordance with the State of New York and its Air Pollution Statute, Rule, and Regulations, along with Federal emission and performance laws and standards. Maintain ambient air quality standards set by the Environmental Protection Agency, for those construction operations and activities specified.
1. Particulates: Control dust particles, aerosols, and gaseous by-products from all construction activities, processing, and preparation of materials (such as from asphaltic batch plants) at all times, including weekends, holidays, and hours when work is not in progress.

Particulates Control: Maintain all excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, spoil areas, borrow areas, and all other work areas within or outside the project boundaries free from particulates which would cause a hazard or a nuisance. Sprinklering, chemical treatment of an approved type, light bituminous treatment, baghouse, scrubbers, electrostatic precipitators, or other methods are permitted to control particulates in the work area.

3. Hydrocarbons and Carbon Monoxide: Control monoxide emissions from equipment to Federal and State allowable limits.
  4. Odors: Control odors of construction activities and prevent obnoxious odors from occurring.
- F. Reduction of Noise: Minimize noise using every action possible. Perform noise-producing work in less sensitive hours of the day or week as directed by the Resident Engineer. Maintain noise-produced work at or below the decibel levels and within the time periods specified.
1. Perform construction activities involving repetitive, high-level impact noise only between 8:00 a.m. and 6:00 p.m. unless otherwise permitted by local ordinance or the Resident Engineer. Repetitive impact noise on the property shall not exceed the following dB limitations:

Time Duration of Impact Noise	Sound Level in dB
More than 12 minutes in any hour	70
Less than 30 seconds of any hour	85
Less than three minutes of any hour	80
Less than 12 minutes of any hour	75

2. Provide sound-deadening devices on equipment and take noise abatement measures that are necessary to comply with the requirements of this contract, consisting of, but not limited to, the following:
  - a. Maintain maximum permissible construction equipment noise levels at 15 m (50 feet) (dBA):

EARTHMOVING		MATERIALS HANDLING	
FRONT LOADERS	75	CONCRETE MIXERS	75
BACKHOES	75	CONCRETE PUMPS	75
DOZERS	75	CRANES	75
TRACTORS	75	DERRICKS IMPACT	75
SCAPERS	80	PILE DRIVERS	95
GRADERS	75	JACK HAMMERS	75
TRUCKS	75	ROCK DRILLS	80

PAVERS, STATIONARY	80	PNEUMATIC TOOLS	80
PUMPS	75	BLASTING	N/A
GENERATORS	75	SAWS	75
COMPRESSOR	75	VIBRATORS	75

- b. Use shields or other physical barriers to restrict noise transmission.
  - c. Provide soundproof housings or enclosures for noise-producing machinery.
  - d. Use efficient silencers on equipment air intakes.
  - e. Use efficient intake and exhaust mufflers on internal combustion engines that are maintained so equipment performs below noise levels specified.
  - f. Line hoppers and storage bins with sound deadening material.
  - g. Conduct truck loading, unloading, and hauling operations so that noise is kept to a minimum.
3. Measure sound level for noise exposure due to the construction at least once every five successive working days while work is being performed above 70 dBA noise level. Measure noise exposure at the property line or 15 m (50 feet) from the noise source, whichever is greater. Measure the sound levels on the A weighing network of a General Purpose sound level meter at slow response. To minimize the effect of reflective sound waves at buildings, take measurements at 900 to 1800 mm (three to six feet) in front of any building face. Submit the recorded information to the Resident Engineer noting any problems and the alternatives for mitigating actions.
- G. Restoration of Damaged Property: If any direct or indirect damage is done to public or private property resulting from any act, omission, neglect, or misconduct, the Contractor shall restore the damaged property to a condition equal to that existing before the damage at no additional cost to the Government. Repair, rebuild, or restore property as directed or make good such damage in an acceptable manner.
- H. Final Clean-up: On completion of project and after removal of all debris, rubbish, and temporary construction, Contractor shall leave the construction area in a clean condition satisfactory to the Resident Engineer. Cleaning shall include off the station disposal of all items and materials not required to be salvaged, as well as all debris and rubbish resulting from demolition and new work operations.

- - - E N D OF SECTION - - -

**SECTION 01 74 19**  
**CONSTRUCTION WASTE MANAGEMENT**

**PART 1 – GENERAL**

**1.1 DESCRIPTION**

- A. This section specifies the requirements for the management of non-hazardous building construction and demolition waste.
- B. Waste disposal in landfills shall be minimized to the greatest extent possible. Of the inevitable waste that is generated, as much of the waste material as economically feasible shall be salvaged, recycled or reused.
- C. Contractor shall use all reasonable means to divert construction and demolition waste from landfills and incinerators, and facilitate their salvage and recycle not limited to the following:
  - 1. Waste Management Plan development and implementation.
  - 2. Techniques to minimize waste generation.
  - 3. Sorting and separating of waste materials.
  - 4. Salvage of existing materials and items for reuse or resale.
  - 5. Recycling of materials that cannot be reused or sold.
- D. At a minimum the following waste categories shall be diverted from landfills:
  - 1. Soil.
  - 2. Inerts (eg, concrete, masonry and asphalt).
  - 3. Clean dimensional wood and palette wood.
  - 4. Green waste (biodegradable landscaping materials).
  - 5. Engineered wood products (plywood, particle board and I-joists, etc).
  - 6. Metal products (eg, steel, wire, beverage containers, copper, etc).
  - 7. Cardboard, paper and packaging.
  - 8. Bitumen roofing materials.
  - 9. Plastics (eg, ABS, PVC).
  - 10. Carpet and/or pad.
  - 11. Gypsum board.

Insulation.

13. Paint.

14. Fluorescent lamps.

## **1.2 RELATED WORK**

A. Section 02 41 00, DEMOLITION.

B. Section 01 00 00, GENERAL REQUIREMENTS.

## **1.3 QUALITY ASSURANCE**

A. Contractor shall practice efficient waste management when sizing, cutting and installing building products. Processes shall be employed to ensure the generation of as little waste as possible.

Construction /Demolition waste includes products of the following:

1. Excess or unusable construction materials.
2. Packaging used for construction products.
3. Poor planning and/or layout.
4. Construction error.
5. Over ordering.
6. Weather damage.
7. Contamination.
8. Mishandling.
9. Breakage.

B. Establish and maintain the management of non-hazardous building construction and demolition waste set forth herein. Conduct a site assessment to estimate the types of materials that will be generated by demolition and construction.

C. Contractor shall develop and implement procedures to recycle construction and demolition waste to a minimum of 50 percent.

D. Contractor shall be responsible for implementation of any special programs involving rebates or similar incentives related to recycling. Any revenues or savings obtained from salvage or recycling shall accrue to the contractor.

E. Contractor shall provide all demolition, removal and legal disposal of materials. Contractor shall ensure that facilities used for recycling, reuse and disposal shall be permitted for the intended use to the extent required by local, state, federal regulations. The Whole Building Design Guide website <http://www.wbdg.org/tools/cwm.php> provides a Construction Waste Management Database that

contains information on companies that haul, collect, and process recyclable debris from construction projects.

- F. Contractor shall assign a specific area to facilitate separation of materials for reuse, salvage, recycling, and return. Such areas are to be kept neat and clean and clearly marked in order to avoid contamination or mixing of materials.
- G. Contractor shall provide on-site instructions and supervision of separation, handling, salvaging, recycling, reuse and return methods to be used by all parties during waste generating stages.
- H. Record on daily reports any problems in complying with laws, regulations and ordinances with corrective action taken.

## **1.4 TERMINOLOGY**

- A. Class III Landfill: A landfill that accepts non-hazardous resources such as household, commercial and industrial waste resulting from construction, remodeling, repair and demolition operations.
- B. Clean: Untreated and unpainted; uncontaminated with adhesives, oils, solvents, mastics and like products.
- C. Construction and Demolition Waste: Includes all non-hazardous resources resulting from construction, remodeling, alterations, repair and demolition operations.
- D. Dismantle: The process of parting out a building in such a way as to preserve the usefulness of its materials and components.
- E. Disposal: Acceptance of solid wastes at a legally operating facility for the purpose of land filling (includes Class III landfills and inert fills).
- F. Inert Backfill Site: A location, other than inert fill or other disposal facility, to which inert materials are taken for the purpose of filling an excavation, shoring or other soil engineering operation.
- G. Inert Fill: A facility that can legally accept inert waste, such as asphalt and concrete exclusively for the purpose of disposal.
- H. Inert Solids/Inert Waste: Non-liquid solid resources including, but not limited to, soil and concrete that does not contain hazardous waste or soluble pollutants at concentrations in excess of water-quality objectives established by a regional water board, and does not contain significant quantities of decomposable solid resources.
- I. Mixed Debris: Loads that include commingled recyclable and non-recyclable materials generated at the construction site.
- J. Mixed Debris Recycling Facility: A solid resource processing facility that accepts loads of mixed construction and demolition debris for the purpose of recovering re-usable and recyclable materials and disposing non-recyclable materials.

K.

Permitted Waste Hauler: A company that holds a valid permit to collect and transport solid wastes from individuals or businesses for the purpose of recycling or disposal.

- L. Recycling: The process of sorting, cleansing, treating, and reconstituting materials for the purpose of using the altered form in the manufacture of a new product. Recycling does not include burning, incinerating or thermally destroying solid waste.
  - 1. On-site Recycling – Materials that are sorted and processed on site for use in an altered state in the work, i.e. concrete crushed for use as a sub-base in paving.
  - 2. Off-site Recycling – Materials hauled to a location and used in an altered form in the manufacture of new products.
- M. Recycling Facility: An operation that can legally accept materials for the purpose of processing the materials into an altered form for the manufacture of new products. Depending on the types of materials accepted and operating procedures, a recycling facility may or may not be required to have a solid waste facilities permit or be regulated by the local enforcement agency.
- N. Reuse: Materials that are recovered for use in the same form, on-site or off-site.
- O. Return: To give back reusable items or unused products to vendors for credit.
- P. Salvage: To remove waste materials from the site for resale or re-use by a third party.
- Q. Source-Separated Materials: Materials that are sorted by type at the site for the purpose of reuse and recycling.
- R. Solid Waste: Materials that have been designated as non-recyclable and are discarded for the purposes of disposal.
- S. Transfer Station: A facility that can legally accept solid waste for the purpose of temporarily storing the materials for re-loading onto other trucks and transporting them to a landfill for disposal, or recovering some materials for re-use or recycling.

## **1.5 SUBMITTALS**

- A. In accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, and SAMPLES, furnish the following:
- B. Prepare and submit to the Resident Engineer a written demolition debris management plan. The plan shall include, but not be limited to, the following information:
  - 1. Procedures to be used for debris management.
  - 2. Techniques to be used to minimize waste generation.
  - 3. Analysis of the estimated job site waste to be generated:
    - a. List of each material and quantity to be salvaged, reused, recycled.
    - b. List of each material and quantity proposed to be taken to a landfill.

Detailed description of the Means/Methods to be used for material handling.

- a. On site: Material separation, storage, protection where applicable.
- b. Off site: Transportation means and destination. Include list of materials.
  - 1) Description of materials to be site-separated and self-hauled to designated facilities.
  - 2) Description of mixed materials to be collected by designated waste haulers and removed from the site.
- c. The names and locations of mixed debris reuse and recycling facilities or sites.
- d. The names and locations of trash disposal landfill facilities or sites.
- e. Documentation that the facilities or sites are approved to receive the materials.
- C. Designated Manager responsible for instructing personnel, supervising, documenting and administer over meetings relevant to the Waste Management Plan.
- D. Monthly summary of construction and demolition debris diversion and disposal, quantifying all materials generated at the work site and disposed of or diverted from disposal through recycling.

## **1.6 APPLICABLE PUBLICATIONS**

- A. Publications listed below form a part of this specification to the extent referenced. Publications are referenced by the basic designation only. In the event that criteria requirements conflict, the most stringent requirements shall be met.
- B. U.S. Green Building Council (USGBC):  
LEED Green Building Rating System for New Construction

## **1.7 RECORDS**

Maintain records to document the quantity of waste generated; the quantity of waste diverted through sale, reuse, or recycling; and the quantity of waste disposed by landfill or incineration. Records shall be kept in accordance with the LEED Reference Guide and LEED Template.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

- A. List of each material and quantity to be salvaged, recycled, reused.
- B. List of each material and quantity proposed to be taken to a landfill.
- C. Material tracking data: Receiving parties, dates removed, transportation costs, weight tickets, tipping fees, manifests, invoices, net total costs or savings.

## **PART 3 - EXECUTION**

### **3.1 COLLECTION**

- A. Provide all necessary containers, bins and storage areas to facilitate effective waste management.



B.

Clearly identify containers, bins and storage areas so that recyclable materials are separated from trash and can be transported to respective recycling facility for processing.

C. Hazardous wastes shall be separated, stored, disposed of according to local, state, federal regulations.

### **3.2 DISPOSAL**

A. Contractor shall be responsible for transporting and disposing of materials that cannot be delivered to a

source-separated or mixed materials recycling facility to a transfer station or disposal facility that can accept the materials in accordance with state and federal regulations.

B. Construction or demolition materials with no practical reuse or that cannot be salvaged or recycled shall be disposed of at a landfill or incinerator.

### **3.3 REPORT**

A. With each application for progress payment, submit a summary of construction and demolition debris diversion and disposal including beginning and ending dates of period covered.

B. Quantify all materials diverted from landfill disposal through salvage or recycling during the period with the receiving parties, dates removed, transportation costs, weight tickets, manifests, invoices. Include the net total costs or savings for each salvaged or recycled material.

C. Quantify all materials disposed of during the period with the receiving parties, dates removed, transportation costs, weight tickets, tipping fees, manifests, invoices. Include the net total costs for each disposal.

- - - E N D OF SECTION - - -

## **SECTION 02 41 00 DEMOLITION**

### **PART 1 - GENERAL**

#### **1.1 DESCRIPTION:**

This section specifies demolition and removal of buildings, portions of buildings, utilities, other structures and debris from trash dumps shown.

#### **1.2 RELATED WORK:**

- B. Safety Requirements: GENERAL CONDITIONS Article, ACCIDENT PREVENTION.
- 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. Asbestos Removal: Section 02 82 13.21, ASBESTOS ROOFING ABATEMENT. I. Infectious Control: Section 01 00 00, GENERAL REQUIREMENTS, Article 1.7, INFECTION PREVENTION MEASURES.

#### **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 of structures. Comply with requirements of GENERAL CONDITIONS Article, ACCIDENT PREVENTION.
- B. Provide safeguards, including warning signs, barricades, temporary fences, warning lights, and other similar items that are required for protection of all personnel during demolition and removal operations. Comply with requirements of Section 01 00 00, GENERAL REQUIREMENTS, Article PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES AND IMPROVEMENTS.
- C. Maintain fences, barricades, lights, and other similar items around exposed excavations until such excavations have been completely filled.
- D. Provide enclosed dust chutes with control gates from each floor to carry debris to truck beds and govern flow of material into truck. Provide overhead bridges of tight board or prefabricated metal construction at dust chutes to protect persons and property from falling debris.
- 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. No wall or part of wall shall be permitted to fall outwardly from structures.
  2. Maintain at least one stairway in each structure in usable condition to highest remaining floor. Keep stairway free of obstructions and debris until that level of structure has been removed.
  3. Wherever a cutting torch or other equipment that might cause a fire is used, provide and maintain fire extinguishers nearby ready for immediate use. Instruct all possible users in use of fire extinguishers.
  4. Keep hydrants clear and accessible at all times. Prohibit debris from accumulating within a radius of 4500 mm (15 feet) of fire hydrants.
- 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 the Resident Engineer. The Contractor shall coordinate the work of this section with all other work and shall construct and maintain shoring, bracing, and supports as required. The Contractor shall ensure that structural elements are not overloaded and shall be responsible for increasing structural supports or adding new supports as may be required as a result of any cutting, removal, or demolition work performed under this contract. Do not overload structural elements. Provide new supports and reinforcement for existing construction weakened by demolition or removal works. Repairs, reinforcement, or structural replacement must have Resident Engineer's approval.
- H. The work shall comply with the requirements of Section 01 00 00, GENERAL REQUIREMENTS, Article 1.7 INFECTION PREVENTION MEASURES.
- I. Insulation that becomes wet during or after installation shall be removed and replaced with dry insulation, if roofing is in place, roofing shall be replaced also. All replacing work shall be at no added cost to the VA.

#### **1.4 UTILITY SERVICES:**

- A. Demolish and remove outside utility service lines shown to be removed.
- B. Remove abandoned outside utility lines that would interfere with installation of new utility lines and new construction.

#### **PART 2 – PRODUCTS: N/A**

## **PART 3 – EXECUTION**

### **3.1 DEMOLITION:**

- A. Completely demolish and remove all layers of roofing and insulation down to Lightweight Concrete as noted below:
- B. Remove only enough roofing that can be reinstalled the same day. Remove no more existing roofing than can be covered in one day by new roofing.
- C. All ballast removed from the roofs will be stored on site at a location determined by the VA. The Contractor will remove the ballast from the roof surface and place in designated storage area specified by the VA.
- D. Provide temporary weather protection during interval between demolition and removal of existing construction on exterior surfaces and installation of new construction to ensure that no water leakage or damage occurs to structure or interior areas of existing buildings.
- E. Debris, including brick, concrete, stone, metals and similar materials shall become property of Contractor and shall be disposed of by him daily, off the Medical Center to avoid accumulation at the demolition site. Materials that cannot be removed daily shall be stored in areas specified by the Resident Engineer. Contractor shall dispose debris in compliance with applicable federal, state or local permits, rules and/or regulations. Promptly remove debris to avoid imposing excessive loads on supporting walls, roof decks or framing.
- F. Remove and legally dispose of all materials, other than earth to remain as part of project work, from any trash dumps shown. 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. All materials in the indicated trash dump areas, including above surrounding grade and extending to a depth of 1500mm (5feet) below surrounding grade, shall be included as part of the lump sum compensation for the work of this section. Materials that are located beneath the surface of the surrounding ground more than 1500 mm (5 feet), or materials that are discovered to be hazardous shall be handled as unforeseen. The removal of hazardous material shall be referred to Hazardous Materials specifications.
- G. Remove existing utilities as indicated or uncovered by work and terminate in a manner conforming to the nationally recognized code covering the specific utility and approved by the Facility Safety manager and the Contracting Officer's Representative (COR). When Utility lines are encountered that are not indicated on the drawings, the Resident Engineer shall be notified prior to further work in that area.

### **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. 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.

----- END OF SECTION-----

**SECTION 07 22 00**  
**ROOF AND DECK INSULATION**

**GENERAL**

**SUMMARY**

Section Includes:

and deck insulation on concrete /metal deck substrates ready to receive roofing or waterproofing membrane.

## **RELATED REQUIREMENTS: N/A**

## **APPLICABLE PUBLICATIONS**

Comply with references to extent specified in this section.

American Society of Heating, Refrigeration and Air Conditioning (ASHRAE):

Standard 90.1-13 - Energy Standard for Buildings Except Low-Rise Residential Buildings.

ASTM International (ASTM):

C208-12 - Cellulosic Fiber Insulating Board.

C552-15 - Cellular Glass Thermal Insulation.

C726-05 - Mineral Fiber Roof Insulation Board.

C728-15 - Perlite Thermal Insulation Board.

C1177/C1177M-13 - Glass Mat Gypsum Substrate for Use as Sheathing.

C1278/C1278M-07a(2015) - Fiber-Reinforced Gypsum Panel.

C1289-15 - Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.

C1396/C1396M-14a - Gypsum Board.

D41/D41M-11 - Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing.

D312-06 - Asphalt Used in Roofing.

D1970/D1970M-15 - Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep  
Roofing Underlayment for Ice Dam Protection.

D2178/D2178M-15 - Asphalt Glass Felt Used in Roofing and Waterproofing.

D2822/D2822M-11 - Asphalt Roof Cement, Asbestos Containing.

D4586/D4586M-07(2012)e1 - Asphalt Roof Cement, Asbestos-Free.

E84-15a - Surface Burning Characteristics of Building Materials.

F1667-15 - Driven Fasteners: Nails, Spikes, and Staples.

National Roofing Contractors Association (NRCA):

Manual-15 - The NRCA Roofing Manual: Membrane Roof Systems.

U.S. Department of Agriculture (USDA):

USDA BioPreferred Program Catalog.

UL LLC (UL):

Listed - Online Certifications Directory.

U.S. Department of Commerce National Institute of Standards and Technology (NIST):

DOC PS 1-09 - Structural Plywood.

## DOC PS 2-04 - Performance Standard for Wood-Based Structural-Use Panels.

### **SUBMITTALS**

Submittal Procedures: Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

Submittal Drawings:

Show size, configuration, and installation details.

Nailers, cants, and terminations.

Layout of insulation showing slopes, tapers, penetrations, and edge conditions.

Manufacturer's Literature and Data:

Description of each product.

Samples:

Roof insulation, each type.

Fasteners, each type.

Sustainable Construction Submittals:

Recycled Content: Identify post-consumer and pre-consumer recycled content percentage by weight.

Biobased Content:

Show type and quantity for each product.

Low Pollutant-Emitting Materials:

Show volatile organic compound types and quantities.

Certify that each composite wood and/or agrifiber product contains no added urea formaldehyde.

Qualifications: Substantiate qualifications meet specifications.

### **QUALITY ASSURANCE**

Installer Qualifications: Same installer as Division 07 roofing section installer.

### **DELIVERY**

Comply with recommendations of NRCA Manual.

Deliver products in manufacturer's original sealed packaging.

Mark packaging, legibly. Indicate manufacturer's name or brand, type, and manufacture date.

Before installation, return or dispose of products within distorted, damaged, or opened packaging.

### **STORAGE AND HANDLING**

Comply with recommendations of NRCA Manual.

Store products indoors in dry, weathertight facility.

products from damage during handling and construction operations.

## **FIELD CONDITIONS**

Environment:

Install products when existing and forecasted weather permit installation according to manufacturer's instructions.

## **WARRANTY**

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

Manufacturer's Warranty: Warrant substrate board, vapor retarder, insulation, and cover board against material and manufacturing defects as part of Division 07 roofing system warranty.

## **PRODUCTS**

### **SYSTEM PERFORMANCE**

Insulation Thermal Performance:

Overall Average R-Value: RSI-57 (R-33), minimum.

Any Location R-Value: RSI-17 (R-10), minimum.

Fire and Wind Uplift Resistance: Provide roof insulation complying with requirements specified in Division 07 roofing section.

Insulation on Metal Decking: UL labeled indicating compliance with one of the following:

UL Listed.

Insulation Surface Burning Characteristics: When tested according to ASTM E84.

Flame Spread Rating: 75 maximum.

Smoke Developed Rating: 150 maximum.

### **PRODUCTS - GENERAL**

Provide each product from one manufacturer.

Sustainable Construction Requirements:

Insulation Recycled Content:

Mineral Fiber: 75 percent total recycled content, minimum.

Fiberglass: 20 percent total recycled content, minimum.

Cellulose: 75 percent post-consumer recycled content, minimum.

Perlite Composite Board: 23 percent post-consumer recycled content, minimum.

Rigid Foam: 9 percent total recycled content, minimum.



Fiber Reinforced Rigid Foam: 6 percent total recycled content, minimum.

Low Pollutant-Emitting Materials: Comply with VOC limits specified in Section 01 81 13, SUSTAINABLE CONSTRUCTION REQUIREMENTS for the following products:

Non-flooring adhesives and sealants.

Composite wood and agrifiber.

Bio-Based Materials: Where applicable, provide products designated by USDA and meeting or exceeding USDA recommendations for bio-based content, and products meeting Rapidly Renewable Materials and certified sustainable wood content definitions; refer to [www.biopreferred.gov](http://www.biopreferred.gov).

## **ADHESIVES**

Primer: ASTM D41/D41M.

Asphalt: ASTM D312, Type III or IV for vapor retarders and insulation.

Modified Asphaltic Insulation Adhesive: Insulation manufacturer's recommended modified asphaltic, asbestos-free, cold-applied adhesive formulated to adhere roof insulation to substrate or to another insulation layer.

Bead-Applied Urethane Insulation Adhesive: Insulation manufacturer's recommended bead-applied, low-rise, one- or multicomponent urethane adhesive formulated to adhere roof insulation to substrate or to another insulation layer.

Full-Spread Applied Urethane Insulation Adhesive: Insulation manufacturer's recommended spray-applied, low-rise, two-component urethane adhesive formulated to adhere roof insulation to substrate or to another insulation layer.

Roof Cement: Asbestos free, ASTM D2822/D2822M, Type I or Type II; or, ASTM D4586/D4586M, Type I or Type II.

## **ROOF AND DECK INSULATION**

Install rigid and tapered insulation to create a proper pitch to the roof drains.

Roof and Deck Insulation, General: Preformed roof insulation boards approved by roofing manufacturer.

Tapered Roof Insulation System:

Fabricate of mineral fiberboard, polyisocyanurate, perlite board, or cellular glass. Use only one insulation material for tapered sections. Use only factory-tapered insulation.

Cut to provide high and low points with crickets and slopes as shown.

Minimum thickness of tapered sections: 1-1/2 inch.

Minimum slope: 1/4 inch per 12 inches.

## **INSULATION ACCESSORIES**

Cover Board: 1/2" cement coverboard using Insta Stick foam adhesive (or approved equal)

## **EXECUTION**

## **EXAMINATION**

Comply with requirements of Division 07 roofing section.

## **PREPARATION**

Examine and verify substrate suitability for product installation.

Protect existing construction and completed work from damage.

## **INSTALLATION - GENERAL**

Install products according to manufacturer's instructions.

When manufacturer's instructions deviate from specifications, submit proposed resolution for Contracting Officer's Representative (COR) consideration.

## **VAPOR RETARDER INSTALLATION**

Install products according to manufacturer's instructions.

When manufacturer's instructions deviate from specifications, submit proposed resolution for Contracting Officer's Representative (COR) consideration.

## **INSULATION INSTALLATION**

Install products according to manufacturer's instructions.

When manufacturer's instructions deviate from specifications, submit proposed resolution for Contracting Officer's Representative (COR) consideration.

## **COVER BOARD INSTALLATION**

Install cover boards over insulation with long joints in continuous straight lines with staggered end joints.

Offset cover board joints from insulation joints 150 mm (6 inches), minimum.

Secure cover boards according to "Adhered Insulation" requirements.

- - E N D OF SECTION - -

**SECTION 07 56 00**  
**FLUID-APPLIED ROOFING**

**PART 1 - GENERAL**

**1.1 DESCRIPTION:**

- A. This section specifies a fluid applied roofing system consisting of a fluid application of multiple layers of neoprene and chlorosulfonated polyethylene (CSPE).

**1.3 QUALITY ASSURANCE:**

- A. Manufacturer's Qualifications: Obtain products from single manufacturer or from sources recommended by manufacturer for use with fluid applied roofing and incorporated in manufacturer's warranty.
- B. Installers Qualifications: Work is to be performed by installer having a minimum of at least Five (5) years' experience and must have finished at least five (5) projects on installation of fluid applied roofing systems for work relating to this section and approved in writing by fluid applied roofing manufacturer.

**1.4****SUBMITTALS:**

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Samples:
  - 1. 150 mm (6 inch) square cured sheet of roofing system without backing, showing color, and texture.
  - 2. System proposed for flashing and reinforcing.
- C. Manufacturer's Certificates:
  - 1. Installer approval.
  - 2. Certificate stating that material utilized on the job will be of the same formulation as materials covered by the test report.
- D. Manufacturer's Literature and Data:
  - 1. Roofing system materials giving physical properties, wet mil thickness in relation to dry mil thickness, and other related information.
  - 2. Manufacturer's printed instructions for application of roofing materials to be installed.
- E. Test Reports: Test report from an independent commercial testing laboratory showing that neoprene and CSPE materials meet specified requirements.
- F. Manufacturer warranty.

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

- A. Deliver materials to job site in manufacturer's original factory sealed containers labeled to identify product, manufacturer and point of manufacture.
- B. Observe precautions appropriate to flammable materials and "safety notes" included in roofing material manufacturer's printed instructions to installer before, during, and immediately following application of these materials.

## 1.6

### CONDITIONS:

- A. Install fluid applied roofing only on dry surfaces free of water, surface condensation, rain, snow, ice, frost, dirt and debris.
- B. Do not proceed when temperature of surfaces to receive roofing and flashing, is lower than 5 degrees C (40 degrees F).
- C. Complete work on roof deck and install penetrations and projections through roof deck before roofing and flashing work is applied.

### 1.7 WARRANTY:

- A. Construction Warranty: Comply with FAR clause 52.246-21 "Warranty of Construction".
- B. Manufacturer Warranty: Manufacturer shall warranty their fluid applied roofing for a minimum of twenty (20) years from date of installation and final acceptance by the Government. Submit manufacturer warranty.

### 1.8 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.

- B. ASTM International (ASTM):

D3468/D3468M-99e1(2013) .Liquid-Applied Neoprene and Chlorosulfonated Polyethylene Used In  
Roofing and Waterproofing

D412-06a(R2013) .....Vulcanized Rubber and Thermoplastic Elastomers-Tension

D750-12 .....Rubber Deterioration in Carbon-Arc Weathering Apparatus

D1149-07(R2012) .....Rubber Deterioration-Surface Ozone Cracking in a Chamber

E96/E96M-13.....Water Vapor Transmission of Materials

## PART 2 - PRODUCTS

**2.1****ROOFING MATERIALS:**

- A. Neoprene-Based Prime and Base Courses: A polychloroprene base with added resins, curing agents, pigments and solvents, which contain no oils or volatile plasticizers.
- B. Elastic Base Sheet: A cured, non-staining, polychloroprene (neoprene) base with inorganic filament reinforcement and added resin, curing agents, pigments, and solvents.
- C. Neoprene Based Fibered Sealer: A 100 percent polychloroprene (neoprene) ASTM D3468/D3468M base with inorganic filament reinforcement and added resin, curing agents, pigments, and solvents.
- D. CSPE Based Weather Course: A 100 percent chlorosulfonated polyethylene ASTM D3468/D3468M base with added curing agents, pigments, and solvents which contain no oils or volatile plasticizers. Color of weather course to be white pigmented with Rutile type titanium dioxide.
- E. Neoprene and CSPE roofing materials are to meet the following requirements:

<b>Property</b>	<b>Test Method</b>	<b>Base Course</b>	<b>Weather Course</b>
Tensile Strength	ASTM D412	11.03 MPa (1600 psi)	3.45 MPa (500 psi) minimum
Elongation at 75 Degrees F(of original bench mark distance)	ASTM D412	400 percent minimum	400 percent minimum
Set at Break	ASTM D412	30-50 percent minimum	5-50 percent
Ozone Resistance 50 percent (of original bench mark distance) Elongation (1 week at approx. 2 parts per million ozone)	ASTM D1149	No Visible Cracking	No Visible Cracking
Accelerated Weathering (After 100 hours in Weatherometer)	ASTM D750	No Visible Change	--
Water Vapor Permeability	ASTM E96/E96M, Method B	0.30 perm	0.20 perm

**2.2****CAULKING COMPOUND:**

- A. A non-staining, cold setting, flexible sealant having a polychloroprene or chlorosulfonated polyethylene base with added plasticizers, curing agents, pigments and which contains no volatile oils or other ingredients that will stain applied CSPE roofing.

**2.3 REINFORCING TAPE**

- A. Unwoven glass mat with nominal 0.46 mm (18 mils) film bonded with neoprene; or a 0.38 mm (15 mils) neoprene impregnated inorganic felt; or an untreated woven glass fiber tape, plain weave, weight 200 grams per square meter (6 ounces per square yard), thread count 42 by 32.
- B. In lieu of reinforcing tape, loose glass fibers embedded in liquid neoprene are as the reinforcing medium.

**2.4 SOLVENT:**

- A. For use in job site preparation of neoprene primer, for cleanup and other related work, furnish a commercial grade xylene (xylol) or commercial grade toluene (toluol).

**2.5 UNDERLAYMENT:**

- A. Provide level coat and underlayment materials compatible with and as recommended by manufacturer of roofing materials.
- B. Provide level coat and underlayment materials when necessary to provide a suitable base for application of the roofing materials.

**PART 3 - EXECUTION****3.1 PREPARATION OF SURFACE:**

- A. Verify that surfaces to receive roofing and flashing are in sound condition and free of projections, depressions, grease, oil, asphalt, tar, paint, wax, dust, or other debris that may prevent proper application of roofing.
- B. Allow concrete surfaces to cure a minimum of 28 days and clean free of waterproofing agents, form release agents, and curing agents that might act as bond breakers. Proceed only when maximum moisture content of the substrate as measured with a moisture meter is 16 percent.

C.

Report adverse roof deck conditions of any type in writing to Contracting Officer Representative (COR). Commencement of work constitutes acceptance of roof surfaces by installer as satisfactory for application of roofing and flashing.

### **3.2 CLEANING:**

- A. Broom-clean surfaces to remove all dust, dirt, loose aggregate, and other foreign particles. Remove excessive alkaline efflorescence on concrete by flushing with 10 percent muriatic acid solution, then rinsing, and allowing to dry.

### **3.3 APPLICATION:**

- A. Install roofing with tools and equipment approved by roofing material manufacturer. Wet film thickness of roofing materials to be as recommended by roofing material manufacturer to obtain the specified dry film thickness. Check wet film thickness frequently by use of a wet mil thickness gauge. Control application of fluid-applied material by maintaining careful balance at all times between material consumption and area covered. Apply quantity of coats to achieve minimum dry film thickness of neoprene and CSPE materials.

#### **B. Joint Treatment:**

1. Treat hairline cracks or other openings up to 2 mm (1/16 inch) in width with a brush coat of neoprene base fibered sealer.
2. Openings larger than 2 mm (1/16 inch) but less than 6 mm (1/4 inch) fill and treat with a reinforcing tape as specified.
3. Cracks 6 mm (1/4 inch) and over treat as specified for expansion joints.

#### **C. Expansion Joints:**

1. Extend elastic base sheet used as expansion joint material a minimum of 203 mm (8 inches) from edge of expansion joint horizontally on to the deck.



Apply a slight loop or ridge to elastic base sheet which is centered over expansion joint.

- D. Vent Pipes and Stacks: Apply elastic base sheet around projections through roof deck and extend it 101 mm (4 inches) horizontally and vertically around the projection; or use a premolded neoprene unit.
- E. Drains: Cut elastic base sheet to fit around drains and extend the same sheet horizontally on deck a minimum of 1524 mm (60 inches) from edge of all drains. Do not clamp rings or strainers until 48 hours after entire roofing application is complete.
- F. Priming: Immediately after substrate has been thoroughly cleaned and ready for application of the roof, prime concrete surfaces to receive roofing and flashing with neoprene or chlorinated rubber based primer.
- G. Roofing:
  - 1. Base Course: Over roof surfaces, including elastic base sheet, apply neoprene-based base course at a rate that will ensure a total dry mil thickness of neoprene materials of at least 0.36 mm (14 mils). Install material in number of applications as recommended by the manufacturer and allow to dry a minimum of 72 hours.
  - 2. Weather Course: Apply CSPE based weather course at a rate and in the number of coats as recommended by the manufacturer to insure a total dry mil thickness of CSPE materials of at least 0.15 mm (6 mils).
  - 3. The minimum total dry mil thickness of the combined neoprene and CSPE materials to be 0.5 mm (20 mils).

### **3.4 PROTECTION AND CLEAN UP:**

- A. Keep completed roofing system free of non-essential traffic and unrelated work until at least 48 hours after completion of roofing application.
- B. Provide temporary support, such as insulation board, for materials and equipment stored on roof during application.
- C. Protect adjacent construction from disfiguration by run, spillage or overspray, and repair work defaced in this manner.

D.

Remove tools, equipment and surplus materials and clear roof area of debris on completion of work.

### **3.5 REPAIRS:**

- A. Repair damage to roofing and flashing before work is complete. Patch breaks in surface with neoprene-based base course and CSPE-base weather course application to insure a continuous waterproof membrane complying with these specifications.

- - - E N D OF SECTION - - -

## **SECTION 07 60 00**

### **SHEET METAL FLASHING AND TRIM**

#### **PART 1 - GENERAL**

##### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including the Conditions of the Contract and Division 01 Specification Sections apply to this section.

##### **1.2 SUMMARY**

- A. Provide all labor, equipment, and materials to fabricate and install the following.

1. Edge strip and flashing.
2. Fascia and edge metal.

### 3. C o p i n g

#### B.Related Work Specified Elsewhere:

1Section 07 52 16.13 Styrene-Butadiene-Styrene Modified Bituminous  
Membrane Roofing, Cold Applied

## 13 REFERENCES

### A American Society for Testing and Materials (ASTM)

1. ASTM A653 Standard Specification for Steel Sheet, Zinc-Coated (galvanized) or Zinc-Iron Alloy-Coated Hot-Dip Process.
2. ASTM A792 Standard Specification for Steel Sheet, 55% Alloy Coated by the Hot-Dip Process.
3. ASTM B209 Standard Specification for Aluminum and Sheet and Plate.
4. ASTM B221 Standard Specification for Aluminum and Extruded Bars, Rods, Wire, Profiles, and Tubes.
5. ASTM D692 Standard Specification for Coarse Aggregate for Paving Mixtures.

## 1.4SUBMITTALS FOR REVIEW

### A. Product Data:

1. Provide metal material characteristics and installation recommendations.
2. Submit color chart prior to material ordering and/or fabrication so that equivalent colors to those specified can be approved.

B. Samples: Submit two (2) samples, illustrating typical metal edge, and fascia extenders for material and finish.

### C. Shop Drawings:

1. For shop fabricated gravel stops, fascia and all other sheet metal fabrications.
2. Indicate material profile, jointing pattern, jointing details, fastening methods, flashing, termination's, and installation details.
3. Indicate type, gauge and finish of metal.

## 1.5 QUALITY ASSURANCE

- A. Engage an experienced roofing contractor specializing in sheet metal flashing work with a minimum of five (5) years of experience.
- B. Maintain a full-time supervisor/foreman who is on the job-site at all times during installation. Foreman must have a minimum of five (5) years of experience with the installation of similar system to that specified.

- C. Upon request fabricator/installer shall submit work experience and evidence of financial responsibility. The Owner's representative reserves the right to inspect fabrication facilities in determining qualifications.

## DELIVERY, STORAGE, AND HANDLING

- A. Stack pre-formed and pre-finished material to prevent twisting, bending, or abrasion, and to provide ventilation. Slope metal sheets to ensure drainage.
- B. Prevent contact with materials which may cause discoloration or staining.

## 1.7 PROJECT CONDITIONS

Determine that work of other trades will not hamper or conflict with necessary fabrication and storage requirements for pre-formed metal edge system.

## 1.8 DESIGN AND PERFORMANCE CRITERIA

### A. Thermal expansion and contraction:

Completed metal edge flashing system shall be capable of withstanding expansion and contraction of components caused by changes in temperature without buckling, producing excess stress on structure, anchors or fasteners, or reducing performance ability.

## PART 2 PRODUCTS

### 2.1 PRODUCTS, GENERAL

- A. Refer to Division 01 Section "Common Product Requirements."
- B. Basis of Design: Materials, manufacturer's product designations, and/or manufacturer's names specified herein shall be regarded as the minimum standard of quality required for work of this Section. Comply with all manufacturer and contractor/fabricator quality and performance criteria specified in Part 1.

### 2.2 MATERIALS

A. General: Product designations for the materials used in this section shall be based on performance characteristics of the R-MER Edge System manufactured by the Garland Company, Cleveland, OH, and shall form the basis of the contract documents.

#### B Materials:

1. Exposed base metal material:
  - a. Exposed base metal material: Aluminum, ASTM B209, alloy 3105-H14, in thickness of .050" nom. exposed base metal material:
2. Minimum gauge of aluminum to be specified in accordance with Architectural

Sheet Metal Manual, Sheet Metal and Air Conditioning Contractor's National Association, Inc. recommendations.

C. Finishes:

1. Exposed surfaces for coated panels:

- a. Steel Finishes: fluorocarbon finish. Epoxy primer baked both sides, .2- .25 mils thickness as approved by finish coat manufacturer. Weathering finish as referred by National Coil Coaters Association (NCCA).

Property	Test Method	Fluorocarbon*
Pencil	ASTM D-3363	HB-H
Hardness	NCAA II-2	
Bend	ASTM D-4145	O-T
		NCAA II-19
Cross-Hatch Adhesion	ASTM D-3359	no loss of adhesion
Gloss (60° angle)	ASTM D-523	25+/-5%

Reverse Impact ASTM D-2794 no cracking or loss of adhesion

Nominal Thickness ASTM D-1005

primer 0.2 mils  
topcoat 0.8 mils  
TOTAL 1.0 mils

\*Subject to minimum quantity requirements

- b. Color shall be as selected by VA Facility Manager and COR from color samples provided by the Contractor.

2. Exposed and unexposed surfaces for mill finish flashing, fascia, and coping cap, shall be as shipped from the mill.

## 2.3 RELATED MATERIALS AND ACCESSORIES

- A. Metal Primer: Zinc chromate type.
- B. Plastic Cement: ASTM D 4586
- C. Sealant: Specified in Section 07900 or on drawings.
- D. Underlayment: ASTM D2178, No15 asphalt saturated roofing felt.

E. Fasteners:

1. Corrosion resistant screw fastener as recommended by metal manufacturer. Finish exposed fasteners same as flashing metal.
2. Fastening shall conform to Factory Mutual 1-90 requirements or as stated on section details, whichever is more stringent.

## PART 3 - EXECUTION

### 3.1 EXECUTION, GENERAL

A Refer to Division 07 Section Common Work Results for Thermal and Moisture Protection.

### 3.2 PROTECTION

A. Isolate metal products from dissimilar metals, masonry or concrete with bituminous paint, tape, or slip sheet. Use gasketed fasteners where required to prevent corrosive reactions.

### 3.3 GENERAL

- A. Secure continuous cleat to wood nailers nailed in the face and top.
- B. Fastening of metal to walls and wood blocking shall comply with SMACNA Architectural Sheet Metal Manual, and manufacturer's recommendations whichever is the most stringent standard.
- C. All accessories or other items essential to the completeness of sheet metal installation, whether specifically indicated or not, shall be provided and of the same material as item to which applied.
- D. Allow sufficient clearances for expansion and contraction of linear metal components.
- E. Secure metal using fasteners as required by the system. Exposed face fastening will be rejected.

### 3.4 INSPECTION

- A. Verify that curbs are solidly set and nailing strips located.
- B. Perform field measurements prior to fabrication.
- C. Coordinate work with work of other trades.
- D. Verify that substrate is dry, clean and free of foreign matter.
- E. Commencement of installation shall be considered acceptance of existing conditions.

### 3.5 SHOP-FABRICATED SHEET METAL

- A. Installing Contractor shall be responsible for determining if the sheet metal systems are in general conformance with roof manufacturer's recommendations.
- B. Metal work shall be shop fabricated to configurations and forms in accordance with recognized sheet metal practices.
- C. Hem exposed edges.
- D. Angle bottom edges of exposed vertical surfaces to form drip.
- E. All corners for sheet metal shall be lapped with adjoining pieces fastened and set in sealant.
- F. Joints for gravel stop fascia system, cap flashing, and surface-mount counterflashing shall be formed with a 1/4" opening between sections. The opening shall be covered by a cover plate or backed by an internal drainage plate formed to the profile of fascia piece. The cover plate shall be embedded in mastic, fastened through the opening between the sections and loose locked to the drip edges.
- G. Install sheet metal to comply with Architectural Sheet Metal manual, Sheet Metal and Air Conditioning Contractor's National Associations, Inc.

### 3.6 CLEANING

- A. Clean installed work in accordance with the manufacturer's instructions.
- B. Replace damaged work than cannot be restored by normal cleaning methods.

### 3.7 FINAL INSPECTION

- A. At completion of installation and associated work, meet with Contractor, Architect, installer, installer of associated work, Owner, roofing system manufacturer's representative, and other representatives directly concerned with performance of roofing system.
- B. Inspect work and flashing of roof penetrations, walls, curbs and other equipment. List all items requiring correction or completion and furnish copy of list to each party in attendance.
- C. Repair or replace deteriorated or defective work found at time above inspection as required to produce an installation which is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- D. Notify the Architect upon completion of corrections.
- E. Following the final inspection, provide written notice of acceptance of the installation from the roofing system manufacturer.
- F. Immediately correct roof leakage during construction. If the Contractor does not respond within twenty four (24) hours, the Owner will exercise rights to correct the Work under the terms of the Conditions of the Contract.

### 3.8 DEMONSTRATION AND TRAINING

time and date agreed to by the Owner, instruct the Owner's facility manager, and COR or other government representative designated by the Owner, on the following procedures:

1. Troubleshooting procedures.
2. Notification procedures for reporting leaks or other apparent roofing problems.
3. Maintenance.
4. The Owner's obligations for maintaining the warranty in effect and force.
5. The Manufacturer's obligations for maintaining the warranty in effect and force.

- - - END OF SECTION - - -

## **SECTION 07 01 50.19**

### **PREPARATION FOR RE-ROOFING**

#### **PART 1 - GENERAL**

##### **1.1 SUMMARY**

###### **A. Section Includes:**

1. Complete roof removal for new roof system installation.
2. Partial roof removal for new roof system installation.
3. Roofing membrane and selective roofing system component removal for new roof membrane installation.
4. Existing roofing membrane preparation for new roofing system installation.

###### **B. Existing Roofing System: EPDM**



## **1.2 RELATED REQUIREMENTS**

- A. Asbestos Removal: Section 02 82 13.21, ASBESTOS ROOFING ABATEMENT.
- B. Replacement Roof Deck: Section 05 31 00, STEEL DECKING.
- C. Replacement Roof Deck and Parapet Sheathing: Section 06 10 00, ROUGH CARPENTRY.
- D. New Roofing System: Section 07 56 00, FLUID-APPLIED ROOFING.
- E. Sheet Metal Counterflashing: Section 07 60 00, SHEET METAL FLASHING AND TRIM.

## **1.3 APPLICABLE PUBLICATIONS**

- A. Comply with references to extent specified in this section.
- B. American National Standards Institute/Single-Ply Roofing Institute (ANSI/SPRI):
  - 1. FX-1-01(R2006) Standard Field Test Procedure for Determining the Withdrawal Resistance of Roofing Fasteners.
- C. American Society for Nondestructive Testing (ASNT):
  - 1. SNT-TC-1A - Personnel Qualification and Certification for Nondestructive Testing.
- D. ASTM International (ASTM):
  - 1. C208-12 - Cellulosic Fiber Insulating Board.
  - 2. C578-15 - Rigid, Cellular Polystyrene Thermal Insulation.
  - 3. C728-15 - Perlite Thermal Insulation Board.
  - 4. C1177/C1177M-13 - Glass Mat Gypsum Substrate for Use as Sheathing.
  - 5. C1153-97(2003)e1 - Location of Wet Insulation in Roofing Systems Using Infrared Imaging.
  - 6. C1278/C1278M-07a(2015) - Fiber-Reinforced Gypsum Panel.
  - 7. D4263-83(2012) - Indicating Moisture in Concrete by the Plastic Sheet Method.
- E. U.S. Department of Commerce National Institute of Standards and Technology (NIST):
  - 1. DOC PS 1-09 - Structural Plywood.
  - 2. DOC PS 2-04 - Performance Standard for Wood-Based Structural-Use Panels.

## **1.4 PREINSTALLATION MEETINGS**

- A. Conduct pre-installation meeting minimum 15 days before beginning Work of this section.
  - 1. Required Participants:
    - a. Contracting Officer's Representative.
    - b. Contractor.
    - c. Installer.
  - 2. Meeting Agenda: Distribute agenda to participants minimum 3 days before meeting.
    - a. Removal and installation schedule.
    - b. Removal and installation sequence.

- c. Preparatory work.
  - d. Protection before, during, and after installation.
  - e. Removal and installation.
  - f. Temporary roofing including daily terminations.
  - g. Transitions and connections to other work.
  - h. Inspecting and testing.
  - i. Other items affecting successful completion.
3. Document and distribute meeting minutes to participants to record decisions affecting installation.

## **1.5 SUBMITTALS**

- A. Submittal Procedures: Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Submittal Drawings:
  - 1. Show size, configuration, and installation details.
- C. Manufacturer's Literature and Data:
  - 1. Description of each product.
  - 2. Description of temporary roof system and components.
  - 3. List of patching materials.
  - 4. Recover board fastening requirements.
  - 5. Temporary roofing installation instructions and removal instructions and preparation instructions to receive new roofing.
- D. Photographs: Document existing conditions potentially affected by roofing operations before work begins.

## **1.6 QUALITY ASSURANCE**

- A. Installer Qualifications:
  - 1. Same installer as Section 07 56 00, FLUID-APPLIED ROOFING.
  - 2. Licensed to perform asbestos abatement in Project jurisdiction when removal of asbestos-containing material is required.

## **1.7 FIELD CONDITIONS**

- A. Building Occupancy: Perform work to minimize disruption to normal building operations.
  - 1. Verify occupants are evacuated from affected building areas when working on structurally impaired roof decking above occupied areas.
  - 2. Provide notice minimum 72 hours before beginning activities affecting normal building operations.
- B. Existing Roofing Available Information:
  - 1. The following are available for Contractor reference:

- a. Construction drawings.
- 2. Examine available information before beginning work of this section.
- C. Weather Limitations: Proceed with reroofing preparation only during dry weather conditions as specified for new roofing installation in Section 07 56 00, FLUID-APPLIED ROOFING.
  - 1. Remove only as much roofing in one day as can be made watertight in same day.
- D. Hazardous Materials are known to exist in existing roofing system.
  - 1. See Section 02 82 13.21, ASBESTOS ROOFING ABATEMENT for hazardous material removal and disposal.
  - 2. Coordinate reroofing preparation with asbestos roofing abatement to prevent water from entering existing roofing system and building.
  - 3. Hazardous material report is attached at the end of this section.

## **1.8 WARRANTY**

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

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

- A. Metal Flashing: See Section 07 60 00, SHEET METAL FLASHING AND TRIM.
- B. Temporary Protection Materials:
  - 1. Expanded Polystyrene (EPS) Insulation: ASTM C578.
  - 2. Plywood: NIST DOC PS 1, Grade CD Exposure 1.
  - 3. Oriented Strand Board (OSB): NIST DOC PS 2, Exposure 1.
- C. Temporary Roofing System Materials: Contractor's option.
- D. Fasteners: Type and size required by roof membrane manufacturer to resist wind uplift.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION: N/A**

### **3.2 PREPARATION**

- A. Examine and verify substrate suitability for product installation.
- B. Protect existing construction and completed work from damage.
- C. Protect landscaping from damage.
- D. Maintain access to existing walkways and adjacent occupied facilities.

- E. Coordinate use of rooftop fresh air intakes with Contracting Officer's Representative to minimize effect on indoor air quality.
- F. Ensure temporary protection materials are available for immediate use in case of unexpected rain.
- G. Ensure roof drainage remains functional.
  - 1. Keep drainage systems clear of debris.
  - 2. Prevent water from entering building and existing roofing system.
- H. Coordinate rooftop utilities remaining active during roofing work with Contracting Officer's Representative.

### **3.3 RE-ROOFING PREPARATION - GENERAL**

- A. Notify Contracting Officer's Representative of planned operations, daily.
  - 1. Identify location and extent of roofing removal.
  - 2. Request authorization to proceed.

### **3.4 OVERBURDEN REMOVAL: N/A**

### **3.5 COMPLETE ROOFING SYSTEM REMOVAL**

- A. Remove existing roofing system completely, exposing structural roof deck.

### **3.6 ROOFING MEMBRANE AND SELECTIVE ROOFING SYSTEM COMPONENT REMOVAL**

- A. Concrete Roof Decks:
  - 1. Visually confirm concrete roof deck is dry.
  - 2. Perform moisture test according to ASTM D4263 each day for each separate roof area.
    - a. Proceed with roofing work only when moisture is not observed.
- B. Steel Roof Decks:
  - 1. Visually inspect structural roof deck installation and fasteners.
    - a. Notify Contracting Officer's Representative (COR) of unsuitable conditions and inadequate fastenings potentially affecting roof system performance.

### **3.7 TEMPORARY ROOFING**

- A. Install temporary roofing to maintain building watertight.
- B. Remove temporary roofing before installing new roofing.

### **3.8 EXISTING MEMBRANE PREPARATION FOR NEW ROOFING**

### **3.9 BASE FLASHING REMOVAL**

- A. Expose base flashings to permit removal.
  - 1. Two-Piece Counterflashings: Remove cap flashing and store for reuse.

2. Single Piece Counterflashings: Carefully bend counterflashing.
  3. Metal Copings: Remove decorative cap and store for reuse.
- B. Remove existing base flashings.
1. Clean substrates to receive new flashings.
- C. Replace counterflashings damaged during removal.
1. Counterflashings: See Section 07 60 00 SHEET METAL FLASHING AND TRIM.

### **3.10 RECOVER BOARD INSTALLATION**

- A. Install recover boards over necessary areas. Stagger end joints in adjacent rows.
- B. Fasten recover boards to resist wind-uplift.
1. Fastening Requirements: See 07 56 00, FLUID-APPLIED ROOFING.
  2. Uplift Resistance: Base on pull out resistance determined by specified field testing.

### **3.11 DISPOSAL**

- A. Collect waste materials in containers.
- B. Remove waste materials from project site, regularly, to prevent accumulation.
- C. Legally dispose of waste materials

- - E N D OF SECTION- -