



Department of Veteran's Affairs
VA Medical Center
1898 Fort Road
Sheridan, WY 82801

Tramway Fenestration Upgrade For Construction

Invitation No.

Project No. 666-14-109

For Construction

Date: September 4, 2013

Prepared by:



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DEPARTMENT OF VETERANS AFFAIRS
VA MEDICAL CENTER
1898 Fort Road, Sheridan WY 82801

SHERIDAN VAMC
TRAMWAY FENESTRATION UPGRADE
VA PROJECT #666-14-109
SPECIFICATIONS

September 4, 2013

ARCHITECT

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**DEPARTMENT OF VETERANS AFFAIRS
VHA MASTER SPECIFICATIONS**

**TABLE OF CONTENTS
Section 00 01 10**

	DIVISION 00 - SPECIAL SECTIONS	DATE
00 01 15	List of Drawing Sheets	09-11
	DIVISION 01 - GENERAL REQUIREMENTS	
01 00 00	General Requirements	05-13
01 30 00.24	Other Administrative and Special Requirements	09-09
01 33 23	Shop Drawings, Product Data, and Samples	11-08
01 42 19	Reference Standards	09-11
01 74 19	Construction Waste Management	05-12
	DIVISION 02 - EXISTING CONDITIONS	
02 41 00	Demolition	04-13
	DIVISION 08 - OPENINGS	
08 51 13	Aluminum Windows and Doors	11-12
08 71 13	Automatic Door Operators	12-09

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SECTION 00 01 15
LIST OF DRAWING SHEETS

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

<u>Drawing No.</u>	<u>Title</u>
G000	Cover Sheet and Sheet Index
<u>Architectural</u>	
A1.00	Reference Plans
A1.01	Reference Plans
A6.00	Door Schedule, Elevations and Details
A6.10	Window Elevations and Details

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**SECTION 01 00 00
GENERAL REQUIREMENTS**

TABLE OF CONTENTS

- 1.1 General Intention
- 1.2 Statement of bid items
- 1.3 Specifications and drawings for contractor
- 1.4 Operations and storage areas
- 1.5 Protection of existing elements
- 1.6 Restoration
- 1.7 As-built drawings
- 1.8 Use of roadways
- 1.9 Availability and use of utility services

SECTION 01 00 00
GENERAL REQUIREMENTS

1.1 GENERAL INTENTION

- A. Contractor shall furnish labor and materials and perform work for as required by drawings and specifications for removal and installation of new aluminum windows and entrance framing system.
- B. Visits to the site by Bidders may be made only by appointment with the Medical Center Engineering Officer.
- C. Offices of FourFront Design Inc., as Architect-Engineers, will render certain technical services during construction. Such services shall be considered as advisory to the Government and shall not be construed as expressing or implying a contractual act of the Government without affirmations by Contracting Officer or his duly authorized representative.
- D. 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.
- E. Prior to commencing work, general contractor shall provide proof that a OSHA certified "competent person" (CP) (29 CFR 1926.20(b)(2)) will maintain a presence at the work site whenever the general or subcontractors are present.
- F. Training:
 - 1. All employees of general contractor or subcontractors shall have the OSHA certified Construction Safety course and /or other relevant competency training, as determined by VA CP with input from the ICRA team. See section 01 30 00.24 for requirements.
 - 2. Submit training records of all such employees for approval before the start of work.

1.3 SPECIFICATIONS AND DRAWINGS FOR CONTRACTOR

- A. AFTER AWARD OF CONTRACT, PDF specifications and drawings will be furnished.
- B. Sets of drawings and specifications may be made by the Contractor, at Contractor's expense, from reproducible PDF furnished by Issuing Office.

1.2 STATEMENT OF BID ITEM(S)

- A. ITEM I, GENERAL CONSTRUCTION: of the Sheridan VAMC Tramway Fenestration Work includes general demolition and window replacement work. Base bid

window replacement is in the following locations: (See the drawings and the specifications for additional information)

1. Building 9 windows and one entrance door.
2. Building 8 windows and two entrance doors.
3. Building 7 windows and two entrance doors.
4. Building 6 window and one entrance door.

B. Optional work (not a part of base bid work) includes general demolition and window replacement work for additional areas. The following are the add options: (See the drawings and the specifications for additional information)

1. Add option No. 1: Building 4 windows and one entrance door.
2. Add option No. 2: Building 5 windows and one entrance door.
3. Add option No. 3: Tramway between buildings 4/5
4. Add option No. 4: Tramway between buildings 5/6
5. Add option No. 5: Tramway between buildings 6/7
6. Add option No. 6: Tramway between buildings 7/8
7. Add option No. 7: Tramway between buildings 8/9

C. Phasing. The contractor will only be allowed to work on one area at a time unless coordinated with COTR. One area is defined as one building or one area (tramway) between buildings. Contractor needs to maintain a 4'-0" wide corridor. The contractor has two options for the individual window removal/ install of the windows:

Option 1: Remove the existing window and install new window within the same work day. With this option the contractor can provide a 'zip wall barrier system' or equal as a separation of work area and staff/ resident/ patient corridor. This wall will need to completely separate the work area from the corridor used by the residents/ patients/ staff. It will need to be adjusted as the work area changes. Provide 8 mil plastic sheathing. Provide a minimum of one 'zip door' at each area for access from the work area to corridor area. At the end

of each work day- the wall/door system needs to be removed and the area needs to be cleaned. The contractor will need to protect the interior from the exterior weather. The ceiling grid will need to be replaced or painted where damage occurs due to the zip wall. All broken ceiling caused because of this project need to be replaced- match existing.

Option 2: Remove an entire area of existing windows but do not install the new windows within the same work day. With this option the contractor will need to provide a temporary wall: fire treated plywood to the corridor side with taped seams and painted white, metal stud, 6 mil poly, 5/8" type 'x' gypsum board to the work side. This wall can extend to the acoustical ceiling tile with proper fasteners. This wall will need to completely separate the work area from the staff/ resident/ patient corridor. It will need to be adjusted as the work area changes. Provide a minimum of one lockable fire treated plywood door for access from the work area to the corridor area. This wall doesn't need to be removed at the end of each work day. The contractor will need to protect the interior from the exterior weather. The ceiling grid will need to be replaced or painted where damage occurs due to the zip wall. All broken ceiling caused because of this project need to be replaced- match existing.

1.4 OPERATIONS AND STORAGE AREAS

- A. To minimize interference of construction activities with flow of Medical Center traffic, comply with the following:
- B. Execute work so as to interfere as little as possible with normal functioning of Medical Center as a whole, including operations of utility services, fire protection systems and any existing equipment, and with work being done by others.
- c. Workmen are subject to rules of Medical Center applicable to their conduct.
- D. Working space and space available for storing materials shall be coordinated with the COTR.

- E. 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.

1.5 PROTECTION OF EXISTING ELEMENTS

- A. The Contractor shall preserve and protect all structures, interior finishes, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site.
- B. The Contractor shall protect from damage all existing improvements. The Contractor shall repair any damage to those facilities 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.

1.6 RESTORATION

- A. Remove, cut, alter, replace, patch and repair existing work as necessary to install new work. Existing work to be altered or extended and that is found to be defective in any way, shall be reported to the COTR 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 as a result of performing required new work, shall be patched and/or repaired and left in as good condition as existed before commencing work.

1.7 AS-BUILT DRAWINGS

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

1.8 USE OF ROADWAYS

A. For hauling, use only established public roads and roads on Medical Center property.

1.9 AVAILABILITY AND USE OF UTILITY SERVICES

A. The Government shall make all reasonably required amounts of utilities available to the Contractor from existing outlets.

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**SECTION 01 30 00.24
OTHER ADMINISTRATIVE AND SPECIAL REQUIREMENTS**

PART 1 - GENERAL

Attachments: At the end of this section:

- A. Construction Safety Policy
- B. Construction Safety
- C. Hazardous Materials
- D. Recycling Materials
- E. Infection Prevention Measures
- F. Environmental Protection

1.1 CONTRACTOR'S EMPLOYEE IDENTIFICATION

- A. The Contractor shall be responsible for furnishing to each employee/subcontractor engaged in the work to display PIV ID identification. Identification must be worn at all times. No exceptions.

1. Contractor shall contact the Contracting PIV Sponsor. A complete review of the requirements will be discussed.

- a. Each person will be required to present one form of I.D. in order to start the PIV ID badge process.

2. Contact Badging office. Jim at 307-675-3573 (x3573).

- a. First appointment: picture taken.
- b. Second appointment: pick up badges.

3. General information:

- a. PIV ID badges are required. No exception will be allowed.
- b. No walk ins will be accepted. Appointments must be made.
- c. Please be on time for appointments.
- d. Badging office is located in the basement of building 4.

1.2 CONTRACTOR QUALITY CONTROL (CQC):

- A. See specifications for quality control requirements.

1.3 DAILY WORK SCHEDULES AND WEEKLY COORDINATION MEETINGS:

- A. In order to closely coordinate work under this contract, the Contractor shall prepare a written agenda/meeting minutes and attend a weekly coordination meeting with the COTR and Using Service at which time the Contractor shall submit for coordination and approval, his proposed daily work schedule for the next two week period. The Contractor shall provide a copy of modifications (MODs), Serial Letters, Requests for Information (RFIs) and any other information that is needed in the minutes of the meeting. Required temporary utility services, time and duration of interruptions, and protection of adjoining areas shall be included with the

Contractor's proposed 2-week work schedule. At this meeting, the Contractor shall also submit his schedule of proposed dates and times of all preparatory inspections to be performed during the next 2 weeks. The items of work listed on the proposed 2-week schedule are to be keyed to the NAS by activity number and description for each activity anticipated to be performed during the next 2-week period. Coordination action by the COTR relative to these schedules will be accomplished during these weekly meetings. Daily reports shall be completed and given to the COTR or Representative within 24 hours of work.

1.4 LABOR CONDITIONS APPLICABLE TO TEMPORARY FACILITIES:

- A. It is the position of the Department of Defense that the Davis-Bacon Act, 40 U.S.C. 276a is applicable to temporary facilities such as job headquarters, tool yards, batch plants, borrow pits, sandpits, rock quarries, and similar operations, provided they are dedicated exclusively, or nearly so, to performance of the contract or project, and provided they are adjacent or virtually adjacent to the site of the work and are established after receipt of the proposal or bid.

1.5 DRAWING SCALES:

- A. All scales shown are based on a standard drawing size of 22" x 34". If any other size drawings are furnished or plotted, the Contractor shall adjust the scales accordingly. The Contractor shall also advise his sub-contractors of the above.

1.6 FEDERAL HOLIDAYS:

- A. The following Federal legal holidays are observed by this installation:

New Year's Day	1 January
Martin Luther King's Birthday	Third Monday in January
President's Day	Third Monday in February
Memorial Day	Last Monday in May
Independence Day	4 July
Labor Day	First Monday in September
Columbus Day	Second Monday in October
Veterans Day	11 November
Thanksgiving Day	Fourth Thursday in November
Christmas Day	25 December

If a wage determination applies the number of holidays specified on it, it has priority over this clause.

1.7 MEDICAL CENTER HOURS:

- A. Medical Center operation hours are 7:30 a.m. to 4:00 p.m. daily (Monday through Friday), excluding federal holidays. Access to the Medical Center during other times must be requested in writing from the COTR. Contractor may work on Federal holidays, weekends, and outside of normal operation hours with advance permission.

1.8 SPECIAL SHERIDAN, WYOMING VETERANS AFFAIRS MEDICAL CENTER REQUIREMENTS

- A. Construction security requirements

1. Security Plan:

- a. 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.
- b. The security plan defines both physical and administrative security procedures that will remain effective for the entire duration of the project. Plan needs to include measures to prevent patients from acquiring access to Contractor's tools and material.
- c. The General Contractor is responsible for assuring that all subcontractors working on the project and their employees also comply with these regulations.

2. Security Procedures:

- a. General Contractor's employees shall not enter the project site without appropriate ID badge. They may also be subject to inspection of their personal effects when entering or leaving the project site.
- b. No photography of VA premises is allowed without written permission of the COTR.
- c. 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 COTR.

- B. Key Control:

1. The General Contractor shall provide duplicate keys and lock combinations to the Resident Engineer for the purpose of security inspections of every area of the 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.

C. 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 COTR upon request.
4. These security documents shall not be removed or transmitted from the project site without the written approval of COTR.
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 COTR and Site Security Officer immediately when there is a loss or compromise of "sensitive information".
7. All electronic information shall be stored in a 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.

D. Motor Vehicle Restrictions:

1. Vehicle authorization request shall be required for any vehicle entering the site and such request shall be submitted 24 hours before the date and time of access. Access shall be restricted to picking up and dropping off materials and supplies.

1.9 FIRE SAFETY REQUIREMENTS:

- 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
 - 30-3007 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. 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 Resident Engineer and Facility Safety Manager for review for compliance with contract requirements. 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 Resident Engineer that individuals have undergone Contractor's safety briefing.
 4. 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.
 5. Separate temporary facilities, such as trailers, storage sheds, and dumpsters, from existing buildings and new construction by distances in accordance with NFPA 241.
 6. Means of Egress: Do not block exiting for occupied buildings, including paths from exits to roads. Minimize disruptions and coordinate with Resident Engineer and Facility Safety Manager.
 7. Egress Routes for Construction Workers: Maintain free and unobstructed egress. Inspect daily. Report findings and corrective actions weekly to Resident Engineer and Facility Safety Manager.

8. Fire Extinguishers: Provide and maintain extinguishers in construction areas and temporary storage areas in accordance with 29 CFR 1926, NFPA 241 and NFPA 10.
9. 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.
10. 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.
11. Dispose of waste and debris in accordance with NFPA 241. Remove from buildings daily.

1.10 INFECTION PREVENTION MEASURES:

- A. See Attachment E at the end of this section.

1.11 FINAL CLEANUP:

- A. Upon completion of project, or as work progresses, remove all construction debris. Wipe-down of all surfaces in the construction area.

1.12 DOCUMENT EXISTING:

- A. Survey: Before any work is started, the Contractor shall make a thorough survey of the existing conditions with the COR and furnish a report, signed by both.
 1. Re-Survey: Thirty days before expected partial or final inspection date, the Contractor and COR together shall make a thorough re-survey of the areas. 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.

1.13 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 Resident Engineer verbally, and then with a written follow up.

1.14 CONFLICTS

- A. In the event of a conflict among the drawings and specifications, the more stringent or restrictive code, manual etc, shall take precedence and shall be followed. Contractor shall advise the COR of any and all conflicts. Resolution options shall be developed and shall consider all technical aspects including but not limited to, VA compliance with VA requirements/ standards; efficiency, safety, cost in time and potential impact to the faculty operations. The contractor shall make a proposal with a minimum of three (3) recommended resolution to rectify the conflict as outlined below.
 - 1. Resolutions shall avoid contract constructive changes to the project.
 - 2. In the interest of product efficiency, where possible, all small daily, routine or typical problems and or conflicts shall first be resolved at the lowest level (A/E) prior to engaging the COR.
 - 3. Larger problems, conflicts, deficiencies, etc (issues in which financial adjustments are likely required) with design, construction, administration, etc. shall be concisely defined and presented to the VA COR.
 - 4. The CO and COTR shall provide final direction.
 - 5. All requirements from the CO and COTR shall be complied with.

1.15 TOOLS

- A. Tools are required to be in direct supervision at all times. All tools are required to be on the construction side of the zip wall or temporary wall. Tools will not be allowed to be stored or remain within the tramway during non work hours unless located on the construction side of the temporary wall as noted in option 2.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION (NOT USED)

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CONSTRUCTION SAFETY POLICY

1. **SUMMARY:** MCM 140-02 dated April 7, 2009, is rescinded. This update reflects minor changes in policy.
2. **PURPOSE:** To establish policy and procedures to ensure that construction projects will be planned, coordinated and regularly inspected to ensure compliance with applicable fire, infection control, environmental, security, safety and occupational health regulations and policies.
3. **POLICY:**
 - a. In order to protect patients, staff, visitors and contractors from safety and health hazards associated with construction activities, this policy is established for the VA Medical Center and Community Based Outpatient Clinics where construction is undertaken. This policy requires that strategies be established to control the hazards inherent in conducting construction or maintenance operations in areas that are occupied by patients, visitors or healthcare staff. These strategies include the assignment of appropriate responsibility at all levels of the organization, establishing and maintaining the necessary expertise to manage an effective construction health and safety program, applying technical guidance and best practices to assist in managing the program, and providing a construction safety multi-disciplinary team to oversee and enforce the application of this policy.
 - b. Construction activities shall be defined to include delegated minor or non-recurring maintenance projects performed by contractors or purchase and hire personnel, as well as station-level projects performed by contractors, purchase and hire personnel or station maintenance personnel. Construction shall also include non-delegated projects including majors. Sheridan VAMC shall coordinate those construction impacts with the project's Resident Engineer through a Sheridan VA single point of contact. This definition also applies to enhanced-use and lease projects related to structures for which Sheridan VAMC maintains management responsibility or authority.
 - c. The intention of this construction safety program is to reduce the potential for injury and illness to VA patients, employees and visitors that might result from unsafe construction activities; to increase the level of construction safety expertise of VA employees; to decrease the potential for serious Occupational Safety and Health Administration (OSHA) violations; to provide a guideline for addressing safety-related construction issues; and to reduce the potential for property and liability exposures due to construction-related activities.

d. Proper application of this program will reduce the potential for liability, which could result from construction accidents, life safety deficiencies or infection control failures.

4. **RESPONSIBILITY:**

a. Medical Center Director:

(1) Establish and monitor an effective facility construction safety program.

(2) Establish a multidisciplinary team (Construction Safety Committee) with representatives from the following program areas:

- a) Infection Control
- b) Patient Safety
- c) Occupational Safety and Health
- d) Police
- e) Engineering
- f) Local Union Safety Representatives
- g) Green Environmental Management Systems (GEMS)

(3) Ensure appropriate staff receives training in construction safety.

(4) Ensure Competent Persons (CPs) are designated who have the necessary training, experience and authority to carry out their responsibilities with respect to safety and health during construction activities.

Note: OSHA Title 29 Code of Federal regulations (CFR) 1926.32(f) states "competent person means 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." Qualified VA staff must be appointed to serve as CP for construction work performed by VA employees. The name and qualifications of the CP must be identified in writing and noted in the minutes of the facility safety committee (or equivalent body) responsible for the safety management functions as defined under The Joint Commission Environment of Care Standards.

(5) Ensure the Construction Safety Committee functions to:

- a) Protect patients, visitors, and employees from traumatic injury, as well as occupational and facility-associated infections.
- b) Oversee compliance with OSHA and State construction safety regulations.
- c) Oversee compliance with Environmental Protection Agency (EPA) and state environmental regulations.
- d) Respond to, investigate and report violations of these policies to upper management.

(6) Develop and implement a written facility policy addressing the responsibilities of the Construction Safety Committee.

(7) Ensure that VA staff receives training as follows:

- (a) Appointed CPs, Contracting Officer's Representatives (CORs) and facility Safety Program Managers complete OSHA's 30-hour construction safety course.

- (b) Engineering supervisors and foremen who oversee construction work complete OSHA's 10-hour or 30-hour construction safety course.
 - (c) All members of the Construction Safety Committee have the 10-hour OSHA construction safety training.
- (8) Ensure that construction contracts awarded after July 31, 2005, specify that on-site general and sub-contractor's construction workers have completed the OSHA 10-hour construction worker course, the 30-hour construction safety course, or other relevant competency training, as determined by the VA CP with input from the Construction Safety Committee. The determination for training is based on the project hazards and complexity, State and Federal regulations and VA requirements.

- b. Associate Director: Has delegated responsibility from the Medical Center Director, as appropriate, for oversight of these policies.

- c. Chief, Facilities Management Service:
 - (1) Has delegated responsibility from the Associate Director, as appropriate, for oversight of these policies.
 - (2) Ensures policies are addressed by all sections of engineering having oversight of construction.

- d. Supervisory Engineer:
 - (1) Works through safety and health staff, CORs, maintenance staff, contractors and the Construction Safety Committee to plan, coordinate and monitor the construction safety program for all projects at the facility.
 - (2) Participates in OSHA's 30-hour construction safety training and refresher courses.
 - (3) Participates in periodic inspections of construction sites to ensure compliance with safety elements of the construction contract and performance of the program.
 - (4) Serves on the facility Construction Safety Committee/subcommittee to ensure contract requirements meet the committee's approval.
 - (5) Supports the CPs, Safety Officer, Infection Control Practitioner, Contracting Officer and engineering staff in implementing the construction safety program.
 - (6) Works with contracting staff to ensure competent staff are assigned as CORs to oversee work.

- e. Maintenance Supervisor:
 - (1) Participates in OSHA's 30-hour construction safety training and refresher courses.
 - (2) Participates in periodic inspections of in-house construction sites to ensure compliance with safety elements of the construction contract and performance of the program.

(3) Ensures in-house workforces have necessary training and competency for tasks being performed.

f. Biomedical Technicians: Ensures all construction accomplished in support of major equipment installations (as a part of the equipment purchase) are in compliance with this policy and these procedures.

g. Contracting Officer:

(1) Participation in OSHA's 30-hour construction safety training and refresher courses.

(2) Ensures safety elements of this policy are included in each construction contract.

(3) Evaluates past safety records of prospective contractors and considers this information in the contract award process.

(4) Supports the CP, Safety Officer, Resident Engineer, and appropriate staff in implementing the construction safety program.

(5) Works with the Projects Engineer to assign competent CORs as necessary.

h. Contracting Officer's Representative (COR):

(1) Participates in OSHA's 30-hour construction safety training program and refresher courses.

(2) Is trained and designated as a CP for the purposes of this policy.

(3) As the team member most familiar with the technical aspects of his/her designated project, inspects his/her projects on a daily basis to identify and document deficiencies in the work including safety and infection control, and acts to correct deficiencies on the spot whenever possible.

(4) Reports all deficiencies to the multi-disciplinary team whether corrected or not.

(5) Consults with other members of the team, as appropriate, to assure that all deficiencies are handled properly.

(6) Consults with members of the team during design or planning to establish the risks to be addressed and the degree of protection appropriate to the situation.

(7) Monitors compliance with relevant safety and health requirements by the contractor in the field.

i. VA Competent Person:

(1) Reviews project design submissions to assure project compliance with these policies.

(2) Monitors and inspects construction and renovation work sites weekly to assure compliance with these policies.

(3) Maintains competence in the general inspection of work sites during construction, renovation and maintenance, which fall under the purview of this policy.

(4) Maintains higher level of competency when serving as CP for VA staff performing activities requiring CPs, such as fall protection, scaffolds and trenching. *Note: The VA CP does not take the place of the contractor's competent person nor acts on their behalf. The VA CP determines if the contractor is meeting VA standards and contractual requirements for safety and OSHA compliance. When these standards and contract requirements are not being met, the VA Contracting Officer's Technical Representative (COR) and/or CP must take immediate action to prevent injury, non-compliance, and/or property damage.*

(5) Participates in OSHA's 30-hour construction safety training and refresher courses.

(6) Ensures that the specific safety requirements for construction operations are implemented and continuously observed during the course of all projects subject to this policy.

(7) Participates in the facility multidisciplinary team established for construction safety.

(8) Conducts periodic inspections of construction sites to ensure compliance with safety elements of the construction contract using the attached Job Safety Check Sheet.

(9) Approves corrective actions.

(10) Stops unsafe work or activities not complying with the contract or OSHA, and notifies the Contracting Officer immediately.

(11) Communicates mainly with the contractor's CP on questions of safety.

j. Safety Manager:

(1) Participates in OSHA's 30-hour construction safety training and refresher courses.

(2) Ensures that VHA policy for the construction safety program is implemented within the Medical Center.

(3) Chairs the Construction Safety Committee.

(4) Ensures necessary and relevant Interim Life Safety Measures ISLM'S are established and implemented. Conducts required additional training for compliance with identified ILSMs.

(5) Renders technical advice and assistance as required in connection with life safety and fire protection issues during construction and project design and development.

(6) Oversees compliance with OSHA and other relevant construction safety regulations.

(7) Ensures VAMC staff are trained as required by this memorandum.

(8) Ensures the construction safety program includes appropriate periodic construction site hazard surveillance.

(9) Stops unsafe work or activities not complying with the contract or OSHA policy, and notifies the Contracting Officer/COR immediately.

k. Infection Control Nurse:

(1) Advises and/or provides recommendations on exposure mitigation and the prevention of facility associated infections in patients, staff, and visitors.

(2) Coordinates with the manager of each construction project (in-house and contract) to conduct an Infection Control Risk Assessment (ICRA) during the planning and/or design stage of the work. ICRA's must be documented in writing and focus on eliminating, or minimizing, the risk of infection during construction and renovation activities.

(3) Monitors infection control during construction activities as indicated in ICRA for that project.

l. GEMS Coordinator:

(1) Provides guidance on environmental issues during design stage.

(2) Monitors contractor conformance to contract specifications, including environmental compliance and pollution prevention.

m. Construction Safety Committee (Multi-Disciplinary Team):

(1) Meets monthly when construction projects are on going and files reports to the facility Environment of Care Committee.

(2) Determines the scope and depth of safety, infection control, environmental and security procedures appropriate for all construction work.

(3) Develops threshold criteria for each level of intervention. For example, after review, some projects may require only VA CP surveillance to ensure employee safety and OSHA compliance, while other projects will require all disciplines to be involved.

(4) Ensures submittals for contract construction or renovation work include the names, qualifications, and training dates for the contractors' CPs designated to administer the site-specific safety program, as well as the CPs for other activities as required by OSHA regulation (such as scaffolds, cranes, excavations, etc.).

(5) Conducts Infection Control Risk Assessments (ICRA) using the attached ICRA Matrix. Using current AIA Guidelines, the staff must conduct and document ICRA for all construction projects during the design or planning stage of the work. ICRA's must be documented in writing and focus on eliminating or minimizing the risk of infection during construction and renovation activities. The complexity of the ICRA report is determined by the complexity of the threats posed by the construction project. Assigned VA staff, including resident engineers or project managers for major construction, must maintain compliance during the construction phase of the work.

(6) Identifies Interim Life Safety Measures (ILSMs). Facility safety and engineering staff must ensure that ILSMs are implemented on all construction work in accordance with The Joint Commission Environment of Care Standards. ILSMs are required when construction activities pose significant temporary Life Safety Code deficiencies or hazards. Each medical facility must have a local policy addressing ILSMs in accordance with Joint Commission requirements. Implementing ILSMs is the responsibility of the local medical facility and

construction contractors in accordance with VA Master Specification 01010, General Requirements.

(7) Participates in all phases of construction work from planning through completion. This includes review and approval the construction plans, contract specifications, and contract submittals related to construction safety and health and any other documents that may assist in the implementation of an effective construction safety program. The Construction Safety Committee must be involved early in the process and continue oversight on a regular basis to avoid costly and disruptive delays.

(8) Ensures the construction safety program includes periodic construction site hazard surveillance activities with appropriate membership, scope, and frequency for each project as determined by the CP, the ILSMs and ICRA reports. Hazard surveillance activities must be documented as to date, time, membership of the inspection team, deficiencies, type of corrective action, and time and date of correction. Ensures corrective actions are tracked to completion.

(9) Implements procedures to ensure general contractors exercise their responsibility for ensuring subcontractors comply with this safety and health policy, and all other related contract requirements.

(10) Ensures all contractors entering VA property comply with the security management program. As a minimum, contractors must notify and obtain permission of the VA Police, be identified by project and employer, and be restricted from unauthorized access.

(11) Requires the contractors' CPs to implement and maintain effective safety programs that identify and control hazards that may cause injury or illness to VA patients, staff, visitors, and contractor employees.

(12) Evaluates the effectiveness of the construction safety program in an annual report to the facility safety committee.

n. Police Service:

(1) Ensures all contractors entering VAMC property comply with the security management program.

(2) Conducts periodic surveillance of site security and the integrity of barriers for trenches and other hazards.

5. **REFERENCES:**

a. VHA Emerging Pathogens Guidebook, 1998, Center for Engineering and Occupational Safety and Health available electronically at: <http://vaww.ceosh.med.va.gov/>

b. National Fire Protection Association (NFPA) Standards. *Note: Current NFPA Standards are available at facility and/or VISN Safety and Engineering and/or Facilities Management Offices.*

c. APIC Infection Control Tool Kit Series: Construction and Renovation, available from the Association of Professional Infection Control Practitioners and Epidemiologists (APIC).

d. Guidelines for Design and Construction of Hospital and Health Care Facilities, American Institute of Architects, Washington DC 2001.

e. Guidelines on Assessment and Remediation of Fungi in Indoor Environments, New York City Department of Health, Bureau of Environmental and Occupational Disease Epidemiology, at <http://www.lchd.org/envirohealth/aq/pdfs/NYC%20DOH%20Guidelines.pdf>

f. Infection Control During Construction. A Guide to Prevention and Joint Commission Compliance, Wayne Hansen, Editor, Opus Communications, 2002.

g. OSHA Regulations for Construction Safety, 29 CFR 1926, available at: <http://www.osha.gov/>

h. Comprehensive Accreditation Manual, The Joint Commission

i. VHA Directives 7700 and 7701, Occupational Safety and Health.

j. VHA Handbook 7701.1, Occupational Safety and Health Program Procedures.

k. Construction Safety Council, at: <http://www.buildsafe.org/>

l. VHA Directive 2004-012, Safety and Health During Construction Activities.

6. **RESPONSIBLE OFFICIAL:** Occupational Safety and Health Manager

Debra L. Hirschman

Debra L. Hirschman
Medical Center Director

Attachment 1: [Job Safety Check Sheet](#)

Attachment 2: [Infection Control Risk Assessment](#)

This is to certify that this MCM has had its *1st Annual Review* by the Responsible Official.

Responsible Official

Date

This is to certify that this MCM has had its *2nd Annual Review* by the Responsible Official.

Responsible Official

Date

CONSTRUCTION SAFETY

- A. Safety Submittals Required Prior To Commencing Work and/or Notice To Proceed:
1. The contractor will designate a competent person (CP) to serve as the sole point of contact responsible for safety management on the project site. Competent persons are defined as those capable of identifying existing and predictable hazards in the surroundings and working conditions which are unsanitary, hazardous, or dangerous, and who have the authority to take prompt corrective measures to eliminate them.
 - a. The contractor will submit proof of 30-hour OSHA safety course (i.e., copies of documentation) for prime contractor-designated competent persons as well as any subcontractor-designated competent persons that will work on the site. This proof is a formal, required submittal that requires approval by the contracting officer's technical representative (COTR).
 2. The contractor will submit proof of 10-hour OSHA safety course (i.e., copies of documentation) for all other prime contractor employees as well as any subcontract employees that will work on the site. This proof is a formal, required submittal that requires approval by the contracting officer's technical representative (COTR).
 3. Submittals must include the names, qualifications, and training dates for the prime contractor-designated competent person (CP) designated to administer the site-specific safety program, as well as the CP (if different) for high risk activities as required by OSHA regulations, such as scaffolding, crane operations, excavations, trenching, etc.
 4. Federal acquisition regulation (FAR) 52.236-13, with alternate 1, requires submittal and approval of a safety plan, specific to the project and to the construction site. The contractor will submit a safety plan that includes detailed safety precautions and practices to mitigate identified hazards specific to this project and to this construction site. This plan is a formal, required submittal that requires approval by the contracting officer's technical representative (COTR).

- a. See Appendix A for VA provided Safety Plan Template.
5. The contractor is required to provide a competent person who has had scaffolding and trenching training prior to proceeding with this work. Training information shall be submitted to the COTR for approval.

Attachment C (to section 01 30 00.24)

HAZARDOUS MATERIALS

- A. The contractor should not expect to find asbestos and lead paint in the existing tramway.
- B. If Hazardous Materials and Hazardous Waste is found the COR should be contacted immediately.

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RECYCLING MATERIAL

A. Recycle all locally recyclable materials. At start of project provide a written demolition debris management plan to COR.

1. Contractor shall provide storage receptacles on site, or store offsite. At minimum recycle soil, inerts (eg, concrete, masonry and asphalt), clean dimensional wood and palette wood, green waste (biodegradable landscaping materials), engineered wood products (plywood, particle board and I-joists, etc), metal products (eg, steel, wire, beverage containers, etc), cardboard, paper and packaging, bitumen roofing materials, plastics (eg, ABS, PVC), carpet and/or pad, gypsum board, insulation, and paint.

2. Submit to the COR a debris diversion and disposal manifest listing amounts/volumes and the final destination of all recycled material. With each application for progress payment, submit a summary of construction and demolition debris disposal including beginning and ending dates of period covered.

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INFECTION PREVENTION MEASURES

- A. Implement the requirements of VAMC's Infection Control Risk Assessment (ICRA) team. ICRA Group may monitor dust in the vicinity of the construction work and require the Contractor to take corrective action immediately if the safe levels are exceeded.
- B. Establish and maintain a dust control program as part of the contractor's infection preventive measures in accordance with the guidelines provided by ICRA Group. Prior to start of work, prepare a plan detailing project-specific dust protection measures, including periodic status reports, and submit to the COR for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.
 - 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 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. Blank off ducts and diffusers to prevent circulation of dust into occupied areas during construction.
2. Do not perform dust producing tasks within occupied areas without the approval of the COR. For construction in any areas that will remain jointly occupied by the medical Center and Contractor's workers, the Contractor shall:
 - a. Provide a corridor separation per option 1 or option 2 as noted in section 01 00 00 General Requirements.
 - b. Adhesive Walk-off/Carpet Walk-off Mats, minimum 600mm x 900mm (24" x 36"), shall be used at all interior transitions from the construction area to occupied medical center area. These mats shall be changed as often as required to maintain clean work areas directly outside construction area at all times.
 - c. 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.
 - d. The contractor shall not haul debris through patient-care areas without prior approval of the COR and the Medical Center. When, approved, debris shall be hauled in enclosed dust proof containers or wrapped in plastic and sealed with duct tape. No sharp objects should be allowed to cut through the plastic. Wipe down the exterior of the containers with a damp rag to remove dust. All equipment, tools, material, etc. transported through occupied areas shall be made free from dust and moisture by vacuuming and wipe down.
 - e. For temporary wall for option 2, construct and remove temporary wall outside of normal work hours.
 - f. Vacuum and clean all surfaces free of dust after the removal of the zip wall or temporary wall.

ENVIRONMENTAL PROTECTION

- 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.

EP-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.

EP-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

EP-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 COR 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 COR 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 temporarily storage areas. 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.

EP-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 COR. 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.
- C. 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 4:00 p.m unless otherwise permitted by 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

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

- 1-1. Refer to Articles titled SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FAR 52.236-21) and, SPECIAL NOTES (VAAR 852.236-91), in GENERAL CONDITIONS.
- 1-2. For the purposes of this contract, samples, 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. Submit one submittal (all required information) for each specification section. 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 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 COR 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 in quadruplicate. 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 contain the list of items, name of Medical Center, name of Contractor, contract number, applicable specification paragraph numbers, applicable drawing numbers (and other information required for exact identification of location for each item), manufacturer and brand, ASTM or Federal Specification Number (if any) and such additional information as may be required by specifications for particular item being furnished. In addition, catalogs shall be marked to indicate specific items submitted for approval.
 1. A copy of letter must be enclosed with items, and any items received without identification letter will be considered "unclaimed goods" and held for a limited time only.
 2. Each sample, certificate, manufacturers' literature and data shall be labeled to indicate the name and location of the Medical Center, name of Contractor, manufacturer, brand, contract number and ASTM or Federal Specification Number as applicable and location(s) on project.
 3. Required certificates shall be signed by an authorized representative of manufacturer or supplier of material, and by Contractor.
 - C. 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.

- D. Approved samples will be kept on file by the COR 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.
- E. Submittal drawings (shop, erection or setting drawings) and schedules, required for work of various trades, shall be checked before submission by technically qualified employees of Contractor for accuracy, completeness and compliance with contract requirements. These drawings and schedules shall be stamped and signed by Contractor certifying to such check.
1. For each drawing required, submit one legible photographic paper or vellum reproducible.
 2. Reproducible shall be full size.
 3. Each drawing shall have marked thereon, proper descriptive title, including Medical Center location, project number, manufacturer's number, reference to contract drawing number, detail Section Number, and Specification Section Number.
 4. A space 120 mm by 125 mm (4-3/4 by 5 inches) shall be reserved on each drawing to accommodate approval or disapproval stamp.
 5. Submit drawings, ROLLED WITHIN A MAILING TUBE, fully protected for shipment.
 6. One reproducible print of approved or disapproved shop drawings will be forwarded to Contractor.
 7. When work is directly related and involves more than one trade, shop drawings shall be submitted to Architect-Engineer under one cover.

1-10. Samples shop drawings, test reports, certificates and manufacturers' literature and data, shall be submitted for approval to

FourFront Design Inc.
517 7th Street
Rapid City, SD 57701

1-11. At the time of transmittal to the Architect-Engineer, the Contractor shall also send a copy of the complete submittal and samples directly to the Resident Engineer.

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SECTION 01 42 19
REFERENCE STANDARDS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. 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)

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

DEPARTMENT OF VETERANS AFFAIRS
Office of Construction & Facilities Management
Facilities Quality Service (00CFM1A)
811 Vermont Avenue, NW - Room 462
Washington, DC 20420
Telephone Numbers: (202) 461-8217 or (202) 461-8292
Between 9:00 AM - 3:00 PM

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

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

AA Aluminum Association Inc.
<http://www.aluminum.org>

AABC Associated Air Balance Council
<http://www.aabchq.com>

AAMA American Architectural Manufacturer's Association
<http://www.aamanet.org>

AAN American Nursery and Landscape Association
<http://www.anla.org>

AASHTO American Association of State Highway and Transportation Officials
<http://www.aashto.org>

AATCC American Association of Textile Chemists and Colorists
<http://www.aatcc.org>

ACGIH American Conference of Governmental Industrial Hygienists
<http://www.acgih.org>

ACI American Concrete Institute
<http://www.aci-int.net>

ACPA American Concrete Pipe Association
<http://www.concrete-pipe.org>

ACPPA American Concrete Pressure Pipe Association
<http://www.acppa.org>

ADC Air Diffusion Council
<http://flexibleduct.org>

AGA American Gas Association
<http://www.aga.org>

AGC Associated General Contractors of America
<http://www.agc.org>

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

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

AISC American Institute of Steel Construction
<http://www.aisc.org>

AISI American Iron and Steel Institute
<http://www.steel.org>

AITC American Institute of Timber Construction
<http://www.aitc-glulam.org>

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

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

ANSI American National Standards Institute, Inc.
<http://www.ansi.org>

APA The Engineered Wood Association
<http://www.apawood.org>

ARI Air-Conditioning and Refrigeration Institute
<http://www.ari.org>

ASAE American Society of Agricultural Engineers
<http://www.asae.org>

ASCE American Society of Civil Engineers
<http://www.asce.org>

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

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

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

ASTM American Society for Testing and Materials
<http://www.astm.org>

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

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

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

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

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

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

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

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

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

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

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

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

CRA California Redwood Association
<http://www.calredwood.org>

CRSI Concrete Reinforcing Steel Institute
<http://www.crsi.org>

CTI Cooling Technology Institute
<http://www.cti.org>

DHI Door and Hardware Institute
<http://www.dhi.org>

EGSA Electrical Generating Systems Association
<http://www.egsa.org>

EEI Edison Electric Institute
<http://www.eei.org>

EPA Environmental Protection Agency
<http://www.epa.gov>

ETL ETL Testing Laboratories, Inc.
<http://www.etl.com>

FAA Federal Aviation Administration
<http://www.faa.gov>

FCC Federal Communications Commission
<http://www.fcc.gov>

FPS The Forest Products Society
<http://www.forestprod.org>

GANNA Glass Association of North America
<http://www.cssinfo.com/info/ganna.html/>

FM Factory Mutual Insurance
<http://www.fmglobal.com>

GA Gypsum Association
<http://www.gypsum.org>

GSA General Services Administration
<http://www.gsa.gov>

HI Hydraulic Institute
<http://www.pumps.org>

HPVA Hardwood Plywood & Veneer Association
<http://www.hpva.org>

ICBO International Conference of Building Officials
<http://www.icbo.org>

ICEA Insulated Cable Engineers Association Inc.
<http://www.icea.net>

\ICAC Institute of Clean Air Companies
<http://www.icac.com>

IEEE Institute of Electrical and Electronics Engineers
<http://www.ieee.org>

IMSA International Municipal Signal Association
<http://www.imsasafety.org>

IPCEA Insulated Power Cable Engineers Association

NBMA Metal Buildings Manufacturers Association
<http://www.mbma.com>

MSS Manufacturers Standardization Society of the Valve and Fittings Industry Inc.
<http://www.mss-hq.com>

NAAMM National Association of Architectural Metal Manufacturers
<http://www.naamm.org>

NAPHCC Plumbing-Heating-Cooling Contractors Association
<http://www.phccweb.org>

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
<http://www.pci.org>

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

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

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

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

RIS Redwood Inspection Service
See - CRA

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

SCMA Southern Cypress Manufacturers Association
<http://www.cypressinfo.org>

SDI Steel Door Institute
<http://www.steeldoor.org>

IGMA Insulating Glass Manufacturers Alliance
<http://www.igmaonline.org>

SJI Steel Joist Institute
<http://www.steeljoist.org>

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

SSPC The Society for Protective Coatings
<http://www.sspc.org>

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

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

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

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

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

UBC The Uniform Building Code
See ICBO

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

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

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

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

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

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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.

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 reuse and recycle new materials 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> 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 COR 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

- A. Contractor shall provide the VA with copies of all records documenting the quantity of waste and construction debris, including but not limited to: Total waste/debris generated; quantity diverted through

sale, reuse or recycling; and the quantity of waste disposed by landfill or incineration.

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 41 00
DEMOLITION

PART 1 - GENERAL

1.1 DESCRIPTION:

- A. This section specifies demolition of exterior windows and exterior entrance doors and framing.
- B. This section specified cutting and patching of the existing building for construction work.

1.2 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.
- 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.
- E. Prevent spread of flying particles and dust.
- F. In addition to previously listed fire and safety rules to be observed in performance of work, include following:
 - 1. Maintain at least a four foot walkway through the tramway.

1.3 CUTTING AND PATCHING

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of other Work.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 DEMOLITION:

- B. Debris shall become property of Contractor and shall be disposed of by him daily, off the Medical Center to avoid accumulation at the demolition site. Materials that cannot be removed daily shall be stored in areas specified by the COR. Contractor shall dispose debris in compliance with applicable federal, state or local permits, rules and/or regulations.

3.2 CUTTING AND PATCHING MATERIALS

- A. In-Place Materials: Use materials identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of in-place materials.
- B. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
- C. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with in-place finishes or primers.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.

3.3 PERFORMANCE

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
- B. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.
- C. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
- D. Cleaning: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.

3.4 CLEAN-UP:

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

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SECTION 08 51 13
ALUMINUM WINDOWS AND DOORS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Aluminum windows of type and size shown complete with hardware, glazing and related components and accessories.
 - 1. Fixed
 - 2. Project out awning
- B. Aluminum swinging entrance doors and frames of type and size shown complete with hardware, glazing and related components and accessories.
- C. Glass insulating glazing units.
- D. Insulated composite panels.

1.2 DELIVERY, STORAGE AND HANDLING

- A. Protect windows from damage during handling and construction operations before, during and after installation.
- B. Store windows under cover, setting upright.
- C. Do not stack windows flat.
- D. Do not lay building materials or equipment on windows.

1.3 QUALITY ASSURANCE

- A. Windows and entrances produced from one source of manufacture.
- B. Approval by contracting officer is required of products or service of proposed manufacturers and installers.
- B. Approval will be based on submission of certification by Contractor that:
 - 1. Manufacturer regularly and presently manufactures the specified windows/ entrances as one of its principal products.
 - 2. Installer has technical qualifications, experience, trained personnel and facilities to install specified items.

1.4 SUBMITTAL

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Shop Drawings:
 - 1. Minimum of 1/2 full scale types of windows/ entrances on project.
 - 2. Identifying parts of window/ entrance units by name and kind of metal or material, show construction, locking systems, mechanical operators, trim, installation and anchorages.

3. Include glazing details and standards for factory glazed units.

C. Manufacturer's Literature and Data:

- 1. Window.
- 2. Window hardware.
- 3. Entrance door/ frame.
- 4. Door hardware.
- 5. Glass glazing.
- 6. Insulated composite panel.

D. Certificates:

- 1. Certificates as specified in paragraph QUALITY ASSURANCE.
- 2. Indicating manufacturers and installers qualifications.
- 3. Manufacturer's Certification that windows delivered to project are identical to windows tested.

E. Samples:

- 1. Glass glazing.
- 2. Insulated composite panel. Showing color to match architect's sample.
- 3. Provide 150 mm (six-inch) length samples showing window/ entrance frame color showing color to match architect's sample.

1.5 WARRANTY

- A. Windows: Warrant windows against malfunctions due to defects in thermal breaks, hardware, materials and workmanship, subject to the terms of Article "WARRANTY OF CONSTRUCTION", FAR clause 52.246-21, except provide 10 year warranty period.
- B. Insulate composite panels: Warrant lamination for 5 years and finish for 25 years.

1.6 APPLICABLE PUBLICATIONS

- A. Publications listed below form a part of this specification to extent referenced. Publications are referenced in text by basic designation only.
- B. American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE)
90.1-07.....Energy Standard of Buildings
- C. American Architectural Manufacturers Association (AAMA):
101/I.S.2/A440-11.....Windows, Doors, and Unit Skylights
505-09.....Dry Shrinkage and Composite Performance Thermal Cycling Test Procedures

2605-05.....Superior Performing Organic Coatings on
 Architectural Aluminum Extrusions and Panels
 TIR-A8-08.....Structural Performance of Poured and Debridged
 Framing Systems

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

A653/A653M-09.....Steel Sheet, Zinc Coated (Galvanized), Zinc-
 Iron Alloy-Coated (Galvannealed) by the Hot-dip
 Process

E 90-09.....Test Method for Laboratory Measurement of
 Airborne Sound Transmission Loss of Building
 Partitions

E. National Fenestration Rating Council (NFRC):

NFRC 100-10.....Determining Fenestration Product U-Factors

NFRC 200-10.....Determining Fenestration Product Solar Heat
 Gain Coefficient and Visible Transmittance at
 Normal Incidence

F. National Association of Architectural Metal Manufacturers (NAAMM):

AMP 500-06.....Metal Finishes Manual

PART 2- PRODUCTS

2.1 WINDOWS

A. Basis of Design: Product specified is "4250I Invent" thermally broke,
 2 inches (51 mm) by 4-1/2 inches (114 mm), as manufactured by Wausau
 Window and Wall System.

1. Items specified are to establish a standard of quality for design,
 function, materials, and appearance. Equivalent products by listed
 manufacturers are acceptable.
2. Other manufacturers may submit if equal. The COR will decide if
 product is equivalent.

B. Aluminum Framing Members

1. Extruded aluminum billet, 6063-T5 or T6 alloy for primary
 components; 6063-T5 or T6, 6005-T5, 6105-T5 or 6061-T6 for
 structural components; all meeting the requirements of ASTM B221.
2. Aluminum sheet alloy 5005-H32 (for anodic finishing), or alloy 3003-
 H14 (for painted or unfinished sheet) meeting the requirements of
 ASTM B209.
3. Principal window frame and sash ventilator members will be a minimum
 0.125" in thickness at hardware mounting locations.

4. Extruded or formed trim components will be a minimum 0.060" in thickness.
 5. Frame depth 4 ½ " minimum.
 6. Sash ventilator sections must be tubular, and close flush with adjoining frame surfaces at interior and exterior.
 - a. Overlap sash ventilators will not be accepted.
- C. Air, Water and Structural Performance Requirements
1. When tested in accordance with cited test procedures, windows shall meet or exceed the following performance criteria, as well as those indicated in AAMA/WDMA/CSA 101/I.S.2/A440 for Architectural AW Performance Class windows, Performance Grade 100 (AW100) unless otherwise noted herein.
 - a. Test units shall not be smaller in either width or height than the "Gateway Test Size" specified in AAMA/WDMA/CSA 101/I.S.2/A440 for AW Performance Class.
 - b. "Downsize" testing to meet Optional Performance Class requirements specified herein shall not be permitted.
 - c. Test units shall employ manufacturer's standard sealing, lock spacing and anchorage.
 2. Air Test Performance Requirements
 - a. Air infiltration maximum 0.1 cfm per square foot at 6.24 psf pressure differential when tested in accord with ASTM E283.
 3. Water Test Performance Requirements
 - a. No uncontrolled water leakage at 15.00 psf static pressure differential, with water application rate of 5 gallons/hr/sq ft when tested in accord with both ASTM E331 and ASTM E547
 - b. Complete successful Category 10 pulsed pressure differential testing at 14 psf to 42 psf, with water application rate of 5 gallons/hr/sq ft when tested in accord with ASTM 2268 and AAMA 520.
 4. Structural Test Performance Requirements
 - a. Uniform Load Deflection Test. No deflection of any unsupported span L of test unit (framing rails, muntins, mullions, etc.) in excess of L/175 at both a positive and negative load of 100 psf (design test pressure) when tested in accord with ASTM E330.
 - b. Uniform Load Structural Test. Unit to be tested at 1.5 x design test pressure, both positive and negative, acting normal to plane of wall in accord with ASTM E330. No glass breakage; permanent

damage to fasteners, hardware parts, or anchors; damage to make windows inoperable; or permanent deformation of any main frame or ventilator member in excess of 0.2% of its clear span.

5. Life Cycle Testing

- a. When tested in accordance with AAMA 910, there is to be no damage to fasteners, hardware parts, support arms, activating mechanisms or any other damage that would cause the window to be inoperable at the conclusion of testing.
- b. Air infiltration and water resistance tests shall meet the primary performance requirements specified after completion of cycling.

D. Components

1. Hardware

- a. All steel components including attachment fasteners to be stainless steel except as noted.
- b. Extruded aluminum components 6063-T5 or -T6.
- c. Locking handles, bases and strikes to be die cast, white bronze or stainless steel.
- d. Thermo-plastic or thermo-set plastic caps, housings and other components to be injection-molded nylon, extruded PVC, or other suitable compound.
- e. Hardware to be custodial-operated and include:
 1. Hinges
 2. Jamb keepers
 4. Operator. Dual arm roto operator with 2 inch diameter hand knob with supplemental attachment fastener. Taper resistant.
 5. Opening

E. Sealants

1. All sealants shall comply with applicable provisions of AAMA 800 and/or Federal Specifications FS-TT-001 and 002 Series.
2. Frame joinery sealants shall be suitable for application specified and as tested and approved by window manufacturer.

F. Glazing Materials

1. Setting Blocks/Edge Blocking: Provide in sizes and locations recommended by GANA Glazing Manual. Setting blocks used in conjunction with soft-coat low-e glass shall be silicone.

2. Back-bedding tapes, expanded cellular glazing tapes, toe beads, heel beads and cap beads shall meet the requirements of applicable specifications cited in AAMA 800.
3. Glazing gaskets shall be non-shrinking, weather-resistant, and compatible with all materials in contact.
4. Structural silicone sealant where used shall meet the requirements of ASTM C1184.
5. Spacer tape in continuous contact with structural silicone shall be tested for compatibility and approved by the sealant manufacturer for the intended application.
6. Gaskets in continuous contact with structural silicone shall be extruded silicone or compatible material.

G. Steel Components

1. Provide steel reinforcements as necessary to meet the performance requirements of 1.03.
2. Concealed steel anchors and reinforcing shall be factory painted after fabrication with TGIC powder coating, or rust-inhibitive primer complying with Federal Specification TT-P-645B.

H. Insect Screens

1. Tubular extruded aluminum frames shall meet the requirements of ANSI/SMA 1004.
2. Screen frame finish to match window frames.
3. Aluminum cloth shall comply with GSA-FS-RR-W-365 and USDC-CS-138 with 18 x 16 mesh. Screens secured to window frame with special clips with tamper proof fasteners.

2.2 WINDOW FABRICATION

A. General:

1. Finish, fabricate and shop assemble frame and sash ventilator members into complete windows under the responsibility of one manufacturer.
2. No bolts, screws or fastenings shall impair independent frame movement, or bridge the thermal barrier, unless such bridging was also present in thermal test units and thermal models.
3. Fabricate to allow for thermal movement of materials when subjected to a temperature differential from -30 °F to +180 °F.

B. Frames:

1. Cope and mechanically fasten each corner, or miter then mechanically stake over a solid extruded aluminum corner block or weld each corner; then seal weather tight.
2. Make provisions for continuity of frame joinery seals at extrusion webs.

C. Main Sash Ventilator

1. Miter all corners and mechanically stake over a solid extruded aluminum corner block, set and sealed in epoxy, leaving hairline joinery, then sealed weather tight.
2. Make provisions for continuity of sash ventilator joinery seals at extrusion webs.

D. Glass Drainage

1. Provision shall be made to insure that water will not accumulate and remain in contact with the perimeter area of sealed insulated glass.

E. Hardware

1. Concealed Hinges

- a. Provide two stainless steel concealed four-bar adjustable friction hinges per vent meeting AAMA 904.1.

2. Locks

- a. Die cast, lacquered or e-coated white bronze, or stainless steel cam locks, strikes and/or keepers for manual custodial operation shall secure sash in closed position. Handle-less cam with removable key.
- b. Provide locks for ventilators at maximum 40" spacing; 50" for single operator multi-lock hardware.

3. Hinges

- a. Dual arm roto with 2 inch diameter hand knob with supplemental attachment fastener. Taper resistant.

F. Thermal Break Construction:

1. Continuous extruded polyamide with 25% glass fiber reinforcing, mechanically crimped into cross-knurled cavities.
2. Minimum thermal separation ¼".
3. Quality assurance records must be maintained and available as requested.
4. Poured in place thermal barriers are not acceptable.

G. Weather-stripping:

1. Bulb- or fin-type neoprene, EPDM, dual-durometer PVC, polypropylene, TPE, or other suitable material as tested and approved by the window manufacturer.
2. Miter, crowd, stake or join at corners. Provide drainage to exterior as necessary.
3. Weather-stripping shall provide an effective pressure-equalization seal at the interior face of the sash ventilator.

2.3 GLAZED STOREFRONTS

A. Basis of Design for storefront: Product specified is "T 14000 Series Flush Glaze," center-glazed system, 2 inches (51 mm) by 4-1/2 inches (114 mm), as manufactured by Wausau.

1. Items specified are to establish a standard of quality for design, function, materials, and appearance. Equivalent products by listed manufacturers are acceptable.
2. Other manufacturer's may submit if equal. The COR will decide if product is equivalent.

B. Materials:

1. Aluminum: Provide alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with not less than the strength and durability properties of the alloy and temper designated below for each aluminum form required. Main framing sections shall be of 0.075 inch (1.91 mm) minimum wall thickness and glazing stop moldings shall be minimum 0.060 inch (1.53 mm) wall thickness.
2. Steel Plates, Shapes, and Bars: ASTM A36/A36M, galvanized in accordance with ASTM A123/A123M. If galvanizing is not compatible with alloy of component parts, apply heavy coating of epoxy paint where necessary to prevent galvanic action with dissimilar materials.
3. Fasteners and Anchors: Provide manufacturer's standard corrosion-resistant, non-staining, non-bleeding fasteners and accessories compatible with adjacent materials.
4. Inserts: Provide galvanized steel or cast iron inserts of suitable design and adequate strength for condition of use.
5. Galvanizing Repair Paint: Provide high zinc dust content paint for regalvanizing welds in galvanized steel, with dry film containing not less than 94 percent zinc dust by weight, and complying with SSPC Paint 20.

6. Bituminous Paint: Provide cold-applied asphalt mastic, containing no asbestos fibers.
7. Thermal Barrier: Thermal barrier shall be a two-part chemically curing, unfilled polyurethane casting resin poured in place for perimeter members. Thermal barrier extrusion pour cavities shall be mechanically lanced or azobraded to secure the thermal break material. Intermediate vertical members may be slotted for efficient thermal performance.

2.4 GLAZED STOREFRONT FABRICATION

- A. Carefully fit and match work with continuity of line and design. Rigidly secure members with hairline joints, unless otherwise indicated. Reinforce members and joints with steel plates, bars, rods, or angles for rigidity and strength as needed to fulfill performance requirements.
 1. Glazing shall be by means of an exterior and interior roll-in wedge of high quality extruded EPDM material.
 2. Weeps and Flashings: Fabricate the system so as not to require additional weeps or flashing beyond that which is integral to the system.
 3. Fasteners: Conceal fasteners unless otherwise indicated. For exterior systems use fasteners for joints which cannot be welded.
 4. Dissimilar Materials: Separate dissimilar materials with a heavy coating of bituminous paint or other suitable permanent separation as required to prevent galvanic action.

2.5 ENTRANCES DOORS

- A. Basis of Design for storefront: Product specified is "Monumental Doors," as manufactured by Wausau. Medium stile.
 1. Items specified are to establish a standard of quality for design, function, materials, and appearance. Equivalent products by listed manufacturers are acceptable.
 2. Other manufacturers may submit if equal. The COR will decide if product is equivalent.
- B. Materials
 1. Extrusions shall be of aluminum alloy 6063-T5 extruded within commercial tolerance and free from defects impairing strength and/or durability. Door stile and rail sections shall be a minimum of 0.1875 inch (4.76 mm) wall thickness. Door frame sections to be of 0.1875 inch (4.76 mm) wall thickness at critical areas, with glazing and door moldings a minimum of 0.050 inch (1.27 mm) wall thickness.

2. Steel tension rods of 0.375 inch (9.5 mm) diameter shall run the full width of the top and bottom rails and shall be fixed with steel plates and lock nuts.
3. Door frame members shall have continuous wool pile/vinyl fin weatherstripping at the head and jamb members. Provide bottom rail weatherstripping at threshold if indicated or scheduled. Door stops shall be of snap-in design on butt hinge and offset pivot applications, eliminating use of exposed screws.
4. Stile type: medium

2.6 ENTRANCE FABRICATION

- A. Carefully fit and match work with continuity of line and design. Rigidly secure members with hairline joints, unless otherwise indicated. Reinforce members and joints for rigidity and strength as needed to fulfill performance requirements.
- B. Door glazing shall be by means of an interior and exterior fixed gasket of high quality extruded elastomeric material.
- C. Conceal fasteners unless otherwise indicated.
- D. Separate dissimilar materials with a heavy coating of epoxy paint or other suitable permanent separation as required to prevent galvanic action.
- E. Thermal-Break Construction
 1. Manufacturer's Standard.
 2. Low conductance thermal barrier.
- G. Hardware
 1. Keying: All cylinders shall be by Best Systems. No exceptions. Key into the existing Best system. Cylinders shall be 7 pin type. Keying information shall be furnished at a later date by the COR.
 - a. Furnish 4 keys per door.
 2. Continuous, Barrel-Type Hinges: Hinge with knuckles formed around a Teflon-coated 6.35mm (0.25-inch) minimum diameter pin that extends entire length of hinge.
 - a. Base Metal for Exterior Hinges: Stainless steel.
 3. Closers:
 - a. Conform to ANSI A156.4, Grade 1. Antimicrobial protected coating.
 - b. The closer shall have minimum 50 percent adjustable closing force over minimum value for that closer and have adjustable hydraulic back check effective between 60 degrees and 85 degrees of door opening. Heavy duty.

- c. Size Requirements: Provide multi-size closers, sizes 1 through 6, except where multi-size closer is not available for the required application.
 - d. Material of closer body shall be forged or cast.
 - e. Arm and brackets for closers shall be steel, malleable iron or high strength ductile cast iron.
 - f. Closers shall have full size metal cover; plastic covers will not be accepted.
 - g. Closers shall have adjustable hydraulic back-check, separate valves for closing and latching speed, adjustable back-check positioning valve, and adjustable delayed action valve.
 - h. Provide closers with any accessories required for the mounting application, including (but not limited to) drop plates, special soffit plates, spacers for heavy-duty parallel arm fifth screws, bull-nose or other regular arm brackets, longer or shorter arm assemblies, and special factory templating. Provide special arms, drop plates, and templating as needed to allow mounting at doors with overhead stops and/or holders.
 - i. Closer arms or backcheck valve shall not be used to stop the door from overswing, except in applications where a separate wall, floor, or overhead stop cannot be used.
 - j. Provide parallel arm closers with heavy duty rigid arm.
 - k. Provide all surface closers with the same body attachment screw pattern for ease of replacement and maintenance.
 - l. All closers shall have a 1 ½" (38mm) minimum piston diameter.
4. Sweep: Brush gasketing. Surface mounted.
5. Thresholds:
- a. Conform to ANSI A156.21, mill finish extruded aluminum, except as otherwise specified. In existing construction, thresholds shall be installed in a bed of sealant with ¼-20 stainless steel machine screws and expansion shields. Furnish thresholds for the full width of the openings.
 - b. At exterior doors provide threshold with non-slip abrasive finish.
 - c. Provide with miter returns where threshold extends more than 12 mm (0.5 inch) from frame face.
6. Weatherstrip: Conform to ANSI A156.22. Air leakage shall not to exceed 0.50 CFM per foot of crack length (0.000774m³/s/m).

7. Finishes:
 - a. Hinges: Match door frame color.
 - b. Closer: Factory applied paint finish. Match door frame color.
 - c. Exit device: 626 or 689
 - d. Threshold: Mill
8. Hardware heights: Locate hardware on doors at the heights specified below:
 - a. Exit devices centerline of strike (where applicable) 1024 mm (40-5/16 inches) from finish floor.
 - b. Locate other hardware at standard commercial heights. Locate push and pull plates to prevent conflict with other hardware.

2.7 GLAZING

- A. Glass: Insulated Glass Unit. Shown as "TIG" on drawings.
 1. Basis of design product: Subject to the compliance with requirements, provide either the named product or an equal product.
 2. Basis of design product: Sun Guard neutral 40 sealed insulating unit by Oldcastle Glass:
 - a. Performance characteristics:
 1. Visible transmittance: 40%
 2. Visible reflectance: 20%
 3. Winter U factor (u-value): .33%
 4. Shading coefficient: .36
 5. Solar heat gain coefficient: .32
 3. Use safety glazing wherever required by code.
 4. Listed thicknesses are minimums.
 5. Low E Sun Guard 40 Insulated Glass Unit: 1-inch thickness double pane units with dual edge seal; outer lite of 1/4-inch Low E coated (on #2 surface) with sun guard 40, 1/2-inch air filled, inner lite of 1/4-inch clear float. No tinting.
- B. Panel: Insulated composite panel. 1 inch panels consisting of metal skins laminated to stabilizer substrates with an insulating core material. Shown as "P" on drawings.
 1. Exterior: porcelain on aluminum laminated to high density polyethylene, embossed. Custom color.
 2. Core: 1.7 lb density isocyanurate.
 3. Interior: porcelain on aluminum laminated to high density polyethylene, embossed. Custom color.

4. Provide all accessories as required to install panel in an aluminum framed store front system.
5. Seal against moisture intrusion as recommended by the manufacturer.

2.8 FINISHES

- A. Windows and entrance/frame: Comply with NAAMM MFM for recommendations relative to application and designation of finishes. Finish designations prefixed by "AA" conform to the system established by the Aluminum Association for designating aluminum finishes.
 1. High Performance Organic Coating: AA-C12-C42-R1x.
 - a. Standard Two-Coat Polyvinylidene Fluoride (PVDF) Finish Coating: Manufacturer's standard thermocured system, complying with AAMA 2605, composed of primer and color topcoat containing not less than 70 percent PVDF resin by weight.
 - b. Custom color- match architect's sample.

PART 3 - EXECUTION

3.1 SITE VERIFICATION OF CONDITIONS

- A. Verify that building substrates permit installation of windows according to the manufacturer's instructions, approved shop drawings, calculations and contract documents.
- B. Do not install windows until unsatisfactory conditions are corrected.

3.2 PREPARATION

- A. Coordinate and furnish anchors, inserts, etc., that are required. Coordinate delivery of such items to the Project site.

3.3 INSTALLATION GENERAL

- A. Fasteners for securing window and entrance accessories or equipment to building construction, use expansion or toggle bolts or screws, as best suited to construction material.
 1. Provide bolts or screws minimum 6 mm (1/4-inch) in diameter.
 2. Sized and spaced to resist the tensile and shear loads imposed.
 3. Do not use exposed fasteners on exterior, except when unavoidable for application of hardware.
 4. Provide non-magnetic stainless steel Phillips flat-head machine screws for exposed fasteners, where required, or special tamper-proof fasteners.
 5. Locate fasteners to not disturb the thermal break construction of windows.
- B. Set windows and entrances plumb, level, true, and in alignment; without warp or rack of frames or sash.

- C. Do not remove existing windows until new replacement is available, ready for immediate installation.
- D. Remove existing work carefully; avoid damage to existing work to remain.
- E. Perform all other operations as necessary to prepare openings for proper installation and operation of new units.
- F. Do not leave openings uncovered at end of working day, during precipitation or temperatures below 16 degrees C (60 degrees F.).

3.4 WINDOW INSTALLATION

- A. Install all windows with skilled workers in accordance with approved shop drawings, installation instructions, specifications, and the AAMA Commercial Window and Door Installation Manual.
- B. Vent windows must be installed, and remain, plumb, square and level, to one-half of the unit shimming tolerances cited in the AAMA Commercial Window and Door Installation Manual, for proper weathering and operation. Installer to make necessary final hardware adjustments on site.
- C. Aluminum that is not organically coated shall be insulated from direct contact with steel, masonry, concrete or other dissimilar metals by bituminous paint, rust-inhibiting primer, non-conductive shims or other suitable insulating material.

3.5 STOREFRONT INSTALLATION AND ENTRANCE INSTALLATION

- A. General: Installation shall be in accordance with reviewed product data, final shop drawings, the manufacturer's specifications and recommendations.
 - 1. Erection Tolerances: Comply with manufacturer's published instructions.
- B. Closer devices shall be equipped and mounted to provide maximum door opening permitted by building construction. At exterior doors, closers shall be mounted on interior side. Where closers are mounted on doors they shall be mounted with sex nuts and bolts; foot shall be fastened to frame with machine screws.
- C. Fastenings: Suitable size and type and shall harmonize with hardware as to material and finish. All fastenings exposed to weather shall be of nonferrous metal.
- D. Insulated composite panel.

1. Glaze panels securely and in accordance with the manufacturer's instructions to allow for necessary thermal movement and structural support.
2. Weather seal all joints as required.
3. Separate dissimilar metals using gasketed fasteners and blocking to eliminate the possibility of electrolytic reaction.
4. Remove masking film as soon as possible after installation.
5. Weep holes and drainage channels must be unobstructed and free from dirt and sealant.

3.6 ADJUSTING AND CLEANING

- A. Touch-Up Painting: Immediately after installation, touch-up scratched, nicked, abraded, chipped, or otherwise damaged areas of the finish so as to be unnoticeable.
- B. Cleaning: Wash to remove any deleterious material from finished surfaces immediately.
- C. Installer to provide letter to COR that upon the hardware completion, installer has visited the Project and has accomplished the following:
 1. Re-adjust hardware.
 2. Evaluate maintenance procedures and recommend changes or additions, and instruct VA personnel.
 3. Identify items that have deteriorated or failed.
 4. Submit written report identifying problems.

3.7 DEMONSTRATION

- A. Demonstrate efficacy of mechanical hardware and electronic hardware systems, including adjustment and maintenance procedures, to satisfaction of COR and VA Locksmith.

3.8 PROTECTION

- A. Provide final protection and maintain conditions in a manner acceptable to the Installer, that shall ensure that the aluminum windows and entrances shall be without damage at time of Substantial Completion.

3.9 EXTRA MATERIALS

- A. Provide additional materials for the owner to replace items in the future. Provide the following items in the quantity noted:
 1. 15 full screens/ frames/ fasteners. Owner will state which screens to provide.
 2. 20 actuators
 3. 20 knobs

3.10 DOOR HARDWARE

A. Door 901

- | | |
|--------------------------|---|
| 1. Hinges continuous | manufacturer's standard |
| 2. Closer (heavy duty) | manufacturer's standard |
| 3. Pull | manufacture's standard
match existing |
| 4. Cylinder (at 36" AFF) | Best Systems (key operation
from both sides) |
| 5. Threshold | manufacturer's standard
ADA compliant |
| 6. Weatherstrip | manufacturer's standard |
| 7. Sweep | manufacturer's standard |
| 8. Door operator | Connect to existing power
See section 087113 |

B. Door 801A (base bid), 801B (base bid), 701(base bid), 601 (base bid),
501 (option#2), 401(option#1)

- | | |
|--------------------------|--|
| 1. Hinges continuous | manufacturer's standard |
| 2. Closer (heavy duty) | manufacturer's standard |
| 3. Pull | manufacture's standard
match existing |
| 4. Cylinder (at 36" AFF) | Best Systems key operation
from both sides) |
| 5. Threshold | manufacturer's standard
ADA compliant |
| 6. Weatherstrip | manufacturer's standard |
| 7. Sweep | manufacturer's standard |

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SECTION 08 71 13
AUTOMATIC DOOR OPERATORS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This section specifies equipment, controls and accessories for automatic operation of swing door.
- B. Remove the existing automatic door operator. Provide a new door operator at new entrance door framing (same location).
- C. Power supplied from existing automatic door.

1.3 QUALITY ASSURANCE

- A. Automatic door operators, controls and other equipment shall be products of a manufacturer regularly engaged in manufacturing such equipment for a minimum of three years.
- C. Equipment installer shall have specialized experience and shall be approved by the manufacturer.

1.4 WARRANTY

- A. Automatic door operators shall be subject to the terms of the "Warranty of Construction", FAR clause 52.246-21, except that the Warranty period shall be two years in lieu of one year.

1.5 MAINTENANCE MANUALS

- A. In accordance with Section 01 00 00, GENERAL REQUIREMENTS Article titled "INSTRUCTIONS", furnish maintenance manuals and instructions on automatic door operators.

1.6 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Manufacturer's literature and data describing operators, power units, controls, door hardware and safety devices.
- C. Shop Drawings:
 - 1. Showing location of controls and safety devices in relationship to each automatically operated door.
 - 2. Showing layout, profiles, product components, including anchorage, accessories, as applicable.
 - 3. Submit templates, wiring diagrams, fabrication details and other information to coordinate the proper installation of the automatic door operators.
- D. Samples: Submit manufacturer's samples of finish.

1.7 DESIGN CRITERIA

- A. As a minimum automatic door equipment shall comply with the requirements of BHMA 156.10. Except as otherwise noted on drawings, provide operators which will move the doors from the fully closed to fully opened position in five maximum time interval, when speed adjustment is at maximum setting.
- B. Equipment: Conforming to UL 325. Provide key operated power disconnect wall switch for each door installation.
- C. Electrical Wiring, Connections and Equipment: Provide all motor, starter, controls, associated devices, and interconnecting wiring required for the installation. Use existing power for removed door operator.

1.8 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by the basic designation only.
- B. Builders Hardware Manufacturers Association, Inc. (BHMA):
A156.10-05.....Power Operated Pedestrian Doors (BHMA 1601)
- C. National Fire Protection Association (NFPA):
101-09.....Life Safety Code
- D. Underwriters Laboratory (UL):
325-10.....Door, Drapery, Gate, Louver, and Window
Operators and Systems

1.9 DELIVERY AND STORAGE

- A. Delivery shall be in factory's original, unopened, undamaged container with identification labels attached.

PART 2 - PRODUCTS

2.1 SWING DOOR OPERATORS

- A. General: Swing door operators shall be of institutional type, door panel size 3'-0" width, weight not to exceed 300 kg (600 pounds), electric operated for overhead mounting within the transom full width of door. Furnish metal mounting supports, brackets and other accessories necessary for the installation of operators at the head of the door frames. The motor on automatic door operator shall be provided with an interlock so that the motor will not operate when doors are locked from opening.
 - 1. Traffic pattern: Two way. Exterior door.

- B. Operator: Electro- mechanical, non handed operator, powered by 24 volt, 1/4 motor. Operator shall be adjustable to compensate for different manual push forces as required.
1. Side access operator housing: Operator is contained in a 5-1/8" deep x 4-5/16" high side access, extruded aluminum housing.
 2. Surface mounted header: Continuous for full width of door.
 3. Connecting hardware: Surface mounted operators to have a steel arm from the operator, secured to the top face of the swing door.
 4. Operator can be field adjusted to comply with ANSI/BHMA A156.19 American National Standard for Power Assist and Low Energy Operated Doors. Activation devices may also need to be switched to knowing-act activation devices for compliance with ANSI/NHMA A156.19.
 5. Electrical characteristics: Maximum power consumption is 2.5 amps at 120 VAC, 50/60 hz, built in thermal overload protection.
 6. Battery convenience mode: Operator to maintain continuous operation by battery power during a power failure. Battery is continuously monitored and provides a warning alarm if the battery is not working properly.
 7. Opening cycle: The adjustable speed operator mechanically powers the drive shaft and the torque control maintains constant speed throughout the opening cycle regardless of stack pressures or wind speed. Operator shall allow manual door operation with operational forces as indicated to fully open the door applied at 1 inch from the latch edge of the door.
 - a. Manual push force shall be adjustable from 5 lbf to 30 lbs maximum.
 8. Hold open: The operator shall stop and hold the door open at the selected opening angle for an adjustable period of time (1.5 seconds to 30 seconds).
 9. Closing cycle: Spring close with speed controlled power assist.
 - a. Upon loss of power, dynamic braking will control the door insuring controlled closing.
 - b. Selectable torque control: Automatically adjusts torque without changing the closing speed of the operator.
 1. When the torque control is activated, the closing speed shall remain constant regardless of the stack pressures or window speed.

2. Torque cancellation: The torque control is deactivated whenever there is a signal received from the door mounted sensors.
3. The torque control is disabled during manual use of the door.
10. Wind force dampening: The operator mechanically counteracts the wind forces, slowing down the door movement to safely open or close the door.
11. Stack pressure compensation: Operator shall counteract positive stack pressures, negative stack pressures, and sudden changes of stack pressures. The operator never allows the door to open or close faster than the speed control setting, regardless of pressures.
12. Obstruction control: The operator will stop and reverse the door movement.
13. Lock retry circuit: If attempt to fully close the door is unsuccessful, the operator will automatically reverse open 10 degrees and reclose in an attempt to successfully close the door.
14. Selectable alarm reset: The operator can be field set so that after receiving an alarm signal, the operator will not accept any activation impulses and will operate only as a manual door closer until manually reset.
15. Electronic controls: Solid state integrated circuit controls the operation and swinging of the swing power operator. The electronic control provides low voltage power supply for all means of actuation. The controls include time delay (1 to 30 seconds) for normal cycle.
16. Control switch: Automatic door operators shall be equipped with the following type of multi position function switch:
 - a. 3 position rocker switch mounted to end cap (on- auto-hold).
17. Operator interface: Safety sensor integration for overhead presence safety device and door mounted reactivation safety sensors.2

2.5 DOOR CONTROLS

- A. Opening and closing actions of doors shall be actuated by controls and safety devices specified, and conform to ANSI 156.10. Controls shall cause doors to open instantly when control device is actuated; hold doors in open positions; then, cause doors to close, unless safety device or reactivated control interrupts operation.

B. Manual Controls:

1. Push Plate Wall Switch: Radio controlled, wireless surface mounted type, stainless steel push plate minimum 100 mm by 100 mm (four-inch by four-inch), with 13 mm (1/2-inch) high letters "To Operate Door-- Push" engraved on face of plate.

2.6 SAFETY DEVICES

- A. General: Area over which doors swing shall be a safety section and anyone standing in path of door's movement shall be protected by a safety device.
- C. Each swing door shall have installed on the pull side a presence sensor to detect any person standing in the door swing path and prevent the door from opening.
- D. Time delay switches shall be adjustable between 3 to 60 seconds and shall control closing cycle of doors.

2.7 GUARD RAILS

- A. ANSI/BHMA A156.10 requires guide rails for power operated swing doors unless the door is located adjacent to the wall. Due to existing door location, this is not possible to meet. Guard rail would impact access to existing exterior stairs.

2.8 FINISH

- A. Comply with NAAMM's "Metal finishes manual for architectural and metal products" for recommendations for applying and designating finishes.
- B. Automatic operator enclosure: Powder coat painted to match architect's sample.

PART 3 - EXECUTION**3.1 INSTALLATION**

- A. Coordinate installation of equipment with other related work.
- B. Use existing power units.
- C. Operators shall be adjusted and must function properly for the type of traffic (pedestrians and wheelchairs) expected to pass through doors.
- D. Install controls at positions where located by COR and make them convenient for particular traffic expected to pass through openings. Maximum height of push plate wall switches from finished floors shall be 40 inches unless otherwise approved by the COR.

3.2 INSTRUCTIONS

- A. Following the installation and final adjustments of the door operators, the installer shall fully instruct VA personnel for 2 hours on the operating, servicing and safety requirements for the swing and sliding automatic door operators.
- B. Coordinate instruction to VA personnel with VA Resident Engineer.

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