

## VA248-16-R-0725 Replace Roof Systems Campus Wide

SOLICITATION, OFFER, AND AWARD (Construction, Alteration, or Repair)	1. SOLICITATION NUMBER	2. TYPE OF SOLICITATION	3. DATE ISSUED	PAGE OF PAGES
	VA248-16-R-0725	<input type="checkbox"/> SEALED BID (IFB) <input checked="" type="checkbox"/> NEGOTIATED (RFP)	07-12-2016	1 of 388

IMPORTANT - The "offer" section on the reverse must be fully completed by offeror.

4. CONTRACT NUMBER TBD	5. REQUISITION/PURCHASE REQUEST NUMBER 673-16-1-6318-0005	6. PROJECT NUMBER 673-14-604
7. ISSUED BY Department of Veterans Affairs Network Contracting Office 8 (NCO 8)  8875 Hidden River Pkwy Suite 525 Tampa FL 33637	CODE Z	8. ADDRESS OFFER TO Department of Veterans Affairs Network Contracting Office 8 (NCO 8)  8875 Hidden River Pkwy Suite 525 Tampa FL 33637
9. FOR INFORMATION CALL:	a. NAME Regina Height	b. TELEPHONE NUMBER (Include area code) (NO COLLECT CALLS) 8139727585

## SOLICITATION

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

10. THE GOVERNMENT REQUIRES PERFORMANCE OF THE WORK DESCRIBED IN THESE DOCUMENTS (Title, identifying number, date)

Request for Proposal (RFP): Replace Roof Systems Campus Wide, Project 673-14-604

Contractor shall provide all supervision, labor, professional scientific and technical support, testing, tools, equipment, materials, parts, transportation, all other support and incidentals necessary to replace roofing systems on Buildings # 1, 23, 30 and portions of Buildings # 32, 36 and 42 in accordance with the contract documents, project specifications, drawings and executive, federal, state and local codes. Project work sites are located at James A. Haley Veterans Hospital, which is at 13000 Bruce B. Downs Boulevard, Tampa, Florida, 33612.

The period of performance is 730 calendar days after receipt of the Notice-to-Proceed. Approximately 182 calendar days of this performance time will occur after normal hours of operation.

This competitive RFP is set-aside 100% for Service Disabled Veteran-owned Small Business (SDVOSB) concerns under VAAR 819.7005 and 38 USC 8127.

Project Magnitude: Between \$5,000,000 and \$10,000,000  
 National American Industry Classification Standard (NAICS): 238160  
 Small Business Size Standard: \$15,000,000 -- Roofing Contractors

Participating SDVOSB Contractor shall be verified and actively registered at ALL TIMES (at the time of proposal submission, at the time of contract award and throughout duration of the contract performance) in the following:  
 VetBiz: <http://www.vetbiz.gov/>  
 System of Award Management: <https://www.sam.gov/portal/SAM/#1>  
 Florida Department of Business Professional Regulation: <http://www.myfloridalicense.com/dbpr/os/os-info.html>  
 (In addition an active General Contractor or Building Contractor certification/license, SDVOSB must also maintain active certification/license as Florida Roofing Contractor)

## Site Visit Information:

Date -- 25 July 2016  
 Time -- 0930am Eastern Standard Time (EST)  
 Place -- Outside Building 42 at the James A. Haley Medical Center located at 13000 Bruce B. Downs Blvd., Tampa, FL 32612 (map of building location provided in attachments)

Only one site visit will be held. Attendance is not mandatory for participation in this request for proposal.

11. The Contractor shall begin performance within <u>10</u> calendar days and complete it within <u>730</u> calendar days after receiving <input type="checkbox"/> award, <input checked="" type="checkbox"/> notice to proceed. This performance period is <input checked="" type="checkbox"/> mandatory <input type="checkbox"/> negotiable. (See <u>52.211-10</u> ).	
12a. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE AND PAYMENT BONDS? (If "YES," indicate within how many calendar days after award in Item 12B.) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	12b. CALENDAR DAYS 10

## 13. ADDITIONAL SOLICITATION REQUIREMENTS:

- Sealed offers in original and 1 hard and 1 disc copies to perform the work required are due at the place specified in Item 8 by 2:00pm EST (hour) local time 08-12-2016 (date). If this is a sealed bid solicitation, offers must be publicly opened at that time. Sealed envelopes containing offers shall be marked to show the offeror's name and address, the solicitation number, the date and time offers are due.
- An offer guarantee ☒ is, ☐ is not required.
- All offers are subject to the (1) work requirements, and (2) other provisions and clauses incorporated in the solicitation in full text or by reference.
- Offers providing less than 90 calendar days for Government acceptance after the date offers are due will not be considered and will be rejected.

**OFFER (Must be fully completed by offeror)**

14. NAME (Include ZIP Code)		15. TELEPHONE NUMBER (Include area code)	
CODE		16. REMITTANCE ADDRESS (Include only if different than Item 14.)	
FACILITY CODE			

17. The offeror agrees to perform the work required at the prices specified below in strict accordance with the terms of the solicitation, if this offer is accepted by the Government in writing within 90 calendar days after the date offers are due. (Insert any number equal to or greater than the minimum requirement stated in Item 13d. Failure to insert any number means the offeror accepts the minimum in Item 13d.)

AMOUNTS

CLIN 0001 \_\_\_\_\_

18. The offeror agrees to furnish any required performance and payment bonds.

**19. ACKNOWLEDGMENT OF AMENDMENTS**

(The offeror acknowledges receipt of amendments to the solicitation -- give number and date of each)

AMENDMENT NUMBER										
DATE.										

20a. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER  
(Type or print)

20b. SIGNATURE

20c. OFFER DATE

**AWARD (To be completed by Government)**

21. ITEMS ACCEPTED:

22. AMOUNT	23. ACCOUNTING AND APPROPRIATION DATA
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24. SUBMIT INVOICES TO ADDRESS SHOWN IN (4 copies unless otherwise specified)	ITEM	25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO <input type="checkbox"/> 10 U.S.C. 2304(c)( ) <input type="checkbox"/> 41 U.S.C. 3304(a) ( )
26. ADMINISTERED BY Department of Veterans Affairs Network Contracting Office 8 (NCO 8) 8875 Hidden River Pkwy Tampa FL 33637	00248	27. PAYMENT WILL BE MADE BY Department of Veterans Affairs Financial Services Center  P.O. Box 149971 Austin TX 78714-9971 PHONE: FAX:

**CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE**

<input type="checkbox"/> 28. NEGOTIATED AGREEMENT (Contractor is required to sign this document and return _____ copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all work requirements identified on this form and any continuation sheets for the consideration stated in this contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitation, and (c) the clauses, representations, certifications, and specifications incorporated by reference in or attached to this contract.		<input type="checkbox"/> 29. AWARD (Contractor is not required to sign this document.) Your offer on this solicitation is hereby accepted as to the items listed. This award consummates the contract, which consists of (a) the Government solicitation and your offer, and (b) this contract award. No further contractual document is necessary.	
30a. NAME AND TITLE OF CONTRACTOR OR PERSON AUTHORIZED TO SIGN (Type or print)		31a. NAME OF CONTRACTING OFFICER (Type or print)	
30b. SIGNATURE	30c. DATE	31b. UNITED STATES OF AMERICA BY	31c. AWARD DATE

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Building 36 Roof - -2 pdfs.....	
Building 42 Roof - -2 pdfs.....	

**PRICE SCHEDULE**

CLIN NO.	DESCRIPTION OF SUPPLIES/SERVICES	QUANTITY	UNIT	LUMP SUM AMOUNT
0001	The Contractor shall provide all supervision, labor, professional scientific and technical support, testing, tools, equipment, materials, parts, transportation, all other support and incidentals necessary to replace roofing systems on Buildings # 1, 23, 30 and portions of Buildings #32, 36 and 42 in accordance with the contract documents, project specifications, drawings and executive, federal, state and local codes. Project work sites are located at James A. Haley Veterans Hospital, which is at 13000 Bruce B. Downs Boulevard, Tampa, Florida, 33612. The period of performance is 730 calendar days after receipt of the Notice-to-Proceed. Approximately 182 calendar days of this performance time will occur after normal hours of operation.	1	JB	\$ _____
		<b>TOTAL PRICE</b>		\$ _____

Offerors shall include a price breakdown by major labor category or trade (include the skill level range of employees), materials, equipment, amounts for overhead, profit, and bond costs for project completion. Offerors' price proposals breakdown shall include regular wage and differential wage rates (two separate price breakouts) for labor categories and trades that will perform during both normal hours of operation and after normal hours of operations in the completion of the project (182 calendar days). Offerors shall only include the differential wage rates for tasks that can and will be accomplished after normal hours of operations. If both rates are applicable, the labor category or trade should have two price breakouts as follows:

One for regular wage rate for performance time during 548 calendar days

One for differential wage rate for performance time during 182 calendar days

Prime contractor shall also provide copies of subcontractors' pricing with the total price proposal.

Failure to comply with these instructions may result in an offer being ineligible for award consideration.

\_\_\_\_\_  
Print Name of Authorized Representative

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Authorized Representative

## SECTION B - STATEMENT OF WORK

### 1. SERVICES REQUIRED:

Contractor shall provide all supervision, labor, professional scientific and technical support, testing, tools, equipment, materials, parts, transportation, all other support and incidentals necessary to remove existing roofing and replace roof systems on buildings number 1, 23, 30, and portions of Buildings 32, 36 and 42. Furnish and install R-30 1/4" tapered insulation system (fully adhered), and Thermoplastic Polyolefin Roofing system or a roof system of equal or greater quality and fulfills all product constraints in specification Section 07 54 23 Thermoplastic Polyolefin (TPO) Roofing.

Product data information and samples of proposed equal or greater products shall be sent via postal or courier mail to contracting office to ensure receipt no later than July 28, 2016 at 2:00pm EST for review and approval or disapproval. Offerors shall ensure submitted information is valid and provides sufficient evidence to demonstrate the product's compliance with all characteristics of the Thermoplastic Polyolefin Roofing system and the constraints per the specification. Failure to submit the required information by the established date and time shall result in disapproval of the proposed product.

Tasks will require, but are not limited to: demolition and removal of existing roofing, insulation, lightning protection and other accessories; priming existing concrete roof deck; prepping and painting; replacement and installation of aluminum cleat, piping, gutters, gravel stop, coping caps, existing lightning protection (with UL Master Label or Letter of Findings), installation of maintenance walkways to complete the roof system, maintenance walkways and other accessories to complete the roof system. If removed, tasks shall include reinstallation of HVAC systems and any other rooftop equipment systems. Replaced HVAC and equipment systems shall be protected from damage and shall be fully operational upon reinstallation. Contractor shall acquire certified or registered Florida Department of Business Professional Architectural and Engineering for professional scientific and technical support services.

Contractor shall also provide and install Siplast Paratread roof protection pads, new manufacturer's pipe boots (reworked existing roof drains), metal base flashing (at all equipment legs), new edge metal, expansion joint and counter flashing.

Provide Siplast manufacturer's 20-year system warranty guarantee to include insulation membranes, sheet metal and walkway. Contractor shall guarantee to provide repairs or replacement at no cost to the Government during the 20 year period. Warranty shall be a No Dollar Limit (NDL) and not a prorated warranty. All other tasks performed shall have a renewable 3-year workmanship warranty option.

**2. PURPOSE:** The existing roofing systems are in need of extensive repaired. Replacement of roof systems will prevent moisture and water leakage into these buildings' interior; thus, averting further damage.

**3. COMPLETION TIME:** 730 calendars days of which 182 calendar days of performance will be after normal hours of operation

**4. PHYSICAL ADDRESS:** James A. Haley Veterans Hospital, 13000 Bruce B. Downs Blvd. Tampa, FL 33612

**5. CONTRACTING OFFICER REPRESENTATIVE (COR) UPON AWARD:** Gabriel Birriel



## SECTION C- GENERAL INSTRUCTIONS AND PROCEDURES

C.1.1 This section provides specific instructions and procedures for preparing proposals for RFP VA248-16-R-0725. Offerors shall read this solicitation in its entirety to obtain a clear understanding of the terms, conditions, desired task performance and the capabilities. To ensure timely, consistence and equitable evaluations, offerors shall ensure proposals: comply with these instructions and procedures, are organized per the required format, include only the required information for the evaluation and are submitted by the due date and time.

- a. There should be adequate price competition for this acquisition. Upon receipt of initial proposals, the Contracting Officer will examine and review offers to determine if adequate competition exists. If there is adequate competition, no additional cost information will be requested under FAR 15.406-2 Certification of Current Cost or Pricing Data. Should at any time during this acquisition, the Contracting Officer determines adequate price competition no longer exists; offerors may be required to submit the necessary information per FAR 15.406-2 to determine price fair and reasonableness.

C.1.2 **PROJECT MAGNITUDE:** Pursuant to VAAR 836.204, the construction price range is between \$5,000,000 and \$10,000,000.

C.1.3 **SITE VISIT:** Per FAR 52.236-27 Site Visit (Alt I), a one-time site visit is scheduled for July 25, 2016 at 0930am EST. The location is Building 42 at the James A. Haley VA Hospital, located at 1300 Bruce B. Downs Blvd., Tampa, Florida 33612. Access to project sites outside the schedule date for the site visit is prohibited.

C.1.4 **NORTH AMERICAN INDUSTRY CLASSIFICATION CODE (NAICS):** 238160

C.1.5 **SMALL BUSINESS SIZE STANDARD:** \$15,000,000, Roofing Contractors

C.1.6 **SERVICE CODE:** Z2DA

C.1.7 **WAGE DETERMINATION:** The Department of Labor Wage Determination General Decision Number FL160018\_04/15/2016 \_FL18 is included in this solicitation and has the applicable Davis Bacon Act (DBA) wage rates for the resultant contract.

**Note:** The use of the underscore symbol ( \_ ) in the General Decision Number is simply a placeholder for double spacing between the sequence of characters

- a. An amendment will be issued to solicitation VA248-16-R-0725 for subsequent modifications to the DBA Wage Determination that are released prior to 2:00pm EST on Aug 3, 2016 (7 business days prior to the proposal

due date of August 12, 2016). Modifications issued to General Decision Number FL160018\_04/15/2016 \_FL18 prior to award will be incorporated into the resultant contract. Per FAR 52.222-6 Construction Wage Rates Requirements, the apparent successful offeror may be entitled to an adjustment in contract price only when modifications to Wage Determination General Decisions are issued prior to contract award **AND** the modification affects the DBA wage rates and fringe benefits of covered employees of the resultant contract.

- b. Withholding of funds is authorized under FAR 52.222-7 for failure to pay prevailing wages to any laborer under the resultant contract or laborers (includes apprentice, trainee, helpers) under any other Federal contract. Due to the risks associated with the performance of this requirement, the Prime contractor shall not use apprentices, trainees, helpers, uncertified employees, laborers or employees from temporary staffing agencies for any task performance on this project.

**C.1.8 PROPOSAL DUE DATE AND TIME:** Offerors shall mail one printed hardcopy of their proposal along with one Adobe pdf scanned copy of the proposal on CD via an authorized mail carrier or by hand-delivery to the Contracting Office by 2:00pm EST on August 12, 2016. The required format for CD submission is Adobe Acrobat pdf format in Version 9 to Version 5.

- a. Offerors shall take appropriate steps to ensure proposals arrived at the Contracting Office prior to the due date and time. Information in delivered proposal shall be legible and tightly secured in a manner to ensure the documents stay in the provided format throughout the duration of the evaluation.
- b. Offerors, who choose to hand-deliver proposals, shall request to speak to Regina Height (813-972-7585) or Danny Weger (813-903-2477) upon arrival at the Contracting Office. Offerors shall drop off their submissions to Ms. Height or Mr. Weger only.
- c. Proposals may be mailed or hand-delivered to the contracting office Monday thru Friday between the hours 08:00am to 2:00pm EST. Deliveries shall not be accepted on weekends, holidays, outside the established hours of acceptance nor after the proposal due date and time.
- d. Due to conformance verification and validation of original documents; electronic submissions of proposals and submissions in any other format other than the specified formats shall not be authorized for this requirement

and shall be deleted or destroyed upon receipt. Submissions via Mail carrier and hand-delivery shall be the only methods for sending in the printed hardcopy and accompanying copy on CD of proposals for Replace Roof Systems Campus Wide.

- e. Source selection evaluations shall be conducted using the information provided in the mailed hardcopy proposals. The information on CD is for administrative purposes only and shall not be used for the source selection evaluation process.

**C.1.9 CONTRACTING OFFICE MAILING ADDRESS:**

RFP VA28-16-R-0725  
Department of Veterans Affairs  
Network Contracting Office 8  
Attn: Regina Height  
8875 Hidden River Parkway Suite 560  
Tampa, Florida 33637

**C.1.10 REQUESTS FOR INFORMATION (RFIs):** RFIs shall be accepted from 2:00pm EST, July 25, 2016 to 2:00pm EST July 28, 2016. RFIs shall be emailed to the Contracting Officer, Regina Height at [regina.height@va.gov](mailto:regina.height@va.gov). RFIs shall be submitted on the RFI form in Attachment 5, shall be submitted in accordance with the instructions on the RFI form and shall be submitted by prime SDVOSB owners.

**C.1.11 FUNDING:** The award of this requirement is contingent upon Availability of Funds, FAR 52.232-18. The Government shall not compensate contractors for participation in this requirement (i.e. attendance to site visit, submission of RFIs, proposal preparation and submission...).

**C.1.12 CLARIFICATIONS:** The Government intends to evaluate proposals award the contract without discussions. If required, communications shall be limited to clarifications on past performance between the Government and offerors. Clarifications on past performance will be limited to questions about relevancy, accuracy or adverse information regarding offeror's past performance or the past performance of their critical subcontractors.

- a. Clarifications for past performance; when necessary, will occur after receipt of proposals, shall be initiated and managed by the Contracting Officer, only.
- b. Clarifications are brief explanations to clear an uncertainty. Offerors will not be able to make revisions to proposal, correct deficiencies or submit additional information for omissions.

**C.1.13 PROJECT SAFETY OVERSIGHT:** The contractor is responsible for and shall provide an onsite “Competent Person” OSHA certified safety employee, *from their own staff*, at all times during task performance for this project. The contractor *shall ensure* the *sole responsibility* and *only project job assignment* for the Safety employee is to *manage and oversee job site safety*. The Safety employee *shall not be assigned* to task performance or any other project management oversight responsibilities.

**C.1.14 VALID TIME FOR PROPOSALS:** Offeror’s proposal shall be valid for no less than 90 days from the proposal submission due date and time.

## SECTION D - PROPOSAL FORMAT

D.1.1 The limitations and document order format for RFP VA248-16-R-0725 proposals are provided in these instructions. The specified format and content for submitted proposals is critical to maintaining uniformity, consistency and accuracy for the source selection. Offerors should read these instructions to ensure their proposal has the essential information in the designated order for the source selection.

- a. To ensure orderly and timely evaluation of proposals, offerors shall follow the instructions contained herein. Evaluators shall not be accountable or liable for rearranging and/or searching through offerors' proposals or providing any effort of ascribing noncomplying submitted information against the factors and subfactors for the source selection.
- b. Offerors, who fail to comply with the specified order for proposal documentation, content and page constraints for the source selection, do so at the risk of an equitable evaluation of their proposals. Any information in proposals that is not evaluated or considered due to noncompliance with the instructions in this solicitation is solely the responsibility of the offeror.
- c. Offerors shall ensure submitted proposals are tightly secured to maintain the integrity of the order in which the documents were submitted. Potential offerors shall submit the information specifically pertaining to the source selection evaluation. Decorative proposal layouts and color presentations are not desired or required.
- d. Offerors shall comply with all prescribed limitations (maximum number of pages, paper size and other instructions) and submission of specific requested document (s) in response to a factor or subfactor. Evaluators shall not be required to assess information in proposals that exceeds or is noncompliant with established constraints in these instructions. Offerors, who fail to comply with the instructions in this solicitation, are solely the responsibility of all risks of an equitable assessment of their proposal.
- e. Unless the proposal is withdrawn prior to an award decision, Offerors, who choose to submit proposals for the Replace Roof Campus Wide procurement, agree; that upon obligation, they shall comply with the binding contract to provide all management personnel and subcontractors listed in their proposal upon acceptance. The Offeror shall be obligated to fulfill and comply with all technical, management, key trade personnel, performance standards, and costs per the submitted proposal. Failure to comply with the binding agreement per acceptance of the proposal is a violation of the terms and conditions of the awarded contract.

D.1.2 Offerors' proposals shall be unambiguous, contain clearly stated and explicit detail explanations with all-inclusive required information for assessment against the factors and sub-factors

D.1.3 Typed responses shall be presented on the assumption that the Government has no knowledge of the offeror's qualifications, capabilities, experience and working history in VA facilities.

- a. Responses shall fulfill the evaluation requirement, provide sufficient information so that the content can stand alone, demonstrates the offeror has completely considered and fully understands the requirement and possesses the capability to meet the performance objectives
- b. Responses must be distinctively, tailored to address performance of tasks that are specifically required for Replace Roof Systems Campus Wide, Project 673-14-604
  - i. Responses shall not simply restate or paraphrase information posted in the solicitation (includes project specifications)
  - ii. Response shall not be "canned replies", modified format of generic or plagiarized from other sources of general roof installations
- c. Offerors shall only provide typed responses in proposal for the source selection as specified in these instructions.
- d. Offerors, who fail to comply with these instructions or fail to ensure they have completely satisfied the evaluation requirement, are responsible for any negative impact of the response on their proposal rating

**D.1.4 INDIVIDUAL PAGE SIZE:** When required per these instructions, typed responses shall be the only acceptable response format for requests of written response to factors and subfactors. Typed responses and all other proposal submissions shall be on provided on 8.5 x 11 inch size sheet of paper. Each sheet shall have a 1 inch margin on the top, bottom and each side of the paper. The footer of each page in the proposal shall be numbered in this format, "Page 1 of 37" to identify the sequence of the documentation for the submission.

- a. The aforementioned size constraint does not apply to requested documents such bid bond, degrees; certificates, solicitation forms, price proposals documents and other proposal forms.
- b. Text for typed responses shall be no smaller than 12 pitch Arial font (normal font) and spacing between typed lines shall not be less than single-spaced. Typed responses shall be on one-side of each sheet of

paper only. Submitted responses with typing or text on both sides of the paper shall be counted as two pages

- c. The page limitation for typed responses is three pages (8x11 inch) maximum; this includes all written verbiage and all accompanying documents.
  - i. Typed response submissions shall not exceed the maximum number of specified pages.
  - ii. Diagrams, drawings and coversheets (in excess of those specified in these instruction) submitted in proposal shall count towards offeror's page constraints
  - iii. Offerors', who submit proposals not conforming to the established constraints in the solicitation, accept all risks and outcome this causes to their proposal
- d. The **Bonds, Letters and Certificates** – Offerors shall submit documents as specified absent of any additional information not requested for the factor and sub-factors
- e. **Written Response for Technical Subfactor J.4.1**-- knowledge of risks associated with the performance of this requirement and ability to identify valid industry risk planning methods to monitor and effectively manage potential threats
  - i. Responses are limited to three 8x11 inch pages maximum one-side type
- f. **Past Performance** -- Offerors shall use the form provided in the solicitation; shall ensure information on original form is not altered; shall ensure form is fully complete and submitted with the requested information only.
- g. **Price** -- Offerors shall ensure price proposals include the required information per solicitation instructions

D.1.5 All submitted documentation and information shall be evaluated and verified

D.1.6 Proposals shall be titled into three main sections as the main factors of evaluation, arranged in sequential order of their evaluation, separated by a cover page between each section and factor shall be identified in at least 14 pitch, bold font on the cover page for each section

- a. Title and Sequential Order of Main Sections of Proposal: **TECHNICAL, PAST PERFORMANCE, PRICE**
- b. Each section should be separated by a cover page

- c. Factor should be titled in large, bold font on the cover page

D.1.7 Documents provided for sub-factors shall be place in their respective main factor section and arranged in sequential order as listed in the evaluation section of this solicitation

- a. Each sub-factor shall be place in the corresponding main factor section
- b. Sub-factors shall be organized according to their listing in the evaluation section of this solicitation
- c. Each sub-factor section shall have a cover page with a listing of the documents provided in the sections
  - i. Listing of documents in each sub-factor section shall correspond to the listing in the evaluation section of this solicitation

D.1.8 A complete listing of the order and arrangement of documents in proposals is provided at the end of this section

D.1.9 Submissions of documentation for verification, certification and information for other status shall be evaluated and confirmed

D.1.10 The information on the subsequent pages in this section is also pertinent to complying with submission of proposal.



## OSHA SAFETY AND ENVIRONMENTAL RECORD

### **D.1.11 SAFETY OR ENVIRONMENTAL VIOLATIONS AND EXPERIENCE MODIFICATION RATE**

- a. Evaluation of past safety records of prospective contractors for contract award consideration is required per Veterans Health Administration (VHA) Directive 2011-036, which applies to all construction activities in VHA owned and leased facilities. VHA Directive 2011-036 mandates policy for maintaining a safe and healthy project site for staff, volunteers, visitors, contractors and the general public
- b. Offeror shall submit the following information pertaining to its past Safety and Environmental record. The information shall contain, at a minimum, a certification that the offeror has no more than three (3) serious, or one (1) repeat or one (1) willful Occupational Safety and Health Administration (OSHA) or any Environmental Protection Agency (EPA) violation(s) in the past three years.
- c. Offeror shall submit information regarding its current Experience Modification Rate (EMR) equal to or less than 1.0. This official information shall be obtained from the offeror's insurance company and be furnished on the insurance carrier's letterhead.
- d. Self-insured contractors or other contractors that cannot provide their EMR rating on insurance letterhead must obtain a rating from the National Council on Compensation Insurance, Inc. (NCCI) by completing/submitting form EMR-6 and providing the rating on letterhead from NCCI. Note: Self-insured contractors or other contractors that cannot provide EMR rating on insurance letterhead from the states or territories of CA, DE, MI, NJ, ND, OH, PA, WA, WY, and PR shall obtain their EMR rating from their state run worker's compensation insurance rating bureau.
- e. Offerors shall provide their official Safety and Environmental record in the designated location of their proposals. Submitted proposals that are missing offerors' official Safety and Environmental records; have nonconforming Safety and Environmental records or include Safety and Environmental records with EMR ratings that fail to satisfy the mandated standard shall be rated as "Fail" for the Official OSHA Safety and Environmental Record and Experience Modification Rate report technical factor. Information provided in offeror's records shall be verified by direct contact to various federal sources and review of reporting in systems, such OSHA and EPA online databases online.
- f. Prospective prime contractors shall be responsible for ensuring their proposed subcontractors' EMR rating satisfy the mandated standard for award consideration and; if selected for award, throughout the contract performance. Should an offeror get selected for award; the Prime Contractor shall ensure the subcontractors' listed in the accepted proposal are also assigned to the project. Failure of a prime contractor or subcontractor to fulfill the EMR offense or rating standards are grounds for replacement or termination

**Example of Required Information on EMR Record from an Authorized OSHA Insurance Provider****Must also have accompanying memorandum with Insurer signature on all documents, report included****Pre-Award Contractor Safety and Environmental Record Evaluation Form**

Information provided below is current and applicable to Solicitation VA248-16-R-0725

Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_

Contact: \_\_\_\_\_

1. Utilizing your OSHA 300 Forms, please complete the following information:

Category	2012	2013	2014	2015
Number of man hours (jobsite and office).				
Number of cases involving days away from work, restricted activity, or both (Column H and I of OSHA 300).				
Days away, restricted, or transferred rate (# of days away, restricted, or transferred cases x 200,000/# of man hours) (DART Rate).				
Number of serious, willful, or repeat violations from OSHA within the last 3 years. Please attach explanation for any violations.				

**Please attach copies of the following documents: OSHA 300 and 300a Forms.**

These forms can be accessed through the OSHA publications search page:

<http://www.osha.gov/pls/publications/publication.html>.

2. Provide six-digit North American Industrial Classification System (NAICS)

3. Code for this acquisition: \_\_\_\_\_

4. Who administers your company's Safety and Health Program?

\_\_\_\_\_

5. Company's Insurance Experience Modification Rate (EMR): \_\_\_\_\_

**"Authorized OSHA Insurer must complete this form ."**

## PAST PERFORMANCE INSTRUCTIONS

### D.1.12 Past Performance Form

- a. This is an example of the form offeror's will have to complete and submit for past performance. This form is not the official request for past performance contact submission. It is an example to inform prospective offerors of the intended evaluation process and selection criteria.
- b. Past performance forms shall be completed with all information. Submitted construction projects and requirements for past performance shall be for roof repair or roof replacement. The total project must be at minimum of \$5,000,000 in value. The project must be currently in progress or must have been completed within the past 3 years (no later than Jul 31, 2013). Projects may be commercial or federally awarded contracts and requirements.
- c. The recipient's position for the construction project or requirement referenced on the past performance shall be the same or at least shall have the same responsibilities as the position and task performance the recipient is assigned to in the proposal for RFPVA248-16-R-0725. Recipients position on referenced past performance for roof repair or roof replacement shall be as follows:
  - i. SDVOSB on submitted proposal -- was the Prime Contractor or an individual who held a position on the Prime Contractor Project Management Team that involves overall direction and responsibility (per industry practices) for overseeing the successful and timely completion of the project tasks
  - ii. Quality Control Management, Safety Management and positions in which an individual is not responsible for overall site management for day-to-day coordination and timely completion of project tasks shall not satisfy the past performance criteria for SDVOSB on submitted proposal
  - iii. Roofing subcontractor on submitted proposal -- was roofing subcontractor or was the Prime Contractor with roofing employees
  - iv. Architectural & Engineering (A/E) f on submitted proposal – A/E firm was Prime A/E contractor or A/E firm was A/E subcontractor on referenced project or requirement
- d. Offerors shall submit at least one past performance form, Attachment 6, for each of the following: the Prime SDVOSB company, roofing subcontractor and A/E firm. A completed and signed consent form shall be submitted for the roofing subcontractor and the A/E firm. Past performance concerning subcontractors cannot be disclosed to the prime Offerors without the subcontractor's consent.
- e. Submitting a proposal and subcontractors' consent forms, authorizes the Government to access to past performance history and records for primes, key personnel, predecessor

companies and their subcontractors. Past performance of Offerors' key personnel, predecessor companies and critical subcontractors **shall be considered equally significant to the past performance** of the SDVOSB and SDVOSB principal company.

- f. Using the information provided on the forms submitted in proposals, past performance shall be evaluated on accuracy, relevancy, current/recent per the established timeline and quality of performance. All past performance information shall be subject to assessment and verification of contract or requirement, type of work tasks, timeline of performance and the performance outcomes. The Government shall also review Federal Awardee Performance Integrity Information System (FAPIS), check other databases and conduct interviews with program managers and customers of additional awards and requirements for Offerors.

## PAST PERFORMANCE CONTACT FORM

This is an example of the past performance that shall be completed and included in Offerors' proposals. Past performance submissions are due by 2:00pm Eastern Standard Time on Aug 12, 2016. Requested information on forms in proposals shall not be altered. Provided information shall be legible and contact information shall be accurate for past performance verification.

<b>Current Name of Company</b>		<b>DUNS</b>
<b>Company Name during Performance (If not applicable write " N/A")</b>		<b>DUNS</b>
<b>Project or Requirement Title:</b>		
<b>Name of Government or Commercial Agency Purchasing Construction Services:</b>		
<b>Address:</b>		
<b>Contract or Requirement Number</b>	<b>Date services were procured / Contract awarded</b>	
<b>Original Amount for Construction Services</b> \$	<b>Period of performance -- format required for time period</b> MM/DD/YYYY to MM/DD/YYYY	
<b>Current Performance Status:</b>  Active _____ Completed _____  Percentage completed _____ %  Current total amount of contract or Total contract amount upon completion \$ _____	<b>Type of Contract (Place "X" by appropriate types)</b>  Fixed Price ____ Cost Reimbursement ____  Task Order on IDIQ ____ Time & Materials ____  Labor Hours ____ Blanket Purchase Agreement ____  Incentive contract ____ ( _____ ) Identify Type  Hybrid ____ ( _____ ) Identify Type	
<b>Description of Services</b>		
<b>Name of Point of Contact :</b>		
<b>Position at the time of referenced contract:</b>		
<b>Voice Phone Number :</b>		<b>Email Address:</b>

**Sample of Subcontractor Consent Form for Release of Past Performance Information**

Date\_\_\_\_\_

Company Name \_\_\_\_\_

Street Address:\_\_\_\_\_

City, State, Zip: \_\_\_\_\_

DUNS:\_\_\_\_\_

SUBJECT: Consent to Release Past Performance Information for RFP VA248-16-R-0725

Dear Sir/Ma'am

I hereby authorize access my past performance records as a result of my participation as a subcontractor for PRIME COMPANY's NAME for Replace Roof Systems Campus Wide, Project 673-14-604. I fully understand that by giving this authorization, this allows unrestricted access and evaluation of my performance on current requirements and requirements completed on July 31, 2013 or prior.

Sincerely,

“SIGNATURE”

\_\_\_\_\_

Print Name

\_\_\_\_\_

Title

# PRICE PROPOSAL

## D.1.13 Price Forms

This section provides required information for submitted price proposals. Offerors shall ensure proposals include the required forms and supporting information for pricing.

- a. Submit Page 2 of the Standard Form 1442 shall be completed and signed with the required information in the following sections:
  - 1) Section 14 NAME AND ADDRESS OF OFFEROR (Include Zip Code)
  - 2) Section 15 TELEPHONE NUMBER
  - 3) Section 17 Complete number of calendar days Government has to accept the offer and enter total price amount
    - i. Proposals acceptance times less than 120 calendars are not in compliance with the solicitation instructions
  - 4) Section 19 ACKNOWLEDGMENT OF AMENDMENTS, if applicable
    - i. If an individual copy of all issued amendments is provided with the appropriate acknowledgement on each in the submitted proposal, completion of this section is not required
  - 5) Section 20a NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER
    - i. Typed or Printed by hand is acceptable
  - 6) Section 20b SIGNATURE
  - 7) Section 20c OFFER DATE
- b. Submit an individual copy of all issued amendments with the appropriate acknowledgement on each
  - i. These documents are not required if the information in Section 19 on Page 2 of the Standard Form 1442 is fully completed
- c. Submit fully completed Price Schedule from the solicitation
  - i. Shall be complete with unit, lump sum and total pricing
  - ii. Shall include printed name, date and signature of authorized company owner representative
- d. Submit a breakdown of the total amount stated on the price schedule
  - 1) Breakdown shall identify price of labor in each major category or trade
    - i. In each labor category or trade shall identify the skill level range for the employees from the lowest to highest obtained level of proficiency
    - ii. Breakdown shall include regular wage and differential wage rates (two separate costs breakouts) for labor categories and trades that will perform during both normal hours of operation and after normal hours of operations in the completion of the project (182 calendar days).
    - iii. Offerors shall only include the differential wage rates for tasks that can and will be accomplished after normal hours of operations.
  - 2) Breakdown shall include pricing for materials, equipment, parts overhead, profit, and bond costs for project completion

- i. Proposals shall include price of materials, parts, tools and equipment for which their use shall be 100% consumed and expended solely for the completion of this project and per the funds acquiring these items; they will not be utilized for the performance of any other requirements or projects during or after its completion
  - ii. Costs associated with equipment that will be used specifically for this contract only and not any other contracts (including future ones) shall not be authorized price proposals
  - iii. Costs associated with leased equipment that shall be used solely for this project (no other project, even at Tampa) and shall remain on site throughout the duration of the contract performance and shall be returned to the rental source upon completion of this project is authorized for price proposal
  - iv. Cost to purchase equipment in the performance of this project shall not authorized in proposal pricing
  - v. Cost for associated with company vehicles shall not be authorized in price proposals
  - vi. Costs associated with purchasing of meals shall not be authorized in price proposals
- e. Submit legible copies of subcontractors' proposals for labor, materials, parts, tools and equipment costs
- f. Submit Itemization of self-performed and subcontracted work for proposed amounts as prescribed in the instructions
- g. Submit Itemize pricing breakdown and self-perform work calculation with signed certification
- h. Submit fully completed Original Bid Bond and power of Attorney
- i. Submit completed clause FAR 52.209-5 Certification Regarding Responsibility Matters from solicitation
- j. Submit completed clause FAR 52.209-7 Information Regarding Responsibility Matters from solicitation
- k. Submit copy of completed clause FAR 52.204-8 Annual Representations and Certifications (Feb 2016) as prescribe in the solicitation

**Sample of Price Schedule**

<b>CLIN NO.</b>	<b>DESCRIPTION OF SUPPLIES/SERVICES</b>	<b>QUANTITY</b>	<b>UNIT</b>	<b>LUMP SUM AMOUNT</b>
0001	<p>Per this CLIN, the Contractor shall provide all supervision, labor, professional scientific and technical support, testing, tools, equipment, materials, parts, transportation, all other support and incidentals necessary to replace roofing systems on Building # 1, 23, 30, 32, 36 and 42 in accordance with the contract documents, project specifications, drawings and executive, federal, state and local codes. Project work sites are located at James A. Haley Veterans Hospital, which is at 13000 Bruce B. Downs Boulevard, Tampa, Florida, 33612.</p> <p>The period of performance is 730 calendar days after receipt of the Notice-to-Proceed. Approximately 182 calendar days of this performance time will occur after normal hours of operation.</p>	1	JB	\$ _____
		<b>TOTAL PRICE</b>		<b>\$ _____</b>

Offerors shall include a price breakdown by major labor category or trade (include the skill level range of employees), materials, equipment, amounts for overhead, profit, and bond costs for project completion. Offerors' price proposals breakdown shall include regular wage and differential wage rates (two separate price breakouts) for labor categories and trades that will perform during both normal hours of operation and after normal hours of operations in the completion of the project (182 calendar days). Offerors shall only include the differential wage rates for tasks that can and will be accomplished after normal hours of operations. If both rates are applicable, the labor category or trade should have two price breakouts as follows:

- One for regular wage rate for performance time during 548 calendar days
- One for differential wage rate for performance time during 182 calendar days

Prime contractor shall also provide copies of subcontractors' pricing with the total price proposal. Failure to comply with these instructions may result in an offer being ineligible for award consideration.

\_\_\_\_\_  
Print Name of Authorized Representative

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Authorized Representative



#### Itemization of Self-Performed and Subcontracted Work for Offeror's Price Amount

Under VAAR 852.219-11, VA Notice of Total SDVOSB Set-Aside, prime contractors performing specialty construction trades incur at least twenty-five percent (25%) of the cost of contract performance on the concern's employees or on the employees of other eligible service disabled Total Price of Labor and Administrative performance on Contract veteran-owned small business concerns. With the exception of authorized SDVOSB business arrangements that have received written approval from the Office of Small and Disadvantage Business Utilization, offerors cannot use large businesses for tasks performance on this requirement.

Offerors must provide an itemized breakdown of the lump sum amount by major/significant task category. Itemization should clearly identify tasks the offeror personnel will perform and the price for those tasks. Compliance with the twenty-five percent (25%) performance standard per VAAR 852.219-11 VA, Notice of Total SDVOSB Set-Aside, must also be clearly cited in Offerors' submitted price breakdown.

A signed statement certifying the accuracy of provided pricing shall also be included.

At a minimum, Offeror's Itemization shall include the following price categories:

General Condition/Management Oversight

Safety

Materials (includes all materials for project performance – prepping removal, installation and finishing, i.e. painting)

Equipment (include rental costs, i.e. hauling debris)

Support Services (Cost for all other services, other than management related or construction tasks – that are incidental to tasks completion includes professional and Technical, permitting)

Major Labor Categories and Trades for Construction Tasks performance

General Administration/Overhead

Profit

Bond

**\*\*Due to county law, business size constraint is not applicable to the disposal of construction debris. Offerors must use debris transporters, who have been approved by Hillsborough County, Florida.**

Offerors' itemization do not need not specify individual company names for equipment rentals and material purchases price breakdown. Itemization shall include identification by general item type (i.e roofing material) and all other applicable pricing information (Units, Quantity, Total...). Offerors' proposals shall include subcontractors' proposals for these items

## Example of an Itemize Pricing Breakdown and some of the Required Information

Task Division	Company Name	SDVOSB (Yes/No)	Small Business (Yes/No)	Total Labor Cost	Total Material Cost	Total Equipment Cost	Total Amount
Project Supervision	Prime Awardee	Yes	Yes	\$\$\$\$.00			\$\$\$\$.00
Safety	Prime Awardee	Yes	Yes	\$\$\$\$.00			\$\$\$\$.00
Support Services	Subcontractor Name 1	No	Yes	\$\$\$\$.00	\$\$\$\$.00		\$\$\$\$.00
Roofing Removal & Installation	Subcontractor Name 2	Yes	Yes	\$\$\$\$.00	\$\$\$\$.00	\$\$\$\$.00	\$\$\$\$.00
Equipment Rentals/Debris Disposal**	N/A	N/A	N/A			\$\$\$\$.00	\$\$\$\$.00
Other Materials (i.e. Walkways, Lighting protection, Rooftop Ladders, Painting)	N/A	N/A	N/A		\$\$\$\$.00	\$\$\$\$.00	\$\$\$\$.00
			Total	\$\$\$\$.00	\$\$\$\$.00	\$\$\$\$.00	
			Subtotal1 Labor, Material, Equipment			\$\$\$\$.00	
				Overhead 6%		\$\$\$\$.00	
				Subtotal 2		\$\$\$\$.00	
				Profit 10%		\$\$\$\$.00	
				Subtotal 3		\$\$\$\$.00	
				Bond 2%		\$\$\$\$.00	
				Grand Total		\$\$\$\$.00	

**Formula to Calculate 25% SDVOSB Personnel Prices for Prime Awardee's Itemized Pricing**

From Total Price of Labor and Administrative performance by SDVOSBs on Contract (highlighted in yellow on table)

**Subtract**

Total Labor Amount for non SDVOSB companies (Highlighted in blue, total labor provided by the Support Services Subcontractor 1)

**Equals** Total Price amount of Self-performed tasks by SDVOSBs

**Divide** Total Amount of Self-performed tasks by Total Price of Labor and Administrative performance by SDVOSBs on Contract and **Multiply by 100 Equals** Total Percentile of SDVOSB's performance on the contract

Thus:

Total Price amount of self-performed tasks by SDVOSB / Total Price of Labor and Administrative performance by SDVOSBs on Contract **Multiply by 100 Equals**

**Total % of SDVOSB Performance on Contract**

"I certify the above representations are true and correct to the best of my knowledge."

---

Signature of Authorized Representative

---

Date

---

Title  
Authorized Representative

---

Type or Printed Name of

# SEQUENTIAL ORDER AND ARRANGEMENT OF DOCUMENTS IN PROPOSALS

## **D.1.14 Sequential Order of Proposal Documents**

This section provides a complete listing of the order and arrangement of documents in for the proposals. This listing does not display the specified font pitch sizes for the cover pages. Please read previous instructions for font pitch size. Offerors shall ensure proposals are arranged in this order.

### **a. TECHNICAL FACTOR** (cover page)

#### **Project Management Capability** (section cover page)

1. Copy of official SDVOSB current notification letter from VetBiz
2. Copy of SVOSB current VetBiz verification
3. Copy of SDVOSB current System for Award Management (SAM) registration
4. Copy of Prime SDV or SDVOSB company (for verified JV and Teaming Businesses) active General Contractor or active Building Contractor licensing or certificate
5. Copy of Prime SDV or SDVOSB company (for verified JV and Teaming Businesses) Florida Division of Professions Construction Industry Licensing Board active Roof licensing or certificate
6. Official OSHA Safety and Environmental Record and Experience Modification Rate (EMR) report for the past three years

#### **Project Management Staff** (section cover page)

1. Copy of 30-hour OSHA Construction Safety course certificate for Project Manager
2. Copy of 30-hour OSHA Construction Safety course certificate for Project Superintendent
3. Copy of 30-hour OSHA Construction Safety course certificate for OSHA certified “competent person” employee, who will oversee jobsite safety during work task performance

#### **Critical Subcontractor Selection** (section cover page)

1. Copy of roofing subcontractor Florida Division of Professions Construction Industry Licensing Board active Roof licensing or certificate

2. Copy of Architectural and Engineering (A/E) firm Florida Division of Professions Construction Industry Licensing Board active certificate or license
3. Copy of valid certificate for employee, who will operate forklift

**Project Risk Management** (section cover page)

1. Knowledge of risks associated with performance of this requirement and planning methods to monitor and effectively manage potential threats (3 page response)

**b. PAST PERFORMANCE FACTOR** (cover page)

**Past Performance Forms** (section cover page)

- a. Past performance form for SDVOSB company
- b. Past performance form for Roofing Subcontractor company
  - a. Past performance consent memo for Roofing Subcontractor company
- c. Past performance form for A/E firm
  - a. Past performance consent memo for A/E firm

**c. PRICE FACTOR** (cover page)

**Price Forms** (section cover page)

1. Page 2 of Standard Form 1442
2. Individual copies of amendments with acknowledgement receipt (if section 19 in SF1442 is not completed), if applicable per instructions
3. Completed Price Schedule
4. Proposal Price Breakdown
5. Copies of subcontractors' price proposals
6. Itemization of self-performed and subcontracted work for proposed amount
  7. Itemize pricing breakdown and self-perform work calculation with signed certification
8. Original Bid Bond and Power of Attorney

9. Completed clause FAR 52.209-5 Certification Regarding Responsibility Matters
10. Completed clause FAR 52.209-7 Information Regarding Responsibility Matters
11. Completed clause FAR 52.204-8 Annual Representations and Certifications (Feb 2016) as prescribe in the solicitation

## SECTION E – SOURCE SELECTION

### SOURCE SELECTION PROCESS

#### **E Past Performance Price Trade-off with Technical Proposals Process**

E.1.1 Evaluation of proposals for the source selection will consist of the steps:

Step 1 - Initially, all proposals shall be evaluated for technical acceptability. Each proposal shall be assessed as technically acceptable or technically unacceptable on a “Pass” or “Fail” rating against the individual technical subfactors. Each proposal shall receive an overall rating of “Pass” or “Fail” for Technical based on whether or not the responses fulfilled all the subfactors.

Step 2 - All technically acceptable proposals shall be ranked from lowest to highest based on price. Using competition as the primary analysis technique, technically acceptable proposals will be evaluated for price reasonableness. If there is not adequate competition procedures for FAR 15.406-2 will be used for analysis of price reasonableness.

Step 3 - The lowest price offeror’s past performance will be evaluated. If the past performance is rated “Substantial Confidence”, the evaluation process is complete. Award will be made to that offeror without further consideration. If the lowest price offeror’s proposal does not receive a “Substantial Confidence” rating for past performance, the next lowest price offeror’s past performance will be evaluated. In descending order by price, the evaluation of offerors’ proposal will continue until an offeror receives a “Substantial Confidence” rating for past performance. Offerors with no relevant past performance shall receive an “Unknown Confidence” rating.

Step 4 - If none of the offerors’ past performance receives a “Substantial Confidence” rating, offerors will be given a chance to clarify minor aspects of their and subcontractors’ past performance , which will be limited to relevancy, accuracy or adverse information.

Step 5 - After completing clarifications, offeror’s past performance will be reassessed to determine if the ratings should be revised. Award will be based on selecting a contractor whose past performance gives the Government a substantial level of confidence that it will best meet the desired performance objective at the lowest reasonable price.

E.1.2 The Government intends to evaluate proposals and make an award without discussions. If required, communications will be limited to clarifications on relevancy, accuracy or adverse information on past performance and will occur after receipt of proposals.

- E.1.3 Clarifications are for brief explanations only, offerors will not be able to make revisions to proposal, correct deficiencies or submit additional information for omissions. All clarifications between the Government and offerors will be controlled by the Contracting Officer.

## EVALUATION FACTORS RATINGS DEFINED

### F Technical Ratings

Rating	Assessment Definition
<b>Pass</b>	Proposal meets all technical standards; demonstrates clear understanding of risks, is accurate in the implementation of proven and valid industry risk planning methods for monitoring and proposes effective strategies for management of potential threats. Proposal is technically acceptable.
<b>Fail</b>	Proposal does not meet technical standard and contains one or more deficiencies. Proposal is technically unacceptable.

### G Past Performance Ratings

Rating	Assessment Definition
<b>Substantial Confidence</b>	Based on the offeror's recent and relevant performance record, the government has a high expectation that the offeror will be able to successfully perform the required effort
<b>Satisfactory Confidence</b>	Based on the offeror's recent and relevant performance record, the government has a reasonable expectation that the offeror will be able to successfully perform the required effort.
<b>Limited Confidence</b>	Based on the offeror's recent and relevant performance record, the government has a minimal expectation that offeror will be able to successfully perform the required effort
<b>No Confidence</b>	Based on the offeror's recent and relevant performance record, the government has no expectation that offeror will be able to successfully perform the required effort.
<b>Unknown Confidence</b>	There is no recent, relevant, identifiable performance record for the offeror or the offeror's performance record is so limited that a confidence assessment rating cannot be reasonably assigned.



## H. Price

- I.1.1 Using competition as the primary analysis technique, technically acceptable proposals will be evaluated for price reasonableness. If there is not adequate competition procedures for FAR 15.406-2 will be used for analysis of price reasonableness.

## EVALUATION FACTORS AND SUBFACTORS

### I. Factor 1: Technical

#### Project Management Capability

- I.1.1 Copy of official SDVOSB current notification letter from VetBiz
  - a. Letter shall be valid and complies with all standards for issuance
- I.1.2 Copy of SVOSB current VetBiz verification
  - i. Shall be valid and complies with all standards for verification per 38 Code of Federal Regulations (CFR )74, 13 CFR 125.5, 38 U.S.C. 8127 and all other regulations
  - ii. Verification expiration date shall be after December 30, 2016
- I.1.3 Copy of SDVOSB current System for Award Management (SAM) registration
  - a. Shall be valid and complies with all regulations for award consideration
  - b. Registration expiration date shall be after December 30, 2016
- I.1.4 Copy of Prime Service Disabled Veteran or SDVOSB company (for verified JV and Teaming Businesses) Florida Division of Professions Construction Industry Licensing Board active General Contractor or Building Contractor licensing or certificate
  - a. Shall be valid and complies with all regulations for award consideration
  - b. Shall be issued in Prime SDV or SDVOSB company (for verified JV and Teaming Businesses) name per 38 Code of Federal Regulations (CFR )74, 13 CFR 125.5, 38 U.S.C. 8127 and all other regulations
- I.1.5 Copy of Prime Service Disabled Veteran or SDVOSB company (for verified JV and Teaming Businesses) Florida Division of Professions Construction Industry Licensing Board active Roof licensing or certificate

- a. Shall be valid and complies with all regulations for award consideration
  - b. Shall be issued in Prime SDV or SDVOSB company (for verified JV and Teaming Businesses) name per 38 Code of Federal Regulations (CFR )74, 13 CFR 125.5, 38 U.S.C. 8127 and all other regulations
- I.1.6 Submit Official OSHA Safety and Environmental Record and Experience Modification Rate (EMR) reports for the past three years for Prime SDVOSB

### **Project Management Staff**

- I.2.1 Copy of 30-hour OSHA Construction Safety course certificate for Project Manager
  - a. Shall be valid and complies with all standards for issuance
  - b. Employee is with prime company and has fulfilled qualification standards for the course
  - c. Expiration date for completed training shall be after December 30, 2016
- I.2.2 Copy of 30-hour OSHA Construction Safety course certificate for Project Superintendent
  - a. Shall be valid and complies with all standards for issuance
  - b. Employee is with prime company and has fulfilled qualification standards for the course
  - c. Expiration date for completed training shall be after December 30, 2016
- I.2.3 Copy of 30-hour OSHA Construction Safety course certificate for OSHA certified “competent person” employee, who will oversee jobsite safety during work task performance
  - a. Shall be valid and complies with all standards for issuance
  - b. Employee is with prime company and has fulfilled qualification standards for the course
  - c. Expiration date for completed training shall be after January 30, 2017

### **Critical Subcontractor Selection**

- I.3.1 Copy of roofing subcontractor Florida Division of Professions Construction Industry Licensing Board active Roof licensing or certificate

- I.3.3 Copy of Architectural and Engineering (A/E) firm Florida Division of Professions Construction Industry Licensing Board active certificate or license
- I.3.4 Copy of valid certificate for employee, who will operate forklift

### **Project Risk Management**

- I.4.1 Knowledge of risks associated with performance of this requirement and planning methods to monitor and effectively manage potential threats there is a 3 page response limit for this factor
  - i. Shall provide a descriptive, written response on the risks that pose potential threats to successful completion of the project. Offerors should read the meaning of the term “risks” in the Definitions section.
  - ii. Shall explain what valid and complaint industry risk planning methods offeror will implement to monitor these risks
  - iii. Shall describe how or what you will do to effectively manage potential threats

## **J. Factor 2: Past Performance**

### **Past Performance Forms**

- J.1.1 Past performance forms shall be completed with all information. Submitted construction projects and requirements for past performance must be for roof repair or roof replacement. The total project must be at minimum of \$5,000,000 in value. The project must be currently in progress or completed within the past 3 years (no later than Jul 31, 2013). The Prime Offeror must submit at least one past performance form for each of the following: SDVOSB principal company, roofing subcontractor and A/E firm. A completed and signed consent form shall also be submitted for the roofing subcontractor and the A/E firm. Past performance of key personnel, predecessor companies and critical subcontractors **shall be considered equally significant to the past performance** of the SDVOSB and SDVOSB principal company.
- J.1.2 Provided information for referenced construction projects and requirements shall be evaluated in accuracy, relevancy, current/recent as per the established timeline and quality of performance. All past performance shall be subject to assessment and verification of work awarded, accomplished, in progress, type of work tasks performed, timeline of performance and the performance outcomes.
  - a. Past performance form for SDVOSB company
  - b. Past performance form for Roofing Subcontractor company

- i. Past performance consent memo for Roofing Subcontractor company
- c. Past performance form for A/E firm
  - i. Past performance consent memo for A/E firm

## **K. Factor 3: Price**

### **Price Forms**

- K.1.1 Signed, Page 2 of Standard Form 1442
- K.1.2 Individual copies of amendments with acknowledgement receipt (if section 19 in SF1442 is not completed), if applicable per instructions
- K.1.3 Completed Price Schedule
- K.1.4 Offeror's Proposal Price Breakdown
  - K.1.5 Copies of subcontractors' proposals
  - K.1.6 Itemization of self-performed and subcontracted work for proposed amounts
  - K.1.7 Itemize pricing breakdown and self-perform work calculation with signed certification
  - K.1.8 Original Bid Bond and Power of Attorney
  - K.1.9 Completed clause FAR 52.209-5 Certification Regarding Responsibility Matters from solicitation
  - K.1.10 Completed clause FAR 52.209-7 Information Regarding Responsibility Matters from solicitation
  - K.1.11 Completed clause FAR 52.204-8 Annual Representations and Certifications (Feb 2016) as prescribe in the solicitation

## **DEFINITIONS**

**(Applicableness to Project 673-14-604)**

**Accurate** -- correct in details, free of mistakes or errors as the result of care; able to produce results that are correct; conforming exactly to truth or to a standard

**Affiliated concerns** -- are normally considered separate entities in determining whether the concern that is to perform the contract meets the applicable standards for responsibility. However, the contracting officer shall consider the affiliate's past performance and integrity when they may adversely affect the prospective contractor's responsibility.

**Aggregated Assessment** -- applicableness

**Best Value** -- the expected outcome of an acquisition that, in the Government's estimation, provides the greatest overall benefit in response to the requirement.

**Bid Guarantee** -- form of security assuring offeror (bidder) will not withdraw proposal (bid) within the specified period of acceptance period. Form of security assures offeror (bidder) will execute a written contract and furnish required bonds, including coinsurance or reinsurance, within the time specified in the Request for Proposal (bid)

**Bond** -- a written instrument executed by a contractor (the principal), and a second party (the surety or sureties) to assure fulfillment of the principal's obligations to a third party (the obligee or Government), identified in the bond. If the principal's obligations are not met, the bond assures payment, to the extent stipulated, of any loss sustained by the obligee. Types for this requirement: bid, payment and performance

**Canned Response** -- phrases frequently used or repeatedly used boiler plate wording in contract proposals

**Clarifications** -- limited exchanges, between the Government and offerors, that may occur when award without discussions is contemplated

**Consent**-- means written acknowledgement by a certain entity

**Contract**-- a mutually binding legal relationship obligating the seller to furnish the supplies or services (including construction) and the buyer to pay for them. It includes all types of commitments that obligate the Government to an expenditure of appropriated funds and that, except as otherwise authorized, are in writing. In addition to bilateral instruments, contracts include (but are not limited to) awards and notices of awards; job orders or task letters issued under basic ordering agreements; letter contracts; orders, such as purchase orders, under which the contract becomes effective by written acceptance or performance; and bilateral contract modifications.

**Contract Clause** -- a term or condition used in contracts or in both solicitations and contracts, and applying after contract award or both before and after award

**Communications** -- exchanges between the Government and offerors, after receipt of proposals, leading to establishment of the competitive range. If required, communications will be limited to

clarifications on adverse on past performance between the Government and offerors; will occur after receipt of proposals and will be controlled by the Contracting Officer

**Competent Person** -- per OSHA qualification standards, 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 (29 CFR 1926.32(f)).

**Contracting Officer** -- a person with the authority to enter into, administer, and/or terminate contracts and make related determinations and findings. The term includes certain authorized representatives of the contracting officer acting within the limits of their authority as delegated by the contracting officer. **There are no authorized representatives for the designated contracting officer(s) for the procurement of this acquisition nor does anyone have delegation to act on behalf of the designated contracting officer(s).**

**Current** -- means happening or occurring in the present; most recent

**Descriptive Literature** -- information provided by an offeror, such as cuts, illustrations, drawings and brochures, that shows a product's characteristic or construction of a product

**Ineligible** -- excluded from Government contracting (and subcontracting, if appropriate) pursuant to statutory, Executive order, or regulatory authority other than the Federal Acquisition Regulation (FAR) and its implementing and supplementing regulations; for example, pursuant to

**Generic Response** -- reply lacks specificity and details

**Offer** -- means a response to a solicitation that, if accepted, would bind the offeror to perform the resultant contract. Responses to invitations for bids (seal bidding) are offers called "bids" or "seal bids"; responses to requests for proposals (negotiation) are offers called "proposals"; however, responses to requests for quotations (simplified acquisition) are "quotations," not offers.

**Offeror** -- means offeror or bidder

**Past Performance** -- offeror's or contractor's performance on active and physically completed contracts

**Price Reasonableness** -- on a firm-fixed requirement reasonableness is established by competition and a comparison of the price on submitted proposals. (FAR 15.305(b))

**Principal** -- an officer, director, owner partner, or person having primary management or supervisory responsibilities within a business entity

**Proposal Evaluation** -- is an assessment of a submitted proposal and an offeror's ability to perform the prospective contract successfully. (FAR 15.305(a))

**Power of Attorney** -- authority given one person or corporation to act for and obligate another, as specified in the instrument creating the power; in corporate suretyship, an instrument under seal that appoints an attorney-in-fact to act in behalf of a surety company in signing bonds

**“Registered in the System for Award Management (SAM) database”** means that --

- (1) The Contractor has entered all mandatory information, including the DUNS number of the DUNS+4 number, the Contractor and Government Entity (CAGE) code, as well as data required by the Federal Funding Accountability and Transparency Act of 2006 (see Subpart 4.14), into the SAM database;
- (2) The Contractor has completed the Core, Assertions, Representations and Certifications, and Points of Contact sections of the registration in the SAM database;
- (3) The Government has validated all mandatory data fields, to include validation of the Taxpayer Identification Number (TIN) with the Internal Revenue Service (IRS). The contractor will be required to provide consent for TIN validation to the Government as part of the SAM registration process; and
- (4) The Government has marked the record “Active”.

**Responsible Prospective Contractor** -- a contractor that meets the standards in FAR 9.104

**Relevant** -- matches or similar to the tasks being acquired

**Risk** -- includes, but is not limited to any exposure that may lead to possible loss, delay in performance, injury and additional costs.

**Shall** -- means the imperative, required

**Should** -- means an expected course of action or policy that is to be followed unless inappropriate for a particular circumstance

**WAGE DETERMINATION**

General Decision Number: FL160018 04/15/2016 FL18

Superseded General Decision Number: FL20150018

State: Florida

Construction Type: Building

County: Hillsborough County in Florida.

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.15 for calendar year 2016 applies to all contracts subject to the Davis-Bacon Act for which the solicitation was issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.15 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2016. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Modification Number	Publication Date
0	01/08/2016
1	02/26/2016
2	04/15/2016

CARP1000-002 07/01/2014

	Rates	Fringes
MILLWRIGHT.....	\$ 29.48	12.40
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* ELEC0915-002 12/07/2015		

	Rates	Fringes
ELECTRICIAN		
Building Electrical		
Contracts over \$200,000.		
Excludes all Educational,		
Theme Park, and Hospital		
Facilities.....	\$ 26.53	10.07
Building Electrical		
Contracts under \$200,000		
and all work at		
Educational, Theme Park,		
Hospital Facilities.....	\$ 21.41	8.18
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ENGI0925-003 06/01/2013		

	Rates	Fringes
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## OPERATOR: Crane

Crawler Cranes; Truck Cranes; Pile Driver Cranes; Rough Terrain Cranes; and Any Crane not otherwise described below...	\$ 29.61	11.50
Hydraulic Cranes Rated 100 Tons or Above but Less Than 250 Tons; and Lattice Boom Cranes Less Than 150 Tons if not described below.	\$ 30.61	11.50
Lattice Boom Cranes Rated at 150 Tons or Above; Friction Cranes of Any Size; Mobile Tower Cranes or Luffing Boom Cranes of Any Size; Electric Tower Cranes; Hydraulic Cranes Rated at 250 Tons or Above; and Any Crane Equipped with 300 Foot or More of Any Boom Combination.....	\$ 31.61	11.50
OPERATOR: Mechanic.....	\$ 29.61	11.50
OPERATOR: Oiler.....	\$ 22.91	11.50
OPERATOR: Boom Truck.....	\$ 29.61	11.50

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IRON0397-001 02/01/2015

	Rates	Fringes
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IRONWORKER, ORNAMENTAL, REINFORCING AND STRUCTURAL.....	\$ 28.25	13.49
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PAIN0078-001 07/01/2014

	Rates	Fringes
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GLAZIER.....	\$ 22.00	8.45
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PAIN0088-002 08/01/2014

	Rates	Fringes
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PAINTER: Spray.....	\$ 17.50	8.83
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PLUM0123-001 05/01/2015

	Rates	Fringes
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PIPEFITTER (HVAC Pipe Installation).....	\$ 23.90	13.24
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SHEE0015-002 07/01/2013

	Rates	Fringes
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SHEET METAL WORKER (HVAC Duct Installation Only).....	\$ 20.26	13.73
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# VA248-16-R-0725 Replace Roof Systems Campus Wide

SUFL2009-014 05/22/2009

	Rates	Fringes
ACOUSTICAL CEILING MECHANIC.....	\$ 13.00	0.00
BRICKLAYER.....	\$ 18.00	0.00
CABINET INSTALLER.....	\$ 17.75	0.00
CARPENTER, Includes Form Work (Excludes Acoustical Ceiling Installation, Cabinet Installation, and Drywall Hanging).....	\$ 17.23	4.23
CEMENT MASON/CONCRETE FINISHER...	\$ 13.76	0.00
DRYWALL FINISHER/TAPER.....	\$ 13.00	0.00
DRYWALL HANGER.....	\$ 14.00	0.00
FENCE ERECTOR.....	\$ 7.25	0.19
INSULATOR - PIPE & PIPEWRAPPER...	\$ 13.13	3.03
LABORER: Asphalt Shoveler.....	\$ 7.88	0.00
LABORER: Common or General.....	\$ 12.23	2.42
LABORER: Concrete Saw (Hand Held/Walk Behind).....	\$ 12.63	0.00
LABORER: Mason Tender - Brick...	\$ 15.12	0.00
LABORER: Mason Tender - Cement/Concrete.....	\$ 12.83	1.90
LABORER: Pipelayer.....	\$ 12.31	1.19
LABORER: Roof Tearoff.....	\$ 8.44	0.00
LABORER: Landscape and Irrigation.....	\$ 12.00	0.00
OPERATOR: Asphalt Spreader.....	\$ 11.41	0.00
OPERATOR: Backhoe/Excavator.....	\$ 11.00	0.00
OPERATOR: Bulldozer.....	\$ 15.01	0.00
OPERATOR: Distributor.....	\$ 12.37	0.00
OPERATOR: Forklift.....	\$ 14.00	0.00
OPERATOR: Grader/Blade, Includes Finishing.....	\$ 13.73	0.00
OPERATOR: Loader.....	\$ 13.80	1.79

OPERATOR: Paver (Asphalt, Aggregate, and Concrete).....	\$ 11.69	0.00
OPERATOR: Pump.....	\$ 19.00	0.00
OPERATOR: Roller.....	\$ 10.68	0.00
OPERATOR: Screed.....	\$ 11.34	0.00
OPERATOR: Tractor.....	\$ 9.91	0.00
OPERATOR: Trencher.....	\$ 11.75	0.00
PAINTER, Includes Brush and Roller.....	\$ 15.00	0.00
PIPEFITTER, Excludes HVAC Pipe Installation.....	\$ 17.83	0.00
PLUMBER, Excludes HVAC Pipe Installation.....	\$ 14.39	2.16
ROOFER (Installation of Metal Roofs Only).....	\$ 14.26	0.59
ROOFER, Includes Built Up, Hot Tar, Modified Bitumen, Shake & Shingle, Single Ply, Slate, & Tile Roofs (Excludes Installation of Metal Roofs).....	\$ 13.68	0.00
SHEET METAL WORKER, Excludes HVAC Duct Installation.....	\$ 18.79	3.21
SPRINKLER FITTER (Fire Sprinklers).....	\$ 18.75	4.90
TILE SETTER.....	\$ 15.63	0.00
TRUCK DRIVER: Dump Truck.....	\$ 10.00	0.00
TRUCK DRIVER: Lowboy Truck.....	\$ 12.09	0.00

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WELDERS - Receive rate prescribed for craft performing operation to which  
welding is incidental.

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Unlisted classifications needed for work not included within the scope of the  
classifications listed may be added after award only as provided in the labor  
standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

#### Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example:

PLUM0198-005 07/01/2014.

PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example:

SULA2012-007 5/13/2014.

SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-001008/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage

determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position  
on  
a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project

description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

## **INFORMATION REGARDING BIDDING MATERIAL, BID GUARANTEE AND BONDS**

### **BONDING INFORMATION**

**BID GUARANTEE:** An original, fully completed separate bid guarantee shall be provided in an amount not less than 20 percent of the offeror's total proposed amount and not in excess of \$3,000,000. The original bid guarantee shall be on a Standard Form 24 and shall have required bid amounts, affixed wet signatures, dates and raised seals with the accompanying fully completed Standard Form 28 Affidavit of Individual Surety and Power of Attorney (FAR 28.101). The bid guarantee and required information shall be submitted at the due date and time for proposals. Determination of compliance with these instructions for the original bid guarantee shall be in accordance FAR 15.306(a), award without discussions.

**PERFORMANCE AND PAYMENT BONDS:** In accordance with Contract Clause 52.228-15, and FAR 28.102, Contractors are reminded that any amount awarded over \$30,000.00 shall require a Payment Bond (SF 25A), and awards exceeding \$150,000.00 shall require both Payment and Performance Bonds (SF 25). Payment and Performance bonds are due no later than 10 days after notification of award. Bonds must be provided in original only, with original 'wet ink' signatures, no white outs or other corrections. Copies and facsimiles of bonds shall not be accepted.

## **INSTRUCTIONS, CONDITIONS AND OTHER STATEMENTS TO BIDDERS/OFFERORS**

### **2.1 52.216-1 TYPE OF CONTRACT (APR 1984)**

The Government contemplates award of a firm fixed-price contract resulting from this solicitation.

(End of Provision)

### **2.2 52.222-5 CONSTRUCTION WAGE RATE REQUIREMENTS— SECONDARY SITE OF THE WORK (MAY 2014)**

(a)(1) The offeror shall notify the Government if the offeror intends to perform work at any secondary site of the work, as defined in paragraph (a)(1)(ii) of the FAR clause at 52.222-6, Construction Wage Rate Requirements, of this solicitation.

(2) If the offeror is unsure if a planned work site satisfies the criteria for a secondary site of the work, the offeror shall request a determination from the Contracting Officer.

(b)(1) If the wage determination provided by the Government for work at the primary site of the work is not applicable to the secondary site of the work, the offeror shall request a wage determination from the Contracting Officer.

(2) The due date for receipt of offers will not be extended as a result of an offeror's request for a wage determination for a secondary site of the work.

(End of Provision)

## **2.3 52.222-23 NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY FOR CONSTRUCTION (FEB 1999)**

(a) The offeror's attention is called to the Equal Opportunity clause and the Affirmative Action Compliance Requirements for Construction clause of this solicitation.

(b) The goals for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

<b>Goals for minority participation for each trade</b>	<b>Goals for female participation for each trade</b>
2.7 %	6.9 %

These goals are applicable to all the Contractor's construction work performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, the Contractor shall apply the goals established for the geographical area where the work is actually performed. Goals are published periodically in the Federal Register in notice form, and these notices may be obtained from any Office of Federal Contract Compliance Programs office.

(c) The Contractor's compliance with Executive Order 11246, as amended, and the regulations in 41 CFR 60-4 shall be based on (1) its implementation of the Equal Opportunity clause, (2) specific affirmative action obligations required by the clause entitled "Affirmative Action Compliance Requirements for Construction," and (3) its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract, and in each trade. The Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor, or from project to project, for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, Executive Order 11246, as amended, and the regulations in 41 CFR 60-4. Compliance with the goals will be measured against the total work hours performed.

(d) The Contractor shall provide written notification to the Deputy Assistant Secretary for Federal Contract Compliance, U.S. Department of Labor, within 10 working days following award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the—

- (1) Name, address, and telephone number of the subcontractor;
- (2) Employer's identification number of the subcontractor;
- (3) Estimated dollar amount of the subcontract;
- (4) Estimated starting and completion dates of the subcontract; and



(5) Geographical area in which the subcontract is to be performed.

(e) As used in this Notice, and in any contract resulting from this solicitation, the "covered area" is

(End of Provision)

## **2.4 52.225-10 NOTICE OF BUY AMERICAN REQUIREMENT— CONSTRUCTION MATERIALS (MAY 2014)**

(a) *Definitions.* "Commercially available off-the-shelf (COTS) item," "construction material," "domestic construction material," and "foreign construction material," as used in this provision, are defined in the clause of this solicitation entitled "Buy American—Construction Materials" (Federal Acquisition Regulation (FAR) clause 52.225-9).

(b) *Requests for determinations of inapplicability.* An offeror requesting a determination regarding the inapplicability of the Buy American statute should submit the request to the Contracting Officer in time to allow a determination before submission of offers. The offeror shall include the information and applicable supporting data required by paragraphs (c) and (d) of the clause at FAR 52.225-9 in the request. If an offeror has not requested a determination regarding the inapplicability of the Buy American statute before submitting its offer, or has not received a response to a previous request, the offeror shall include the information and supporting data in the offer.

(c) Evaluation of offers.

(1) The Government will evaluate an offer requesting exception to the requirements of the Buy American statute, based on claimed unreasonable cost of domestic construction material, by adding to the offered price the appropriate percentage of the cost of such foreign construction material, as specified in paragraph (b)(3)(i) of the clause at FAR 52.225-9.

(2) If evaluation results in a tie between an offeror that requested the substitution of foreign construction material based on unreasonable cost and an offeror that did not request an exception, the Contracting Officer will award to the offeror that did not request an exception based on unreasonable cost.

(d) Alternate offers.

(1) When an offer includes foreign solicitation in paragraph (b)(2) of the clause at FAR 52.225-9, the offeror also may submit an alternate offer based on use of equivalent domestic construction material.

(2) If an alternate offer is submitted, the offeror shall submit a separate Standard Form 1442 for the alternate offer, and a separate price comparison table prepared in accordance with paragraphs (c) and (d) of the clause at FAR 52.225-9 for the offer that is based on the use of any foreign construction material for which the Government has not yet determined an exception applies.

(3) If the Government determines that a particular exception requested in accordance with paragraph (c) of the clause at FAR 52.225-9 does not apply, the Government will evaluate only those offers based on use of the equivalent domestic construction material, and the offeror shall be required to furnish such

domestic construction material. An offer based on use of the foreign construction material for which an exception was requested—

- (i) Will be rejected as nonresponsive if this acquisition is conducted by sealed bidding; or
- (ii) May be accepted if revised during negotiations.

(End of Provision)

## **2.5 52.228-1 BID GUARANTEE (SEP 1996)**

(a) Failure to furnish a bid guarantee in the proper form and amount, by the time set for opening of bids, may be cause for rejection of the bid.

(b) The bidder shall furnish a bid guarantee in the form of a firm commitment, e.g., bid bond supported by good and sufficient surety or sureties acceptable to the Government, postal money order, certified check, cashier's check, irrevocable letter of credit, or, under Treasury Department regulations, certain bonds or notes of the United States. The Contracting Officer will return bid guarantees, other than bid bonds—

- (1) To unsuccessful bidders as soon as practicable after the opening of bids; and
  - (2) To the successful bidder upon execution of contractual documents and bonds (including any necessary coinsurance or reinsurance agreements), as required by the bid as accepted.
- (c) The amount of the bid guarantee shall be 20 percent of the bid price or \$3,000,000.00, whichever is less.
- (d) If the successful bidder, upon acceptance of its bid by the Government within the period specified for acceptance, fails to execute all contractual documents or furnish executed bond(s) within 10 days after receipt of the forms by the bidder, the Contracting Officer may terminate the contract for default.
- (e) In the event the contract is terminated for default, the bidder is liable for any cost of acquiring the work that exceeds the amount of its bid, and the bid guarantee is available to offset the difference.

(End of Provision)

## **2.6 52.233-2 SERVICE OF PROTEST (SEP 2006)**

Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the Government Accountability Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from:

Hand-Carried Address:

Department of Veterans Affairs  
Network Contracting Office 8 (NCO 8)  
Regina Height  
Suite 525  
8875 Hidden River Pkwy  
Tampa FL 33637

Mailing Address:

Department of Veterans Affairs  
Network Contracting Office 8 (NCO 8)  
Regina Height  
Suite 525  
8875 Hidden River Pkwy  
Tampa FL 33637

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

(End of Provision)

**2.7 52.236-27 SITE VISIT (CONSTRUCTION) (FEB 1995) ALTERNATE I (FEB 1995)**

(a) The clauses at 52.236-2, Differing Site Conditions, and 52.236-3, Site Investigations and Conditions Affecting the Work, will be included in any contract awarded as a result of this solicitation. Accordingly, offerors or quoters are urged and expected to inspect the site where the work will be performed.

(b) An organized site visit has been scheduled for—

July 13, 2016 at 0900am EST.

(c) Participants will meet at—

Building 42 at the James A. Haley VA Hospital, located at 1300 Bruce B. Downs Blvd., Tampa, Florida 33612.

(End of Provision)

**2.8 52.252-1 SOLICITATION PROVISIONS INCORPORATED BY REFERENCE (FEB 1998)**

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate

information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this/these address(es):

<http://www.acquisition.gov/far/index.html>  
<http://www.va.gov/oal/library/vaar/>  
<http://www.va.gov/oamm/oa/ars/policyreg/vaar/index.cfm>

(End of Provision)

<u>FAR Number</u>	<u>Title</u>	<u>Date</u>
52.204-16	COMMERCIAL AND GOVERNMENT ENTITY CODE REPORTING	JUL 2015
52.215-1	INSTRUCTIONS TO OFFERORS—COMPETITIVE ACQUISITION	JAN 2004

## **2.9 VAAR 852.211-72 TECHNICAL INDUSTRY STANDARDS (JAN 2008)**

The supplies, materials or equipment required by this invitation for bid or request for proposal must conform to the standards for the requested services and shall comply with the federal, state, local and executive orders and codes and shall conform to the . The successful bidder or offeror will be required to submit proof that the item(s) he/she furnishes conforms to this requirement. This proof may be in the form of a label or seal affixed to the equipment or supplies, warranting that they have been tested in accordance with and conform to the specified standards. Proof may also be furnished in the form of a certificate from one of the above listed organizations certifying that the item(s) furnished have been tested in accordance with and conform to the specified standards.

(End of Provision)

## **2.10 VAAR 852.228-72 ASSISTING SERVICE-DISABLED VETERAN-OWNED AND VETERAN-OWNED SMALL BUSINESSES IN OBTAINING BONDS (DEC 2009)**

Prime contractors are encouraged to assist service-disabled veteran-owned and veteran-owned small business potential subcontractors in obtaining bonding, when required. Mentor firms are encouraged to assist protégé firms under VA's Mentor-Protégé Program in obtaining acceptable bid, payment, and performance bonds, when required, as a prime contractor under a solicitation or contract and in obtaining any required bonds under subcontracts.

(End of Clause)

## **2.11 VAAR 852.233-70 PROTEST CONTENT/ALTERNATIVE DISPUTE RESOLUTION (JAN 2008)**

(a) Any protest filed by an interested party shall:

- (1) Include the name, address, fax number, and telephone number of the protester;
- (2) Identify the solicitation and/or contract number;

- (3) Include an original signed by the protester or the protester's representative and at least one copy;
  - (4) Set forth a detailed statement of the legal and factual grounds of the protest, including a description of resulting prejudice to the protester, and provide copies of relevant documents;
  - (5) Specifically request a ruling of the individual upon whom the protest is served;
  - (6) State the form of relief requested; and
  - (7) Provide all information establishing the timeliness of the protest.
- (b) Failure to comply with the above may result in dismissal of the protest without further consideration.
- (c) Bidders/offerors and contracting officers are encouraged to use alternative dispute resolution (ADR) procedures to resolve protests at any stage in the protest process. If ADR is used, the Department of Veterans Affairs will not furnish any documentation in an ADR proceeding beyond what is allowed by the Federal Acquisition Regulation.

(End of Provision)

## **2.12 VAAR 852.233-71 ALTERNATE PROTEST PROCEDURE (JAN 1998)**

As an alternative to filing a protest with the contracting officer, an interested party may file a protest with the Deputy Assistant Secretary for Acquisition and Materiel Management, Acquisition Administration Team, Department of Veterans Affairs, 810 Vermont Avenue, NW., Washington, DC 20420, or for solicitations issued by the Office of Construction and Facilities Management, the Director, Office of Construction and Facilities Management, 810 Vermont Avenue, NW., Washington, DC 20420. The protest will not be considered if the interested party has a protest on the same or similar issues pending with the contracting officer.

(End of Provision)

PLEASE NOTE: The correct mailing information for filing alternate protests is as follows:

Deputy Assistant Secretary for Acquisition and Logistics,  
Risk Management Team, Department of Veterans Affairs  
810 Vermont Avenue, N.W.  
Washington, DC 20420

Or for solicitations issued by the Office of Construction and Facilities Management:

Director, Office of Construction and Facilities Management  
811 Vermont Avenue, N.W.  
Washington, DC 20420

## **2.13 VAAR 852.270-1 REPRESENTATIVES OF CONTRACTING OFFICERS (JAN 2008)**

The contracting officer reserves the right to designate representatives to act for him/her in furnishing technical guidance and advice or generally monitor the work to be performed under this contract. Such

designation will be in writing and will define the scope and limitation of the designee's authority. A copy of the designation shall be furnished to the contractor.

(End of Provision)

## **2.14 LIMITATIONS ON SUBCONTRACTING-- MONITORING AND COMPLIANCE (JUN 2011)**

This solicitation includes VAAR 852.219-10 VA Notice of Total Service- Disabled Veteran-Owned Small Business Set-Aside. Accordingly, any contract resulting from this solicitation will include this clause. The contractor is advised in performing contract administration functions, the CO may use the services of a support contractor(s) retained by VA to assist in assessing the contractor's compliance with the limitations on subcontracting or percentage of work performance requirements specified in the clause. To that end, the support contractor(s) may require access to contractor's offices where the contractor's business records or other proprietary data are retained and to review such business records regarding the contractor's compliance with this requirement. All support contractors conducting this review on behalf of VA will be required to sign an "Information Protection and Non-Disclosure and Disclosure of Conflicts of Interest Agreement" to ensure the contractor's business records or other proprietary data reviewed or obtained in the course of assisting the CO in assessing the contractor for compliance are protected to ensure information or data is not improperly disclosed or other impropriety occurs. Furthermore, if VA determines any services the support contractor(s) will perform in assessing compliance are advisory and assistance services as defined in FAR 2.101, Definitions, the support contractor(s) must also enter into an agreement with the contractor to protect proprietary information as required by FAR 9.505-4, obtaining access to proprietary information, paragraph (b). The contractor is required to cooperate fully and make available any records as may be required to enable the CO to assess the contractor's compliance with the limitations on subcontracting or percentage of work performance requirement.

## REPRESENTATIONS AND CERTIFICATIONS

### 3.1 52.203-98 PROHIBITION ON CONTRACTING WITH ENTITIES THAT REQUIRE CERTAIN INTERNAL CONFIDENTIALITY AGREEMENTS—REPRESENTATION (DEVIATION) (FEB 2015)

(a) In accordance with section 743 of Division E, Title VII, of the Consolidated and Further Continuing Resolution Appropriations Act, 2015 (Pub. L. 113-235), Government agencies are not permitted to use funds appropriated (or otherwise made available) under that or any other Act for contracts with an entity that requires employees or subcontractors of such entity seeking to report fraud, waste, or abuse to sign internal confidentiality agreements or statements prohibiting or otherwise restricting such employees or contractors from lawfully reporting such waste, fraud, or abuse to a designated investigative or law enforcement representative of a Federal department or agency authorized to receive such information.

(b) The prohibition in paragraph (a) of this provision does not contravene requirements applicable to Standard Form 312, Form 4414, or any other form issued by a Federal department or agency governing the nondisclosure of classified information.

(c) *Representation.* By submission of its offer, the Offeror represents that it does not require employees or subcontractors of such entity seeking to report fraud, waste, or abuse to sign internal confidentiality agreements or statements prohibiting or otherwise restricting such employees or subcontractors from lawfully reporting such waste, fraud, or abuse to a designated investigative or law enforcement representative of a Federal department or agency authorized to receive such information.

(End of Provision)

### 3.2 52.204-8 ANNUAL REPRESENTATIONS AND CERTIFICATIONS (FEB 2016)

(a)(1) The North American Industry Classification System (NAICS) code for this acquisition is .

(2) The small business size standard is .

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b)(1) If the provision at 52.204-7, System for Award Management, is included in this solicitation, paragraph (d) of this provision applies.

(2) If the provision at 52.204-7 is not included in this solicitation, and the offeror is currently registered in the System for Award Management (SAM), and has completed the Representations and Certifications section of SAM electronically, the offeror may choose to use paragraph (d) of this provision instead of completing the corresponding individual representations and certifications in the solicitation. The offeror shall indicate which option applies by checking one of the following boxes:

☐ (i) Paragraph (d) applies.

☐ (ii) Paragraph (d) does not apply and the offeror has completed the individual representations and certifications in the solicitation.

(c)(1) The following representations or certifications in SAM are applicable to this solicitation as indicated:

(i) 52.203-2, Certificate of Independent Price Determination. This provision applies to solicitations when a firm-fixed-price contract or fixed-price contract with economic price adjustment is contemplated, unless—

(A) The acquisition is to be made under the simplified acquisition procedures in Part 13;

(B) The solicitation is a request for technical proposals under two-step sealed bidding procedures; or

(C) The solicitation is for utility services for which rates are set by law or regulation.

(ii) 52.203-11, Certification and Disclosure Regarding Payments to Influence Certain Federal Transactions. This provision applies to solicitations expected to exceed \$150,000.

(iii) 52.204-3, Taxpayer Identification. This provision applies to solicitations that do not include the provision at 52.204-7, System for Award Management.

(iv) 52.204-5, Women-Owned Business (Other Than Small Business). This provision applies to solicitations that—

(A) Are not set aside for small business concerns;

(B) Exceed the simplified acquisition threshold; and

(C) Are for contracts that will be performed in the United States or its outlying areas.

(v) 52.209-2, Prohibition on Contracting with Inverted Domestic Corporations—Representation.

(vi) 52.209-5, Certification Regarding Responsibility Matters. This provision applies to solicitations where the contract value is expected to exceed the simplified acquisition threshold.

(vii) 52.209-11, Representation by Corporations Regarding Delinquent Tax Liability or a Felony Conviction under any Federal Law. This provision applies to all solicitations.

(viii) 52.214-14, Place of Performance—Sealed Bidding. This provision applies to invitations for bids except those in which the place of performance is specified by the Government.

(ix) 52.215-6, Place of Performance. This provision applies to solicitations unless the place of performance is specified by the Government.

(x) 52.219-1, Small Business Program Representations (Basic & Alternate I). This provision applies to solicitations when the contract will be performed in the United States or its outlying areas.

(A) The basic provision applies when the solicitations are issued by other than DoD, NASA, and the Coast Guard.



(B) The provision with its Alternate I applies to solicitations issued by DoD, NASA, or the Coast Guard.

(xi) 52.219-2, Equal Low Bids. This provision applies to solicitations when contracting by sealed bidding and the contract will be performed in the United States or its outlying areas.

(xii) 52.222-22, Previous Contracts and Compliance Reports. This provision applies to solicitations that include the clause at 52.222-26, Equal Opportunity.

(xiii) 52.222-25, Affirmative Action Compliance. This provision applies to solicitations, other than those for construction, when the solicitation includes the clause at 52.222-26, Equal Opportunity.

(xiv) 52.222-38, Compliance with Veterans' Employment Reporting Requirements. This provision applies to solicitations when it is anticipated the contract award will exceed the simplified acquisition threshold and the contract is not for acquisition of commercial items.

(xv) 52.223-1, Biobased Product Certification. This provision applies to solicitations that require the delivery or specify the use of USDA-designated items; or include the clause at 52.223-2, Affirmative Procurement of Biobased Products Under Service and Construction Contracts.

(xvi) 52.223-4, Recovered Material Certification. This provision applies to solicitations that are for, or specify the use of, EPA-designated items.

(xvii) 52.225-2, Buy American Certificate. This provision applies to solicitations containing the clause at 52.225-1.

(xviii) 52.225-4, Buy American—Free Trade Agreements—Israeli Trade Act Certificate. (Basic, Alternates I, II, and III.) This provision applies to solicitations containing the clause at 52.225-3.

(A) If the acquisition value is less than \$25,000, the basic provision applies.

(B) If the acquisition value is \$25,000 or more but is less than \$50,000, the provision with its Alternate I applies.

(C) If the acquisition value is \$50,000 or more but is less than \$77,533, the provision with its Alternate II applies.

(D) If the acquisition value is \$77,533 or more but is less than \$100,000, the provision with its Alternate III applies.

(xix) 52.225-6, Trade Agreements Certificate. This provision applies to solicitations containing the clause at 52.225-5.

(xx) 52.225-20, Prohibition on Conducting Restricted Business Operations in Sudan—Certification. This provision applies to all solicitations.

(xxi) 52.225-25, Prohibition on Contracting with Entities Engaging in Certain Activities or Transactions Relating to Iran—Representation and Certifications. This provision applies to all solicitations.

(xxii) 52.226-2, Historically Black College or University and Minority Institution Representation. This provision applies to solicitations for research, studies, supplies, or services of the type normally acquired from higher educational institutions.

(A) Solicitations for research, studies, supplies, or services of the type normally acquired from higher educational institutions; and

(B) For DoD, NASA, and Coast Guard acquisitions, solicitations that contain the clause at 52.219-23, Notice of Price Evaluation Adjustment for Small Disadvantaged Business Concerns.

(2) The following representations or certifications are applicable as indicated by the Contracting Officer:

☐ (i) 52.204-17, Ownership or Control of Offeror.

☐ (ii) 52.222-18, Certification Regarding Knowledge of Child Labor for Listed End Products.

☐ (iii) 52.222-48, Exemption from Application of the Service Contract Labor Standards to Contracts for Maintenance, Calibration, or Repair of Certain Equipment—Certification.

☐ (iv) 52.222-52, Exemption from Application of the Service Contract Labor Standards to Contracts for Certain Services—Certification.

☐ (v) 52.223-9, with its Alternate I, Estimate of Percentage of Recovered Material Content for EPA-Designated Products (Alternate I only).

☐ (vi) 52.227-6, Royalty Information.

☐ (A) Basic.

☐ (B) Alternate I.

☐ (vii) 52.227-15, Representation of Limited Rights Data and Restricted Computer Software.

(d) The offeror has completed the annual representations and certifications electronically via the SAM Web site accessed through <https://www.acquisition.gov>. After reviewing the SAM database information, the offeror verifies by submission of the offer that the representations and certifications currently posted electronically that apply to this solicitation as indicated in paragraph (c) of this provision have been entered or updated within the last 12 months, are current, accurate, complete, and applicable to this solicitation (including the business size standard applicable to the NAICS code referenced for this solicitation), as of the date of this offer and are incorporated in this offer by reference (see FAR 4.1201); except for the changes identified below [offeror to insert changes, identifying change by clause number, title, date]. These amended representation(s) and/or certification(s) are also incorporated in this offer and are current, accurate, and complete as of the date of this offer.

FAR Clause #	Title	Date	Change

Any changes provided by the offeror are applicable to this solicitation only, and do not result in an update to the representations and certifications posted on SAM.

(End of Provision)

### **3.3 52.209-5 REPRESENTATION BY CORPORATIONS REGARDING AN UNPAID TAX LIABILITY OR A FELONY CONVICTION UNDER ANY FEDERAL LAW (DEVIATION)(MAR 2012)**

(a) In accordance with Division H, sections 8124 and 8125 of P.L. 112-74 and sections 738 and 739 of P.L. 112-55 none of the funds made available by either Act may be used to enter into a contract with any corporation that—

(1) Has an unpaid federal tax liability, unless the agency has considered suspension or debarment of the corporation and the Suspension and Debarment Official has made a determination that this action is not necessary to protect the interests of the Government.

(2) Has a felony criminal violation under any Federal or State law within the preceding 24 months, unless the agency has considered suspension or debarment of the corporation and Suspension and Debarment Official has made a determination that this action is not necessary to protect the interests of the Government.

(b) The Offeror represents that—

(1) The offeror does ☐ does not ☐ have any unpaid Federal tax liability that has been assessed and that is not being paid in a timely manner pursuant to an agreement with the authority responsible for collecting the tax liability.

(2) The offeror, its officers or agents acting on its behalf have ☐ have not ☐ been convicted of a felony criminal violation under a Federal or State law within the preceding 24 months.

(End of Provision)

### **3.4 52.209-7 INFORMATION REGARDING RESPONSIBILITY MATTERS (JUL 2013)**

(a) *Definitions.* As used in this provision—

"Administrative proceeding" means a non-judicial process that is adjudicatory in nature in order to make a determination of fault or liability (e.g., Securities and Exchange Commission Administrative Proceedings, Civilian Board of Contract Appeals Proceedings, and Armed Services Board of Contract Appeals Proceedings). This includes administrative proceedings at the Federal and State level but only in connection with performance of a Federal contract or grant. It does not include agency actions such as contract audits, site visits, corrective plans, or inspection of deliverables.

"Federal contracts and grants with total value greater than \$10,000,000" means—

(1) The total value of all current, active contracts and grants, including all priced options; and

(2) The total value of all current, active orders including all priced options under indefinite-delivery, indefinite-quantity, 8(a), or requirements contracts (including task and delivery and multiple-award Schedules).

"Principal" means an officer, director, owner, partner, or a person having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a division or business segment; and similar positions).

(b) The offeror [ ] has [ ] does not have current active Federal contracts and grants with total value greater than \$10,000,000.

(c) If the offeror checked "has" in paragraph (b) of this provision, the offeror represents, by submission of this offer, that the information it has entered in the Federal Awardee Performance and Integrity Information System (FAPIS) is current, accurate, and complete as of the date of submission of this offer with regard to the following information:

(1) Whether the offeror, and/or any of its principals, has or has not, within the last five years, in connection with the award to or performance by the offeror of a Federal contract or grant, been the subject of a proceeding, at the Federal or State level that resulted in any of the following dispositions:

(i) In a criminal proceeding, a conviction.

(ii) In a civil proceeding, a finding of fault and liability that results in the payment of a monetary fine, penalty, reimbursement, restitution, or damages of \$5,000 or more.

(iii) In an administrative proceeding, a finding of fault and liability that results in—

(A) The payment of a monetary fine or penalty of \$5,000 or more; or

(B) The payment of a reimbursement, restitution, or damages in excess of \$100,000.

(iv) In a criminal, civil, or administrative proceeding, a disposition of the matter by consent or compromise with an acknowledgment of fault by the Contractor if the proceeding could have led to any of the outcomes specified in paragraphs (c)(1)(i), (c)(1)(ii), or (c)(1)(iii) of this provision.

(2) If the offeror has been involved in the last five years in any of the occurrences listed in (c)(1) of this provision, whether the offeror has provided the requested information with regard to each occurrence.

(d) The offeror shall post the information in paragraphs (c)(1)(i) through (c)(1)(iv) of this provision in FAPIS as required through maintaining an active registration in the System for Award Management database via <https://www.acquisition.gov> (see 52.204-7).

(End of Provision)

## **GENERAL CONDITIONS**

### **4.1 52.203-99 PROHIBITION ON CONTRACTING WITH ENTITIES THAT REQUIRE CERTAIN INTERNAL CONFIDENTIALITY AGREEMENTS (DEVIATION) (FEB 2015)**

(a) The Contractor shall not require employees or contractors seeking to report fraud, waste, or abuse to sign or comply with internal confidentiality agreements or statements prohibiting or otherwise restricting such employees or subcontractors from lawfully reporting such waste, fraud, or abuse to a designated investigative or law enforcement representative of a Federal department or agency authorized to receive such information.

(b) The contractor shall notify employees that the prohibitions and restrictions of any internal confidentiality agreements covered by this clause are no longer in effect.

(c) The prohibition in paragraph (a) of this clause does not contravene requirements applicable to Standard Form 312, Form 4414, or any other form issued by a Federal department or agency governing the nondisclosure of classified information.

(d)(1) In accordance with section 743 of Division E, Title VII, of the Consolidated and Further Continuing Resolution Appropriations Act, 2015 (Pub. L. 113-235), use of funds appropriated (or otherwise made available) under that or any other Act may be prohibited, if the Government determines that the Contractor is not in compliance with the provisions of this clause.

(2) The Government may seek any available remedies in the event the contractor fails to comply with the provisions of this clause.

(End of Clause)

### **4.2 52.204-19 INCORPORATION BY REFERENCE OF REPRESENTATIONS AND CERTIFICATIONS (DEC 2014)**

The Contractor's representations and certifications, including those completed electronically via the System for Award Management (SAM), are incorporated by reference into the contract.

(End of Clause)

### **4.3 52.209-9 UPDATES OF PUBLICLY AVAILABLE INFORMATION REGARDING RESPONSIBILITY MATTERS (JUL 2013)**

(a) The Contractor shall update the information in the Federal Awardee Performance and Integrity Information System (FAPIS) on a semi-annual basis, throughout the life of the contract, by posting the required information in the System for Award Management database via <https://www.acquisition.gov>.

**(b) As required by section 3010 of the Supplemental Appropriations Act, 2010 (Pub. L. 111-212), all information posted in FAPIS on or after April 15, 2011, except past performance reviews, will be publicly available. FAPIS consists of two segments—**

(1) The non-public segment, into which Government officials and the Contractor post information, which can only be viewed by—

- (i) Government personnel and authorized users performing business on behalf of the Government; or
- (ii) The Contractor, when viewing data on itself; and

(2) The publicly-available segment, to which all data in the non-public segment of FAPIS is automatically transferred after a waiting period of 14 calendar days, except for—

- (i) Past performance reviews required by subpart 42.15;
- (ii) Information that was entered prior to April 15, 2011; or

(iii) Information that is withdrawn during the 14-calendar-day waiting period by the Government official who posted it in accordance with paragraph (c)(1) of this clause.

(c) The Contractor will receive notification when the Government posts new information to the Contractor's record.

(1) If the Contractor asserts in writing within 7 calendar days, to the Government official who posted the information, that some of the information posted to the nonpublic segment of FAPIIS is covered by a disclosure exemption under the Freedom of Information Act, the Government official who posted the information must within 7 calendar days remove the posting from FAPIIS and resolve the issue in accordance with agency Freedom of Information procedures, prior to reposting the releasable information. The contractor must cite 52.209-9 and request removal within 7 calendar days of the posting to FAPIIS.

(2) The Contractor will also have an opportunity to post comments regarding information that has been posted by the Government. The comments will be retained as long as the associated information is retained, i.e., for a total period of 6 years. Contractor comments will remain a part of the record unless the Contractor revises them.

(3) As required by section 3010 of Pub. L. 111-212, all information posted in FAPIIS on or after April 15, 2011, except past performance reviews, will be publicly available.

(d) Public requests for system information posted prior to April 15, 2011, will be handled under Freedom of Information Act procedures, including, where appropriate, procedures promulgated under E.O. 12600.

(End of Clause)

#### **4.4 52.211-10 COMMENCEMENT, PROSECUTION, AND COMPLETION OF WORK (APR 1984) ALTERNATE I (APR 1984)**

The Contractor shall be required to (a) commence work under this contract within calendar days after the date the Contractor receives the notice to proceed, (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than 730 calendar days. The time stated for completion shall include final cleanup of the premises.

The completion date is based on the assumption that the successful offeror will receive the notice to proceed by TBD. The completion date will be extended by the number of calendar days after the above

date that the Contractor receives the notice to proceed, except to the extent that the delay in issuance of the notice to proceed results from the failure of the Contractor to execute the contract and give the required performance and payment bonds within the time specified in the offer.

(End of Clause)

#### **4.5 52.219-28 POST-AWARD SMALL BUSINESS PROGRAM REREPRESENTATION (JUL 2013)**

(a) *Definitions.* As used in this clause—

*Long-term contract* means a contract of more than five years in duration, including options. However, the term does not include contracts that exceed five years in duration because the period of performance has been extended for a cumulative period not to exceed six months under the clause at 52.217-8, Option to Extend Services, or other appropriate authority.

*Small business concern* means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR part 121 and the size standard in paragraph (c) of this clause. Such a concern is "not dominant in its field of operation" when it does not exercise a controlling or major influence on a national basis in a kind of business activity in which a number of business concerns are primarily engaged. In determining whether dominance exists, consideration shall be given to all appropriate factors, including volume of business, number of employees, financial resources, competitive status or position, ownership or control of materials, processes, patents, license agreements, facilities, sales territory, and nature of business activity.

(b) If the Contractor represented that it was a small business concern prior to award of this contract, the Contractor shall rerepresent its size status according to paragraph (e) of this clause or, if applicable, paragraph (g) of this clause, upon the occurrence of any of the following:

(1) Within 30 days after execution of a novation agreement or within 30 days after modification of the contract to include this clause, if the novation agreement was executed prior to inclusion of this clause in the contract.

(2) Within 30 days after a merger or acquisition that does not require a novation or within 30 days after modification of the contract to include this clause, if the merger or acquisition occurred prior to inclusion of this clause in the contract.

(3) For long-term contracts—

(i) Within 60 to 120 days prior to the end of the fifth year of the contract; and

(ii) Within 60 to 120 days prior to the date specified in the contract for exercising any option thereafter.

(c) The Contractor shall rerepresent its size status in accordance with the size standard in effect at the time of this rerepresentation that corresponds to the North American Industry Classification System (NAICS) code assigned to this contract. The small business size standard corresponding to this NAICS code can be found at <http://www.sba.gov/content/table-small-business-size-standards>.

(d) The small business size standard for a Contractor providing a product which it does not manufacture itself, for a contract other than a construction or service contract, is 500 employees.

(e) Except as provided in paragraph (g) of this clause, the Contractor shall make the representation required by paragraph (b) of this clause by validating or updating all its representations in the Representations and Certifications section of the System for Award Management (SAM) and its other data in SAM, as necessary, to ensure that they reflect the Contractor's current status. The Contractor shall notify the contracting office in writing within the timeframes specified in paragraph (b) of this clause that the data have been validated or updated, and provide the date of the validation or update.

(f) If the Contractor represented that it was other than a small business concern prior to award of this contract, the Contractor may, but is not required to, take the actions required by paragraphs (e) or (g) of this clause.

(g) If the Contractor does not have representations and certifications in SAM, or does not have a representation in SAM for the NAICS code applicable to this contract, the Contractor is required to complete the following rerepresentation and submit it to the contracting office, along with the contract number and the date on which the rerepresentation was completed:

The Contractor represents that it [ ] is, [ ] is not a small business concern under NAICS Code 238160 assigned to contract number TBD.

[Contractor to sign and date and insert authorized signer's name and title].

(End of Clause)

#### **4.6 52.222-35 EQUAL OPPORTUNITY FOR VETERANS (OCT 2015)**

(a) *Definitions.* As used in this clause—

“Active duty wartime or campaign badge veteran,” “Armed Forces service medal veteran,” “disabled veteran,” “protected veteran,” “qualified disabled veteran,” and “recently separated veteran” have the meanings given at FAR 22.1301.

(b) *Equal opportunity clause.* The Contractor shall abide by the requirements of the equal opportunity clause at 41 CFR 60-300.5(a), as of March 24, 2014. This clause prohibits discrimination against qualified protected veterans, and requires affirmative action by the Contractor to employ and advance in employment qualified protected veterans.

(c) *Subcontracts.* The Contractor shall insert the terms of this clause in subcontracts of \$150,000 or more unless exempted by rules, regulations, or orders of the Secretary of Labor. The Contractor shall act as specified by the Director, Office of Federal Contract Compliance Programs, to enforce the terms, including action for noncompliance. Such necessary changes in language may be made as shall be appropriate to identify properly the parties and their undertakings.

(End of Clause)



#### **4.7 52.222-40 NOTIFICATION OF EMPLOYEE RIGHTS UNDER THE NATIONAL LABOR RELATIONS ACT (DEC 2010)**

(a) During the term of this contract, the Contractor shall post an employee notice, of such size and in such form, and containing such content as prescribed by the Secretary of Labor, in conspicuous places in and about its plants and offices where employees covered by the National Labor Relations Act engage in activities relating to the performance of the contract, including all places where notices to employees are customarily posted both physically and electronically, in the languages employees speak, in accordance with 29 CFR 471.2(d) and (f).

(1) Physical posting of the employee notice shall be in conspicuous places in and about the Contractor's plants and offices so that the notice is prominent and readily seen by employees who are covered by the National Labor Relations Act and engage in activities related to the performance of the contract.

(2) If the Contractor customarily posts notices to employees electronically, then the Contractor shall also post the required notice electronically by displaying prominently, on any Web site that is maintained by the Contractor and is customarily used for notices to employees about terms and conditions of employment, a link to the Department of Labor's Web site that contains the full text of the poster. The link to the Department's Web site, as referenced in (b)(3) of this section, must read, "Important Notice about Employee Rights to Organize and Bargain Collectively with Their Employers."

(b) This required employee notice, printed by the Department of Labor, may be—

(1) Obtained from the Division of Interpretations and Standards, Office of Labor-Management Standards, U.S. Department of Labor, 200 Constitution Avenue, NW., Room N-5609, Washington, DC 20210, (202) 693-0123, or from any field office of the Office of Labor-Management Standards or Office of Federal Contract Compliance Programs;

(2) Provided by the Federal contracting agency if requested;

(3) Downloaded from the Office of Labor-Management Standards Web site at <http://www.dol.gov/olms/regs/compliance/EO13496.htm>; or

(4) Reproduced and used as exact duplicate copies of the Department of Labor's official poster.

(c) The required text of the employee notice referred to in this clause is located at Appendix A, Subpart A, 29 CFR Part 471.

(d) The Contractor shall comply with all provisions of the employee notice and related rules, regulations, and orders of the Secretary of Labor.

(e) In the event that the Contractor does not comply with the requirements set forth in paragraphs (a) through (d) of this clause, this contract may be terminated or suspended in whole or in part, and the Contractor may be suspended or debarred in accordance with 29 CFR 471.14 and subpart 9.4. Such other sanctions or remedies may be imposed as are provided by 29 CFR part 471, which implements Executive Order 13496 or as otherwise provided by law.

(f) Subcontracts.

(1) The Contractor shall include the substance of this clause, including this paragraph (f), in every subcontract that exceeds \$10,000 and will be performed wholly or partially in the United States, unless

exempted by the rules, regulations, or orders of the Secretary of Labor issued pursuant to section 3 of Executive Order 13496 of January 30, 2009, so that such provisions will be binding upon each subcontractor.

(2) The Contractor shall not procure supplies or services in a way designed to avoid the applicability of Executive Order 13496 or this clause.

(3) The Contractor shall take such action with respect to any such subcontract as may be directed by the Secretary of Labor as a means of enforcing such provisions, including the imposition of sanctions for noncompliance.

(4) However, if the Contractor becomes involved in litigation with a subcontractor, or is threatened with such involvement, as a result of such direction, the Contractor may request the United States, through the Secretary of Labor, to enter into such litigation to protect the interests of the United States.

(End of Clause)

#### **4.8 52.223-2 AFFIRMATIVE PROCUREMENT OF BIOBASED PRODUCTS UNDER SERVICE AND CONSTRUCTION CONTRACTS (SEP 2013)**

(a) In the performance of this contract, the contractor shall make maximum use of biobased products that are United States Department of Agriculture (USDA)-designated items unless—

(1) The product cannot be acquired—

(i) Competitively within a time frame providing for compliance with the contract performance schedule;

(ii) Meeting contract performance requirements; or

(iii) At a reasonable price.

(2) The product is to be used in an application covered by a USDA categorical exemption (see 7 CFR 3201.3(e)). For example, all USDA-designated items are exempt from the preferred procurement requirement for the following:

(i) Spacecraft system and launch support equipment.

(ii) Military equipment, i.e., a product or system designed or procured for combat or combat-related missions.

(b) Information about this requirement and these products is available at <http://www.biopreferred.gov>.

(c) In the performance of this contract, the Contractor shall—

(1) Report to <http://www.sam.gov>, with a copy to the Contracting Officer, on the product types and dollar value of any USDA-designated biobased products purchased by the Contractor during the previous Government fiscal year, between October 1 and September 30; and

(2) Submit this report no later than—

(i) October 31 of each year during contract performance; and

(ii) At the end of contract performance.

(End of Clause)

#### **4.9 52.223-3 HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA (JAN 1997) ALTERNATE I (JUL 1995)**

(a) "Hazardous material," as used in this clause, includes any material defined as hazardous under the latest version of Federal Standard No. 313 (including revisions adopted during the term of the contract).

(b) The offeror must list any hazardous material, as defined in paragraph (a) of this clause, to be delivered under this contract. The hazardous material shall be properly identified and include any applicable identification number, such as National Stock Number or Special Item Number. This information shall also be included on the Material Safety Data Sheet submitted under this contract.

<b>Material (If none, insert "None")</b>	<b>Identification No.</b>

(c) This list must be updated during performance of the contract whenever the Contractor determines that any other material to be delivered under this contract is hazardous.

(d) The apparently successful offeror agrees to submit, for each item as required prior to award, a Material Safety Data Sheet, meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous material identified in paragraph (b) of this clause. Data shall be submitted in accordance with Federal Standard No. 313, whether or not the apparently successful offeror is the actual manufacturer of these items. Failure to submit the Material Safety Data Sheet prior to award may result in the apparently successful offeror being considered nonresponsible and ineligible for award.

(e) If, after award, there is a change in the composition of the item(s) or a revision to Federal Standard No. 313, which renders incomplete or inaccurate the data submitted under paragraph (d) of this clause, the Contractor shall promptly notify the Contracting Officer and resubmit the data.

(f) Neither the requirements of this clause nor any act or failure to act by the Government shall relieve the Contractor of any responsibility or liability for the safety of Government, Contractor, or subcontractor personnel or property.

(g) Nothing contained in this clause shall relieve the Contractor from complying with applicable Federal, State, and local laws, codes, ordinances, and regulations (including the obtaining of licenses and permits) in connection with hazardous material.

(h) The Government's rights in data furnished under this contract with respect to hazardous material are as follows:

(1) To use, duplicate and disclose any data to which this clause is applicable. The purposes of this right are to—

(i) Apprise personnel of the hazards to which they may be exposed in using, handling, packaging, transporting, or disposing of hazardous materials;

(ii) Obtain medical treatment for those affected by the material; and

(iii) Have others use, duplicate, and disclose the data for the Government for these purposes.

(2) To use, duplicate, and disclose data furnished under this clause, in accordance with subparagraph (h)(1) of this clause, in precedence over any other clause of this contract providing for rights in data.

(3) The Government is not precluded from using similar or identical data acquired from other sources.

(i) Except as provided in paragraph (i)(2) the Contractor shall prepare and submit a sufficient number of Material Safety Data Sheets (MSDS's), meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous materials identified in paragraph (b) of this clause.

(1) For items shipped to consignees, the Contractor shall include a copy of the MSDS with the packing list or other suitable shipping document which accompanies each shipment. Alternatively, the Contractor is permitted to transmit MSDS's to consignees in advance of receipt of shipments by consignees, if authorized in writing by the Contracting Officer.

(2) For items shipped to consignees identified by mailing address as agency depots, distribution centers or customer supply centers, the Contractor shall provide one copy of the MSDS's in or on each shipping container. If affixed to the outside of each container, the MSDS must be placed in a weather resistant envelope.

(End of Clause)

#### **4.10 52.225-9 BUY AMERICAN—CONSTRUCTION MATERIALS (MAY 2014)**

(a) *Definitions.* As used in this clause—

"Commercially available off-the-shelf (COTS) item"—

(1) Means any item of supply (including construction material) that is—

(i) A commercial item (as defined in paragraph (1) of the definition at FAR 2.101);

(ii) Sold in substantial quantities in the commercial marketplace; and

(iii) Offered to the Government, under a contract or subcontract at any tier, without modification, in the same form in which it is sold in the commercial marketplace; and

(2) Does not include bulk cargo, as defined in 46 U.S.C. 40102(4), such as agricultural products and petroleum products.

"Component" means any article, material, or supply incorporated directly into construction material.

"Construction material" means an article, material, or supply brought to the construction site by the Contractor or a subcontractor for incorporation into the building or work. The term also includes an item brought to the site preassembled from articles, materials, or supplies. However, emergency life safety systems, such as emergency lighting, fire alarm, and audio evacuation systems, that are discrete systems incorporated into a public building or work and that are produced as complete systems, are evaluated as a single and distinct construction material regardless of when or how the individual parts or components of

those systems are delivered to the construction site. Materials purchased directly by the Government are supplies, not construction material.

"Cost of components" means—

(1) For components purchased by the Contractor, the acquisition cost, including transportation costs to the place of incorporation into the end product (whether or not such costs are paid to a domestic firm), and any applicable duty (whether or not a duty-free entry certificate is issued); or

(2) For components manufactured by the Contractor, all costs associated with the manufacture of the component, including transportation costs as described in paragraph (1) of this definition, plus allocable overhead costs, but excluding profit. Cost of components does not include any costs associated with the manufacture of the construction material.

"Domestic construction material" means—

(1) An unmanufactured construction material mined or produced in the United States;

(2) A construction material manufactured in the United States, if—

(i) The cost of its components mined, produced, or manufactured in the United States exceeds 50 percent of the cost of all its components. Components of foreign origin of the same class or kind for which nonavailability determinations have been made are treated as domestic; or

(ii) The construction material is a COTS item.

"Foreign construction material" means a construction material other than a domestic construction material.

"United States" means the 50 States, the District of Columbia, and outlying areas.

(b) Domestic preference.

(1) This clause implements 41 U.S.C. chapter 83, Buy American, by providing a preference for domestic construction material. In accordance with 41 U.S.C. 1907, the component test of the Buy American statute is waived for construction material that is a COTS item. (See FAR 12.505(a)(2)). The Contractor shall use only domestic construction material in performing this contract, except as provided in paragraphs (b)(2) and (b)(3) of this clause.

(2) This requirement does not apply to information technology that is a commercial item or to the construction materials or components listed by the Government as follows:

Lead Glass

(3) The Contracting Officer may add other foreign construction material to the list in paragraph (b)(2) of this clause if the Government determines that—

(i) The cost of domestic construction material would be unreasonable. The cost of a particular domestic construction material subject to the requirements of the Buy American statute is unreasonable when the cost of such material exceeds the cost of foreign material by more than 6 percent;

(ii) The application of the restriction of the Buy American statute to a particular construction material would be impracticable or inconsistent with the public interest; or

(iii) The construction material is not mined, produced, or manufactured in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality.

(c) Request for determination of inapplicability of the Buy American statute.

(1)(i) Any Contractor request to use foreign construction material in accordance with paragraph (b)(3) of this clause shall include adequate information for Government evaluation of the request, including—

(A) A description of the foreign and domestic construction materials;

(B) Unit of measure;

(C) Quantity;

(D) Price;

(E) Time of delivery or availability;

(F) Location of the construction project;

(G) Name and address of the proposed supplier; and

(H) A detailed justification of the reason for use of foreign construction materials cited in accordance with paragraph (b)(3) of this clause.

(ii) A request based on unreasonable cost shall include a reasonable survey of the market and a completed price comparison table in the format in paragraph (d) of this clause.

(iii) The price of construction material shall include all delivery costs to the construction site and any applicable duty (whether or not a duty-free certificate may be issued).

(iv) Any Contractor request for a determination submitted after contract award shall explain why the Contractor could not reasonably foresee the need for such determination and could not have requested the determination before contract award. If the Contractor does not submit a satisfactory explanation, the Contracting Officer need not make a determination.

(2) If the Government determines after contract award that an exception to the Buy American statute applies and the Contracting Officer and the Contractor negotiate adequate consideration, the Contracting Officer will modify the contract to allow use of the foreign construction material. However, when the basis for the exception is the unreasonable price of a domestic construction material, adequate consideration is not less than the differential established in paragraph (b)(3)(i) of this clause.

(3) Unless the Government determines that an exception to the Buy American statute applies, use of foreign construction material is noncompliant with the Buy American statute.

(d) *Data*. To permit evaluation of requests under paragraph (c) of this clause based on unreasonable cost, the Contractor shall include the following information and any applicable supporting data based on the survey of suppliers:

FOREIGN AND DOMESTIC CONSTRUCTION MATERIALS PRICE COMPARISON			
Construction Material Description	Unit of Measure	Quantity	Price (Dollars)*
Item 1:			
Foreign Construction Material			
Domestic Construction Material			
Item 2:			
Foreign Construction Material			
Domestic Construction Material			

[List name, address, telephone number, and contact for suppliers surveyed Attach copy of response; if oral, attach summary.]

[Include other applicable supporting information.]

[\*Include all delivery costs to the construction site and any applicable duty (whether or not a duty-free entry certificate is issued).]

(End of Clause)

#### 4.11 SUPPLEMENTAL INSURANCE REQUIREMENTS

In accordance with FAR 28.307-2 and FAR 52.228-5, the following minimum coverage shall apply to this contract:

(a) Workers' compensation and employers liability: Contractors are required to comply with applicable Federal and State workers' compensation and occupational disease statutes. If occupational diseases are not compensable under those statutes, they shall be covered under the employer's liability section of the insurance policy, except when contract operations are so commingled with a Contractor's commercial operations that it would not be practical to require this coverage. Employer's liability coverage of at least \$100,000 is required, except in States with exclusive or monopolistic funds that do not permit workers' compensation to be written by private carriers.

(b) General Liability: \$500,000.00 per occurrences.

(c) Automobile liability: \$200,000.00 per person; \$500,000.00 per occurrence and \$20,000.00 property damage.

(d) The successful bidder must present to the Contracting Officer, prior to award, evidence of general liability insurance without any exclusionary clauses for asbestos that would void the general liability coverage.

(End of Clause)

<u>FAR</u> <u>Number</u>	<u>Title</u>	<u>Date</u>
52.236-21	SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION ALTERNATE I (APR 1984)	FEB 1997

#### **4.12 VAAR 852.236-71 SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (JUL 2002)**

The clause entitled "Specifications and Drawings for Construction" in FAR 52.236-21 is supplemented as follows:

- (a) The contracting officer's interpretation of the drawings and specifications will be final, subject to the disputes clause.
- (b) Large scale drawings supersede small scale drawings.
- (c) Dimensions govern in all cases. Scaling of drawings may be done only for general location and general size of items.
- (d) Dimensions shown of existing work and all dimensions required for work that is to connect with existing work shall be verified by the contractor by actual measurement of the existing work. Any work at variance with that specified or shown in the drawings shall not be performed by the contractor until approved in writing by the contracting officer.

(End of Clause)

#### **4.13 52.244-2 SUBCONTRACTS (OCT 2010)**

- (a) *Definitions.* As used in this clause—

"Approved purchasing system" means a Contractor's purchasing system that has been reviewed and approved in accordance with Part 44 of the Federal Acquisition Regulation (FAR).

"Consent to subcontract" means the Contracting Officer's written consent for the Contractor to enter into a particular subcontract.

"Subcontract" means any contract, as defined in FAR Subpart 2.1, entered into by a subcontractor to furnish supplies or services for performance of the prime contract or a subcontract. It includes, but is not limited to, purchase orders, and changes and modifications to purchase orders.

- (b) When this clause is included in a fixed-price type contract, consent to subcontract is required only on unpriced contract actions (including unpriced modifications or unpriced delivery orders), and only if required in accordance with paragraph (c) or (d) of this clause.

- (c) If the Contractor does not have an approved purchasing system, consent to subcontract is required for any subcontract that—

- (1) Is of the cost-reimbursement, time-and-materials, or labor-hour type; or
- (2) Is fixed-price and exceeds—

- (i) For a contract awarded by the Department of Defense, the Coast Guard, or the National Aeronautics and Space Administration, the greater of the simplified acquisition threshold or 5 percent of the total estimated cost of the contract; or



(ii) For a contract awarded by a civilian agency other than the Coast Guard and the National Aeronautics and Space Administration, either the simplified acquisition threshold or 5 percent of the total estimated cost of the contract.

(d) If the Contractor has an approved purchasing system, the Contractor nevertheless shall obtain the Contracting Officer's written consent before placing the following subcontracts:

(e)(1) The Contractor shall notify the Contracting Officer reasonably in advance of placing any subcontract or modification thereof for which consent is required under paragraph (b), (c), or (d) of this clause, including the following information:

(i) A description of the supplies or services to be subcontracted.

(ii) Identification of the type of subcontract to be used.

(iii) Identification of the proposed subcontractor.

(iv) The proposed subcontract price.

(v) The subcontractor's current, complete, and accurate certified cost or pricing data and Certificate of Current Cost or Pricing Data, if required by other contract provisions.

(vi) The subcontractor's Disclosure Statement or Certificate relating to Cost Accounting Standards when such data are required by other provisions of this contract.

(vii) A negotiation memorandum reflecting—

(A) The principal elements of the subcontract price negotiations;

(B) The most significant considerations controlling establishment of initial or revised prices;

(C) The reason certified cost or pricing data were or were not required;

(D) The extent, if any, to which the Contractor did not rely on the subcontractor's certified cost or pricing data in determining the price objective and in negotiating the final price;

(E) The extent to which it was recognized in the negotiation that the subcontractor's certified cost or pricing data were not accurate, complete, or current; the action taken by the Contractor and the subcontractor; and the effect of any such defective data on the total price negotiated;

(F) The reasons for any significant difference between the Contractor's price objective and the price negotiated; and

(G) A complete explanation of the incentive fee or profit plan when incentives are used. The explanation shall identify each critical performance element, management decisions used to quantify each incentive element, reasons for the incentives, and a summary of all trade-off possibilities considered.

(2) The Contractor is not required to notify the Contracting Officer in advance of entering into any subcontract for which consent is not required under paragraph (b), (c), or (d) of this clause.

(f) Unless the consent or approval specifically provides otherwise, neither consent by the Contracting Officer to any subcontract nor approval of the Contractor's purchasing system shall constitute a determination—

(1) Of the acceptability of any subcontract terms or conditions;

(2) Of the allowability of any cost under this contract; or

(3) To relieve the Contractor of any responsibility for performing this contract.

(g) No subcontract or modification thereof placed under this contract shall provide for payment on a cost-plus-a-percentage-of-cost basis, and any fee payable under cost-reimbursement type subcontracts shall not exceed the fee limitations in FAR 15.404-4(c)(4)(i).

(h) The Contractor shall give the Contracting Officer immediate written notice of any action or suit filed and prompt notice of any claim made against the Contractor by any subcontractor or vendor that, in the opinion of the Contractor, may result in litigation related in any way to this contract, with respect to which the Contractor may be entitled to reimbursement from the Government.

(i) The Government reserves the right to review the Contractor's purchasing system as set forth in FAR Subpart 44.3.

(j) Paragraphs (c) and (e) of this clause do not apply to the following subcontracts, which were evaluated during negotiations:

(End of Clause)

#### **4.14 52.236-4 PHYSICAL DATA (APR 1984)**

Data and information furnished or referred to below is for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor.

(a) The indications of physical conditions on the drawings and in the specifications are the result of site investigations by:

N/A

## (b) Weather Conditions:

NOAA History of Climate Averages in Tampa from 2010 - 2016

NOW Data - NOAA Online Weather DataNOW Data - NOAA Online Weather Data													
Monthly Mean Precipitation for Tampa Area, FL (ThreadEx) Click column heading to sort ascending, click again to sort descending.													
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2010	0.11	0.07	0.19	0.12	0.06	0.15	0.20	0.30	0.04	T	0.07	0.02	0.11
2011	0.20	0.02	0.32	0.09	0.02	0.17	0.24	0.32	0.20	0.10	0.04	0.01	0.14
2012	0.03	0.07	0.03	0.08	0.08	0.62	0.27	0.29	0.19	0.10	0.01	0.07	0.15
2013	0.02	0.03	0.07	0.12	0.06	0.38	0.33	0.38	0.25	0.03	0.03	0.03	0.14
2014	0.10	0.06	0.16	0.03	0.28	0.06	0.41	0.20	0.32	0.05	0.18	0.05	0.16
2015	0.06	0.23	0.03	0.16	0.22	0.21	0.38	0.53	0.18	0.04	0.03	0.02	0.17
2016	M	M	M	M	M	M	M	M	M	M	M	M	M
Mean	0.09	0.08	0.13	0.10	0.12	0.27	0.30	0.34	0.20	0.05	0.06	0.03	0.15
Max	0.20 2011	0.23 2015	0.32 2011	0.16 2015	0.28 2014	0.62 2012	0.41 2014	0.53 2015	0.32 2014	0.10 2011	0.18 2014	0.07 2012	0.17

NOW Data - NOAA Online Weather DataNOW Data - NOAA Online Weather Data													
Monthly Mean Avg Temperature for Tampa Area, FL (ThreadEx) Click column heading to sort ascending, click again to sort descending.													
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2010	54.7	55.0	61.6	72.8	80.9	84.8	84.3	84.3	83.2	76.2	69.3	53.2	71.7
2011	58.7	65.3	69.3	76.3	79.2	83.6	84.4	85.1	82.6	73.9	70.2	67.5	74.7
2012	63.1	67.9	74.4	74.8	80.7	80.7	83.3	83.3	81.8	76.4	66.3	65.1	74.8
2013	67.1	65.1	61.6	75.4	77.6	82.3	82.4	83.8	81.9	77.3	70.2	68.5	74.4
2014	57.2	64.9	65.7	72.6	78.0	82.3	83.0	84.3	81.1	75.9	64.4	64.9	72.9
2015	62.4	59.7	73.0	78.0	80.5	82.8	83.2	83.3	82.8	78.0	76.2	73.4	76.1
2016	M	M	M	M	M	M	M	M	M	M	M	M	M
Mean	60.5	63.0	67.6	75.0	79.5	82.8	83.4	84.0	82.2	76.3	69.4	65.4	74.1
Max	67.1 2013	67.9 2012	74.4 2012	78.0 2015	80.9 2010	84.8 2010	84.4 2011	85.1 2011	83.2 2010	78.0 2015	76.2 2015	73.4 2015	76.1

## (c) Transportation Facilities

Hartline Bus Station -- provides public transportation to

various locations in Hillsborough County. A bus station located off 131st Avenue, right next to Building 42 at

the James A. Haley Medical Center, 13000 Bruce B. Downs;  
Tampa, Florida 33612.  
(d) Other Physical Data

N/A

(End of Clause)

#### **4.15 52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)**

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

<http://www.acquisition.gov/far/index.html>  
<http://www.va.gov/oal/library/vaar/>

(End of Clause)

<b><u>FAR</u></b> <b><u>Number</u></b>	<b><u>Title</u></b>	<b><u>Date</u></b>
52.202-1	DEFINITIONS	NOV 2013
52.203-3	GRATUITIES	APR 1984
52.203-5	COVENANT AGAINST CONTINGENT FEES	MAY 2014
52.203-6	RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT	SEP 2006
52.203-7	ANTI-KICKBACK PROCEDURES	MAY 2014
52.203-8	CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY	MAY 2014
52.203-10	PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY	MAY 2014
52.203-12	LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS	OCT 2010
52.203-13	CONTRACTOR CODE OF BUSINESS ETHICS AND CONDUCT	OCT 2015
52.203-17	CONTRACTOR EMPLOYEE WHISTLEBLOWER RIGHTS AND REQUIREMENT TO INFORM EMPLOYEES OF WHISTLEBLOWER RIGHTS	APR 2014
52.204-4	PRINTED OR COPIED DOUBLE-SIDED ON RECYCLED PAPER	MAY 2011
52.204-7	SYSTEM FOR AWARD MANAGEMENT	JUL 2013
52.204-10	REPORTING EXECUTIVE COMPENSATION AND FIRST-TIER SUBCONTRACT AWARDS	OCT 2015
52.204-13	SYSTEM FOR AWARD MANAGEMENT MAINTENANCE	JUL 2013
52.204-14	SERVICE CONTRACT REPORTING REQUIREMENTS	JAN 2014
52.204-18	COMMERCIAL AND GOVERNMENT ENTITY CODE MAINTENANCE	JUL 2015
52.209-6	PROTECTING THE GOVERNMENT'S INTEREST WHEN SUBCONTRACTING WITH CONTRACTORS DEBARRED, SUSPENDED, OR PROPOSED FOR DEBARMENT	OCT 2015

52.209-10	PROHIBITION ON CONTRACTING WITH INVERTED DOMESTIC CORPORATIONS	NOV 2015
52.210-1	MARKET RESEARCH	APR 2011
52.211-6	BRAND NAME OR EQUAL	AUG 1999
52.215-2	AUDIT AND RECORDS—NEGOTIATION	OCT 2010
52.219-8	UTILIZATION OF SMALL BUSINESS CONCERNS	OCT 2014
52.222-1	NOTICE TO THE GOVERNMENT OF LABOR DISPUTES	FEB 1997
52.222-3	CONVICT LABOR	JUN 2003
52.222-4	CONTRACT WORK HOURS AND SAFETY STANDARDS—OVERTIME COMPENSATION	MAY 2014
52.222-6	CONSTRUCTION WAGE RATE REQUIREMENTS	MAY 2014
52.222-7	WITHHOLDING OF FUNDS	MAY 2014
52.222-8	PAYROLLS AND BASIC RECORDS	MAY 2014
52.222-9	APPRENTICES AND TRAINEES	JUL 2005
52.222-10	COMPLIANCE WITH COPELAND ACT REQUIREMENTS	FEB 1988
52.222-11	SUBCONTRACTS (LABOR STANDARDS)	MAY 2014
52.222-12	CONTRACT TERMINATION—DEBARMENT	MAY 2014
52.222-13	COMPLIANCE WITH CONSTRUCTION WAGE RATE REQUIREMENTS AND RELATED REGULATIONS	MAY 2014
52.222-14	DISPUTES CONCERNING LABOR STANDARDS	FEB 1988
52.222-15	CERTIFICATION OF ELIGIBILITY	MAY 2014
52.222-21	PROHIBITION OF SEGREGATED FACILITIES	APR 2015
52.222-26	EQUAL OPPORTUNITY	APR 2015
52.222-27	AFFIRMATIVE ACTION COMPLIANCE REQUIREMENTS FOR CONSTRUCTION	APR 2015
52.222-36	EQUAL OPPORTUNITY FOR WORKERS WITH DISABILITIES	JUL 2014
52.222-37	EMPLOYMENT REPORTS ON VETERANS	FEB 2016
52.222-50	COMBATING TRAFFICKING IN PERSONS	MAR 2015
52.222-54	EMPLOYMENT ELIGIBILITY VERIFICATION	OCT 2015
52.222-55	MINIMUM WAGES UNDER EXECUTIVE ORDER 13658	DEC 2015
52.223-5	POLLUTION PREVENTION AND RIGHT-TO-KNOW INFORMATION	MAY 2011
52.223-6	DRUG-FREE WORKPLACE	MAY 2001
52.223-15	ENERGY EFFICIENCY IN ENERGY-CONSUMING PRODUCTS	DEC 2007
52.223-17	AFFIRMATIVE PROCUREMENT OF EPA-DESIGNATED ITEMS IN SERVICE AND CONSTRUCTION CONTRACTS	MAY 2008
52.223-18	ENCOURAGING CONTRACTOR POLICIES TO BAN TEXT MESSAGING WHILE DRIVING	AUG 2011
52.225-13	RESTRICTIONS ON CERTAIN FOREIGN PURCHASES	JUN 2008
52.227-1	AUTHORIZATION AND CONSENT	DEC 2007
52.227-2	NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT	DEC 2007
52.227-4	PATENT INDEMNITY—CONSTRUCTION CONTRACTS	DEC 2007
52.228-2	ADDITIONAL BOND SECURITY	OCT 1997
52.228-5	INSURANCE—WORK ON A GOVERNMENT INSTALLATION	JAN 1997
52.228-11	PLEDGES OF ASSETS	JAN 2012
52.228-12	PROSPECTIVE SUBCONTRACTOR REQUESTS FOR BONDS	MAY 2014
52.228-14	IRREVOCABLE LETTER OF CREDIT	NOV 2014
52.228-15	PERFORMANCE AND PAYMENT BONDS—CONSTRUCTION	OCT 2010
52.229-3	FEDERAL, STATE, AND LOCAL TAXES	FEB 2013

52.232-5	PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS	MAY 2014
52.232-17	INTEREST	MAY 2014
52.232-27	PROMPT PAYMENT FOR CONSTRUCTION CONTRACTS	MAY 2014
52.232-34	PAYMENT BY ELECTRONIC FUNDS TRANSFER—OTHER THAN SYSTEM FOR AWARD MANAGEMENT	JUL 2013
52.232-39	UNENFORCEABILITY OF UNAUTHORIZED OBLIGATIONS	JUN 2013
52.232-40	PROVIDING ACCELERATED PAYMENTS TO SMALL BUSINESS SUBCONTRACTORS	DEC 2013
52.233-1	DISPUTES ALTERNATE I (DEC 1991)	MAY 2014
52.233-3	PROTEST AFTER AWARD	AUG 1996
52.233-4	APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM	OCT 2004
52.236-2	DIFFERING SITE CONDITIONS	APR 1984
52.236-3	SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK	APR 1984
52.236-5	MATERIAL AND WORKMANSHIP	APR 1984
52.236-6	SUPERINTENDENCE BY THE CONTRACTOR	APR 1984
52.236-7	PERMITS AND RESPONSIBILITIES	NOV 1991
52.236-8	OTHER CONTRACTS	APR 1984
52.236-9	PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS	APR 1984
52.236-10	OPERATIONS AND STORAGE AREAS	APR 1984
52.236-11	USE AND POSSESSION PRIOR TO COMPLETION	APR 1984
52.236-12	CLEANING UP	APR 1984
52.236-13	ACCIDENT PREVENTION ALTERNATE I (APR 1984)	NOV 1991
52.236-14	AVAILABILITY AND USE OF UTILITY SERVICES	APR 1984
52.236-15	SCHEDULES FOR CONSTRUCTION CONTRACTS	APR 1984
52.236-17	LAYOUT OF WORK	APR 1984
52.236-26	PRECONSTRUCTION CONFERENCE	FEB 1995
52.242-13	BANKRUPTCY	JUL 1995
52.242-14	SUSPENSION OF WORK	APR 1984
52.243-4	CHANGES	JUN 2007
52.244-5	COMPETITION IN SUBCONTRACTING	DEC 1996
52.246-12	INSPECTION OF CONSTRUCTION	AUG 1996
52.246-21	WARRANTY OF CONSTRUCTION ALTERNATE I (APR 1984)	MAR 1994
52.248-3	VALUE ENGINEERING—CONSTRUCTION ALTERNATE I (APR 1984)	OCT 2015
52.249-2	TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (FIXED PRICE) ALTERNATE I (SEPT 1996)	APR 2012
52.249-10	DEFAULT (FIXED-PRICE CONSTRUCTION)	APR 1984
52.253-1	COMPUTER GENERATED FORMS	JAN 1991

#### 4.16 VAAR 852.203-70 COMMERCIAL ADVERTISING (JAN 2008)

The bidder or offeror agrees that if a contract is awarded to him/her, as a result of this solicitation, he/she will not advertise the award of the contract in his/her commercial advertising in such a manner as to state or imply that the Department of Veterans Affairs endorses a product, project or commercial line of endeavor.

(End of Clause)

#### **4.17 VAAR 852.203-71 DISPLAY OF DEPARTMENT OF VETERAN AFFAIRS HOTLINE POSTER (DEC 1992)**

(a) Except as provided in paragraph (c) below, the Contractor shall display prominently, in common work areas within business segments performing work under VA contracts, Department of Veterans Affairs Hotline posters prepared by the VA Office of Inspector General.

(b) Department of Veterans Affairs Hotline posters may be obtained from the VA Office of Inspector General (53E), P.O. Box 34647, Washington, DC 20043-4647.

(c) The Contractor need not comply with paragraph (a) above if the Contractor has established a mechanism, such as a hotline, by which employees may report suspected instances of improper conduct, and instructions that encourage employees to make such reports.

(End of Clause)

#### **4.18 VAAR 852.211-73 BRAND NAME OR EQUAL (JAN 2008)**

(Note: as used in this clause, the term "brand name" includes identification of products by make and model.)

(a) If items called for by this invitation for bids have been identified in the schedule by a "brand name or equal" description, such identification is intended to be descriptive, but not restrictive, and is to indicate the quality and characteristics of products that will be satisfactory. Bids offering "equal" products (including products of the brand name manufacturer other than the one described by brand name) will be considered for award if such products are clearly identified in the bids and are determined by the Government to meet fully the salient characteristics requirements listed in the invitation.

(b) Unless the bidder clearly indicates in the bid that the bidder is offering an "equal" product, the bid shall be considered as offering a brand name product referenced in the invitation for bids.

(c)(1) If the bidder proposes to furnish an "equal" product, the brand name, if any, of the product to be furnished shall be inserted in the space provided in the invitation for bids, or such product shall be otherwise clearly identified in the bid. The evaluation of bids and the determination as to equality of the product offered shall be the responsibility of the Government and will be based on information furnished by the bidder or identified in his/her bid as well as other information reasonably available to the purchasing activity. CAUTION TO BIDDERS. The purchasing activity is not responsible for locating or securing any information that is not identified in the bid and reasonably available to the purchasing activity. Accordingly, to insure that sufficient information is available, the bidder must furnish as a part of his/her bid all descriptive material (such as cuts, illustrations, drawings or other information) necessary for the purchasing activity to:

(i) Determine whether the product offered meets the salient characteristics requirement of the Invitation for Bids, and

(ii) Establish exactly what the bidder proposes to furnish and what the Government would be binding itself to purchase by making an award. The information furnished may include specific references to information previously furnished or to information otherwise available to the purchasing activity.

(2) If the bidder proposes to modify a product so as to make it conform to the requirements of the Invitation for Bids, he/she shall:

- (i) Include in his/her bid a clear description of such proposed modifications, and
- (ii) Clearly mark any descriptive material to show the proposed modifications.

(3) Modifications proposed after bid opening to make a product conform to a brand name product referenced in the Invitation for Bids will not be considered.

(End of Clause)

#### **4.19 VAAR 852.211-75 PRODUCT SPECIFICATIONS (JAN 2008)**

The products offered under this solicitation shall be type , grade , in accordance with No. , dated and amendment dated , except for paragraphs and which are amended as follows:

(End of Clause)

#### **4.20 VAAR 852.219-10 VA NOTICE OF TOTAL SERVICE-DISABLED VETERAN-OWNED SMALL BUSINESS SET-ASIDE (DEC 2009)**

(a) Definition. For the Department of Veterans Affairs, "Service-disabled veteran-owned small business concern":

(1) Means a small business concern:

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans (or eligible surviving spouses);

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans (or eligible surviving spouses) or, in the case of a service-disabled veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran;

(iii) The business meets Federal small business size standards for the applicable North American Industry Classification System (NAICS) code identified in the solicitation document; and

(iv) The business has been verified for ownership and control and is so listed in the Vendor Information Pages database, (<http://www.VetBiz.gov>).

(2) "Service-disabled veteran" means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

(b) *General.* (1) Offers are solicited only from service-disabled veteran-owned small business concerns. Offers received from concerns that are not service-disabled veteran-owned small business concerns shall not be considered.



(2) Any award resulting from this solicitation shall be made to a service-disabled veteran-owned small business concern.

(c) Agreement. A service-disabled veteran-owned small business concern agrees that in the performance of the contract, in the case of a contract for:

(1) Services (except construction), at least 50 percent of the cost of personnel for contract performance will be spent for employees of the concern or employees of other eligible service-disabled veteran-owned small business concerns;

(2) Supplies (other than acquisition from a nonmanufacturer of the supplies), at least 50 percent of the cost of manufacturing, excluding the cost of materials, will be performed by the concern or other eligible service-disabled veteran-owned small business concerns;

(3) General construction, at least 15 percent of the cost of the contract performance incurred for personnel will be spent on the concern's employees or the employees of other eligible service-disabled veteran-owned small business concerns; or

(4) Construction by special trade contractors, at least 25 percent of the cost of the contract performance incurred for personnel will be spent on the concern's employees or the employees of other eligible service-disabled veteran-owned small business concerns.

(d) A joint venture may be considered a service-disabled veteran owned small business concern if--

(1) At least one member of the joint venture is a service-disabled veteran-owned small business concern, and makes the following representations: That it is a service-disabled veteran-owned small business concern, and that it is a small business concern under the North American Industry Classification Systems (NAICS) code assigned to the procurement;

(2) Each other concern is small under the size standard corresponding to the NAICS code assigned to the procurement; and

(3) The joint venture meets the requirements of paragraph 7 of the explanation of Affiliates in 19.101 of the Federal Acquisition Regulation.

(4) The joint venture meets the requirements of 13 CFR 125.15(b).

(e) Any service-disabled veteran-owned small business concern (non-manufacturer) must meet the requirements in 19.102(f) of the Federal Acquisition Regulation to receive a benefit under this program.

(End of Clause)

#### **4.21 VAAR 852.228-70 BOND PREMIUM ADJUSTMENT (JAN 2008)**

When net changes in original contract price affect the premium of a Corporate Surety Bond by \$5 or more, the Government, in determining the basis for final settlement, will provide for bond premium adjustment computed at the rate shown in the bond.

(End of Clause)

## 4.22 VAAR 852.232-72 ELECTRONIC SUBMISSION OF PAYMENT REQUESTS (NOV 2012)

(a) *Definitions.* As used in this clause—

(1) *Contract financing payment* has the meaning given in FAR 32.001.

(2) *Designated agency office* has the meaning given in 5 CFR 1315.2(m).

(3) *Electronic form* means an automated system transmitting information electronically according to the

Accepted electronic data transmission methods and formats identified in paragraph (c) of this clause. Facsimile, email, and scanned documents are not acceptable electronic forms for submission of payment requests.

(4) *Invoice payment* has the meaning given in FAR 32.001.

(5) *Payment request* means any request for contract financing payment or invoice payment submitted by the contractor under this contract.

(b) *Electronic payment requests.* Except as provided in paragraph (e) of this clause, the contractor shall submit payment requests in electronic form. Purchases paid with a Government-wide commercial purchase card are considered to be an electronic transaction for purposes of this rule, and therefore no additional electronic invoice submission is required.

(c) *Data transmission.* A contractor must ensure that the data transmission method and format are through one of the following:

(1) VA's Electronic Invoice Presentment and Payment System. (See Web site at <http://www.fsc.va.gov/einvoice.asp>.)

(2) Any system that conforms to the X12 electronic data interchange (EDI) formats established by the Accredited Standards Center (ASC) and chartered by the American National Standards Institute (ANSI). The X12 EDI Web site (<http://www.x12.org>) includes additional information on EDI 810 and 811 formats.

(d) *Invoice requirements.* Invoices shall comply with FAR 32.905.

(e) *Exceptions.* If, based on one of the circumstances below, the contracting officer directs that payment requests be made by mail, the contractor shall submit payment requests by mail through the United States Postal Service to the designated agency office. Submission of payment requests by mail may be required for:

(1) Awards made to foreign vendors for work performed outside the United States;

(2) Classified contracts or purchases when electronic submission and processing of payment requests could compromise the safeguarding of classified or privacy information;

(3) Contracts awarded by contracting officers in the conduct of emergency operations, such as responses to national emergencies;

(4) Solicitations or contracts in which the designated agency office is a VA entity other than the VA Financial Services Center in Austin, Texas; or

(5) Solicitations or contracts in which the VA designated agency office does not have electronic invoicing capability as described above.

(End of Clause)

#### **4.23 VAAR 852.236-72 PERFORMANCE OF WORK BY THE CONTRACTOR (JUL 2002)**

The clause entitled "Performance of Work by the Contractor" in FAR 52.236-1 is supplemented as follows:

(a) Contract work accomplished on the site by laborers, mechanics, and foremen/forewomen on the contractor's payroll and under his/her direct supervision shall be included in establishing the percent of work to be performed by the contractor. Cost of material and equipment installed by such labor may be included. The work by the contractor's executive, supervisory and clerical forces shall be excluded in establishing compliance with the requirements of this clause.

(b) The contractor shall submit, simultaneously with the schedule of costs required by the Payments Under Fixed-Price Construction Contracts clause of the contract, a statement designating the branch or branches of contract work to be performed with his/her forces. The approved schedule of costs will be used in determining the value of a branch or branches, or portions thereof, of the work for the purpose of this article.

(c) If, during the progress of work hereunder, the contractor requests a change in the branch or branches of the work to be performed by his/her forces and the contracting officer determines it to be in the best interest of the Government, the contracting officer may, at his/her discretion, authorize a change in such branch or branches of said work. Nothing contained herein shall permit a reduction in the percentage of work to be performed by the contractor with his/her forces, it being expressly understood that this is a contract requirement without right or privilege of reduction.

(d) In the event the contractor fails or refuses to meet the requirement of the FAR clause at 52.236-1, it is expressly agreed that the contract price will be reduced by 15 percent of the value of that portion of the percentage requirement that is accomplished by others. For the purpose of this clause, it is agreed that 15 percent is an acceptable estimate of the contractor's overhead and profit, or mark-up, on that portion of the work which the contractor fails or refuses to perform, with his/her own forces, in accordance with the FAR clause at 52.236-1.

(End of Clause)

#### **4.24 VAAR 852.236-74 INSPECTION OF CONSTRUCTION (JUL 2002)**

The clause entitled "Inspection of Construction" in FAR 52.246-12 is supplemented as follows:

(a) Inspection of materials and articles furnished under this contract will be made at the site by the resident engineer, unless otherwise provided for in the specifications.

(b) Final inspection will not be made until the contract work is ready for beneficial use or occupancy. The contractor shall notify the contracting officer, through the resident engineer, fifteen (15) days prior to the date on which the work will be ready for final inspection.

(End of Clause)

#### **4.25 VAAR 852.236-76 CORRESPONDENCE (APR 1984)**

All correspondence relative to this contract shall bear Specification Number, Project Number, Department of Veterans Affairs Contract Number, title of project and name of facility.

(End of Clause)

#### **4.26 VAAR 852.236-77 REFERENCE TO "STANDARDS" (JUL 2002)**

Any materials, equipment, or workmanship specified by references to number, symbol, or title of any specific Federal, Industry or Government Agency Standard Specification shall comply with all applicable provisions of such standard specifications, except as limited to type, class or grade, or modified in contract specifications. Reference to "Standards" referred to in the contract specifications, except as modified, shall have full force and effect as though printed in detail in specifications.

(End of Clause)

#### **4.27 VAAR 852.236-78 GOVERNMENT SUPERVISION (APR 1984)**

(a) The work will be under the direction of the Department of Veterans Affairs contracting officer, who may designate another VA employee to act as resident engineer at the construction site.

(b) Except as provided below, the resident engineer's directions will not conflict with or change contract requirements.

(c) Within the limits of any specific authority delegated by the contracting officer, the resident engineer may, by written direction, make changes in the work. The contractor shall be advised of the extent of such authority prior to execution of any work under the contract.

(End of Clause)

#### **4.28 VAAR 852.236-79 DAILY REPORT OF WORKERS AND MATERIAL (APR 1984)**

The contractor shall furnish to the resident engineer each day a consolidated report for the preceding work day in which is shown the number of laborers, mechanics, foremen/forewomen and pieces of heavy equipment used or employed by the contractor and subcontractors. The report shall bear the name of the firm, the branch of work which they perform such as concrete, plastering, masonry, plumbing, sheet metal work, etc. The report shall give a breakdown of employees by crafts, location where employed, and work performed. The report shall also list materials delivered to the site on the date covered by the report.

(End of Clause)

#### **4.29 VAAR 852.236-80 SUBCONTRACTS AND WORK COORDINATION (APR 1984) ALTERNATE I (JUL 2002)**

(a) Nothing contained in this contract shall be construed as creating any contractual relationship between any subcontractor and the Government. Divisions or sections of specifications are not intended to control the contractor in dividing work among subcontractors, or to limit work performed by any trade.

(b) The contractor shall be responsible to the Government for acts and omissions of his/her own employees, and subcontractors and their employees. The contractor shall also be responsible for coordination of the work of the trades, subcontractors, and material suppliers. The contractor shall, in advance of the work, prepare coordination drawings showing the location of openings through slabs, the pipe sleeves and hanger inserts, as well as the location and elevation of utility lines, including, but not limited to, conveyor systems, pneumatic tubes, ducts, and conduits and pipes 2 inches and larger in diameter. These drawings, including plans, elevations, and sections as appropriate shall clearly show the manner in which the utilities fit into the available space and relate to each other and to existing building elements. Drawings shall be of appropriate scale to satisfy the previously stated purposes, but not smaller than 3/8-inch scale. Drawings may be composite (with distinctive colors for the various trades) or may be separate but fully coordinated drawings (such as sepias or photographic paper reproducibles) of the same scale. Separate drawings shall depict identical building areas or sections and shall be capable of being overlaid in any combination. The submitted drawings for a given area of the project shall show the work of all trades which will be involved in that particular area. Six complete composite drawings or six complete sets of separate reproducible drawings shall be received by the Government not less than 20 days prior to the scheduled start of the work in the area illustrated by the drawings, for the purpose of showing the contractor's planned methods of installation. The objectives of such drawings are to promote carefully planned work sequence and proper trade coordination, in order to assure the expeditious solutions of problems and the installation of lines and equipment as contemplated by the contract documents while avoiding or minimizing additional costs to the contractor and to the Government. In the event the contractor, in coordinating the various installations and in planning the method of installation, finds a conflict in location or elevation of any of the utilities with themselves, with structural items or with other construction items, he/she shall bring this conflict to the attention of the contracting officer immediately. In doing so, the contractor shall explain the proposed method of solving the problem or shall request instructions as to how to proceed if adjustments beyond those of usual trades coordination are necessary. Utilities installation work will not proceed in any area prior to the submission and completion of the Government review of the coordinated drawings for that area, nor in any area in which conflicts are disclosed by the coordination drawings until the conflicts have been corrected to the satisfaction of the contracting officer. It is the responsibility of the contractor to submit the required drawings in a timely manner consistent with the requirements to complete the work covered by this contract within the prescribed contract time.

(c) The Government or its representatives will not undertake to settle any differences between the contractor and subcontractors or between subcontractors.

(d) The Government reserves the right to refuse to permit employment on the work or require dismissal from the work of any subcontractor who, by reason of previous unsatisfactory work on Department of Veterans Affairs projects or for any other reason, is considered by the contracting officer to be incompetent or otherwise objectionable.

(End of Clause)

#### **4.30 VAAR 852.236-82 PAYMENTS UNDER FIXED-PRICE CONSTRUCTION CONTRACTS (WITHOUT NAS) (APR 1984) ALTERNATE I (JULY 2002)**

(a) Retainage:

(1) The contracting officer may retain funds:

(i) Where performance under the contract has been determined to be deficient or the contractor has performed in an unsatisfactory manner in the past; or

(ii) As the contract nears completion, to ensure that deficiencies will be corrected and that completion is timely.

(2) Examples of deficient performance justifying a retention of funds include, but are not restricted to, the following:

(i) Unsatisfactory progress as determined by the contracting officer;

(ii) Failure to meet schedule in Schedule of Work Progress;

(iii) Failure to present submittals in a timely manner; or

(iv) Failure to comply in good faith with approved subcontracting plans, certifications, or contract requirements.

(3) Any level of retention shall not exceed 10 percent either where there is determined to be unsatisfactory performance, or when the retainage is to ensure satisfactory completion. Retained amounts shall be paid promptly upon completion of all contract requirements, but nothing contained in this subparagraph shall be construed as limiting the contracting officer's right to withhold funds under other provisions of the contract or in accordance with the general law and regulations regarding the administration of Government contracts.

(b) The contractor shall submit a schedule of cost to the contracting officer for approval within 30 calendar days after date of receipt of notice to proceed. Such schedule will be signed and submitted in triplicate. The approved cost schedule will be one of the bases for determining progress payments to the contractor for work completed. This schedule shall show cost by the branches of work for each building or unit of the contract, as instructed by the resident engineer.

(1) The branches shall be subdivided into as many sub-branches as are necessary to cover all component parts of the contract work.

(2) Costs as shown on this schedule must be true costs and, should the resident engineer so desire, he/she may require the contractor to submit the original estimate sheets or other information to substantiate the detailed makeup of the schedule.

(3) The sum of the sub-branches, as applied to each branch, shall equal the total cost of such branch. The total cost of all branches shall equal the contract price.

(4) Insurance and similar items shall be prorated and included in the cost of each branch of the work.

(5) The cost schedule shall include separate cost information for the systems listed in the table in this paragraph (b)(5). The percentages listed below are proportions of the cost listed in the contractor's cost

schedule and identify, for payment purposes, the value of the work to adjust, correct and test systems after the material has been installed. Payment of the listed percentages will be made only after the contractor has demonstrated that each of the systems is substantially complete and operates as required by the contract.

(6)(i) The contractor shall at the time of contract award furnish the total cost of the guarantee period services in accordance with specification section(s) covering guarantee period services. The contractor shall submit, within 15 calendar days of receipt of the notice to proceed, a guarantee period performance program that shall include an itemized accounting of the number of work-hours required to perform the guarantee period service on each piece of equipment. The contractor shall also submit the established salary costs, including employee fringe benefits, and what the contractor reasonably expects to pay over the guarantee period, all of which will be subject to the contracting officer's approval.

(ii) The cost of the guarantee period service shall be prorated on an annual basis and paid in equal monthly payments by VA during the period of guarantee. In the event the installer does not perform satisfactorily during this period, all payments may be withheld and the contracting officer shall inform the contractor of the unsatisfactory performance, allowing the contractor 10 days to correct deficiencies and comply with the contract. The guarantee period service is subject to those provisions as set forth in the Payments and Default clauses.

#### VALUE OF ADJUSTING, CORRECTING, AND TESTING SYSTEM

<b>System</b>	<b>Percent</b>
Pneumatic tube system	10
Incinerators (medical waste and trash)	5
Sewage treatment plant equipment	5
Water treatment plant equipment	5
Washers (dish, cage, glass, etc.)	5
Sterilizing equipment	5
Water distilling equipment	5
Prefab temperature rooms (cold, constant temperature)	5
Entire air-conditioning system (Specified under 600 Sections)	5
Entire boiler plant system (Specified under 700 Sections)	5
General supply conveyors	10
Food service conveyors	10

Pneumatic soiled linen and trash system	10
Elevators and dumbwaiters	10
Materials transport system	10
Engine-generator system	5
Primary switchgear	5
Secondary switchgear	5
Fire alarm system	5
Nurse call system	5
Intercom system	5
Radio system	5
TV (entertainment) system	5

(c) In addition to this cost schedule, the contractor shall submit such unit costs as may be specifically requested. The unit costs shall be those used by the contractor in preparing his/her bid and will not be binding as pertaining to any contract changes.

(d) The contracting officer will consider for monthly progress payments material and/or equipment procured by the contractor and stored on the construction site, as space is available, or at a local approved location off the site, under such terms and conditions as such officer approves, including but not limited to the following:

(1) The material or equipment is in accordance with the contract requirements and/or approved samples and shop drawings.

(2) Only those materials and/or equipment as are approved by the resident engineer for storage will be included.

(3) Such materials and/or equipment will be stored separately and will be readily available for inspection and inventory by the resident engineer.

(4) Such materials and/or equipment will be protected against weather, theft and other hazards and will not be subjected to deterioration.

(5) All of the other terms, provisions, conditions and covenants contained in the contract shall be and remain in full force and effect as therein provided.

(6) A supplemental agreement will be executed between the Government and the contractor with the consent of the contractor's surety for off-site storage.



(e) The contractor, prior to receiving a progress or final payment under this contract, shall submit to the contracting officer a certification that the contractor has made payment from proceeds of prior payments, or that timely payment will be made from the proceeds of the progress or final payment then due, to subcontractors and suppliers in accordance with the contractual arrangements with them.

(f) The Government reserves the right to withhold payment until samples, shop drawings, engineer's certificates, additional bonds, payrolls, weekly statements of compliance, proof of title, nondiscrimination compliance reports, or any other things required by this contract, have been submitted to the satisfaction of the contracting officer.

(End of Clause)

#### **4.31 VAAR 852.236-84 SCHEDULE OF WORK PROGRESS (NOV 1984)**

(a) The contractor shall submit with the schedule of costs, a progress schedule that indicates the anticipated installation of work versus the elapsed contract time, for the approval of the contracting officer. The progress schedule time shall be represented in the form of a bar graph with the contract time plotted along the horizontal axis. The starting date of the schedule shall be the date the contractor receives the "Notice to Proceed." The ending date shall be the original contract completion date. At a minimum, both dates shall be indicated on the progress schedule. The specific item of work, i.e., "Excavation", "Floor Tile", "Finish Carpentry", etc., should be plotted along the vertical axis and indicated by a line or bar at which time(s) during the contract this work is scheduled to take place. The schedule shall be submitted in triplicate and signed by the contractor.

(b) The actual percent completion will be based on the value of installed work divided by the current contract amount. The actual completion percentage will be indicated on the monthly progress report.

(c) The progress schedule will be revised when individual or cumulative time extensions of 15 calendar days or more are granted for any reason. The revised schedule should indicate the new contract completion date and should reflect any changes to the installation time(s) of the items of work affected.

(d) The revised progress schedule will be used for reporting future scheduled percentage completion.

(End of Clause)

#### **4.32 VAAR 852.236-85 SUPPLEMENTARY LABOR STANDARDS PROVISIONS (APR 1984)**

(a) The wage determination decision of the Secretary of Labor is set forth in section GR, General Requirements, of this contract. It is the result of a study of wage conditions in the locality and establishes the minimum hourly rates of wages and fringe benefits for the described classes of labor in accordance with applicable law. No increase in the contract price will be allowed or authorized because of payment of wage rates in excess of those listed.

(b) The contractor shall submit the required copies of payrolls to the contracting officer through the resident engineer or engineer officer, when acting in that capacity. Department of Labor Form WH- 347, Payroll, available from the Superintendent of Documents, Government Printing Office, Washington, DC 20402, may be used for this purpose. If, however, the contractor or subcontractor elects to use an individually composed payroll form, it shall contain the same information shown on Form WH-347, and

in addition be accompanied by Department of Labor Form WH-348, Statement of Compliance, or any other form containing the exact wording of this form.

(End of Clause)

#### **4.33 VAAR 852.236-86 WORKER'S COMPENSATION (JAN 2008)**

Public Law 107-217 (40 U.S.C. 3172) authorizes the constituted authority of States to apply their workers compensation laws to all lands and premises owned or held by the United States.

(End of Clause)

#### **4.34 VAAR 852.236-87 ACCIDENT PREVENTION (SEP 1993)**

The Resident Engineer on all assigned construction projects, or other Department of Veterans Affairs employee if designated in writing by the Contracting Officer, shall serve as Safety Officer and as such has authority, on behalf of the Contracting Officer, to monitor and enforce Contractor compliance with FAR 52.236-13, Accident Prevention. However, only the Contracting Officer may issue an order to stop all or part of the work while requiring satisfactory or corrective action to be taken by the Contractor.

(End of Clause)

#### **4.35 VAAR 852.236-88 CONTRACT CHANGES--SUPPLEMENT (JUL 2002)**

(a) Paragraphs (a)(1) through (a)(4) apply to proposed contract changes costing over \$500,000.

(1) When requested by the contracting officer, the contractor shall submit proposals for changes in work to the resident engineer. Proposals, to be submitted as expeditiously as possible but within 30 calendar days after receipt of request, shall be in legible form, original and two copies, with an itemized breakdown that will include material, quantities, unit prices, labor costs (separated into trades), construction equipment, etc. (Labor costs are to be identified with specific material placed or operation performed.) The contractor must obtain and furnish with a proposal an itemized breakdown as described above, signed by each subcontractor participating in the change regardless of tier. When certified cost or pricing data are required under FAR Subpart 15.403, the cost or pricing data shall be submitted in accordance with FAR 15.403-5.

(2) When the necessity to proceed with a change does not allow sufficient time to negotiate a modification or because of failure to reach an agreement, the contracting officer may issue a change order instructing the contractor to proceed on the basis of a tentative price based on the best estimate available at the time, with the firm price to be determined later. Furthermore, when the change order is issued, the contractor shall submit a proposal, which includes the information required by paragraph (a)(1), for cost of changes in work within 30 calendar days.

(3) The contracting officer will consider issuing a settlement by determination to the contract if the contractor's proposal required by paragraphs (a)(1) or (a)(2) of this clause is not received within 30 calendar days or if agreement has not been reached.

(4) Bond premium adjustment, consequent upon changes ordered, will be made as elsewhere specified at the time of final settlement under the contract and will not be included in the individual change.

(b) Paragraphs (b)(1) through (b)(11) apply to proposed contract changes costing \$500,000 or less:

(1) When requested by the contracting officer, the contractor shall submit proposals for changes in work to the resident engineer. Proposals, to be submitted as expeditiously as possible but within 30 calendar days after receipt of request, shall be in legible form, original and two copies, with an itemized breakdown that will include material, quantities, unit prices, labor costs (separated into trades), construction equipment, etc. (Labor costs are to be identified with specific material placed or operation performed.) The contractor must obtain and furnish with a proposal an itemized breakdown as described above, signed by each subcontractor participating in the change regardless of tier. When certified cost or pricing data or information other than cost or pricing data are required under FAR 15.403, the data shall be submitted in accordance with FAR 15.403-5. No itemized breakdown will be required for proposals amounting to less than \$1,000.

(2) When the necessity to proceed with a change does not allow sufficient time to negotiate a modification or because of failure to reach an agreement, the contracting officer may issue a change order instructing the contractor to proceed on the basis of a tentative price based on the best estimate available at the time, with the firm price to be determined later. Furthermore, when the change order is issued, the contractor shall submit within 30 calendar days, a proposal that includes the information required by paragraph (b)(1) for the cost of the changes in work.

(3) The contracting officer will consider issuing a settlement by determination to the contract if the contractor's proposal required by paragraphs (b)(1) or (b)(2) of this clause is not received within 30 calendar days, or if agreement has not been reached.

(4) Allowances not to exceed 10 percent each for overhead and profit for the party performing the work will be based on the value of labor, material, and use of construction equipment required to accomplish the change. As the value of the change increases, a declining scale will be used in negotiating the percentage of overhead and profit. Allowable percentages on changes will not exceed the following: 10 percent overhead and 10 percent profit on the first \$20,000; 7-1/2 percent overhead and 7-1/2 percent profit on the next \$30,000; 5 percent overhead and 5 percent profit on balance over \$50,000. Profit shall be computed by multiplying the profit percentage by the sum of the direct costs and computed overhead costs.

(5) The prime contractor's or upper-tier subcontractor's fee on work performed by lower-tier subcontractors will be based on the net increased cost to the prime contractor or upper-tier subcontractor, as applicable. Allowable fee on changes will not exceed the following: 10 percent fee on the first \$20,000; 7-1/2 percent fee on the next \$30,000; and 5 percent fee on balance over \$50,000.

(6) Not more than four percentages, none of which exceed the percentages shown above, will be allowed regardless of the number of tiers of subcontractors.

(7) Where the contractor's or subcontractor's portion of a change involves credit items, such items must be deducted prior to adding overhead and profit for the party performing the work. The contractor's fee is limited to the net increase to contractor of subcontractors' portions cost computed in accordance herewith.

(8) Where a change involves credit items only, a proper measure of the amount of downward adjustment in the contract price is the reasonable cost to the contractor if he/she had performed the deleted work. A reasonable allowance for overhead and profit are properly includable as part of the downward adjustment for a deductive change. The amount of such allowance is subject to negotiation.

(9) Cost of Federal Old Age Benefit (Social Security) tax and of Worker's Compensation and Public Liability insurance appertaining to changes are allowable. While no percentage will be allowed thereon for overhead or profit, prime contractor's fee will be allowed on such items in subcontractors' proposals.

(10) Overhead and contractor's fee percentages shall be considered to include insurance other than mentioned herein, field and office supervisors and assistants, security police, use of small tools, incidental job burdens, and general home office expenses and no separate allowance will be made therefore. Assistants to office supervisors include all clerical, stenographic and general office help. Incidental job burdens include, but are not necessarily limited to, office equipment and supplies, temporary toilets, telephone and conformance to OSHA requirements. Items such as, but not necessarily limited to, review and coordination, estimating and expediting relative to contract changes are associated with field and office supervision and are considered to be included in the contractor's overhead and/or fee percentage.

(11) Bond premium adjustment, consequent upon changes ordered, will be made as elsewhere specified at the time of final settlement under the contract and will not be included in the individual change.

(End of Clause)

#### **4.36 VAAR 852.236-89 BUY AMERICAN ACT (JAN 2008)**

(a) Reference is made to the clause entitled "Buy American Act--Construction Materials," FAR 52.225-9.

(b) Notwithstanding a bidder's right to offer identifiable foreign construction material in its bid pursuant to FAR 52.225-9, VA does not anticipate accepting an offer that includes foreign construction material.

(c) If a bidder chooses to submit a bid that includes foreign construction material, that bidder must provide a listing of the specific foreign construction material he/she intends to use and a price for said material. Bidders must include bid prices for comparable domestic construction material. If VA determines not to accept foreign construction material and no comparable domestic construction material is provided, the entire bid will be rejected.

(d) Any foreign construction material proposed after award will be rejected unless the bidder proves to VA's satisfaction: (1) it was impossible to request the exemption prior to award, and (2) said domestic construction material is no longer available, or (3) where the price has escalated so dramatically after the contract has been awarded that it would be unconscionable to require performance at that price. The determinations required by (1), (2), and (3) of this paragraph shall be made in accordance with Subpart 825.2 and FAR 25.2.

(e) By signing this bid, the bidder declares that all articles, materials and supplies for use on the project shall be domestic unless specifically set forth on the Bid Form or addendum thereto.

(End of Clause)

#### **4.37 VAAR 852.236-91 SPECIAL NOTES (JUL 2002)**

(a) Signing of the bid shall be deemed to be a representation by the bidder that:

(1) Bidder is a construction contractor who owns, operates, or maintains a place of business, regularly engaged in construction, alteration, or repair of buildings, structures, and communications facilities, or other engineering projects, including furnishing and installing of necessary equipment; or

(2) If newly entering into a construction activity, bidder has made all necessary arrangements for personnel, construction equipment, and required licenses to perform construction work; and

(3) Upon request, prior to award, bidder will promptly furnish to the Government a statement of facts in detail as to bidder's previous experience (including recent and current contracts), organization (including company officers), technical qualifications, financial resources and facilities available to perform the contemplated work.

(b) Unless otherwise provided in this contract, where the use of optional materials or construction is permitted, the same standard of workmanship, fabrication and installation shall be required irrespective of which option is selected. The contractor shall make any change or adjustment in connecting work or otherwise necessitated by the use of such optional material or construction, without additional cost to the Government.

(c) When approval is given for a system component having functional or physical characteristics different from those indicated or specified, it is the responsibility of the contractor to furnish and install related components with characteristics and capacities compatible with the approved substitute component as required for systems to function as noted on drawings and specifications. There shall be no additional cost to the Government.

(d) In some instances it may have been impracticable to detail all items in specifications or on drawings because of variances in manufacturers' methods of achieving specified results. In such instances the contractor will be required to furnish all labor, materials, drawings, services and connections necessary to produce systems or equipment which are completely installed, functional, and ready for operation by facility personnel in accordance with their intended use.

(e) Claims by the contractor for delay attributed to unusually severe weather must be supported by climatological data covering the period and the same period for the 10 preceding years. When the weather in question exceeds in intensity or frequency the 10-year average, the excess experienced shall be considered "unusually severe." Comparison shall be on a monthly basis. Whether or not unusually severe weather in fact delays the work will depend upon the effect of weather on the branches of work being performed during the time under consideration.

(End of Clause)

#### **4.38 VAAR 852.246-74 SPECIAL WARRANTIES (JAN 2008)**

The clause entitled "Warranty of Construction" in FAR 52.246-21 is supplemented as follows:

Any special warranties that may be required under the contract shall be subject to the elections set forth in the FAR clause at 52.246-21, Warranty of Construction, unless otherwise provided for in such special warranties.

(End of Clause)

#### **4.39 VAAR 852.246-75 WARRANTY FOR CONSTRUCTION--GUARANTEE PERIOD SERVICES (JAN 2008)**

The clause entitled "Warranty of Construction" in FAR 52.246-21 is supplemented as follows:

Should the contractor fail to prosecute the work or fail to proceed promptly to provide guarantee period services after notification by the contracting officer, the Government may, subject to the default clause contained at FAR 52.249-10, Default (Fixed- Price Construction), and after allowing the contractor 10 days to correct and comply with the contract, terminate the right to proceed with the work (or the separable part of the work) that has been delayed or unsatisfactorily performed. In this event, the Government may take over the work and complete it by contract or otherwise, and may take possession of and use any materials, appliances, and plant on the work site necessary for completing the work. The contractor and its sureties shall be liable for any damages to the Government resulting from the contractor's refusal or failure to complete the work within this specified time, whether or not the contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the Government in completing the work.

(End of Clause)

#### **4.40 MANDATORY WRITTEN DISCLOSURES**

Mandatory written disclosures required by FAR clause 52.203-13 to the Department of Veterans Affairs, Office of Inspector General (OIG) must be made electronically through the VA OIG Hotline at <http://www.va.gov/oig/contacts/hotline.asp> and clicking on "FAR clause 52.203-13 Reporting." If you experience difficulty accessing the website, call the Hotline at 1-800-488-8244 for further instructions.

## **DESCRIPTION/SPECIFICATIONS/WORK STATEMENT**

## GENERAL REQUIREMENTS

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

**1.1 SAFETY REQUIREMENTS**

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

**1.2 GENERAL INTENTION**

A. Contract shall furnish all supervision, necessary professional and technical specialty services, testing, equipment, parts, transportation, labor, materials, tools incidentals and other necessary

support to complete **Project #673-14-604, "Replace Roof Systems Campus Wide"** at the James A. Haley VA Hospital (VAH), located at 13000 Bruce B. Downs Boulevard, Tampa, Florida, 33612.

- B. Visits to the site by Bidders are highly recommended will be scheduled as a one-time official site visit by Contracting Officer. All bids will take into consideration of existing site conditions; it is the responsibility of the contractor to review the entire job site footprint and existing site conditions prior to bid submission. All proposals shall include a detailed cost breakdown (materials, labor, and equipment) by trade, specification division and section; lump sum costs submissions only in proposals are not acceptable.
- C. Offerors shall acquire valid Florida Department of Business Professional Regulation Licensed/Registered Scientific and Technical Support Professionals and Firms to render the required technical, investigative and surveying services for the construction. Such services shall be considered as support and advisory professional contractors to the General Contractor and shall not be construed or implied as professionals or firms having a contractual relationship with the Government. Professionals shall not rely solely on the As-Built drawings. Offerors shall conduct a thorough investigation of site after issuance of notice to proceed.
  - 1. General Contractors shall ensure acquired Scientific and Technical Support Professionals and Firms refer to VA Facilities Management Technical Information Library (TIL) <http://www.cfm.va.gov/TIL/spec.asp> and applicable regulatory guidance for the performance of services rendered for completion of Replace Roof Campus Wide, Project 673-14-604 Some specifications on the VA Facilities Management Technical Information Library (TIL) must be tailored and edited specifically for Tampa VA hospital, please consult with the COR on the Master Specification Listing to identify which sections should be tailored specifically for Tampa VA.

2. Scientific and Technical Support Professionals shall document and distribute meetings discussions. Shall also provide all required professional specialty services support to ensure task completion comply with federal/state/VA codes, standards and executive orders
3. Contract working drawings and documents for planning, phased work and installation of roof systems shall be submitted for review and approval at development stages 50% and 100% prior to construction task performance for each building. If the documents do not meet all of the requirements of each submission, then the portions of the documents that are not acceptable by the VA according to the design standards and criteria must be updated by the Architectural Engineering support prior to moving on to the next scheduled submission.
4. A drawing showing detailed containment plan for infection control showing locations and what infection control requirements are to be used for each area shall be provided for each roof installation. Drawing must also depict locations for construction barriers. Construction barriers will be required for the duration of the construction to isolate patients and staff from dust, debris and construction hazards.
5. Provide electronic copies of drawings at each review step generated in the latest version of AutoCAD or its companion products (digitally signed DWGs) and PDF format in individual sheet files on CD-ROM. Include all associated support files (i.e. plot styles, external referenced files, etc.). This facility currently uses AutoCAD and Autodesk MEP 2010. The standard drawing size shall be ARCH E1 (30" x 42"). The format to be used in creating the

CAD drawings (i.e. layer / level structure, fonts, font sizing, file naming conventions, etc.) is that of the latest edition of the National CAD Standard ([www.nationalcadstandard.org](http://www.nationalcadstandard.org)).

6. Identification of drawing shall follow these level / layer formats, file - naming conventions, and symbol library. Drawings are to be drawn from the VA's "As-Built" or construction drawings updated by site verification, not scanned reproductions.
7. The final sets of the new construction drawings, including the film copies, shall be sealed (embossed & ink stamps) and signed by each respective Professional Engineer in their discipline, Industrial Hygienist, Architect and other necessary licensed professional consultants.
8. The General Contractor is solely responsible for omissions and inaccuracies on behalf of the Scientific and Technical Support Professionals and Firms used in support of this project.

D. N/A

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.

F. Prior to commencing work, general contractor shall provide proof that an OSHA certified "competent person" (CP) [(29 CFR 1926.20(b) (2)] will maintain a presence at the work site whenever the general or subcontractors are present.

G. **Training:**

1. Beginning July 31, 2005, all supervisory type personnel and employees of general contractor and subcontractors shall have the 30-hour OSHA certified Construction Safety course and other relevant competency training, as determined by VA CP with input from the ICRA team.
2. Beginning July 31, 2005, all non-supervisory type personnel and employees of general contractor and subcontractors shall have the 10-hour OSHA certified Construction Safety Course and other relevant competency training, as determined by VA CP with input from the ICRA team.
3. Submit copies of certificates and training records for all such personnel and employees that may be and/or will be on the work site(s) to the COR and Contracting Officer for approval before the start of any work on-site.

H. **Related Work:** This specification section applies to ALL Divisions (0 through 34) of work under ALL other specification sections. A partial list of Codes and Standards adopted by the Department of Veterans Affairs is attached in Appendix B.

I. **Normal Operation / Construction Hours:** Construction operations at the James A. Haley VA Hospital are 7:30 AM to 4:30 PM, Monday through Friday, with the exception of Federal Holidays. Requests to work beyond normal work hours shall be submitted in writing to the COR for approval and will include a description of work to be performed. Approval is subject to availability of the COR, type of work to be performed, and the specific hours requested. Contractors are reminded that patients are generally asleep after 10:00 PM. Approval to work beyond this time will also include an evaluation of the anticipated noise level generated by the contractor. Under no circumstances will the contractor proceed without express, written approval of the COR.

### 1.3 STATEMENT OF BID ITEM(S)

A. **ITEM I, GENERAL CONSTRUCTION:** Provide all necessary equipment, labor, materials, specialty services, supervision, and tools to complete **NRM Project No. 673-14-604 "Replace Roof Systems Campus Wide"**. Work includes replacement of approximately 185,000 SF of roofing systems for Buildings 1, 23, 30 and portions of Buildings 32, 36 and 42 at the James A. Haley Veterans Hospital.

1. Prime Service Disabled Veteran-Owned Contractor shall also be actively license or certified as a General or Building Contractor with the Florida Division of Professions Construction Industry Licensing Board. Both the Prime Service Disabled Veteran-Owned Contractor and the Roofing subcontractor, who are selected to perform on this project, shall have active Roofing licensing or certification with the Florida Division of Professions Construction Industry Licensing Board. In addition to being a certified roofer with the Florida Construction Board, the subcontractor shall also obtain the required licensing and installation approval qualifications of the roof manufacturer to ensure completed project is covered by the requested manufacturer issued warranty.
2. Works includes demolition of existing Thermo-Plastic roof, clean and haul away all debris. Prime existing concrete roof deck. Furnish and install R-30 1/4" tapered insulation system (fully adhered), 1/2" high density wood fiber (fully adhered), GAF Ruberroid-20 (modified bitumen interply), GAF Ruberoid-30 FR(modified bitumen cap sheet), maintenance walkway, roof protection pad (at all roof top equipment work areas), new manufacturer's pipe boots (rework existing roof drains) and metal base flashing (at all equipment legs), new edge metal, expansion joint and counter flashing. Remove, rework and reinstall existing coping cap, existing lightning protection

(with UL Master Label or Letter of Findings), and any other work to complete the roof system. To ensure the manufacturer's warranty is issued, all products and materials for roofing systems shall be obtained from sources authorized and recommended by the roof system manufacturer.

3. In addition to the replacement of the roofing systems new construction will include a network of pathways for maintenance traversal and installation of Siplast Paratread roof protection pads. If removed, tasks shall include reinstallation of HVAC systems and any other rooftop equipment systems. Replaced HVAC and equipment systems shall be protected from damage and shall be fully operational upon reinstallation. The Contractor shall acquire certified or registered Florida Department of Business Professional Architectural and Engineering for professional scientific and technical support services.
4. All material and debris is to be transported outside of each respective building and the method or system that will be used to accomplish this task must be described and illustrated in the design. Some work tasks will be performed outside normal hours of operations and will require adequate "night lighting" for tasks performance. As for all tasks performances, the contractor shall submit work plans for performance after normal hours for review and approval. These work plans shall also include detail information, illustration and placement of lighting to be used. **Transit of materials and debris through any buildings shall not be allowed.**
5. **As part of project scope requirement, the contractor is responsible for and shall provide an onsite "competent Person" OSHA certified safety employee at all times during task performance. This employee's**

sole responsibility and project assignment shall be to oversee job site safety. Safety employee shall not be assigned to task performance or any other project management oversight responsibilities.

6. If roof manufacturer requires an onsite field inspector during the installation and maintenance of its product, the contractor shall obtain the authorized third-party services as specified to ensure completed project is covered by the requested manufacturer issued warranty.
7. Provide Siplast manufacturer's 20-year system warranty guarantee to include insulation membranes, sheet metal and walkway. Contractor shall guarantee to provide repairs or replacement at no cost to the Government during the 20 year period. Warranty shall be a No Dollar Limit (NDL) and not a prorated warranty. All other tasks performed shall have a renewable 3-year workmanship warranty option. All work is to be completed in 730 calendar days.

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

- A. If provided, drawings and contract documents may be obtained from the website where the solicitation is posted. Additional copies will be at Contractor's expense.
- B. If provided, additional sets of drawings and specifications may be made by the Contractor, at the Contractor's expense, from electronic or reproducible hard copy prints furnished by the ISSUING OFFICE. Such media or prints shall be returned to the ISSUING OFFICE immediately after printing is completed.

#### **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.
3. The General Contractor shall furnish to the COR and Contracting Officer lists of employees that will be or may be on the construction site(s). The List shall be on Company letter head that provides all of the company contact information, shall provide the project number and title, locations of work, names of the employees, their titles, their job types, and personal contact numbers (i.e. cell phone).
4. All sub-contractors, vendors and suppliers for the project shall furnish the same listing on their individual company letter heads to the GC whom will provide the lists to the COR and Contracting Officer. These lists shall be updated as necessary during the entire duration of the project.
5. These lists may be used to provide a check list record of personnel on-site each day to be provided with the contractors Daily Log reports. These lists may be used to provide a check list record of personnel on-site each day to be provided to the VA Police Department and their Dispatch Office where normal sign in and sign out occurs.

**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. Unless authorized per the approved schedule, the General Contractor shall submit a request for approval to the Contracting Officer and COR at least 14 calendar days prior to the desired date to work outside normal hours, as described in section 1.2.I. This will allow adequate time to establish security, escort and other appropriate arrangements for the employees. This notice is separate from any notices required for utility shutdown or access closure described later in this section.
3. No photography of VA premises is allowed without written permission of the Contracting Officer. Authorized photography may never include VA patients or personnel.
4. 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:**

1. The General Contractor shall not be required to provide unarmed guards at the project site twenty-four (24) hours a day, seven (7) days a week or after construction hours.
2. Any guard provided shall have communication devices to report events as directed by VA Police.

3. The General Contractor is not required to install equipment for recording guard rounds to ensure systematic checking of the premises.
4. The General Contractor may need to provide a guard as required by the contract drawings and specifications, including specification sections for Asbestos Abatement.

**D. Key Control:**

1. The General Contractor shall provide duplicate keys and lock combinations to the COR and Contracting Officer for the purpose of security inspections of every area of project including tool boxes and parked machines and take any emergency action.
2. The General Contractor shall turn over all permanent lock cylinders to the VA locksmith for permanent installation. See Section 08 71 00, DOOR HARDWARE and coordinate.
3. Contractor may be issued keys and/or keycard for construction through the COR and Contracting Officer.
4. All keys and/or keycard must be turned in at the end of Contract.
5. Any key assigned to the contractor, which is lost or stolen will result in a replacement cost of \$100.00 per key and/or keycard either lost or stolen. Any key either lost or stolen shall be reported to the

COR; it is the contractor's responsibility to inform VA Police and give a detailed report about the key loss. The contractor shall take a copy of the official police report and make payment to the Agent Cashier before any additional replacement keys are made. Final payment may be withheld and/or reduced until all keys are returned or accounted for. A copy of the Police Report and receipt of payment shall be provided to the VA COR.

**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".
7. 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. Loading Dock access shall be restricted to picking up and dropping off materials and supplies, contractors shall get written approval from COR prior to entering loading dock.
2. Vehicle authorization request shall be required for any vehicle entering the site and such request shall be submitted at least twenty-four (24) hours before the date and time of access. Access shall be

restricted to picking up and dropping off materials and supplies.

3. Separate permits shall be issued for General Contractor and its employees for parking in designated areas only.
4. Contractors are prohibited from parking in patient/visitor and employee parking areas. Parking in the Loading Dock is never permitted unless contractor has received prior written approval from COR. Parking, if available, shall be in designated locations on 6th floor of parking garage only. Violators will be ticketed.

## 1.6 FIRE SAFETY

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

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

E84-2008.....Surface Burning Characteristics of Building  
Materials

2. National Fire Protection Association (NFPA):

10-2006.....Standard for Portable Fire Extinguishers  
30-2007.....Flammable and Combustible Liquids Code  
51B-2003.....Standard for Fire Prevention During Welding,  
Cutting and Other Hot Work  
70-2007.....National Electrical Code  
241-2004.....Standard for Safeguarding Construction,  
Alteration, and Demolition Operations

3. Occupational Safety and Health Administration (OSHA):

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

4. Hospital Policy Memorandums:

HPM 138-03.....Safety and Health during Construction  
Activities

HPM 138-04.....Lockout / Tagout Program  
HPM 138-15.....Interim Life Safety Measures (ILSM)  
HPM 138-17.....Notification of Fire Alarm Shutdown  
HPM 138-23.....Utility Shutdown Procedures  
HPM 138-24.....Infection Control during Construction and  
Renovation

B. **Fire Safety Plan:** Establish and maintain a fire protection program in accordance with 29 CFR 1926. Prior to start of work, prepare a plan detailing project-specific fire safety measures, including periodic status reports, and submit to COR and Contracting Officer for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES. Prior to any worker for the contractor or subcontractors beginning work, they shall undergo a safety briefing provided by the general contractor's competent person per OSHA requirements. This briefing shall include information on the construction limits, VAMC safety guidelines, means of egress, break areas, work hours, locations of restrooms, use of VAMC equipment, etc. Documentation shall be provided to the COR and Contracting Officer that all individuals have undergone the Contractor's safety briefing.

C. **Site and Building Access:** Maintain free and unobstructed access to facility emergency services and for fire, police and other emergency response forces in accordance with NFPA 241.

D. **Temporary Facilities:** 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 6.1 m (20 feet) exposing overall length, separate by 3.0 m (10 feet).

E. **Temporary Construction Partitions:**

1. Install and maintain temporary construction partitions to provide smoke-tight separations between, construction areas, the areas that are described in phasing requirements, and adjoining areas. Construct partitions of gypsum board or

treated plywood (flame spread rating of 25 or less in accordance with ASTM E84) on both sides of fire retardant treated wood or metal steel studs. Extend the partitions through suspended ceilings to floor slab deck or roof. Seal joints and penetrations. At door openings, install Class C,  $\frac{3}{4}$  hour fire/smoke rated doors with self-closing devices.

2. Install one-hour and/or two-hour fire-rated temporary construction partitions as shown on drawings and/or as indicated in the specification sections to maintain integrity of existing exit stair enclosures, exit passageways, fire-rated enclosures of hazardous areas, horizontal exits, smoke barriers, vertical shafts and openings enclosures.

3. Close openings in smoke barriers and fire-rated construction to maintain fire ratings. Seal penetrations with listed through-penetration fire stop materials in accordance with Section 07 84 00, FIRESTOPPING.

**F. Temporary Heating and Electrical:** Install, use and maintain installations in accordance with 29 CFR 1926, NFPA 241 and NFPA 70.

**G. Means of Egress:** Do not block exiting for occupied buildings, including paths from exits to roads. Minimize disruptions and coordinate with COR and Contracting Officer.

**H. Egress Routes for Construction Workers:** Maintain free and unobstructed egress. Inspect daily. Report findings and corrective actions weekly to the COR and the Contracting Officer.

**I. Fire Extinguishers:** Provide and maintain extinguishers in construction areas and temporary storage areas in accordance with 29 CFR 1926, NFPA 241 and NFPA 10.



- J. **Flammable and Combustible Liquids:** Store, dispense and use liquids in accordance with 29 CFR 1926, NFPA 241 and NFPA 30.
- K. **Standpipes:** Install and extend standpipes up with each floor in accordance with 29 CFR 1926 and NFPA 241. Do not charge wet standpipes subject to freezing until weather protected.
- L. **Sprinklers:** Install, test and activate new automatic sprinklers prior to removing existing sprinklers.
- M. **Existing Fire Protection:** Do not impair automatic sprinklers, smoke and heat detection, and fire alarm systems, except for portions immediately under construction, and temporarily for connections. Provide fire watch for impairments more than four (4) hours in a twenty-four (24) hour period. Request interruptions in accordance with Article 1.6, OPERATIONS AND STORAGE AREAS, and coordinate with COR and Contracting Officer. All existing or temporary fire protection systems (fire alarms, sprinklers) located in construction areas shall be tested as coordinated with the medical center. Parameters for the testing and results of any tests performed shall be recorded by the medical center and copies provided to the COR and Contracting Officer.
- N. **Smoke Detectors:** Prevent accidental operation. Remove temporary covers at end of work operations each day. Coordinate with COR and Contracting Officer. Replace all smoke detection devices in the construction area with heat detection devices for the duration of the project. Prior to final project inspection, smoke detectors shall be reinstalled.
- O. **Hot Work (Burn Permit):** Perform and safeguard hot work operations in accordance with NFPA 241 and NFPA 51B. Coordinate with COR and Contracting Officer. Obtain permits from facility COR and Contracting Officer at least seventy-two (72) hours in advance. Designate contractor's responsible project-site fire prevention program manager to permit hot work. See Appendix C for the proper procedure and forms and Appendix D for the proper safety procedures for hot work.
- P. **Fire Hazard Prevention and Safety Inspections:** Inspect entire construction areas daily. Coordinate with, and report findings and

corrective actions daily to COR and Contracting Officer. See HPM 138-03.

- Q. **Smoking:** Smoking is prohibited in and adjacent to construction areas inside and outside of existing buildings and additions under construction. In separate and detached buildings under construction, smoking is prohibited, except in designated smoking rest areas.
- R. **Waste:** Remove from buildings and site daily. All waste and debris shall not be removed between the hours of 8 AM and 3:30 PM. Any removal of waste/debris between 8 AM and 3:30 PM must be approved by COR prior administration. Dispose of waste and debris in accordance with NFPA 241. Remove from buildings and site daily.
- S. **Construction Operations:** Perform other construction, alteration and demolition operations in accordance with 29 CFR 1926.
- T. **Impaired Areas:** If required, submit documentation to the COR and Contracting Officer that personnel have been trained in the fire safety aspects of working in areas with impaired structural or compartmentalization features.
- U. **Forms:** Forms for certain Fire Safety items are attached to this specification section.

## 1.7 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 COR 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 COR, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the COR. 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. If available, working space and space available for storing materials shall be as determined by the COR and Contracting Officer. The Contractor shall keep ALL work areas, storage areas, staging areas, and access areas and routes clean and neat. The Contractor shall provide sufficient trash containers so there is no debris lying around. The containers shall be emptied at least daily and trash disposed of by the contractor. See section 1.6.R for disposal hours.
- E. If available contractor will be allotted one dumpster space, regardless of the magnitude or number of projects on site. If no space is available on-site contractor is responsible for hauling/dumping waste outside of VA premises.
- F. Workmen are subject to rules of the Medical Center applicable to their conduct. See section 1.5.F.4 above for parking information.
- G. Execute work in such a manner as to interfere as little as possible with work being done by others. Keep roads clear of construction materials, debris, standing construction equipment and vehicles at all times.
- H. Execute work so as to interfere as little as possible with normal functioning of the Medical Center as a whole, including operations of

utility services, fire protection systems and any existing equipment, and with work being done by others. Use of equipment and tools that transmit vibrations and noises through the building structure, are not permitted in buildings that are occupied, during construction, jointly by patients or medical personnel, and Contractor's personnel, except as permitted by COR and Contracting Officer where required by limited working space.

1. Do not store materials and equipment in other than assigned areas, if any.
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 (2) work days. Provide unobstructed access to the Medical Center areas required to remain in operation.
3. Where access by the 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.

I. Utilities Services: Where necessary to cut existing pipes, electrical wires, conduits, cables, etc., of utility services, or of fire protection systems or communications systems (except telephone), they shall be cut and capped at suitable places where shown; or, in absence of such indication, where directed by COR and Contracting Officer. All such actions shall be coordinated with the Utility Company involved:

1. 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.

J. Phasing: To insure such executions, Contractor shall furnish the COR and Contracting Officer with a schedule of approximate phasing 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 and Contracting Officer twenty-one (21) calendar days in advance of the proposed date of starting work in each specific area of site, building or portion thereof. Arrange such phasing dates to insure accomplishment of this work in successive phases mutually agreeable to the Medical Center Director, COR and Contracting Officer and Contractor.

1. The contractor is to submit the phasing schedule in writing to the Contracting Officer for review and approval no later than twenty-one (21) calendar days after issuance of the Notice to Proceed. This includes utility outages and access closures.
2. All work, such as corridor work, which is outside the main construction area, shall be done on evenings or weekends, so as not to disrupt the normal operations.
3. The contractor shall have all submittals completed and turned in to the Government for review by the A/E firm no later than thirty (30) calendar days from the date of the signed Notice to Proceed. The government will return submittals within twenty-one (21) calendar days from acceptance from the contractor. **NO WORK SHALL BE STARTED UNTIL ALL RELATED SUBMITTALS ARE APPROVED.** All materials shall be approved by the Government prior to delivery to the job site and start of work.
4. All renovation activities will take place at a busy Medical Center. The contractor shall not interfere with existing, on-going functions, or normal activity of the hospital.

5. No work shall start until the preconstruction survey and inspection is completed.
6. The Contractor shall provide a detailed asbestos abatement schedule, if required by the project scope.
7. Any utility service, parking lot, roadway, loading dock, and/or Grounds interruptions requests shall be submitted in writing twenty-one (21) calendar days in advance of the planned utility interruption/access closure. For approval and coordination, see HPM 138-23 Appendix C.
8. Set up phasing by buildings, wings, floors, or areas in accordance with information received from the Medical Center through the COR and the Contracting Officer.

K. **Vacated Buildings:** Building(s) will be vacated by Government in accordance with above phasing beginning immediately after date of receipt of Notice to Proceed and turned over to Contractor.

L. **Occupied Buildings:** Building(s) will be occupied during performance of work, but immediate areas of alterations will be vacated.

1. Certain areas of Building(s) will be occupied by Medical Center personnel for various periods. 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. Coordinate alteration work in areas occupied by Department of Veterans Affairs so that Medical Center operations will continue during the construction period.

2. Immediate areas of alterations not mentioned in preceding Subparagraph 1 will be temporarily vacated while alterations are performed.

**M. Buildings and Systems:** When a building is turned over to Contractor, the Contractor shall accept entire responsibility. Therefore:

1. Contractor shall maintain a minimum temperature of 62 Degrees Fahrenheit at all times, except as otherwise specified.
2. Contractor shall maintain in operating condition existing fire protection and alarm equipment. In connection with fire alarm equipment, Contractor shall make arrangements for pre-inspection of site with Fire Department or Company (Department of Veterans Affairs or municipal) whichever will be required to respond to an alarm from Contractor's employee or watchman.

**N. Existing Utilities Services:** Maintain existing utility services for the 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 a main branch or suitable places where shown; or, in absence of such indication, where directed by the COR and Contracting Officer.

1. No utility service such as water, gas, steam, sewers or electricity, or fire protection systems and communications systems may be interrupted without prior written approval of the COR and Contracting

Officer. Electrical work shall be accomplished with all affected circuits or equipment de-energized. When an electrical outage cannot be accomplished, work on any energized circuits or equipment shall not commence without the Medical Center Director's prior knowledge and written approval. Refer to specification Sections 26 05 11, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS, 27 05 11 REQUIREMENTS FOR COMMUNICATIONS INSTALLATIONS, and 28 05 11, REQUIREMENTS FOR ELECTRONIC SAFETY AND SECURITY INSTALLATIONS for additional requirements. The attached Live Electrical Work notification form must be used. See Appendix C for the proper procedure and forms and Appendix D for the proper safety procedures to be followed.

2. Contractor shall submit a request to interrupt any such services to the COR and Contracting Officer, in writing, twenty-one (21) calendar days in advance of proposed interruption. Request shall state reason, date, exact time of, and approximate duration of such interruption. See Appendix C for the proper procedure and forms and Appendix D for the proper safety procedures to be followed.
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 the 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 twenty-one (21) calendar days prior to the desired time and shall be performed as directed by the COR and Contracting Officer.



5. In case of a contract construction emergency, service will be interrupted on approval of the COR and Contracting Officer. Such approval will be confirmed in writing as soon as practical. On the next business day, the contractor's Daily Log report shall explain the circumstances causing the emergency and the corrective actions taken.
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.

O. **Abandoned Lines:** N/A

P. **Roads, Parking Lots, Docks and Grounds:** 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. Wherever excavation for new utility lines cross existing roads, at least one lane must be open to traffic at all times.
2. Method and scheduling of required cutting, altering and removal of existing roads, parking lots, walks and entrances must be approved by the COR and Contracting Officer.
3. Interruptions of these areas must be requested, in writing, at least **twenty-one (21) calendar days** prior to the desired time and shall be performed as directed by the COR and Contracting Officer.

4. Interruptions will follow the same procedures as outlined in Article 1.6.N.2, Existing Utility Services.

**Q. Coordination of Work:** Coordinate the work for this contract with other construction operations as directed by the COR and Contracting Officer. This includes the scheduling of traffic and the use of roadways, as specified in Article 1.16, USE OF ROADWAYS, PARKING LOTS, AND GROUNDS.

**R. Coordination of Construction with Medical Center Director:** The activities at a Medical Center shall take precedence over construction activities. The Contractor must cooperate and coordinate with the Medical Center, through the COR in arranging construction schedule to cause the least possible interference with facility activities on the campus. All communication between the contractor and the medical center personnel must be done through the COR. Contractors are not to disturb Medical Center Personnel during hours of operation. Construction noise during the events or services shall not disturb the events or service. Trucks and workmen shall not pass through the event or service area during this period:

1. The Contractor is required to discontinue all work sufficiently in advance of Easter Sunday, Mother's Day, Father's Day, Memorial Day, Veteran's Day and/or Federal holidays, to permit him to clean up all areas of operation adjacent to existing event or service areas before these dates.

1. The Medical Center observes the following **Federal Holidays**: New Year's Day, Labor Day, Martin Luther King Jr. Day, Columbus Day, Presidents Day, Veterans Day, Memorial Day, Thanksgiving, Independence Day, and Christmas Day.
2. Clean-up shall include the removal of all equipment, tools, materials and debris and leaving the areas in a clean, neat condition.

**T. Sign-In / Sign-Out Procedures:**

1. All contractor employees are required to sign in and out at VA Police dispatch located in Building #1, First floor, A-Wing, Room 1A-147, near the Emergency Room Entrance, unless otherwise directed by the COR.
2. A valid state driver's license or state identification card is mandatory for all employees to have access to this facility. All employees are required to wear the assigned VA badges at all times.
3. If after-hour key service is needed, contact the Hospital Police Dispatch Office at extension 7554. All after hours work shall be coordinated through the COR in writing 14 calendar days prior to approval.

**T. Reports:**

1. **Daily Logs:** In conjunction with the contractor's daily report, Contractor shall furnish a daily report for each day from the date of Notice to Proceed until Final Acceptance, including those days that no work is performed. The report shall have attached there to a copy of inspections conducted by the VA, a list of all employees on site that day, however, this does not relieve the Contractor of the responsibility to conduct and report inspections. Daily reports shall be submitted on Form VAF 10-6131, "Daily Log" to the COR by 9:00 AM the following duty day.
2. **Payrolls:** The Contractor shall submit two (2) copies of certified payrolls required by VAAR 852.236-85 - Supplementary Labor Standard Provision. Certified payrolls shall be submitted to the

Contracting Officer no later than Wednesday for the previous week.

3. **Payment Requests:** Monthly payment requests from the contractor will not be processed unless all paperwork is current, including daily reports, asbestos reports, updated process schedules and certified payrolls for the prime and all subs.
4. **Requests for Information and/or Clarification:** All RFI's and RFC's shall be submitted to the COR to ensure timely response. The Government will answer RFI's and RFC's within twenty-one (21) calendar days from acceptance from the contractor.
5. **Submittal Log:** The contractor shall utilize the specifications and drawings to prepare and provide a submittal log. The Submittal Log shall list all submittals by specification section, paragraph and drawing numbers from the beginning to the end of the documents. The Submittal Log shall be provided to the COR and Contracting Officer within ten (10) calendar days after receipt of Notice To Proceed. The Government may require additional submittals at its discretion at no additional cost. All submittals shall be approved, by the Review Authorities prior to beginning related work.

**U. Material Safety Data Sheets (MSDS's):** Contractor shall provide three (3) **GREEN** Loose-leaf binders, permanently labeled "MSDS for Project - Replace Roof on Building 32" with copies of each Material Safety Data Sheets for each and every product, chemical, and other required materials to be used on this project.

- a. All instructions for use shall be compiled with.
- b. Products will not be used until MSDS's are submitted to the COR. These shall be provided for any material no later than the day before those materials arrive on VA property.
- c. The contractor shall maintain a current binder on the job site at all times, readily available for viewing by the COR, Contracting Officer, or Safety Officer.
- d. At no time shall the Contractor have, or permit the sub-contractors to have, materials on VA property/station without MSDS.

V. **Fire Retardant Materials:** All materials used on this project, including temporary barriers, plywood, poly, and other required materials shall be fire retardant. All poly shall be 6 mil. minimum. The semi-permanent construction barriers shall be smoke tight.

W. **Smoke Free Facility:** The James A. Haley VA Hospital is a **SMOKE FREE** facility. There is **NO SMOKING** allowed in any interior or exterior spaces, including all Mechanical Spaces and roofs. Smoking is only permitted in designated exterior smoking areas.

## 1.8 ALTERATIONS

A. **Survey:** Before any work is started, the Contractor shall make a thorough survey with the COR and Contracting Officer of buildings, grounds, areas of buildings and grounds in which alterations occur, and areas which are anticipated routes of access. The contractor shall furnish a report, signed by all three, which lists any deficiencies noted at that time. This report shall be approved by the VA prior to the start of any work. The inspection shall include a list by rooms and spaces:

1. Existing condition and types of resilient flooring, doors, windows, walls and other surfaces not required to be altered throughout affected areas of building(s) and grounds.
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(s).
4. If available, 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, COR and Contracting Officer.

B. **Relocated Items:** Any items required by drawings to be either reused or relocated or both, found during this survey to be nonexistent, or in opinion of the COR and Contracting Officer, 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:** Thirty (30) calendar days before expected partial or final inspection date, the Contractor, COR and Contracting Officer 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:

D. 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.

E. **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 roofs, 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.
4. Once the contractor is notified by the VA of problems or damage to VA property, the contractor shall take immediate corrective action to protect and restore said property. During normal duty hours, corrective action shall be initiated within two (2) hours. After normal duty hours, corrective action shall be initiated within four (4) hours. The Daily Log for that day shall explain the problem(s) and corrective action(s) taken.

5. Dampen debris to keep down dust and provide temporary construction, dust-proof, asbestos containment, smoke rated, and/or fire rated barriers where specified, where indicated on the drawings, and as directed by the COR. Access doors in barriers shall be hinged and secured with VA provided locks if available ; if VA locks are not available contractor is to provide locks as well as extra keys (3) to the VA. Walk-off mats shall be provided at all access doors.
6. Block off all ducts and diffusers to prevent circulation of dust into occupied areas during construction. Provide Negative Air Machines as specified, to maintain negative pressure within the construction area(s).
7. The contractor **shall not** allow trash and debris to accumulate on the job site. As a minimum, trash and debris shall be removed once daily, with no flammable materials or trash left on the construction site overnight. All debris shall be removed from the job site in a closed container and disposed of in a proper manner.

## 1.9 INFECTION PREVENTION MEASURES

- A. Contractor's shall review Hospital Policy Memorandum (HPM) No. 138-24 "Infection Control During Construction and Renovation" dated November 1, 2008 and comply as outlined in this policy. Certain portions of the work will be confined to evenings, and/or weekends, as identified on the drawings or in the specification sections. This HPM and others, either current or when updated, work in conjunction with this article. A Pre-Construction Risk Assessment will be completed during the design process in order to determine the infection control level as described under HPM 138-24.
- B. Implement the requirements of VAMC's Infection Control Risk Assessment (ICRA) team. ICRA Group may monitor dust in the vicinity of the



construction work and require the Contractor to take corrective action immediately if the safe levels are exceeded.

- C. Establish and maintain a dust control program as part of the contractor's infection preventive measures in accordance with the guidelines provided by ICRA Group and as specified here. Prior to start of work, prepare a plan detailing project-specific dust protection measures, including periodic status reports, and submit to the COR and Contracting Officer and Facility ICRA team for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.

1. All personnel involved in the construction or renovation activity shall be educated and trained in infection prevention measures established by the Medical Center.

- C. Medical Center Infection Control personnel shall monitor for airborne disease (e.g. aspergillosis) as appropriate during construction. A baseline of conditions may be established by the Medical Center prior to the start of work and periodically during the construction stage to determine impact of construction activities on indoor air quality. In addition:

1. The COR, Contracting Officer and VAMC Infection Control personnel shall review pressure differential monitoring documentation to verify that pressure differentials in the construction zone and in the patient-care rooms are appropriate for their settings. The requirement for negative air pressure in the construction zone shall depend on the location and type of activity. Upon notification, the contractor shall implement corrective measures to restore proper pressure differentials as needed.

2. In case of any problem, the medical center, along with assistance from the contractor, shall conduct an environmental assessment to find and eliminate the source.

D. In general, following preventive measures shall be adopted during construction to keep down dust and prevent mold.

1. Dampen debris to keep down dust and provide temporary construction partitions in existing structures where directed by COR and Contracting Officer. Blank off ducts and diffusers to prevent circulation of dust into occupied areas during construction.
2. Do not perform dust producing tasks within occupied areas without the approval of the COR and Contracting Officer. For construction in any areas that will remain jointly occupied by the Medical Center and Contractor's workers, the Contractor shall:
  - a. Provide dust proof, smoke tight, one-hour and/or two-hour fire-rated temporary drywall construction barriers, as required, to completely separate construction from the operational areas of the hospital in order to contain dirt debris and dust. Barriers shall be sealed and made presentable on hospital occupied side. Install a self-closing rated door in a metal frame, commensurate with the partition, to allow worker access. Maintain negative air at all times. A fire retardant polystyrene, 6-mil thick or greater plastic barrier meeting local fire codes may be used where dust control is the only hazard, and an agreement is reached with the COR, Contracting Officer and Medical Center.

- b. HEPA filtration shall be used where the exhaust dust may reenter the breathing zone. Contractor shall verify that construction exhaust to exterior is not reintroduced to the medical center through intake vents, or building openings. Install HEPA (High Efficiency Particulate Accumulator) filter vacuum system rated at 98% capture of 0.3 microns including pollen, mold spores and dust particles. Insure continuous negative air pressures occurring within the work area. HEPA filters shall have ASHRAE 85 or other pre-filter to extend the useful life of the HEPA. Provide both primary and secondary filtrations units. Exhaust hoses shall be heavy duty, flexible steel reinforced and exhausted so that dust is not reintroduced to the medical center.
- c. Adhesive Walk-off/Carpet Walk-off Mats, minimum 610mm x 914mm (24" x 36"), shall be used at all interior transitions from the construction area to occupied medical center area. These mats shall be changed as often as required to maintain clean work areas directly outside construction area at all times.
- d. Vacuum and wet mop all transition areas from construction to the occupied medical center at the end of each workday. Vacuum shall utilize HEPA filtration. Maintain surrounding area frequently. Remove debris as they are created. Transport these outside the construction area in containers with tightly fitting lids.

- e. The contractor shall not haul debris through patient-care areas without prior approval of the COR, Contracting Officer and the Medical Center. When, approved, debris shall be hauled in enclosed dust proof containers or wrapped in plastic and sealed with duct tape. No sharp objects should be allowed to cut through the plastic. Wipe down the exterior of the containers with a damp rag to remove dust. All equipment, tools, material, etc. transported through occupied areas shall be made free from dust and moisture by vacuuming and wipe down.
- f. Using a HEPA vacuum, clean inside the barrier and vacuum ceiling tile prior to replacement. Any ceiling access panels opened for investigation beyond sealed areas shall be sealed immediately when unattended.
- g. There shall be no standing water during construction. This includes water in equipment drip pans and open containers within the construction areas. All accidental spills must be cleaned up and dried within twelve (12) hours. Remove and dispose of porous materials that remain damp for more than seventy-two (72) hours.
- h. At completion, remove construction barriers and ceiling protection carefully, outside of normal work hours. Vacuum and clean all surfaces free of dust after the removal.

**F. Final Cleanup:**

- 1. Upon completion of project, or as work progresses, remove all construction debris from above ceiling,

vertical shafts and utility chases that have been part of the construction.

2. Perform HEPA vacuum cleaning of all surfaces in the construction area. This includes walls, ceilings, cabinets, furniture (built-in or free standing), partitions, flooring, etc.
3. All new air ducts shall be cleaned prior to final inspection.

#### **1.10 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 and/or in accordance with Section 01 74 19, CONSTRUCTION WASTE MANAGEMENT:

1. Reserved items which are to remain property of the Government are identified by attached tags or noted on drawings and/or in specifications as items to be stored. The COR and Contracting Officer may also designate items to remain the property of the Government. Items that remain property of the Government shall be removed or dislodged from present locations in such a manner as to prevent damage which would be detrimental to re-installation and reuse. Store such items where directed by COR.
2. Items not reserved shall become property of the Contractor and be removed by Contractor from the Medical Center, or taken to the Engineering Shop area by the contractor on a case-by-case basis as directed by the COR.
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.

4. During above ceiling work, the contractor will have to clear rooms, protect VA property and finishes, and move furnishings as necessary to protect the area and items from dust and debris, in the performance of the work above the ceiling.

5. **PCB Transformers, PCB Capacitors and Other Hazardous Waste:** The Contractor shall be responsible for disposal of the Polychlorinated Biphenyl (PCB) transformers and capacitors and other Hazardous Waste. The transformers and capacitors and other Hazardous Waste shall be taken out of service and handled in accordance with the procedures of the Environmental Protection Agency (EPA) and the Department of Transportation (DOT) as outlined in Code of Federal Regulation (CFR), Titled 40 and 49 respectively. The EPA's Toxic Substance Control Act (TSCA) Compliance Program Policy Nos. 6-PCB-6 and 6-PCB-7 also apply. Upon removal of PCB transformers and capacitors and other Hazardous Waste for disposal, the "originator" copy of the Uniform Hazardous Waste Manifest (EPA Form 8700-22), along with the Uniform Hazardous Waste Manifest Continuation Sheet (EPA Form 8700-22A) shall be returned to the COR who will annotate the contract file and transmit the Manifest to the Medical Center's COR and Contracting Officer.

- a. Copies of the following listed CFR titles may be obtained from the Government Printing Office:

40 CFR 261.....Identification and Listing of Hazardous Waste

40 CFR 262.....Standards Applicable to Generators of Hazardous Waste

40 CFR 263.....Standards Applicable to Transporters of Hazardous Waste

40 CFR 761.....PCB Manufacturing, Processing, Distribution in Commerce, and use Prohibitions

49 CFR 172.....	Hazardous Material tables and Hazardous Material Communications Regulations
49 CFR 173.....	Shippers - General Requirements for Shipments and Packaging
49 CFR 173.....	Subpart A General
49 CFR 173.....	Subpart B Preparation of Hazardous Material for Transportation
49 CFR 173.....	Subpart J Other Regulated Material; Definitions and Preparation
TSCA.....	Compliance Program Policy Nos. 6-PCB-6 and 6-PCB-7

### **1.11 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 sites, which 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 COR. The contractor shall replace, at their own expense, items damaged to the satisfaction of the COR and 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.

- C. Contractor shall take all measures and provide all materials necessary for protecting and preserving existing equipment and property in affected areas of construction against dust, debris and physical damage, so that equipment and affected areas to be used in Medical Center operations will not be hindered. Contractor shall permit access to VA personnel through construction areas as required for maintenance and normal Medical Center operations.
- D. When the construction area is turned over to Contractor, Contractor shall accept entire responsibility there-of. Contractor shall maintain in operating condition, existing fire protection, exit light circuits, alarm equipment, and other operational originating in, or passing through the construction area. **IT IS VERY IMPORTANT ESSENTIAL AND LIFE SAFETY SYSTEMS BE CONTINUOUSLY MAINTAINED AND NOT INTERRUPTED WITHOUT TWENTY-ONE (21) CALENDAR DAYS PRIOR WRITTEN NOTICE TO THE MEDICAL CENTER.**
- E. Items of equipment and furnishings located in rooms in which work is to be done under this contract shall remain the property of the Government. During the alteration period when rooms and space are vacated by Veterans' Affairs, such items which are not required by drawings and specifications to be either relocated or reused, will be removed or protected by the Contractor as directed by the COR.
- F. Refer to Section 01 57 19, TEMPORARY ENVIRONMENTAL CONTROLS, for additional requirements on protecting vegetation, soils and the environment. Refer to Article 1.7, "Alterations", Article 1.11, "Restoration", and Article 1.6, "Operations and Storage Areas" for additional instructions concerning repair of damage to structures and site improvements.
- G. Refer to FAR clause 52.236-7, "Permits and Responsibilities." A National Pollutant Discharge Elimination System (NPDES) permit is required for projects when the disturbed area on the site one acre or more. The Contractor is considered an "operator" under the permit and has extensive responsibility for compliance with permit requirements. VA will make the permit application available at the (appropriate



medical center) office. The contractor and affected subcontractors shall furnish all information and certifications that are required to comply with the permit process and permit requirements. Many of the permit requirements will be satisfied by completing construction as shown and specified. Some requirements involve the Contractor's method of operations and operations planning and the Contractor is responsible for employing best management practices. The affected activities often include, but are not limited to the following:

1. Designating areas for equipment maintenance and repair.
2. Providing waste receptacles at convenient locations and provide regular collection of wastes.
3. Locating equipment wash down areas on site, and provide appropriate control of wash-waters.
4. Providing protected storage areas for chemicals, paints, solvents, fertilizers, and other potentially toxic materials.
5. Providing adequately maintained sanitary facilities.

## 1.12 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 and Contracting Officer. Existing work to be altered or extended and that is found to be defective in any way, shall be reported to the COR and Contracting Officer before it is disturbed. Materials and workmanship used in restoring work, shall conform in type and quality to that of original existing construction, except as otherwise shown or specified.
- B. Upon completion of contract, deliver work complete and undamaged. Existing work (walls, ceilings, partitions, floors, mechanical and electrical work,

lawns, paving, roads, walks, etc.) disturbed or removed as a result of performing required new work, shall be patched, repaired, reinstalled, or replaced with new work, and refinished and left in as good condition as existed before commencing work.

- C. At Contractor's own expense, Contractor shall immediately restore to service and repair any damage caused by Contractor's workmen to existing piping and conduits, wires, cables, etc., of utility services or of fire protection systems and communications systems (including telephone) which are indicated on drawings and which are not scheduled for discontinuance or abandonment.
- D. 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).

### **1.13 PHYSICAL DATA**

- A. Data and information furnished or referred to below, in the contract specification sections, on the contract drawings, and/or in other VA furnished documentation is for the Contractor's information. The Government shall not be responsible for any interpretation of or conclusion drawn from the data or information by the Contractor. The contractor shall be responsible for conducting a thorough site investigation, before bidding, to satisfy themselves as to actual conditions.
- B. Government does not guarantee that other materials will not be encountered nor that proportions, conditions or character of several materials will not vary from those indicated by explorations and investigations. Bidders are expected to examine site of work; and, after investigation, decide for themselves character of materials and make their bids accordingly. Upon proper application to Department of Veterans Affairs, bidders will be permitted to make explorations or site investigations of their own at the work sites.

#### **1.14 PROFESSIONAL SURVEYING SERVICES**

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

#### **1.15 LAYOUT OF WORK**

- A. The Contractor shall lay out the work from Government established base lines and bench marks, indicated on the drawings, and shall be responsible for all measurements in connection with the layout. The Contractor shall furnish, at Contractor's own expense, all stakes, templates, platforms, equipment, tools, materials, and labor required to lay out any part of the work. The Contractor shall be responsible for executing the work to the lines and grades that may be established or indicated by the COR and Contracting Officer. The Contractor shall also be responsible for maintaining and preserving all stakes and other established marks, until authorized to remove them by the COR and Contracting Officer. If such marks are destroyed by the Contractor or through Contractor's negligence before their removal is authorized, the Contracting Officer may replace them and deduct the expense of the replacement from any amounts due or to become due to the Contractor.
- B. Establish and plainly mark center lines for each building and/or addition to each existing building, and such other lines and grades that are reasonably necessary to properly assure that location, orientation, and elevations established for each such structure and/or addition, are in accordance with lines and elevations shown on contract drawings.
- C. Following completion of general demolition and before any other permanent work is performed, establish and plainly mark, through use of appropriate other means, sufficient additional survey control points or system of points as may be necessary to assure proper alignment, orientation, and elevations of all major features of work. Survey shall include, but not be limited to, location of exterior walls, center

lines of columns in directions, major utilities and elevations of floor slabs:

1. Such additional survey control points or system of points thus established shall be checked and certified by a registered civil engineer. Furnish such certification to the VA COR and Contracting Officer before any work (such as footings, floor slabs, columns, walls, utilities and other major controlling features) is placed.
- D. The Contractor shall perform the surveying and layout work of this and other articles and specifications in accordance with the provisions of Article 1.13, "Professional Surveying Services".

#### **1.16 AS-BUILT DRAWINGS**

- A. The contractor shall maintain two (2) full size sets of as-built (working) 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. Additional sketches will be required where original detail is changed, site conditions differ, and where required to clarify mark-ups. To insure compliance, as-built drawings shall be made available for the COR and Contracting Officer's review, as often as requested.
- C. Contractor shall deliver two (2) approved completed sets of as-built drawings to the COR and Contracting Officer within **fifteen (15) calendar days** after each completed phase of the project by the COR and Contracting Officer.
- D. Upon completion of the project and before final settlement, Contractor shall deliver two (2) approved completed detailed sets of as-built drawings to the COR and Contracting Officer within **fifteen (15) calendar days**. These drawings shall be in the latest edition of AutoCAD, unless otherwise approved by the COR and Contracting Officer; the Medical Center currently utilizes AutoCAD Building Systems 2008.

These drawings shall show sizes, materials, connections to existing structures, utilities, building service equipment, circuits, electrical conduit and junction box locations and routes, and other required information.

- E. Paragraphs A, B, C & D shall also apply to ALL shop drawings and Installation drawings provided by equipment suppliers and vendors.
- E. Charts, Graphs and Other Information: Provide four (4) copies of all valve locations for plumbing, mechanical & medical gas valve locations. One chart shall be mounted in the mechanical room location as directed by the COR. Chart shall be plastic laminate or in suitable picture frame.

#### **1.17 USE OF ROADWAYS, PARKING LOTS AND GROUNDS**

- A. For hauling, use only established public roads. For hauling, use Roads, Parking Lots and Grounds, and such temporary roads which are necessary in the performance of contract work on Medical Center property, when authorized by the COR and Contracting Officer. Temporary roads shall be constructed by the Contractor at Contractor's expense. When necessary to cross curbing, sidewalks, or similar construction, they must be protected by well-constructed bridges.
- B. When new permanent roads are to be a part of this contract, Contractor may construct them immediately for use to facilitate building operations. These roads may be used by all who have business thereon within zone of building operations.
- C. When certain buildings (or parts of certain buildings) are required to be completed in advance of general date of completion, all roads leading thereto must be completed and available for use at time set for completion of such buildings or parts thereof.
- D. To minimize interference of construction activities with the flow of Medical Center Traffic and Parking, comply with the following:
  - 1. Keep roads, walks and entrances to grounds, parking, and occupied areas of buildings, clear of all

construction materials, debris, vehicles, and standing equipment.

2. The Warehouse Supervisor shall approve all loading and unloading, and material movements at the north docks.
3. There are NOT any Contractor designated general parking areas.
4. Methods and scheduling for the cutting, altering, removal and/or blockage of existing roads, walks, entrances, parking lots and grounds must be approved by the COR and Contracting Officer prior to any work.
5. The Contractor shall submit a request to interrupt any roadway, parking lot, or loading dock to the Contracting Officer, in writing, twenty-one (21) calendar days in advance of any proposed interruption. The request shall state the reason, areas to be affected, date, exact time of, and approximate duration of such interruption.

#### **1.18 COR AND CONTRACTING OFFICER FIELD OFFICES**

- A. The Contracting Officer's field office is physically located five miles east of the Main Campus / Facility in Building #42. The physical address of the Contracting Section (ASAO 8) is Suite 525, located at 8875 Hidden River Parkway, Tampa, FL 33637-1035. Visitation to this office during the procurement of Project #673-14-604, "Replace Roof Systems Campus Wide" is restricted to the submission of proposals.
- B. The COR's field office is physically located north of the Main Campus / Facility in Building #42. The physical address of the Facilities Management Services (FMS), Project Section (138P) is Suite 202, located at 2702 East 131 Avenue, Tampa, FL 33612. Visitation to this office during the procurement of Project #673-14-604, "Replace Roof Systems Campus Wide" is prohibited. Interested parties shall not contact the project COR for this requirement.

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

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

1. Permission to use each unit or system must be given in writing by the COR and Contracting Officer. If the equipment is not installed and maintained in accordance with the following provisions, the COR and Contracting Officer will withdraw permission for use of the equipment.
2. Electrical installations used by the equipment shall be completed in accordance with the drawings and specifications to prevent damage to the equipment and the electrical systems, i.e. transformers, relays, circuit breakers, fuses, conductors, motor controllers and their overload elements shall be properly sized, coordinated and adjusted. Voltage supplied to each item of equipment shall be verified to be correct and it shall be determined that motors are not overloaded. The electrical equipment shall be thoroughly cleaned before using it and again immediately before final inspection including vacuum cleaning and wiping clean interior and exterior surfaces.
3. Units shall be properly lubricated, balanced, and aligned. Vibrations must be eliminated.
4. Automatic temperature control systems for preheat coils shall function properly and all safety controls shall function to prevent coil freeze-up damage. ALL controls for the equipment shall be functioning properly to prevent damage to the equipment.
5. The air filtering system utilized shall be that which is designed for the system when complete, and all

filter elements shall be replaced periodically during construction and at completion of construction and prior to testing and balancing of system.

6. All components of equipment and distribution systems and other auxiliary facilities used in temporary service shall be cleaned prior to use; maintained to prevent corrosion internally and externally during use; and cleaned, maintained and inspected prior to acceptance by the Government. Equipment and distribution systems must be operated as a complete system and be fully maintained by operating personnel.

B. Prior to final inspection, the equipment or parts used, which show wear and tear beyond normal, shall be replaced with identical replacements at no additional cost to the Government.

C. This paragraph shall not reduce the requirements of the mechanical and electrical specifications sections.

## **1.20 TEMPORARY USE OF EXISTING ELEVATORS**

A. Contractor will not be allowed the use of existing Medical Center elevators for handling building materials and equipment and personnel, unless approved in writing by the COR and Contracting Officer. Outside type hoist, crane, and/or elevator shall be used by Contractor for transporting materials and equipment and personnel.

B. Use of existing Medical Center elevators for handling building materials, equipment and Contractor's personnel will be permitted subject to following provisions:

1. Contractor makes all arrangements with the COR and Contracting Officer for use of elevators. The COR and Contracting Officer will ascertain that elevators are in proper condition. The Contractor may, if approved by the COR and the Contracting Officer, have exclusive use or daily use of the designated



elevator(s), except for Facilities Maintenance & Operations. Personnel for operating elevators will not be provided by the Department of Veterans Affairs.

2. Contractor covers and provides maximum protection of following elevator components:
  - a. Entrance jambs, heads soffits and threshold plates.
  - b. Entrance columns, canopy, return panels and inside surfaces of car enclosure walls.
  - c. Finish flooring.
  - d. All other components.
3. When under exclusive use: Government will accept hoisting ropes of elevator and rope of each speed governor (or appropriate elevator lifting mechanisms) if they are worn under normal operation. However, if these ropes (or appropriate elevator lifting mechanisms) are damaged by action of foreign matter such as sand, lime, grit, stones, etc., during temporary use, they shall be removed and replaced by new hoisting ropes (or appropriate elevator lifting mechanisms).
4. When under exclusive use: If brake lining (or appropriate elevator braking mechanisms) of elevators are excessively worn or damaged during temporary use, they shall be removed and replaced by new brake lining (or appropriate elevator braking mechanisms).
5. When under exclusive use: All parts of main controller, starter, relay panel, selector, etc., worn or damaged during temporary use shall be removed and replaced with new parts, if recommended by elevator inspector after elevator is released by Contractor.

6. Place elevator in condition equal, less normal wear, to that existing at time it was placed in service of Contractor as approved by Contracting Officer.

#### **1.21 TEMPORARY TOILETS**

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

#### **1.22 AVAILABILITY AND USE OF UTILITY SERVICES**

- A. The Government shall make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the contract. The amount to be paid by the Contractor for chargeable utility services shall be the prevailing rates charged to the Government. The Contractor shall carefully conserve any utilities furnished without charge.
- B. **Temporary Utilities:** The Contractor, at Contractor's expense and in a workmanlike manner satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines, and all meters required to measure the amount of electricity used for the purpose of determining charges. Before final acceptance of the work and unless otherwise directed by the Government, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated paraphernalia.

D. **Meters:** Contractor shall install meters at Contractor's expense and furnish the Medical Center a monthly record of the Contractor's usage of electricity and other utilities as hereinafter specified.

D. **Heat:** Furnish temporary heat necessary to prevent injury to work and materials through dampness and cold. Use of open salamanders or any temporary heating devices which may be fire hazards or may smoke and damage finished work, will not be permitted. Maintain minimum temperatures as specified for various materials:

1. Obtain heat by connecting to the Medical Center heating distribution system.

- a. Steam is available at no cost to Contractor. The Contractor may connect to existing systems at their own expense.

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

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

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

1. Obtain water by connecting to the Medical Center water distribution system. Provide reduced pressure backflow preventer at each connection. Water is available at no cost to the Contractor.

2. Maintain connections, pipe, fittings and fixtures and conserve water-use so none is wasted. Failure to stop leakage or other wastes will be cause for revocation (at the COR and Contracting Officer discretion) of use of water from the Medical Center's system.

G. **Steam:** Furnish steam system for testing required in various sections of specifications.

1. Obtain steam for testing by connecting to the Medical Center steam distribution system. Steam is available at no cost to the Contractor.
2. Maintain connections, pipe, fittings and fixtures and conserve steam-use so none is wasted. Failure to stop leakage or other waste will be cause for revocation (at the COR and Contracting Officer discretion), of use of steam from the Medical Center's system.

H. **Fuel:** Natural gas, LP gas and/or 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 by the Contractor at Contractor's expense.

I. **Sewer:** Furnish temporary sewer service.

1. Sewer/sanitary waste service may be obtained (site dependent) by connecting to the Medical Center sewer/sanitary waste distribution system. Provide backflow preventer at each connection as required. Provide cleanouts at each connection. Sewer 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 the COR and Contracting Officer discretion) of use of sewer/sanitary waste from the Medical Center's system.

3. Contractor may need to obtain a storage tank for sewer services and have it pumped out as necessary, at their own expense.

J. **Connections:** ALL connections to and disconnections from existing utility services shall be coordinated per this specification section. Refer to Article 1.6 OPERATIONS AND STORAGE AREAS, paragraphs for Utility Services, Existing Utility Services, Abandoned Lines and others.

### 1.23 NEW TELEPHONE EQUIPMENT

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

### 1.24 TESTS / COMMISSIONING

- A. Pre-test mechanical and electrical equipment and systems and make corrections required for proper operation of such systems before requesting final tests. Final test will not be conducted unless pre-tested. A copy of the testing agency field reports shall be submitted with the Daily Log report for the day the testing was conducted.
- B. Conduct final tests required in various sections of specifications in presence of the COR and/or an authorized representative of the Contracting Officer. Contractor shall furnish all labor, materials, equipment, instruments, and forms, to conduct and record such tests. A copy of the testing agency field reports shall be submitted with the Daily Log report for the day the testing was conducted.
- D. Mechanical and electrical systems shall be balanced, controlled and coordinated. A system is defined as the entire complex which must be coordinated to work together during normal operation to produce results for which the system is designed. For example, air conditioning supply air is only one part of entire system which provides comfort conditions for a building. Other related components are return air, exhaust air, steam, chilled water, refrigerant, hot water, controls and electricity, etc. Another example of a complex which involves several components of

different disciplines is a boiler installation. Efficient and acceptable boiler operation depends upon the coordination and proper operation of fuel, combustion air, controls, steam, feed-water, condensate and other related components.

- D. All related components as defined above shall be functioning when any system component is tested. Tests shall be completed within a reasonably short period of time during which operating and environmental conditions remain reasonably constant.
- E. Individual test results of any component, where required, will only be accepted when submitted with the test results of related components and of the entire system.

## 1.25 INSTRUCTIONS

- A. Contractor shall furnish Maintenance and Operating manuals, verbal instructions, video instructions, and computer based instructions when required by the various sections of the specifications and as hereinafter specified.
- B. **Manuals:** Provide Maintenance and Operating manuals (**three [3] copies each**) for each separate piece of equipment and system shall be delivered to the COR and Contracting Officer coincidental with the delivery of the equipment to the job site. Manuals shall be complete, detailed guides for the maintenance and operation of equipment and system. They shall include complete information necessary for starting, adjusting, programming, maintaining in continuous operation for long periods of time, and dismantling and reassembling of the complete units and sub-assembly components. Manuals shall include an index covering all component parts clearly cross-referenced to diagrams and illustrations. Manuals shall include all wiring diagrams, pipe and tubing diagrams, programming instructions, and other required information to completely maintain and operate each piece of equipment and system. Illustrations shall include "exploded" views showing and identifying each separate item. Emphasis shall be placed on the use of special tools and instruments. The function of each piece of equipment, component, accessory and control shall be clearly and thoroughly explained. All necessary precautions for the operation of the equipment and the reason for each precaution shall be clearly set forth. Manuals

must reference the exact model, style and size of the piece of equipment and system being furnished. Manuals referencing equipment similar to but of a different model, style, and size than that furnished will not be accepted.

- C. Instructions:** Provide **four (4) hours of training, two (2) hour sessions [unless otherwise scheduled by the COR and Contracting Officer]**, for VA Maintenance and Operations personnel for each piece of equipment, each component piece of the equipment, and each system. Contractor shall provide qualified, factory-trained manufacturers' representatives to give detailed instructions to assigned Department of Veterans Affairs personnel in the operation and complete maintenance for each piece of equipment and system. All such training will be at the job site. These requirements are more specifically detailed in the various technical sections. Instructions for different items of equipment that are component parts of a complete system, shall be given in an integrated, progressive manner. All instructors for every piece of component equipment in a system shall be available until instructions for all items included in the system have been completed. This is to assure proper instruction in the operation of inter-related systems. All instruction periods shall be at such times as scheduled by the COR, the Contracting Officer, and the M&O Supervisor, and shall be considered concluded only when the COR, the Contracting Officer, and the M&O Supervisor, are satisfied in regard to complete and thorough coverage. The Department of Veterans Affairs reserves the right to request the removal of, and substitution for, any instructor who, in the opinion of the COR and Contracting Officer, does not demonstrate sufficient qualifications in accordance with requirements for instructors above. Training sessions may be recorded by the VA.

## **1.26 GOVERNMENT-FURNISHED PROPERTY**

- A. The Government shall deliver to the Contractor, the Government - furnished property shown on the Schedules and/or drawings.
- B. Equipment furnished by Government to be installed by Contractor will be furnished to Contractor at the Medical Center.

- C. Contractor shall be prepared to receive this equipment from Government and store or place such equipment, as required, not less than 90 calendar days before Completion Date of project.
- E. If available, storage space is for some, but not all, equipment may be provided by the Government and the Contractor shall be prepared to unload and store such equipment therein upon its receipt at the Medical Center. Coordination with the COR and the Contracting Officer is required.
- E. Notify Contracting Officer in writing, 60 calendar days in advance, of date on which Contractor will be prepared to receive equipment furnished by Government. Arrangements will then be made by the Government for delivery of equipment.
  - 1. Immediately upon delivery of equipment, Contractor shall arrange for a joint inspection thereof with a representative of the Government. At such time the Contractor shall acknowledge receipt of equipment described, make notations, and immediately furnish the Government representative with a written statement as to its condition or shortages.
  - 2. Contractor thereafter is responsible for such equipment until such time as acceptance of contract work is made by the Government.
- F. Equipment furnished by the Government will be delivered in a partially assembled (knock down) condition in accordance with existing standard commercial practices, complete with all fittings, fastenings, and appliances necessary for connections to respective services installed under contract. All fittings and appliances (i.e., couplings, ells, tees, nipples, piping, conduits, cables, and the like) necessary to make the connection between the Government furnished equipment item and the utility stub-up shall be furnished and installed by the contractor at no additional cost to the Government.



- H. Completely assemble and install the Government furnished equipment in place ready for proper operation in accordance with specifications and drawings.
- H. Furnish supervision of installation of equipment at construction site by qualified factory trained technicians regularly employed by the equipment manufacturer.

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

- A. Contractor shall disconnect, dismantle as necessary, remove and reinstall in new location, all existing equipment and items indicated by symbol "R" or otherwise shown on the drawings to be relocated by the Contractor.
- B. Perform relocation of such equipment or items at such times and in such a manner as indicated in the drawings and specifications and/or as directed by the COR and Contracting Officer.
- C. Suitably cap existing service lines, such as steam, condensate return, water, drain, gas, air, vacuum and/or electrical, whenever such lines are disconnected from equipment to be relocated. Remove abandoned lines in finished areas and cap as specified herein before under paragraph 1.6.O, "Abandoned Lines".
- F. Provide all mechanical and electrical service connections, fittings, fastenings and any other materials necessary for assembly and installation of relocated equipment; and leave such equipment in proper operating condition.
- G. Contractor shall employ services of an installation engineer, who is an authorized representative of the manufacturer of this equipment to supervise disassembly, assembly and installation of existing equipment and items, required to be relocated.
- F. All service lines such as noted above for relocated equipment shall be in place at point of relocation ready for use before any existing equipment is disconnected. Make relocated existing equipment ready for operation or use immediately after reinstallation.

## 1.28 STORAGE SPACE FOR DEPARTMENT OF VETERANS AFFAIRS EQUIPMENT

- A. Contractor shall complete areas and/or rooms to be renovated and coordinate with the COR and Contracting Officer the use of elevators and areas/rooms for storage of certain materials and equipment by Department of Veterans Affairs.

## 1.29 CONSTRUCTION SIGN

- A. Provide a Construction Sign where directed by the COR and Contracting Officer. All wood members shall be of framing lumber. Cover sign frame with 0.7 mm (24 gage) galvanized sheet steel nailed securely around edges and on all bearings. Provide three 102 x 102 mm (4 inch x 4 inch) posts (or equivalent round posts) set 1219 mm (four feet) into ground. Set bottom of sign level at 914 mm (three feet) above ground and secure to posts with through bolts. Make posts full height of sign. Brace posts with 51 x 102 mm (two x four inch) material as directed.
- B. Paint all surfaces of sign and posts two coats of white gloss paint. Border and letters shall be of black gloss paint, except project title which shall be blue gloss paint.
- C. Maintain signs and remove when directed by the COR and Contracting Officer.
- D. Provide a Detail Drawing of construction sign showing required legend and other characteristics of sign to the COR and Contracting Officer for approval. Upon written approval, the contractor will construct and install the construction sign.
- E. Provide two (2) construction signs at each entrance to the construction areas. Signs shall be constructed of a durable material, twelve (12) inches high and thirty (30) inches wide with yellow background and blue Helvetica lettering two (2) inches high. Letter as shown in the following:

**DANGER - KEEP OUT**  
**CONSTRUCTION AREA**

**AUTHORIZED PERSONNEL ONLY**

**EXCUSE THE INCONVENIENCE  
WE ARE WORKING TO IMPROVE YOUR FACILITY**

**1.30 SAFETY SIGN**

- A. Provide a Safety Sign where directed by COR and Contracting Officer. Face of sign shall be 19 mm (3/4 inch) thick exterior grade plywood. Provide two 102 mm x 102 mm (four x four inch) posts extending full height of sign and 914 mm (three feet) into ground. Set bottom of sign level at 1219 mm (four feet) above ground.
- B. Paint all surfaces of Safety Sign and posts with one prime coat and two coats of white gloss paint. Letters and design shall be painted with gloss paint of colors noted.
- C. Maintain signs and remove when directed by COR and Contracting Officer.
- D. Provide a Detail Drawing of construction sign showing required legend and other characteristics of sign to the COR and Contracting Officer for approval. Upon written approval, the contractor will construct and install the construction sign.
- E. Post the number of accident free days on a daily basis.
- F. Provide all OSHA required Safety Signs where required by OSHA and where directed by COR and Contracting Officer. These shall be commercially produced.

**1.31 CONSTRUCTION DIGITAL IMAGES**

- A. Prior to and During the construction period through completion, furnish Department of Veterans Affairs with 50 views of digital images, including one color print of each view and one Compact Disc (CD) per visit containing those views taken on that visit. Digital views shall be taken of exterior and/or interior as selected and directed by COR and Contracting Officer. Each view shall be taken with a professional grade camera with minimum size of 6 megapixels (MP) and the images will be a minimum of 2272 x 1704 pixels for the 203 x 254 mm (8 x 10 inch) prints and 2592 x 1944 pixels for the 406 x 508 mm (16 x 20 inch) prints, as per these specifications:

1. Images will be taken at monthly intervals. However, the VA COR and Contracting Officer may also direct the taking of special digital images at any time prior to completion and acceptance of contract. If the number of trips to the site exceeds an average of one per month of the contract performance period then an adjustment in contract price will be made in accordance with clause entitled "CHANGES" (FAR 52.243-4 and VAAR 852.236-88).
  2. In event a greater or lesser number of images than specified above are required by the COR and Contracting Officer, adjustment in contract price will be made in accordance with clause entitled "CHANGES" (FAR 52.243-4 and VAAR 852.236-88).
- B. Images shall be taken by a commercial photographer and must show distinctly, at as large a scale as possible, all parts of work embraced in the picture.
- C. Prints shall be made on 203 x 254 mm (8 x 10 inch) regular-weight matte archival grade photographic paper and produced by a process with a minimum of 300 pixels per inch (PPI). Prints must be printed using the commercial RA4 process (inkjet prints will not be acceptable). Photographs shall have 203 x 203 mm (8 x 8 inch) full picture print with no margin on three sides and a 51 mm (2 inches) margin on the bottom for pre-typed self-adhesive identity label to be added by the COR and Contracting Officer. It is required that the prints are professionally processed so the quality will meet or exceed that of the same size print made with a film camera. Prints must be shipped flat to the field offices of the COR and Contracting Officer.
- D. Images on CD-ROM shall be recorded in JPEG format with a minimum of 24 bit color and no reduction in actual picture size. Compressed size of the file shall be no less than 80% or the original with no loss of information. File names shall contain the date the image was taken, the Project number and a unique sequential identifier. The CD-ROM shall

also contain an index of all the images contained therein in either a TXT or Microsoft Word format.

- E. In case any set of prints are not submitted within five calendar days of the date established by the COR and Contracting Officer for taking thereof, the COR and Contracting Officer may have such images/photographs taken and cost of same will be deducted from any money due to the Contractor.

### **1.32 FINAL ELEVATION DIGITAL IMAGES**

- A. A minimum of four (4) images of each elevation shall be taken with a minimum 6 MP camera, by a professional photographer with different settings to allow the COR and Contracting Officer to select the image to be printed. All images are provided to the COR and Contracting Officer on a CD.
- B. Photographs shall be taken upon completion, including landscaping. They shall be taken on a clear sunny day to obtain sufficient detail to show depth and to provide clear, sharp pictures. Pictures shall be 406 mm x 508 mm (16 x 20 inches), printed on regular weight paper, matte finish archival grade photographic paper and produced by a RA4 process from the digital image with a minimum 300 PPI. Identifying data shall be carried on label affixed to back of photograph without damage to photograph and shall be similar to that provided for final construction photographs.

### **1.33 HISTORIC PRESERVATION**

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

### **1.34 EQUIPMENT**

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

- B. All required programming devices, specialty tools, start-up supplies, one (1) additional set of belts - fuses - etc. per each piece of equipment and other items required by the specification sections and drawings shall be furnished.

### **1.35 FINAL PAYMENT**

- A. Final payment under this contract shall be withheld pending receipt of ALL tests, close out documents, all equipment manuals, staff training, specialty tools, start-up supplies, as built drawings and certifications. These tests and certifications shall include: sprinkler certification, fire alarm certification, plumbing system leak tests - to include hot - cold - waste - vents, medical gas certifications, fire/smoke wall certification, vibration analysis of motor driven equipment, motor - shaft - base - pulley alignment certifications, HVAC TAB, Air Handler control demonstration/training of VA personnel, and other required information, and the return of all keys.

### **1.36 WARRANTY CALLS**

- A. The Government may contact the Contractor for warranty services by telephone, fax, e-mail, letter, or in person. The Contractor shall respond with actual physical repair activity (labor, equipment, materials, etc.) within three (3) business days of a routine warranty call, and within eight (8) hours for emergencies. Please note that emergency calls may occur during other than normal work hours. A representative from the Facilities Management Service will identify the emergency calls.

### **1.37 ATTACHMENTS**

#### **A. Appendices:**

1. **Appendix A** - Approved OSHA Training Providers List
2. **Appendix B** - VA Adopted Codes
3. **Appendix C** - Proper Procedures and Forms for all Utility Shutdowns and Live Electrical Work
4. **Appendix D** - Safety and Infection Control Guide.

#### **B. Forms:**

1. **Attachment 1 A / B** - Notification of Impaired Fire Protection by Contractor Personnel

2. **Attachment 2** - Notification of Hot Work Operations by Contractor Personnel (Burn Permit)
  3. **Attachment 3** - Hot Work Fire Safety Check List for Operations Area Inspection
  4. **Attachment 4** - Construction Fire Safety Check List
  5. **Attachment 5** - Notification of M & R Work
- C. **Hospital Policy Memoranda:**
1. **HPM 138-15** - Interim Life Safety Measures (ILSM)
  2. **HPM 138-24** - Infection Control during Construction and Renovation

- - - E N D - - -





## SPECIFICATIONS

This solicitation contains some specifications that are applicable to this project. The provided information is not all the specifications that are required for the performance of this project. Offerors shall view the entire list of specification at the website <http://www.cfm.va.gov/TIL/> under section VA Numbered Standards for Construction. Offerors shall review the listing and consult with their subcontractors to determine the additional specifications that will be for required for task performance.

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**SECTION 01 32 16.17**  
**PROJECT SCHEDULES**  
**(SMALL PROJECTS - DESIGN/BUILD)**

**PART 1- GENERAL**

**1.1 DESCRIPTION:**

- A. The Contractor shall develop a Critical Path Method (CPM) plan and schedule demonstrating fulfillment of the contract requirements (Project Schedule), and shall keep the Project Schedule up-to-date in accordance with the requirements of this section and shall utilize the plan for scheduling, coordinating and monitoring work under this contract (including all activities of subcontractors, equipment vendors and suppliers). Conventional Critical Path Method (CPM) technique shall be utilized to satisfy both time and cost applications.

**1.2 CONTRACTOR'S REPRESENTATIVE:**

- A. The Contractor shall designate an authorized representative responsible for the Project Schedule including preparation, review and progress reporting with and to the Contracting Officer's Representative (COTR).
- B. The Contractor's representative shall have direct project control and complete authority to act on behalf of the Contractor in fulfilling the requirements of this specification section.
- C. The Contractor's representative shall have the option of developing the project schedule within their organization or to engage the services of an outside consultant. If an outside scheduling consultant is utilized, Section 1.3 of this specification will apply.

**1.3 CONTRACTOR'S CONSULTANT:**

- A. The Contractor shall submit a qualification proposal to the COTR, within 10 days of bid acceptance. The qualification proposal shall include:
  - 1. The name and address of the proposed consultant.
  - 2. Information to show that the proposed consultant has the qualifications to meet the requirements specified in the preceding paragraph.
  - 3. A representative sample of prior construction projects, which the proposed consultant has performed complete project scheduling services. These representative samples shall be of similar size and scope.

- B. The Contracting Officer has the right to approve or disapprove the proposed consultant, and will notify the Contractor of the VA decision within seven calendar days from receipt of the qualification proposal. In case of disapproval, the Contractor shall resubmit another consultant within 10 calendar days for renewed consideration. The Contractor shall have their scheduling consultant approved prior to submitting any schedule for approval.

#### **1.4 COMPUTER PRODUCED SCHEDULES**

- A. The contractor shall provide monthly, to the Department of Veterans Affairs (VA), all computer-produced time/cost schedules and reports generated from monthly project updates. This monthly computer service will include: three copies of up to five different reports (inclusive of all pages) available within the user defined reports of the scheduling software approved by the Contracting Officer; a hard copy listing of all project schedule changes, and associated data, made at the update and an electronic file of this data; and the resulting monthly updated schedule in PDM format. These must be submitted with and substantively support the contractor's monthly payment request and the signed look ahead report. The COTR shall identify the five different report formats that the contractor shall provide.
- B. The contractor shall be responsible for the correctness and timeliness of the computer-produced reports. The Contractor shall also responsible for the accurate and timely submittal of the updated project schedule and all CPM data necessary to produce the computer reports and payment request that is specified.
- C. The VA will report errors in computer-produced reports to the Contractor's representative within ten calendar days from receipt of reports. The Contractor shall reprocess the computer-produced reports and associated diskette(s), when requested by the Contracting Officer's representative, to correct errors which affect the payment and schedule for the project.

#### **1.5 THE INTERIM AND FINAL PROJECT SCHEDULE SUBMITTAL**

- A. Interim Schedule Submittal: Within 21 calendar days after receipt of Notice to Proceed, the Contractor shall submit for the Contracting Officer's review; three blue line copies of the interim schedule on sheets of paper 765 x 1070 mm (30 x 42 inches) and an electronic file in the previously approved CPM schedule program. Each activity/event on the computer-produced schedule shall contain as a minimum, but not

limited to, activity/event ID, activity/event description, duration, budget amount, early start date, early finish date, late start date, late finish date and total float. Work activity/event relationships shall be restricted to finish-to-start and start-to-start without lead or lag constraints. Activity/event date constraints, not required by the contract, will not be accepted unless submitted to and approved by the Contracting Officer. The contractor shall make a separate written detailed request to the Contracting Officer identifying these date constraints and secure the Contracting Officer's written approval before incorporating them into the Project Schedule. The Contracting Officer's separate approval of the interim schedule shall not excuse the contractor of this requirement. Logic events (non-work) will be permitted where necessary to reflect proper logic among work events, but must have zero duration. The complete working interim Project Schedule shall reflect the Contractor's approach to scheduling the complete project and shall include at a minimum, the following activities:

1. All phasing described in Section 01 00 00, GENERAL REQUIREMENTS- OPERATIONS AND STORAGE AREAS- Paragraph "Phasing"
  2. Procurement- Submittals, review and approvals, fabrication and delivery, of all key and long lead time procurement items.
  3. Design- All design submissions listed in the RFP solicitation, including the specified meeting and review activities.
  4. Detailed design and construction activities for the first 120 work days after Notice to Proceed.
  5. Summary activities which are necessary (and are not included above) to properly show:
    - a. The approach to scheduling the remaining work. The work for each major trade must be represented by at least one summary activity, so that the work cumulatively shows the entire project schedule.
    - b. Summary activities shall have the trade code of SUM
- B. The interim schedule shall describe the activities to be accomplished and their interdependencies. All work activities (including design), other than procurement activities, shall be cost loaded as specified and will be the basis for progress payments during the period prior to acceptance of the schedule. The interim schedule in its original form shall contain no contract changes or delays which may have been incurred during the interim schedule development period and shall

reflect the Contractors schedule as submitted with his RFP solicitation package, or as negotiated prior to Notice to Proceed. All CPM data supporting any time extension requests, in accordance with Article ADJUSTMENT OF CONTRACT COMPLETION, will be derived from the approved final schedule.

- C. Final Diagram Submittal: Within 45 calendar days prior to the start of construction, the Contractor shall submit for the Contracting Officer's review; three blue line copies of the interim schedule on sheets of paper 765 x 1070 mm (30 x 42 inches) and an electronic file in the previously approved CPM schedule program. The submittal shall also include three copies of a computer-produced activity/event ID schedule showing project duration; phase completion dates; and other data, including event cost. Each activity/event on the computer-produced schedule shall contain as a minimum, but not limited to, activity/event ID, activity/event description, duration, budget amount, early start date, early finish date, late start date, late finish date and total float. Work activity/event relationships shall be restricted to finish-to-start or start-to-start without lead or lag constraints. Activity/event date constraints, not required by the contract, will not be accepted unless submitted to and approved by the Contracting Officer. The contractor shall make a separate written detailed request to the Contracting Officer identifying these date constraints and secure the Contracting Officer's written approval before incorporating them into the network diagram. The Contracting Officer's separate approval of the Project Schedule shall not excuse the contractor of this requirement. Logic events (non-work) will be permitted where necessary to reflect proper logic among work events, but must have zero duration. The complete working schedule shall reflect the Contractor's approach to scheduling the complete project. The final Project Schedule in its original form shall contain no contract changes or delays which may have been incurred during the final schedule development period and shall reflect the Contractors as bid schedule. These changes/delays shall be entered at the first update after the final Project Schedule has been approved. The Contractor should provide their requests for time and supporting time extension analysis for contract time as a result of contract changes/delays, after this update, and in accordance with Article, ADJUSTMENT OF CONTRACT COMPLETION.

- D. Within 30 calendar days after receipt of the complete project interim Project Schedule and the complete final Project Schedule, the Contracting Officer or his representative, will do one or both of the following:
1. Notify the Contractor concerning his actions, opinions, and objections.
  2. A meeting with the Contractor at or near the job site for joint review, correction or adjustment of the proposed plan will be scheduled if required. Within 14 calendar days after the joint review, the Contractor shall revise and shall submit three blue line copies of the revised Project Schedule, three copies of the revised computer-produced activity/event ID schedule and a revised electronic file as specified by the Contracting Officer. The revised submission will be reviewed by the Contracting Officer and, if found to be as previously agreed upon, will be approved.
- E. The approved baseline schedule and the computer-produced schedule(s) generated there from shall constitute the approved baseline schedule until subsequently revised in accordance with the requirements of this section.
- F. The Complete Project Schedule shall contain approximately \_\_\_\_\_work activities/events.

#### **1.6 WORK ACTIVITY/EVENT COST DATA**

- A. The Contractor shall cost load all work activities/events except procurement activities. The cumulative amount of all cost loaded work activities/events (including alternates) shall equal the total contract price. Prorate overhead, profit and general conditions on all work activities/events for the entire project length. The contractor shall generate from this information cash flow curves indicating graphically the total percentage of work activity/event dollar value scheduled to be in place on early finish, late finish. These cash flow curves will be used by the Contracting Officer to assist him in determining approval or disapproval of the cost loading. Negative work activity/event cost data will not be acceptable, except on VA issued contract changes.
- B. The Contractor shall cost load work activities/events for guarantee period services, test, balance and adjust various systems in accordance with the provisions in Article, FAR 52.232 - 5 (PAYMENT UNDER

FIXED-PRICE CONSTRUCTION CONTRACTS) and VAAR 852.236 - 83 (PAYMENT UNDER FIXED-PRICE CONSTRUCTION CONTRACTS).

- C. In accordance with FAR 52.236 - 1 (PERFORMANCE OF WORK BY THE CONTRACTOR) and VAAR 852.236 - 72 (PERFORMANCE OF WORK BY THE CONTRACTOR), the Contractor shall submit, simultaneously with the cost per work activity/event of the construction schedule required by this Section, a responsibility code for all activities/events of the project for which the Contractor's forces will perform the work.
- D. The Contractor shall cost load work activities/events for all BID ITEMS including ASBESTOS ABATEMENT. The sum of each BID ITEM work shall equal the value of the bid item in the Contractors' bid.

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

- A. Show on the project schedule the sequence of work activities/events required for complete performance of all items of work. The Contractor Shall:
  - 1. Show activities/events as:
    - a. Contractor's time required for submittal of shop drawings, templates, fabrication, delivery and similar pre-construction work.
    - b. Contracting Officer's and Architect-Engineer's review and approval of shop drawings, equipment schedules, samples, template, or similar items.
    - c. Interruption of VA Facilities utilities, delivery of Government furnished equipment, and rough-in drawings, project phasing and any other specification requirements.
    - d. Test, balance and adjust various systems and pieces of equipment, maintenance and operation manuals, instructions and preventive maintenance tasks.
    - e. VA inspection and acceptance activity/event with a minimum duration of five work days at the end of each phase and immediately preceding any VA move activity/event required by the contract phasing for that phase.
  - 2. Show not only the activities/events for actual construction work for each trade category of the project, but also trade relationships to indicate the movement of trades from one area, floor, or building, to another area, floor, or building, for at least five trades who are performing major work under this contract.

3. Break up the work into activities/events of a duration no longer than 20 work days each or one reporting period, except as to non-construction activities/events (i.e., procurement of materials, delivery of equipment, concrete and asphalt curing) and any other activities/events for which the COTR may approve the showing of a longer duration. The duration for VA approval of any required submittal, shop drawing, or other submittals will not be less than 20 work days.
  4. Describe work activities/events clearly, so the work is readily identifiable for assessment of completion. Activities/events labeled "start," "continue," or "completion," are not specific and will not be allowed. Lead and lag time activities will not be acceptable.
  5. The schedule shall be generally numbered in such a way to reflect either discipline, phase or location of the work.
- B. The Contractor shall submit the following supporting data in addition to the project schedule:
1. The appropriate project calendar including working days and holidays.
  2. The planned number of shifts per day.
  3. The number of hours per shift.
- Failure of the Contractor to include this data shall delay the review of the submittal until the Contracting Officer is in receipt of the missing data.
- C. To the extent that the Project Schedule or any revised Project Schedule shows anything not jointly agreed upon, it shall not be deemed to have been approved by the COTR. Failure to include any element of work required for the performance of this contract shall not excuse the Contractor from completing all work required within any applicable completion date of each phase regardless of the COTR's approval of the Project Schedule.
- D. Compact Disk Requirements and CPM Activity/Event Record Specifications: Submit to the VA an electronic file(s) containing one file of the data required to produce a schedule, reflecting all the activities/events of the complete project schedule being submitted.

**1.8 PAYMENT TO THE CONTRACTOR:**

- A. Monthly, the contractor shall submit the AIA application and certificate for payment documents G702 & G703 reflecting updated schedule activities and cost data in accordance with the provisions of



the following Article, PAYMENT AND PROGRESS REPORTING, as the basis upon which progress payments will be made pursuant to Article, FAR 52.232 - 5 (PAYMENT UNDER FIXED-PRICE CONSTRUCTION CONTRACTS) and VAAR 852.236 - 83 (PAYMENT UNDER FIXED-PRICE CONSTRUCTION CONTRACTS). The Contractor shall be entitled to a monthly progress payment upon approval of estimates as determined from the currently approved updated project schedule. Monthly payment requests shall include: a listing of all agreed upon project schedule changes and associated data; and an electronic file (s) of the resulting monthly updated schedule.

- B. Approval of the Contractor's monthly Application for Payment shall be contingent, among other factors, on the submittal of a satisfactory monthly update of the project schedule.

#### **1.9 PAYMENT AND PROGRESS REPORTING**

- A. Monthly schedule update meetings will be held on dates mutually agreed to by the COTR and the Contractor. Contractor and their CPM consultant (if applicable) shall attend all monthly schedule update meetings. The Contractor shall accurately update the Project Schedule and all other data required and provide this information to the COTR three work days in advance of the schedule update meeting. Job progress will be reviewed to verify:
  - 1. Actual start and/or finish dates for updated/completed activities/events.
  - 2. Remaining duration for each activity/event started, or scheduled to start, but not completed.
  - 3. Logic, time and cost data for change orders, and supplemental agreements that are to be incorporated into the Project Schedule.
  - 4. Changes in activity/event sequence and/or duration which have been made, pursuant to the provisions of following Article, ADJUSTMENT OF CONTRACT COMPLETION.
  - 5. Completion percentage for all completed and partially completed activities/events.
  - 6. Logic and duration revisions required by this section of the specifications.
  - 7. Activity/event duration and percent complete shall be updated independently.
- B. After completion of the joint review, the contractor shall generate an updated computer-produced calendar-dated schedule and supply the

Contracting Officer's representative with reports in accordance with the Article, COMPUTER PRODUCED SCHEDULES, specified.

- C. After completing the monthly schedule update, the contractor's representative or scheduling consultant shall rerun all current period contract change(s) against the prior approved monthly project schedule. The analysis shall only include original workday durations and schedule logic agreed upon by the contractor and resident engineer for the contract change(s). When there is a disagreement on logic and/or durations, the Contractor shall use the schedule logic and/or durations provided and approved by the resident engineer. After each rerun update, the resulting electronic project schedule data file shall be appropriately identified and submitted to the VA in accordance to the requirements listed in articles 1.4 and 1.7. This electronic submission is separate from the regular monthly project schedule update requirements and shall be submitted to the resident engineer within fourteen (14) calendar days of completing the regular schedule update. **Before inserting the contract changes durations, care must be taken to ensure that only the original durations will be used for the analysis, not the reported durations after progress. In addition, once the final network diagram is approved, the contractor must recreate all manual progress payment updates on this approved network diagram and associated reruns for contract changes in each of these update periods as outlined above for regular update periods. This will require detailed record keeping for each of the manual progress payment updates.**
- D. Following approval of the CPM schedule, the VA, the General Contractor, its approved CPM Consultant, RE office representatives, and all subcontractors needed, as determined by the SRE, shall meet to discuss the monthly updated schedule. The main emphasis shall be to address work activities to avoid slippage of project schedule and to identify any necessary actions required to maintain project schedule during the reporting period. The Government representatives and the Contractor should conclude the meeting with a clear understanding of those work and administrative actions necessary to maintain project schedule status during the reporting period. This schedule coordination meeting will occur after each monthly project schedule update meeting utilizing the resulting schedule reports from that schedule update. If the project is behind schedule, discussions should include ways to prevent

further slippage as well as ways to improve the project schedule status, when appropriate.

#### **1.10 RESPONSIBILITY FOR COMPLETION**

- A. If it becomes apparent from the current revised monthly progress schedule that phasing or contract completion dates will not be met, the Contractor shall execute some or all of the following remedial actions:
  - 1. Increase construction manpower in such quantities and crafts as necessary to eliminate the backlog of work.
  - 2. Increase the number of working hours per shift, shifts per working day, working days per week, the amount of construction equipment, or any combination of the foregoing to eliminate the backlog of work.
  - 3. Reschedule the work in conformance with the specification requirements.
- B. Prior to proceeding with any of the above actions, the Contractor shall notify and obtain approval from the COTR for the proposed schedule changes. If such actions are approved, the representative schedule revisions shall be incorporated by the Contractor into the Project Schedule before the next update, at no additional cost to the Government.

#### **1.11 CHANGES TO THE SCHEDULE**

- A. Within 30 calendar days after VA acceptance and approval of any updated project schedule, the Contractor shall submit a revised electronic file (s) and a list of any activity/event changes for any of the following reasons:
  - 1. Delay in completion of any activity/event or group of activities/events, which may be involved with contract changes, strikes, unusual weather, and other delays will not relieve the Contractor from the requirements specified unless the conditions are shown on the CPM as the direct cause for delaying the project beyond the acceptable limits.
  - 2. Delays in submittals, or deliveries, or work stoppage are encountered which make rescheduling of the work necessary.
  - 3. The schedule does not represent the actual prosecution and progress of the project.
  - 4. When there is, or has been, a substantial revision to the activity/event costs regardless of the cause for these revisions.
- B. CPM revisions made under this paragraph which affect the previously approved computer-produced schedules for Government furnished

equipment, vacating of areas by the VA Facility, contract phase(s) and sub phase(s), utilities furnished by the Government to the Contractor, or any other previously contracted item, shall be furnished in writing to the Contracting Officer for approval.

- C. Contracting Officer's approval for the revised project schedule and all relevant data is contingent upon compliance with all other paragraphs of this section and any other previous agreements by the Contracting Officer or the VA representative.
- D. The cost of revisions to the project schedule resulting from contract changes will be included in the proposal for changes in work as specified in FAR 52.243 - 4 (Changes) and VAAR 852.236 - 88 (Changes - Supplemental), and will be based on the complexity of the revision or contract change, man hours expended in analyzing the change, and the total cost of the change.
- E. The cost of revisions to the Project Schedule not resulting from contract changes is the responsibility of the Contractor.

#### **1.12 ADJUSTMENT OF CONTRACT COMPLETION**

- A. The contract completion time will be adjusted only for causes specified in this contract. Request for an extension of the contract completion date by the Contractor shall be supported with a justification, CPM data and supporting evidence as the COTR may deem necessary for determination as to whether or not the Contractor is entitled to an extension of time under the provisions of the contract. Submission of proof based on revised activity/event logic, durations (in work days) and costs is obligatory to any approvals. The schedule must clearly display that the Contractor has used, in full, all the float time available for the work involved in this request. The Contracting Officer's determination as to the total number of days of contract extension will be based upon the current computer-produced calendar-dated schedule for the time period in question and all other relevant information.
- B. Actual delays in activities/events which, according to the computer-produced calendar-dated schedule, do not affect the extended and predicted contract completion dates shown by the critical path in the network, will not be the basis for a change to the contract completion date. The Contracting Officer will within a reasonable time after receipt of such justification and supporting evidence, review the

facts and advise the Contractor in writing of the Contracting Officer's decision.

- C. The Contractor shall submit each request for a change in the contract completion date to the Contracting Officer in accordance with the provisions specified under FAR 52.243 - 4 (Changes) and VAAR 852.236 - 88 (Changes - Supplemental). The Contractor shall include, as a part of each change order proposal, a sketch showing all CPM logic revisions, duration (in work days) changes, and cost changes, for work in question and its relationship to other activities on the approved network diagram.
- D. All delays due to non-work activities/events such as RFI's, WEATHER, STRIKES, and similar non-work activities/events shall be analyzed on a month by month basis.

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

SPEC WRITER NOTE: Delete between //-- // if not applicable to project. Also delete any other item or paragraph not applicable in the sections and renumber the paragraphs.

- 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 // (including laboratory samples to be tested) //, 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 submittals in sufficient time to permit proper consideration and approval action by Government. Time submission to assure adequate lead time for procurement of contract - required items. Delays attributable to untimely and rejected submittals // (including any laboratory samples to be tested) // will not serve as a basis for extending contract time for completion.
- 1-5. Submittals will be reviewed for compliance with contract requirements by Architect-Engineer, and action thereon will be taken by Resident Engineer on behalf of the Contracting Officer.

- 1-6. Upon receipt of submittals, Architect-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 Architect-Engineer. However, the Contractor shall assume responsibility for coordinating and verifying schedules. The Contracting Officer and Architect- 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 required by Section 09 06 00, SCHEDULE FOR FINISHES, in quadruplicate. // Submit // other // 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 //FAX // and shall contain the list of items, name of // Medical Center // Cemetery //, 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 // Cemetery //, 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.

SPEC WRITER NOTE: Omit following subparagraph "C" if laboratory tests are not required.

- 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 upon which laboratory has performed similar functions during past five years.
  3. Samples and laboratory tests shall be sent directly to approved commercial testing laboratory.
  4. Contractor shall send a copy of transmittal letter to both Resident Engineer and to Architect-Engineer simultaneously with submission of material to a commercial testing laboratory.
  - //4. Contractor shall forward a copy of transmittal letter to Resident Engineer simultaneously with submission 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 // Cemetery // 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 // (except laboratory samples), // shop drawings, test reports, certificates and manufacturers' literature and data, shall be submitted for approval to

---

(Architect-Engineer)

---

(A/E P.O. Address)

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(City, State and Zip Code)

- 1-11. At the time of transmittal to the Architect-Engineer, the Contractor shall also send a copy of the complete submittal directly to the Resident Engineer.

SPEC WRITER NOTE: Include following paragraph only if samples are to be sent to project site. If so, delete reference to samples in Paragraph 1-10.

- 1-12. Samples // (except laboratory samples) // for approval shall be sent to Architect-Engineer, in care of Resident Engineer, VA Medical Center,

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(P.O. Address)

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(City, State and Zip Code)

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**SECTION 01 35 26  
SAFETY REQUIREMENTS**

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SPEC WRITER NOTES: This section of specifications covers the requirements for safety and occupational health requirements for the protection of Contractor and Government personnel, property and resources.

Edit these specification requirements by deleting sections or requirements that are not applicable due to the absent of work operations that would necessitate those requirements. For bracketed items, choose applicable items(s) or insert appropriate information.

VHA Directive 2011-036 requires inclusion of FAR Clause 52.236-13, *Accident Prevention* in all construction contracts with paragraph f as prescribed in the clause. Further, VAAR 836.513, *Accident Prevention* requires the inclusion of VAAR Clause 852.236-87, *Accident Prevention* with the above mentioned Far Clause.

Many states and municipalities have more stringent or additional requirements and this section should be modified as required to meet local conditions and regulations.

## **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

241-2013.....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 through provided by a physician or registered personnel.
- E. Recordable Injuries or Illnesses. Any work-related injury or illness that results in:
  - 1. 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 // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority //.

SPEC WRITER NOTE: VHA Directive 2011-036 requires inclusion of FAR Clause 52.236-13, *Accident Prevention* in all construction contracts. Paragraph (f) of the requisite clause, which requires the contractor to develop an Accident Prevention Plan (APP) and Activity Hazard Analyses (AHAs), should be routinely included with the clause as most construction is sufficiently hazardous to warrant inclusion. However, some limited scope and/or low hazard contracts would not require an APP and AHAs. Based upon construction complexity, size, and pre-construction risk assessment include the following specifications on APP and AHAs with inclusion of paragraph (f) in the contract.

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

A. The APP (aka Construction Safety & Health Plan) shall interface with the Contractor's overall safety and health program. Include any



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

B. The APP shall be prepared as follows:

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

b. **BACKGROUND INFORMATION.** List the following:

- 1) Contractor;
- 2) Contract number;
- 3) Project name;
- 4) Brief project description, description of work to be performed, and location; phases of work anticipated (these will require an AHA).

c. **STATEMENT OF SAFETY AND HEALTH POLICY.** Provide a copy of current corporate/company Safety and Health Policy Statement, detailing commitment to providing a safe and healthful workplace for all employees. The Contractor's written safety program goals, objectives, and accident experience goals for this contract should be provided.

d. **RESPONSIBILITIES AND LINES OF AUTHORITIES.** Provide the following:

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

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

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

**f. TRAINING.**

- 1) Site-specific SOH orientation training at the time of initial hire or assignment to the project for every employee before working on the project site is required.
- 2) Mandatory training and certifications that are applicable to this project (e.g., explosive actuated tools, crane operator, rigger, crane signal person, fall protection, electrical lockout/NFPA 70E, machine/equipment lockout, confined space, etc...) and any requirements for periodic retraining/recertification are required.
- 3) Procedures for ongoing safety and health training for supervisors and employees shall be established to address changes in site hazards/conditions.
- 4) OSHA 10-hour training is required for all workers on site and the OSHA 30-hour training is required for Trade Competent Persons (CPs)

**g. SAFETY AND HEALTH INSPECTIONS.**

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

**h. ACCIDENT 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 // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // 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;
- 7) Site sanitation (housekeeping, drinking water, toilets);
- 8) Night operations and lighting ;
- 9) Hazard communication program;
- 10) Welding/Cutting "Hot" work ;
- 11) Electrical Safe Work Practices (Electrical LOTO/NFPA 70E);
- 12) General Electrical Safety
- 13) Hazardous energy control (Machine LOTO);

- 14) Site-Specific Fall Protection & Prevention;
- 15) Excavation/trenching;
- 16) Asbestos abatement;
- 17) Lead abatement;
- 18) Crane Critical lift;
- 19) Respiratory protection;
- 20) Health hazard control program;
- 21) Radiation Safety Program;
- 22) Abrasive blasting;
- 23) Heat/Cold Stress Monitoring;
- 24) Crystalline Silica Monitoring (Assessment);
- 25) Demolition plan (to include engineering survey);
- 26) Formwork and shoring erection and removal;
- 27) PreCast Concrete.

C. Submit the APP to the // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES 15 [\_\_] calendar days prior to the date of the preconstruction conference for acceptance. Work cannot proceed without an accepted APP.

D. Once accepted by the // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // 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 // Resident Engineer // Project Manager // project superintendent, project overall designated OSHA Competent Person, and facility Safety // Manager // Officer // Contracting Officer Representative // 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 // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority and discussed with all engaged in the activity, including the Contractor, subcontractor(s), and Government on-site representatives at preparatory and initial control phase meetings.
1. The names of the Competent/Qualified Person(s) required for a particular activity (for example, excavations, scaffolding, fall protection, other activities as specified by OSHA 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 // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES 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 // Resident Engineer // Project Manager // and Facility Safety //

Manager // Officer // or Contracting Officer Representative // or  
Government Designated Authority.

SPEC WRITER NOTE: Include FAR Clause  
52.236-26, Preconstruction Conference to  
ensure that it takes place.

**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 project superintendent, subcontractor superintendents, and any other assigned safety and health professionals.

SPEC WRITER NOTE: Include the following  
specifications if APP and AHAs are  
required.

- 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 // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority // for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES 15 [\_\_] calendar days prior to the date of the preconstruction conference for acceptance.
- 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 egress, 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 // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority //.

SPEC WRITER NOTE: Based upon construction complexity, size and pre-construction risk assessment insert the following paragraph.

- B. A Certified Safety Professional (CSP) with specialized knowledge in construction safety or a certified Construction Safety and Health Technician (CSHT) shall randomly conduct a monthly site safety inspection. The CSP or CSHT can be a corporate safety professional or independently contracted. The CSP or CSHT will provide their certificate number on the required report for verification as necessary.
1. Results of the inspection will be documented with tracking of the identified hazards to abatement.
  2. The // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority // will be notified immediately prior to start of the inspection and invited to accompany the inspection.

3. Identified hazard and controls will be discussed to come to a mutual understanding to ensure abatement and prevent future reoccurrence.
4. A report of the inspection findings with status of abatement will be provided to the // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority // within one week of the onsite inspection.

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

- A. Notify the // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // 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 // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // 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 // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority within 5 [\_\_] calendar days of the accident. The // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or 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 // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority // monthly.
- 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 // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority // monthly. The contractor and associated sub-contractors' OSHA 300 logs will be made available to the // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // 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 // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority // in circumstances of work operations that have limited potential for falling object hazards such as during finishing work or minor remodeling. With authorization to relax the requirement of hard hats, if a worker becomes exposed to an overhead falling object hazard, then hard hats would be required in accordance with the OSHA regulations.
  - 2. Safety glasses - unless written authorization is given by the // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority // 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 // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority //.
4. Hearing protection - Use personal hearing protection at all times in designated noise hazardous areas or when performing noise hazardous tasks.

SPEC WRITER NOTES:

1. VAMC's Infection Control Risk Assessment (ICRA) Team shall prepare an Infection Control plan and continue oversight during design, planning and construction on a regular basis. (VHA Directive 2011-036).
2. ICRA Team may provide a separate document to be included as part of the contract documents or may modify requirements included in the following article.

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

SPEC WRITER NOTE: Include the specifications B - D as work operations would make necessary.

- 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 // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority 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 // Resident // 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 [\_\_\_\_\_]**, however, work outside the primary project scope area may vary. The required infection control precautions with each class are as follows:

SPEC WRITER NOTE: Consider the following and coordinate:

1. Analyze each site during design to determine the effects of blocking HVAC ducts and their impact on existing air handling systems that must remain operational before initiating a dust control program. The method of capping ducts shall be dust tight and withstand airflow.
2. Construct anteroom to maintain negative airflow from clean area through anteroom and into work area where required.
3. High risk patient care areas may require additional measures like air locks, special signage, smoke and negative pressure alarms.
4. Identify these areas clearly on the drawings and work with Medical Center personnel to achieve desired level of isolation suited to the scope of risk involved.
5. Other considerations.

1. Class I requirements:

a. During Construction Work:

- 1) Notify the // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority //
- 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 // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority //

2. Class II requirements:

a. During Construction Work:

- 1) Notify the // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority //
- 2) 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 // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority //

3. Class III requirements:

a. During Construction Work:

- 1) Obtain permit from the // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority //
- 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, outside of 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.

- 5) 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 // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority // 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, outside of 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 // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority //

4. Class IV requirements:

a. During Construction Work:

- 1) Obtain permit from the // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority //

- 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, outside of normal work hours.
- 4) Maintain negative air pressure within work site utilizing HEPA equipped air filtration units.
- 5) Seal holes, pipes, conduits, and punctures.
- 6) 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 // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority // 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, outside of 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 // Resident Engineer // Project Manager  
// and Facility Safety // Manager // Officer // or Contracting  
Officer Representative // or Government Designated Authority  
//

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
  - b. 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
2. Barrier Doors: Self Closing // One-hour // Two-hour // fire-rated // solid core wood in steel frame, painted
3. Dust proof // one-hour // two-hour // fire-rated // drywall
4. High Efficiency Particulate Air-Equipped filtration machine rated at 95% capture of 0.3 microns including pollen, mold spores and dust particles. HEPA filters should have ASHRAE 85 or other prefilter to extend the useful life of the HEPA. Provide both primary and secondary filtrations units. Maintenance of equipment and replacement of the HEPA filters and other filters will be in accordance with manufacturer's instructions.
5. Exhaust Hoses: Heavy duty, flexible steel reinforced; Ventilation Blower Hose
6. Adhesive Walk-off Mats: Provide minimum size mats of 24 inches x 36 inches
7. Disinfectant: Hospital-approved disinfectant or equivalent product
8. Portable Ceiling Access Module

- 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. A dust control program will be establish and maintained as part of the contractor's infection preventive measures in accordance with the FGI Guidelines for Design and Construction of Healthcare Facilities. Prior to start of work, prepare a plan detailing project-specific dust protection measures with associated product data, including periodic

status reports, and submit to // Resident // Project // Engineer // and Facility CSC // for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.

- G. 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 exhaust to exterior is not reintroduced to the medical center through intake vents, or building openings. HEPA filtration is required where the exhaust dust may reenter the medical center.
  - 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.
    - i. 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.

- j. 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.
- k. At completion, remove construction barriers and ceiling protection carefully, outside of normal work hours. Vacuum and clean all surfaces free of dust after the removal.

I. Final Cleanup:

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

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
- 3. 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.

SPEC WRITER NOTE: VHA Directive 2011-036 requires a TB pre-construction risk assessment for the transmission of

Tuberculosis (TB) to the contracted construction workers based upon the construction site location, patient population, hospital layout, and the defined risk as outlined in the "CDC Guidelines for preventing the transmission of Mycobacterium Tuberculosis in Health-Care Setting, 2005". A pre-placement tuberculin screening is required if contracted construction worker(s) have been determined to be at risk for transmission of TB to them based upon this TB pre-construction risk assessment. Include the following section only as applicable.

### **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.



SPEC WRITER NOTE: Coordinate editing with facility Safety Manager/Officer at VA medical facilities. Edit subparagraphs C, E, G, H, M, P and Q carefully as they directly relate to interim life safety measures required in or adjacent to construction affecting occupied buildings by the Joint Commission on Accreditation of Healthcare Organizations. At other sites, edit for project and delete // and facility Safety // Manager // Officer// provisions.

#### **1.14 FIRE SAFETY**

- F. 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 // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority // for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES. This plan may be an element of the Accident Prevention Plan.
- G. Site and Building Access: Maintain free and unobstructed access to facility emergency services and for fire, police and other emergency response forces in accordance with NFPA 241.
- C. Separate temporary facilities, such as trailers, storage sheds, and dumpsters, from existing buildings and new construction by distances in accordance with NFPA 241. For small facilities with less than 6 m (20 feet) exposing overall length, separate by 3m (10 feet).
- D. Temporary Construction Partitions:

SPEC WRITER NOTE: Where phasing drawings are used, show locations and hourly fire ratings of anticipated temporary construction partitions and hourly fire ratings of nearby existing construction on phasing drawings. Detail unusual conditions.

1. Install and maintain temporary construction partitions to provide smoke-tight separations between // construction areas // the areas that are described in phasing requirements // and adjoining areas. Construct partitions of gypsum board or treated plywood (flame spread rating of 25 or less in accordance with ASTM E84) on both sides of fire retardant treated wood or metal steel studs. Extend the partitions through suspended ceilings to floor slab deck or roof. Seal joints and penetrations. At door openings, install Class C,  $\frac{3}{4}$  hour fire/smoke rated doors with self-closing devices.
  2. Install // one-hour // two-hour // fire-rated // temporary construction partitions as shown on drawings to maintain integrity of existing exit stair enclosures, exit passageways, fire-rated enclosures of hazardous areas, horizontal exits, smoke barriers, vertical shafts and openings enclosures.
  3. Close openings in smoke barriers and fire-rated construction to maintain fire ratings. Seal penetrations with listed through-penetration firestop materials in accordance with Section 07 84 00, FIRESTOPPING.
- E. Temporary Heating and Electrical: Install, use and maintain installations in accordance with 29 CFR 1926, NFPA 241 and NFPA 70.
- F. Means of Egress: Do not block exiting for occupied buildings, including paths from exits to roads. Minimize disruptions and coordinate with // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority //.
- G. Egress Routes for Construction Workers: Maintain free and unobstructed egress. Inspect daily. Report findings and corrective actions weekly to // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority //.
- H. Fire Extinguishers: Provide and maintain extinguishers in construction areas and temporary storage areas in accordance with 29 CFR 1926, NFPA 241 and NFPA 10.

I. Flammable and Combustible Liquids: Store, dispense and use liquids in accordance with 29 CFR 1926, NFPA 241 and NFPA 30.

//J. Standpipes: Install and extend standpipes up with each floor in accordance with 29 CFR 1926 and NFPA 241. // Do not charge wet standpipes subject to freezing until weather protected. //

SPEC WRITER NOTE: Modify to suit design.  
Coordinate with phasing.

//K. Sprinklers: Install, test and activate new automatic sprinklers prior to removing existing sprinklers. //

L. Existing Fire Protection: Do not impair automatic sprinklers, smoke and heat detection, and fire alarm systems, except for portions immediately under construction, and temporarily for connections. Provide fire watch for impairments more than 4 hours in a 24-hour period. Request interruptions in accordance with Article, OPERATIONS AND STORAGE AREAS, and coordinate with // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority //. All existing or temporary fire protection systems (fire alarms, sprinklers) located in construction areas shall be tested as coordinated with the medical center. Parameters for the testing and results of any tests performed shall be recorded by the medical center and copies provided to the Resident Engineer.

M. Smoke Detectors: Prevent accidental operation. Remove temporary covers at end of work operations each day. Coordinate with // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority //.

SPEC WRITER NOTE: Use facility permit process at existing VA medical facilities. For other sites, use contractor's process.

N. Hot Work: Perform and safeguard hot work operations in accordance with NFPA 241 and NFPA 51B. Coordinate with // Resident Engineer// Facility

Safety Office //. // Obtain permits from // Resident Engineer//  
facility Safety // Manager // Officer // at least \_\_\_\_ 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 // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // 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.

SPEC WRITER NOTE: If it is anticipated that work will be performed in compartmentalized areas, add the following subparagraph.

- R. If required, submit documentation to the // Resident Engineer// Facility Safety Office // COR // or other Government Designated Authority // that personnel have been trained in the fire safety aspects of working in areas with impaired structural or compartmentalization features.

#### **1.15 ELECTRICAL**

- A. All electrical work shall comply with NFPA 70 (NEC), NFPA 70B, NFPA 70E, 29 CFR Part 1910 Subpart J - General Environmental Controls, 29 CFR Part 1910 Subpart S - Electrical, and 29 CFR 1926 Subpart K in addition to other references required by contract.
- B. All qualified persons performing electrical work under this contract shall be licensed journeyman or master electricians. All apprentice electricians performing under this contract shall be deemed unqualified persons unless they are working under the immediate supervision of a licensed electrician or master electrician.

C. All electrical work will be accomplished de-energized and in the Electrically Safe Work Condition ( refer to NFPA 70E for Work Involving Electrical Hazards, including Exemptions to Work Permit). Any Contractor, subcontractor or temporary worker who fails to fully comply with this requirement is subject to immediate termination in accordance with FAR clause 52.236-5(c). Only in rare circumstance where achieving an electrically safe work condition prior to beginning work would increase or cause additional hazards, or is infeasible due to equipment design or operational limitations is energized work permitted. The //Chief Engineer// Chief of Facilities Management// Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority // with approval of the Medical Center Director will make the determination if the circumstances would meet the exception outlined above. An AHA specific to energized work activities will be 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 The //Chief Engineer// Chief of Facilities Management // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority //.

- D.** Before beginning any electrical work, an Activity Hazard Analysis (AHA) will be conducted to include Shock Hazard and Arc Flash Hazard analyses (NFPA Tables can be used only as a last alternative and it is strongly suggested a full Arc Flash Hazard Analyses be conducted). Work shall not begin until the AHA for the work activity has been accepted by the // Resident Engineer // Project Manager // and Facility Safety // Manager // Officer // or Contracting Officer Representative // or Government Designated Authority // and discussed with all engaged in the activity, including the Contractor, subcontractor(s), and Government on-site representatives at preparatory and initial control phase meetings.
- 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.
  2. The use of Controlled Access Zone (CAZ) as a fall protection method is prohibited.
  3. A Warning Line System (WLS) may ONLY be used on floors or flat or low-sloped roofs (between 0 - 18.4 degrees or 4:12 slope) and shall be erected around all sides of the work area (See 29 CFR 1926.502(f) for construction of WLS requirements). Working within the WLS does not require FP. No worker shall be allowed in the area between the roof or floor edge and the WLS without FP. FP is required when working outside the WLS.
  4. Fall protection while using a ladder will be governed by the OSHA requirements.

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

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

#### **1.18 EXCAVATION AND TRENCHES**

- A. All excavation and trenching work shall comply with 29 CFR 1926 Subpart P.
- B. All excavations and trenches 5 feet in depth or greater shall require a written trenching and excavation permit (NOTE - some States and other local jurisdictions require separate state/jurisdiction-issued

excavation permits). The permit shall be completed and provided to the // Resident Engineer // Project Manager // and/or Facility Safety // Manager // Officer // and/or other Government Designated Authority // prior to commencing work for the day. At the end of the day, the permit shall be closed out and provided to the // Resident Engineer // Project Manager // and/or Facility Safety // Manager // Officer // and/or other Government Designated Authority //. The permit shall be maintained onsite and include the following:

1. Determination of soil classification
  2. Indication that utilities have been located and identified. If utilities could not be located after all reasonable attempt, then excavating operations will proceed cautiously.
  3. Indication of selected excavation protective system.
  4. Indication that the spoil pile will be stored at least 2 feet from the edge of the excavation and safe access provided within 25 feet of the workers.
  5. Indication of assessment for a potential toxic, explosive, or oxygen deficient atmosphere.
- C. If not using an engineered protective system such as a trench box, shielding, shoring, or other Professional Engineer designed system and using a sloping or benching system, soil classification cannot be Solid Rock or Type A. All soil will be classified as Type B or Type C and sloped or benched in accordance with Appendix B of 29 CFR 1926.

#### **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)**

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

#### **1.21 CONFINED SPACE ENTRY**

A. All confined space entry shall comply with 29 CFR 1910.146 except for specifically referenced operations in 29 CFR 1926 such as excavations/trenches [1926.651(g)].

B. A site-specific Confined Space Entry Plan (including permitting process) shall be developed and submitted to the // Resident Engineer // Project Manager // and/or Facility Safety // Manager // Officer // and/or other Government Designated Authority //.

#### **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 // Resident Engineer // Project Manager // and/or Facility Safety // Manager // Officer // and/or other Government Designated Authority //. Obtain permits from // Resident Engineer // Project Manager // and/or Facility Safety // Manager // Officer // and/or other Government

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

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**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)  
425 Eye Street N.W, (sixth floor)  
Washington, DC 20001  
Telephone Numbers: (202) 632-5249 or (202) 632-5178  
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. <a href="http://www.aluminum.org">http://www.aluminum.org</a>
AABC	Associated Air Balance Council <a href="http://www.aabchg.com">http://www.aabchg.com</a>
AAMA	American Architectural Manufacturer's Association <a href="http://www.aamanet.org">http://www.aamanet.org</a>
AAN	American Nursery and Landscape Association <a href="http://www.anla.org">http://www.anla.org</a>
AASHTO	American Association of State Highway and Transportation Officials <a href="http://www.aashto.org">http://www.aashto.org</a>
AATCC	American Association of Textile Chemists and Colorists <a href="http://www.aatcc.org">http://www.aatcc.org</a>
ACGIH	American Conference of Governmental Industrial Hygienists <a href="http://www.acgih.org">http://www.acgih.org</a>
ACI	American Concrete Institute <a href="http://www.aci-int.net">http://www.aci-int.net</a>
ACPA	American Concrete Pipe Association <a href="http://www.concrete-pipe.org">http://www.concrete-pipe.org</a>
ACPPA	American Concrete Pressure Pipe Association <a href="http://www.acppa.org">http://www.acppa.org</a>
ADC	Air Diffusion Council <a href="http://flexibleduct.org">http://flexibleduct.org</a>
AGA	American Gas Association <a href="http://www.aga.org">http://www.aga.org</a>

AGC	Associated General Contractors of America <a href="http://www.agc.org">http://www.agc.org</a>
AGMA	American Gear Manufacturers Association, Inc. <a href="http://www.agma.org">http://www.agma.org</a>
AHAM	Association of Home Appliance Manufacturers <a href="http://www.aham.org">http://www.aham.org</a>
AIA	American Institute of Architects <a href="http://www.aia.org">http://www.aia.org</a>
AISC	American Institute of Steel Construction <a href="http://www.aisc.org">http://www.aisc.org</a>
AISI	American Iron and Steel Institute <a href="http://www.steel.org">http://www.steel.org</a>
AITC	American Institute of Timber Construction <a href="http://www.aitc-glulam.org">http://www.aitc-glulam.org</a>
AMCA	Air Movement and Control Association, Inc. <a href="http://www.amca.org">http://www.amca.org</a>
ANLA	American Nursery & Landscape Association <a href="http://www.anla.org">http://www.anla.org</a>
ANSI	American National Standards Institute, Inc. <a href="http://www.ansi.org">http://www.ansi.org</a>
APA	The Engineered Wood Association <a href="http://www.apawood.org">http://www.apawood.org</a>
ARI	Air-Conditioning and Refrigeration Institute <a href="http://www.ari.org">http://www.ari.org</a>
ASAE	American Society of Agricultural Engineers <a href="http://www.asae.org">http://www.asae.org</a>
ASCE	American Society of Civil Engineers <a href="http://www.asce.org">http://www.asce.org</a>

ASHRAE	American Society of Heating, Refrigerating, and Air-Conditioning Engineers <a href="http://www.ashrae.org">http://www.ashrae.org</a>
ASME	American Society of Mechanical Engineers <a href="http://www.asme.org">http://www.asme.org</a>
ASSE	American Society of Sanitary Engineering <a href="http://www.asse-plumbing.org">http://www.asse-plumbing.org</a>
ASTM	American Society for Testing and Materials <a href="http://www.astm.org">http://www.astm.org</a>
AWI	Architectural Woodwork Institute <a href="http://www.awinet.org">http://www.awinet.org</a>
AWS	American Welding Society <a href="http://www.aws.org">http://www.aws.org</a>
AWWA	American Water Works Association <a href="http://www.awwa.org">http://www.awwa.org</a>
BHMA	Builders Hardware Manufacturers Association <a href="http://www.buildershardware.com">http://www.buildershardware.com</a>
BIA	Brick Institute of America <a href="http://www.bia.org">http://www.bia.org</a>
CAGI	Compressed Air and Gas Institute <a href="http://www.cagi.org">http://www.cagi.org</a>
CGA	Compressed Gas Association, Inc. <a href="http://www.cganet.com">http://www.cganet.com</a>
CI	The Chlorine Institute, Inc. <a href="http://www.chlorineinstitute.org">http://www.chlorineinstitute.org</a>
CISCA	Ceilings and Interior Systems Construction Association <a href="http://www.cisca.org">http://www.cisca.org</a>
CISPI	Cast Iron Soil Pipe Institute <a href="http://www.cispi.org">http://www.cispi.org</a>

CLFMI	Chain Link Fence Manufacturers Institute <a href="http://www.chainlinkinfo.org">http://www.chainlinkinfo.org</a>
CPMB	Concrete Plant Manufacturers Bureau <a href="http://www.cpmc.org">http://www.cpmc.org</a>
CRA	California Redwood Association <a href="http://www.calredwood.org">http://www.calredwood.org</a>
CRSI	Concrete Reinforcing Steel Institute <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  
<http://www.nationboard.org>

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	Precast Prestressed Concrete Institute <a href="http://www.pci.org">http://www.pci.org</a>
PPI	The Plastic Pipe Institute <a href="http://www.plasticpipe.org">http://www.plasticpipe.org</a>
PEI	Porcelain Enamel Institute, Inc. <a href="http://www.porcelainenamel.com">http://www.porcelainenamel.com</a>
PTI	Post-Tensioning Institute <a href="http://www.post-tensioning.org">http://www.post-tensioning.org</a>
RFCI	The Resilient Floor Covering Institute <a href="http://www.rfci.com">http://www.rfci.com</a>
RIS	Redwood Inspection Service See - CRA
RMA	Rubber Manufacturers Association, Inc. <a href="http://www.rma.org">http://www.rma.org</a>
SCMA	Southern Cypress Manufacturers Association <a href="http://www.cypressinfo.org">http://www.cypressinfo.org</a>
SDI	Steel Door Institute <a href="http://www.steeldoor.org">http://www.steeldoor.org</a>
SOI	Secretary of the Interior  <a href="http://www.cr.nps.gov/local-law/arch_stnds_8_2.htm">http://www.cr.nps.gov/local-law/arch_stnds_8_2.htm</a>
IGMA	Insulating Glass Manufacturers Alliance <a href="http://www.igmaonline.org">http://www.igmaonline.org</a>
SJI	Steel Joist Institute <a href="http://www.steeljoist.org">http://www.steeljoist.org</a>
SMACNA	Sheet Metal and Air-Conditioning Contractors National Association, Inc. <a href="http://www.smacna.org">http://www.smacna.org</a>
SSPC	The Society for Protective Coatings <a href="http://www.sspc.org">http://www.sspc.org</a>

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>

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**SECTION 01 57 19**  
**TEMPORARY ENVIRONMENTAL CONTROLS**

SPEC WRITER NOTE: Refer to and edit this Section per the environmental protection actions required and identified in the specific project mitigation memorandum on file with the Project Director. Delete or add information between //----// and any other items applicable to project. Renumber the paragraphs as applicable.

**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 effect 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.
7. 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, // stream crossings, // 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.
  - 2. 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.

SPEC WRITER NOTE: The design year storm is determined by the downstream environment to be protected. Implement appropriate protection based on the estimate of damage to the downstream environment versus the design year storm that will cause damage. If permanent sediment basins are necessary for the particular project, include these permanent facilities in the project design and the contract documents. If permanent basins are not required, delete reference thereto.

- a. Sediment Basins: Trap sediment from construction areas in temporary or permanent sediment basins that accommodate the runoff of a local //\_\_\_\_\_// (design year) storm. After each storm, pump the basins dry and remove the accumulated sediment. Control overflow/drainage with paved weirs or by vertical overflow pipes, draining from the surface.
  - b. Reuse or conserve the collected topsoil sediment as directed by the Resident Engineer. Topsoil use and requirements are specified in Section 31 20 00, EARTH MOVING.
  - c. Institute effluent quality monitoring programs as required by Federal, State, and local environmental agencies.
5. Erosion and Sedimentation Control Devices: The erosion and sediment controls selected and maintained by the Contractor shall be such that water quality standards are not violated as a result of the Contractor's activities. Construct or install all temporary and permanent erosion and sedimentation control features // shown. // on the Environmental Protection Plan. // Maintain temporary erosion and sediment control measures such as berms, dikes, drains, sedimentation basins, grassing, and mulching, until permanent drainage and erosion control facilities are completed and operative.
6. Manage borrow areas on // and off // Government property to minimize erosion and to prevent sediment from entering nearby water courses or lakes.
7. Manage and control spoil areas on // and off // Government property to limit spoil to areas // shown // on the Environmental Protection Plan // and prevent erosion of soil or sediment from entering nearby water courses or lakes.

8. Protect adjacent areas from despoilment by temporary excavations and embankments.
  9. 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.
  10. Store chemical waste away from the work areas in corrosion resistant containers and dispose of waste in accordance with Federal, State, and local regulations.
  11. Handle discarded materials other than those included in the solid waste category as directed by the Resident Engineer.
- C. Protection of Water Resources: Keep construction activities under surveillance, management, and control to avoid pollution of surface and ground waters and sewer systems. Implement management techniques to control water pollution by the listed construction activities that are included in this contract.
1. Washing and Curing Water: Do not allow wastewater directly derived from construction activities to enter water areas. Collect and place wastewater in retention ponds allowing the suspended material to settle, the pollutants to separate, or the water to evaporate.
  2. Control movement of materials and equipment at stream crossings during construction to prevent violation of water pollution control standards of the Federal, State, or local government.
- SPEC WRITER NOTE: Specify additional operations unique to this contract.
3. Monitor water areas affected by construction.
- D. Protection of Fish and Wildlife Resources: Keep construction activities under surveillance, management, and control to minimize interference with, disturbance of, or damage to fish and wildlife. Prior to beginning construction operations, list species that require specific attention along with measures for their protection.
- 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 // insert Name of State and title of State

Air Pollution Statue, Rule, or Regulation // and 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.
2. 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

SPEC WRITER NOTE: Insert additional information as needed when unique to a particular VA Medical Center site.

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	//--//
GENERATORS	75	SAWS	75
COMPRESSORS	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 55 // \_\_\_\_ // dB(A) 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.

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**MODIFICATION**

**06-01-12      CONTENT REVISED IN REFERENCE TO REQUIREMENT FOR RECYCLING OF  
CONSTRUCTION AND DEMOLITION WASTE.**

**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.
12. Insulation.
13. Paint.
14. Fluorescent lamps.

## 1.2 RELATED WORK

- A. Section 02 41 00, DEMOLITION.
- B. Section 01 00 00, GENERAL REQUIREMENTS.
- C. Lead Paint: Section 02 83 33.13, LEAD BASED PAINT REMOVAL AND DISPOSAL.

## 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.
4. 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.

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SECTION 02 21 00  
SITE SURVEYS

PART 1 - GENERAL

1.1 DESCRIPTION

This section specifies the gathering of research documents, performance of a property and topographic survey and preparation of a site survey map.

1.2 DEFINITIONS

A. Professional Land Surveyor: One who possesses a valid state license as a "Professional Land Surveyor" from the state in which they practice.

B. Professional Civil Engineer: One who possesses a valid state license as a "Professional Civil Engineer" from the state in which they practice. For this section, the term "surveyor" shall also include Professional Civil Engineers authorized to practice Land Surveying under the laws of the state in which they practice.

PART 2 - EXECUTION

A. The surveyor shall research available public records for all mapping, monumentation, plats, governmental surveys etc. that may pertain to the subject property. Research all applicable public utilities for substructure data such as sewers, storm drains, water lines, electrical conduits etc.

B. The survey shall be performed on the ground in accordance with the current "Accuracy Standards for Land Title Surveys" as adopted, from time to time, by the American Congress on Surveying and Mapping, the National Society of Professional Surveyors, and the American Land Title Association.

C. The surveyor, when applicable, shall consult with the Contracting Officer to determine scale of plat or map and size of drawings.

D. The surveyor shall furnish two sets of prints of the plat or map of survey and the electronic CADD file for 3D software. The sheets shall be numbered, the total number of sheets indicated and the match lines shall be shown on each sheet.

E. On the plat or map, the survey boundary shall be drawn to a scale not larger than 1 inch = 30 feet (25 mm = 9 m), with the scale clearly indicated. A graphic scale, shown in feet or meters or both, shall be included. A north arrow shall be shown and when practicable, the plat or map of survey shall be oriented so that north is at the top of the drawing. Symbols or abbreviations used shall be identified on the face of the plat or map by use of a legend or other means. Supplementary or exaggerated diagrams shall be presented accurately on the plat or map where dimensional data is too small to be shown clearly at full scale. The plat or map shall be 30 by 42 inches.

F. The survey shall contain the following applicable information:

1. The name, address, telephone number, and signature of the Professional Land Surveyor who made the survey, his or her official seal and registration number, the date the survey was completed and the dates of all revisions.

2. The survey drawing(s) submitted shall bear the following certification adjacent to the Engineer's official seal:

"I hereby certify that all information indicated on this drawing was obtained or verified by actual measurements in the field and that every effort has been made to furnish complete and accurate information."

3. Vicinity map showing the property surveyed in reference to nearby highways or major street intersections.

4. Flood zone designation (with proper annotation based on Federal Flood Insurance Rate Maps or the state or local equivalent, by scaled map location and graphic plotting only).

5. Land area as defined by the boundaries of the legal description of the surveyed premises, including legal description of the land.

6. All data necessary to indicate the mathematical dimensions and relationships of the boundary represented by bearings and distances, and the length and radius of each curve, together with elements necessary to mathematically define each curve. The point of beginning of the surveyor's description and the basis of bearings shall also be shown.

7. When record bearings or angles or distances differ from measured bearings, angles or distances, both record and measured bearings, angles, and distances shall be clearly indicated. If the record description fails to form a mathematically closed figure, the surveyor shall so indicate.

8. Measured and record distances from corners of parcels surveyed to the nearest right-of-way lines of streets in urban or suburban areas, together with recovered lot corners and evidence of lot corners, shall be noted. The distances to the nearest intersecting street shall be indicated and verified. Names and widths of streets and highways abutting the property surveyed and widths of rights of way shall be given. Observable evidence of access (or lack thereof) to such abutting streets or highways shall be indicated. Observable evidence of private roads shall be so indicated. Streets abutting the premises, which have been described in Record Documents, but not physically opened, shall be shown and so noted.

9. The identifying titles of all recorded plats, filed maps, right of way maps, or similar documents which the survey represents, wholly or in part, with their appropriate recording data. The survey shall indicate platted setback or building restriction lines which have been recorded in subdivision plats or which appear in a Record Document which has been delivered to the surveyor. Contiguity, gores, and overlaps along the exterior boundaries of the survey premises, where ascertainable from field evidence or Record Documents, or interior to those exterior boundaries, shall be clearly

indicated or noted. Where only a part of a recorded lot or parcel is included in the survey, the balance of the lot or parcel shall be indicated.

10. All evidence of found monuments shall be shown and noted. All evidence of monuments found beyond the surveyed premises on which establishment of the corners of the survey premises are dependent, and their application related to the survey shall be indicated.

11. The character of any and all evidence of possession shall be stated and the location of such evidence carefully given in relation to both the measured boundary lines and those established by the record. An absence of notation on the survey shall be presumptive of no observable evidence of possession.

12. The location of all buildings upon the plot or parcel shall be shown and their locations defined by measurements perpendicular to the boundaries. If there are no buildings, so state. Proper street numbers shall be shown where available.

13. All easements evidenced by a Record Document which have been delivered to the surveyor shall be shown, both those burdening and those benefiting the property surveyed, indicating recording information. If such an easement cannot be located, a note to this affect shall be included. Observable evidence of easements and/or servitudes of all kinds, such as those created by roads, rights-of-ways, water courses, drains, telephone, telegraph, or electric lines, water, sewer, oil or gas pipelines on or across the surveyed property and on adjoining properties if they appear to affect the surveyed property, shall be located and noted. Surface indications, if any, or of underground easements and/or servitudes shall also be shown.

14. The character and location of all walls, buildings, fences, and other visible improvements within five feet of each side of the boundary lines shall be noted. Without expressing a legal opinion, physical evidence of all encroaching structural appurtenances and projections, such as fire escapes, bay windows, windows and doors that open out, flue pipes, stoops, eaves, cornices, areaways, stoops, trip, etc., by or on adjoining property or on abutting streets, on any easement or over setback lines shown by Record Documents shall be indicated with the extent of such encroachment or projection.

15. Driveways and alleys on or crossing the property must be shown. Where there is evidence of use by other than the occupants of the property, the surveyor must so indicate on the plat or map. Where driveways or alleys on adjoining properties encroach, in whole or in part, on the property being surveyed, the surveyor must so indicate on the plat or map with appropriate measurements.

16. Location, alignment and dimensions of all roads, curbs, walks, parking and paved areas abutting the subject land. Indicate road centerlines with true bearings and lengths by 50 foot stationing. Describe curves by designating the points of curvature and tangency by station. Include all

curve data as well a location of radius and vertex points. Elevations on 50 foot (15 m) centers on centerline of roads, edges of roads and top and bottom of curbs.

17. As accurately as the evidence permits, the location of cemeteries and burial grounds disclosed in the process of researching title to the premises or observed in the process of performing the field work for the survey, shall be shown.

18. Ponds, lakes, springs, or rivers bordering on or running through the premises being surveyed shall be shown. When a property surveyed contains a natural water boundary, the surveyor shall measure the location of the boundary according to appropriate surveying methods and note on the plat or map the date of the measurement and the caveat that the boundary is subject to change due to natural causes and that it may or may not represent the actual location of the limit of title. When the surveyor is aware of changes in such boundaries, the extent of those changes shall be identified.

19. Contours at a minimum interval of //1 foot (305 mm)//. Modify between //- -// if not applicable to project. Base vertical control on the permanent (not assumed) National Geodetic Survey (NGS) or VA Medical Center Bench Mark. Note location, description and datum. Surveyor to establish three benchmarks on the property that are based on the NGS. Horizontal and vertical control to be provided on each control point.

20. Identify and show if possible, setback, height, and floor space area restrictions of record or disclosed by applicable zoning or building codes (in addition to those recorded in subdivision maps). If none, so state.

21. Exterior dimensions of all buildings at ground level. Show square footage of exterior footprint of all buildings at ground level and gross floor area of all buildings.

22. Measured height of all buildings above grade at a defined location. If no defined location is provided, the point of measurement shall be shown.

23. Elevations at each entrance to buildings, service docks, building corners, steps, ramps and grade slabs.

24. Substantial, visible improvements (in addition to buildings) such as signs, parking areas, swimming pools, etc.

25. Parking areas and, if striped, the striping and the type (eg. handicapped, motorcycle, regular, etc.) and number of parking spaces.

26. Indication of access to a public way such as curb cuts and driveways.

27. Location of utilities existing on or serving the surveyed property as determined by observed evidence together with plans and markings provided by utility companies, and other appropriate sources (with references as to the source of information. Locate and show all fire hydrants located within 500 feet of the subject property.



28. Railroad tracks and sidings.

29. Manholes, catch basins, valve vaults or other surface indications of subterranean uses together with depths or invert elevations, sizes, and materials of all pipes.

30. Wires and cables (including their function) crossing the survey premises, all poles on or within ten feet of the surveyed premises, and the dimensions of all cross-wires or overhangs affecting the surveyed premises.

31. Utility company installations on the surveyed premises.

32. Names of adjoining owners of platted lands together with zoning classification.

33. Observable evidence of earth moving work, building construction or building additions within recent months.

34. Any changes in street right-of-way lines either completed or proposed, and available from the controlling jurisdiction. Observable evidence of recent street or sidewalk construction or repairs.

35. Observable evidence of site use as a solid waste dump, sump or sanitary landfill.

36. All trees with a minimum diameter of 6" measured at 48" above the base of the tree. Perimeter outline only of thickly wooded areas with description of predominant vegetation.

- - - E N D - - -

SECTION 02 41 00  
DEMOLITION

SPEC WRITER NOTES:

1. Delete between // ---- // if not applicable to project. Also delete any other item or paragraph not applicable in the section and renumber the paragraphs.
2. Use this Section for projects involving total or large scale demolition. Omit this Section on projects involving minor demolition.
3. Buildings, structures, utilities, etc., required to be removed must be clearly shown.
4. Debris or trash dumps should be shown to the fullest extent. If quantities of materials to be removed cannot be accurately estimated, do not include estimates of quantities. If site clearing is included in project, removal of debris from onsite trash dumps should be included in that specification section, then removal of materials from onsite trash dumps should be included in this specification section.
5. Modify the following paragraphs to reflect specific conditions for the project.

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:

A. Demolition and removal of roads, walks, curbs, and on-grade slabs outside buildings to be demolished: // Section 31 20 00, EARTH MOVING // Section 31 20 11, EARTH MOVING (SHORT FORM) //.

B. Safety Requirements: Section 01 35 26 Safety Requirements Article, ACCIDENT PREVENTION PLAN (APP).

C. Disconnecting utility services prior to demolition: Section 01 00 00, GENERAL REQUIREMENTS.

D. Reserved items that are to remain the property of the Government: Section 01 00 00, GENERAL REQUIREMENTS.

E. Asbestos Removal: Section 02 82 11, TRADITIONAL ASBESTOS ABATEMENT.

F. Lead Paint: Section 02 83 33.13, LEAD-BASED PAINT REMOVAL AND DISPOSAL.

G. Environmental Protection: Section 01 57 19, TEMPORARY ENVIRONMENTAL CONTROLS.

H. Construction Waste Management: Section 017419 CONSTRUCTION WASTE MANAGEMENT.

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.

SPEC WRITER NOTE: Unless the building is to be demolished story by story paragraph F2 should not be used.

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 // Cemetery Property //; 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 57 19, TEMPORARY ENVIRONMENTAL CONTROLS.

I. The work shall comply with the requirements of Section 01 00 00, GENERAL REQUIREMENTS, Article 1.7 INFECTION PREVENTION MEASURES.

#### 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 (Not Used)

#### PART 3 - EXECUTION

##### 3.1 DEMOLITION:

A. Completely demolish and remove buildings and structures, including all appurtenances related or connected thereto, as noted below:

1. As required for installation of new utility service lines.

2. To full depth within an area defined by hypothetical lines located 1500 mm (5 feet) outside building lines of new structures.

B. 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 // Cemetery Property // to avoid accumulation at

the demolition site. Materials that cannot be removed daily shall be stored in areas specified by the Resident Engineer. Break up concrete slabs below grade that do not require removal from present location into pieces not exceeding 600 mm (24 inches) square to permit drainage. Contractor shall dispose debris in compliance with applicable federal, state or local permits, rules and/or regulations.

C. In removing buildings and structures of more than two stories, demolish work story by story starting at highest level and progressing down to third floor level. Demolition of first and second stories may proceed simultaneously.

D. 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 // be hauled to VA specified disposal site //. 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.

E. 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 Resident Engineer. 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 // Cemetery Property // disposal of all items and materials not required to remain property of the Government as well as all debris and rubbish resulting from demolition operations.

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**SECTION 02 82 13.21  
ASBESTOS ROOFING ABATEMENT**

**INSTRUCTIONS TO ARCHITECT/ENGINEER AND INDUSTRIAL HYGIENE CONSULTANT  
SECTION**

**02 82 13.21  
ASBESTOS ROOFING ABATEMENT SPECIFICATIONS**

1. These specifications provide general guidance to personnel given the task of designing and executing a Class II roofing abatement project. Each abatement is a unique situation and therefore must be tailored for that project. This specification incorporates current regulatory requirements and current best abatement practices, procedures and technology. The Architect/Engineer and/or the Industrial Hygiene consultants may provide additional specification additions or deletions to this specification that, in their professional judgment, will ensure a safe and effective approach to a specific abatement project while maintaining compliance with applicable regulations and VA policy. Any changes must be clearly marked on/attached to this document prior to finalization of the specification so that the changes will be adequately considered in the review process by the VA.
2. These specifications are to be used in conjunction with Contractor selection criteria; special instructions package; and general construction provisions.
3. Paragraphs that are not preceded by a number code are indented as instructions to the specifications writer and identified by the notation "Spec Writer Notes". These paragraphs must be deleted from the final document.
4. Within the text of the specifications, there may be optional procedures which the specification writer could include in the final specification. Procedures which are not chosen must be deleted by the specification writer. Optional text is shown by the notation (//text//).
5. The specification writer, VPIH/CPIH, CPIH/CIH, and A/E must be aware of and read the AEQA 10-95 since it details common errors in specification and contract documents for asbestos project. This would be especially helpful if a survey is being conducted prior to an abatement project.  
A full AHERA survey of the facility would be needed prior to renovation activities, however, if demolition of the facility is planned, a NESHAP survey of the facility would need to be performed.

**PART 1 - GENERAL**

**1.1 SUMMARY OF THE WORK**

**1.1.1 CONTRACT DOCUMENTS AND RELATED REQUIREMENTS**

Drawings, general provisions of the contract, including general and supplementary conditions and other Division 01 specifications, shall apply to the work of this section. The contract documents show the work to be done under the contract and related requirements and conditions impacting the project. Related requirements and conditions include applicable codes and regulations, notices and permits, existing site conditions and restrictions on use of the site, requirements for partial owner occupancy during the work, coordination with other work and the phasing of the work. In the event the Asbestos Abatement

Contractor discovers a conflict in the contract documents and/or requirements or codes, the conflict must be brought to the immediate attention of the Contracting Officer for resolution. Whenever there is a conflict or overlap in the requirements, the most stringent shall apply. Any actions taken by the Contractor without obtaining guidance from the Contracting Officer shall become the sole risk and responsibility of the Asbestos Abatement Contractor. All costs incurred due to such action are also the responsibility of the Asbestos Abatement Contractor.

#### **1.1.1.2 EXTENT OF WORK**

- A. Below is a brief description of the estimated quantities of asbestos roofing materials to be abated. These quantities are for informational purposes only and are based on the best information available at the time of the specification preparation. The Contractor shall satisfy himself as the actual quantities to be abated. Nothing in this section may be interpreted as limiting the extent of work otherwise required by this contract and related documents.
- B. Removal, clean-up and disposal of ACM roofing in an appropriate regulated area in the following approximate quantities;

(       ) square feet of roofing

SPEC WRITER NOTE: Provide the approximate quantities for removal.

#### **1.1.1.3 RELATED WORK**

- A. Section 07 84 00, FIRESTOPPING.
- B. Section 02 41 00, DEMOLITION.
- C. Division 09, FINISHES.

#### **1.1.1.4 TASKS**

The work tasks are summarized briefly as follows:

- A. Pre-abatement activities including pre-abatement meeting(s), inspection(s), notifications, permits, submittal approvals, work-site preparations, emergency procedures arrangements, and standard operating procedures for Class II asbestos abatement work.
- B. Abatement activities including removal, clean-up and disposal of ACM waste, recordkeeping, security, monitoring, and inspections.
- C. Cleaning and decontamination activities including final visual inspection, air monitoring and certification of decontamination.

#### **1.1.1.5 ABATEMENT CONTRACTOR USE OF PREMISES**

- A. The Contractor and Contractor's personnel shall cooperate fully with the VA representative/consultant to facilitate efficient use of buildings and areas within buildings. The Contractor shall perform the work in accordance with the VA specifications, drawings, phasing plan and in compliance with any/all applicable Federal, State and Local regulations and requirements.
- B. The Contractor shall use the existing facilities in the building strictly within the limits indicated in contract documents as well as the approved VA Design and Construction Procedure. VA Design and Construction Procedure drawings of partially occupied buildings will show the limits of regulated areas; the placement of decontamination facilities; the temporary location of bagged waste ACM; the path of transport to outside the building; and the temporary waste storage area

for each building/regulated area. Any variation from the arrangements shown on drawings shall be secured in writing from the VA representative through the pre-abatement plan of action. The following limitations of use shall apply to existing facilities shown on drawings:

SPEC WRITER NOTE: Provide specific limitations on the use of facility elements such as corridors, stairs, elevators, loading platforms, etc., which are not dedicated for the use of the abatement contractor during his work. Consult with the VA on this and secure verification in writing on the conditions of use.

## 1.2 VARIATIONS IN QUANTITY

The quantities and locations of ACM as indicated on the drawings and the extent of work included in this section are estimates which are limited by the physical constraints imposed by occupancy of the buildings. Accordingly, minor variations (+/- 5%) in quantities of ACM within the regulated area are considered as having no impact on contract price and time requirements of this contract. Where additional work is required beyond the above variation, the Contractor shall provide unit prices for additional work that is newly discovered materials and those prices will be used for additional work under the contract.

SPEC WRITER NOTE: The contract time and price will be adjusted under the provisions of "Differing Site Conditions"; (FAR 52.236-2). The Contractor shall have submitted unit prices before letting the contract.

## 1.3 STOP ASBESTOS REMOVAL

If the Contracting Officer; their field representative; (the facility Safety Officer/Manager or their designee, or the VA Professional Industrial Hygienist/Certified Industrial Hygienist (VPIH/CIH) presents a verbal **Stop Asbestos Removal Order**, the Contractor/Personnel shall immediately stop all asbestos removal and maintain HEPA filtered negative pressure air flow in the containment and adequately wet any exposed ACM. If a verbal Stop Asbestos Removal Order is issued, the VA shall follow-up with a written order to the Contractor as soon as practicable. The Contractor shall not resume any asbestos removal activity until authorized to do so in writing by the VA Contracting Officer. A stop asbestos removal order may be issued at any time the VA Contracting Officer determines abatement conditions/activities are not within VA specification, regulatory requirements or that an imminent hazard exists to human health or the environment. Work stoppage will continue until conditions have been corrected to the satisfaction of the VA. Standby time and costs for corrective actions will be borne by the Contractor, including the VPIH/CIH time. The occurrence of any of the following events shall be reported immediately by the Contractor's competent person to the VA Contracting Office or field representative using the most expeditious means (e.g., verbal or telephonic), followed up with written notification to the Contracting Officer as soon as it is practical. The Contractor shall immediately stop asbestos removal/disturbance activities and initiate fiber reduction activities:



- A. Airborne PCM analysis results equal to or greater than 0.01 f/cc outside a regulated area or >0.05 f/cc inside a regulated area;
- B. breach or break in regulated area containment barrier(s);
- C. less than -0.02" WCG pressure in the regulated area;
- D. serious injury/death at the site ;
- E. fire/safety emergency at the site ;
- F. respiratory protection system failure;
- G. power failure or loss of wetting agent; or
- H. any visible emissions observed outside the regulated area.

#### 1.4 DEFINITIONS

##### 1.4.1 GENERAL

Definitions and explanations here are neither complete nor exclusive of all terms used in the contract documents, but are general for the work to the extent they are not stated more explicitly in another element of the contract documents. Drawings must be recognized as diagrammatic in nature and not completely descriptive of the requirements indicated therein.

##### 1.4.2 GLOSSARY

**Abatement** - Procedures to control fiber release from asbestos-containing materials. Includes removal, encapsulation, enclosure, demolition, and renovation activities related to asbestos containing materials (ACM).

**Aerosol** - Solid or liquid particulate suspended in air.

**Adequately wet** - Sufficiently mixed or penetrated with liquid to prevent the release of particulates. If visible emissions are observed coming from the ACM, then that material has not been adequately wetted.

**Aggressive method** - Removal or disturbance of building material by sanding, abrading, grinding, or other method that breaks, crumbles, or disintegrates intact ACM.

**Aggressive sampling** - EPA AHERA defined clearance sampling method using air moving equipment such as fans and leaf blowers to aggressively disturb and maintain in the air residual fibers after abatement.

**AHERA** - Asbestos Hazard Emergency Response Act. Asbestos regulations for schools issued in 1987.

**Aircell** - Pipe or duct insulation made of corrugated cardboard which contains asbestos.

**Air monitoring** - The process of measuring the fiber content of a known volume of air collected over a specified period of time. The NIOSH 7400 Method, Issue 2 is used to determine the fiber levels in air. For personal samples and clearance air testing using Phase Contrast Microscopy (PCM) analysis. NIOSH Method 7402 can be used when it is necessary to confirm fibers counted by PCM as being asbestos. The AHERA TEM analysis may be used for background, area samples and clearance samples when required by this specification, or at the discretion of the VPIH/CIH as appropriate.

**Air sample filter** - The filter used to collect fibers which are then counted. The filter is made of mixed cellulose ester membrane for PCM (Phase Contrast Microscopy) and polycarbonate for TEM (Transmission Electron Microscopy)

**Amended water** - Water to which a surfactant (wetting agent) has been added to increase the penetrating ability of the liquid.

**Asbestos** - Includes chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, actinolite asbestos, and any of these

minerals that have been chemically treated or altered. Asbestos also includes PACM, as defined below.

**Asbestos Hazard Abatement Plan (AHAP)** - Asbestos work procedures required to be submitted by the contractor before work begins.

**Asbestos-containing material (ACM)** - Any material containing more than one percent of asbestos.

**Asbestos contaminated elements (ACE)** - Building elements such as ceilings, walls, lights, or ductwork that are contaminated with asbestos.

**Asbestos-contaminated soil (ACS)** - Soil found in the work area or in adjacent areas such as crawlspaces or pipe tunnels which is contaminated with asbestos-containing material debris and cannot be easily separated from the material.

**Asbestos-containing waste (ACW) material** - Asbestos-containing material or asbestos contaminated objects requiring disposal.

**Asbestos Project Monitor** - Some states require that any person conducting asbestos abatement clearance inspections and clearance air sampling be licensed as an asbestos project monitor.

**Asbestos waste decontamination facility** - A system consisting of drum/bag washing facilities and a temporary storage area for cleaned containers of asbestos waste. Used as the exit for waste and equipment leaving the regulated area. In an emergency, it may be used to evacuate personnel.

**Authorized person** - Any person authorized by the VA, the Contractor, or government agency and required by work duties to be present in regulated areas.

**Authorized visitor** - Any person approved by the VA; the contractor; or any government agency representative having jurisdiction over the regulated area (e.g., OSHA, Federal and State EPA0..

**Barrier** - Any surface the isolates the regulated area and inhibits fiber migration from the regulated area.

**Containment Barrier** - An airtight barrier consisting of walls, floors, and/or ceilings of sealed plastic sheeting which surrounds and seals the outer perimeter of the regulated area.

**Critical Barrier** - The barrier responsible for isolating the regulated area from adjacent spaces, typically constructed of plastic sheeting secured in place at openings such as doors, windows, or any other opening into the regulated area.

**Primary Barrier** - Plastic barriers placed over critical barriers and exposed directly to abatement work.

**Secondary Barrier** - Any additional plastic barriers used to isolate and provide protection from debris during abatement work.

**Breathing zone** - The hemisphere forward of the shoulders with a radius of about 150 - 225 mm (6 - 9 inches) from the worker's nose.

**Bridging encapsulant** - An encapsulant that forms a layer on the surface of the ACM.

**Building/facility owner** - The legal entity, including a lessee, which exercises control over management and recordkeeping functions relating to a building and/or facility in which asbestos activities take place.

**Bulk testing** - The collection and analysis of suspect asbestos containing materials.

**Certified Industrial Hygienist (CIH)** - A person certified in the comprehensive practice of industrial hygiene by the American Board of Industrial Hygiene.

**Class I asbestos work** - Activities involving the removal of Thermal System Insulation (TSI) and surfacing ACM and Presumed Asbestos Containing Material (PACM).

**Class II asbestos work** - Activities involving the removal of ACM which is not thermal system insulation or surfacing material. This includes,

but is not limited to, the removal of asbestos-containing wallboard, floor tile and sheeting, roofing and siding shingles, and construction mastic.

**Clean room/Changing room** - An uncontaminated room having facilities for the storage of employee's street clothing and uncontaminated materials and equipment.

**Clearance sample** - The final air sample taken after all asbestos work has been done and visually inspected. Performed by the VA's professional industrial hygiene consultant/Certified Industrial Hygienist (VPIH/CIH).

**Closely resemble** - The major workplace conditions which have contributed to the levels of historic asbestos exposure, are no more protective than conditions of the current workplace.

**Competent person** - In addition to the definition in 29 CFR 1926.32(f), one who is capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure, who has the authority to take prompt corrective measures to eliminate them, as specified in 29 CFR 1926.32(f); in addition, for Class I and II work who is specially trained in a training course which meets the criteria of EPA's Model Accreditation Plan (40 CFR 763) for supervisor.

**Contractor's Professional Industrial Hygienist (CPIH/CIH)** - The asbestos abatement contractor's industrial hygienist. The industrial hygienist must meet the qualification requirements of a PIH and may be a certified industrial hygienist (CIH).

**Count** - Refers to the fiber count or the average number of fibers greater than five microns in length with a length-to-width (aspect) ratio of at least 3 to 1, per cubic centimeter of air.

**Crawlspace** - An area which can be found either in or adjacent to the work area. This area has limited access and egress and may contain asbestos materials and/or asbestos contaminated soil.

**Decontamination area/unit** - An enclosed area adjacent to and connected to the regulated area and consisting of an equipment room, shower room, and clean room, which is used for the decontamination of workers, materials, and equipment that are contaminated with asbestos.

**Demolition** - The wrecking or taking out of any load-supporting structural member and any related razing, removing, or stripping of asbestos products.

**VA Total** - means a building or substantial part of the building is completely removed, torn or knocked down, bulldozed, flattened, or razed, including removal of building debris.

**Disposal bag** - Typically 6 mil thick sift-proof, dustproof, leak-tight container used to package and transport asbestos waste from regulated areas to the approved landfill. Each bag/container must be labeled/marked in accordance with EPA, OSHA and DOT requirements.

**Disturbance** - Activities that disrupt the matrix of ACM or PACM, crumble or pulverize ACM or PACM, or generate visible debris from ACM or PACM. Disturbance includes cutting away small amounts of ACM or PACM, no greater than the amount that can be contained in one standard sized glove bag or waste bag in order to access a building component. In no event shall the amount of ACM or PACM so disturbed exceed that which can be contained in one glove bag or disposal bag which shall not exceed 60 inches in length or width.

**Drum** - A rigid, impermeable container made of cardboard fiber, plastic, or metal which can be sealed in order to be sift-proof, dustproof, and leak-tight.

**Employee exposure** - The exposure to airborne asbestos that would occur if the employee were not wearing respiratory protection equipment.

**Encapsulant** - A material that surrounds or embeds asbestos fibers in an adhesive matrix and prevents the release of fibers.

**Encapsulation** - Treating ACM with an encapsulant.

**Enclosure** - The construction of an air tight, impermeable, permanent barrier around ACM to control the release of asbestos fibers from the material and also eliminate access to the material.

**Equipment room** - A contaminated room located within the decontamination area that is supplied with impermeable bags or containers for the disposal of contaminated protective clothing and equipment.

**Fiber** - A particulate form of asbestos, 5 microns or longer, with a length to width (aspect) ratio of at least 3 to 1.

**Fibers per cubic centimeter (f/cc)** - Abbreviation for fibers per cubic centimeter, used to describe the level of asbestos fibers in air.

**Filter** - Media used in respirators, vacuums, or other machines to remove particulate from air.

**Firestopping** - Material used to close the open parts of a structure in order to prevent a fire from spreading.

**Friable asbestos containing material** - Any material containing more than one (1) percent or asbestos as determined using the method specified in appendix A, Subpart F, 40 CFR 763, section 1, Polarized Light Microscopy, that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.

**Glovebag** - Not more than a 60 x 60 inch impervious plastic bag-like enclosure affixed around an asbestos-containing material, with glove-like appendages through which materials and tools may be handled.

**High efficiency particulate air (HEPA) filter** - An ASHRAE MERV 17 filter capable of trapping and retaining at least 99.97 percent of all mono-dispersed particles of 0.3 micrometers in diameter.

**HEPA vacuum** - Vacuum collection equipment equipped with a HEPA filter system capable of collecting and retaining asbestos fibers.

**Homogeneous area** - An area of surfacing, thermal system insulation or miscellaneous ACM that is uniform in color, texture and date of application.

**HVAC** - Heating, Ventilation and Air Conditioning

**Industrial hygienist (IH)** - A professional qualified by education, training, and experience to anticipate, recognize, evaluate and develop controls for occupational health hazards. Meets definition requirements of the American Industrial Hygiene Association (AIHA).

**Industrial hygienist technician (IH Technician)** - A person working under the direction of an IH or CIH who has special training, experience, certifications and licenses required for the industrial hygiene work assigned. Some states require that an industrial hygienist technician conducting asbestos abatement clearance inspection and clearance air sampling be licensed as an asbestos project monitor.

**Intact** - The ACM has not crumbled, been pulverized, or otherwise deteriorated so that the asbestos is no longer likely to be bound with its matrix.

**Lockdown** - Applying encapsulant, after a final visual inspection, on all abated surfaces at the conclusion of ACM removal prior to removal of critical barriers.

**National Emission Standards for Hazardous Air Pollutants (NESHAP)** - EPA's rule to control emissions of asbestos to the environment (40 CFR Part 61, Subpart M).

**Negative initial exposure assessment** - A demonstration by the employer which complies with the criteria in 29 CFR 1926.1101 (f)(2)(iii), that

employee exposure during an operation is expected to be consistently below the PEL's.

**Negative pressure** - Air pressure which is lower than the surrounding area, created by exhausting air from a sealed regulated area through HEPA equipped filtration units. OSHA requires maintaining -0.02" water column gauge inside the negative pressure enclosure.

**Negative pressure respirator** - A respirator in which the air pressure inside the facepiece is negative during inhalation relative to the air pressure outside the respirator facepiece.

**Non-friable ACM** - Material that contains more than 1 percent asbestos but cannot be crumbled, pulverized, or reduced to powder by hand pressure.

**Organic vapor cartridge** - The type of cartridge used on air purifying respirators to remove organic vapor hazardous air contaminants.

**Outside air** - The air outside buildings and structures, including, but not limited to, the air under a bridge or in an open ferry dock.

**Owner/operator** - Any person who owns, leases, operates, controls, or supervises the facility being demolished or renovated or any person who owns, leases, operates, controls, or supervises the demolition or renovation operation, or both.

**Penetrating encapsulant** - Encapsulant that is absorbed into the ACM matrix without leaving a surface layer.

**Personal protective equipment (PPE)** - equipment designed to protect user from injury and/or specific job hazard. Such equipment may include protective clothing, hard hats, safety glasses, and respirators.

**Personal sampling/monitoring** - Representative air samples obtained in the breathing zone for one or workers within the regulated area using a filter cassette and a calibrated air sampling pump to determine asbestos exposure.

**Permissible exposure limit (PEL)** - The level of exposure OSHA allows for an 8 hour time weighted average. For asbestos fibers, the eight (8) hour time weighted average PEL is 0.1 fibers per cubic centimeter (0.1 f/cc) of air and the 30-minute Excursion Limit is 1.0 fibers per cubic centimeter (1 f/cc).

**Pipe tunnel** - An area, typically located adjacent to mechanical spaces or boiler rooms in which the pipes servicing the heating system in the building are routed to allow the pipes to access heating elements. These areas may contain asbestos pipe insulation, asbestos fittings, or asbestos-contaminated soil.

**Polarized light microscopy (PLM)** - Light microscopy using dispersion staining techniques and refractive indices to identify and quantify the type(s) of asbestos present in a bulk sample.

**Polyethylene sheeting** - Strong plastic barrier material 4 to 6 mils thick, semi-transparent, flame retardant per NFPA 241.

**Positive/negative fit check** - A method of verifying the seal of a facepiece respirator by temporarily occluding the filters and breathing in (inhaling) and then temporarily occluding the exhalation valve and breathing out (exhaling) while checking for inward or outward leakage of the respirator respectively.

**Presumed ACM (PACM)** - Thermal system insulation, surfacing, and flooring material installed in buildings prior to 1981. If the building owner has actual knowledge, or should have known through the exercise of due diligence that other materials are ACM, they too must be treated as PACM. The designation of PACM may be rebutted pursuant to 29 CFR 1926.1101 (b).

**Professional IH** - An IH who meets the definition requirements of AIHA; meets the definition requirements of OSHA as a "Competent Person" at 29 CFR 1926.1101 (b); has completed two specialized EPA approved courses on management and supervision of asbestos abatement projects; has formal training in respiratory protection and waste disposal; and has a minimum of four projects of similar complexity with this project of which at least three projects serving as the supervisory IH. The PIH may be either the VA's PIH (VPIH) or Contractor's PIH (CPIH/CIH).

**Project designer** - A person who has successfully completed the training requirements for an asbestos abatement project designer as required by 40 CFR 763 Appendix C, Part I; (B) (5).

**Assigned Protection factor** - A value assigned by OSHA/NIOSH to indicate the expected protection provided by each respirator class, when the respirator is properly selected and worn correctly. The number indicates the reduction of exposure level from outside to inside the respirator facepiece.

**Qualitative fit test (QLFT)** - A fit test using a challenge material that can be sensed by the wearer if leakage in the respirator occurs.

**Quantitative fit test (QNFT)** - A fit test using a challenge material which is quantified outside and inside the respirator thus allowing the determination of the actual fit factor.

**Regulated area** - An area established by the employer to demarcate where Class I, II, III asbestos work is conducted, and any adjoining area where debris and waste from such asbestos work may accumulate; and a work area within which airborne concentrations of asbestos exceed, or there is a reasonable possibility they may exceed the PEL.

**Regulated ACM (RACM)** - Friable ACM; Category I non-friable ACM that has become friable; Category I non-friable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading or; Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of the demolition or renovation operation.

**Removal** - All operations where ACM, PACM and/or RACM is taken out or stripped from structures or substrates, including demolition operations.

**Renovation** - Altering a facility or one or more facility components in any way, including the stripping or removal of asbestos from a facility component which does not involve demolition activity.

**Repair** - Overhauling, rebuilding, reconstructing, or reconditioning of structures or substrates, including encapsulation or other repair of ACM or PACM attached to structures or substrates.

**Shower room** - The portion of the PDF where personnel shower before leaving the regulated area.

**Supplied air respirator (SAR)** - A respiratory protection system that supplies minimum Grade D respirable air per ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1-1989.

**Surfacing ACM** - A material containing more than 1 percent asbestos that is sprayed, troweled on or otherwise applied to surfaces for acoustical, fireproofing and other purposes.

**Surfactant** - A chemical added to water to decrease water's surface tension thus making it more penetrating into ACM.

**Thermal system ACM** - A material containing more than 1 percent asbestos applied to pipes, fittings, boilers, breeching, tanks, ducts, or other structural components to prevent heat loss or gain.

**Transmission electron microscopy (TEM)** - A microscopy method that can identify and count asbestos fibers.

**VA Professional Industrial Hygienist (VPIH/CIH)** - The Department of Veterans Affairs Professional Industrial Hygienist must meet the qualifications of a PIH, and may be a Certified Industrial Hygienist (CIH).

**VA Representative** - The VA official responsible for on-going project work.

**Visible emissions** - Any emissions, which are visually detectable without the aid of instruments, coming from ACM/PACM/RACM/ACS or ACM waste material.

**Waste/Equipment decontamination facility (W/EDF)** - The area in which equipment is decontaminated before removal from the regulated area.

**Waste generator** - Any owner or operator whose act or process produces asbestos-containing waste material.

**Waste shipment record** - The shipping document, required to be originated and signed by the waste generator, used to track and substantiate the disposition of asbestos-containing waste material.

**Wet cleaning** - The process of thoroughly eliminating, by wet methods, any asbestos contamination from surfaces or objects.

#### **1.4.3 REFERENCED STANDARDS ORGANIZATIONS**

The following acronyms or abbreviations as referenced in contract/specification documents are defined to mean the associated names. Names and addresses may be subject to change.

- A. VA Department of Veterans Affairs  
810 Vermont Avenue, NW  
Washington, DC 20420
- B. AIHA American Industrial Hygiene Association  
2700 Prosperity Avenue, Suite 250  
Fairfax, VA 22031  
703-849-8888
- C. ANSI American National Standards Institute  
1430 Broadway  
New York, NY 10018  
212-354-3300
- D. ASTM American Society for Testing and Materials  
1916 Race St.  
Philadelphia, PA 19103  
215-299-5400
- E. CFR Code of Federal Regulations  
Government Printing Office  
Washington, DC 20420
- F. CGA Compressed Gas Association  
1235 Jefferson Davis Highway  
Arlington, VA 22202  
703-979-0900
- F. CS Commercial Standard of the National Institute of Standards and Technology (NIST)  
U. S. Department of Commerce  
Government Printing Office  
Washington, DC 20420

- G. EPA Environmental Protection Agency  
401 M St., SW  
Washington, DC 20460  
202-382-3949
- H. MIL-STD Military Standards/Standardization Division  
Office of the Assistant Secretary of Defense  
Washington, DC 20420
- J. NIST National Institute for Standards and Technology  
U. S. Department of Commerce  
Gaithersburg, MD 20234  
301-921-1000
- K. NEC National Electrical Code (by NFPA)
- L. NEMA National Electrical Manufacturer's Association  
2101 L Street, NW  
Washington, DC 20037
- M. NFPA National Fire Protection Association  
1 Batterymarch Park  
P.O. Box 9101  
Quincy, MA 02269-9101  
800-344-3555
- N. NIOSH National Institutes for Occupational Safety and Health  
4676 Columbia Parkway  
Cincinnati, OH 45226  
513-533-8236
- O. OSHA Occupational Safety and Health Administration  
U.S. Department of Labor  
Government Printing Office  
Washington, DC 20402
- P. UL Underwriters Laboratory  
333 Pfingsten Rd.  
Northbrook, IL 60062  
312-272-8800

## **1.5 APPLICABLE CODES AND REGULATIONS**

### **1.5.1 GENERAL APPLICABILITY OF CODES, REGULATIONS, AND STANDARDS**

- A. All work under this contract shall be done in strict accordance with all applicable Federal, State, and local regulations, standards and codes governing asbestos abatement, and any other trade work done in conjunction with the abatement. All applicable codes, regulations and standards are adopted into this specification and will have the same force and effect as this specification.
- B. The most recent edition of any relevant regulation, standard, document or code shall be in effect. Where conflict among the requirements or with these specifications exists, the most stringent requirement(s) shall be utilized.
- C. Copies of all standards, regulations, codes and other applicable documents, including this specification and those listed in Section 1.5



shall be available at the worksite in the clean change area of the worker decontamination system.

#### **1.5.2 CONTRACTOR RESPONSIBILITY**

The Asbestos Abatement Contractor (Contractor) shall assume full responsibility and liability for compliance with all applicable Federal, State and Local regulations related to any and all aspects of the asbestos abatement project. The Contractor is responsible for providing and maintaining training, accreditations, medical exams, medical records, personal protective equipment (PPE) including respiratory protection including respirator fit testing, as required by applicable Federal, State and Local regulations. The Contractor shall hold the VA and VPIH/CIH consultants harmless for any Contractor's failure to comply with any applicable work, packaging, transporting, disposal, safety, health, or environmental requirement on the part of himself, his employees, or his subcontractors. The Contractor will incur all costs of the CPIH/CIH, including all sampling/analytical costs to assure compliance with OSHA/EPA/State requirements related to failure to comply with the regulations applicable to the work

#### **1.5.3 FEDERAL REQUIREMENTS**

Federal requirements which govern some aspect of asbestos abatement include, but are not limited to, the following regulations.

- A. Occupational Safety and Health Administration (OSHA)
  - 1. Title 29 CFR 1926.1101 - Construction Standard for Asbestos
  - 2. Title 29 CFR 1910.132 - Personal Protective Equipment
  - 3. Title 29 CFR 1910.134 - Respiratory Protection
  - 4. Title 29 CFR 1926 - Construction Industry Standards
  - 5. Title 29 CFR 1910.20 - Access to Employee Exposure and Medical Records
  - 6. Title 29 CFR 1910.1200 - Hazard Communication
  - 7. Title 29 CFR 1910.151 - Medical and First Aid
- B. Environmental Protection Agency (EPA)
  - 1. 40 CFR 61 Subpart A and M (Revised Subpart B) - National Emission Standard for Hazardous Air Pollutants - Asbestos.
  - 2. 40 CFR 763.80 - Asbestos Hazard Emergency Response Act (AHERA)
- C. Department of Transportation (DOT)
  - Title 49 CFR 100 - 185 - Transportation

#### **1.5.4 STATE REQUIREMENTS**

State requirements that apply to the asbestos abatement work, disposal, clearance, etc., include, but are not limited to, the following://

SPEC WRITER NOTE: Provide pertinent information on applicable state regulations, statutes, and guidance documents. Acquire copies of the applicable documents and include the appropriate citations in the specifications. Contact state agencies for standards and requirements.

#### **1.5.5 LOCAL REQUIREMENTS**

If local requirements are more stringent than federal or state standards, the local standards are to be followed.//

SPEC WRITER NOTE: Include local requirements here if they apply.

#### **1.5.6 STANDARDS**

- A. Standards which govern asbestos abatement activities include, but are not limited to, the following:
  - 1. American National Standards Institute (ANSI) Z9.2-79 - Fundamentals Governing the Design and Operation of Local Exhaust Systems and ANSI Z88.2 - Practices for Respiratory Protection.
  - 2. Underwriters Laboratories (UL) 586-90 - UL Standard for Safety of HEPA filter Units, 7th Edition.
- B. Standards which govern encapsulation work include, but are not limited to, the following:
  - 1. American Society for Testing and Materials (ASTM)
- C. Standards which govern the fire and safety concerns in abatement work include, but are not limited to, the following:
  - 1. National Fire Protection Association (NFPA) 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations.
  - 2. NFPA 701 - Standard Methods for Fire Tests for Flame Resistant Textiles and Film.
  - 3. NFPA 101 - Life Safety Code

#### **1.5.7 EPA GUIDANCE DOCUMENTS**

- A. EPA guidance documents which discuss asbestos abatement work activities are listed below. These documents are made part of this section by reference. EPA publications can be ordered from (800) 424-9065.
- B. Guidance for Controlling ACM in Buildings (Purple Book) EPA 560/5-85-024
- C. Asbestos Waste Management Guidance EPA 530-SW-85-007
- D. A Guide to Respiratory Protection for the Asbestos Abatement Industry EPA-560-OPTS-86-001
- E. Guide to Managing Asbestos in Place (Green Book) TS 799 20T July 1990

#### **1.5.8 NOTICES**

- A. State and Local agencies: Send written notification as required by state and local regulations including the local fire department prior to beginning any work on ACM as follows:
- B. Copies of notifications shall be submitted to the VA for the facility's records at the same time frame notification is given to EPA, State, and Local authorities.

#### **1.5.9 PERMITS/LICENSES**

- A. The contractor shall apply for and have all required permits and licenses to perform asbestos abatement work as required by Federal, State, and Local regulations.

SPEC WRITER NOTE: Permits and/or licenses may be required by authorities to perform asbestos abatement work. Indicate here any such requirements.

#### **1.5.10 POSTING AND FILING OF REGULATIONS**

- A. Maintain two (2) copies of applicable federal, state, and local regulations. Post one copy of each at the regulated area where workers

will have daily access to the regulations and keep another copy in the Contractor's office.

#### 1.5.11 VA RESPONSIBILITIES

Prior to commencement of work:

- A. Notify occupants adjacent to regulated areas of project dates and requirements for relocation, if needed. Arrangements must be made prior to starting work for relocation of desks, files, equipment, and personal possessions to avoid unauthorized access into the regulated area. **Note: Notification of adjacent personnel is required by OSHA in 29 CFR 1926.1101 (k) to prevent unnecessary or unauthorized access to the regulated area.**
- B. Submit to the Contractor results of background air sampling; including location of samples, person who collected the samples, equipment utilized, calibration data and method of analysis. During abatement, submit to the Contractor, results of bulk material analysis and air sampling data collected during the course of the abatement. This information shall not release the Contractor from any responsibility for OSHA compliance.

#### 1.5.12 SITE SECURITY

- A. Regulated area access is to be restricted only to authorized, trained/accredited and protected personnel. These may include the Contractor's employees, employees of Subcontractors, VA employees and representatives, State and local inspectors, and any other designated individuals. A list of authorized personnel shall be established prior to commencing the project and be posted in the clean room of the decontamination unit.
- B. Entry into the regulated area by unauthorized individuals shall be reported immediately to the Competent Person by anyone observing the entry. The Competent person shall immediately notify the VA.
- C. A log book shall be maintained in the clean room of the decontamination unit. Anyone who enters the regulated area must record their name, affiliation, time in, and time out for each entry.
- D. Access to the regulated area shall be through of a critical barrier doorway. All other access (doors, windows, hallways, etc.) shall be sealed or locked to prevent entry to or exit from the regulated area. The only exceptions for this requirement are the waste/equipment load-out area which shall be sealed except during the removal of containerized asbestos waste from the regulated area, and emergency exits. Emergency exits shall not be locked from the inside; however, they shall be sealed with poly sheeting and taped until needed.
- E. The Contractor's Competent Person shall control site security during abatement operations in order to isolate work in progress and protect adjacent personnel. A 24 hour security system shall be provided at the entrance to the regulated area to assure that all entrants are logged in/out and that only authorized personnel are allowed entrance.
- F. The Contractor will have the VA's assistance in notifying adjacent personnel of the presence, location and quantity of ACM in the regulated area and enforcement of restricted access by the VA's employees.
- G. The regulated area shall be locked during non-working hours and secured by VA Representative or Competent Person. The VA Police should be informed of asbestos abatement regulated areas to provide security checks during facility rounds and emergency response..

#### **1.5.13 EMERGENCY ACTION PLAN AND ARRANGEMENTS**

- A. An Emergency Action Plan shall be developed by prior to commencing abatement activities and shall be agreed to by the Contractor and the VA. The Plan shall meet the requirements of 29 CFR 1910.38 (a);(b).
- B. Emergency procedures shall be in written form and prominently posted in the clean room and equipment room of the decontamination unit. Everyone, prior to entering the regulated area, must read and sign these procedures to acknowledge understanding of the regulated area layout, location of emergency exits and emergency procedures.
- C. Emergency planning shall include written notification of police, fire, and emergency medical personnel of planned abatement activities; work schedule; layout of regulated area; and access to the regulated area, particularly barriers that may affect response capabilities.
- D. Emergency planning shall include consideration of fire, explosion, hazardous atmospheres, electrical hazards, slips/trips and falls, confined spaces, and heat stress illness. Written procedures for response to emergency situations shall be developed and employee training in procedures shall be provided.
- E. Employees shall be trained in regulated area/site evacuation procedures in the event of workplace emergencies.
  - 1. For non life-threatening situations - employees injured or otherwise incapacitated shall decontaminate following normal procedures with assistance from fellow workers, if necessary, before exiting the regulated area to obtain proper medical treatment.
  - 2. For life-threatening injury or illness, worker decontamination shall take least priority after measures to stabilize the injured worker, remove them from the regulated area, and secure proper medical treatment.
- F. Telephone numbers of any/all emergency response personnel shall be prominently posted in the clean room, along with the location of the nearest telephone.
- G. The Contractor shall provide verification of first aid/CPR training for personnel responsible for providing first aid/CPR. OSHA requires medical assistance within 3-4 minutes of a life-threatening injury/illness. Bloodborne Pathogen training shall also be verified for those personnel required to provide first aid/CPR.
- H. The Emergency Action Plan shall provide for a Contingency Plan in the event that an incident occurs that may require the modification of the standard operating procedures during abatement. Such incidents include, but are not limited to, fire; accident; power failure; negative pressure failure; and supplied air system failure. The Contractor shall detail procedures to be followed in the event of an incident assuring that asbestos abatement work is stopped and wetting is continued until correction of the problem.

#### **1.5.14 PRE-CONSTRUCTION MEETING**

Prior to commencing the work, the Contractor shall meet with the VPCIH to present and review, as appropriate, the items following this paragraph. The Contractor's Competent Person(s) who will be on-site shall participate in the pre-start meeting. The pre-start meeting is to discuss and determine procedures to be used during the project. At this meeting, the Contractor shall provide:

SPEC WRITER NOTE: At this place, the specification writer should assure all State and Local requirements are listed and submitted.

- A. Proof of Contractor licensing.
- B. Proof the Competent Person is trained and accredited and approved for working in this State. Verification of the experience of the Competent Person shall also be presented.
- C. A list of all workers who will participate in the project, including experience and verification of training and accreditation.
- D. A list of and verification of training for all personnel who have current first-aid/CPR training. A minimum of one person per shift must have adequate training.
- E. Current medical written opinions for all personnel working on-site meeting the requirements of 29 CFR 1926.1101(m).
- F. Current fit-tests for all personnel wearing respirators on-site meeting the requirements of 29 CFR 1926.1101(h) and Appendix C.
- G. A copy of the Contractor's Asbestos Hazard Abatement Plan for Class II Asbestos Abatement. In these procedures, the following information must be detailed, specific for this project.
  - 1. Regulated area preparation procedures;
  - 2. Notification requirements procedure of Contractor as required in 29 CFR 1926.1101(d);
  - 3. If required, decontamination area set-up/layout and decontamination procedures for employees;
  - 4. Abatement methods/procedures and equipment to be used; and
  - 5. Personal protective equipment to be used.
- H. At this meeting the Contractor shall provide all submittals as required.
- I. Procedures for handling, packaging and disposal of asbestos waste.
- J. Emergency Action Plan and Contingency Plan Procedures.

## **1.6 PROJECT COORDINATION**

The following are the minimum administrative and supervisory personnel necessary for coordination of the work.

### **1.6.1 PERSONNEL**

- A. Administrative and supervisory personnel shall consist of a qualified Competent Person(s) as defined by OSHA in the Construction Standards and the Asbestos Construction Standard; Contractor Professional Industrial Hygienist and Industrial Hygiene Technicians. These employees are the Contractor's representatives responsible for compliance with these specifications and all other applicable requirements.
- B. Non-supervisory personnel shall consist of an adequate number of qualified personnel to meet the schedule requirements of the project. Personnel shall meet required qualifications. Personnel utilized on-site shall be pre-approved by the VA representative. A request for approval shall be submitted for any person to be employed during the project giving the person's name; social security number; qualifications; accreditation card with color picture; Certificate of Worker's Acknowledgment; and Affidavit of Medical Surveillance and Respiratory Protection and current Respirator Fit Test.
- C. Minimum qualifications for Contractor and assigned personnel are:
  - 1. The Contractor has conducted within the last three (3) years, three (3) projects of similar complexity and dollar value as this project; has not been cited and penalized for serious violations of federal (and state as applicable) EPA and OSHA asbestos regulations in the past three (3) years; has adequate liability/occurrence insurance

for asbestos work as required by the state; is licensed in applicable states; has adequate and qualified personnel available to complete the work; has comprehensive standard operating procedures for asbestos work; and has adequate materials, equipment and supplies to perform the work.

2. The Competent Person has four (4) years of abatement experience of which two (2) years were as the Competent Person on the project; meets the OSHA definition of a Competent Person; has been the Competent Person on two (2) projects of similar size and complexity as this project within the past three (3) years; has completed EPA AHERA/OSHA/State/Local training requirements/accreditation(s) and refreshers; and has all required OSHA documentation related to medical and respiratory protection.
3. The Contractor Professional Industrial Hygienist/CIH (CPIH/CIH) shall have five (5) years of monitoring experience and supervision of asbestos abatement projects; has participated as senior IH on five (5) abatement projects, three (3) of which are similar in size and complexity as this project; has developed at least one complete standard operating procedure for asbestos abatement; has trained abatement personnel for three (3) years; has specialized EPA AHERA/OSHA training in asbestos abatement management, respiratory protection, waste disposal and asbestos inspection; has completed the NIOSH 582 Course or equivalent, Contractor/Supervisor course; and has appropriate medical/respiratory protection records/documentation.
4. The Abatement Personnel shall have completed the EPA AHERA/OSHA abatement worker course; have training on the standard operating procedures of the Contractor; has one year of asbestos abatement experience within the past three (3) years of similar size and complexity; has applicable medical and respiratory protection documentation; and has certificate of training/current refresher and State accreditation/license.

All personnel should be in compliance with OSHA construction safety training as applicable and submit certification

## **1.7 RESPIRATORY PROTECTION**

### **1.7.1 GENERAL - RESPIRATORY PROTECTION PROGRAM**

The Contractor shall develop and implement a written Respiratory Protection Program (RPP) which is in compliance with the January 8, 1998 OSHA requirements found at 29 CFR 1926.1101 and 29 CFR 1910.Subpart I;134. ANSI Standard Z88.2-1992 provides excellent guidance for developing a respiratory protection program. All respirators used must be NIOSH approved for asbestos abatement activities. The written RPP shall, at a minimum, contain the basic requirements found at 29 CFR 1910.134 (c)(1)(i - ix) - Respiratory Protection Program.

### **1.7.2 RESPIRATORY PROTECTION PROGRAM COORDINATOR**

The Respiratory Protection Program Coordinator (RPPC) must be identified and shall have two (2) years experience coordinating RPP of similar size and complexity. The RPPC must submit a signed statement attesting to the fact that the program meets the above requirements.

### **1.7.3 SELECTION AND USE OF RESPIRATORS**

The procedure for the selection and use of respirators must be submitted to the VA as part of the Contractor's qualifications. The procedure must be written clearly enough for workers to understand. A copy of the Respiratory Protection Program must be available in the clean room of the decontamination unit for reference by employees or authorized visitors.

### **1.7.4 MINIMUM RESPIRATORY PROTECTION**

Minimum respiratory protection shall be a half face, HEPA filtered, air purifying respirator when fiber levels are maintained consistently at or below 0.1 f/cc. A higher level of respiratory protection may be provided or required, depending on fiber levels. Respirator selection shall meet the requirements of 29 CFR 1926.1101 (h); Table 1, except as indicated in this paragraph. Abatement personnel must have a respirator for their exclusive use.

### **1.7.5 MEDICAL WRITTEN OPINION**

No employee shall be allowed to wear a respirator unless a physician or other licensed health care professional has provided a written determination they are medically qualified to wear the class of respirator to be used on the project while wearing whole body impermeable garments and subjected to heat or cold stress.

### **1.7.6 RESPIRATOR FIT TEST**

All personnel wearing respirators shall have a current quantitative fit test which was conducted in accordance with 29 CFR 1910.134 (f) and Appendix A. Fit tests shall be done for PAPRs which have been put into a failure mode.

### **1.7.7 RESPIRATOR FIT CHECK**

The Competent Person shall assure that the positive/negative pressure user seal check is done each time the respirator is donned by an employee. Head coverings must cover respirator head straps. Any situation that prevents an effective facepiece to face seal as evidenced by failure of a user seal check shall preclude that person from wearing a respirator inside the regulated area until resolution of the problem.

### **1.7.8 MAINTENANCE AND CARE OF RESPIRATORS**

The Respiratory Protection Program Coordinator shall submit evidence and documentation showing compliance with 29 CFR 1910.134 (h) Maintenance and care of respirators.

## **1.8 WORKER PROTECTION**

### **1.8.1 TRAINING OF ABATEMENT PERSONNEL**

Prior to beginning any abatement activity, all personnel shall be trained in accordance with OSHA 29 CFR 1926.1101 (k)(9) and any additional State/Local requirements. Training must include, at a minimum, the elements listed at 29 CFR 1926.1101 (k)(9)(viii). Training shall have been conducted by a third party, EPA/State approved trainer meeting the requirements of EPA 40 CFR 763 Appendix C (AHERA MAP).

Initial training certificates and current refresher and accreditation proof must be submitted for each person working at the site.

#### **1.8.2 MEDICAL EXAMINATIONS**

Medical examinations meeting the requirements of 29 CFR 1926.1101 (m) shall be provided for all personnel working in the regulated area, regardless of exposure levels. A current physician's written opinion as required by 29 CFR 1926.1101 (m)(4) shall be provided for each person and shall include in the medical opinion the person has been evaluated for working in a heat and cold stress environment while wearing personal protective equipment (PPE) and is able to perform the work without risk of material health impairment.

#### **1.8.3 PERSONAL PROTECTIVE EQUIPMENT**

Provide whole body clothing, head coverings, foot coverings and any other personal protective equipment as determined by conducting the hazard assessment required by OSHA at 29 CFR 1910.132 (d). The Competent Person shall ensure the integrity of personal protective equipment worn for the duration of the project. Duct tape shall be used to secure all suit sleeves to wrists and to secure foot coverings at the ankle. Worker protection shall meet the most stringent requirements.

#### **1.8.4 REGULATED AREA ENTRY PROCEDURE**

The Competent Person shall ensure that each time workers enter the regulated area, they remove ALL street clothes in the clean room of the decontamination unit and put on new disposable coveralls, head coverings, a clean respirator, and then proceed through the shower room to the equipment room where they put on non-disposable required personal protective equipment.

#### **1.8.5 DECONTAMINATION PROCEDURE**

The Competent Person shall require all personnel to adhere to following decontamination procedures whenever they leave the regulated area.

- A. When exiting the regulated area, remove all disposable PPE and dispose of in a disposal bag provided in the regulated area.
- B. Carefully decontaminate and clean the respirator. Put in a clean container/bag.
- C. Where containment is not required for ACM removal, an adequate washing station will be provided for the employees for removal of disposable PPE and to clean the respirator.

#### **1.8.6 REGULATED AREA REQUIREMENTS**

The Competent Person shall meet all requirements of 29 CFR 1926.1101 (o) and assure that all requirements for Class I regulated areas at 29 CFR 1926.1101 (e) are met applicable to Class II work. All personnel in the regulated area shall not be allowed to eat, drink, smoke, chew tobacco or gum, apply cosmetics, or in any way interfere with the fit of their respirator.

### **1.9 DECONTAMINATION FACILITIES**

#### **1.9.1 DESCRIPTION:**



Provide each regulated area with a fiber drum with a disposal bag in it for personnel waste materials.

**SPEC. WRITER NOTE:** OSHA does not require a decontamination unit for Class II work.

**1.9.2 WASTE/EQUIPMENT DECONTAMINATION AREA (W/EDA)** - The Competent Person shall provide a W/EDA for removal of all waste, equipment and contaminated material from the regulated area.

**1.9.3 WASTE/EQUIPMENT DECONTAMINATION PROCEDURES:** Contain all waste in 6 mil poly bags. Clean/decontaminate bags and pass through a double 6 mil flap doorway into another bag or fiber drum. Remove to disposal dumpster/gondola/vehicle. At no time shall unprotected personnel from the clean side be allowed to enter the regulated area.

## **PART 2 - PRODUCTS, MATERIALS AND EQUIPMENT**

### **2.1 MATERIALS AND EQUIPMENT**

#### **2.1.1 GENERAL REQUIREMENTS (ALL ABATEMENT PROJECTS)**

Prior to the start of work, the contractor shall provide and maintain a sufficient quantity of materials and equipment to assure continuous and efficient work throughout the duration of the project. Work shall not start unless the following items have been delivered to the site and the CPIH/CIH has submitted verification to the VA's representative.

- A. All materials shall be delivered in their original package, container or bundle bearing the name of the manufacturer and the brand name (where applicable).
- B. Store all materials subject to damage off the ground, away from wet or damp surfaces and under cover sufficient enough to prevent damage or contamination. Flammable and combustible materials cannot be stored inside buildings. Replacement materials shall be stored outside of the regulated area until abatement is completed.
- C. The Contractor shall not block or hinder use of buildings by patients, staff, and visitors to the VA in partially occupied buildings by placing materials/equipment in any unauthorized location.
- D. The Competent Person shall inspect for damaged, deteriorating or previously used materials. Such materials shall not be used and shall be removed from the worksite and disposed of properly.
- E. Polyethylene sheeting for walls in the regulated area shall be a minimum of 4-mils. For floors and all other uses, sheeting of at least 6-mil shall be used in widths selected to minimize the frequency of joints. Fire retardant poly shall be used throughout.
- F. The method of attaching polyethylene sheeting shall be agreed upon in advance by the Contractor and the VA and selected to minimize damage to equipment and surfaces. Method of attachment may include any combination of moisture resistant duct tape furring strips, spray glue, staples, nails, screws, lumber and plywood for enclosures or other effective procedures capable of sealing polyethylene to dissimilar finished or unfinished surfaces under both wet and dry conditions.
- G. Polyethylene sheeting utilized for the PDF shall be opaque white or black in color, 6 mil fire retardant poly.
- H. Installation and plumbing hardware, showers, hoses, drain pans, sump pumps and waste water filtration system shall be provided by the Contractor.
- I. An adequate number of HEPA vacuums, scrapers, sprayers, nylon brushes, brooms, disposable mops, rags, sponges, staple guns, shovels, ladders

and scaffolding of suitable height and length as well as meeting OSHA requirements, fall protection devices, water hose to reach all areas in the regulated area, airless spray equipment, and any other tools, materials or equipment required to conduct the abatement project. All electrically operated hand tools, equipment, electric cords shall be connected to GFCI protection.

- J. Special protection for objects in the regulated area shall be detailed (e.g., plywood over carpeting or hardwood floors to prevent damage from scaffolds, water and falling material).
- K. Disposal bags - 2 layers of 6 mil poly for asbestos waste shall be pre-printed with labels, markings and address as required by OSHA, EPA and DOT regulations.
- L. The VA shall be provided an advance copy of the MSDS as required for all hazardous chemicals under OSHA 29 CFR 1910.1200 - Hazard Communication in the pre-project submittal. Chlorinated compounds shall not be used with any spray adhesive, mastic remover or other product. Appropriate encapsulant(s) shall be provided.
- M. OSHA DANGER demarcation signs, as many and as required by OSHA 29 CFR 1926.1101(k)(7) shall be provided and placed by the Competent Person. All other posters and notices required by Federal and State regulations shall be posted in the Clean Room.
- N. Adequate and appropriate PPE for the project and number of personnel/shifts shall be provided. All personal protective equipment issued must be based on a written hazard assessment conducted under 29 CFR 1910.132(d).

## **2.2 CONTAINMENT BARRIERS AND COVERINGS IN THE REGULATED AREA**

### **2.2.1 GENERAL**

Using critical barriers, seal off the perimeter to the regulated area to completely isolate the regulated area from adjacent spaces. All horizontal surfaces in the regulated area must be covered with 2 layers of 6 mil fire retardant poly to prevent contamination and to facilitate clean-up. Should adjacent areas become contaminated, immediately stop work and clean up the contamination at no additional cost to the Government. Provide firestopping and identify all fire barrier penetrations due to abatement work as specified in Section 2.2.8; FIRESTOPPING.

### **2.2.2 PREPARATION PRIOR TO SEALING THE REGULATED AREA**

Place all tools, scaffolding, materials and equipment needed for working in the regulated area prior to erecting any plastic sheeting. Remove all uncontaminated removable furniture, equipment and/or supplies from the regulated area before commencing work, or completely cover with 2 layers of 6-mil fire retardant poly sheeting and secure with duct tape. Lock out and tag out any HVAC systems in the regulated area.

### **2.2.3 CONTROLLING ACCESS TO THE REGULATED AREA**

Access to the regulated area is allowed only through the personnel decontamination facility (PDF), if required. All other means of access shall be eliminated and OSHA Danger demarcation signs posted as required by OSHA. If the regulated area is adjacent to or within view of an occupied area, provide a visual barrier of 6 mil opaque fire retardant poly sheeting to prevent building occupant observation. If

the adjacent area is accessible to the public, the barrier must be solid.

#### **2.2.4 CRITICAL BARRIERS**

Completely separate any openings into the regulated area from adjacent areas using fire retardant poly at least 6 mils thick and duct tape. Individually seal with two layers of 6 mil poly and duct tape all HVAC openings into the regulated area. Individually seal all lighting fixtures, clocks, doors, windows, convectors, speakers, or any other objects in the regulated area. Heat must be shut off any objects covered with poly.

#### **2.2.5 SECONDARY BARRIERS:**

A loose layer of 6 mil fire retardant poly shall be used as a drop cloth to protect the floor/horizontal surfaces from debris generated during the Class II work, except for floor tile abatement. This layer shall be replaced as needed during the work.

#### **2.2.6 EXTENSION OF THE REGULATED AREA**

If the enclosure of the regulated area is breached in any way that could allow contamination to occur, the affected area shall be included in the regulated area and constructed as per this section. If the affected area cannot be added to the regulated area, decontamination measures must be started immediately and continue until air monitoring indicates background levels are met.

#### **2.2.7 FIRESTOPPING:**

- A. Through penetrations caused by cables, cable trays, pipes, sleeves must be firestopped with a fire-rated firestop system providing an air tight seal.
- B. Firestop materials that are not equal to the wall or ceiling penetrated shall be brought to the attention of the VA Representative. The Contractor shall list all areas of penetration, the type of sealant used, and whether or not the location is fire rated. Any discovery of penetrations during abatement shall be brought to the attention of the VA Representative immediately. All walls, floors and ceilings are considered fire rated unless otherwise determined by the VA Representative or Fire Marshall.
- C. Any visible openings whether or not caused by a penetration shall be reported by the Contractor to the VA Representative for a sealant system determination. Firestops shall meet ASTM E814 and UL 1479 requirements for the opening size, penetrant, and fire rating needed.

### **2.3 MONITORING, INSPECTION AND TESTING**

#### **2.3.1 GENERAL**

- A. Perform throughout abatement work monitoring, inspection and testing inside and around the regulated area in accordance with the OSHA requirements and these specifications. OSHA requires that the Employee exposure to asbestos must not exceed 0.1 fiber per cubic centimeter (f/cc) of air, averaged over an 8-hour work shift. The CPIH/CIH is responsible for and shall inspect and oversee the performance of the Contractor IH Technician. The IH Technician shall continuously inspect and monitor conditions inside the regulated area to ensure compliance with these specifications. In addition, the CPIH/CIH shall personally

manage air sample collection, analysis, and evaluation for personnel, regulated area, and adjacent area samples to satisfy OSHA requirements. Additional inspection and testing requirements are also indicated in other parts of this specification.

- B. The VA will employ an independent industrial hygienist (VPIH/CIH) consultant and/or use its own IH to perform various services on behalf of the VA. The VPIH/CIH will perform the necessary monitoring, inspection, testing, and other support services to ensure that VA patients, employees, and visitors will not be adversely affected by the abatement work, and that the abatement work proceeds in accordance with these specifications, that the abated areas or abated buildings have been successfully decontaminated. The work of the VPIH/CIH consultant in no way relieves the Contractor from their responsibility to perform the work in accordance with contract/specification requirements, to perform continuous inspection, monitoring and testing for the safety of their employees, and to perform other such services as specified. The cost of the VPIH/CIH and their services will be borne by the VA except for any repeat of final inspection and testing that may be required due to unsatisfactory initial results. Any repeated final inspections and/or testing, if required, will be paid for by the Contractor.
- C. If fibers counted by the VPIH/CIH during abatement work, either inside or outside the regulated area, utilizing the NIOSH 7400 air monitoring method, exceed the specified respective limits, the Contractor shall stop work. The Contractor may request confirmation of the results by analysis of the samples by TEM. Request must be in writing and submitted to the VA's representative. Cost for the confirmation of results will be borne by the Contractor for both the collection and analysis of samples and for the time delay that may/does result for this confirmation. Confirmation sampling and analysis will be the responsibility of the CPIH/CIH with review and approval of the VPIH/CIH. An agreement between the CPIH/CIH and the VPIH/CIH shall be reached on the exact details of the confirmation effort, in writing, including such things as the number of samples, location, collection, quality control on-site, analytical laboratory, interpretation of results and any follow-up actions. This written agreement shall be co-signed by the IH's and delivered to the VA's representative..

### **2.3.2 SCOPE OF SERVICES OF THE VPIH/CIH CONSULTANT**

- A. The purpose of the work of the VPIH/CIH is to: assure quality; resolve problems; and prevent the spread of contamination beyond the regulated area. In addition, their work includes performing the final inspection and testing to determine whether the regulated area or building has been adequately decontaminated. All air monitoring is to be done utilizing PCM/TEM. The VPIH/CIH will perform the following tasks:
  - 1. Task 1: Establish background levels before abatement begins by collecting background samples. Retain samples for possible TEM analysis.//
  - 2. Task 2: Perform continuous air monitoring, inspection, and testing outside the regulated area during actual abatement work to detect any faults in the regulated area isolation and any adverse impact on the surroundings from regulated area activities.//
  - 3. Task 3: Perform unannounced visits to spot check overall compliance of work with contract/specifications. These visits may include any inspection, monitoring, and testing inside and outside the regulated area and all aspects of the operation except personnel monitoring.

4. Task 4: Provide support to the VA representative such as evaluation of submittals from the Contractor, resolution of unforeseen developments, etc.
5. Task 5: Perform, in the presence of the VA representative, final inspection and testing of a decontaminated regulated area or building at the conclusion of the abatement and clean-up work to certify compliance with all regulations and the VA requirements/specifications.
6. Task 6: Issue certificate of decontamination for each regulated area or building and project report.

SPEC WRITER NOTE: Buildings which will be totally demolished must have abatement plans approved by the VPIH/CIH consultant and be periodically inspected for compliance. See Section 02 42 00, DEMOLITION.

- B. All documentation, inspection results and testing results generated by the VPIH/CIH will be available to the Contractor for information and consideration. The Contractor shall cooperate with and support the VPIH/CIH for efficient and smooth performance of their work.
- C. The monitoring and inspection results of the VPIH/CIH will be used by the VA to issue any Stop Removal orders to the Contractor during abatement work and to accept or reject a regulated area or building as decontaminated.
- D. All air sampling and analysis data will be recorded on VA Form 10-0018.

### **2.3.3 MONITORING, INSPECTION AND TESTING BY CONTRACTOR CPIH**

The Contractor's CPIH/CIH is responsible for managing all monitoring, inspections, and testing required by these specifications, as well as any and all regulatory requirements adopted by these specifications. The CPIH/CIH is responsible for the continuous monitoring of all subsystems and procedures which could affect the health and safety of the Contractor's personnel. Safety and health conditions and the provision of those conditions inside the regulated area for all persons entering the regulated area is the exclusive responsibility of the Contractor/Competent Person. The person performing the personnel and area air monitoring inside the regulated area shall be an IH Technician, who shall be trained and shall have specialized field experience in sampling and analysis. The IH Technician shall have successfully completed a NIOSH 582 Course or equivalent and provide documentation. The IH Technician shall participate in the AIHA Asbestos Analysis Registry or participate in the Proficiency Analytic Testing program of AIHA for fiber counting quality control assurance. The IH Technician shall also be an accredited EPA AHERA/State Contractor/Supervisor, Abatement Worker and Building Inspector. The IH Technician shall have participated in five abatement projects collecting personal and area samples as well as responsibility for documentation on substantially similar projects in size and scope. The analytic laboratory used by the Contractor to analyze the samples shall be AIHA accredited for asbestos PAT and approved by the VA prior to start of the project. A daily log, shall be maintained by the CPIH/CIH or IH Technician, documenting all OSHA requirements for air personal monitoring for asbestos in 29 CFR 1926.1101(f), (g) and Appendix A. This log shall be made available to the VA representative and the VPIH/CIH upon request. The log will contain, at a minimum, information

on personnel or area samples, other persons represented by the sample, the date of sample collection, start and stop times for sampling, sample volume, flow rate, and fibers/cc. The CPIH/CIH shall collect and analyze samples for each representative job being done in the regulated area, i.e., removal, wetting, clean-up, and load-out. No fewer than two personal samples per shift shall be collected and one area sample per 1,000 square feet of regulated area where abatement is taking place and one sample per shift in the clean room area shall be collected. In addition to the continuous monitoring required, the CPIH/CIH will perform inspection and testing at the final stages of abatement for each regulated area as specified in the CPIH/CIH responsibilities. Additionally, the CPIH/CIH will monitor and record pressure readings within the containment daily with a minimum of two readings at the beginning and at the end of a shift, and submit the data in the daily report.

#### **2.4 ASBESTOS HAZARD ABATEMENT PLAN**

The Contractor shall have established Asbestos Hazard Abatement Plan (AHAP) in printed form and loose leaf folder consisting of simplified text, diagrams, sketches, and pictures that establish and explain clearly the ways and procedures to be followed during all phases of the work by the Contractor's personnel. The AHAP must be modified as needed to address specific requirements of the project. The AHAP shall be submitted for review and approval prior to the start of any abatement work. The minimum topics and areas to be covered by the AHAP(s) are:

- A. Minimum Personnel Qualifications
- B. Contingency Plans and Arrangements
- C. Security and Safety Procedures
- D. Respiratory Protection/Personal Protective Equipment Program and Training
- E. Medical Surveillance Program and Recordkeeping
- F. Regulated Area Requirements for Abatement
- G. Decontamination Facilities and Entry/Exit Procedures (PDF and W/EDF)
- H. Monitoring, Inspections, and Testing
- I. Disposal of ACM waste
- J. Regulated Area Decontamination/Clean-up
- K. Regulated Area Visual and Air Clearance
- L. Project Completion/Closeout

#### **2.5 SUBMITTALS**

##### **2.5.1 PRE-START MEETING SUBMITTALS**

Submit to the VA a minimum of 14 days prior to the pre-start meeting the following for review and approval. Meeting this requirement is a prerequisite for the pre-start meeting for this project:

- A. Submit a detailed work schedule for the entire project reflecting contract documents and the phasing/schedule requirements from the CPM chart.
- B. Submit a staff organization chart showing all personnel who will be working on the project and their capacity/function. Provide their qualifications, training, accreditations, and licenses, as appropriate. Provide a copy of the "Certificate of Worker's Acknowledgment" and the "Affidavit of Medical Surveillance and Respiratory Protection" for each person.
- C. Submit Asbestos Hazard Abatement Plan developed specifically for this project, incorporating the requirements of the specifications, prepared, signed and dated by the CPIH/CIH.

- D. Submit the specifics of the materials and equipment to be used for this project with manufacturer names, model numbers, performance characteristics, pictures/diagrams, and number available for the following:
  1. Supplied air system, negative air machines, HEPA vacuums, air monitoring pumps, calibration devices, pressure differential monitoring device and emergency power generating system.
  2. Waste water filtration system, shower system, containment barriers.
  3. Encapsulants, surfactants, hand held sprayers, airless sprayers, and fire extinguishers.
  4. Respirators, protective clothing, personal protective equipment.
  5. Fire safety equipment to be used in the regulated area.
- E. Submit the name, location, and phone number of the approved landfill; proof/verification the landfill is approved for ACM disposal; the landfill's requirements for ACM waste; the type of vehicle to be used for transportation; and name, address, and phone number of subcontractor, if used. Proof of asbestos training for transportation personnel shall be provided.
- F. Submit required notifications and arrangements made with regulatory agencies having regulatory jurisdiction and the specific contingency/emergency arrangements made with local health, fire, ambulance, hospital authorities and any other notifications/arrangements.
- G. Submit the name, location and verification of the laboratory and/or personnel to be used for analysis of air and/or bulk samples. Personal air monitoring must be done in accordance with OSHA 29 CFR 1926.1101 (f) and Appendix A. And area or clearance air monitoring in accordance with EPA AHERA protocols.
- H. Submit qualifications verification: Submit the following evidence of qualifications. Make sure that all references are current and verifiable by providing current phone numbers and documentation.
  1. Asbestos Abatement Company: Project experience within the past 3 years; listing projects first most similar to this project: Project Name; Type of Abatement; Duration; Cost; Reference Name/Phone Number; Final Clearance; and Completion Date
  2. List of project(s) halted by owner, A/E, IH, regulatory agency in the last 3 years: Project Name; Reason; Date; Reference Name/Number; Resolution
  3. List asbestos regulatory citations (e.g., OSHA), notices of violations (e.g., Federal and state EPA), penalties, and legal actions taken against the company including and of the company's officers (including damages paid) in the last 3 years. Provide copies and all information needed for verification.
- I. Submit information on personnel: Provide a resume; address each item completely; copies of certificates, accreditations, and licenses. Submit an affidavit signed by the CPIH/CIH stating that all personnel submitted below have medical records in accordance with OSHA 29 CFR 1926.1101(m) and 29 CFR 1910.20 and that the company has implemented a medical surveillance program and written respiratory protection program, and maintains recordkeeping in accordance with the above regulations. Submit the phone number and doctor/clinic/hospital used for medical evaluations.
  1. CPIH/CIH and IH Technician: Name; years of abatement experience; list of projects similar to this one; certificates, licenses, accreditations for proof of AHERA/OSHA specialized asbestos training; professional affiliations; number of workers trained;

- samples of training materials; samples of AHAP(s) developed; medical opinion; and current respirator fit test.
- 2. Competent Person(s)/Supervisor(s): Number; names; social security numbers; years of abatement experience as Competent Person/Supervisor; list of similar projects in size/complexity as Competent Person/Supervisor; as a worker; certificates, licenses, accreditations; proof of AHERA/OSHA specialized asbestos training; maximum number of personnel supervised on a project; medical opinion (asbestos surveillance and respirator use); and current respirator fit test.
- 3. Workers: Numbers; names; social security numbers; years of abatement experience; certificates, licenses, accreditations; training courses in asbestos abatement and respiratory protection; medical opinion (asbestos surveillance and respirator use); and current respirator fit test.
- J. Submit copies of State license for asbestos abatement; copy of insurance policy, including exclusions with a letter from agent stating in plain language the coverage provided and the fact that asbestos abatement activities are covered by the policy; copy of AHAP(s) incorporating the requirements of this specification; information on who provides your training, how often; who provides medical surveillance, how often; who performs and how is personal air monitoring of abatement workers conducted; a list of references of independent laboratories/IH's familiar with your air monitoring and standard operating procedures; and copies of monitoring results of the five referenced projects listed and analytical method(s) used.
- K. Rented equipment must be decontaminated prior to returning to the rental agency.
- L. Submit, before the start of work, the manufacturer's technical data for all types of encapsulants, all MSDS, and application instructions.

## 2.5.2 SUBMITTALS DURING ABATEMENT

- A. The Competent Person shall maintain and submit a daily log at the regulated area documenting the dates and times of the following: purpose, attendees and summary of meetings; all personnel entering/exiting the regulated area; document and discuss the resolution of unusual events such as barrier breeching, equipment failures, emergencies, and any cause for stopping work; representative air monitoring and results/TWAs/ELs. Submit this information daily to the VPIH/CIH.
- B. The CPIH/CIH shall document and maintain the inspection and approval of the regulated area preparation prior to start of work and daily during work.
  - 1. Removal of any poly barriers.
  - 2. Visual inspection/testing by the CPIH/CIH or IH Technician prior to application of lockdown encapsulant.
  - 3. Packaging and removal of ACM waste from regulated area.
  - 4. Disposal of ACM waste materials; copies of Waste Shipment Records/landfill receipts to the VA's representative on a weekly basis.

## 2.5.3 SUBMITTALS AT COMPLETION OF ABATEMENT

The CPIH/CIH shall submit a project report consisting of the daily log book requirements and documentation of events during the abatement project including Waste Shipment Records signed by the landfill's agent. It will also include information on the containment and



transportation of waste from the containment with applicable Chain of Custody forms. The report shall include a certificate of completion, signed and dated by the CPIH/CIH, in accordance with Attachment #1. All clearance and perimeter area samples must be submitted. The VA Representative will retain the abatement report after completion of the project and provide copies of the abatement report to VAMC Office of Engineer and the Safety Office.

### **PART 3 - EXECUTION**

#### **3.1 PRE-ABATEMENT ACTIVITIES**

##### **3.1.1 PRE-ABATEMENT MEETING**

The VA representative, upon receipt, review, and substantial approval of all pre-abatement submittals and verification by the CPIH/CIH that all materials and equipment required for the project are on the site, will arrange for a pre-abatement meeting between the Contractor, the CPIH/CIH, Competent Person(s), the VA representative(s), and the VPIH/CIH. The purpose of the meeting is to discuss any aspect of the submittals needing clarification or amplification and to discuss any aspect of the project execution and the sequence of the operation. The Contractor shall be prepared to provide any supplemental information/documentation to the VA's representative regarding any submittals, documentation, materials or equipment. Upon satisfactory resolution of any outstanding issues, the VA's representative will issue a written order to proceed to the Contractor. No abatement work of any kind described in the following provisions shall be initiated prior to the VA written order to proceed.

##### **3.1.2 PRE-ABATEMENT INSPECTIONS AND PREPARATIONS**

Before any work begins on the construction of the regulated area, the Contractor will:

- A. Conduct a space-by-space inspection with an authorized VA representative and prepare a written inventory of all existing damage in those spaces where asbestos abatement will occur. Still or video photography may be used to supplement the written damage inventory. Document will be signed and certified as accurate by both parties.
- B. The VA Representative, the Contractor, and the VPIH/CIH must be aware of VA 07/09 A/E Quality Alert indicating the failure to identify asbestos in the areas listed as well as common issues when preparing specifications and contract documents. This is especially critical when demolition is planned, because AHERA surveys are non-destructive, and ACM may remain undetected. A NESHAPS (destructive) ACM inspection should be conducted on all building structures that will be demolished. Ensure the following areas are inspected on the project: Lay-in ceilings concealing ACM; ACM behind walls/windows from previous renovations; inside utility chases/walls; transite piping/ductwork/sheets; behind radiators; lab fume hoods; transite lab countertops; roofing materials; below window sills; water/sewer lines; electrical conduit coverings; crawl spaces( previous abatement contamination); flooring/mastic covered by carpeting/new flooring; exterior insulated wall panels; on underground fuel tanks; steam line trench coverings.
- C. Ensure that all furniture, machinery, equipment, curtains, drapes, blinds, and other movable objects required to be removed from the regulated area have been cleaned and removed or properly protected from contamination.

SPEC WRITER NOTE: Indicate responsible party in charge of decontamination, removal and relocation of regulated area furnishings.

- D. If present and required, remove and dispose of carpeting from floors in the regulated area.
- E. Inspect existing firestopping in the regulated area. Correct as needed.

### **3.1.3 PRE-ABATEMENT CONSTRUCTION AND OPERATIONS**

- A. Perform all preparatory work for the first regulated area in accordance with the approved work schedule and with this specification.
- B. Upon completion of all preparatory work, the CPIH/CIH will inspect the work and systems and will notify the VA's representative when the work is completed in accordance with this specification. The VA's representative may inspect the regulated area and the systems with the VPIH/CIH and may require that upon satisfactory inspection, the Contractor's employees perform all major aspects of the approved SOP's, especially worker protection, respiratory systems, contingency plans, decontamination procedures, and monitoring to demonstrate satisfactory operation.
- C. The CPIH/CIH shall document the pre-abatement activities described above and deliver a copy to the VA's representative.
- D. Upon satisfactory inspection of the installation of and operation of systems the VA's representative will notify the Contractor in writing to proceed with the asbestos abatement work in accordance with this specification.

## **3.2 REGULATED AREA PREPARATIONS**

### **3.2.1 OSHA DANGER SIGNS**

Post OSHA DANGER signs meeting the specifications of OSHA 29 CFR 1926.1101 at any location and approaches to the regulated area where airborne concentrations of asbestos may exceed ambient background levels. Signs shall be posted at a distance sufficiently far enough away from the regulated area to permit any personnel to read the sign and take the necessary measures to avoid exposure. Additional signs will be posted following construction of the regulated area enclosure.

### **3.2.2 SHUT DOWN - LOCK OUT ELECTRICAL**

Shut down and lock out/tag out electric power to the regulated area. Provide temporary power and lighting. Insure safe installation including GFCI of temporary power sources and equipment by compliance with all applicable electrical code requirements and OSHA requirements for temporary electrical systems. Electricity shall be provided by the VA.

### **3.2.3 SHUT DOWN - LOCK OUT HVAC**

Shut down and lock out/tag out heating, cooling, and air conditioning system (HVAC) components that are in, supply or pass through the regulated area.

Investigate the regulated area and agree on pre-abatement condition with the VA's representative. Seal all intake and exhaust vents in the regulated area with duct tape and 2 layers of 6-mil poly. Also, seal any seams in system components that pass through the regulated area.

Remove all contaminated HVAC system filters and place in labeled 6-mil poly disposal bags for disposal as asbestos waste.

#### **3.2.4 SANITARY FACILITIES**

The Contractor shall provide sanitary facilities for abatement personnel and maintain them in a clean and sanitary condition throughout the abatement project.

#### **3.2.5 WATER FOR ABATEMENT**

The VA will provide water for abatement purposes. The Contractor shall connect to the existing VA system. The service to the shower(s) shall be supplied with backflow prevention.

#### **3.2.6 PRE-CLEANING MOVABLE OBJECTS**

Pre-cleaning of ACM contaminated items shall be performed after the enclosure has been erected and negative pressure has been established in the work area. After items have been pre-cleaned and decontaminated, they may be removed from the work area for storage until the completion of abatement in the work area.

Pre-clean all movable objects within the regulated area using a HEPA filtered vacuum and/or wet cleaning methods as appropriate. After cleaning, these objects shall be removed from the regulated area and carefully stored in an uncontaminated location.

#### **3.2.7 PRE-CLEANING FIXED OBJECTS**

Pre-cleaning of ACM contaminated items shall be performed after the enclosure has been erected and negative pressure has been established in the work area

Pre-clean all fixed objects in the regulated area using HEPA filtered vacuums and/or wet cleaning techniques as appropriate. Careful attention must be paid to machinery behind grills or gratings where access may be difficult but contamination may be significant. Also, pay particular attention to wall, floor and ceiling penetration behind fixed items. After pre-cleaning, enclose fixed objects with 2 layers of 6-mil poly and seal securely in place with duct tape. Objects (e.g., permanent fixtures, shelves, electronic equipment, laboratory tables, sprinklers, alarm systems, closed circuit TV equipment and computer cables) which must remain in the regulated area and that require special ventilation or enclosure requirements should be designated here along with specified means of protection. Contact the manufacturer for special protection requirements.

SPEC WRITER NOTE: Indicate who is responsible for the above pre-cleaning. Control panels, gauges etc., in the regulated area may require VA access during abatement. These shall be designated and enclosures constructed with access flaps sealed with waterproof tape.

#### **3.2.8 PRE-CLEANING SURFACES IN THE REGULATED AREA**

Pre-cleaning of ACM contaminated items shall be performed after the enclosure has been erected and negative pressure has been established

in the work area. PPE must be donned during all pre-cleaning activities.

Pre-clean all surfaces in the regulated area using HEPA filtered vacuums and/or wet cleaning methods as appropriate. Do not use any methods that would raise dust such as dry sweeping or vacuuming with equipment not equipped with HEPA filters. Do not disturb asbestos-containing materials during this pre-cleaning phase.

### **3.3 CONTAINMENT BARRIERS AND COVERINGS FOR THE REGULATED AREA**

#### **3.3.1 GENERAL**

Using critical barriers, seal off the perimeter to the regulated area to completely isolate the regulated area from adjacent spaces. All horizontal surfaces in the regulated area must be covered with 2 layers of 6 mil fire retardant poly to prevent contamination and to facilitate clean-up. Should adjacent areas become contaminated, immediately stop work and clean up the contamination at no additional cost to the Government.

#### **3.3.2 PREPARATION PRIOR TO SEALING OFF**

Place all tools, scaffolding, materials and equipment needed for working in the regulated area prior to erecting any plastic sheeting. Remove all uncontaminated removable furniture, equipment and/or supplies from the regulated area before commencing work, or completely cover with 2 layers of 6-mil fire retardant poly sheeting and secure with duct tape. Lock out and tag out any HVAC systems in the regulated area.

#### **3.3.3 CONTROLLING ACCESS TO THE REGULATED AREA**

Access to the regulated area is allowed only through the personnel decontamination facility (PDF), if required. All other means of access shall be eliminated and OSHA Danger demarcation signs posted as required by OSHA. If the regulated area is adjacent to or within view of an occupied area, provide a visual barrier of 6 mil opaque fire retardant poly sheeting to prevent building occupant observation. If the adjacent area is accessible to the public, the barrier must be solid.

#### **3.3.4 CRITICAL BARRIERS**

Completely separate any openings into the regulated area from adjacent areas using fire retardant poly at least 6 mils thick and duct tape. Individually seal with 2 layers of 6 mil poly and duct tape all HVAC openings into the regulated area. Individually seal all lighting fixtures, clocks, doors, windows, convectors, speakers, or any other objects in the regulated area. Heat must be shut off any objects covered with poly.

#### **3.3.5 EXTENSION OF THE REGULATED AREA**

If the enclosure of the regulated area is breached in any way that could allow contamination to occur, the affected area shall be included in the regulated area and constructed as per this section. If the affected area cannot be added to the regulated area, decontamination measures must be started immediately and continue until air monitoring indicates background levels are met.

### **3.3.6 FLOOR BARRIERS**

If floor removal is not being done, all floors in the regulated area shall be covered with 2 layers of 6 mil fire retardant poly and brought up the wall 12 inches.

## **3.4 REMOVAL OF CLASS II ROOFING**

### **3.4.1 GENERAL**

The VA must be notified at least 24 hours in advance of any waste removed from the containment. All applicable requirements of OSHA, EPA, and DOT shall be followed during Class II work. Keep materials intact; do not disturb; wet while working with it; wrap as soon as possible with 2 layers of 6 mil plastic for disposal.

### **3.4.2 OUTDOOR WORK AREAS**

On some projects, work must be performed on exterior areas of the building. If outdoor work is to be performed, all applicable OSHA, state and local regulations must be followed to ensure that outdoor work areas are in compliance so that workers, the general public and the environment are protected.

### **3.4.3 SCAFFOLD FALL PROTECTION**

Each employee more than 10 feet above a lower level shall be protected from falls by guardrails or a fall arrest system. Fall arrest system includes harnesses, components of the harness/belt such as Dee-rings, and snap hooks, lifelines, and anchorage points. Lifelines must be independent of supports lines and suspension ropes and not attached to the same anchorage point as the support or suspension rope. OSHA's scaffolding standard defines a competent person as "one who is capable of identifying existing and predictable hazards in the surroundings or working conditions, which are unsanitary, hazardous to employees, and who has authorization to take prompt corrective measures to eliminate them." The competent person will determine if it is safe for employees to work on or from a scaffold or roof during storms or high winds and to ensure that a personal fall arrest system will protect the employees. The competent person will also inspect the scaffold and scaffold components for visible defects before each work shift and after any occurrence which could affect the structural integrity and to authorize prompt corrective measures.

### **3.4.4 ROOF FALL PROTECTION**

The competent person shall determine if the walking/working surfaces on which the employees are to work have the strength and structural integrity to support the employees safely. Each employee on a walking/working surface (horizontal and vertical surface) with an unprotected side or edge which is 6 feet or more above a lower level shall be protected from falling by the use of guardrail systems, safety net systems, or personal fall arrest system.

### **3.4.5 REMOVAL OF ROOFING**

- A. Roofing material shall be removed in an intact state to the extent that it is feasible.

- B. Wet methods shall be used to remove roofing materials that are not intact, or that will be rendered not intact during removal, unless such wet methods are not feasible or will create safety hazards
- C. Cutting machines shall be continuously misted during use, unless a competent person determines that misting substantially decreases worker safe
- D. When removing built-up roofs with asbestos-containing roofing felts and an aggregate surface using a power roof cutter, all dust resulting from the cutting operation shall be collected by a HEPA dust collector, or shall be HEPA vacuumed by vacuuming along the cut line. When removing built-up roofs with asbestos-containing roofing felts and a smooth surface using a power roof cutter, the dust resulting from the cutting operation shall be collected either by a HEPA dust collector or HEPA vacuuming along the cut line, or by gently sweeping and then carefully and completely wiping up the still-wet dust and debris left along the cut line.
- E. Asbestos-containing material that has been removed from a roof shall not be dropped or thrown to the ground. Unless the material is carried or passed to the ground by hand, it shall be lowered to the ground via covered, dust-tight chute, crane or hoist
- F. Any ACM that is not intact shall be lowered to the ground as soon as is practicable, but in any event no later than the end of the work shift. While the material remains on the roof it shall either be kept wet, placed in an impermeable waste bag, or wrapped in plastic sheeting
- G. Intact ACM shall be lowered to the ground as soon as is practicable, but in any event no later than the end of the work shift
- H. Upon being lowered, unwrapped material shall be transferred to a closed receptacle in such manner so as to preclude the dispersion of dust
- I. Roof level heating and ventilation air intake sources shall be isolated or the ventilation system shall be shut down. The sealing of air intake sources shall be coordinated with VA Facility Engineering Personnel and occupant location to ensure acceptable IAQ is maintained within the facility as per ASHRAE Standard 1955.
- J. Notwithstanding any other provision of this section, removal or repair of sections of intact roofing less than 25 square feet in area does not require use of wet methods or HEPA vacuuming as long as manual methods which do not render the material non-intact are used to remove the material and no visible dust is created by the removal method used. In determining whether a job involves less than 25 square feet, the employer shall include all removal and repair work performed on the same roof on the same day.

All waste must be wrapped in two layers of 6 mil poly and lowered carefully to the ground. Roofing may be lowered by way of a dust-tight chute.

### **3.5 DISPOSAL OF CLASS II WASTE MATERIAL**

#### **3.5.1 GENERAL**

Dispose of waste ACM and debris which is packaged in accordance with these specifications, OSHA, EPA and DOT. The landfill requirements for packaging must also be met. Transport will be in compliance with 49 CFR 100-185 regulations. Disposal shall be done at an approved landfill. Disposal of non-friable ACM shall be done in accordance with applicable regulations.

### **3.6 PROJECT DECONTAMINATION**

#### **3.6.1 GENERAL**

- A. The entire work related to project decontamination shall be performed under the close supervision and monitoring of the CPIH/CIH.
- B. If the asbestos abatement work is in an area which was contaminated prior to the start of abatement, the decontamination will be done by cleaning the primary barrier poly prior to its removal and cleanings of the surfaces of the regulated area after the primary barrier removal.
- C. If the asbestos abatement work is in an area which was uncontaminated prior to the start of abatement, the decontamination will be done by cleaning the primary barrier poly prior to its removal, thus preventing contamination of the building when the regulated area critical barriers are removed.

#### **3.6.2 REGULATED AREA CLEARANCE**

Air testing and other requirements which must be met before release of the Contractor and re-occupancy of the regulated area space are specified in Final Testing Procedures.

#### **3.6.3 WORK DESCRIPTION**

Decontamination includes the cleaning and clearance of the air in the regulated area and the decontamination and removal of the enclosures/facilities installed prior to the abatement work including primary/critical barriers, PDF and W/EDF facilities.

#### **3.6.4 PRE-DECONTAMINATION CONDITIONS**

- A. Before decontamination starts, all ACM waste from the regulated area shall be removed, all waste collected and removed, and the secondary barrier of poly removal and disposed of along with any gross debris generated by the work.
- B. At the start of decontamination, the following shall be in place:
  - 1. Critical barriers over all openings consisting of two layers of 6 mil poly which is the sole barrier between the regulated area and the rest of the building or outside.
  - 2. Decontamination facilities, if required for personnel and equipment in operating condition.

#### **3.6.5. CLEANING**

Carry out a first cleaning of all surfaces of the regulated area including items of remaining poly sheeting, tools, scaffolding, ladders/staging by wet methods and/or HEPA vacuuming. Do not use dry dusting/sweeping/air blowing methods. Use each surface of a wetted cleaning cloth one time only and then dispose of as contaminated waste. Continue this cleaning until there is no visible residue from abated surfaces or poly or other surfaces. Remove all filters in the air handling system and dispose of as ACM waste in accordance with these specifications. The negative pressure system shall remain in operation during this time. Additional cleaning(s) may be needed as determined by the CPIH/VPIH/CIH.

### **3.7 VISUAL INSPECTION AND AIR CLEARANCE TESTING**

#### **3.7.1 GENERAL**

Notify the VA representative 24 hours in advance for the performance of the final visual inspection and testing. The final visual inspection and testing will be performed by the VPIH/CIH after the cleaning.

#### **3.7.2 VISUAL INSPECTION**

Final visual inspection will include the entire regulated area, all poly sheeting, seals over HVAC openings, doorways, windows, and any other openings. If any debris, residue, dust or any other suspect material is detected, the cleaning shall be repeated at no cost to the VA. Dust/ material samples may be collected and analyzed at no cost to the VA at the discretion of the VPIH/CIH to confirm visual findings. When the regulated area is visually clean the final testing can be done.

#### **3.7.3 AIR CLEARANCE TESTING**

- A. After an acceptable final visual inspection by the VPIH/CIH and VA Representative, the VPIH/CIH will perform the final testing. Air samples will be collected and analyzed in accordance with procedures for PCM in this specification. If the release criteria are not met, the Contractor shall repeat the final cleaning and continue decontamination procedures. **ALL additional inspection and testing will be done at the expense of the Contractor.**
- B. If the results of the PCM are acceptable, remove the critical barriers. Any small quantities of residue material found upon removal of the poly shall be removed with a HEPA vacuum and localized isolation. If significant quantities are found as determined by the VPIH/CIH, then the entire area affected shall be cleaned as specified in the final cleaning.
- C. If release criteria are met, proceed to perform the abatement closeout and to issue the certificate of completion in accordance with these specifications.

#### **3.7.4 FINAL AIR CLEARANCE PROCEDURES**

- A. Contractor's Release Criteria: Work in a regulated area is complete when the regulated area is visually clean and airborne fiber levels have been reduced to or below 0.01 f/cc, as measured by PCM methods.
- B. Air Monitoring and Final Clearance Sampling: To determine if the elevated airborne fiber counts encountered during abatement operations have been reduced to the specified level, the VPIH/CIH will secure samples and analyze them according to the following procedures:
  1. Fibers Counted: "Fibers" referred to in this section shall be either all fibers regardless of composition as counted in the NIOSH 7400 PCM method.
  2. All clearance air testing samples shall be collected on 0.8 $\mu$  MCE filters for PCM analysis. Air samples will be collected in areas subject to normal air circulation. A minimum of 5 PCM samples will be collected with at least 1200 Liters of air sampled. All results must be less than 0.01 f/cc for clearance.



### **3.8 ABATEMENT CLOSEOUT AND CERTIFICATE OF COMPLIANCE**

#### **3.8.1 COMPLETION OF ABATEMENT WORK**

- A. After thorough decontamination, complete asbestos abatement work upon meeting the regulated area clearance criteria and fulfilling the following:
1. Remove all equipment, materials, and debris from the project area.
  2. Package and dispose of all asbestos waste as required.
  3. Repair or replace all interior finishes damaged during the abatement work.
  4. Fulfill other project closeout requirements as specified elsewhere in this specification.

#### **3.8.2 CERTIFICATE OF COMPLETION BY CONTRACTOR**

The CPIH shall complete and sign the "Certificate of Completion" in accordance with Attachment 1 at the completion of the abatement and decontamination of the regulated area.

#### **3.8.3 WORK SHIFTS**

All work shall be done during administrative hours (8:00 AM to 4:30 PM) Monday - Friday excluding Federal Holidays. Any change in the work schedule must be approved in writing by the VA Representative.

#### **ATTACHMENT #1**

##### **CERTIFICATE OF COMPLETION**

DATE: \_\_\_\_\_ VA Project #: \_\_\_\_\_

PROJECT NAME: \_\_\_\_\_ Abatement Contractor: \_\_\_\_\_

VAMC/ADDRESS: \_\_\_\_\_

1. I certify that I have personally inspected, monitored and supervised the abatement work of (specify regulated area or Building):  
which took place from        /        /        to        /        /
2. That throughout the work all applicable requirements/regulations and the VA's specifications were met.
3. That any person who entered the regulated area was protected with the appropriate personal protective equipment and respirator and that they followed the proper entry and exit procedures and the proper operating procedures for the duration of the work.
4. That all employees of the Abatement Contractor engaged in this work were trained in respiratory protection, were experienced with abatement work, had proper medical surveillance documentation, were fit-tested for their respirator, and were not exposed at any time during the work to asbestos without the benefit of appropriate respiratory protection.
5. That I performed and supervised all inspection and testing specified and required by applicable regulations and VA specifications.
6. That the conditions inside the regulated area were always maintained in a safe and healthy condition and the maximum fiber count never exceeded 0.5 f/cc, except as described below.
7. That all abatement work was done in accordance with OSHA requirements and the manufacturer's recommendations.

CPIH/CIH Signature/Date: \_\_\_\_\_

CPIH/CIH Print Name: \_\_\_\_\_

Abatement Contractor Signature/Date: \_\_\_\_\_

Abatement Contractor Print Name: \_\_\_\_\_

**ATTACHMENT #2****CERTIFICATE OF WORKER'S ACKNOWLEDGMENT**

PROJECT NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

PROJECT ADDRESS: \_\_\_\_\_

ABATEMENT CONTRACTOR'S NAME: \_\_\_\_\_

**WORKING WITH ASBESTOS CAN BE HAZARDOUS TO YOUR HEALTH. INHALING ASBESTOS HAS BEEN LINKED WITH VARIOUS TYPES OF CANCERS. IF YOU SMOKE AND INHALE ASBESTOS FIBERS, YOUR CHANCES OF DEVELOPING LUNG CANCER IS GREATER THAN THAT OF THE NON-SMOKING PUBLIC.**

Your employer's contract with the owner for the above project requires that: You must be supplied with the proper personal protective equipment including an adequate respirator and be trained in its use. You must be trained in safe and healthy work practices and in the use of the equipment found at an asbestos abatement project. You must receive/have a current medical examination for working with asbestos. These things shall be provided at no cost to you. By signing this certificate you are indicating to the owner that your employer has met these obligations.

RESPIRATORY PROTECTION: I have been trained in the proper use of respirators and have been informed of the type of respirator to be used on the above indicated project. I have a copy of the written Respiratory Protection Program issued by my employer. I have been provided for my exclusive use, at no cost, with a respirator to be used on the above indicated project.

TRAINING COURSE: I have been trained by a third party, State/EPA accredited trainer in the requirements for an AHERA/OSHA Asbestos Abatement Worker training course, 32 hours minimum duration. I currently have a valid State accreditation certificate. The topics covered in the course include, as a minimum, the following:

- Physical Characteristics and Background Information on Asbestos
- Potential Health Effects Related to Exposure to Asbestos
- Employee Personal Protective Equipment
- Establishment of a Respiratory Protection Program
- State of the Art Work Practices
- Personal Hygiene
- Additional Safety Hazards
- Medical Monitoring
- Air Monitoring
- Relevant Federal, State and Local Regulatory Requirements, Procedures, and Standards
- Asbestos Waste Disposal

MEDICAL EXAMINATION: I have had a medical examination within the past 12 months which was paid for by my employer. This examination included: health history, occupational history, pulmonary function test, and may have included a chest x-ray evaluation. The physician issued a positive written opinion after the examination.

Signature: \_\_\_\_\_

Printed Name: \_\_\_\_\_

Social Security Number: \_\_\_\_\_

Witness: \_\_\_\_\_

ATTACHMENT #3

**AFFIDAVIT OF MEDICAL SURVEILLANCE, RESPIRATORY PROTECTION AND TRAINING/ACCREDITATION**

VA PROJECT NAME AND NUMBER: \_\_\_\_\_

VA MEDICAL FACILITY: \_\_\_\_\_

ABATEMENT CONTRACTOR'S NAME AND ADDRESS: \_\_\_\_\_

1. I verify that the following individual

Name: \_\_\_\_\_ Social Security Number: \_\_\_\_\_

who is proposed to be employed in asbestos abatement work associated with the above project by the named Abatement Contractor, is included in a medical surveillance program in accordance with 29 CFR 1926.1101(m), and that complete records of the medical surveillance program as required by 29 CFR 1926.1101 (m) (n) and 29 CFR 1910.20 are kept at the offices of the Abatement Contractor at the following address.

Address: \_\_\_\_\_

2. I verify that this individual has been trained, fit-tested and instructed in the use of all appropriate respiratory protection systems and that the person is capable of working in safe and healthy manner as expected and required in the expected work environment of this project.

3. I verify that this individual has been trained as required by 29 CFR 1926.1101(k). This individual has also obtained a valid State accreditation certificate. Documentation will be kept on-site.

4. I verify that I meet the minimum qualifications criteria of the VA specifications for a CPIH.

Signature of CPIH/CIH: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name of CPIH/CIH: \_\_\_\_\_

Signature of Contractor: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name of Contractor: \_\_\_\_\_

**ATTACHMENT #4****ABATEMENT CONTRACTOR/COMPETENT PERSON(S) REVIEW AND ACCEPTANCE OF THE VA'S ASBESTOS SPECIFICATIONS**

VA Project Location:\_\_\_\_\_

VA Project #:\_\_\_\_\_

VA Project Description:\_\_\_\_\_

This form shall be signed by the Asbestos Abatement Contractor Owner and the Asbestos Abatement Contractor's Competent Person(s) prior to any start of work at the VA related to this Specification. If the Asbestos Abatement Contractor's/Competent Person(s) has not signed this form, they shall not be allowed to work on-site.

I, the undersigned, have read VA's Asbestos Specification regarding the asbestos abatement requirements. I understand the requirements of the VA's Asbestos Specification and agree to follow these requirements as well as all required rules and regulations of OSHA/EPA/DOT and State/Local requirements. I have been given ample opportunity to read the VA's Asbestos Specification and have been given an opportunity to ask any questions regarding the content and have received a response related to those questions. I do not have any further questions regarding the content, intent and requirements of the VA's Asbestos Specification.

At the conclusion of the asbestos abatement, I will certify that all asbestos abatement work was done in accordance with the VA's Asbestos Specification and all ACM was removed properly and no fibrous residue remains on any abated surfaces.

Abatement Contractor Owner's Signature\_\_\_\_\_Date\_\_\_\_\_

Abatement Contractor Competent Person(s)\_\_\_\_\_Date\_\_\_\_\_

- - END- - - -

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

## SPEC WRITER NOTES:

1. Delete text between // \_\_\_\_\_ // not applicable to project. Edit remaining text to suit project.
2. Follow recommendations of National Roofing Contractors Association Roofing Manual for design criteria.
3. Comply with ASHRAE Standard 90.1.
4. Ensure positive slope to drains occurs; minimum of 1/48 (1/4 inch per foot) without any "gutters" (no slopes) between drains.
5. Do not use on slopes over 1/12 (1 inch per foot) unless text is edited for this.
6. Ensure drains are located at points of maximum deflection; such as at mid-spans and bottom of slopes.
7. This section is intended for use where insulation is under the roofing or waterproofing membrane.
8. Do not use polystyrene insulation under bituminous roofing or waterproofing membrane.
9. Anchor insulation to deck. Do not specify loosely laid insulation.
10. Coordinate with work of Division 26 ELECTRICAL. Do not install electrical conduit in roof insulation.

## Part 1 GENERAL

## 1.1 SUMMARY

- A. Section Includes:
- B. Roof and deck insulation, // substrate board, // vapor retarder, // and // cover board // on new // concrete // metal deck // substrates ready to receive roofing or waterproofing membrane.
- C. Repairs and alteration work to existing roof insulation.

## 1.2 RELATED REQUIREMENTS

SPEC WRITER NOTE: Update and retain references only when specified elsewhere in this section.

- A. Non-Flooring Adhesives and Sealants VOC Limits: Section 01 81 13, SUSTAINABLE CONSTRUCTION REQUIREMENTS.
- B. Wood Cants, Blocking, and Edge Strips: Section 06 10 00, ROUGH CARPENTRY.

## 1.3 APPLICABLE PUBLICATIONS

- A. Comply with references to extent specified in this section.
- B. American Society of Heating, Refrigeration and Air Conditioning (ASHRAE):
  - 1. Standard 90.1-13 - Energy Standard for Buildings Except Low-Rise Residential Buildings.
- C. ASTM International (ASTM):
  - 1. C208-12 - Cellulosic Fiber Insulating Board.
  - 2. C552-15 - Cellular Glass Thermal Insulation.
  - 3. C726-05 - Mineral Fiber Roof Insulation Board.
  - 4. C728-15 - Perlite Thermal Insulation Board.
  - 5. C1177/C1177M-13 - Glass Mat Gypsum Substrate for Use as Sheathing.
  - 6. C1278/C1278M-07a(2015) - Fiber-Reinforced Gypsum Panel.
  - 7. C1289-15 - Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board.
  - 8. C1396/C1396M-14a - Gypsum Board.
  - 9. D41/D41M-11 - Asphalt Primer Used in Roofing, Dampproofing, and Waterproofing.
  - 10. D312-06 - Asphalt Used in Roofing.
  - 11. D1970/D1970M-15 - Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
  - 12. D2178/D2178M-15 - Asphalt Glass Felt Used in Roofing and Waterproofing.
  - 13. D2822/D2822M-11 - Asphalt Roof Cement, Asbestos Containing.
  - 14. D4586/D4586M-07(2012)e1 - Asphalt Roof Cement, Asbestos-Free.
  - 15. E84-15a - Surface Burning Characteristics of Building Materials.
  - 16. F1667-15 - Driven Fasteners: Nails, Spikes, and Staples.
- D. National Roofing Contractors Association (NRCA):

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

E. U.S. Department of Agriculture (USDA):

1. USDA BioPreferred Program Catalog.

F. UL LLC (UL):

1. Listed - Online Certifications Directory.

G. 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 SUBMITTALS

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

B. Submittal Drawings:

1. Show size, configuration, and installation details.

a. Nailers, cants, and terminations.

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

C. Manufacturer's Literature and Data:

1. Description of each product.

D. Samples:

1. Roof insulation, each type.

2. Fasteners, each type.

E. Sustainable Construction Submittals:

SPEC WRITER NOTE: Retain sustainable construction submittals appropriate to product.

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

2. Biobased Content:

a. Show type and quantity for each product.



3. Low Pollutant-Emitting Materials:

- a. Show volatile organic compound types and quantities.
- b. Certify each // composite wood // and agrifiber // product contain no added urea formaldehyde.

F. Qualifications: Substantiate qualifications meet specifications.

1. Installer.

1.5 QUALITY ASSURANCE

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

1.6 DELIVERY

- A. Comply with recommendations of NRCA Manual.
- B. Deliver products in manufacturer's original sealed packaging
- C. Mark packaging, legibly. Indicate manufacturer's name or brand, type, and manufacture date.
- D. Before installation, return or dispose of products within distorted, damaged, or opened packaging.

1.7 STORAGE AND HANDLING

- A. Comply with recommendations of NRCA Manual.
- B. Store products indoors in dry, weathertight facility.
- C. Protect products from damage during handling and construction operations.

1.8 FIELD CONDITIONS

A. Environment:

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

1.9 WARRANTY

SPEC WRITER NOTE: Always retain construction warranty. FAR includes Contractor's one year labor and material warranty.

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

Construction."

- B. 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.

## PART 2 PRODUCTS

### 2.1 SYSTEM PERFORMANCE

A. Insulation Thermal Performance:

1. Overall Average R-Value: RSI-57 (R-33), minimum.
2. Any Location R-Value: RSI-17 (R-10), minimum.

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

SPEC WRITER NOTE: Retain surface burning characteristics when insulation is installed over combustible and steel roof decks.

- C. Insulation on // Combustible // Metal // Decking: UL labeled indicating compliance with one of the following:

1. UL Listed.
2. Insulation Surface Burning Characteristics: When tested according to ASTM E84.
  - a. Flame Spread Rating: 75 maximum.
  - b. Smoke Developed Rating: 150 maximum.

### 2.2 PRODUCTS - GENERAL

- A. Provide each product from one manufacturer.
- B. Sustainable Construction Requirements:

SPEC WRITER NOTE: Specify products containing greatest recycled content practicable to maximize material recovery. See EPA Comprehensive Procurement Guidelines (CPG) for guidance

about individual products and available recycled content. Section 01 81 13 sets overall project recycled content requirements.

1. Insulation Recycled Content:

SPEC WRITER NOTE: Retain one or more of insulation types below based on project requirements.

- a. Mineral Fiber: 75 percent total recycled content, minimum.
- b. Fiberglass: 20 percent total recycled content, minimum.
- c. Cellulose: 75 percent post-consumer recycled content, minimum.
- d. Perlite Composite Board: 23 percent post-consumer recycled content, minimum.
- e. Rigid Foam: 9 percent total recycled content, minimum.
- f. Glass Fiber Reinforced Rigid Foam: 6 percent total recycled content, minimum.

SPEC WRITER NOTE:

- 1. Section 01 81 13, SUSTAINABLE CONSTRUCTION REQUIREMENTS includes comprehensive product list setting VOC limits for low-emitting materials.
- 2. Retain subparagraphs applicable to products specified in this section.

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

- a. Non-flooring adhesives and sealants.
- b. Composite wood and agrifiber.

SPEC WRITER NOTES:

- 1. Retain paragraph below when it is appropriate to incorporate Federal Guiding

Principles IV from Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings incorporated in Executive Order 13423 "Strengthening Federal Environmental, Energy, and Transportation Management, dated January 24, 2007, [www.efe.gov/eo/eo13423\\_main.asp](http://www.efe.gov/eo/eo13423_main.asp): Enhance Indoor Environmental Quality: Biobased Content Requirement. Requirement differs from related requirements in LEED definitions.

2. Project's General Requirements should indicate goals for percentages of bio-based, rapidly-renewable, and certified sustainable wood products.

3. 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).

### 2.3 ADHESIVES

- A. Primer: ASTM D41/D41M.
- B. Asphalt: ASTM D312, Type III or IV for vapor retarders and insulation.
- C. 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.
- D. 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.
- E. 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.
- F. Roof Cement: Asbestos free, ASTM D2822/D2822M, Type I or Type

II; or, ASTM D4586/D4586M, Type I or Type II.

## 2.4 ROOF AND DECK INSULATION

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

SPEC WRITER NOTE: Retain one or more of insulation types below based on project requirements. If retaining more than one type, indicate locations of different types on drawings.

- B. Polyisocyanurate Board Insulation: ASTM C1289, Type II, Class 1, Grade 2, faced with glass fiber reinforced cellulosic felt facers on both major surfaces of the core foam.
- C. Cellular Glass Board Insulation: ASTM C552, Type IV, kraft-paper sheet faced.
- D. Perlite Board Insulation: ASTM C728, expanded perlite particles, selected binders, and cellulosic fibers with surface treated to reduce bitumen absorption.
- E. Cellulosic Fiber Board Insulation: ASTM C208, Type II, // Grade 1 for built-up asphalt or modified bitumen roofing // Grade 2 for single-ply roofing //.
- F. Tapered Roof Insulation System:
1. Fabricate of mineral fiberboard, polyisocyanurate, perlite board, or cellular glass. Use only one insulation material for tapered sections. Use only factory-tapered insulation.
  2. Cut to provide high and low points with crickets and slopes as shown.
  3. Minimum thickness of tapered sections; 38 mm (1-1/2 inch).
  4. Minimum slope 1/48 (1/4 inch per 12 inches).

SPEC WRITER NOTE: Specify Composite Nail Base Insulated Roof Sheathing for steep slope roof installations such as shingle, slate, tile, or metal.

- G. Composite Nail Base Insulated Roof Sheathing:

1. Oriented-Strand-Board-Surfaced, Polyisocyanurate-Foam

Sheathing: Polyisocyanurate thermal insulation ASTM C1289, Type V, insulation thickness as shown, with oriented strand board laminated to top surface.

2. Oriented Strand Board: NIST DOC PS 1, Exposure 1, // 11 mm (7/16 inch) // 16 mm (5/8 inch) // thick.
3. Bottom surface faced with felt facers.

## 2.5 INSULATION ACCESSORIES

A. Glass (Felt): ASTM D2178/D2178M, Type VI, heavy duty ply sheet.

B. Cants and Tapered Edge Strips:

SPEC WRITER NOTE: Retain first paragraph below for roofing systems requiring wood cant strips at roof perimeter and major openings.

1. Wood Cant Strips: Refer to Section 06 10 00, ROUGH CARPENTRY.
2. Insulation Cant Strips: ASTM C208, Type II, Grade 1, cellulosic-fiber insulation board.
3. Tapered Edge Strips: 1/12 (1 inch per 12 inches), from 0 mm (0 inches), 300 mm to 450 mm (12 inches to 18 inches) wide.
  - a. Cellulosic Fiberboard: ASTM C208.
  - b. Mineral Fiberboard: ASTM C726.
  - c. Perlite Board: ASTM C728.

C. Vapor Retarder:

1. Glass-Fiber Felts: ASTM D2178/D2178M, Type IV, asphalt impregnated.
2. Self-Adhering Sheet Vapor Retarder: ASTM D1970/D1970M, minimum 1.0 mm (40 mils) thick membrane of HDPE film fully coated with asphalt adhesive, or 0.76 to 1.0 mm (30 to 40 mils) thick membrane of butyl rubber based adhesive backed by a layer of high density cross-laminated polyethylene; maximum permeance rating of 6 ng/Pa/s/sq. m (0.1 perms).

D. Substrate Board:

SPEC WRITER NOTE: Select one or more paragraphs below for

roofing systems requiring support for vapor retarder over steel deck, or where specific substrate board is required by specified fire-resistance-rated roof assembly design.

1. Gypsum Board: ASTM C1396/C1396M, 16 mm (5/8 inch) thick, Type X.
2. Glass-Mat, Water-Resistant Gypsum Roof Board: ASTM C1177/C1177M, // 13 mm (1/2 inch) // Type X, 16 mm (5/8 inch) // thick, factory primed.
3. Cellulosic-Fiber-Reinforced, Water-Resistant Gypsum Roof Board: ASTM C1278/C1278M, // 6 mm (1/4 inch) // 10 mm (3/8 inch) // 13 mm (1/2 inch) // 16 mm (5/8 inch) // thick.
4. Perlite Board Insulation: ASTM C728, // 19 mm (3/4 inch) // 25 mm (1 inch) //.

E. Cover Board:

SPEC WRITER NOTE: Typically retain one paragraph from four below for VA roofing systems. Cover board is required under single-ply membranes installed over plastic foam insulation board based upon NRCA recommendations.

1. Glass-Mat, Water-Resistant Gypsum Roof Board: ASTM C1177/C1177M, // 6 mm (1/4 inch) // 13 mm (1/2 inch) // 16 mm (5/8 inch) // thick, factory primed.
2. Cellulosic-Fiber-Reinforced, Water-Resistant Gypsum Roof Board: ASTM C1278/C1278M, // 6 mm (1/4 inch) // 10 mm (3/8 inch) // 13 mm (1/2 inch) // 16 mm (5/8 inch) // thick.
3. Cellulosic-Fiber Insulation Board: ASTM C208, Type II, Grade 2, 13 mm (1/2 inch) thick.
4. Oriented Strand Board: DOC PS 2, Exposure 1, 11 mm (7/16 inch) thick.

2.6 ACCESSORIES

- A. Fasteners: Corrosion-resistant carbon steel fasteners and galvalume-coated steel or plastic round plates for fastening

substrate board and insulation to roof deck.

B. Nails: ASTM F1667; type to suit application.

### PART 3- EXECUTION

#### 3.1 EXAMINATION

A. Comply with requirements of Division 07 roofing section.

#### 3.2 PREPARATION

A. Examine and verify substrate suitability for product installation.

B. Protect existing construction and completed work from damage.

#### 3.3 INSTALLATION - GENERAL

A. Install products according to manufacturer's instructions.

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

B. Comply with requirements of UL for insulated steel roof deck.

C. Attach substrate board and other products to meet requirements of Division 07 roofing section.

#### 3.4 SUBSTRATE BOARD INSTALLATION

##### SPEC WRITER NOTES:

1. The National Roofing Contractors Association recommends substrate board be installed over steel deck. Use substrate board over steel deck on all VA new construction.

2. Use substrate board over steel deck to provide continuous support for vapor retarder where required.

A. Fasten substrate board to top flanges of steel decking to resist uplift pressures according requirements for specified roofing system.

1. Locate the long dimension edge joints solidly bearing on top of decking ribs.

#### 3.5 VAPOR RETARDER INSTALLATION

##### SPEC WRITER NOTES:



1. Review requirement for vapor retarders for use over decks to receive insulation for heated buildings where the January average means temperature is below 4.5 degrees C (40 degrees F), the relative humidity is 45 percent or greater. Vapor retarders should typically be considered for heated portions of buildings where a high humidity condition is expected such as a kitchen, indoor swimming pool, or laundry.

2. Follow NRCA procedures for determining if vapor retarders are required, including venting, and ASHRAE for calculations; however, under conditions of extreme humidity and cold weather conditions, a vapor retarder is required and water vapor transmission analysis is required. Ensure that the vapor retarder is shown at all locations where required on the Drawings.

A. Vapor Retarder Installation, General:

1. Install continuous vapor retarder on roof decks where indicated.
2. At vertical surfaces, turn up vapor retarder to top of insulation or base flashing.
3. Seal penetrations through vapor retarder with roof cement to prevent moisture entry from below.

B. Cast in Place Concrete Decks, Except Insulating Concrete:

1. Prime deck as specified.
2. Apply two plies of asphalt saturated felt mopped down to deck.

C. Precast Concrete Unit Decks Without Concrete Topping:

1. Prime deck as specified.
2. Apply two plies of asphalt saturated felt.

3. Mop to deck, keeping bitumen 100 mm (4 inches) away from joints of precast units. Bridge joints with felt. Mop between plies as specified.

### 3.6 INSULATION INSTALLATION

#### SPEC WRITER NOTES:

1. Calculate dew point location to determine amount of insulation required over vapor retarder, if any. Ensure dew point occurs within insulation thickness to prevent condensation occurring on interior surface of vapor retarder.
2. Ensure that the total insulation thickness will span flutes in metal deck.
3. Specify R value for each layer of insulation to avoid ambiguities.
4. Indicate types of insulation required when more than one type is needed due to roofing system designs. Edit Part 2 PRODUCTS to correspond to acceptable insulation types.
5. Use two layers, except on steel decks used for canopies or unheated structures.
6. Mechanical fasteners shall not extend through both layers of insulation over heated spaces.
7. Comply with International Building Code requirements for use of plastic insulation.
8. Use cellular glass or mineral fiber board for tapered edge strips at gravel stop in facilities with raised edges.
9. For tapered insulation systems, use minimum thickness at roof drains of 38 mm (1-1/2 inch).
10. Use crickets to eliminate "gutters" in roof slopes. Do not allow "flat areas" where ponding will occur. Provide dishes at drains, 13 mm (1/2 inch) deep. Coordinate

with drawing details.  
11. Use cellular glass board  
for plaza at promenade decks.

A. Insulation Installation, General:

SPEC WRITER NOTE: Base sheet  
is not required for all  
insulation. Confirm the  
requirement to include it  
according to the roofing  
system.

1. Base Sheet: Where required by roofing system, install one lapped base sheet specified in Division 07 roofing section by mechanically fastening to roofing substrate before installation of insulation.

SPEC WRITER NOTE: Coordinate  
cant strip requirement with  
roof systems referencing this  
section.

2. Cant Strips: Install // preformed insulation cant strips // wood cant strips specified in Section 06 10 00 ROUGH CARPENTRY // at junctures of roofing system with vertical construction.

SPEC WRITER NOTE: Retain  
paragraph below for  
re-roofing projects.

3. Use same insulation as existing for roof repair and alterations unless specified otherwise.

B. Insulation Thickness:

1. Thickness of roof insulation shown on drawings is nominal. Provide thickness required to comply with specified thermal performance.

SPEC WRITER NOTE: Verify  
sufficient R-Value occurs  
over vapor retarder to  
prevent condensation,  
especially over insulating  
concrete decks.

2. Insulation on Metal Decks: Provide insulation in minimum thickness recommended by insulation manufacturer to span deck flutes. Support edges of insulation on metal deck ribs.

3. When actual insulation thickness differs from drawings, coordinate alignment and location of roof drains, flashing, gravel stops, fascias and similar items.

SPEC WRITER NOTE: Ensure that roof slopes high and low points are shown on the roof plan, including crickets. Do not have "gutters" or level areas between drains. Ensure that drains are located at low points. Ensure that correct geometry is shown for slope.

4. Where tapered insulation is used, maintain insulation thickness at high points and roof edges shown on drawings.

- a. Low Point Thickness: Minimum 38 mm (1-1/2 inches).

5. Use minimum two layers of insulation when required thickness is 68 mm (2.7 inch) or greater.

- C. Lay insulating units with close joints, in regular courses and with end joints staggered.

1. Stagger joints between layers minimum 150 mm (6 inches).

- D. Lay units with long dimension perpendicular to the rolled (longitudinal) direction of the roofing felt.

- E. Seal cut edges at penetrations and at edges against blocking with bitumen or roof cement.

SPEC WRITER NOTE: Insulation is required to be mechanically anchored to steel decks. Delete non applicable text. Refer to Division 07 roofing section requirements for resistance to wind storm uplift. Design for wind conditions of area where building is constructed.

- F. Cut to fit tightly against blocking or penetrations.

- G. Cover all insulation installed on the same day; comply with temporary protection requirements of Division 07 roofing section.

## H. Installation Method:

## 1. Adhered Insulation:

- a. Prime substrate as required.
- b. Set each layer of insulation firmly in solid mopping of hot asphalt.
- c. Set each layer of insulation firmly in ribbons of bead-applied insulation adhesive.
- d. Set each layer of insulation firmly in uniform application of full-spread insulation adhesive.

## 2. Mechanically Fastened Insulation:

- a. Fasten insulation according to requirements in Division 07 roofing section.
- b. Fasten insulation to resist uplift pressures specified in Division 07 roofing section.

## 3. Mechanically Fastened and Adhered Insulation:

- a. Fasten first layer of insulation according to "Mechanically Fastened Insulation" requirements.
- b. Fasten each subsequent layer of insulation according to "Adhered Insulation" requirements.

**3.7 COVER BOARD INSTALLATION**

- A. Install cover boards over insulation with long joints in continuous straight lines with staggered end joints.
- B. Offset cover board joints from insulation joints 150 mm (6 inches), minimum.

SPEC WRITER NOTE: Do not mechanically fasten cover board under singly ply membranes to avoid potential excessive wear and puncture of membrane at exposed cover board fasteners.

- C. Secure cover boards according to // "Adhered Insulation" // "Mechanically Fastened Insulation" // requirements.

- - E N D - -

**SECTION 07 54 23**  
**THERMOPLASTIC POLYOLEFIN (TPO) ROOFING**

## SPEC WRITER NOTES:

1. Delete or edit text within [ ] if not applicable to project. Also delete any other item or paragraph not applicable in the section and renumber the paragraphs.
2. Follow the recommendations of the National Roofing Contractors Association "Roofing and Waterproofing Manual" for design criteria.
3. Slopes: Do not use on slopes over 1:12 (one inch per foot). Provide 1:50 (1/4 inch per foot) minimum slope to drains without any "Gutters" (no slopes between drains. NO EXCEPTIONS TO MINIMUM SLOPE. Slope crickets 1:50 (1/4-inch per foot).
4. Coordinate with plumbing requirements for roof drains and drain locations at low points and mid span where maximum deflection occurs. Do not put drains at columns or on slopes. Coordinate with insulation to provide "dishes" at drains.
5. Coordinate details and systems used to provide for code required fire rated roofing system. Do not use unsurfaced membranes over combustible insulation on decks.
6. Use of adhered system is preferred over mechanically anchored or ballasted system.
7. Coordinate with Section 07 22 00, ROOF AND DECK INSULATION.
8. Coordinate with Section 07 22 00, ROOF AND DECK INSULATION for roof insulation under the membrane. Decrease "R" value 5 percent when mechanical fasteners are used through the insulation to compensate for parallel heat flow.
9. Do not use over polystyrene, urethane, or wood fiberboard insulation under the membrane.
10. Do not use over bituminous materials where direct contact occurs, including grease, oil, or other substances not compatible with TPO. Use a thin layer of insulation, slip sheet or separator sheet depending upon method of attachment or felt back sheet when minimum amount of asphalt occurs.
11. Terminate base flashings not less than 200 mm (8 inches) above roof surface

including curb for building expansion joints.

12. Do not put expansion joints at roof surface level.
13. Do not use "pitch pocket" or "sealant pocket" in lieu of base flashings and cap flashings.
14. This specification is for use over concrete, cellular insulating concrete decks, or insulation. Insert additional text when installed directly to other decks or insulation systems not specified in Section 07 22 00, ROOF AND DECK INSULATION.

## **PART 1 - GENERAL**

### **1.1 DESCRIPTION**

- A. Thermoplastic Polyolefin (TPO) sheet roofing //adhered// //mechanically fastened// to roof deck.

### **1.2 RELATED WORK**

SPEC WRITER NOTE: Edit Related Work to reflect other sections relating directly to this section or referenced in this section.

- A. General sustainable design documentation requirements: Section 01 81 13 SUSTAINABLE CONSTRUCTION REQUIREMENTS.
- B. Treated wood framing, blocking, and nailers: Section 06 10 00, ROUGH CARPENTRY
- C. Roof Insulation: Section 07 22 00, ROOF AND DECK INSULATION.
- D. Sheet metal components and wind uplift requirements for roof-edge design: Section 07 60 00, FLASHING AND SHEET METAL.
- E. Roof hatches, equipment supports, dome type skylights, and gravity ventilators: Section 07 72 00, ROOF ACCESSORIES
- F. Miscellaneous items: Section 07 71 00, ROOF SPECIALTIES/ Section 07 72 00, ROOF ACCESSORIES.

### **1.3 APPLICABLE PUBLICATIONS**

SPEC WRITER NOTES:

1. Update applicable publications to current issue at time of project specification preparation.
  2. Update material requirements to agree with applicable requirements (types, grades, classes,) specified in the referenced Applicable Publications.
- A. Publications listed below form a part of this specification to the extent referenced. Publications are referenced in the text by the basic

designation only. Editions of applicable publications current on date of issue of bidding documents apply unless otherwise indicated.

B. American National Standards Institute/Single-Ply Roofing Institute

(ANSI/SPRI):

ANSI/SPRI ES-1-03.....Wind Design Standard for Edge Systems Used with  
Low Slope Roofing Systems.

C. American Society of Civil Engineers/Structural Engineering Institute

(ASCE/SEI):

ASCE/SEI-7-10.....Minimum Design Loads for Buildings and Other  
Structures

D. ASTM International (ASTM):

C67-09.....Standard Test Methods for Sampling and Testing  
Brick and Structural Clay Tile

C140-09.....Standard Test Methods for Sampling and Testing  
Concrete Masonry Units and Related Units

C1371-04.....Standard Test Method for Determination of  
Emittance of Materials Near Room Temperature  
Using Portable Emissometers

C1549-04.....Standard Test Method for Determination of Solar  
Reflectance Near Ambient Temperature Using a  
Portable Solar Reflectometer

D4263.....Standard Test Method for Indicating Moisture in  
Concrete by the Plastic Sheet Method

D4434-06.....Standard Specification for Poly (Vinyl  
Chloride) Sheet Roofing

D6878-08.....Standard Specification for Thermoplastic  
Polyolefin Based Sheet Roofing

E108-10.....Standard Test Methods for Fire Tests of Roof  
Coverings

E408-71 (R2008).....Standard Test Methods for Total Normal  
Emittance of Surfaces Using Inspection-Meter  
Techniques

E1918-06.....Standard Test Method for Measuring Solar  
Reflectance of Horizontal and Low-Sloped  
Surfaces in the Field

E1980-01.....Standard Test Method for Measuring Solar  
Reflectance of Horizontal and Low-Sloped  
Surfaces in the Field



- E. American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE)  
ASHRAE 90.1-2007.....Energy Standard for Buildings Except Low-Rise Residential Buildings, Appendix f.
- F. Cool Roof Rating Council:  
CRRC-1.....Product Rating Program, [www.coolroofs.org](http://www.coolroofs.org)
- G. FM Approvals: RoofNav Approved Roofing Assemblies and Products.  
4450-89.....Approved Standard for Class 1 Insulated Steel Deck Roofs  
4470-10.....Approved Standard for Class 1 Roof Coverings  
1-28-09.....Loss Prevention Data Sheet: Design Wind Loads.  
1-29-09.....Loss Prevention Data Sheet: Above-Deck Roof Components  
1-49-09.....Loss Prevention Data Sheet: Perimeter Flashing
- H. National Roofing Contractors Association: Roofing and Waterproofing Manual
- I. U.S. Department of Agriculture (USDA): USDA BioPreferred Catalog, [www.biopreferred.gov](http://www.biopreferred.gov)
- J. U.S. Department of Energy (DoE): Roof Products Qualified Product List, [www.energystar.gov](http://www.energystar.gov)

#### 1.4 PERFORMANCE REQUIREMENTS

- A. Material Compatibility: Provide roofing materials that are compatible with one another under conditions of service and application required, as demonstrated by membrane roofing manufacturer based on testing and field experience.

SPEC WRITER NOTE: Retain one or more paragraphs below for typical roofing applications based upon current Federal mandates, which may include one or more of the following: 1) Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings incorporated in Executive Order 13423 "Strengthening Federal Environmental, Energy, and Transportation Management, dated January 24, 2007; 2) Energy Policy Act of 2005 (EPA 2005); 3) Energy Independence and Security Act of 2007 (EISA 2007); 4) LEED mandate; 5) Conformance with locally-applicable requirements.

- B. Roofing System Energy Performance Requirements: Provide a roofing system identical to components that that have been successfully tested by a qualified independent testing and inspecting agency to meet the following requirements:

SPEC WRITER NOTE: Retain paragraph below for roofs that must comply with DOE's ENERGY STAR requirements:  
[www.energystar.gov](http://www.energystar.gov).

1. Energy Performance, Energy Star: Provide roofing system that is listed on DOE's ENERGY STAR "Roof Products Qualified Product List" for low-slope roof products.

SPEC WRITER NOTE: Retain paragraph below for LEED project requirements; note that LEED Credit SS 7.2 is not geographic location specific.

2. Solar Reflectance Index: Not less than 78 when calculated according to ASTM E1980 based on testing identical products by a qualified testing agency.

SPEC WRITER NOTE: Retain paragraph below for roofs that must comply with California Energy Commission CEC-Title 24: [www.coolroofs.com](http://www.coolroofs.com).

3. Energy Performance, CRRC-1: Provide roofing system with initial solar reflectance not less than 0.70 and emissivity not less than 0.75 when tested according to CRRC-1.

SPEC WRITER NOTE: Typically retain below for VA new construction and reroofing projects in ASHRAE Climate Zones 1 through 3 and elsewhere where cool roof technology is indicated as cost-effective. Also refer to Exceptions in ASHRAE 90.1 Appendix f that address ballasted, vegetated, and ventilated roofs.

4. Energy Performance, Aged: Provide roofing system with minimum three-year aged solar reflectance not less than 0.55 when tested in accordance with ASTM C1549 or ASTM E1918, and in addition, a minimum three-year-aged thermal emittance of 0.75 when tested in accordance with ASTM C1371 or ASTM E408.
  - a. Where tested aged values are not available for proposed product, submit calculations to adjust initial solar reflectance to

demonstrate compliance as indicated in ASHRAE 90.1-2007 Addendum f.

- b. Alternatively, provide roofing system with minimum three-year aged Solar Reflectance Index of not less than 64 when determined in accordance with the Solar Reflectance Index method in ASTM E1980 using a convection coefficient of 2.1 BTU/h-ft<sup>2</sup> (12 W/m<sup>2</sup>K).

#### **1.5 QUALITY CONTROL**

##### **A. Installer Qualifications:**

- 1. Licensed or approved in writing by manufacturer to perform work under warranty requirements of this Section.
- 2. Employ full-time supervisors knowledgeable and experienced in roofing of similar types and scopes, and able to communicate with owner and workers.

##### **B. Inspector Qualifications:** Inspection of work by third-party technical inspector or technical representative of manufacturer experienced in the installation and maintenance of the specified roofing system, qualified to perform roofing observation and inspection specified in Field Quality Control Article, to determine Installer's compliance with the requirements of this Project, and approved by the manufacturer to issue warranty certification. The Roofing Inspector shall be one of the following:

- 1. An authorized full-time technical employee of the manufacturer, not engaged in the sale of products.
- 2. An independent party certified as a Registered Roof Observer by the Roof Consultants Institute (RCI), retained by the Contractor or the Manufacturer and approved by the Manufacturer.

##### **C. Product/Material Requirements:**

- 1. Obtain products from single manufacturer or from sources recommended by manufacturer for use with roofing system and incorporated in manufacturer's warranty.
- 2. Bio-Based Materials: For Products designated by the USDA's Bio Preferred program, provide products that meet or exceed USDA recommendations for bio-based content, so long as products meet all performance requirements in this specifications section. For more information regarding the product categories covered by the Bio-Preferred program, visit <http://www.biopreferred.gov>

##### **D. Roofing system design standard requirements:**

1. Recommendations of the NRCA "Roofing and Waterproofing Manual" applicable to modified bituminous sheet roofing for storage, handling and application.
2. Recommendations of FM Approvals 1-49 Loss Prevention Data Sheet for Perimeter Flashings.
3. Recommendations of ANSI/SPRI ES-1 for roof edge design.

SPEC WRITER NOTE: Retain paragraph below and enter required uplift pressures if roofing system is required to be designed per ASCE/SEI 7 by local building code.

4. Roofing System Design: Provide roofing system that is identical to systems that have been successfully tested by a qualified testing and inspecting agency to resist uplift pressure calculated according to ASCE/SEI 7.
  - a. Corner Uplift Pressure: //00 kPa/sq. m (00 lbf/sq. ft.)//.
  - b. Perimeter Uplift Pressure: //00 kPa/sq. m (00 lbf/sq. ft.)//.
  - c. Field-of-Roof Uplift Pressure: //00 kPa/sq. m (00 lbf/sq. ft.)//.

SPEC WRITER NOTE: Retain and edit FM Approvals Listing requirement for VA facilities.

5. FM Approvals Listing: Provide roofing membrane, base flashing, and component materials that comply with requirements in FM Approvals 4450 and FM Approvals 4470 as part of a roofing system and that are listed in FM Approvals "RoofNav" for Class 1 or noncombustible construction, as applicable. Identify materials with FM Approvals markings.

SPEC WRITER NOTES:

1. Select one option in first subparagraph below based on windstorm classification of Project. Utilize calculation based upon FM Approvals Loss Prevention Data Sheet 1-28 to determine the number that establishes the minimum FM Approvals approval rating.
2. Verify availability of roofing systems that meet these classifications. Other options for classifications increase in increments of 15, e.g., Class 1A-135, 1A-150, 1A-165, and higher.
3. "Class 1A" signifies meeting ASTM E108, Class A fire performance for FM-approved Class 1 roof coverings.
4. For areas having three or more hailstorms annually, FM recommends

roofing systems rated SH (severe hail)  
instead of MH (moderate hail).

a. Fire/Windstorm Classification: Class 1A-//60// //75// //90//  
//105// //120//.

b. Hail Resistance: //MH// //SH//.

SPEC WRITER NOTE: Consider retaining  
requirement below in addition to FM  
Approval Listing requirement above for  
high windstorm classification areas (1A-  
105 or greater) to allow for broader  
participation in bidding.

6. High Wind Zone Design Requirement: Contractor Option: In lieu of  
FM Approval Listing windstorm classification, provide roofing  
membrane, base flashing, and component materials that comply with  
Miami-Dade County requirements.

E. Pre-Roofing Meeting:

1. Upon completion of roof deck installation and prior to any roofing  
application, hold a pre-roofing meeting arranged by the Contractor  
and attended by the Roofing Inspector, Material Manufacturers  
Technical Representative, Roofing Applicator, Contractor, and  
Resident Engineer.
2. Discuss specific expectations and responsibilities, construction  
procedures, specification requirements, application, environmental  
conditions, job and surface readiness, material storage, and  
protection.
3. Inspect roof deck at this time to:
  - a. Verify that work of other trades which penetrates roof deck is  
completed.
  - b. Determine adequacy of deck anchorage, presence of foreign  
material, moisture and unlevel surfaces, or other conditions that  
would prevent application of roofing system from commencing or  
cause a roof failure.
  - c. Examine samples and installation instructions of manufacturer.

**1.6 SUBMITTALS**

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT  
DATA, SAMPLES.
- B. Product Data:
1. Adhesive materials.
  2. Membrane sheet roofing and flashing membrane.
  3. Roofing cement.

4. Roof walkway.
5. Fastening requirements.
6. Application instructions.

C. LEED //and Federal Sustainable Design// Submittals:

1. Product Test Reports for Credit SS 7.2: For roof materials, indicating that roof materials comply with Solar Reflectance Index requirement.
2. Product Data for Credit IEQ 4.1: For adhesives and sealants used inside the weatherproofing system, documentation including printed statement of VOC content.

SPEC WRITER'S NOTE: Retain paragraph below when retaining requirement for use of Federally-mandated products under Quality Control Article above.

3. 3. Product Data for Federally-Mandated Bio-Based Materials: For roof materials, indicating USDA designation and compliance with definitions for bio-based products, Rapidly Renewable Materials, and certified sustainable wood content.

D. Samples:

1. Nails and fasteners, each type.

E. Shop Drawings: Include plans, sections, details, and attachments.

1. Base flashings and terminations.

F. Certificates:

1. Indicating materials and method of application of roofing system meets requirements of FM Approvals "RoofNav" for specified fire/windstorm classification.

SPEC WRITER NOTE: Retain paragraph below when retaining Miami-Dade County requirement under Quality Assurance article above.

2. Indicating compliance with Miami-Dade County requirements.
3. Indicating compliance with energy performance requirement.

G. Warranty: As specified.

H. Documentation of supervisors' and inspectors' qualifications.

I. Field reports of roofing inspector.

SPEC WRITER NOTE: Retain paragraph below for reroofing projects.

J. Temporary protection plan. Include list of proposed temporary materials.

## K. Contract Close-out Submittals:

1. Maintenance Manuals.
2. Warranty signed by installer and manufacturer.

**1.7 DELIVERY, STORAGE AND HANDLING**

- A. Comply with the recommendations of the NRCA "Roofing and Waterproofing Manual" applicable to single ply membrane roofing for storage, handling and installation.

**1.8 ENVIRONMENTAL REQUIREMENTS**

- A. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.
- B. Environmental Controls: Refer to Section 01 57 19, TEMPORARY ENVIRONMENTAL CONTROLS.
- C. Protection of interior spaces: Refer to Section 01 00 00, GENERAL REQUIREMENTS.

**1.9 WARRANTY**

Roofing work subject to the terms of the Article "Warranty of Construction," FAR clause 52.246-21, except extend the warranty period to //10// years.

**PART 2 - PRODUCTS****2.1 TPO MEMBRANE ROOFING**

## SPEC WRITER NOTES:

1. Use fabric-backed sheet for adhered systems to cellular insulating concrete, structural concrete, or when re-roofing over other incompatible substrates where the manufacturer recommends a fabric backing for separation.
2. Use sheets without fabric backing when adhering to rigid insulation board cover boards.
3. Do not use TPO sheet in ballasted applications.
4. Use adhered systems over cover boards on new VA construction unless other application is specifically approved by VA.
5. TPO membrane sheet is available in gray and several other colors that will not meet the DoE cool roof initiative standards.

- A. TPO Sheet: ASTM D6878, internally fabric or scrim reinforced, 1.5 mm (60 mils) thick, //with no backing// //with fabric backing//.
1. Color: //White//.

## **2.2 ACCESSORIES:**

- A. Sheet Flashing: Manufacturer's standard sheet flashing of same material, type, reinforcement, thickness, and color as TPO sheet membrane.
- B. Bonding Adhesive: Manufacturer's standard, water based.
- C. Metal Termination Bars: Manufacturer's standard, predrilled stainless-steel or aluminum bars, approximately 25 by 3 mm (1 by 1/8 inch) thick; with anchors.
- D. Metal Battens: Manufacturer's standard, aluminum-zinc-alloy-coated or zinc-coated steel sheet, approximately 25 mm wide by 1.3 mm (1 inch wide by 0.05 inch) thick, prepunched.
- E. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with FM Approvals 4470, designed for fastening membrane to substrate.
- F. Flexible Walkways: Factory-formed, nonporous, heavy-duty, slip-resisting, surface-textured walkway pads or rolls, approximately 5 mm (3/16 inch) thick, and acceptable to membrane roofing system manufacturer.
- G. Miscellaneous Accessories: Provide sealers, preformed flashings, preformed inside and outside corner sheet flashings, T-joint covers, lap sealants, termination reglets, and other accessories acceptable to manufacturer.

## **2.3 ADHESIVE SEALANT AND MATERIALS:**

- A. General: Adhesive and sealant materials recommended by roofing system manufacturer for intended use, identical to materials utilized in approved listed roofing system, and compatible with roofing membrane.
1. Liquid-type auxiliary materials shall comply with VOC limits of authorities having jurisdiction.

SPEC WRITER NOTE: Retain subparagraph below for low-emitting materials required for LEED-NC Credit EQ 4.1 or for general project sustainable design requirements. Below applies to all materials located to interior of weather-proof barrier.



2. Adhesives and sealants that are not on the exterior side of weather barrier shall comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24):
  - a. Plastic Foam Adhesives: 50 g/L.
  - b. Gypsum Board and Panel Adhesives: 50 g/L.
  - c. Multipurpose Construction Adhesives: 70 g/L.
  - d. Fiberglass Adhesives: 80 g/L.
  - e. Single-Ply Roof Membrane Adhesives: 250 g/L.
  - f. Other Adhesives: 250 g/L.
  - g. PVC Welding Compounds: 510 g/L.
  - h. Adhesive Primer for Plastic: 650 g/L
  - i. Single-Ply Roof Membrane Sealants: 450 g/L.
  - j. Nonmembrane Roof Sealants: 300 g/L.
  - k. Sealant Primers for Nonporous Substrates: 250 g/L.
  - l. Sealant Primers for Porous Substrates: 775 g/L.

#### 2.4 ROOF PAVERS

##### SPEC WRITER NOTES:

1. Assure pavers are detailed showing size and shape.
  2. Do not exceed 600 mm square (24 inches square) for non-interlocking units with approximate weight of 23 kg (50 pounds) each.
  3. Interlocking pavers are preferred over non interlocking pavers.
  4. Use interlocking type that has been tested in a wind tunnel for wind uplift meeting project requirements.
  5. Do not use light weight aggregate pavers.
  6. Extensive use of pavers is not appropriate for roof systems with solar reflective design requirements.
- A. Roof Pavers: Hydraulically pressed, concrete units, with top edges beveled, factory cast for use as roof pavers; absorption not greater than 5 percent, ASTM C140; no breakage and maximum 1 percent mass loss when tested for freeze-thaw resistance, ASTM C67; and as follows:
1. Weighing not less than 73 kg/m<sup>2</sup> (15 pounds per square foot).
  2. Manufactured using normal weight aggregate.
  3. Units of size, shape, and thickness as shown.
  4. Ribbed on bottom surface or provided with legs approximately 6 mm (1/4 inch) high. Legs to distribute weight of paver so bearing does not exceed 69 kPa (10 psi) on the roofing membrane.

5. Configuration: //Non-Interlocking// //Interlocking//.

### **PART 3 - EXECUTION**

#### **3.1 EXAMINATION:**

- A. Examine substrates and conditions with roofing Installer and roofing inspector to verify compliance with project requirements and suitability to accept subsequent roofing work. Correct unsatisfactory conditions before proceeding with roofing work.
- B. Do not apply roofing if roof surface will be used for subsequent work platform, storage of materials, or staging or scaffolding will be erected thereon unless system is protected.

#### **3.2 PREPARATION**

- A. Complete roof deck construction prior to commencing roofing work:
  - 1. Install curbs, blocking, edge strips, nailers, cants, and other components where insulation, roofing, and base flashing is attached to, in place ready to receive insulation and roofing.
  - 2. Complete deck and insulation to provide designed drainage to working roof drains.
  - 3. Document installation of related materials to be concealed prior to installing roofing work.
- B. Dry out surfaces, including the flutes of metal deck that become wet from any cause during progress of the work before roofing work is resumed. Apply materials to dry substrates.
- C. Sweep decks to broom clean condition. Remove all dust, dirt or debris.
- D. Remove projections that might damage materials.
- E. Concrete Decks, except Insulating Concrete:
  - 1. Test concrete decks for moisture prior to application of roofing materials. Test for capillary moisture by plastic sheet method according to ASTM D4263.
  - 2. Prime concrete decks, including precast units, with primer as specified. Keep primer back four inches from joints in precast units.
  - 3. Allow primer to dry before application of adhesive.
- F. Insulating Concrete Decks:
  - 1. Allow to dry out for at least five days after installation before the placement of materials.

2. If rain occurs during or at end of drying period or during installation of roofing, allow additional drying time before the placement of the roofing materials.
- G. Poured Gypsum Decks: Dry out poured gypsum in accordance with manufacturer's printed instructions prior to application of roofing materials.
- H. Existing Membrane Roofs and Repair Areas:
1. Comply with requirements in Section 07 01 50.19 PREPARATION FOR REROOFING.
  2. At areas to be altered or repaired, remove loose, damaged, or cut sheet that is not firmly adhered only where new penetrations occur or repairs are required.
  3. Cut and remove existing roof membrane for new work to be installed. Clean cut edges and install a temporary seal to cut surfaces. Use roof cement and one layer of 7 Kg (15 pound) felt strip cut to extend 150 mm (6 inches) on each side of cut surface. Bed strip in roof cement and cover strip with roof cement to completely embed the felt.
  4. At modified bituminous base flashing to be repaired, either bend up cap flashing or temporarily remove cap flashing. Brush and scrape away all deteriorated sheets or surface material of base flashing.

### **3.3 Temporary Protection**

- A. Install temporary protection at the end of day's work and when work is halted for an indefinite period or work is stopped when precipitation is imminent. Comply with approved temporary protection plan.
- B. Install temporary cap flashing over the top of base flashings where permanent flashings are not in place to provide protection against moisture entering the roof system through or behind the base flashing. Securely anchor in place to prevent blow off and damage by construction activities.
- C. Provide for removal of water or drainage of water away from the work.
- D. Provide temporary protection over installed roofing by means of duckboard walkways, plywood platforms, or other materials, as approved by Resident Engineer, for roof areas that are to remain intact, and that are subject to foot traffic and damage. Provide notches in sleepers to permit free drainage.

### **3.4 INSTALLATION, GENERAL**

- A. FM Approvals Installation Standard: Install roofing membrane, base flashings, wood cants, blocking, curbs, and nailers, and component materials in compliance with requirements in FMG 4450 and FMG 4470 as part of a membrane roofing system as listed in FM Approval's "RoofNav" for fire/windstorm classification indicated. Comply with recommendations in FM Approvals' Loss Prevention Data Sheet 1-49, including requirements for wood nailers and cants.
- B. NRCA Installation Standard: Install roofing system in accordance with applicable NRCA Manual Plates and NRCA recommendations.
- C. Manufacturer Recommendations: Comply with roofing system manufacturer's written installation recommendations.
- D. Coordination with related work: Coordinate roof operations with roof insulation and sheet metal work so that insulation and flashings are installed concurrently to permit continuous roofing operations.
- E. Installation Conditions:
  - 1. Apply dry roofing materials. Apply roofing work over dry substrates and materials.
  - 2. Apply materials within temperature range and surface and ambient conditions recommended by manufacturer.
  - 3. Except for temporary protection, do not apply materials during damp or rainy weather, during excessive wind conditions, nor while moisture (dew, snow, ice, fog or frost) is present in any amount in or on the materials to be covered or installed:
    - a. Do not apply materials when the temperature is below 4 deg. C (40 deg. F).
    - b. Do not apply materials to substrate having temperature of 4 deg. C (40 deg. F) or less.

### **3.5 INSTALLATION OF TPO ROOFING**

- A. Do not allow the membrane to come in contact with surfaces contaminated with asphalt, coal tar, oil, grease, or other substances which are not compatible with TPO.
- B. Install the membrane so the sheets run perpendicular to the long dimension of the insulation boards.
- C. Commence installation at the low point of the roof and work towards the high point. Lap the sheets so the flow of water is not against the edges of the sheet.
- D. Position the membrane so it is free of buckles and wrinkles.

- E. Roll sheet out on deck; inspect for defects as being rolled out and remove defective areas. Allow for relaxing before proceeding.
  - 1. Lap edges and ends of sheets 50 mm (two inches) or more as recommended by the manufacturer.
  - 2. Heat weld laps. Apply pressure as required. Seam strength of laps as required by ASTM D4434.
  - 3. Check seams to ensure continuous adhesion and correct defects.
  - 4. Finish edges of laps with a continuous beveled bead of sealant to sheet edges to provide smooth transition.
  - 5. Finish seams as the membrane is being installed (same day).
  - 6. Anchor perimeter to deck or wall as specified.
- F. Repair areas of welded seams where samples have been taken or marginal welds, bond voids, or skips occurs.
- G. Repair fishmouths and wrinkles by cutting to lay flat and installing patch over cut area extending 100 mm (four-inches) beyond cut.
- H. Membrane Perimeter Anchorage:
  - 1. Install metal fastening strip at the perimeter of each roof level, curb flashing, expansion joints and similar penetrations as indicated and in accordance with membrane manufacturer's instructions on top of roof membrane to deck or wall.
  - 2. Mechanically Fastened Metal Fastening Strip:
    - a. Set top of mechanical fastener set flush with top surface of the metal fastening strip. Space mechanical fasteners a maximum 300 mm (12 inches) on center starting 25 mm (one inch) from the end of the nailing strip.
    - b. When strips are cut round corners and eliminate sharp corners.
    - c. After mechanically fastening strip cover and seal strip with a six-inch wide roof membrane strip; heat weld to roof membrane and seal edges.
    - d. At roof edge metal, turn the membrane down over the front edge of the blocking or the nailer to below blocking. Secure the membrane to the vertical portion of the nailer; or, if required by the membrane manufacturer with fasteners spaced not over 300 mm (12 inches) on centers.
    - e. At parapet walls, intersecting building walls and curbs, secure the membrane to the structural deck with fasteners 300 mm (12 inches) on centers or as shown on NRCA manual.

## I. Adhered System:

1. Apply adhesive in quantities required by roof membrane manufacturer.
2. Fold sheet back on itself after rolling out and coat the bottom side of the membrane and the top of the deck with adhesive. Do not coat the lap joint area.
3. After adhesive has set according to adhesive manufacturers application instruction, roll the membrane into the adhesive in a manner that minimizes voids and wrinkles.
4. Repeat for other half of sheet. Cut voids and wrinkles to lay flat and clean for repair patch over cut area.

## J. Mechanically-Attached System:

1. Secure the membrane to the structural deck with fasteners through stress plate or batten strips spaced and patterned in accordance with the membrane manufacturer's instructions to achieve specified wind uplift performance.
2. When fasteners are installed within the laps of adjoining sheets, position the fastener so that the stress plates are a minimum 13 mm (1/2)inch) from the edge of the sheets.
3. Where fasteners are installed over the membrane after the seams have been welded, cover the fasteners with a minimum 175 mm (seven inch) wide round TPO membrane cap centered over the fasteners. If batten strips are used cover the strip with a minimum 175 mm (seven inch) wide TPO strip centered over the batten. Heat weld to the roof membrane and finish edges with sealant as specified. Finish edges with sealant as specified.
4. Before installing fasteners into cast in place concrete, pre-drill the correct size hole into the deck. Drill the hole 9 mm (3/8 inch) deeper than the fastener penetration.

**3.6 INSTALLATION OF FLASHING**

- A. Install flashings as the membrane is being installed. If the flashing can not be completely installed in one day, complete the installation until the flashing is in a watertight condition and provide temporary covers or seals.

## B. Flashing Roof Drains:

## SPEC WRITER NOTES:

1. Insure roof drain flashing details are shown with a dish to depress notched clamping ring below roof surface to

- minimize ponding water created by clamping ring.
    - 2. Offset drains in basin or dish to side of steel beams so drain is not above low point when roof slope terminates on top of beam.
  - 1. Install roof drain flashing as recommended by the membrane manufacturer, generally as follows:
    - a. Coordinate to set the metal drain flashing in asphalt roof cement, holding cement back from the edge of the metal flange.
    - b. Do not allow the roof cement to come in contact with the TPO roof membrane.
    - c. Adhere the TPO roof membrane to the metal flashing with the membrane manufacturer's recommended adhesive.
  - 2. Turn down the metal drain flashing and TPO roof membrane into the drain body and install clamping ring and strainer.
- C. Installing TPO Base Flashing and Pipe Flashing:
  - SPEC WRITER NOTES:
    - 1. See NRCA manual for TPO base flashing.
    - 2. Use with metal cap flashing.
    - 3. Use detail E when joint is 25 mm (1 inch) or less; DO NOT USE as a building expansion joint. Put expansion joint on curb.
    - 4. Coordinate with sheet metal work to provide metal cap flashing for base flashing on curbs and walls and penetrations.
    - 5. Use surface mounted type (NRCA manual) on existing walls.
    - 6. Use umbrella type (NRCA manual) on pipes that are not open.
    - 7. Do not terminate base flashing or membrane edge exposed on top of parapet walls or in reglets on horizontal or sloped wash surface. Terminate only under cap flashings or coping covers except gravel stops and for draw bands on pipe boots.
    - 8. Use 200 mm (8 inch) minimum height for base flashing.
  - 1. Install TPO flashing membranes to pipes, wall or curbs to a height not less than eight-inches above roof surfaces and 100 mm (four inches) on roof membrane.
    - a. Adhere flashing to pipe, wall or curb with adhesive.

- b. Form inside and outside corners of TPO flashing membrane in accordance with NRCA manual. Form pipe flashing in accordance with NRCA manual use pipe boot.
  - c. Lap ends not less than 100 mm (four inches).
  - d. Heat weld flashing membranes together and flashing membranes to roof membranes. Finish exposed edges with sealant as specified.
  - e. Install flashing membranes in accordance with NRCA manual.
- 2. Anchor top of flashing to walls or curbs with fasteners spaced not over 200 mm (eight inches) on centers. Use fastening strip on ducts. Use pipe clamps on pipes or other round penetrations.
  - 3. Apply sealant to top edge of flashing.
- D. Installing Building Expansion Joints:
- SPEC WRITER NOTES:
- 1. Do not put expansion joints at roof membrane level.
  - 2. Design joints to be installed on curbs not less than 200 mm (8 inches) high especially at walls.
  - 3. Detail expansion joint.
- 1. Install base flashing on curbs as specified.
  - 2. Coordinate installation with metal expansion joint cover or roof expansion joint system.
  - 2. Install flexible tubing 1-1/2 times width of joint over joint. Cover tubing with TPO flashing strip adhered to base flashing and lapping base flashing 100 mm (four inches). Finish edges of laps with sealants as specified.
- E. Repairs to membrane and flashings:
- 1. Remove sections of TPO sheet roofing or flashing that is creased wrinkled or fishmouthed.
  - 2. Cover removed areas, cuts and damaged areas with a patch extending 100 mm (four inches) beyond damaged, cut, or removed area. Heat weld to roof membrane or flashing. Finish edge of lap with sealant as specified.

### **3.7 FLEXIBLE WALKWAYS**

SPEC WRITER NOTES:

- 1. Use unreinforced membrane for walkways over roof areas which do not have paver walkways between equipment.
- 2. Use pavers around equipment requiring servicing or having discharges



detrimental to TPO and at doors for roofs.

3. Clearly indicate on roof plan flexible walkways.

- A. Use reinforced sheet not less than 900 mm (three feet) wide.
- B. Heat weld walkway sheet to roof sheet at edges. Weld area 50 mm (two inches) wide by the entire length of the walkway sheet.
- C. Finish edges of laps with sealants as specified.

### **3.8 INSTALLATION OF PAVERS**

#### **SPEC WRITER NOTES:**

1. Use pavers in the following locations as a minimum:
  - a. At working and access areas of equipment requiring servicing.
  - b. At equipment having discharges detrimental to roof membrane, under gooseneck discharges from kitchens and chemical exhausts.
  - c. At landing points for hatches, ladders, and doors entering roof level.
2. Show extent of walkways and pavers on roof plan.
3. Specify pavers and anchorage for pavers when weight of pavers does not meet the requirements for the wind velocities per FM TAB 1-29.
4. Pavers without interlocking connectors require strapping together and edge clamps when they do not provide the minimum weight per m2 (square foot) for wind uplift resistance. See paragraph 3.2, D, 4.
5. Use mechanical strapping to create a perimeter anchor, at penetrations, cuts at valleys, over drains, and where partial or cut units occur.
6. Detail strapping, perimeter restraints, edge clamps and location of strapping. Do not anchor through base flashing or into cants.
7. Interlocking connectors:
  - a. Use 400 mm (16 inches) on center minimum spacing of connectors.
  - b. Decrease spacing to 300, 200, or 100 mm (12, 8, or 4 inches) on center for higher wind velocities.

#### **A. Installation of pavers:**

1. Saw cut or core drill pavers for cut units.

2. Install pavers with butt joints in running bond with not less than one half length units at ends.
  - a. Stagger end joints; generally locate joints near midpoint of adjacent rows, except where end joints occur in valleys. Miter end joints to fit in valleys.
  - b. Cut to fit within 13 mm (1/2 inch) of penetrations.
3. Install interlocking connectors in channel units for complete tie in of units, including cut units. Use corner spacings for a distance of 1200 mm (4 feet) or more around roof drains, penetrations, and other vertical surfaces in the field of the roof area.
  - a. Space connectors at \_\_\_\_\_ mm (inches) on center at the corners for 3 m (10 foot) square area.
  - b. Space connectors at \_\_\_\_\_ mm inches on center at the perimeter for 1800 mm (6 foot) wide strip.
  - c. Space connectors at \_\_\_\_\_ mm (inches) on center in the field.
  - d. Install pavers under the perimeter retainer as shown.
4. Install strapping where shown.
  - a. Limit strap lengths to a maximum of 9 m (30 feet).
  - b. Install straps at corner connection to the perimeter retainer at approximate 45 degree angle at approximate 3 to 3.6 m (10 to 12 feet) from corner.
  - c. Install straps on each side of the valleys, hips, and ridges, with cross straps spaced not over 1200 mm (4 feet) on center between the end straps.
  - d. Install straps at the perimeter of the penetrations more than two paves in width or length.
  - e. Anchor straps to each paver with two fasteners per unit.
  - f. Pre-drill holes for fasteners in pavers.

### **3.9 FIELD QUALITY CONTROL:**

SPEC WRITER NOTE: Select one or both of following two paragraphs based upon project requirements. VA may elect to perform or hire roofing inspector. VA may also elect to require contractor to retain roofing inspector, either as qualified representative of manufacturer or independent third party inspector.

- A. Roofing Inspector: Owner will engage a qualified roofing inspector to perform roof tests and inspections and to prepare test reports.

- B. Roofing Inspector: Contractor shall engage a qualified roofing inspector for a minimum of //5// //7// //10// full-time days on site to perform roof tests and inspections and to prepare start up, interim, and final reports.
1. Examine and probe seams in the membrane and flashing in the presence of Resident Engineer and Membrane Manufacturer's Inspector.
  2. Probe edge of welded seams with a blunt tipped instrument. Use sufficient hand pressure to detect marginal welds, voids, skips, and fishmouths.
- C. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion.
1. Notify Architect and Owner 48 hours in advance of date and time of inspection.
- D. Repair or remove and replace components of roofing work where test results or inspections indicate that they do not comply with specified requirements.
1. Additional testing and inspecting, at Contractor's expense, will be performed to determine if replaced or additional work complies with specified requirements.

### **3.10 PROTECTING AND CLEANING**

- A. Protect membrane roofing system from damage and wear during remainder of construction period.
- B. Correct deficiencies in or remove membrane roofing system that does not comply with requirements; repair substrates; and repair or reinstall membrane roofing system to a condition free of damage and deterioration at time of acceptance by Owner.
- C. Clean overspray and spillage from adjacent construction. Clean membrane and restore surface to like-new condition meeting solar reflectance requirements.

- - - E N D - - -

**SECTION 07 72 00  
ROOF ACCESSORIES**

## SPEC WRITER NOTES:

1. Delete between // // if not applicable to project. Also delete any other item or paragraph not applicable in the section and renumber the paragraphs.
2. Include standard manufactured components installed on and in roofing other than mechanical, electrical, and structural items.

**PART 1 - GENERAL****1.1 DESCRIPTION:**

- A. This section specifies roof hatches; equipment supports; gravity ventilators; and metal grating roof walkway system.

**1.2 RELATED WORK:**

- //A. Sustainable Design Requirements: Section 01 81 13, SUSTAINABLE CONSTRUCTION REQUIREMENTS.//
- B. Color and texture of finish: Section 09 06 00, SCHEDULE FOR FINISHES.
- C. Sealant material and installation: Section 07 92 00, JOINT SEALANTS.
- D. General insulation: Section 07 21 13, THERMAL INSULATION. Rigid insulations for roofing: Section 07 22 00, ROOF AND DECK INSULATION

**1.3 QUALITY ASSURANCE:**

- A. Provide roof accessories that are the products of manufacturers regularly engaged in producing the kinds of products specified.
- B. For each accessory type provide the same product made by the same manufacturer.
- C. Assemble each accessory to the greatest extent possible before delivery to the site.

**1.4 SUBMITTALS:**

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- //B. Sustainable Design Submittals, as described below:
- //1. Postconsumer and preconsumer recycled content as specified in PART 2 - PRODUCTS.// //
- C. Samples: Submit representative sample panel of color anodized aluminum not less than 101 x 101 mm (4 x 4 inches). For extrusions, submit width not less than section to be installed. Show coating with integral color and texture and include manufacturer's identifying label.

- D. Shop Drawings: Each item specified showing design, details of construction, installation and fastenings.
- E. Manufacturer's Literature and Data: Each item specified.
- F. Certificates: Stating that aluminum has been given specified thickness of anodizing.

**1.5 APPLICABLE PUBLICATIONS:**

- A. The publications listed below form a part of this specification to the extend referenced. The publications are referenced in the text by the basic designation only.
- B. Federal Specifications (Fed. Spec.):
  - RR-G-1602D.....Grating, Metal, Other Than Bar Type (Floor, Except for Naval Vessels)
- C. ASTM International (ASTM):
  - A653/A653M-10.....Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) By the Hot-Dip Process
  - B209-14.....Aluminum and Aluminum Alloy-Sheet and Plate
  - B209M-14.....Aluminum and Aluminum-Alloy Sheet and Plate (Metric)
  - B221-14.....Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes
  - B221M-13.....Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes (Metric)
  - C726-12.....Mineral Wool Roof Insulation Board
  - C1289-14a.....Faced Rigid Cellular Polyisocyanurate Thermal Insulation Board
  - D1187/D1187M-97 (R2011) ..Asphalt-Base Emulsions for Use as Protective Coatings for Metal
- D. National Association of Architectural Metal Manufacturers (NAAMM):
  - AMP 500 Series.....Metal Finishes Manual
- E. American Architectural Manufacturers Association (AAMA):
  - 2603-13.....Performance Requirements and Test Procedures for Pigmented Organic Coatings on Aluminum Extrusions and Panels
  - 2605-13.....High Performance Organic Coatings on Architectural Extrusions and Panels.
  - 611-14.....Anodized Architectural Aluminum

621-02.....High Performance Organic Coatings on Coil  
Coated Architectural Hot Dipped Galvanized  
(HDG) and Zinc-Aluminum Coated Steel Substrates

F. American Society of Civil Engineers (ASCE):

ASCE 7-10.....Minimum Design Loads for Buildings and Other  
Structures

G. U.S. National Archives and Records Administration (NARA):

29 CFR 1910.23.....Guarding Floor and Wall Openings and Holes

## **PART 2 - PRODUCTS**

SPEC WRITER NOTE: Update materials requirements to agree with applicable requirements (types, grades, classes) specified in the referenced Applicable Publications.

### **2.1 MATERIALS:**

A. Aluminum, Extruded: ASTM B221M (B221).

B. Aluminum Sheet: ASTM B209M (B209).

C. Galvanized Sheet Steel: ASTM A653/A653M; G-90 coating.

D. Metal Grating for Roof Walkway: Fed. Spec. RR-G-1602.

//E. Recycled Content of Metal Products: Postconsumer recycled content plus one-half of preconsumer recycled content not less than // 30 // // percent. //

F. Asphalt Coating: ASTM D1187/D1187M, Type I, quick setting.

### **2.2 ROOF HATCH (SCUTTLE):**

A. Performance Characteristics:

1. Cover to be reinforced to support a minimum live load of 195 kg per sq. m (40 lb. per sq. ft.) with a maximum deflection of 1/150<sup>th</sup> of the span or 97 kg per sq. m (20 lb. per sq. ft.) wind uplift.
2. Operation of the Cover: Smooth and easy with controlled operation throughout the entire arc of opening and closing.
3. Operation of the Cover: Not affected by temperature.
4. Entire Hatch: Weathertight with fully welded corner joints on cover and curb.

B. Shop fabricate from aluminum with mill finish.

C. Curb and Cover:

1. Exterior facing: Minimum 2.3 mm (0.09 inch) thick sheet aluminum with mill finish.
2. Interior facing: Minimum 1 mm (0.04 inch) thick sheet aluminum.

3. Minimum of 50 mm (2 inch) thick polyisocyanurate insulation (ASTM C1289) with a U-value =  $0.47 \text{ W/m}^2 \text{ K}$  (R-value = 12) between facings of cover and over exterior face of curb.
4. Form exterior curb facing with an integral 76 mm (3 inch) wide roof flange and cap flashing minimum 2.3 mm (0.09 inch) thick sheet aluminum.

SPEC WRITER NOTE: Do not use less than 305 mm (12 inch high) curb above roof surface. Where access is to service roof equipment comply with OSHA for stair size, roof opening 750 mm x 2400 mm (2'-6" x 8'0"). Show opening size on the drawings. Coordinate/insert height requirements and finish.

5. Make curb // 305 mm (12 inches) // // // above finish roof surface.
6. Form cover to lap curb and cap flashing.
7. Size opening as shown on construction documents.
8. Finish: // //; color // //.

D. Hardware:

1. Provide spring snap latch with inside and outside operating handles and padlock hasp on inside. Provide two snap latches when hinge side is over 2100 mm (7 feet) long. Bolt hardware into heavy gauge channel reinforcement welded to the underside of the cover and concealed within the insulation space.
2. Provide heavy duty pintle hinges.
3. Provide automatic hold open and operating arm with enclosed torsion or compression spring lifting mechanism.
4. Latch Strike: Stamped component bolted or welded to the curb assembly.
5. Automatically lock in the open position at not less than 70 degrees.
6. Provide weatherstripping at cover closure.
7. Galvanize all hardware items.

E. Assembly:

1. Shop assemble roof scuttle.
2. Weld joints exposed to the weather and built into the roofing.
3. Finish weld smooth where exposed.

F. Safety Accessories:

1. Ladder Assist Post: Provide a telescoping tubular section that locks automatically when fully extended. Control upward and downward

movement by a stainless steel spring balancing mechanism. Provide unit completely assembled with fasteners for securing to the ladder rungs in accordance with the manufacturer's instructions.

2. Safety Railing: Provide a fixed, attached to the roof hatch railing assembly including rails, clamps, fasteners, safety barrier at railing opening, and accessories required for a complete installation; complying with 29 CFR 1910.23 requirements.

SPEC WRITER NOTE: Use following article for roof mounted equipment items other than mechanical equipment items. Prefabricated roof curbs for fans, ventilators and other roof mounted mechanical items are specified in Mechanical Specifications. Coordinate/insert load requirements and finish/colors.

### 2.3 EQUIPMENT SUPPORTS:

- A. Supported Load Capacity: // //.
- B. Fabricate equipment supports from 1.3 mm (0.0516 inch) thick galvanized ASTM A653/A653M steel fabricate with welded corners and with seams joined by continuous water and air tight welds.
- C. Equipment supports to be internally reinforced with angles 1.22 m (48 inches) on center.
- D. Form exterior curb with integral base, // and deck closures for curbs installed on steel decking. //
- E. Use galvanized steel liners for curbs having inside dimension over 305 mm (12 inches).
- F. Internally insulate with 38 mm (1-1/2 inch) glass-fiber board insulation (ASTM C726).
- G. Fabricate curb with a minimum height of 203 mm (8 inches) above roof surface.
- H. Attach preservative treated wood nailers to top of curb. Provide 50 mm (2 inch) by 50 mm (2 inch) minimum nominal size on curb with openings and 50 mm (2 inch) thick, width of curb up to 305 mm (12 inches) on equipment support curbs.
- H. Make size of supports suit size of equipment furnished, with height as shown on construction documents, but not less than 203 mm (8 inches) above roof surface.



I. Top of Equipment Supports: Level with pitch built into curb when deck slopes. Equip supports with water diverter or cricket on side that obstructs water flow.

J. Finish: // //; color // //.

SPEC WRITER NOTE: Use following article for gravity type ventilators not connected to ducts. All ventilators, mechanical and gravity, that are connected to ducts are specified in Mechanical Specifications. Coordinate finish/color.

#### **2.4 LOW SILHOUETTE GRAVITY VENTILATORS**

A. Fabricate base of 1 mm (0.04 inch) thick aluminum, and vent of 0.8 mm (0.032 inch) thick aluminum.

1. Height not to exceed 305 mm (12 inches) above top of roof curb.

2. Design ventilators to withstand 137 Km (85 miles) per hour wind velocity.

3. Provide ventilators with a removable 18 by 18 mesh by 0.28 mm (0.11 inch) diameter aluminum wire cloth insect screen.

//4. Provide security grille where indicated on construction documents. //

B. Construct damper of the same material as the ventilator and design to completely close opening or remain wide open. Hold damper in closed position by a brass chain and catch. Extend chains 305 mm (12 inches) below and engage catch when damper is closed.

C. Finish: // //; color // //.

#### **2.5 METAL GRATING ROOF WALKWAY SYSTEM:**

A. Provide metal grating roof walkway system consisting of prefabricated pans, of 14 gauge, galvanized (G-90 Coating) steel grating with slip resistant surface.

B. Grating units to be in 610 mm (2 foot) widths and in 3048 to 3658 mm (10 to 12 foot long) sections as required.

C. Provide complete with support framing, brackets, connectors, nosings and other accessories as required for complete roof walkway system.

1. Include support stands at minimum 1524 mm (5 feet) on center to hold planks a minimum of 228 mm (9 inches) above roof surface.

2. Provide wind restraint attachment to roof structure of size and spacing required to meet wind uplift requirements.

D. Include step units, nosings framing and connectors to provide changes in elevation as required. Comply with ASCE 7 and 29 CFR 1910.23.

- E. Equip walkways with safety railings where required by 29 CFR 1910.23.
- F. Provide neoprene rubber pads having a shore A hardness of 80 to 90-Durometer under each support, or bearing surface.
- G. Finish: // //; color // //.

SPEC WRITER NOTE: Edit/select finishes used. Use AAMA 621 for zinc coated steel sheet use AAMA 2605 for aluminum sheet.

## 2.6 FINISH:

- A. In accordance with NAAMM AMP 500 Series.
- //B. Aluminum, Mill Finish: AA-MIX, as fabricated.//
- //C. Aluminum, Clear Finish AAMA 611: AA-M12C22A41 medium matte, clear anodic coating, // Class I, Architectural, 0.018 mm (0.7 mils) thick (min.) // . // AA-M12C22A31 Class II, Architectural, 0.010 mm (0.4 mils) thick (min.) . // //
- //D. Aluminum Colored Finish AAMA 611: AA-C22A42 (anodized or AA-M12C22A44 (electrolytically deposited metallic compound) medium matte, integrally colored coating, // Class 1, Architectural, 0.018 mm (0.7 mils) thick (min.)// . // AA-M12C22A32/A33 Class II, Architectural, 0.010 mm (0.4 mils) thick (min.) . // Dyes will not be accepted.//
- //E. Baked-Enamel or Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of 0.04 mm (1.5 mils). Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish. //
- //F. Fluoropolymer Finish: High performance organic coating. Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturer's written instructions.
- //1. Two-Coat Fluoropolymer Finish: AAMA 2605. System consisting of primer and fluoropolymer color topcoat containing not less than 70 percent PVDF resin by weight. //
- //2. Two-Coat Fluoropolymer Finish: AAMA 621. System consisting of primer and fluoropolymer color topcoat containing not less than 70 percent PVDF resin by weight.// //

SPEC WRITER NOTE: Show anchorage location for items specified on drawings.

## PART 3 - EXECUTION

### 3.1 INSTALLATION:

- A. Install roof specialties where indicated on construction documents.

- B. Secure with fasteners in accordance with manufacture's printed installation instructions and approved shop drawings unless shown otherwise.
- C. Coordinate to install insulation where shown; see Section 07 21 13, THERMAL INSULATION and Section 07 22 00, ROOF AND DECK INSULATION.
- D. Comply with section 07 92 00, JOINT SEALANTS to install sealants where required by manufactures installation instructions require sealant.
- E. Coordinate with roofing work for installation of items in sequence to prevent water infiltration.
  - 1. After completion of base flashing bend down cap flashing flange and secure to blocking with screws.
  - 2. Install expansion joint cover with 6 mm (1/4 inch) wide space at end joints and tension bars at 610 mm (24 inches) on center.
  - 3. Install cover plates with formed aluminum flashing concealed and centered on joint. Flashing to lap cover not less than 101 mm (4 inches).
- F. Equipment Supports: Do not anchor to insulating concrete or metal deck. Anchor only to building structure as per manufacturers recommendations.

### **3.2 PROTECTION OF ALUMINUM:**

- A. Provide protection for aluminum against galvanic action wherever dissimilar materials are in contact, by painting the contact surfaces of the dissimilar material with two (2) coats of asphalt coating (complete coverage), or by separating the contact surfaces with a preformed neoprene tape having pressure sensitive adhesive coating on side.
- B. Paint aluminum in contact with wood, concrete and masonry, or other absorptive materials, that may become repeatedly wet, with two coats of asphalt coating.

### **3.3 ADJUSTING:**

- A. Adjust roof hatch hardware to operate freely and so that cover will operate without binding, close tightly at perimeter, and latch securely.

### **3.4 PROTECTION:**

- A. Protect roof accessories from damage during installation and after completion of the work from subsequent construction.

- - - E N D - - -

**SECTION 09 91 00**  
**PAINTING**

SPEC WRITER NOTE: Delete between //    //  
if not applicable to project. Delete,  
modify and add to text as required to  
suit information shown on the  
construction documents and specified in  
Section 09 06 00, SCHEDULE FOR FINISHES.

**PART 1 - GENERAL****1.1 DESCRIPTION:**

- A. Work of this Section includes all labor, materials, equipment, and services necessary to complete the painting and finishing as shown on the construction documents and/or specified herein, including, but not limited to, the following:
1. Prime coats which may be applied in shop under other sections.
  2. Prime painting unprimed surfaces to be painted under this Section.
  3. Painting items furnished with a prime coat of paint, including touching up of or repairing of abraded, damaged or rusted prime coats applied by others.
  4. Painting ferrous metal (except stainless steel) exposed to view.
  5. Painting galvanized ferrous metals exposed to view.
  6. Painting interior concrete block exposed to view.
  7. Painting gypsum drywall exposed to view.
  8. Painting of wood exposed to view, except items which are specified to be painted or finished under other Sections of these specifications. Back painting of all wood in contact with concrete, masonry or other moisture areas.
  9. Painting pipes, pipe coverings, conduit, ducts, insulation, hangers, supports and other mechanical and electrical items and equipment exposed to view.
  10. Painting surfaces above, behind or below grilles, gratings, diffusers, louvers lighting fixtures, and the like, which are exposed to view through these items.
  11. Painting includes shellacs, stains, varnishes, coatings specified, and striping or markers and identity markings.
  12. Incidental painting and touching up as required to produce proper finish for painted surfaces, including touching up of factory finished items.

13. Painting of any surface not specifically mentioned to be painted herein or on construction documents, but for which painting is obviously necessary to complete the job, or work which comes within the intent of these specifications, is to be included as though specified.

**1.2 RELATED WORK:**

- A. Activity Hazard Analysis: Section 01 35 26, SAFETY REQUIREMENTS.  
//B. Sustainable Design Requirements: Section 01 81 13, SUSTAINABLE DESIGN REQUIREMENTS. //
- C. Lead Paint Removal: Section 02 83 33.13, LEAD-BASED PAINT REMOVAL AND DISPOSAL.
- D. Masonry Repairs: Section 04 05 13, MASONRY MORTARING //  
Section 04 05 16, MASONRY GROUTING //.
- E. Shop prime painting of steel and ferrous metals: Division 05 - METALS, Division 08 - OPENINGS; Division 10 - SPECIALTIES; Division 11 - EQUIPMENT; Division 12 - FURNISHINGS; Division 13 - SPECIAL CONSTRUCTION; Division 14 - CONVEYING EQUIPMENT; Division 21 - FIRE SUPPRESSION; Division 22 - PLUMBING; Division 23 - HEATING; VENTILATION AND AIR-CONDITIONING; Division 26 - ELECTRICAL; Division 27 - COMMUNICATIONS; and Division 28 - ELECTRONIC SAFETY AND SECURITY sections.
- F. Prefinished flush doors with transparent finishes: Section 08 14 00, WOOD DOORS.
- G. Type of Finish, Color, and Gloss Level of Finish Coat: Section 09 06 00, SCHEDULE FOR FINISHES.
- H. Glazed wall surfacing or tile like coatings: Section 09 96 59, HIGH-BUILD GLAZED COATINGS.
- I. Multi-color Textured Wall Finish: Section 09 94 19, MULTICOLOR INTERIOR FINISHING.
- J. Asphalt and concrete pavement marking: Section 32 17 23, PAVEMENT MARKINGS.

**1.3 SUBMITTALS:**

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.  
//B. Sustainable Design Submittals as described below:  
//1. Volatile organic compounds per volume as specified in  
PART 2 - PRODUCTS.// //
- C. Painter qualifications.

## D. Manufacturer's Literature and Data:

1. Before work is started, or sample panels are prepared, submit manufacturer's literature and technical data, the current Master Painters Institute (MPI) "Approved Product List" indicating brand label, product name and product code as of the date of contract award, will be used to determine compliance with the submittal requirements of this specification. The Contractor may choose to use subsequent MPI "Approved Product List", however, only one (1) list may be used for the entire contract and each coating system is to be from a single manufacturer. All coats on a particular substrate must be from a single manufacturer. No variation from the MPI "Approved Product List" where applicable is acceptable.

## E. Sample Panels:

1. After painters' materials have been approved and before work is started submit sample panels showing each type of finish and color specified.
2. Panels to Show Color: Composition board, 100 x 250 mm (4 x 10 inch).
3. Panel to Show Transparent Finishes: Wood of same species and grain pattern as wood approved for use, 100 x 250 mm (4 x 10 inch face) minimum, and where both flat and edge grain will be exposed, 250 mm (10 inches) long by sufficient size, 50 x 50 mm (2 x 2 inch) minimum or actual wood member to show complete finish.
4. Attach labels to panel stating the following:
  - a. Federal Specification Number or manufacturers name and product number of paints used.
  - b. Specification code number specified in Section 09 06 00, SCHEDULE FOR FINISHES.
  - c. Product type and color.
  - d. Name of project.
5. Strips showing not less than 50 mm (2 inch) wide strips of undercoats and 100 mm (4 inch) wide strip of finish coat.

## F. Sample of identity markers if used.

## G. Manufacturers' Certificates indicating compliance with specified requirements:

1. Manufacturer's paint substituted for Federal Specification paints meets or exceeds performance of paint specified.
2. High temperature aluminum paint.
3. Epoxy coating.

4. Intumescent clear coating or fire retardant paint.
5. Plastic floor coating.

**1.4 DELIVERY AND STORAGE:**

- A. Deliver materials to site in manufacturer's sealed container marked to show following:
  1. Name of manufacturer.
  2. Product type.
  3. Batch number.
  4. Instructions for use.
  5. Safety precautions.
- B. In addition to manufacturer's label, provide a label legibly printed as following:
  1. Federal Specification Number, where applicable, and name of material.
  2. Surface upon which material is to be applied.
  3. Specify Coat Types: Prime; body; finish; etc.
- C. Maintain space for storage, and handling of painting materials and equipment in a ventilated, neat and orderly condition to prevent spontaneous combustion from occurring or igniting adjacent items.
- D. Store materials at site at least 24 hours before using, at a temperature between 7 and 30 degrees C (45 and 85 degrees F).

**1.5 QUALITY ASSURANCE:**

- A. Qualification of Painters: Use only qualified journeyman painters for the mixing and application of paint on exposed surfaces. Submit evidence that key personnel have successfully performed surface preparation and application of coating on a minimum of three (3) similar projects within the past three (3) years.
- B. Paint Coordination: Provide finish coats which are compatible with the prime paints used. Review other Sections of these specifications in which prime paints are to be provided to ensure compatibility of the total coatings system for the various substrates. Upon request from other subcontractors, furnish information on the characteristics of the finish materials proposed to be used, to ensure that compatible prime coats are used. Provide barrier coats over incompatible primers or remove and re-prime as required. Notify the Contracting Officer Representative (COR) in writing of any anticipated problems using the coating systems as specified with substrates primed by others.

## //1.6 MOCK-UP PANEL:

## SPEC WRITER NOTES:

1. Define spaces and other finishes where sample panel is required on construction documents.
2. Mock-up must be approved by COR in the project's design phase before including requirement in specification.

- A. In addition to the samples specified herein to be submitted for approval, apply in the field, at their final location, each type and color of approved paint materials, applied 3.05 m (10 feet) wide, floor to ceiling of wall surfaces, before proceeding with the remainder of the work, for approval by the COR. Paint mock-ups to include one (1) door and frame assembly.
- B. Finish and texture approved by COR will be used as a standard of quality and workmanship for remainder of work.
- C. Repaint individual areas which are not approved, as determined by the COR, until approval is received. //

**1.7 REGULATORY REQUIREMENTS:**

- A. Paint materials are to conform to the restrictions of the local Environmental and Toxic Control jurisdiction.
  1. Volatile Organic Compounds (VOC) Emissions Requirements:  
Field-applied paints and coatings that are inside the waterproofing system to not exceed limits of authorities having jurisdiction.
  2. Lead-Base Paint:
    - a. Comply with Section 410 of the Lead-Based Paint Poisoning Prevention Act, as amended, and with implementing regulations promulgated by Secretary of Housing and Urban Development.
    - b. Regulations concerning prohibition against use of lead-based paint in federal and federally assisted construction, or rehabilitation of residential structures are set forth in Subpart F, Title 24, Code of Federal Regulations, Department of Housing and Urban Development.
    - c. Do not use coatings having a lead content over 0.06 percent by weight of non-volatile content.
    - d. For lead-paint removal, see Section 02 83 33.13, LEAD-BASED PAINT REMOVAL AND DISPOSAL.
  3. Asbestos: Provide materials that do not contain asbestos.



4. Chromate, Cadmium, Mercury, and Silica: Provide materials that do not contain zinc-chromate, strontium-chromate, Cadmium, mercury or mercury compounds or free crystalline silica.
5. Human Carcinogens: Provide materials that do not contain any of the ACGIH-BKLT and ACGHI-DOC confirmed or suspected human carcinogens.
6. Use high performance acrylic paints in place of alkyd paints.

#### **1.8 SAFETY AND HEALTH**

- A. Apply paint materials using safety methods and equipment in accordance with the following:
  1. Comply with applicable Federal, State, and local laws and regulations, and with the ACCIDENT PREVENTION PLAN, including the Activity Hazard Analysis (AHA) as specified in Section 01 35 26, SAFETY REQUIREMENTS. The AHA is to include analyses of the potential impact of painting operations on painting personnel and on others involved in and adjacent to the work zone.
- B. Safety Methods Used During Paint Application: Comply with the requirements of SSPC PA Guide 10.
- C. Toxic Materials: To protect personnel from overexposure to toxic materials, conform to the most stringent guidance of:
  1. The applicable manufacturer's Material Safety Data Sheets (MSDS) or local regulation.
  2. 29 CFR 1910.1000.
  3. ACHIH-BKLT and ACGHI-DOC, threshold limit values.

#### **1.9 APPLICABLE PUBLICATIONS:**

- A. Publications listed below form a part of this specification to the extent referenced. Publications are referenced in the text by basic designation only.
- B. American Conference of Governmental Industrial Hygienists (ACGIH):  
ACGIH TLV-BKLT-2012.....Threshold Limit Values (TLV) for Chemical Substances and Physical Agents and Biological Exposure Indices (BEIs)  
ACGIH TLV-DOC-2012.....Documentation of Threshold Limit Values and Biological Exposure Indices, (Seventh Edition)
- C. ASME International (ASME):  
A13.1-07(R2013).....Scheme for the Identification of Piping Systems
- D. Code of Federal Regulation (CFR):

40 CFR 59.....Determination of Volatile Matter Content, Water  
Content, Density Volume Solids, and Weight  
Solids of Surface Coating

E. Commercial Item Description (CID):

A-A-1272A.....Plaster Gypsum (Spackling Compound)

F. Federal Specifications (Fed Spec):

TT-P-1411A.....Paint, Copolymer-Resin, Cementitious (For  
Waterproofing Concrete and Masonry Walls) (CEP)

G. Master Painters Institute (MPI):

1.....Aluminum Paint  
4.....Interior/ Exterior Latex Block Filler  
5.....Exterior Alkyd Wood Primer  
7.....Exterior Oil Wood Primer  
8.....Exterior Alkyd, Flat MPI Gloss Level 1  
9.....Exterior Alkyd Enamel MPI Gloss Level 6  
10.....Exterior Latex, Flat  
11.....Exterior Latex, Semi-Gloss  
18.....Organic Zinc Rich Primer  
22.....Aluminum Paint, High Heat (up to 590° - 1100F)  
27.....Exterior / Interior Alkyd Floor Enamel, Gloss  
31.....Polyurethane, Moisture Cured, Clear Gloss  
36.....Knot Sealer  
43.....Interior Satin Latex, MPI Gloss Level 4  
44.....Interior Low Sheen Latex, MPI Gloss Level 2  
45.....Interior Primer Sealer  
46.....Interior Enamel Undercoat  
47.....Interior Alkyd, Semi-Gloss, MPI Gloss Level 5  
48.....Interior Alkyd, Gloss, MPI Gloss Level 6  
50.....Interior Latex Primer Sealer  
51.....Interior Alkyd, Eggshell, MPI Gloss Level 3  
52.....Interior Latex, MPI Gloss Level 3  
53.....Interior Latex, Flat, MPI Gloss Level 1  
54.....Interior Latex, Semi-Gloss, MPI Gloss Level 5  
59.....Interior/Exterior Alkyd Porch & Floor Enamel,  
Low Gloss  
60.....Interior/Exterior Latex Porch & Floor Paint,  
Low Gloss

- 66.....Interior Alkyd Fire Retardant, Clear Top-Coat  
(ULC Approved)
- 67.....Interior Latex Fire Retardant, Top-Coat (ULC  
Approved)
- 68.....Interior/ Exterior Latex Porch & Floor Paint,  
Gloss
- 71.....Polyurethane, Moisture Cured, Clear, Flat
- 77.....Epoxy Cold Cured, Gloss
- 79.....Marine Alkyd Metal Primer
- 90.....Interior Wood Stain, Semi-Transparent
- 91.....Wood Filler Paste
- 94.....Exterior Alkyd, Semi-Gloss
- 95.....Fast Drying Metal Primer
- 98.....High Build Epoxy Coating
- 101.....Epoxy Anti-Corrosive Metal Primer
- 108.....High Build Epoxy Coating, Low Gloss
- 114.....Interior Latex, Gloss
- 119.....Exterior Latex, High Gloss (acrylic)
- 134.....Galvanized Water Based Primer
- 135.....Non-Cementitious Galvanized Primer
- 138.....Interior High Performance Latex, MPI Gloss  
Level 2
- 139.....Interior High Performance Latex, MPI Gloss  
Level 3
- 140.....Interior High Performance Latex, MPI Gloss  
Level 4
- 141.....Interior High Performance Latex (SG) MPI Gloss  
Level 5
- 163.....Exterior Water Based Semi-Gloss Light  
Industrial Coating, MPI Gloss Level 5
- G. Society for Protective Coatings (SSPC):
  - SSPC SP 1-82 (R2004).....Solvent Cleaning
  - SSPC SP 2-82 (R2004).....Hand Tool Cleaning
  - SSPC SP 3-28 (R2004).....Power Tool Cleaning
  - SSPC SP 10/NACE No.2.....Near-White Blast Cleaning
  - SSPC PA Guide 10.....Guide to Safety and Health Requirements
- H. Maple Flooring Manufacturer's Association (MFMA):
- I. U.S. National Archives and Records Administration (NARA):

29 CFR 1910.1000.....Air Contaminants

J. Underwriter's Laboratory (UL)

## **PART 2 - PRODUCTS**

### **SPEC WRITER NOTES:**

1. Coordinate material requirements to agree with applicable requirements specified in the referenced Applicable Publications.
2. Update and specify only that which applies to the project with paint schedule and Section 09 06 00, SCHEDULE FOR FINISHES.

### **2.1 MATERIALS:**

- A. Conform to the coating specifications and standards referenced in PART 3. Submit manufacturer's technical data sheets for specified coatings and solvents.

### **2.2 PAINT PROPERTIES:**

- A. Use ready-mixed (including colors), except two component epoxies, polyurethanes, polyesters, paints having metallic powders packaged separately and paints requiring specified additives.
- B. Where no requirements are given in the referenced specifications for primers, use primers with pigment and vehicle, compatible with substrate and finish coats specified.
- C. Provide undercoat paint produced by the same manufacturer as the finish coats. Use only thinners approved by the paint manufacturer, and use only to recommended limits.

//D. VOC Content: For field applications that are inside the weatherproofing system, paints and coating to comply with VOC content limits of authorities having jurisdiction and the following VOC content limits:

1. Flat Paints and Coatings: 50 g/L.
2. Non-flat Paints and Coatings: 150 g/L.
3. Dry-Fog Coatings: 400 g/L.
4. Primers, Sealers, and Undercoaters: 200 g/L.
5. Anticorrosive and Antirust Paints applied to Ferrous Metals: 250 g/L.
6. Zinc-Rich Industrial Maintenance Primers: 340 g/L.
7. Pretreatment Wash Primers: 420 g/L.
8. Shellacs, Clear: 730 g/L.
9. Shellacs, Pigmented: 550 g/L. //

E. VOC test method for paints and coatings is to be in accordance with 40 CFR 59 (EPA Method 24). Part 60, Appendix A with the exempt compounds' content determined by Method 303 (Determination of Exempt Compounds) in the South Coast Air Quality Management District's (SCAQMD) "Laboratory Methods of Analysis for Enforcement Samples" manual.

### 2.3 PLASTIC TAPE:

- A. Pigmented vinyl plastic film in colors as specified in Section 09 06 00, SCHEDULE FOR FINISHES or specified.
- B. Pressure sensitive adhesive back.
- //C. Snap on coil plastic markers.//
- D. Widths as shown on construction documents.

### 2.4 Biobased Content

- A. Paint products shall comply with following bio-based standards for biobased materials:

Material Type	Percent by Weight
Interior Paint	20 percent biobased material
Interior Paint- Oil Based and Solvent Alkyd	67 percent biobased material
Exterior Paint	20 percent biobased material
Wood & Concrete Stain	39 percent biobased content
Polyurethane Coatings	25 percent biobased content
Water Tank Coatings	59 percent biobased content
Wood & Concrete Sealer-Membrane Concrete Sealers	11 percent biobased content
Wood & Concrete Sealer-Penetrating Liquid	79 percent biobased content

- B. The minimum-content standards are based on the weight (not the volume) of the material.

## PART 3 - EXECUTION

### 3.1 JOB CONDITIONS:

- A. Safety: Observe required safety regulations and manufacturer's warning and instructions for storage, handling and application of painting materials.

1. Take necessary precautions to protect personnel and property from hazards due to falls, injuries, toxic fumes, fire, explosion, or other harm.
2. Deposit soiled cleaning rags and waste materials in metal containers approved for that purpose. Dispose of such items off the site at end of each day's work.

B. Atmospheric and Surface Conditions:

1. Do not apply coating when air or substrate conditions are:
  - a. Less than 3 degrees C (5 degrees F) above dew point.
  - b. Below 10 degrees C (50 degrees F) or over 35 degrees C (95 degrees F), unless specifically pre-approved by the COR and the product manufacturer. Under no circumstances are application conditions to exceed manufacturer recommendations.
  - c. When the relative humidity exceeds 85 percent; or to damp or wet surfaces; unless otherwise permitted by the paint manufacturer's printed instructions.
2. Maintain interior temperatures until paint dries hard.
3. Do no exterior painting when it is windy and dusty.
4. Do not paint in direct sunlight or on surfaces that the sun will warm.
5. Apply only on clean, dry and frost free surfaces except as follows:
  - a. Apply water thinned acrylic and cementitious paints to damp (not wet) surfaces only when allowed by manufacturer's printed instructions.
  - b. Concrete and masonry when permitted by manufacturer's recommendations, dampen surfaces to which water thinned acrylic and cementitious paints are applied with a fine mist of water on hot dry days to prevent excessive suction and to cool surface.
6. Varnishing:
  - a. Apply in clean areas and in still air.
  - b. Before varnishing vacuum and dust area.
  - c. Immediately before varnishing wipe down surfaces with a tack rag.

**3.2 INSPECTION:**

- A. Examine the areas and conditions where painting and finishing are to be applied and correct any conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions are corrected to permit proper installation of the work.

**3.3 GENERAL WORKMANSHIP REQUIREMENTS:**

- A. Application may be by brush or roller. Spray application only upon acceptance from the COR in writing.
- B. Furnish to the COR a painting schedule indicating when the respective coats of paint for the various areas and surfaces will be completed. This schedule is to be kept current as the job progresses.
- C. Protect work at all times. Protect all adjacent work and materials by suitable covering or other method during progress of work. Upon completion of the work, remove all paint and varnish spots from floors, glass and other surfaces. Remove from the premises all rubbish and accumulated materials of whatever nature not caused by others and leave work in a clean condition.
- D. Remove and protect hardware, accessories, device plates, lighting fixtures, and factory finished work, and similar items, or provide in place protection. Upon completion of each space, carefully replace all removed items by workmen skilled in the trades involved.
- E. When indicated to be painted, remove electrical panel box covers and doors before painting walls. Paint separately and re-install after all paint is dry.
- F. Materials are to be applied under adequate illumination, evenly spread and flowed on smoothly to avoid runs, sags, holidays, brush marks, air bubbles and excessive roller stipple.
- G. Apply materials with a coverage to hide substrate completely. When color, stain, dirt or undercoats show through final coat of paint, the surface is to be covered by additional coats until the paint film is of uniform finish, color, appearance and coverage, at no additional cost to the Government.
- H. All coats are to be dry to manufacturer's recommendations before applying succeeding coats.
- I. All suction spots or "hot spots" in plaster after the application of the first coat are to be touched up before applying the second coat.
- J. Do not apply paint behind frameless mirrors that use mastic for adhering to wall surface.

**SPEC WRITER NOTES:**

- 1. Insure other technical sections specify acceptable surface conditions to receive paint including patching and repair of new and existing surfaces.

2. Check structural sections specifying ferrous metal; mechanical and electrical sections of the specifications for proper surface condition and compatible prime coats to suit finishes specified. For instance, finish on concrete required to have cementitious coating; type of shop coat on bar joists required to be painted; will any parts of mechanical equipment have to be field painted; what kind of primers are specified, if any.

### 3.4 SURFACE PREPARATION:

#### A. General:

1. The Contractor shall be held wholly responsible for the finished appearance and satisfactory completion of painting work. Properly prepare all surfaces to receive paint, which includes cleaning, sanding, and touching-up of all prime coats applied under other Sections of the work. Broom clean all spaces before painting is started. All surfaces to be painted or finished are to be completely dry, clean and smooth.
2. See other sections of specifications for specified surface conditions and prime coat.
3. Perform preparation and cleaning procedures in strict accordance with the paint manufacturer's instructions and as herein specified, for each particular substrate condition.
4. Clean surfaces before applying paint or surface treatments with materials and methods compatible with substrate and specified finish. Remove any residue remaining from cleaning agents used. Do not use solvents, acid, or steam on concrete and masonry. Schedule the cleaning and painting so that dust and other contaminants from the cleaning process will not fall in wet, newly painted surfaces.
5. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
  - a. Concrete: 12 percent.
  - b. Fiber-Cement Board: 12 percent.
  - c. Masonry (Clay and CMU's): 12 percent.
  - d. Wood: 15 percent.
  - e. Gypsum Board: 12 percent.
  - f. Plaster: 12 percent.

#### B. Wood:



1. Sand to a smooth even surface and then dust off.
2. Sand surfaces showing raised grain smooth between each coat.
3. Wipe surface with a tack rag prior to applying finish.
4. Surface painted with an opaque finish:
  - a. Coat knots, sap and pitch streaks with MPI 36 (Knot Sealer) before applying paint.
  - b. Apply two coats of MPI 36 (Knot Sealer) over large knots.
5. After application of prime or first coat of stain, fill cracks, nail and screw holes, depressions and similar defects with wood filler paste. Sand the surface to make smooth and finish flush with adjacent surface.
6. Before applying finish coat, reapply wood filler paste if required, and sand surface to remove surface blemishes. Finish flush with adjacent surfaces.
7. Fill open grained wood such as oak, walnut, ash and mahogany with MPI 91 (Wood Filler Paste), colored to match wood color.
  - a. Thin filler in accordance with manufacturer's instructions for application.
  - b. Remove excess filler, wipe as clean as possible, dry, and sand as specified.

C. Ferrous Metals:

1. Remove oil, grease, soil, drawing and cutting compounds, flux and other detrimental foreign matter in accordance with SSPC-SP 1 (Solvent Cleaning).
2. Remove loose mill scale, rust, and paint, by hand or power tool cleaning, as defined in SSPC-SP 2 (Hand Tool Cleaning) and SSPC-SP 3 (Power Tool Cleaning). // Where high temperature aluminum paint is used, prepare surface in accordance with paint manufacturer's instructions.//
3. Fill dents, holes and similar voids and depressions in flat exposed surfaces of hollow steel doors and frames, access panels, roll-up steel doors and similar items specified to have semi-gloss or gloss finish with TT-F-322D (Filler, Two-Component Type, For Dents, Small Holes and Blow-Holes). Finish flush with adjacent surfaces.
  - a. Fill flat head countersunk screws used for permanent anchors.
  - b. Do not fill screws of item intended for removal such as glazing beads.

4. Spot prime abraded and damaged areas in shop prime coat which expose bare metal with same type of paint used for prime coat. Feather edge of spot prime to produce smooth finish coat.
  5. Spot prime abraded and damaged areas which expose bare metal of factory finished items with paint as recommended by manufacturer of item.
- D. // Zinc-Coated (Galvanized) Metal, // // Aluminum, // // Copper and Copper Alloys // Surfaces Specified Painted:
1. Clean surfaces to remove grease, oil and other deterrents to paint adhesion in accordance with SSPC-SP 1 (Solvent Cleaning).
  2. Spot coat abraded and damaged areas of zinc-coating which expose base metal on hot-dip zinc-coated items with MPI 18 (Organic Zinc Rich Coating). Prime or spot prime with MPI 134 (Waterborne Galvanized Primer) or MPI 135 (Non-Cementitious Galvanized Primer) depending on finish coat compatibility.
- E. Masonry, Concrete, Cement Board, Cement Plaster and Stucco:
1. Clean and remove dust, dirt, oil, grease efflorescence, form release agents, laitance, and other deterrents to paint adhesion.
  2. Use emulsion type cleaning agents to remove oil, grease, paint and similar products. Use of solvents, acid, or steam is not permitted.
  3. Remove loose mortar in masonry work.
  4. Replace mortar and fill open joints, holes, cracks and depressions with new mortar specified in Section 04 05 13, MASONRY MORTARING // Section 04 05 16, MASONRY GROUTING //. Do not fill weep holes. Finish to match adjacent surfaces.
  5. Neutralize Concrete floors to be painted by washing with a solution of 1.4 Kg (3 pounds) of zinc sulfate crystals to 3.8 L (1 gallon) of water, allow to dry three (3) days and brush thoroughly free of crystals.
  6. Repair broken and spalled concrete edges with concrete patching compound to match adjacent surfaces as specified in Division 03, CONCRETE Sections. Remove projections to level of adjacent surface by grinding or similar methods.
- F. Gypsum Plaster and Gypsum Board:
1. Remove efflorescence, loose and chalking plaster or finishing materials.
  2. Remove dust, dirt, and other deterrents to paint adhesion.

3. Fill holes, cracks, and other depressions with CID-A-A-1272A finished flush with adjacent surface, with texture to match texture of adjacent surface. Patch holes over 25 mm (1-inch) in diameter as specified in Section for plaster or gypsum board.

### **3.5 PAINT PREPARATION:**

- A. Thoroughly mix painting materials to ensure uniformity of color, complete dispersion of pigment and uniform composition.
- B. Do not thin unless necessary for application and when finish paint is used for body and prime coats. Use materials and quantities for thinning as specified in manufacturer's printed instructions.
- C. Remove paint skins, then strain paint through commercial paint strainer to remove lumps and other particles.
- D. Mix two (2) component and two (2) part paint and those requiring additives in such a manner as to uniformly blend as specified in manufacturer's printed instructions unless specified otherwise.
- E. For tinting required to produce exact shades specified, use color pigment recommended by the paint manufacturer.

### **3.6 APPLICATION:**

- A. Start of surface preparation or painting will be construed as acceptance of the surface as satisfactory for the application of materials.
- B. Unless otherwise specified, apply paint in three (3) coats; prime, body, and finish. When two (2) coats applied to prime coat are the same, first coat applied over primer is body coat and second coat is finish coat.
- C. Apply each coat evenly and cover substrate completely.
- D. Allow not less than 48 hours between application of succeeding coats, except as allowed by manufacturer's printed instructions, and approved by COR.

SPEC WRITER NOTE: Do not allow spray painting at existing buildings occupied during the course of the work. Spray painting may be allowed in certain areas of new additions or separate buildings. Coordinate restrictions with COR.

- E. Apply by brush or roller. Spray application for new or existing occupied spaces only upon approval by acceptance from COR in writing.

SPEC WRITER NOTE: Check application requirements with manufacturer of

materials specified to determine if below paragraphs are applicable.

1. Apply painting materials specifically required by manufacturer to be applied by spraying.
  2. In new construction and in existing occupied spaces, where paint is applied by spray, mask or enclose with polyethylene, or similar air tight material with edges and seams continuously sealed including items specified in "Building and Structural Work Field Painting"; "Work not Painted"; motors, controls, telephone, and electrical equipment, fronts of sterilizes and other recessed equipment and similar prefinished items.
- F. Do not paint in closed position operable items such as access doors and panels, window sashes, overhead doors, and similar items except overhead roll-up doors and shutters.

### **3.7 PRIME PAINTING:**

- A. After surface preparation, prime surfaces before application of body and finish coats, except as otherwise specified.
- B. Spot prime and apply body coat to damaged and abraded painted surfaces before applying succeeding coats.
- C. Additional field applied prime coats over shop or factory applied prime coats are not required except for exterior exposed steel apply an additional prime coat.
- D. Prime rabbets for stop and face glazing of wood, and for face glazing of steel.
- E. Wood and Wood Particleboard:
  1. Use same kind of primer specified for exposed face surface.
    - a. Exterior wood: MPI 7 (Exterior Oil Wood Primer) for new construction and MPI 5 (Exterior Alkyd Wood Primer) for repainting bare wood primer except where MPI 90 (Interior Wood Stain, Semi-Transparent) is scheduled.
    - b. Interior wood except for transparent finish: MPI 45 (Interior Primer Sealer) or MPI 46 (Interior Enamel Undercoat), thinned if recommended by manufacturer.
    - c. Transparent finishes as specified under "Transparent Finishes on Wood Except Floors Article" // and "Finish for Wood Floors Article" //.
  2. Apply two (2) coats of primer MPI 7 (Exterior Oil Wood Primer) or MPI 5 (Exterior Alkyd Wood Primer) or sealer MPI 45 (Interior Primer

Sealer) or MPI 46 (Interior Enamel Undercoat) to surfaces of wood doors, including top and bottom edges, which are cut for fitting or for other reason.

3. Apply one (1) coat of primer MPI 7 (Exterior Oil Wood Primer) or MPI 5 (Exterior Alkyd Wood Primer) or sealer MPI 45 (Interior Primer Sealer) or MPI 46 (Interior Enamel Undercoat) as soon as delivered to site to surfaces of unfinished woodwork, except concealed surfaces of shop fabricated or assembled millwork and surfaces specified to have varnish, stain or natural finish.
4. Back prime and seal ends of exterior woodwork, and edges of exterior plywood specified to be finished.
5. Apply MPI 67 (Interior Latex Fire Retardant, Top-Coat (UL Approved) to wood for fire retardant finish.

F. Metals except boilers, incinerator stacks, and engine exhaust pipes:

1. Steel and iron: // MPI 79 (Marine Alkyd Metal Primer) // // MPI 95 (Fast Drying Metal Primer) //. Use MPI 101 (Cold Curing Epoxy Primer) where // MPI 77 (Epoxy Cold Cured, Gloss // // MPI 98 (High Build Epoxy Coating) // // MPI 108 (High Build Epoxy Marine Coating // finish is specified.
2. Zinc-coated steel and iron: // MPI 134 (Waterborne Galvanized Primer) // // MPI 135 (Non-Cementitious Galvanized Primer) //.
3. Aluminum scheduled to be painted: MPI 95 (Fast Drying Metal Primer).
4. Terne Metal: // MPI 79 (Marine Alkyd Metal Primer) // // MPI 95 (Fast Drying Metal Primer) //.
5. Copper and copper alloys scheduled to be painted: MPI 95 (Fast Drying Metal Primer).
6. Machinery not factory finished: MPI 9 (Exterior Alkyd Enamel).
7. Asphalt coated metal: MPI 1 (Aluminum Paint).
8. Metal over 94 degrees C (201 degrees F), Boilers, Incinerator Stacks, and Engine Exhaust Pipes: MPI 22 (High Heat Resistant Coating).

G. Gypsum Board // and Hardboard //:

1. Surfaces scheduled to have // MPI 10 (Exterior Latex, Flat) // // MPI 11 (Exterior Latex, Semi-Gloss) // // MPI 119 (Exterior Latex, High Gloss (acrylic)) // // MPI 53 (Interior Latex, Flat) //, MPI Gloss Level 1 // MPI 52 (Interior Latex, MPI Gloss Level 3) // // MPI 54 (Interior Latex, Semi-Gloss, MPI Gloss Level 5) // // MPI 114 (Interior Latex, Gloss) finish: Use // MPI 10 (Exterior Latex,

Flat) // // MPI 11 (Exterior Latex, Semi-Gloss) // // MPI 119  
 (Exterior Latex, High Gloss (acrylic)) // // MPI 53 (Interior Latex,  
 MPI Gloss Level 3) // // MPI 52 (Interior Latex, MPI Gloss Level 3)  
 // // MPI 54 (Interior Latex, Semi-Gloss, MPI Gloss Level 5) // // MPI  
 114 (Interior Latex, Gloss) respectively //.

SPEC WRITER NOTE: List the names of other  
 spaces, where steam will be generated or  
 that have high humidity for pigmented  
 sealer.

2. Primer: // MPI 50 (Interior Latex Primer Sealer) except use MPI 45  
 (Interior Primer Sealer) // // MPI 46 (Interior Enamel Undercoat) // in  
 shower and bathrooms.
3. Surfaces scheduled to receive vinyl coated fabric wall covering:  
 // Use MPI 45 (Interior Primer Sealer) // // MPI 46 (Interior Enamel  
 Undercoat) //.
4. Use // MPI 101 (Cold Curing Epoxy Primer) for surfaces scheduled to  
 receive MPI 77 (Epoxy Cold Cured, Gloss) // // MPI 98 (High Build  
 Epoxy Coating) // // MPI 108 (High Build Epoxy Marine Coating)  
 finish //.

#### H. Gypsum Plaster and Veneer Plaster:

1. Surfaces scheduled to receive vinyl coated fabric wall covering: Use  
 MPI 45 (Interior Primer Sealer).
2. MPI 45 (Interior Primer Sealer), except use MPI 50 (Interior Latex  
 Primer Sealer) when an alkyd flat finish is specified.
3. Surfaces scheduled to have // MPI 10 (Exterior Latex, Flat) //  
 // MPI 11 (Exterior Latex, Semi-Gloss) // // MPI 119 (Exterior  
 Latex, High Gloss (acrylic)) // // MPI 53 (Interior Latex, Flat, MPI  
 Gloss Level 1) // // MPI 52 (Interior Latex, MPI Gloss Level 3) //  
 // MPI 54 (Interior Latex, Semi-Gloss, MPI Gloss Level 5) // // MPI  
 114 (Interior Latex, Gloss) // finish: Use MPI 10 (Exterior Latex,  
 Flat) // MPI 11 (Exterior Latex, Semi-Gloss) // // MPI 119 (Exterior  
 Latex, High Gloss (acrylic)) // // MPI 53 (Interior Latex, Flat, MPI  
 Gloss Level 1) // // MPI 52 Latex, MPI Gloss Level 3) // // MPI 54  
 (Interior Latex, Semi-Gloss, MPI Gloss Level 5) // // MPI 114  
 (Interior Latex, Gloss) // respectively.
4. Use // MPI 101 (Cold Curing Epoxy Primer) for surfaces scheduled to  
 receive // // MPI 77 (Epoxy Cold Cured, Gloss) // // MPI 108 (High  
 Build Epoxy Marine Coating) // finish.

- I. Concrete Masonry Units except glazed or integrally colored and decorative units:
  - 1. MPI 4 (Block Filler) on interior surfaces.
  - 2. Prime exterior surface as specified for exterior finishes.
- J. Cement Plaster or stucco // Concrete Masonry, Brick Masonry // and // Cement board // Interior Surfaces of Ceilings and Walls:
  - 1. // MPI 53 (Interior Latex, Flat, MPI Gloss Level 1) // // MPI 52 (Interior Latex, MPI Gloss Level 3) // // MPI 54 (Interior Latex, Semi-Gloss, MPI Gloss Level 5) // // MPI 114 (Interior Latex, Gloss) // except use two (2) coats where substrate has aged less than six (6) months.
  - 2. Use // MPI 138 (Interior High Performance Latex, MPI Gloss Level 2) // // MPI 139 (Interior High Performance Latex, MPI Gloss level 3) // // MPI 140 (Interior High Performance latex, MPI Gloss Level 4) // // MPI 141 (Interior High Performance Latex, MPI Gloss Level 5) // // MPI 114 (Interior Latex, Gloss) // // TT-P-1411A (Paint, Copolymer Resin, Cementitious) Type II // // MPI 77 (Epoxy Cold Cured, Gloss // // MPI 98 (High Build Epoxy Coating) // MPI 108 (High Build Epoxy Marine Coating) as scheduled.
- K. Concrete Floors: // MPI 68 (Interior/ Exterior Latex Porch & Floor Paint, Gloss) // // MPI 60 (Interior/ Exterior Latex Porch & Floor Paint, Low Gloss) //. // MPI 99 (Water-based Acrylic Curing and Sealing Compound). //

### 3.8 EXTERIOR FINISHES:

- A. Apply following finish coats where specified in Section 09 06 00, SCHEDULE FOR FINISHES.
- B. Wood:
  - 1. Do not apply finish coats on surfaces concealed after installation, top and bottom edges of wood doors and sash, or on edges of wood framed insect screens.
  - 2. Two (2) coats of // MPI 10 Exterior Latex, Flat) // // MPI 11 (Exterior Latex, Semi-Gloss) // // MPI 119 (Exterior Latex, High Gloss (acrylic)) // on exposed surfaces, except where transparent finish is specified.
  - 3. Two (2) coats of // MPI 31 (Polyurethane, Moisture Cured, Clear Gloss) // // MPI 71 (Polyurethane, Moisture Cured, Clear Flat) // for transparent finish.
- C. Steel and Ferrous Metal //, Including Tern //:

1. Two (2) coats of // MPI 8 (Exterior Alkyd, Flat) // // MPI 9 (Exterior Alkyd Enamel) // // MPI 94 (Exterior Alkyd, Semi-Gloss) // on exposed surfaces, except on surfaces over 94 degrees C (201 degrees F).
  2. One (1) coat of MPI 22 (High Heat Resistant Coating) on surfaces over 94 degrees K (290 degrees F) and on surfaces of // boiler // //, incinerator // //, stacks // engine exhaust pipes.
- D. Machinery without factory finish except for primer: One (1) coat // MPI 8 (Exterior Alkyd, Flat) // // MPI 9 (Exterior Alkyd Enamel) // // MPI 94 (Exterior Alkyd, Semi-Gloss) //.

## SPEC WRITER NOTES:

1. The following finishes are applicable to brick, concrete masonry units, concrete, cement board, cement plaster and stucco.
  2. Exterior concrete, brick, stucco or cement plaster and cement boards are normally not painted. Coordinate with Section 09 06 00, SCHEDULE FOR FINISHES and specify additional surfaces scheduled for paint.
  3. These paints will fill and seal pores and waterproof the wall but allow transmission of water vapor.
  4. Cementitious paint TT-P-1411A (Paint, Co-polymer-Resin, Cementitious (CEP)) is a factory prepared mix ready to apply by brush.
- E. Concrete Masonry Units // Brick // // Cement Plaster // // Concrete //:
1. General:
    - a. Where specified in Section 09 06 00, SCHEDULE FOR FINISHES or shown.
    - b. Mix as specified in manufacturer's printed directions.
    - c. Do not mix more paint than can be used within four (4) hours after mixing. Discard paint that has started to set.
    - d. Dampen warm surfaces above 24 degrees C (75 degrees F) with fine mist of water before application of paint. Do not leave free water on surface.
    - e. Cure paint with a fine mist of water as specified in manufacturer's printed instructions.
  2. Use two (2) coats of TT-P-1411 (Paint, Co-polymer-Resin, Cementitious), unless specified otherwise.



**3.9 INTERIOR FINISHES:**

- A. Apply following finish coats over prime coats in spaces or on surfaces specified in Section 09 06 00, SCHEDULE FOR FINISHES.

SPECS WRITER NOTE: List other metals and finish coats required for field painting in Section 09 06 00, SCHEDULE FOR FINISHES.

B. Metal Work:

1. Apply to exposed surfaces.
2. Omit body and finish coats on surfaces concealed after installation except electrical conduit containing conductors over 600 volts.
3. Ferrous Metal, Galvanized Metal, and Other Metals Scheduled:
  - a. Apply two (2) coats of MPI 47 (Interior Alkyd, Semi-Gloss) unless specified otherwise.
  - b. Two (2) coats of // MPI 48 (Interior Alkyd Gloss) // // MPI 51 (Interior Alkyd, Eggshell) //.
  - c. One (1) coat of MPI 46 (Interior Enamel Undercoat) plus one coat of MPI 47 (Interior Alkyd, Semi-Gloss) on exposed interior surfaces of alkyd-amine enamel prime finished windows.
  - d. One (1) coat of MPI 101 primer over two (2) coats of waterborne light industrial coating MPI 163 on exposed surfaces in // battery rooms // // pool area // // chlorinator rooms //. Steel is to be blast cleaned to SSPC 10/NACE No. 2.
  - e. Machinery: One (1) coat MPI 9 (Exterior Alkyd Enamel).
  - f. Asphalt Coated Metal: One (1) coat MPI 1 (Aluminum Paint ).
  - g. Ferrous Metal over 94 degrees K (290 degrees F): Boilers, Incinerator Stacks, and Engine Exhaust Pipes: One (1) coat MPI 22 (High Heat Resistant Coating).

C. Gypsum Board:

1. One (1) coat of // MPI 45 (Interior Primer Sealer) // // MPI 46 (Interior Enamel Undercoat) // plus one (1) coat of MPI 139 (Interior High Performance Latex, MPI Gloss level 3).
2. Two (2) coats of MPI 138 (Interior High Performance Latex, MPI Gloss Level 2).
3. One (1) coat of // MPI 45 (Interior Primer Sealer) // // MPI 46 (Interior Enamel Undercoat) // plus one (1) coat of MPI 54 (Interior Latex, Semi-Gloss, MPI Gloss Level 5) or MPI 114 (Interior Latex, Gloss).

4. One (1) coat of // MPI 45 (Interior Primer Sealer) // MPI 46 (Interior Enamel Undercoat) // plus one (1) coat of MPI 48 (Interior Alkyd Gloss).

D. Plaster:

1. One (1) coat of // MPI 45 (Interior Primer Sealer) // MPI 46 (Interior Enamel Undercoat) // MPI 50 (Interior Latex Primer Sealer) // plus one (1) coat of MPI 139 (Interior High Performance Latex, MPI Gloss level 3).
2. Two (2) coats of MPI 51 (Interior Alkyd, Eggshell).
3. One (1) coat of // MPI 45 (Interior Primer Sealer) // // MPI 46 (Interior Enamel Undercoat) // or MPI 50 (Interior Latex Primer Sealer) plus one (1) coat of 139 (Interior High Performance Latex, MPI Gloss level 3).
4. One (1) coat MPI 101 (Cold Curing Epoxy Prime).

E. Masonry and Concrete Walls:

1. Over MPI 4 (Interior/Exterior Latex Block Filler) on CMU surfaces.
2. Two (2) coats of // MPI 53 (Interior Latex, Flat, MPI Gloss Level 1) // // MPI 52 (Interior Latex, MPI Gloss Level 3) // // MPI 54 (Interior Latex, Semi-Gloss, MPI Gloss Level 5) // // MPI 114 (Interior Latex, Gloss) //.
3. Two (2) coats of // MPI 138 (Interior High Performance Latex, MPI Gloss Level 2) // // MPI 139 (Interior High Performance Latex, MPI Gloss Level 3) // // MPI 140 (Interior High Performance Latex MPI Gloss Level 4) // // MPI 141 (Interior High Performance Latex MPI Gloss Level 5) // // MPI 114 (Interior Latex, Gloss) //.

F. Wood:

1. Sanding:
  - a. Use 220-grit sandpaper.
  - b. Sand sealers and varnish between coats.
  - c. Sand enough to scarify surface to assure good adhesion of subsequent coats, to level roughly applied sealer and varnish, and to knock off "whiskers" of any raised grain as well as dust particles.
2. Sealers:
  - a. MPI 31 (gloss) or MPI 71 (flat) thinned as recommended by manufacturer at rate of one (1) part of thinner to four (4) parts of varnish.

- b. Apply sealers specified except sealer may be omitted where pigmented, penetrating, or wiping stains containing resins are used.
  - c. Allow manufacturer's recommended drying time before sanding, but not less than 24 hours or 36 hours in damp or muggy weather.
  - d. Sand as specified.
3. Paint Finish:
- a. One (1) coat of // MPI 45 (Interior Primer Sealer) // // MPI 46 (Interior Enamel Undercoat) // plus one (1) coat of MPI 47 (Interior Alkyd, Semi-Gloss).
  - b. One (1) coat // MPI 66 (Interior Alkyd Fire retardant, Clear Top-Coat (UL Approved) // // MPI 67 (Interior Latex Fire Retardant, Top-Coat (UL Approved), intumescent type, on exposed wood // in attics with floors used for mechanical equipment // // and above ceilings where shown //.
  - c. One (1) coat of // MPI 45 Interior Primer Sealer) // // MPI 46 (Interior Enamel Undercoat) // plus one (1) coat of MPI 48 (Interior Alkyd Gloss).
  - d. Two (2) coats of MPI 51 (Interior Alkyd, Eggshell).
4. Transparent Finishes on Wood Except Floors.
- a. Natural Finish:
    - 1) One (1) coat of sealer // MPI 31 (gloss) // // MPI 71 (flat) // thinned with thinner recommended by manufacturer at rate of one (1) part of thinner to four (4) parts of varnish.
    - 2) Two (2) coats of MPI 71 (Polyurethane, Moisture Cured, Clear Flat // MPI 31 (Polyurethane, Moisture Cured, Clear Gloss).
- SPEC WRITER NOTES:
- 1. Stain may be used when transparent finishes are specified to change the color of sapwood to match heartwood, and to enhance or even the color of the wood as required to match the finish specified.
  - 2. Verify requirements for stain with Section 09 06 00, SCHEDULE FOR FINISHES and woods used.
- b. Stain Finish:
    - 1) One (1) coat of MPI 90 (Interior Wood Stain, Semi-Transparent).
    - 2) Use wood stain of type and color required to achieve finish specified. Do not use varnish type stains.

3) One (1) coat of sealer // MPI 31 (gloss) // // MPI 71 (flat)  
// thinned as recommended by manufacturer at rate of one (1)  
part of thinner to four (4) parts of varnish.

4) Two (2) coats of // MPI 71 (Polyurethane, Moisture Cured,  
Clear Flat) // // MPI 31 (Polyurethane Moisture Cured, Clear  
Gloss) //.

c. Varnish Finish:

1) One (1) coat of sealer // MPI 31 (gloss) // // MPI 71 (flat)  
// thinned as recommended by manufacturer at rate of one (1)  
part of thinner to four (4) parts of varnish.

2) Two (2) coats of // MPI 71 (Polyurethane, Moisture Cured,  
Clear Flat) // // MPI 31 (Polyurethane Moisture Cured, Clear  
Gloss) //.

d. Fire Retardant Intumescent Varnish:

1) MPI 66 (Interior Alkyd Fire Retardant, Clear Top-Coat (UL  
Approved)) Intumescent Type, Fire Retardant Coating where  
scheduled: Two (2) coats.

5. Finish for Wood Floors:

a. Hardwood Flooring:

1) Apply MPI 91 (Wood Filler Paste) to open grained wood. Remove  
surplus filler and wipe clean.

2) Sand lightly when dry. Remove dust.

3) Apply two (2) coats of CID-A-A-2335 (Sealer, Surface).

4) Apply two (2) thin coats of P-W-155 (Wax Floor, Water  
Emulsion) and machine buff to uniform luster.

b. Stage Floor: Sand only. No filling, sealing, or waxing is  
required.

c. // Exercise Area // // Recreation Hall //, // Gymnasium //,  
// Handball Boards in Exercise Area // Floor Finish:

1) Floor-Sealer Formulation: Pliable, penetrating type, MFMA  
Group I, Sealers.

2) Finish-Coat Formulation: Formulated for gloss finish and  
multicoat application.

a) Type: MFMA Group 5, Water-Based Finishes.

3) Allow 48 hours between coats.

4) Apply in one (1) continuous operation with squeegee or lamb's  
wool applicator with application free from streaks in  
accordance with plastic coating manufacturer's directions.

SPEC WRITER NOTE: Verify stripe width, layouts and colors are to be shown in construction documents.

d. Striping:

- 1) Where striping is shown on construction documents for wood floors, apply pressure sensitive adhesive back vinyl plastic tape stripes in widths shown in construction documents.
- 2) Do striping when floor coating is dry.
- 3) Install stripes to straight lines and true curves.
- 4) Provide colors as specified in Section 09 06 00, SCHEDULE FOR FINISHES or indicated in construction documents.

G. Cement Board: One (1) coat of // MPI 138 (Interior High Performance Latex, MPI Gloss Level 2) // // MPI 139 (Interior High Performance Latex, MPI Gloss Level 3) // // MPI 140 (Interior High Performance Latex MPI Gloss Level 4) // // MPI 141 (Interior High Performance Latex, MPI Gloss Level 5) // // MPI 114 (Interior Latex, Gloss) //.

H. Concrete Floors: One (1) coat of MPI 68 (Interior/ Exterior Latex Porch & Floor Paint, Gloss).

I. Miscellaneous:

1. Apply where specified in Section 09 06 00, SCHEDULE FOR FINISHES.
2. MPI 1 (Aluminum Paint): Two (2) coats of aluminum paint.
3. Existing acoustical units scheduled to be repainted except acoustical units with a vinyl finish:
  - a. Clean units free of dust, dirt, grease, and other deterrents to paint adhesion.
  - b. Mineral fiber units: One (1) coat of // MPI 53 (Interior Latex, Flat, MPI Gloss Level 1) // // MPI 52 (Interior Latex, MPI Gloss Level 3) // // MPI 54 (Interior Latex, Semi-Gloss, MPI Gloss Level 5) // // MPI 114 (Interior Latex, Gloss) //.
  - c. Units of organic fiber or other material not having a class A rating: One (1) coat of // MPI 66 (Interior Alkyd Fire Retardant, Clear Top-Coat (UL Approved)) // // MPI 67 (Interior Latex Fire Retardant, Top-Coat (UL Approved)) // fire retardant paint.
4. Interstitial floor markings: One (1) coat // MPI 27 (Exterior/ Interior Alkyd Floor Enamel, Gloss) // // MPI 59 ((Interior/ Exterior Alkyd Porch & Floor Enamel, Low Gloss) // // MPI 68 (Interior/ Exterior Latex Porch & Floor Paint, Gloss) // // MPI 60 (interior/ Exterior Latex Porch & Floor Paint, Low Gloss) //.

**3.10 REFINISHING EXISTING PAINTED SURFACES:**

- A. Clean, patch and repair existing surfaces as specified under "Surface Preparation". No "telegraphing" of lines, ridges, flakes, etc., through new surfacing is permitted. Where this occurs, sand smooth and re-finish until surface meets with COR's approval.
- B. Remove and reinstall items as specified under "General Workmanship Requirements".
- C. Remove existing finishes or apply separation coats to prevent non compatible coatings from having contact.
- D. Patched or Replaced Areas in Surfaces and Components: Apply spot prime and body coats as specified for new work to repaired areas or replaced components.
- E. Except where scheduled for complete painting apply finish coat over plane surface to nearest break in plane, such as corner, reveal, or frame.
- F. In existing rooms and areas where alterations occur, clean existing stained and natural finished wood retouch abraded surfaces and then give entire surface one (1) coat of // MPI 31 (Polyurethane, Moisture Cured, Clear Gloss) // // MPI 71 (Polyurethane, Moisture Cured, Clear Flat) //.
- G. Refinish areas as specified for new work to match adjoining work unless specified or scheduled otherwise.
- H. Coat knots and pitch streaks showing through old finish with MPI 36 (Knot Sealer) before refinishing.
- I. Sand or dull glossy surfaces prior to painting.
- J. Sand existing coatings to a feather edge so that transition between new and existing finish will not show in finished work.

**3.11 PAINT COLOR:**

- A. Color and gloss of finish coats is specified in Section 09 06 00, SCHEDULE FOR FINISHES.
- B. For additional requirements regarding color see Articles, "REFINISHING EXISTING PAINTED SURFACE" and "MECHANICAL AND ELECTRICAL FIELD PAINTING SCHEDULE".
- C. Coat Colors:
  - 1. Color of priming coat: Lighter than body coat.
  - 2. Color of body coat: Lighter than finish coat.
  - 3. Color prime and body coats to not show through the finish coat and to mask surface imperfections or contrasts.

- D. Painting, Caulking, Closures, and Fillers Adjacent to Casework:
1. Paint to match color of casework where casework has a paint finish.
  2. Paint to match color of wall where casework is stainless steel, plastic laminate, or varnished wood.

**3.12 MECHANICAL AND ELECTRICAL WORK FIELD PAINTING SCHEDULE:**

- A. Field painting of mechanical and electrical consists of cleaning, touching-up abraded shop prime coats, and applying prime, body and finish coats to materials and equipment if not factory finished in space scheduled to be finished.
- B. In spaces not scheduled to be finish painted in Section 09 06 00, SCHEDULE FOR FINISHES paint as specified below.
- C. Paint various systems specified in Division 02 - EXISTING CONDITIONS, Division 21 - FIRE SUPPRESSION, Division 22 - PLUMBING, Division 23 - HEATING, VENTILATION AND AIR-CONDITIONING, Division 26 - ELECTRICAL, Division 27 - COMMUNICATIONS, and Division 28 - ELECTRONIC SAFETY AND SECURITY.
- D. Paint after tests have been completed.
- E. Omit prime coat from factory prime-coated items.
- F. Finish painting of mechanical and electrical equipment is not required when located in interstitial spaces, above suspended ceilings, in concealed areas such as pipe and electric closets, pipe basements, pipe tunnels, trenches, attics, roof spaces, shafts and furred spaces except on electrical conduit containing feeders 600 volts or more.
- G. Omit field painting of items specified in "BUILDING AND STRUCTURAL WORK FIELD PAINTING"; "Building and Structural Work not Painted".
- H. Color:
1. Paint items having no color specified in Section 09 06 00, SCHEDULE FOR FINISHES to match surrounding surfaces.
  2. Paint colors as specified in Section 09 06 00, SCHEDULE FOR FINISHES except for following:

SPEC WRITER NOTE: Do not change the following color designation.

- a. White: Exterior unfinished surfaces of enameled plumbing fixtures. Insulation coverings on breeching and uptake inside boiler house, drums and drum-heads, oil heaters, condensate tanks and condensate piping.
- b. Gray: Heating, ventilating, air conditioning and refrigeration equipment (except as required to match surrounding surfaces), and

water and sewage treatment equipment and sewage ejection equipment.

- c. Aluminum Color: Ferrous metal on outside of boilers and in connection with boiler settings including supporting doors and door frames and fuel oil burning equipment, and steam generation system (bare piping, fittings, hangers, supports, valves, traps and miscellaneous iron work in contact with pipe).
  - d. Federal Safety Red: Exposed fire protection piping hydrants, post indicators, electrical conduits containing fire alarm control wiring, and fire alarm equipment.
  - e. Federal Safety Orange: Entire lengths of electrical conduits containing feeders 600 volts or more.
  - f. Color to match brickwork sheet metal covering on breeching outside of exterior wall of boiler house.
- I. Apply paint systems on properly prepared and primed surface as follows:
- 1. Exterior Locations:
    - a. Apply two (2) coats of // MPI 8 (Exterior Alkyd, Flat) // // MPI 94 (Exterior Alkyd, Semi-gloss) // // MPI 9 (Exterior Alkyd Enamel) // to the following ferrous metal items:  
Vent and exhaust pipes with temperatures under 94 degrees C (201 degrees F), roof drains, fire hydrants, post indicators, yard hydrants, exposed piping and similar items.
    - b. Apply two (2) coats of // MPI 10 (Exterior Latex, Flat) // // MPI 11 (Exterior Latex, Semi-Gloss) // // MPI 119 (Exterior Latex, High Gloss (acrylic)) // to galvanized and zinc-copper alloy metal.
    - c. Apply one (1) coat of MPI 22 (High Heat Resistant Coating), 650 degrees C (1200 degrees F) to incinerator stacks, boiler stacks, and engine generator exhaust.
  - 2. Interior Locations:
    - a. Apply two (2) coats of MPI 47 (Interior Alkyd, Semi-Gloss) to following items:
      - 1) Metal under 94 degrees C (201 degrees F) of items such as bare piping, fittings, hangers and supports.
      - 2) Equipment and systems such as hinged covers and frames for control cabinets and boxes, cast-iron radiators, electric conduits and panel boards.



- 3) Heating, ventilating, air conditioning, plumbing equipment, and machinery having shop prime coat and not factory finished.
  - b. Ferrous metal exposed in hydrotherapy equipment room and chlorinator room of water and sewerage treatment plants: One (1) coat of MPI 101 (Cold Curing Epoxy Primer) and one (1) coat of // MPI 77 (Epoxy Cold Cured, Gloss // // MPI 98 (High Build Epoxy Coating)) // // MPI 108 (High Build Epoxy Marine coating) //.
  - c. Apply one (1) coat of MPI 50 (Interior Latex Primer Sealer) and one (1) coat of // MPI 53 (Interior Latex, Flat, MPI Gloss Level 1) // // MPI 44 (Interior Low Sheen Latex) // // MPI 52 (Interior Latex, MPI Gloss Level 3) // //MPI 43 (Interior Satin Latex) // // MPI 54 (Interior Latex, Semi-Gloss, MPI Gloss Level 5) // // MPI 114 (Interior Latex, Gloss) // on finish of insulation on boiler breeching and uptakes inside boiler house, drums, drumheads, oil heaters, feed water heaters, tanks and piping.
  - d. Apply two (2) coats of MPI 22 (High Heat Resistant Coating) to ferrous metal surface over 94 degrees K (290 degrees F) of following items:
    - 1) Garbage and trash incinerator.
    - 2) Medical waste incinerator.
    - 3) Exterior of boilers and ferrous metal in connection with boiler settings including supporting members, doors and door frames and fuel oil burning equipment.
    - 4) Steam line flanges, bare pipe, fittings, valves, hangers and supports over 94 degrees K (290 degrees F).
    - 5) Engine generator exhaust piping and muffler.
  - e. Paint electrical conduits containing cables rated 600 volts or more using two (2) coats of // MPI 9 (Exterior Alkyd Enamel) // // MPI 8 (Exterior Alkyd, Flat) // // MPI 94 (Exterior Alkyd, Semi-gloss) // in the Federal Safety Orange color in exposed and concealed spaces full length of conduit.
3. Other exposed locations:
- a. Metal surfaces, except aluminum, of cooling towers exposed to view, including connected pipes, rails, and ladders: Two (2) coats of MPI 1 (Aluminum Paint).
  - b. Cloth jackets of insulation of ducts and pipes in connection with plumbing, air conditioning, ventilating refrigeration and heating systems: One (1) coat of MPI 50 (Interior Latex Primer Sealer)

and one (1) coat of // MPI 10 (Exterior Latex, Flat) // // MPI 11  
(Exterior Latex Semi-Gloss // // MPI 119 (Exterior Latex, High  
Gloss (acrylic)) //.

### 3.13 BUILDING AND STRUCTURAL WORK FIELD PAINTING:

- A. Painting and finishing of interior and exterior work except as specified here-in-after.
  - 1. Painting and finishing of new // and existing // work including colors and gloss of finish selected is specified in Finish Schedule, Section 09 06 00, SCHEDULE FOR FINISHES.
  - 2. Painting of disturbed, damaged and repaired or patched surfaces when entire space is not scheduled for complete repainting or refinishing.
  - 3. Painting of ferrous metal and galvanized metal.
  - 4. Painting of wood with fire retardant paint exposed in attics, when used as mechanical equipment space (except shingles).
  - 5. Identity painting and safety painting.
- B. Building and Structural Work not Painted:
  - 1. Prefinished items:
    - a. Casework, doors, elevator entrances and cabs, metal panels, wall covering, and similar items specified factory finished under other sections.
    - b. Factory finished equipment and pre-engineered metal building components such as metal roof and wall panels.
  - 2. Finished surfaces:
    - a. Hardware except ferrous metal.
    - b. Anodized aluminum, stainless steel, chromium plating, copper, and brass, except as otherwise specified.
    - c. Signs, fixtures, and other similar items integrally finished.
  - 3. Concealed surfaces:
    - a. Inside dumbwaiter, elevator and duct shafts, interstitial spaces, pipe basements, crawl spaces, pipe tunnels, above ceilings, attics, except as otherwise specified.
    - b. Inside walls or other spaces behind access doors or panels.
    - c. Surfaces concealed behind permanently installed casework and equipment.
  - 4. Moving and operating parts:
    - a. Shafts, chains, gears, mechanical and electrical operators, linkages, and sprinkler heads, and sensing devices.

- b. Tracks for overhead or coiling doors, shutters, and grilles.
- 5. Labels:
  - a. Code required label, such as Underwriters Laboratories Inc., Intertek Testing Service or Factory Mutual Research Corporation.
  - b. Identification plates, instruction plates, performance rating, and nomenclature.
- 6. Galvanized metal:
  - a. Exterior chain link fence and gates, corrugated metal areaways, and gratings.
  - b. Gas Storage Racks.
  - c. Except where specifically specified to be painted.
- 7. Metal safety treads and nosings.
- 8. Gaskets.

## SPEC WRITER NOTES:

- 1. Edit other exposed concrete surfaces not required to be painted.
  - 2. Coordinate with Section 09 06 00, SCHEDULE FOR FINISHES to schedule exceptions to not painted surfaces.
- 9. Concrete curbs, gutters, pavements, retaining walls, exterior exposed foundations walls and interior walls in pipe basements.
  - 10. Face brick.
  - 11. Structural steel encased in concrete, masonry, or other enclosure.
  - 12. Structural steel to receive sprayed-on fire proofing.
  - 13. Ceilings, walls, columns in interstitial spaces.
  - 14. Ceilings, walls, and columns in pipe basements.
  - 15. Wood Shingles.

**3.14 IDENTITY PAINTING SCHEDULE:**

- A. Identify designated service in new buildings or projects with extensive remodeling in accordance with ASME A13.1, unless specified otherwise, on exposed piping, piping above removable ceilings, piping in accessible pipe spaces, interstitial spaces, and piping behind access panels. For existing spaces where work is minor match existing.
  - 1. Legend may be identified using snap-on coil plastic markers or by paint stencil applications.
  - 2. Apply legends adjacent to changes in direction, on branches, where pipes pass through walls or floors, adjacent to operating accessories such as valves, regulators, strainers and cleanouts a

minimum of 12.2 M (40 feet) apart on straight runs of piping.

Identification next to plumbing fixtures is not required.

3. Locate Legends clearly visible from operating position.
4. Use arrow to indicate direction of flow using black stencil paint.
5. Identify pipe contents with sufficient additional details such as temperature, pressure, and contents to identify possible hazard.  
 Insert working pressure shown on construction documents where asterisk appears for High, Medium, and Low Pressure designations as follows:
  - a. High Pressure - 414 kPa (60 psig) and above.
  - b. Medium Pressure - 104 to 413 kPa (15 to 59 psig).
  - c. Low Pressure - 103 kPa (14 psig) and below.
  - d. Add Fuel oil grade numbers.
6. Legend name in full or in abbreviated form as follows:

SPEC WRITER NOTES:

1. Check with mechanical sections to determine legends required, and pressures.
2. Define Fuel oil grade.

PIPING	COLOR OF EXPOSED PIPING	COLOR OF BACKGROUND	COLOR OF LETTERS	LEGEND ABBREVIATIONS
Blow-off		Green	White	Blow-off
Boiler Feedwater		Green	White	Blr Feed
A/C Condenser Water Supply		Green	White	A/C Cond Wtr Sup
A/C Condenser Water Return		Green	White	A/C Cond Wtr Ret
Chilled Water Supply		Green	White	Ch. Wtr Sup
Chilled Water Return		Green	White	Ch. Wtr Ret
Shop Compressed Air		Blue	White	Shop Air
Air-Instrument Controls		Green	White	Air-Inst Cont
Drain Line		Green	White	Drain
Emergency Shower		Green	White	Emg Shower
High Pressure Steam		Green	White	H.P. _____*
High Pressure Condensate Return		Green	White	H.P. Ret _____*
Medium Pressure Steam		Green	White	M. P. Stm _____*
Medium Pressure Condensate Return		Green	White	M.P. Ret _____*
Low Pressure Steam		Green	White	L.P. Stm _____*

Low Pressure Condensate				
Return		Green	White	L.P. Ret _____ *
High Temperature Water				
Supply		Green	White	H. Temp Wtr Sup
High Temperature Water				
Return		Green	White	H. Temp Wtr Ret
Hot Water Heating Supply		Green	White	H. W. Htg Sup
Hot Water Heating Return		Green	White	H. W. Htg Ret
Gravity Condensate Return		Green	White	Gravity Cond Ret
Pumped Condensate Return		Green	White	Pumped Cond Ret
Vacuum Condensate Return		Green	White	Vac Cond Ret
Fuel Oil - Grade    //        //		Brown	White	Fuel Oil-Grade //
//				
(Diesel Fuel included under Fuel Oil)				
Boiler Water Sampling		Green	White	Sample
Chemical Feed		Green	White	Chem Feed
Continuous Blow-Down		Green	White	Cont. B D
Pumped Condensate		Green	White	Pump Cond
Pump Recirculating		Green	White	Pump-Recirc.
Vent Line		Green	White	Vent
Alkali		Orange	Black	Alk
Bleach		Orange	Black	Bleach
Detergent		Yellow	Black	Det
Liquid Supply		Yellow	Black	Liq Sup
Reuse Water		Yellow	Black	Reuse Wtr
Cold Water (Domestic)	White	Green	White	C.W. Dom
Hot Water (Domestic)				
Supply	White	Yellow	Black	H.W. Dom
Return	White	Yellow	Black	H.W. Dom Ret
Tempered Water	White	Yellow	Black	Temp. Wtr
Ice Water				
Supply	White	Green	White	Ice Wtr
Return	White	Green	White	Ice Wtr Ret
Reagent Grade Water		Green	White	RG
Reverse Osmosis		Green	White	RO
Sanitary Waste		Green	White	San Waste
Sanitary Vent		Green	White	San Vent
Storm Drainage		Green	White	St Drain
Pump Drainage		Green	White	Pump Disch
Chemical Resistant Pipe				
Waste		Orange	Black	Acid Waste
Vent		Orange	Black	Acid Vent
Atmospheric Vent		Green	White	ATV
Silver Recovery		Green	White	Silver Rec

Oral Evacuation		Green	White	Oral Evac
Fuel Gas		Yellow	Black	Gas
Fire Protection Water				
Sprinkler	Red	Red	White	Auto Spr
Standpipe	Red	Red	White	Stand
Sprinkler	Red	Red	White	Drain

SPEC WRITER NOTE: If solar hot water system is on project, include the following.

// Hot Water Supply Dom./				
Solar Water		Green	White	H.W. Sup Dom/SW
Hot Water Return Dom./				
Solar Water		Green	White	H.W. Ret Dom/SW
//				

SPEC WRITE NOTE: Coordinate with Section 26 05 33, RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS / Section 27 05 33, RACEWAYS AND BOXES FOR COMMUNICATIONS SYSTEMS / Section 28 05 33, RACEWAYS AND BOXES FOR ELECTRONIC SAFETY AND SECURITY. Electrical conduits carrying high voltage require labels in compliance with Occupational Safety and Health Office. Label is to be listed as class 5000, 15000, and 25000 and not exact voltage.

7. Electrical Conduits containing feeders over 600 volts, paint legends using 50 mm (2 inch) high black numbers and letters, showing the voltage class rating. Provide legends where conduits pass through walls and floors and at maximum 6096 mm (20 foot) intervals in between. Use labels with yellow background with black border and words Danger High Voltage Class, // 5000 // // 15000 // // 25000 //.
8. See Sections for methods of identification, legends, and abbreviations of the following:
  - a. Regular compressed air lines: Section 22 15 00, GENERAL SERVICE COMPRESSED-AIR SYSTEMS.
  - b. Dental compressed air lines: Section 22 61 13.74, DENTAL COMPRESSED-AIR PIPING / Section 22 61 19.74, DENTAL COMPRESSED-AIR EQUIPMENT.
  - c. Laboratory gas and vacuum lines: Section 22 62 00, VACUUM SYSTEMS FOR LABORATORY AND HEALTHCARE FACILITIES / Section 22 63 00, GAS SYSTEMS FOR LABORATORY AND HEALTHCARE FACILITIES.
  - d. Oral evacuation lines: Section 22 62 19.74, DENTAL VACUUM AND EVACUATION EQUIPMENT.

- e. Medical Gases and vacuum lines: Section 22 62 00, VACUUM SYSTEMS FOR LABORATORY AND HEALTHCARE FACILITIES / Section 22 63 00, GAS SYSTEMS FOR LABORATORY AND HEALTHCARE FACILITIES.
  - f. Conduits containing high voltage feeders over 600 volts:  
Section 26 05 33, RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS /  
Section 27 05 33, RACEWAYS AND BOXES FOR COMMUNICATIONS SYSTEMS /  
Section 28 05 33, RACEWAYS AND BOXES FOR ELECTRONIC SAFETY AND SECURITY.
- B. Fire and Smoke Partitions:
- 1. Identify partitions above ceilings on both sides of partitions except within shafts in letters not less than 64 mm (2 1/2 inches) high.
  - 2. Stenciled message: "SMOKE BARRIER" or, "FIRE BARRIER" as applicable.
  - 3. Locate not more than 6096 mm (20 feet) on center on corridor sides of partitions, and with a least one (1) message per room on room side of partition.
  - 4. Use semi-gloss paint of color that contrasts with color of substrate.
- C. Identify columns in pipe basements and interstitial space:
- 1. Apply stenciled number and letters to correspond with grid numbering and lettering indicated on construction documents.
  - 2. Paint numbers and letters 101 mm (4 inches) high, locate 45 mm (18 inches) below overhead structural slab.
  - 3. Apply on four (4) sides of interior columns and on inside face only of exterior wall columns.
  - 4. Color:
    - a. Use black on concrete columns.
    - b. Use white or contrasting color on steel columns.

### **3.15 PROTECTION CLEAN UP, AND TOUCH-UP:**

- A. Protect work from paint droppings and spattering by use of masking, drop cloths, removal of items or by other approved methods.
- B. Upon completion, clean paint from hardware, glass and other surfaces and items not required to be painted of paint drops or smears.
- C. Before final inspection, touch-up or refinished in a manner to produce solid even color and finish texture, free from defects in work which was damaged or discolored.

- - - E N D - - -

**SECTION 26 41 00**  
**FACILITY LIGHTNING PROTECTION**

## SPEC WRITER NOTE:

Delete between //---//if not applicable to project. Also delete any other item or paragraph not applicable to the section and renumber the paragraphs.

**PART 1 - GENERAL****1.1 DESCRIPTION**

- A. This section specifies the furnishing and installation of a complete UL master labeled lightning protection system.

**1.2 RELATED WORK**

- A. Section 07 60 00, FLASHING AND SHEET METAL: Penetrations through the roof.
- B. Section 26 05 11, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS: Requirements that apply to all sections of Division 26.
- C. Section 26 05 26, GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS: Requirements for personnel safety and to provide a low impedance path to ground for possible ground faults.

SPEC WRITER NOTE: Bonding buried steel to buried copper conductors and ground rods sets up a galvanic cell which will corrode the steel. Coordinate specification of Lightning Protection System with the Cathodic Protection System.

- D. Section 26 42 00 CATHODIC PROTECTION: Requirements for protection of buried ferrous equipment from galvanic corrosion.
- E. Section 26 43 13, SURGE PROTECTIVE DEVICES: Surge protective device installed at the electrical service entrance.

**1.3 QUALITY ASSURANCE**

- A. Refer to Paragraph, QUALIFICATIONS, (PRODUCTS AND SERVICES), in Section 26 05 11, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS.

**1.4 SUBMITTALS**

- A. Submit the following in accordance with Section 26 05 11, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS.
1. Shop Drawings:
- a. Submit sufficient information to demonstrate compliance with drawings and specifications.



- b. Show locations of air terminals, connections to required metal surfaces, down conductors, and grounding means.
  - c. Show the mounting hardware and materials used to attach air terminals and conductors to the structure.
2. Certifications: Two weeks prior to final inspection, submit the following.
- a. Certification by the manufacturer that the lightning protection system conforms to the requirements of the drawings and specifications.
  - b. Certification by the Contractor that the lightning protection system has been properly installed and inspected.
  - c. Certification that the lightning protection system has been inspected by a UL representative and has been approved by UL without variation.

### 1.5 APPLICABLE PUBLICATIONS

A. Publications listed below (including amendments, addenda, revisions, supplements, and errata) form a part of this specification to the extent referenced. Publications are referenced in the text by designation only.

B. National Fire Protection Association (NFPA):

70-11.....National Electrical Code (NEC)

780-11.....Standard for the Installation of Lightning  
Protection Systems

C. Underwriters Laboratories, Inc. (UL):

96-05.....Lightning Protection Components

96A-07.....Installation Requirements for Lightning  
Protection Systems

467-07.....Standard for Grounding and Bonding Equipment

SPEC WRITER NOTE: Delete between  
// ---- // if not applicable to project.  
Also delete any other item or paragraph  
not applicable to the section and  
renumber the paragraphs.

## PART 2 - PRODUCTS

### 2.1 GENERAL REQUIREMENTS

A. Lightning protection components shall conform to NFPA 780 and UL 96, for use on //Class I// //Class II//structures. Aluminum materials are not allowed.

1. //Class I// //Class II//conductors: Copper.

2. Class I air terminals: Solid copper, //460 mm (18 inches) // long, not less than 9.5 mm (3/8 inch) diameter, with sharp //bare copper// //nickel-plated// points.
- //3. Class II air terminals: Solid copper, //460 mm (18 inches)// long, not less than 12.7 mm (1/2 inch) diameter, with sharp //bare copper// //nickel-plated// points.//
4. Ground rods: //Copper-clad steel// //Steel// //Stainless steel//, 0.75 in (19 mm) diameter by 3 m (10 feet) long.

SPEC WRITER NOTE: Designer will determine type and number of ground rods to be used, based on local conditions, earth resistivity data, and on the size and type of the electrical installation. Copper clad steel rods will typically be specified for normal conditions. Galvanized coated steel or stainless steel rods will be typically used where low soil resistivities are encountered and galvanic corrosion may occur between adjacent underground metallic masses and the copper-clad rods. Stainless steel rods have a longer life than the zinc coated steel, but use must be justified based on the higher cost. In high resistivity soils, 3.048 m (10 foot) sectional rods may be used to obtain the required resistance to ground; however where rock is encountered, additional rods, a counterpoise, or ground grid may be necessary. Coordinate and standardize rod selection for individual facilities with other specification sections.

5. Ground plates: Solid copper, not less than 20 gauge.
6. Bonding plates: Bronze, 50 square cm (8 square inches).
7. Through roof connectors: Solid copper riser bar, length and type as required to accommodate roof structure and flashing requirements.
8. Down conductor guards: Stiff copper or brass.
9. Anchors and fasteners: Bronze bolt and clamp type shall be used for all applications except for membrane roof. Adhesive type are allowed only for attachment to membrane roof materials, using adhesive that is compatible with the membrane material.
10. Connectors: Bronze clamp-type connectors shall be used for roof conductor splices, and the connection of the roof conductor to air terminals and bonding plates. Crimp-type connectors are not allowed.

11. Exothermic welds: Exothermic welds shall be used for splicing the roof conductor to the down conductors, splices of the down conductors, and for connection of the down conductors to ground rods, ground plates, and the ground ring.

SPEC WRITER NOTE: Delete between  
// ---- // if not applicable to project.  
Also delete any other item or paragraph  
not applicable to the section and  
renumber the paragraphs.

### **PART 3 - EXECUTION**

#### **3.1 INSTALLATION**

- A. Installation shall be coordinated with the roofing manufacturer and installer.
- B. Install the conductors as inconspicuously as practical.
- C. Install the down conductors within the concealed cavity of exterior walls where practical. Run the down conductors to the exterior at elevations below the finished grade.
- D. Where down conductors are subject to damage or are accessible near grade, protect with down conductor guards to 2.4 m (8 feet) above grade. Bond down conductor guards to down conductor at both ends.
- E. Make connections of dissimilar metal with bimetallic type fittings to prevent electrolytic action.
- F. Install ground rods and ground plates not less than 600 mm (2 feet) deep and a distance not less than 900 mm (3 feet) nor more than 2.5 m (8 feet) from the nearest point of the structure. Exothermically weld the down conductors to ground rods and ground plates in the presence of the //Resident Engineer// //COTR//.
- G. Bond down conductors to metal main water piping where applicable.
- H. Bond down conductors to building structural steel.

SPEC WRITER NOTE: A/E shall determine  
which equipment is required to be bonded,  
and which equipment requires an air  
terminal(s), depending on metal  
thickness.

- I. Connect roof conductors to all metallic projections and equipment above the roof as indicated on the drawings.
- J. Connect exterior metal surfaces, located within 900 mm (3 feet) of the conductors, to the conductors to prevent flashovers.

- K. Maintain horizontal or downward coursing of main conductor and insure that all bends have at least an 200 mm (8 inches) radius and do not exceed 90 degrees.
- L. Conductors shall be rigidly fastened every 900 mm (3 feet) along the roof and down to the building to ground.
- M. Air terminals shall be secured against overturning either by attachment to the object to be protected or by means of a substantial tripod or other braces permanently and rigidly attached to the building or structure.
- N. Install air terminal bases, cable holders and other roof-system supporting means without piercing membrane or metal roofs.
- O. Use through-roof connectors for penetration of the roof system. Flashing shall be provided by roofing contractor in accordance with Section 07 60 00, FLASHING AND SHEET METAL.
- P. Down conductors coursed on or in reinforced concrete columns or on structural steel columns shall be connected to the reinforcing steel or the structural steel member at its upper and lower extremities. In the case of long vertical members an additional connection shall be made at intervals not exceeding 30 M (100 feet).
- Q. A counterpoise or ground ring, where shown, shall be of No. 1/0 copper cable having suitable resistance to corrosion and shall be laid around the perimeter of the structure in a trench not less than 600 mm (2 feet) deep at a distance not less than 900 mm (3 feet) nor more than 2.5 M (8 feet) from the nearest point of the structure.
- R. On construction utilizing post tensioning systems to secure precast concrete sections, the post tension rods shall not be used as a path for lightning to ground.
- S. Where shown, use the structural steel framework or reinforcing steel as the down conductor.
  - 1. Weld or bond the non-electrically-continuous sections together and make them electrically continuous.
  - 2. Verify the electrical continuity by measuring the ground resistances to earth at the ground level, at the top of the building or stack, and at intermediate points with a sensitive ohmmeter. Compare the resistance readings.
  - 3. Connect the air terminals together with an exterior conductor connected to the structural steel framework at not more than 18 m (60 foot) intervals.

4. Install ground connections to earth at not more than 18 m (60 foot) intervals around the perimeter of the building.
5. Weld or braze bonding plates to cleaned sections of the steel and connect the conductors to the plates.
6. Do not pierce the structural steel in any manner. Connections to the structural steel shall conform to UL 96A.

//T. For obstruction lights, the following additional requirements shall apply:

1. Extend air terminals 300 mm (1 foot) above the top of the light fixtures and securely clamp to the light fixture supports.
2. Install 600 volt class lightning arresters. Connect the arresters to the lightning circuit conductors at suitable locations, and ground and bond them to the lightning protection system.//

SPEC WRITER NOTE: Insert the following paragraph for connection to an existing lightning protection system.

//U. Where the drawings show the new lightning protection system connected to an existing lightning protection system with or without a UL master label, the new portion of the lightning protection system requires UL inspection and a Letter of Findings.//

### **3.2 ACCEPTANCE CHECKS AND TESTS**

- A. Test the ground resistance to earth by standard methods, and conform to the ground resistance requirements specified in Section 26 05 26, GROUNDING AND BONDING FOR ELECTRICAL SYSTEMS.
- B. A UL representative shall inspect the lightning protection system. Obtain and install a UL numbered master label for each of the lightning protection systems at the location directed by the UL representative and the //Resident Engineer// //COTR//.

---END---

# REQUEST FOR INFORMATION

Submission of Requests for Information (RFIs) is not to explain procedures and task performance that are accomplished by means and methods and customary industry practice. It is not to clarify aspects of this project that can only be accomplished by the usual investigative tasks after award. Nor is it to sway the source selection factors and evaluation process, which is tailored per FAR 15.304.

Offerors shall ensure before submitting questions or requests for clarification that they have read and thoroughly understand solicitation and other pertinent documents. When submitting RFIs, offerors shall reference the specific section of the specification, solicitation or attachment in reference to the submitted question. Offerors shall use the attached RFI form package.

The provided form package has 7 RFIs. For RFI submissions of 8 or more, Offerors shall print additional forms and restart at RFI 1. Please identify the RFI set as 2 of 2 at the top of the form. Also provide the last RFI number in the final submitted set for your firm. Example (see top of RFI Form):

## **Company A Submits 5 RFIs**

**Submits 1 set of forms -- RFI Submission Set   1   of   1   Up to RFI #   5**

## **Company B -- Submits 10 RFIs**

**Submits 2 set of forms -- Last set of RFI Submission Set   1   of   2   Up to RFI #   3**

## **Company C – Submits 18 RFIs**

**Submits 3 set of forms -- Last RFI Submission Set   3   of   3   Up to RFI #   4**

Failure to comply with these instructions may prevent responding to the submitted RFI. It is the offeror's responsibility to ensure the pertinent information is provided; the Government shall not follow-up on omitted information for RFI. RFIs shall be emailed to Regina Height at [regina.height@va.gov](mailto:regina.height@va.gov) from 2:00pm Eastern Standard Time on July 25, 2016 to 2:00pm Eastern Standard Time on July 28, 2016. Submissions after this time and date shall not be accepted nor answered.

## REQUEST FOR INFORMATION

RFI Submission Set \_\_\_\_ of \_\_\_\_ Up to RFI # \_\_\_\_\_ Date \_\_\_\_\_

SDVOSB Company Name: \_\_\_\_\_

Address: \_\_\_\_\_

Print and Signature of Submitter	_____	_____
	Print	Signature

1. Identify Section, Drawing or Document by Name/Title and any other references (i.e. paragraph numbers, letters)

\_\_\_\_\_

Clarification Question:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

2. Identify Section, Drawing or Document by Name/Title and any other references (i.e. paragraph numbers, letters)

\_\_\_\_\_

Clarification Question:

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3. Identify Section, Drawing or Document by Name/Title and any other references (i.e. paragraph numbers, letters)

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Clarification Question:

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4. Identify Section, Drawing or Document by Name/Title and any other references (i.e. paragraph numbers, letters)

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Clarification Question:

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5. Identify Section, Drawing or Document by Name/Title and any other references (i.e. paragraph numbers, letters)

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Clarification Question:

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- 6. Identify Section, Drawing or Document by Name/Title and any other references (i.e. paragraph numbers, letters)**

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**Clarification Question:**

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- 7. Identify Section, Drawing or Document by Name/Title and any other references (i.e. paragraph numbers, letters)**

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**Clarification Question:**

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## PAST PERFORMANCE CONTACT FORM

Complete and include all forms with your proposal, which is due by 2:00pm Eastern Standard Time on August 12, 2016. Requested information on form shall not be altered. Provided information shall be legible and contact information shall be accurate for past performance verification.

<b>1. Current Name of Company</b>	<b>2. DUNS</b>
<b>3. Company Name during Performance (If not applicable write " N/A")</b>	<b>4. DUNS (or N/A)</b>
<b>Project or Requirement Title:</b>	
<b>5. Name of Government or Commercial Agency Purchasing Construction Services:</b>	
<b>6. Address:</b>	
<b>7. Contract /Requirement Number</b>	<b>8. Date services were procured / Contract awarded</b>
<b>9. Original Amount for Construction Services</b> \$ _____	<b>10. Period of performance</b> format required for time period ____/____/____ to ____/____/____
<b>11. Current Performance Status:</b>  Active _____ Completed _____  Percentage completed _____ %  Current total amount of contract or Total contract amount upon completion \$ _____	<b>12. Type of Contract (Place "X" by appropriate types)</b>  Fixed Price ____ Cost Reimbursement ____  Task Order on IDIQ ____ Time & Materials ____  Labor Hours ____ Blanket Purchase Agreement ____  Incentive contract ____ ( _____ ) Identify Type  Hybrid ____ ( _____ ) Identify Type
<b>13. Description of Services:</b>	
<b>Name of Point of Contact :</b>  <b>Position at the time of referenced contract:</b>  <b>Voice Phone Number :</b> _____ <b>Email Address:</b> _____	

Date \_\_\_\_\_

Company Name \_\_\_\_\_

Street Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

DUNS: \_\_\_\_\_

SUBJECT: Consent to Release Past Performance Information for RFP VA248-16-R-0725

Dear Sir/Ma'am

I hereby authorize access my past performance records as a result of my participation as a subcontractor for \_\_\_\_\_ in Replace Roof Systems Campus Wide, Project 673-14-604. I fully understand that by giving this authorization, this allows unrestricted access and evaluation of my performance on current requirements and requirements completed on July 31, 2013 or prior.

Sincerely,

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Representative Title

**LIST OF DRAWINGS --13 Adobe pdfs attached**

**Building 1Second Floor Roof - - 2 pdfs**

**Building 1Seventh Floor Penthouse and Roof - - 1 pdf**

**Building 30 Penthouse and Roof - - 2 pdfs**

**Building 23 Roof - - 2 pdfs**

**Building 32 Roof - -2 pdfs**

**Building 36 Roof - -2 pdfs**

**Building 42 Roof - -2 pdfs**