



PROJECT MANUAL

**Veterans Administration
Battle Creek Medical Center
Renovate Mental Health Clinic B-7**

**VA Project No. 515-CSI-001
Job No. 03150-A0.000**

Issue 008 – Addendum No. 01 Owner Alternate Deducts

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BOOK 1 OF 2

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**DEPARTMENT OF VETERANS AFFAIRS
VHA MASTER SPECIFICATIONS**

**TABLE OF CONTENTS
Section 00 01 10**

BOOK 1 OF 2

	DIVISION 00 - SPECIAL SECTIONS	DATE
00 01 15	List of Drawing Sheets	DD
	DIVISION 01 - GENERAL REQUIREMENTS	
01 00 00	General Requirements	CD
01 30 10	Contractor Transmittal	DD
01 32 16.15	Project Schedules (Small Projects - Design/Bid/Build	CD
01 33 23	Shop Drawings, Product Data, and Samples	DD
	Schedule of Material Submittals	DD
01 42 19	Reference Standards	DD
01 45 29	Testing Laboratory Services	DD
01 57 19	Temporary Environmental Controls	DD
01 58 16	Temporary Interior Signage	DD
01 70 00	Execution Requirements	CD
01 74 19	Construction Waste Management	DD
	DIVISION 02 - EXISTING CONDITIONS	
02 41 00	Demolition	DD
02 82 13.13	Glove Asbestos Abatement	CD
	DIVISION 03 - CONCRETE	
03 30 00	Cast-in-Place Concrete	DD
	DIVISION 04 - MASONRY	
04 05 13	Masonry Mortaring	DD
04 20 00	Unit Masonry	DD
04 72 00	Cast Stone Masonry	DD
	DIVISION 05 - METALS	
05 05 10	Fluoropolymer Resin Coatings	CD
05 12 00	Structural Steel Framing	DD
05 31 00	Steel Decking	DD
05 36 00	Composite Metal Decking	DD
05 40 00	Cold-Formed Metal Framing	DD
05 50 00	Metal Fabrications	DD
05 51 00	Metal Stairs	DD
05 73 00	Decorative Metal Railings	CD

	DIVISION 06 - WOOD, PLASTICS AND COMPOSITES	
06 10 00	Rough Carpentry	DD
06 16 63	Cementitious Sheathing	DD
06 20 00	Finish Carpentry	DD
	DIVISION 07 - THERMAL AND MOISTURE PROTECTION	
07 11 13	Bituminous Dampproofing	DD
07 17 00	Bentonite Waterproofing	CD
07 21 13	Thermal Insulation	DD
07 22 00	Roof and Deck Insulation	CD
07 22 16	Roof Board Insulation	CD
07 25 00	Weather Barriers	CD
07 40 00	Roofing and Siding Panels	DD
07 42 64	Composite Wall Panels	CD
07 46 46	Fiber Cement Siding	CD
07 53 23	Ethylene-Propylene-Diene-Monomer Roofing	DD
07 60 00	Flashing and Sheet Metal	10-10
07 81 00	Applied Fireproofing	12-08
07 84 00	Firestopping	DD
07 92 00	Joint Sealants	DD
07 95 13	Expansion Joint Cover Assemblies	DD
	DIVISION 08 - OPENINGS	
08 11 13	Hollow Metal Doors and Frames	DD
08 14 00	Interior Wood Doors	DD
08 31 13	Access Doors and Frames	DD
08 42 29	Automatic Entrances	CD
08 44 13	Glazed Aluminum Curtain Walls	CD
08 51 13	Aluminum Windows	CD
08 56 73	Sound Control Windows	CD
08 71 00	Door Hardware	09-11
08 71 13.11	Low Energy Power Assist Door Operators	CD
08 80 00	Glazing	CD
08 84 13	Decorative Plastic Glazing	DD
08 90 00	Louvers	CD
	DIVISION 09 - FINISHES	
09 22 16	Non-Structural Metal Framing	DD
09 29 00	Gypsum Board	DD
09 30 13	Ceramic/Porcelain Tiling	DD
09 51 00	Acoustical Ceilings	DD
09 54 45	Seamless Acoustic Finish System	CD
09 65 13	Resilient Base and Accessories	DD
09 65 19	Resilient Tile Flooring	DD
09 68 00	Carpeting	DD
09 91 00	Painting	DD
09 94 20	Special Wall Finish	CD

	DIVISION 10 - SPECIALTIES	
10 11 13	Markerboards	CD
10 14 00	Signage	CD
10 22 26.33	Folding Panel Partitions	CD
10 26 00	Wall and Door Protection	CD
10 26 05	Impact-Resistant Wall Protection	CD
10 28 00	Toilet Accessories	CD
10 31 00	Manufactured Fireplaces	CD
10 44 13	Fire Extinguisher Cabinets	CD
10 51 00	Lockers	CD
	DIVISION 11 - EQUIPMENT	
11 52 13	Projection Screens	CD
	DIVISION 12 - FURNISHINGS	
12 24 00	Window Shades	CD
12 36 00	Countertops	DD
12 48 13	Entrance Floor Mats and Frames	CD
	DIVISION 14- CONVEYING EQUIPEMENT	
14 24 00	Hydraulic Elevators	DD

SECTION 01 00 00 - GENERAL REQUIREMENTS

TABLE OF CONTENTS

1.1 GENERAL INTENTION	14
1.2 STATEMENT OF BID ITEM(S)	15
1.3 SPECIFICATIONS AND DRAWINGS FOR CONTRACTOR	19
1.4 CONSTRUCTION SECURITY REQUIREMENTS.....	20
1.5 FIRE SAFETY.....	22
1.6 OPERATIONS AND STORAGE AREAS	31
1.7 ALTERATIONS.....	34
1.9 DISPOSAL AND RETENTION	40
1.10 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS.....	40
1.11 RESTORATION.....	40
1.12 AS-BUILT DRAWINGS.....	41
1.13 USE OF ROADWAYS.....	41
1.14 TEMPORARY USE OF MECHANICAL AND ELECTRICAL EQUIPMENT	42
1.15 TEMPORARY TOILETS.....	43
1.16 AVAILABILITY AND USE OF UTILITY SERVICES.....	43
1.17 NEW TELEPHONE EQUIPMENT	44
1.18 TESTS.....	44
1.19 INSTRUCTIONS.....	45
1.20 GOVERNMENT-FURNISHED PROPERTY	46
1.21 RELOCATED EQUIPMENT & ITEMS	47
1.22 SAFETY SIGN	47
1.23 CONSTRUCTION DIGITAL IMAGES.....	48

SECTION 01 00 00
GENERAL REQUIREMENTS

1.1 GENERAL INTENTION

- A. Contractor shall completely prepare site for construction operations, including phasing of demolition and removal of existing structures, and furnish labor and materials and perform work for the renovation of Mental Health Clinic Building (7) as required by drawings and specifications.
- B. All employees of general contractor and subcontractors shall comply with VAMC security management program and obtain permission of the VAMC police, be identified by project and employer, and restricted from unauthorized access.
- C. Prior to commencing work, general contractor shall provide proof that an OSHA certified "competent person" (CP) (29 CFR 1926.20(b)(2) will maintain a presence at the work site whenever the general or subcontractors are present.
- D. Training:
 - 1. The general contractor to provide proof for all employees of general contractor or subcontractors have completed the 10-hour OSHA certified Construction Safety course and /or other relevant competency training, as determined by VAMC CP with input from the Infectious Control Risk Assessment (ICRA) team.
 - 2. The general contractors Superintendent/Foreman shall have the 30-hour OSHA certificate.
 - 3. Submit training records of all such employees for approval before the start of work.
- E. Provide Safety Office with a copy of the company safety policy and a copy of MSDS for each hazardous chemical brought on station, before start of work.
- F. When pertaining to the Work of the Contractor, the terms "will", "must", "may", "should", and the phrases "are-to", and "is to" are hereby defined and shall be construed to mean "shall".
- G. Work performed and materials, equipment and systems installed shall result in a complete and fully functional finished product that conforms to contract requirements.
- H. Acceptable Products: Listed in the specifications are manufacturer's products which have been identified as meeting the salient characteristics of the specification section. Such information is only provided to show examples of products which

meet the specifications and do not, in any way, limit the offeror from providing products from other manufacturers which meet the salient characteristics as identified in the specification. The Bid Schedule will include an area where bidders can identify the brand name, make and/or model of any equal products they are offering. Bidders are to provide the required information on "equal" products and to provide descriptive literature in accordance with FAR 52.214-21.

1.2 STATEMENT OF BID ITEM(S)

A. BASE BID, ITEM I: Furnish all labor, materials, equipment, supervision, and all other necessary resources to Renovate Mental Health Clinic Building 7. General scope of project is to renovate the existing 24,800 Sq. Ft. area of Building 7 and also the new construction of a 2000 Sq. Ft. Addition to Building 7 and related site work as delineated in the contract drawings and specifications. Major elements of work for BASE BID, ITEM I include the following:

1. Demolition work that includes protection of the existing construction area from the existing adjacent site buildings including the notification of phased shut down or tie in to site utilities, life

safety notification systems or energy management systems. Work also includes demolition of the interior walls to exterior wall perimeter and floor finishes (to the concrete sub-base), demolition of mechanical, electrical and plumbing systems, demolition of exterior wall areas for the removal and replacement of existing windows, and civil and site demolition of the existing parking lot, roads and walks for the construction of the new addition, and truck dock.

2. Construction of a new one story steel frame and masonry addition, recessed truck dock, concrete truck road approach, sidewalks, and asphalt paving tied into the existing pavement.

Civil site work includes the installation of new landscaping, irrigation, underground drainage and structures tied into the existing storm and sanitary system.

3. Architectural trades work that includes new windows, metal stud and gypsum walls, backer boards, insulation, doors, door hardware, casework, millwork, soffits, lay-in ceilings,

flooring, handrails, concrete topping, exterior stair / handrails, fixtures, accessories and the modernization of the existing elevator. Interiors work will include cleaning, patching of walls, painting, handrails, wall treatments, new flooring materials, window treatments and signage.

4. Mechanical trades work that includes new equipment, materials and controls for a complete HVAC system and upgrade of Building Management Systems programming, new fire protection system piping and specialty components tied into the existing fire water main, new plumbing fixtures, equipment and piping for potable water supply tied into the existing city water main, new sanitary drain piping, vent piping and storm water piping tied into the existing main piping. Mechanical and plumbing systems are to be completed to comply with current VA standards at time of contract award including all hangers, supplemental support framing and labeling.

5. Electrical trades work that includes new fixtures, raceways, devices, wiring, conduit, hangers, supports for new interior / exterior lighting, power, life safety and security / access systems; installation of new raceways, supports, conduit and device boxes for phone and data systems installed by VA; installation of smoke alarms, detectors, emergency power and lighting for life safety, elevator and fire alarm back up connected to the existing Building 7 generator system. Electrical systems are to be completed to comply with current VA standards at time of contract award for installation and labeling.

- B. Demolition work will include protection of the existing construction area from the existing adjacent site buildings including the notification of phased shut down or tie in to site utilities, life safety notification systems or energy management systems.

Work includes demolition of the interior walls to exterior wall perimeter and floor finishes (to the concrete sub-base). Work includes demolition of mechanical, electrical and plumbing systems. Work includes demolition of exterior wall areas for the removal and replacement of existing windows.

Floor demolition work also includes the patching and repair of existing holes in slab, damaged pan joist and the leveling of depressed areas in the slab left from removing existing flooring

down to the concrete sub-base. The contractor shall clean, prep, and provide cementitious concrete floor topping to ensure a flat level surface, free of holes or depressions for new wall installations and MEP rough-in and future floor material installations.

Work includes civil and site demolition of the existing parking lot, roads and walks for the construction of the new addition, and truck dock. The general contractor will be required to inspect and remove existing steam and condensate piping insulation with potential hazardous material at locations where new mechanical equipment will be installed.

The contractor shall perform all abatement work according to VAMC policy standards outlined in this specification and 02 82 13 - 13 Glovebag Asbestos Abatement work.

- C. The work will also include the construction of a new one story steel frame and masonry addition, recessed truck dock, concrete truck road approach, sidewalks, and asphalt paving tied into the existing pavement. Civil site work includes the installation of new landscaping, irrigation, underground drainage and structures tied into the existing storm and sanitary system.

Work includes the site management of construction activity interface with existing station access to occupied areas, identification of laydown areas for material and trailer storage and construction signage.

Work includes all clean up and removal of construction material, new directional site signage, painting of handrails, posts and pavement / parking striping.

- D. Architectural trades work includes new windows, metal stud and gypboard walls, backer boards, insulation, doors, door hardware, casework, millwork, soffits, lay-in ceilings, flooring, handrails, concrete topping, exterior stair / handrails, fixtures, accessories and the modernization of the existing elevator. Interiors work will include cleaning, patching of walls, painting, handrails, wall treatments, new flooring materials, window treatments and signage.

- E. Mechanical trades work includes new equipment, materials and controls for complete HVAC system and upgrade of BMS programming.

New fire protection system piping and specialty components tied into the relocated fire water main. New plumbing fixtures, heat exchanger, pumps and piping for potable water supply tied into the relocated city water main. New sanitary drain piping, vent piping and storm water piping tied into the existing main piping.

Work includes tie-in to existing steam and condensate piping for new mechanical equipment and metering, insulation and testing.

Mechanical and plumbing systems are to be complete including all hangers, supplemental support framing and labeling to VAMC standards.

- F. Electrical trades work includes new fixtures, raceways, devices, wiring, conduit, hangers, supports for new interior / exterior lighting, power, life safety and security / access systems. Work includes the installation of new raceways, supports, and device boxes for phone and data systems installed by VA. Work includes the installation of smoke alarms, detectors, emergency power and lighting for life safety devices, security devices, elevator and fire alarm back up connected to the existing building (7) generator system. Electrical systems are to be complete to VAMC standards for installation and labeling.

G. Owner Alternate Deducts

1. Owner Alternate #1 - Civil Scope Reductions associated with the deletion of the truck well and dock area:
 - a. Eliminate truck well and exterior truck dock.
 - b. Eliminate relocation of underground utilities associated with the truck well.
 - c. Keep the truck turn around pavement so as to permit the Owner an opportunity to unload delivery trucks on to the portion of Dewey Lane at the former front of B-7 (East Elevation). The Owner intends to use the existing covered walk way connection to the B-7 Basement as a way into the Basement level stores.
 - d. Keep the modified sidewalk from the Exist (Basement) Stair discharge at grade as shown on the civil engineering drawings.
 - e. Architectural, Mechanical, and Electrical work associated with the truck well/dock Budget Reduction:

- 1) Eliminate the added Loading Dock B31 room and work in the Exist Corridor and Morgue B28. Essentially restore this portion of the Basement back to the layout shown on the Basement Demolition Plan AD100.
 - 2) ii. Eliminate associated Mech and Elec work with the interior work above.
2. Owner Alternate Deduct #2 - Second Floor Scope Reduction for additional shell space.
- a. Eliminate the Mental Health Administration offices.
 - b. Retain the center common areas/functions.
 - 1) Atrium A201, Lobby 200, Housekeeping 200A, and new elevator service to Second Floor.
 - 2) Conferencing suite - Interview Room 202, Conference Room 203A, Passageway 201, Conference Room 203B, , Passageway 205, Public Toilets 205 and 206; and Housekeeping Aids Closet 207.
 - 3) Existing Electrical Rooms 209 and 292 would be retained as well as Existing Stairs S1 and S2.
 - 4) Retain Main Corridor C201.
 - c. Reduce Scope in two (2) finish areas to create shell spaces. Provide minimum lighting, ventilation, special systems, shafts, exit access doors, exterior insulation/thermal barrier. Provide same features as Shell Spaces 230, 251, and 270.
 - 1) Shell Space south - Include rooms 295, 294, 293, and entire southwest wing (Room nos. 281 through 291 including Passageway 280).
 - 2) Shell Space north - Include Rooms 208, and entire northwest wing (Room nos. 211 through 221 including Passageway 210).

1.3 SPECIFICATIONS AND DRAWINGS FOR CONTRACTOR

- A. AFTER AWARD OF CONTRACT, Contractor will receive electronic plot files of the drawings and specifications. No hard copy sets of specifications and drawings will be furnished. The contractor is responsible to furnish full drawings sets to sub-contractors for coordination and bidding interrelated work for all trades.

1.4 CONSTRUCTION SECURITY REQUIREMENTS

A. Security Plan:

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

B. Security Procedures:

1. General Contractor's employees shall not enter the project site without appropriate badge. They may also be subject to inspection of their personal effects when entering or leaving the project site.
2. For working outside the "regular hours" as defined in the contract, The General Contractor shall give 3 days notice to the Contracting Officer so that security arrangements can be provided for the employees. This notice is separate from any notices required for utility shutdown described later in this section.
3. No photography of VAMC premises is allowed without written permission of the Contracting Officer.
3. VAMC reserves the right to close down or shut down the project site and order General Contractor's employees off the premises in the event of a national emergency. The General Contractor may return to the site only with the written approval of the Contracting Officer.

C. Key Control:

1. The General Contractor shall provide duplicate keys and lock combinations to the COR for the purpose of security inspections of every area of project including tool boxes and parked machines and take any emergency action.
2. The General Contractor shall turn over all permanent lock cylinders to the VAMC locksmith for permanent installation. See Section 08 71 00, DOOR HARDWARE and coordinate.

D. 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".

Sensitive Information - VA sensitive information is all Department data, on any storage media or in any form or format, which requires protection due to the risk of harm that could result from inadvertent or deliberate disclosure, alteration, or destruction of the information. The term includes information whose improper use or disclosure could adversely affect the ability of an agency to accomplish its mission, proprietary information, records about individuals requiring protection under various confidentiality provisions such as the Privacy Act and the HIPAA Privacy rule, and information that can be withheld under the Freedom of Information Act. Examples of VA sensitive information include the following: individually-identifiable medical, benefits, and personnel information; financial, budgetary, research, quality assurance; confidential commercial, critical infrastructure, investigatory, and law enforcement information; information that is confidential and privileged in litigation such as information protected by the deliberative process privilege, attorney work-product privilege, and the attorney client privilege; and other information which, if released, could result in violation of law or harm or unfairness to any individual or group, or could adversely affect the national interest or the conduct of federal programs.

2. The General Contractor is responsible for safekeeping of all drawings, project manual and other project information including as-built drawings. This information shall be shared only with those with a specific need to accomplish the project.

E. Motor Vehicle Restrictions

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

1.5 FIRE SAFETY

THE FIRE DEPARTMENT IS TO BE NOTIFIED OF ALL FIRES!

IF THE FIRE ALARM IS ACTIVATED IN THE BUILDING YOU ARE WORKING IN, YOU ARE REQUIRED TO STOP WORK AND EVACUATE THE BUILDING. YOU ARE TO REMAIN OUTSIDE UNTIL CLEARED TO RE-ENTER BY THE FIRE DEPARTMENT.

A. **APPLICABLE PUBLICATIONS:** Publications listed below form part of this Article to extent referenced. Publications are referenced in text by basic designations only according to the "Latest Edition" per VAMC Standards.

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

E84-2007Surface Burning Characteristics of Building Materials

2. National Fire Protection Association (NFPA):

10-2006Standard for Portable Fire Extinguishers

30-2003Flammable and Combustible Liquids Code

51B-2003Standard for Fire Prevention during Welding, Cutting and Other Hot Work

70-2005National Electrical Code

241-2004Standard for Safeguarding Construction, Alteration, and Demolition Operations

3. Occupational Safety and Health Administration (OSHA):

29 CFR 1926Safety and Health Regulations for Construction

B. **FIRE SAFETY PLAN.** Establish and maintain a fire protection program in accordance with 29 CFR 1926. Prior to start of work, prepare a plan detailing project-specific fire safety measures, including periodic status reports, and submit to COR and Facility Safety Officer for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES. Prior to any worker for the contractor or subcontractors beginning work, they shall undergo a safety briefing provided by the general contractor's competent person

per OSHA requirements. This briefing shall include information on the construction limits, VAMC safety guidelines, means of egress, break areas, work hours, locations of restrooms, use of VAMC equipment. Documentation shall be provided to the COR that individuals have undergone contractor's safety briefing.

- C. **FIRE HAZARD INSPECTION.** Inspect entire construction areas weekly. Coordinate with, and report findings and corrective actions weekly to COR and facility Safety Officer. If required, submit documentation to the COR that personnel have been trained in the fire safety aspects of working in areas with impaired structural or compartmentalization features.
- D. **SEPARATE TEMPORARY FACILITIES.** Trailers, storage sheds, and dumpsters, from existing buildings and new construction by distances in accordance with NFPA 241. For small facilities with less than 6 m (20 feet) exposing overall length, separate by 3m (10 feet).
- E. **PROPER STORAGE.** No storage is allowed in any exit stairwell, in the corridors or in front of any manual pull station or smoke door. No storage is allowed to block or obstruct fire hydrants, fire department connections (outside of the building) or stand pipes.
- F. **GOOD HOUSEKEEPING.** All work activity within occupied portions of the facility shall be immediately cleaned and restored to its original finished condition upon completion of the activity. If the activity continues into the next workday, the area shall be left safe, clean and presentable. Excess trash, boxes and food garbage is to be removed and not be allowed to accumulate and should be removed daily. All work for an area must be confined within that space. Public corridors, stair-wells, equipment rooms and vacant floors are not to be used as a workshop or a storage area. Tracking of construction dirt into the public corridors or stairwells must be prevented. Public restrooms are not to be used for the cleaning of tools or equipment, i.e. paint brushes, rollers, finishing tools. Janitor's slop sinks are available on every floor. If janitor's closets are used, they must be cleaned afterwards.
- G. **CONSTRUCTION DEBRIS.** Excess construction debris is to be removed daily or more often if needed. Debris will not be allowed to accumulate. Contractors must arrange for the removal of their debris and waste. The building's dumpster will not be used unless appropriate arrangements are made with the project COR. Construction dumpsters are required to be fenced.

- H. **SMOKING.** Smoking is **PROHIBITED** in, near or adjacent to any inside construction area. Smoking is permitted outside provided that there are no combustible/flammable liquids or gases in the immediate vicinity and equipment refueling operations are not ongoing. There is to be **NO SMOKING** in the vicinity of fuel gas cylinders, torch carts, liquid fuel storage tanks, (gasoline, diesel). Violations of the VAMC smoking policy are subject to a DCVN (District Court Violation Notice) issued by the VAMC Police. **Smoking is NOT allowed in the covered walks, inside of any building, garage, and entryway or on any roof!**
- I. **COMBUSTIBLE CONSTRUCTION MATERIALS.** On site fire load, one (1) day supply. Yard Storage will not be closer than 30' of any structure.
- J. **EXITS.** Exits must be kept clear and unobstructed at all times. If an exit needs to be obstructed, alternate exits will need to be designated with directional signs posted. When working in an occupied building, all occupants need to be notified. The Fire Department must be notified of any changes regardless of building occupancy.
- K. **SMOKE DETECTORS.** Prevent accidental operation. Remove temporary covers at end of work operations each day. Coordinate with COR and facility Safety Officer. Contractor shall re-install disturbed ceiling tiles at the end of the work day.
- L. **SMOKE DOORS.** Smoke doors may not be impaired, obstructed or blocked open at any time. The door path of travel must be kept clear at all times. Smoke doors may NOT be wedged open.
- M. **FIRE DOORS.** Fire doors may not be impaired, obstructed or blocked open at any time. The path of travel to and through the door must be kept clear at all times. No tools, gang boxes, supplies, flammables or combustibles may be stored in any stairwell or exit passage way. Fire doors are to remain closed at all times unless on an electrical or magnetic hold open device.
- N. **SELF-CLOSING DOORS.** The use of doorstops, wedges, and other items on doors with self-closing devices is prohibited. If these doors are not electrically held open, then they must remain closed.
- O. **TEMPORARY PARTITIONS.** Temporary partitions must be made from the following materials: 5/8" type X drywall on two sides, metal studs, with solid core doors and steel door frames. Partitions must be made smoke tight, with provisions made to secure the door opening against unauthorized entry; the partitions will run from the finish floor to the floor pan above and will be maintained continuously. **Smoke barriers will be installed before and after partitions are installed.** Noncombustible partitions must confine any work that is performed within a corridor or occupied space

under full negative air pressure 24/7. As many patients have respiratory problems, airtight temporary partitions or dust barriers are required to enclose areas under construction. All construction entrances must have dust-tight doors with self-closing hardware. Dust mops/wet mops, vacuum must be available to re-move any dust tracked outside of the barriers. **Note. Flammable plastic sheets are completely and utterly incapable of controlling fire.**

P. **ON-SITE SECURITY.** On site security will be maintained at all times during normal working hours. Work areas and material storage areas are to be secured when not occupied. Keys and cylinders for this purpose are obtained through the Contracting officers Technical Representative. If a contractor owned lock is used to secure any construction area, a key will be given to the VAMC Fire Department for after hour's emergency access if needed. This does not include the contractor's office trailer, their tool trailer(s) or tool carts. All keys will be removed from vehicles and vehicles will be locked. NO tools will be left in the back of vehicles accessible to patients. No tools are to be left unattended in the work area. When working in patient buildings, tools are to be kept in the immediate area or they must be secured. Absolutely no power tools are to be left unattended. Work sites are to be secured when leaving for supplies, breaks or at the end of the day. Ladders are not to be left unattended when not in use. Ladders are to be laid down and placed out of traffic areas during these periods. Fencing is required for construction dumpsters, storage areas and outside construction sites to prevent unauthorized access. When leaving for the day, windows on ground floors will be closed and locked, doors will be secured, tools picked up and fences placed back in place. Any work area found unsecured and/or unoccupied will be reported to the VAMC Police and the COR. Any tools or equipment that is found to be missing will be immediately reported to the VAMC Police either by telephone or in person. Access to any floors of the facility after normally scheduled working hours (Monday-Friday, 7:00 a.m.-5:00 p.m.) must be scheduled in advance with the COR. The VAMC Police Department reserves the right to refuse access to anyone without prior authorization and identification. Appropriate job signs and barricades/fences are to be placed in the construction area to prevent occupants from straying into the job site. **YELLOW SAFETY BARRICADES MUST BE USED WHEN WORKING IN PUBLIC AREAS.** Ready access for the Fire Department shall be maintained to all areas under construction, at all times.

Q. **MATERIAL SAFETY DATA SHEETS.** Material safety data sheets (MSDS) must be provided for any hazardous materials that you will be using, shipping to or receiving at the VAMC. A copy will be provided to the Engineering COR and a copy will be kept on the work site. The MSDS sheets will be kept in a book and the MSDS books location will be posted on the site. MSDS sheets will be made available to the Fire Department on request.

R. **HOT WORK PERMITS.** Hot work permits are required for any cutting, welding, brazing, soldering, thawing of pipe, grinding, or any other spark or flame producing operation. Any process, which involves an open flame, used temporarily for repair or temporary heating is considered a hot work operation. This includes salamanders used for heating. The use of a portable engine for temporary power is also considered a hot work operation. Hot work permits are required for ALL hot asphalt and tar roofing operations. NO hot work operation may begin until the VAMC Fire Department has issued a hot work permit. The permit is to remain on the work site until the work is completed and then returned to the Fire Department at the end of the workday. Hot work permits are good for one (1) day only and expire at 1630 unless the Fire Department is notified otherwise. Fire extinguishers of the appropriate size and type are required to be in the immediate vicinity of all hot work operations. Building fire extinguishers may NOT be removed from their locations for this purpose. Appropriate precautions (covers, fire blankets, combustible debris removal) will be taken before starting any hot work operation. Gas and oxygen tanks shall be properly chained and protected. Salamanders shall be checked on a regular basis and are not to be left unattended while in operation. All hot work operations shall be performed according to NFPA 51B and MCM 07-34 (Hot Work Procedures).

S. **FIRE EXTINGUISHERS.**

1. VA owned fire extinguishers may NOT be removed from their locations or obstructed at any time. If an extinguisher is used for a fire, the Fire Department will be immediately notified.
2. Contractor owned fire extinguishers must have current labeling for maintenance and/or inspection and not have any obvious damage or missing parts. Pins and seals must be in place. Contractor must provide (if required by contract), a sufficient number of fire extinguishers to meet NFPA requirements for each floor under construction. Fire extinguishers must be within a 75' travel distance with a minimum rating of 10# ABC unless a higher rated is required by NFPA or OSHA regulations. This is in addition to the required extinguishers for hot work operations.

T. **FIRE ALARM.** The building fire alarm and its components may not impair or obstructed at any time. The fire alarm may NOT be disabled in any manner without prior consultation with the Fire Department and the COR.

1. Manual pull stations must be accessible at all times.

2. Sprinkler system may not be disabled at any time. Any shut down of the sprinkler system, for construction or repair work, will **ONLY** be done by the Fire Department. The system will be placed back in service as soon as work is completed or at the end of the workday, whichever is earlier. Sprinkler heads that are covered for painting will be uncovered as soon as painting is completed.
 3. Smoke detectors may not be removed unless authorized. Smoke detectors may be covered temporarily while dusty or hot work is being performed in the vicinity. **Detectors are to be uncovered as soon as work is completed or at the end of the workday.**
- U. **EXIT LIGHTING.** Exit lighting is to be maintained in working order and visible at all times unless work is being done on that specific circuit. No other wiring, permanent or temporary may be tied into the exit light circuit. If work is to be conducted on an exit light circuit, the exit lights will be placed back in service as soon as work is completed.
- V. **ELECTRICAL.** All temporary electrical (wiring and lighting) will conform to the National Electrical Code (NFPA 70) and other applicable regulations. All splices in temporary wiring will be wire nut before taping. All temporary work lights will have their guards in place. High temperature lights (quartz and halogen) will have the safety glass and guards in place. All temporary wiring will be removed as soon as construction is completed and the wiring is no longer needed. All electrically powered equipment used in wet locations will have GFCI's. Extension cords that have broken outer coverings (where the inner wiring is exposed), cords pulling out of the plug ends, or are taped for repair are not allowed on the work site. Grounds must be intact on all power cords. Electrically powered equipment with non-intact power cords, exposed wiring or missing grounds are not allowed. Bad cords or equipment are to be pulled out of service until repaired or replaced.
- W. **FLAMMABLE AND COMBUSTIBLE LIQUIDS.** All flammable and/or combustible liquids will be stored in the proper container with a lid that is capable of a tight seal. The fire load is a one (1) day supply on the site. Empty containers will be removed daily and rags that are used with flammable or combustible liquids will be stored in an approved metal container with a lid. Liquids will not be left uncovered. Any amounts over a one day supply will be stored at a location approved by the Safety Manager and the Fire Department. Work areas will be ventilated and fumes will not be allowed to accumulate. No hot work is to be done in the vicinity of flammable or combustible liquids. Any spills will be cleaned up immediately and the cleanup materials will be removed from the building. The Fire Department is to be notified of all spills. Power equipment is to be fueled outside of the building and after

it has cooled. In construction sites, outside, containers containing flammable and/or combustible liquids must be secured unless work is going on in the immediate vicinity.

X. AT NO TIME WILL GASOLINE BE STORED IN A BUILDING!

Y. FLAMMABLE AND COMBUSTIBLE GASES. Flammable and combustible gases will be stored in areas that are not exposed to high heat, direct sunlight or in a path of travel. The fire load is a one (1) supply on the site. Torch carts will have the gas shut off and the pressure bled off when finished. The pressure regulator, gauges and hoses are to be in good working condition. All tanks will be stored in an upright position, secured from being knocked over, out of the flow of traffic, in an area free of combustible debris or trash and away from sources of flame or sparks. Tanks not in use will have regulators, gauges and hoses removed and their safety caps in place. Tanks that are damaged will be removed immediately from the site.

Z. AT NO TIME WILL PROPANE BE STORED IN A BUILDING!

AA. PENETRATIONS IN SMOKE AND FIRE BARRIERS. All penetrations in smoke and fire barriers are to be sealed with an approved fire stop as soon as possible. No penetrations are to be left unsealed. Smoke barriers go from outside wall to outside wall and from the floor to the ceiling. The fire barriers are around all stairwells, electrical vaults and elevator mechanical rooms. Penetrations also include the floor and ceiling pan. Contractors doing wiring, plumbing, HVAC, must contact the project COR prior to installation. All penetrations must be located, marked and sealed by the contractor responsible for the penetrations. When the project is completed, the COR must be contacted to inspect the penetrations for proper sealing.

BB. ROOFING OPERATIONS. Roofing operations must follow appropriate OSHA, NFPA and VAMC regulations. Any roofing operations that involve heat sources, hot processes or open flame require a Hot Work Permit from the VAMC Fire Department. The permit must be obtained PRIOR to the start of any hot work.

CC. MEDICAL EMERGENCIES. The Fire Department responds to all medical emergencies on the VAMC grounds. If you have a medical emergency, call extension **34444**. The telephone will ring three (3) times before the Telephone Operator answers. If necessary, the contractor employee will be transported to VAMC B-82 **Triage**. If the contractor employee desires to be transported to a local hospital, an off station ambulance will be called, from Triage, at that time. All life threatening situations will be transported, by the Fire Department, to Building 82-Triage for stabilization before being transported to a local hospital.

1. **ATTACHMENTS.**

- a. HOW TO REPORT A FIRE
- b. MEDICAL EMERGENCY PROCEDURES
- c. **EMERGENCY NUMBERS**

FIRE-EMERGENCY ONLY	33333
MEDICAL EMERGENCY	34444
VA POLICE-EMERGENCY	33735
OTHER NUMBERS:	
Fire Department-Business	33774
VA Police-Business	33979
Safety Manager	33952
Safety Specialist	33953
Industrial Hygienist	33951
Facilities Management, Engineering	33777
Projects Section, Station Projects:	
Fred Vollmerhausen	35142

If you are unable to contact the COR for a local project, contact Facilities Management and ask them to contact your COR by radio.

- a. **HOW TO REPORT A FIRE:**
 - 1. ACTIVATE THE NEAREST FIRE ALARM MANUAL PULL STATION.

2. NOTIFY OTHER WORKERS IN THE AREA.
3. QUICKLY SECURE ANY FLAMMABLE/COMBUSTIBLE LIQUIDS AND GASSES.
4. EVACUATE THE WORK SITE.
5. YOU ARE TO REMAIN OUTSIDE UNTIL CLEARED BY THE FIRE DEPARTMENT TO RE-ENTER THE BUILDING. A HEAD COUNT SHOULD BE TAKEN TO ACCOUNT FOR ALL WORKERS.
6. THE CONSTRUCTION SITE SUPERVISOR SHOULD REPORT TO THE FIRE ENGINE TO ANSWER ANY POSSIBLE QUESTIONS THAT MIGHT BE ASKED.
7. **IF THE FIRE ALARM IS OUT OF SERVICE:**
 - A. CALL IN THE FIRE ON THE FIRE EMERGENCY TELEPHONE...33333.
 - B. GIVE SPECIFICS AS TO WHAT BUILDING, FLOOR AND WHAT IS ON FIRE.
 - C. NOTIFY ALL WORKERS IN THE AREA.
 - D. SECURE ALL FLAMMABLE/COMBUSTIBLE LIQUIDS AND GASSES.
 - E. EVACUATE THE WORK SITE.
 - F. YOU ARE TO REMAIN OUTSIDE UNTIL CLEARED BY THE FIRE DEPARTMENT TO RE-ENTER THE BUILDING. A HEAD COUNT SHOULD BE TAKEN TO ACCOUNT FOR ALL WORKERS.
 - G. THE CONSTRUCTION SITE SUPERVISOR SHOULD REPORT TO THE FIRE ENGINE TO ANSWER ANY POSSIBLE QUESTIONS THAT MIGHT BE ASKED.
 - H. YOU ARE NOT TO ENTER ANY BUILDING WHILE THE FIRE ALARM IS SOUNDING EXCEPT AS DIRECTED BY THE FIRE DEPARTMENT!

- b. **MEDICAL EMERGENCY PROCEDURES:** IF YOU HAVE A MEDICAL EMERGENCY IN YOUR WORK AREA, PLEASE FOLLOW THESE PROCEDURES TO ENSURE A TIMELY RESPONSE:

1. Call 911, give the operator the nature of the injury and the location of the BC-VAMC Building # and Room #.
2. DIAL THE MEDICAL EMERGENCY TELEPHONE NUMBER...34444.
3. THE TELEPHONE WILL RING THREE (3) TIMES. THE TELEPHONE OPERATOR WILL ANSWER AFTER THE THIRD RING.
4. THE OPERATOR WILL ASK, "DO YOU HAVE A MEDICAL EMERGENCY?"
5. GIVE THE OPERATOR THE FOLLOWING INFORMATION:
6. IF YOU ARE IN A BUILDING, ON AN UPPER FLOOR AND THE BUILDING HAS AN ELEVATOR, SEND SOMEONE TO TAKE THE ELEVATOR TO THE BASEMENT. THEY ARE TO HOLD THE ELEVATOR FOR THE FIRE DEPARTMENT. ON ARRIVAL, TO THE FLOOR, THEY WILL NEED TO HOLD THE ELEVATOR FOR US UNTIL WE LEAVE WITH THE PATIENT.
 - A. BRIEF DESCRIPTION OF THE PROBLEM INCLUDING IF THE PATIENT IS CONSCIOUS AND BREATHING.
 - B. IF THE PATIENT IS NOT BREATHING, IS CPR IN PROGRESS?
 - C. DO NOT HANG UP UNTIL TOLD TO DO SO.

EITHER THE JOB FOREMAN OR SUPERVISOR WILL NEED TO ACCOMPANY THE PATIENT TO BUILDING 82-TRIAGE.

A DETERMINATION WILL BE MADE THERE ON FURTHER TREATMENT AND/OR TRANSPORT TO A LOCAL HOSPITAL.

1.6 OPERATIONS AND STORAGE AREAS

- A. Working space and space available for storing materials shall be as determined by the COR.
- B. Workmen are subject to rules of VAMC applicable to their conduct.
- C. Execute work so as to interfere as little as possible with normal functioning of VAMC as a whole, including operations of utility services, fire protection systems and any existing equipment, and

with work being done by others. Use of equipment and tools that transmit vibrations and noises through the building structure, are not permitted in buildings that are occupied, during construction, jointly by patients or medical personnel, and Contractor's personnel, except as permitted by COR where required by limited working space.

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

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

E. Building (7) will be partially un-occupied during performance of work, coordinate with COR for areas that will remain in use by VAMC site personnel.

1. Contractor shall take all measures and provide all material necessary for protecting existing equipment and property in affected areas of construction against dust and debris, so that equipment and affected areas to be used in the VAMCs operations will not be hindered. Contractor shall permit access to VAMC personnel and patients through other construction areas which serve as routes of access to such affected areas and equipment. Coordinate alteration work in areas occupied by Department of Veterans Affairs so that VAMC operations will continue during the construction period.

F. When a building is turned over to Contractor, Contractor shall accept entire responsibility therefore.

1. Contractor shall maintain a minimum temperature of 4 degrees C (40 degrees F) at all times, except as otherwise specified or required to perform finish work.
2. Contractor shall maintain in operating condition existing fire protection and alarm equipment that remain intact during demolition. In connection with fire alarm equipment, Contractor shall make arrangements for pre-inspection of site with Fire Department or Company Department of Veterans Affairs whichever will be required to respond to an alarm from Contractor's employee or watchman.

J. Utilities Services: Maintain existing utility services for VAMC at all times. Provide temporary facilities, labor, materials, equipment, connections, and utilities to assure uninterrupted services. Where necessary to cut existing water, steam, gases, sewer or air pipes, or conduits, wires, cables. of utility services or of fire protection systems and communications systems (including telephone), they shall be cut and capped at suitable places where shown; or, in absence of such indication, where directed by COR.

1. ACCIDENT PREVENTION - Disconnect all utilities prior to demolition work. No utility service such as water, gas, steam, sewers or electricity, or fire protection systems and communications systems may be interrupted without prior approval of COR. Electrical work shall be accomplished with all affected circuits or equipment de-energized. When an electrical outage cannot be accomplished, work on any energized circuits or equipment shall not commence without the VAMC Director's prior knowledge and written approval. Refer to specification Sections 26 05 11, REQUIREMENTS FOR ELECTRICAL INSTALLATIONS, 27 05 11 REQUIREMENTS FOR COMMUNICATIONS INSTALLATIONS for additional requirements.
2. Contractor shall submit a request to interrupt any such services to COR, in writing, 48 hours in advance of proposed interruption. Request shall state reason, date, exact time of, and approximate duration of such interruption.
3. Contractor will be advised (in writing) of approval of request, or of which other date and/or time such interruption will cause least inconvenience to operations of VAMC. Interruption time approved by VAMC may occur at other than Contractor's normal working hours.
4. Major interruptions of any system must be requested, in writing, at least 15 calendar days prior to the desired time and shall be performed as directed by the COR. A major interruption will be any operation that could affect the working conditions of patients or staff, such as power

interruption, shut down of the HVAC system or other operations of this type.

5. In case of a contract construction emergency, service will be interrupted on approval of COR. Such approval will be confirmed in writing as soon as practical.
 6. Whenever it is required that a connection fee be paid to a public utility provider for new permanent service to the construction project, for such items as water, sewer, electricity, gas or steam, payment of such fee shall be the responsibility of the Government and not the Contractor.
- K. Abandoned Lines: All service lines such as wires, cables, conduits, ducts, pipes and the like, and their hangers or supports, which are to be abandoned but are not required to be entirely removed, shall be sealed, capped or plugged. The lines shall not be capped in finished areas, but shall be removed and sealed, capped or plugged in ceilings, within furred spaces, in unfinished areas, or within walls or partitions; so that they are completely behind the finished surfaces.
- L. To minimize interference of construction activities with flow of VAMC traffic, comply with the following:
1. Keep roads, walks and entrances to grounds, to parking and to occupied areas of buildings clear of construction materials, debris and standing construction equipment and vehicles.
- M. Coordinate the work for this contract with other construction operations as directed by COR. This includes the scheduling of traffic and the use of roadways, as specified in Article, USE OF ROADWAYS.

1.7 ALTERATIONS

- A. Survey: Before any work is started, the Contractor shall make a thorough survey with the COR and a representative of VAMC Supply Service, of buildings in which alterations occur and areas which are anticipated routes of access, and furnish a report, signed by both, to the Contracting Officer. This report shall list by rooms and spaces:
1. Existing condition and types of flooring, doors, windows, walls and other surfaces not required to be altered throughout affected areas of building.
 2. Shall note any discrepancies between drawings and existing conditions at site.

3. Shall designate areas for working space, materials storage and routes of access to areas within buildings where alterations occur and which have been agreed upon by Contractor and COR.

B. Any items required by drawings to be either reused or relocated or both, found during this survey to be nonexistent, or in opinion of COR, to be in such condition that their use is impossible or impractical, shall be furnished and/or replaced by Contractor with new items in accordance with specifications which will be furnished by the Government. Provided the contract work is changed by reason of this subparagraph B, the contract will be modified accordingly, under provisions of clause entitled "DIFFERING SITE CONDITIONS" (FAR 52.236-2), "CHANGES" (FAR 52.243-4) and VAAR 852.236-88.C. Prior to the provision of any new items by the contractor as a result of the survey, a mutually agreeable adjustment in contract price will be negotiated with and approved by the Contracting Officer in accordance with Articles titled contract clauses CHANGES (FAR 52.243 4) and CHANGES SUPPLEMENT (VAAR 852.236 88). 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 of buildings involved. They shall furnish a report on conditions then existing, of resilient flooring, doors, windows, walls and other surfaces as compared with conditions of same as noted in first condition survey report:

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

C. Protection: Provide the following protective measures:

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

1.8 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 COR and Facility ICRA team for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.
 - 1. All personnel involved in the construction or renovation activity shall be educated and trained in infection prevention measures established by the VAMC.
- C. VAMC Infection Control personnel shall monitor for airborne disease (e.g. aspergillosis) as appropriate during construction. A baseline of conditions may be established by the VAMC prior to the start of work and periodically during the construction stage to determine impact of construction activities on indoor air quality. In addition:
 - 1. The COR and VAMC Infection Control personnel shall review pressure differential monitoring documentation to verify that pressure differentials in the construction zone and in the occupied 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 VAMC, along with assistance from the contractor, shall conduct an environmental assessment to find and eliminate the source.
- D. In general, following preventive measures shall be adopted during construction to keep down dust and prevent mold.
1. Dampen debris to keep down dust and provide temporary construction partitions in existing structures where directed by COR. Blank off ducts and diffusers to prevent circulation of dust into occupied areas during construction.
 2. Construct anteroom to maintain negative airflow from clean area through anteroom and into work area where required.
 3. Contractor shall identify areas of work with where hazardous material abatement is performed with COR and IRCA Group to achieve desired level of isolation suited to the scope of risk involved.
 4. 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 VAMC and Contractor's workers, the Contractor shall:
 - a. Provide dust proof one-hour fire rated temporary drywall construction barriers to completely separate construction from the operational areas of the occupied space in order to contain dirt debris and dust. Barriers shall be sealed and made presentable on hospital occupied side. Install a self-closing rated door in a metal frame, commensurate with the partition, to allow worker access. Maintain negative air at all times. A fire retardant polystyrene, 6-mil thick or greater plastic barrier meeting local fire codes may be used where dust control is the only hazard, and an agreement is reached with the COR and VAMC.

- b. HEPA filtration is required where the exhaust dust may reenter the breathing zone. Contractor shall verify that construction exhaust to exterior is not reintroduced to the VAMC through intake vents, or building openings. Install HEPA (High Efficiency Particulate Accumulator) filter vacuum system rated at 95% capture of 0.3 microns including pollen, mold spores and dust particles. Insure continuous negative air pressures occurring within the work area. HEPA filters should have ASHRAE

85 or other pre-filter to extend the useful life of the HEPA. Provide both primary and secondary filtrations units. Exhaust hoses shall be heavy duty, flexible steel reinforced and exhausted so that dust is not reintroduced to the VAMC.

- c. 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 VAMC area. These mats shall be changed as often as required to maintain clean work areas directly outside construction area at all times.
- d. Vacuum and wet mop all transition areas from construction to the occupied VAMC at the end of each workday. Vacuum shall utilize HEPA filtration. Maintain surrounding area frequently. Remove debris as they are created. Transport these outside the construction area in containers with tightly fitting lids.
- e. The contractor shall not haul debris through patient-care areas without prior approval of the COR and the VAMC. 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. transported through occupied areas shall be made free from dust and moisture by vacuuming and wipe down.

- f. Using a HEPA vacuum, clean inside the barrier and vacuum ceiling tile prior to replacement. Any ceiling access panels opened for investigation beyond sealed areas shall be sealed immediately when unattended.
- g. There shall be no standing water during construction. This includes water in equipment drip pans and open containers within the construction areas. All accidental spills must be cleaned up and dried within 12 hours. Remove and dispose of porous materials that remain damp for more than 72 hours.
- h. At completion, remove construction barriers and ceiling protection carefully, outside of normal work hours. Vacuum and clean all surfaces free of dust after the removal.

E. Final Cleanup:

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

1.9 DISPOSAL AND RETENTION

- A. Materials and equipment accruing from work removed and from demolition of buildings or structures, or parts thereof, shall be disposed of as follows:
1. Reserved items which are to remain property of the Government are identified by attached tags or noted on drawings or in specifications as items to be stored. Items that remain property of the Government shall be removed or dislodged from present locations in such a manner as to prevent damage which would be detrimental to re-installation and reuse. Store such items where directed by COR.
 2. Items not reserved shall become property of the Contractor and be removed by Contractor from VAMC.
 3. Items of portable equipment and furnishings located in rooms and spaces in which work is to be done under this contract shall remain the property of the Government. When rooms and spaces are vacated by the Department of Veterans Affairs during the alteration period, such items which are NOT required by drawings and specifications to be either relocated or reused will be removed by the Government in advance of work to avoid interfering with Contractor's operation.
 4. Provide documentation of waste manifests or Bills of Lading for hazardous waste removal to COR.
 5. Provide all report data for air and bulk asbestos sampling to the VAMC Industrial Hygienist.

1.10 PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS

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

1.11 RESTORATION

- A. Remove, cut, alter, replace, patch and repair existing work as necessary to install new work. Except as otherwise shown or specified, do not cut, alter or remove any structural work, and do not disturb any ducts, plumbing, steam, gas, or electric work without approval of the COR. Existing work to be altered or extended and that is found to be defective in any way, shall be reported to the COR before it is disturbed. Materials and workmanship used in restoring work, shall conform in type and

quality to that of original existing construction, except as otherwise shown or specified.

- B. Upon completion of contract, deliver work complete and undamaged. Existing work (walls, ceilings, partitions, floors, mechanical and electrical work, lawns, paving, roads, walks) disturbed or removed as a result of performing required new work, shall be patched, repaired, reinstalled, or replaced with new work, and refinished and left in as good condition as existed before commencing work.
- C. At Contractor's own expense, Contractor shall immediately restore to service and repair any damage caused by Contractor's workmen to existing roofing, piping and conduits, wires, cables, of utility services or of fire protection systems and communications systems (including telephone) which are indicated on drawings and which are not scheduled for discontinuance or abandonment.
- D. Expense of repairs to such utilities and systems not shown on drawings or locations of which are unknown will be covered by adjustment to contract time and price in accordance with clause entitled "CHANGES" (FAR 52.243-4 and VAAR 852.236-88) and "DIFFERING SITE CONDITIONS" (FAR 52.236-2).

1.12 AS-BUILT DRAWINGS

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

1.13 USE OF ROADWAYS

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

1.14 TEMPORARY USE OF MECHANICAL AND ELECTRICAL EQUIPMENT

- A. Use of new installed mechanical and electrical equipment to provide heat, ventilation, plumbing, light and power will be permitted subject to compliance with the following provisions: 1. Permission to use each unit or system must be given by COR. If the equipment is not installed and maintained in accordance with the following provisions, the COR will withdraw permission for use of the equipment.
1. Electrical installations used by the equipment shall be completed in accordance with the drawings and specifications to prevent damage to the equipment and the electrical systems, i.e. transformers, relays, circuit breakers, fuses, conductors, motor controllers and their overload elements shall be properly sized, coordinated and adjusted. Voltage supplied to each item of equipment shall be verified to be correct and it shall be determined that motors are not overloaded. The electrical equipment shall be thoroughly cleaned before using it and again immediately before final inspection including vacuum cleaning and wiping clean interior and exterior surfaces.
 2. Units shall be properly lubricated, balanced, and aligned. Vibrations must be eliminated.
 3. Automatic temperature control systems for preheat coils shall function properly and all safety controls shall function to prevent coil freeze-up damage.
 4. The air filtering system utilized shall be that which is designed for the system when complete, and all filter elements shall be replaced at completion of construction and prior to testing and balancing of system.
 5. All components of heat production and distribution system, metering equipment, condensate returns, and other auxiliary facilities used in temporary service shall be cleaned prior to use; maintained to prevent corrosion internally and externally during use; and cleaned, maintained and inspected prior to acceptance by the Government. Boilers, pumps, feedwater heaters and auxiliary equipment must be operated as a complete system and be fully maintained by operating personnel. Boiler water must be given complete and continuous chemical treatment.
- B. Prior to final inspection, the equipment or parts used which show wear and tear beyond normal, shall be replaced with identical replacements, at no additional cost to the Government.
- C. This paragraph shall not reduce the requirements of the mechanical and electrical specifications sections.

1.15 TEMPORARY TOILETS

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

1.16 AVAILABILITY AND USE OF UTILITY SERVICES

- A. The Government shall make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the contract. The amount to be paid by the Contractor for chargeable electrical services shall be the prevailing rates charged to the Government. The Contractor shall carefully conserve any utilities furnished without charge.
- B. The Contractor, at Contractor's expense and in a workmanlike manner satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines, and all meters required to measure the amount of electricity used for the purpose of determining charges. Before final acceptance of the work by the Government, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated paraphernalia.
- C. Contractor shall install meters at Contractor's expense and furnish the VAMC a monthly record of the Contractor's usage of electricity as hereinafter specified.
- D. Heat: Furnish temporary heat necessary to prevent injury to work and materials through dampness and cold. Use of open salamanders or any temporary heating devices which may be fire hazards or may smoke and damage finished work, will not be permitted. Maintain minimum temperatures as specified for various materials:
 - 1. Obtain heat by connecting to VAMC heating distribution system.
 - a. Steam is available at no cost to Contractor.
- E. Electricity (for Construction and Testing): Furnish all temporary electric services.
 - 1. Obtain electricity by connecting to the VAMC electrical distribution system. The Contractor shall meter and pay for electricity required for electric cranes and hoisting devices, electrical welding devices and any electrical heating devices providing temporary heat. Electricity for all other uses is available at no cost to the Contractor.

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

1. Obtain water by connecting to the VAMC water distribution system. Provide reduced pressure backflow preventer at each connection. Water is available at no cost to the Contractor.

2. Maintain connections, pipe, fittings and fixtures and conserve water-use so none is wasted. Failure to stop leakage or other wastes will be cause for revocation (at COR's discretion) of use of water from VAMC's system.

G. Steam: Furnish steam system for testing required in various sections of specifications.

1. Obtain steam for testing by connecting to the VAMC steam distribution system. Steam is available at no cost to the Contractor.

2. Maintain connections, pipe, fittings and fixtures and conserve steam-use so none is wasted. Failure to stop leakage or other waste will be cause for revocation (at COR's discretion), of use of steam from the VAMC's system.

1.17 NEW TELEPHONE EQUIPMENT

The contractor shall coordinate with the work of installation of telephone equipment by others. This work shall be completed before the building is turned over to VA.

1.18 TESTS

A. Pre-test mechanical and electrical equipment and systems and make corrections required for proper operation of such systems before requesting final tests. Final test will not be conducted unless pre-tested.

B. Conduct final tests required in various sections of specifications in presence of an authorized representative of the Contracting Officer. Contractor shall furnish all labor, materials, equipment, instruments, and forms, to conduct and record such tests.

C. Mechanical and electrical systems shall be balanced, controlled and coordinated. A system is defined as the entire complex which must be coordinated to work together during normal operation to produce results for which the system is designed. For example, air conditioning supply air is only one part of entire system which provides comfort conditions for a building. Other related components are return air, exhaust air,

steam, chilled water, refrigerant, hot water, controls and electricity. Another example of a complex which involves several components of different disciplines is a boiler installation. Efficient and acceptable boiler operation depends upon the coordination and proper operation of fuel, combustion air, controls, steam, feedwater, condensate and other related components.

- D. All related components as defined above shall be functioning when any system component is tested. Tests shall be completed within a reasonably short period of time during which operating and environmental conditions remain reasonably constant.
- E. Individual test result of any component, where required, will only be accepted when submitted with the test results of related components and of the entire system.

1.19 INSTRUCTIONS

- A. Contractor shall furnish Maintenance and Operating manuals and verbal instructions when required by the various sections of the specifications and as hereinafter specified.
- B. Manuals: Maintenance and operating manuals (four copies each) for each separate piece of equipment shall be delivered to the COR coincidental with the delivery of the equipment to the job site. Manuals shall be complete, detailed guides for the maintenance and operation of equipment. They shall include complete information necessary for starting, adjusting, maintaining in continuous operation for long periods of time and dismantling and reassembling of the complete units and sub-assembly components. Manuals shall include an index covering all component parts clearly cross-referenced to diagrams and illustrations. Illustrations shall include "exploded" views showing and identifying each separate item. Emphasis shall be placed on the use of special tools and instruments. The function of each piece of equipment, component, accessory and control shall be clearly and thoroughly explained. All necessary precautions for the operation of the equipment and the reason

for each precaution shall be clearly set forth. Manuals must reference the exact model, style and size of the piece of equipment and system being furnished. Manuals referencing equipment similar to but of a different model, style, and size than that furnished will not be accepted.
- C. Instructions: Contractor shall provide qualified, factory-trained manufacturers' representatives to give detailed instructions to assigned Department of Veterans Affairs personnel in the operation and complete maintenance for each piece of equipment. All such training will be at the job site. These requirements are more specifically detailed in the various technical sections.

Instructions for different items of equipment that are component parts of a complete system, shall be given in an integrated, progressive manner. All instructors for every piece of component equipment in a system shall be available until instructions for all items included in the system have been completed. This is to assure proper instruction in the operation of inter-related systems. All instruction periods shall be at such times as scheduled by the COR and shall be considered concluded only when the COR is satisfied in regard to complete and thorough coverage. The Department of Veterans Affairs reserves the right to request the removal of, and substitution for, any instructor who, in the opinion of the COR, does not demonstrate sufficient qualifications in accordance with requirements for instructors above.

1.20 GOVERNMENT-FURNISHED PROPERTY

- A. The Government shall deliver to the Contractor, the Government-furnished property shown on the drawings.
- B. Equipment furnished by Government to be installed by Contractor will be furnished to Contractor at the VAMC.
- C. Notify Contracting Officer in writing, 60 days in advance, of date on which Contractor will be prepared to receive equipment furnished by Government. Arrangements will then be made by the Government for delivery of equipment.
 - 1. Immediately upon delivery of equipment, Contractor shall arrange for a joint inspection thereof with COR. At such time the Contractor shall acknowledge receipt of equipment described, make notations, and immediately furnish the Government representative with a written statement as to its condition or shortages.
 - 2. Contractor thereafter is responsible for such equipment until such time as acceptance of contract work is made by the Government.
- D. Equipment furnished by the Government will be delivered in a partially assembled (knock down) condition in accordance with existing standard commercial practices, complete with all fittings, fastenings, and appliances necessary for connections to respective services installed under contract. All fittings and appliances (i.e., couplings, elbows, tees, nipples, piping, conduits, cables, and the like) necessary to make the connection between the Government furnished equipment item and the utility stub-up shall be furnished and installed by the contractor at no additional cost to the Government.

- E. Completely assemble and install the Government furnished equipment in place ready for proper operation in accordance with specifications and drawings.
- F. Furnish supervision of installation of equipment at construction site by qualified factory trained technicians regularly employed by the equipment manufacturer.

1.21 RELOCATED EQUIPMENT & ITEMS

- A. Contractor shall disconnect, dismantle as necessary, remove and reinstall in new location, all existing equipment and items indicated by symbol "R" or otherwise shown to be relocated by the Contractor.
- B. Perform relocation of such equipment or items at such times and in such a manner as directed by the COR.
- C. Suitably cap existing service lines, such as steam, condensate return, water, drain, gas, air, vacuum and/or electrical, whenever such lines are disconnected from equipment to be relocated. Remove abandoned lines in finished areas and cap as specified herein before under paragraph "Abandoned Lines".
- D. Provide all mechanical and electrical service connections, fittings, fastenings and any other materials necessary for assembly and installation of relocated equipment; and leave such equipment in proper operating condition.
- E. All service lines such as noted above for relocated equipment shall be in place at point of relocation ready for use before any existing equipment is disconnected. Make relocated existing equipment ready for operation or use immediately after reinstallation.

1.22 SAFETY SIGN

- A. Provide a Safety Sign where directed by COR. Face of sign shall be 19 mm (3/4 inch) thick exterior grade plywood. Provide two 100 mm by 100 mm (four by four inch) posts extending full height of sign and 900 mm (three feet) into ground. Set bottom of sign level at 1200 mm (four feet) above ground.
- B. Paint all surfaces of Safety Sign and posts with one prime coat and two coats of white gloss paint. Letters and design shall be painted with gloss paint of colors noted.
- C. Maintain sign and remove it when directed by COR.
- D. Post the number of accident free days on a daily basis.

1.23 CONSTRUCTION DIGITAL IMAGES

- A. During the construction period through completion, furnish Department of Veterans Affairs with 100 views of digital images, including one color print of each view and one Compact Disc (CD) per visit containing those views taken on that visit. Digital views shall be taken of exterior and/or interior as selected and directed by COR. Each view shall be taken with a professional grade camera with minimum size of 6 megapixels (MP) and the images will be a minimum of 2272 x 1704 pixels for the 200x250mm (8x 10 inch) prints and 2592 x 1944 pixels for the 400x500 mm (16 x 20 inch) prints, as per these specifications:
 - 1. Normally such images will be taken at monthly intervals. However, the COR may also direct the taking of special digital images at any time prior to completion and acceptance of contract.
- B. Images shall be taken by a commercial photographer and must show distinctly, at as large a scale as possible, all parts of work embraced in the picture.
- C. Prints shall be made on 200 x 250 mm (8 by 10 inch) regular-weight matte archival grade photographic paper and produced by a process with a minimum of 300 pixels per inch (PPI). Prints must be printed using the commercial RA4 process (inkjet prints will not be acceptable). Photographs shall have 200 x 200 mm (8 by 8 inch) full picture print with no margin on three sides and a 50 mm (2 inches) margin on the bottom for pre-typed self-adhesive identity label to be added by COR. It is required that the prints are professionally processed so the quality will meet or exceed that of the same size print made with a film camera. Prints must be shipped flat to the COR:
- D. Images on CD-ROM shall be recorded in JPEG format with a minimum of 24 bit color and no reduction in actual picture size. Compressed size of the file shall be no less than 80% or the original with no loss of information. File names shall contain the date the image was taken, the Project number and a unique sequential identifier. The CD-ROM shall also contain an index of all the images contained therein in either a TXT or Microsoft Word format.
- E. In case any set of prints are not submitted within five days of date established by COR for taking thereof, the COR may have such images/photographs taken and cost of same will be deducted from any money due to the Contractor.

F. Interior Final Photos: After completion of all work in an area final interior photos will be taken. The camera must allow the colors to be as close as possible to the actual colors. View shall be taken after final completion of work. The images shall also be provided on a CD to the COR Office.

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SECTION 01 32 16.15
PROJECT SCHEDULES
(SMALL PROJECTS - DESIGN/BID/BUILD)

PART 1- GENERAL

1.1 DESCRIPTION:

- A. The Contractor shall develop a Critical Path Method (CPM) plan and baseline schedule demonstrating fulfillment of the contract requirements (Project Schedule), and shall keep the Project Schedule up-to-date in accordance with the requirements of this section and shall utilize the plan for scheduling, coordinating and monitoring work under this contract (including all activities of subcontractors, equipment vendors and suppliers). Conventional Critical Path Method (CPM) technique shall be utilized to satisfy both time and cost applications.

1.2 CONTRACTOR'S REPRESENTATIVE:

- A. The Contractor shall designate a representative to be responsible for the Project Schedule including preparation, review and progress reporting with and to the Contracting Officer's Representative (COR).

1.3 COMPUTER PRODUCED SCHEDULES

- A. The contractor shall provide monthly, to the Department of Veterans Affairs (VA), all computer-produced time/cost schedules and reports generated from monthly project updates. This monthly computer service will include: electronic copies of the schedule revisions and related cost reports (inclusive of all pages) available within the user defined reports of the scheduling software approved by the Contracting Officer; a hard copy listing of all project schedule changes, and associated data, made at the update in Microsoft Project, PDM or Owner approved format. These must be submitted with and substantively support the contractor's monthly payment request and the signed look ahead report. The COR shall identify the report formats that the contractor shall provide.
- B. The contractor shall be responsible for the correctness and timeliness of the computer-produced reports. The Contractor shall also responsible for the accurate and timely submittal of the updated project schedule and all CPM data necessary to produce the computer reports and payment request that is specified.

- C. The VAMC will report errors in computer-produced reports to the Contractor's representative within ten calendar days from receipt of reports. The Contractor shall reprocess the computer-produced reports and associated diskette(s), when requested by the Contracting Officer's representative, to correct errors which affect the payment and schedule for the project.

1.4 THE COMPLETE PROJECT SCHEDULE SUBMITTAL

- A. Within 30 calendar days after receipt of Notice to Proceed, the Contractor shall submit for the Contracting Officer's review; three bond copies of the interim schedule on sheets of paper 765 x 1070 mm (30 x 42 inches) and an electronic file in the previously approved CPM schedule program. The submittal shall also include three copies of a computer-produced of the entire baseline schedule to include:
1. Activity/event or task descriptions showing durations and predecessors.
 2. Milestone dates for critical activities specified such as surveys, remediation, reports, inspections, testing and utility disruptions.
 3. Phase completion dates, punch list activity, commissioning of systems and other coordination data, including event cost.
 4. Each activity/event on the computer-produced schedule shall contain as a minimum, but not limited to, activity/event ID, activity/event description, duration, budget amount, early start date, early finish date, late start date, late finish date and total float.
 5. Work activity/event relationships shall be restricted to finish-to-start or start-to-start without lead or lag constraints. Activity/event date constraints, not required by the contract, will not be accepted unless submitted to and approved by the Contracting Officer.
 6. The contractor shall make a separate written detailed request to the Contracting Officer identifying these date constraints and secure the Contracting Officer's written approval before incorporating them into the project schedule.
 - a. The Contracting Officer's separate approval of the Project Schedule shall not excuse the contractor of this requirement. Logic events (non-work) will be permitted where necessary to reflect proper logic among work events, but must have zero duration.
 - b. The complete working schedule shall reflect the Contractor's approach to scheduling the complete project.

- c. The final Project Schedule in its original form shall contain no contract changes or delays which may have been incurred during the final schedule development period and shall reflect the Contractors as bid schedule.
 - d. These changes/delays shall be entered at the first update after the final Project Schedule has been approved. The Contractor should provide their requests for time and supporting time extension analysis for contract time as a result of contract changes/delays, after this update, and in accordance with Article, ADJUSTMENT OF CONTRACT COMPLETION.
- B. Within 15 calendar days after receipt of the complete project interim Project Schedule and the complete final Project Schedule, the Contracting Officer or his representative, will do one or both of the following:
 - 1. Notify the Contractor concerning his actions, opinions, and objections.
 - 2. A meeting with the Contractor at or near the job site for joint review, correction or adjustment of the proposed plan will be scheduled if required. Within 10 calendar days after the joint review, the Contractor shall revise and shall submit three bond copies of the revised Project Interim Schedule, three bond copies of the computer-produced, revised overall project activity/event ID schedule and a revised electronic file as specified by the Contracting Officer. The revised submission will be reviewed by the Contracting Officer and, if found to be as previously agreed upon, will be approved.
- C. The approved baseline schedule and the computer-produced schedule(s) generated shall constitute the approved baseline schedule until subsequently revised in accordance with the requirements of this section.

1.5 WORK ACTIVITY/EVENT COST DATA

- A. The Contractor shall cost load all work activities/events except procurement activities. The cumulative amount of all cost loaded work activities/events (including alternates) shall equal the total contract price. Prorate overhead, profit and general conditions on all work activities/events for the entire project length. The contractor shall generate from this information cash flow curves indicating graphically the total percentage of work activity/event dollar value scheduled to be

in place on early finish, late finish. These cash flow curves will be used by the Contracting Officer to assist him in determining approval or disapproval of the cost loading. Negative work activity/event cost data will not be acceptable, except on VAMC issued contract changes.

- C. The Contractor shall cost load work activities/events for all BID ITEMS including ASBESTOS ABATEMENT. The sum of each BID ITEM work shall equal the value of the bid item in the Contractors' bid.

1.6 PROJECT SCHEDULE REQUIREMENTS

- A. Show on the project schedule the sequence of work activities/events required for complete performance of all items of work. The Contractor Shall:

1. Show activities/events as:

- a. Contractor's time required for submittal of surveys, reports, shop drawings, templates, fabrication, delivery and similar pre-construction work.
- b. Contracting Officer's, Architect - Engineer review and approval of shop drawings, equipment schedules, samples, template, or similar items.
- c. Interruption of VAMC Facilities utilities, delivery of Government furnished equipment, and rough-in drawings, project phasing and any other specification requirements.
- d. Test, balance and adjust various systems and pieces of equipment, maintenance and operation manuals, instructions and preventive maintenance tasks.
- e. VA inspection and acceptance activity/event with a minimum duration of five work days at the end of each phase and immediately preceding any VAMC move activity/event required by the contract phasing for that phase.

2. Show not only the activities/events for actual construction work for each trade category of the project, but also trade relationships to indicate the movement of trades from one area, floor, or building, to another area, floor, or building, for at least five trades who are performing major work under this contract.

3. Break up the work into activities/events of a duration no longer than 20 work days each or one reporting period, except as to non construction activities/events (i.e., procurement of materials, delivery of equipment, concrete and asphalt curing) and any other activities/events for which the COR may approve the showing of a longer duration. The duration for VAMC approval of any required submittal, shop drawing, or other submittals will not be less than 20 work days.
 4. Describe work activities/events clearly, so the work is readily identifiable for assessment of completion. Activities/events labeled "start," "continue," or "completion," are not specific and will not be allowed. Lead and lag time activities will not be acceptable.
 5. The schedule shall be generally numbered in such a way to reflect specific discipline activities, phase or location of the work.
- B. The Contractor shall submit the following supporting data in addition to the project schedule:
1. The appropriate project calendar including working days and holidays.
 2. The planned number of shifts per day.
 3. The number of hours per shift.
 4. The number of hours for off shift work and weekends.
- Failure of the Contractor to include this data shall delay the review of the submittal until the Contracting Officer is in receipt of the missing data.
- C. To the extent that the Project Schedule or any revised Project Schedule shows anything not jointly agreed upon, it shall not be deemed to have been approved by the COR. Failure to include any element of work required for the performance of this contract shall not excuse the Contractor from completing all work required within any applicable completion date of each phase regardless of the COR's approval of the Project Schedule.
- D. CD Disk Requirements and CPM Activity/Event Record Specifications:
- Submit to the VAMC an electronic file(s) containing one file of the data required to produce a schedule, reflecting all the activities/events of the complete project schedule being submitted.

1.7 PAYMENT TO THE CONTRACTOR:

- A. Monthly, the contractor shall submit the 'Payment Application with Certification and updated Schedule of Values' reflecting updated schedule activities and cost data in accordance with the provisions of the following Article, PAYMENT AND PROGRESS REPORTING, as the basis upon which progress payments will be made pursuant to Article, FAR 52.232 - 5

(PAYMENT UNDER FIXED-PRICE CONSTRUCTION CONTRACTS) and VAAR 852.236 - 83 (PAYMENT UNDER FIXED-PRICE CONSTRUCTION CONTRACTS). The Contractor shall be entitled to a monthly progress payment upon approval of estimates as determined from the currently approved updated project schedule. Monthly payment requests shall include: a listing of all agreed upon project schedule changes and associated data; and an electronic file (s) of the resulting monthly updated schedule.

- B. Approval of the Contractor's monthly Application for Payment shall be contingent, among other factors, on the submittal of a satisfactory monthly update of the project schedule.

1.8 PAYMENT AND PROGRESS REPORTING

- A. Monthly schedule update meetings will be held on dates mutually agreed to by the COR and the Contractor. Contractor and their CPM consultant (if applicable) shall attend all monthly schedule update meetings. The Contractor shall accurately update the Project Schedule and all other data required and provide this information to the COR three work days in advance of the schedule update meeting. Job progress will be reviewed to verify:
 - 1. Actual start and/or finish dates for updated/completed activities/events.
 - 2. Remaining duration for each activity/event started, or scheduled to start, but not completed.
 - 3. Logic, time and cost data for change orders, and supplemental agreements that are to be incorporated into the Project Schedule.
 - 4. Changes in activity/event sequence and/or duration which have been made, pursuant to the provisions of following Article, ADJUSTMENT OF CONTRACT COMPLETION.
 - 5. Completion percentage for all completed and partially completed activities/events.
 - 6. Logic and duration revisions required by this section of the specifications.
 - 7. Activity/event duration and percent complete shall be updated independently.
- B. After completion of the joint review, the contractor shall generate an updated computer-produced calendar-dated schedule and supply the Contracting Officer's representative with reports in accordance with the Article, COMPUTER PRODUCED SCHEDULES, specified.
- C. After completing the monthly schedule update, the contractor's representative or scheduling consultant shall rerun all current period contract change(s) against the prior approved monthly project schedule.

The analysis shall only include original workday durations and schedule logic agreed upon by the contractor and COR for the contract change(s). When there is a disagreement on logic and/or durations, the Contractor shall use the schedule logic and/or durations provided and approved by the COR. After each rerun update, the resulting electronic project schedule data file shall be appropriately identified and submitted to the VAMC in accordance to the requirements listed in articles 1.4 and 1.7. This electronic submission is separate from the regular monthly project schedule update requirements and shall be submitted to the COR within fourteen (14) calendar days of completing the regular schedule update. Before inserting the contract changes durations, care must be taken to ensure that only the original durations will be used for the analysis, not the reported durations after progress. In addition, once the final network diagram is approved, the contractor must recreate all manual progress payment updates on this approved network diagram and associated reruns for contract changes in each of these update periods as outlined above for regular update periods. This will require detailed record keeping for each of the manual progress payment updates.

- D. Following approval of the CPM schedule, the VA, the General Contractor, its approved CPM Consultant, RE office representatives, and all subcontractors needed, as determined by the SRE, shall meet to discuss the monthly updated schedule. The main emphasis shall be to address work activities to avoid slippage of project schedule and to identify any necessary actions required to maintain project schedule during the reporting period. The Government representatives and the Contractor should conclude the meeting with a clear understanding of those work and administrative actions necessary to maintain project schedule status during the reporting period. This schedule coordination meeting will occur after each monthly project schedule update meeting utilizing the resulting schedule reports from that schedule update. If the project is behind schedule, discussions should include ways to prevent further slippage as well as ways to improve the project schedule status, when appropriate.

1.9 CHANGES TO THE SCHEDULE

- A. Within 15 calendar days after Contracting Officer acceptance and approval of any updated project schedule, the Contractor shall submit a revised electronic file (s) and a list of any activity/event changes including predecessors and successors for any of the following reasons:

1. Delay in completion of any activity/event or group of activities/events, which may be involved with contract changes, strikes, unusual weather, and other delays will not relieve the Contractor from the requirements specified unless the conditions are shown on the CPM as the direct cause for delaying the project beyond the acceptable limits.
 2. Delays in submittals, or deliveries, or work stoppage are encountered which make rescheduling of the work necessary.
 3. The schedule does not represent the actual prosecution and progress of the project.
 4. When there is, or has been, a substantial revision to the activity/event costs regardless of the cause for these revisions.
- B. CPM revisions to the baseline schedule made under this paragraph which affect the previously approved computer produced schedules for Government furnished equipment, vacating of areas by the VAMC Facility, contract phase(s) and sub phase(s), utilities furnished by the Government to the Contractor, or any other previously contracted item, shall be furnished in writing to the Contracting Officer for approval.
- C. Contracting Officer's approval for the revised project schedule and all relevant data is contingent upon compliance with all other paragraphs of this section and any other previous agreements by the Contracting Officer or the VAMC representative.
- D. The cost of revisions to the project schedule resulting from contract changes will be included in the proposal for changes in work as specified in FAR 52.243 - 4 (Changes) and VAAR 852.236 - 88 (Changes - Supplemental), and will be based on the complexity of the revision or contract change, man hours expended in analyzing the change, and the total cost of the change.
- E. The cost of revisions to the Project Schedule not resulting from contract changes is the responsibility of the Contractor.

1.10 ADJUSTMENT OF CONTRACT COMPLETION

- A. The contract completion time will be adjusted only for causes specified in this contract. Request for an extension of the contract completion date by the Contractor shall be supported with a justification, CPM data and supporting evidence as the COR may deem necessary for determination as to whether or not the Contractor is entitled to an extension of time under the provisions of the contract. Submission of proof based on revised activity/event logic, durations (in work days) and costs is obligatory to any approvals. The schedule must clearly display that the Contractor has used, in full, all the float time available for the work

involved in this request. The Contracting Officer's determination as to the total number of days of contract extension will be based upon the current computer produced / calendar dated schedule for the time period in question and all other relevant information.

- B. Actual delays in activities/events which, according to the computer-produced calendar dated schedule, do not affect the extended and predicted contract completion dates shown by the critical path in the network, will not be the basis for a change to the contract completion date. The Contracting Officer will within a reasonable time after receipt of such justification and supporting evidence, review the facts and advise the Contractor in writing of the Contracting Officer's decision.
- C. The Contractor shall submit each request for a change in the contract completion date to the Contracting Officer in accordance with the provisions specified under FAR 52.243 - 4 (Changes) and VAAR 852.236 - 88 (Changes - Supplemental). The Contractor shall include, as a part of each change order proposal, a sketch showing all CPM logic revisions, duration (in work days) changes, and cost changes, for work in question and its relationship to other activities on the approved network diagram.
- D. All delays due to non-work activities/events such as RFI's, WEATHER, STRIKES, and similar non-work activities/events shall be analyzed on a month by month basis.

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**SECTION 08 51 13
ALUMINUM WINDOWS**

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Aluminum windows of type and size shown, complete with hardware, related components and accessories.
- B. Types:
 - 1. Operable, single hung

1.2 DEFINITIONS

- A. Accessories: Mullions, staff beads, casings, closures, trim, moldings, panning systems, sub-sills, clips anchors, fasteners, weather-stripping, insect screens and other necessary components required for fabrication and installation of window units.
- B. Uncontrolled Water: Water not drained to the exterior, or water appearing on the room side of the window.

1.3 RELATED WORK

- A. Glazing: Section 08 80 00, GLAZING.

1.4 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.

1.5 QUALITY ASSURANCE

- A. Approval by COR 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 as one of its principal products.
 - 2. Installer has technical qualifications, experience, trained personnel and facilities to install specified items.
- C. Provide each type of window produced from one source of manufacture.
- D. Quality Certified Labels or certificate:
 - 1. Architectural Aluminum Manufacturers Association, "AAMA label" affixed to each window indicating compliance with specification.

2. Certificates in lieu of label with copy of recent test report (not more than 4 years old) from an independent testing laboratory and certificate signed by window manufacturer stating that windows provided comply with specified requirements and AAMA 101/I.S.2 for type of window specified.

1.6 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.
 2. Identifying parts of window 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:
 - Window.
 - Sash locks, keepers, and key.
- 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. Test Reports:
 - Copies of test reports as specified in paragraph QUALITY ASSURANCE.
- F. Samples: Provide 150 mm (six-inch) length samples showing finishes, specified.

1.7 WARRANTY

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.

1.8 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/A440-08.....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 MATERIALS

- A. Aluminum Extrusions; Sheet and Plate: AAMA 101/I.S.2.
- B. Sheet Steel, Galvanized: ASTM A653; G90 galvanized coating.
- C. Weather-strips: AAMA 101/I.S.2; except leaf type weather-stripping is not permitted.
- D. Insect Screening:
 - 1. Regular mesh, 18 by 18, AAMA 101/I.S.2.
 - 2. Aluminum otherwise.
- D. Fasteners: AAMA 101/I.S.2. Screws, bolts, nuts, rivets and other fastening devices to be non-magnetic stainless steel.
 - 1. Fasteners to be concealed when window is closed. Where wall thickness is less than 3 mm (0.125 inch) thick, provide backup plates or similar reinforcements for fasteners.

2. Stainless steel self tapping screws may be used to secure Venetian blind hanger clips, vent guide blocks, friction adjuster, and limit opening device.
3. Attach locking and hold-open devices to windows with concealed fasteners. Provide reinforcing plates where wall thickness is less than 3 mm (0.125 inch) thick.

E. Weather-strips: AAMA 101/I.S.2.

F. Hardware:

1. Locks: Two position locking bolts or cam type tamperproof custodial locks with a single point control located not higher than five feet from floor level. Locate locking devices in the vent side rail. Fastenings for locks and keepers shall be concealed or nonremovable.
2. Locking Device Strikes: Locate strikes in frame jamb. Strikes shall be adjustable for locking tension. Fabricate strikes from Type 304 stainless steel or white bronze.
4. Guide Blocks: Fabricate guide blocks of injection molded nylon. Install guide block fully concealed in vent/frame sill.
5. Hardware for Emergency Ventilation of Windows:
 - a. Provide windows with a hold open linkage for emergency ventilation.
 - b. Hold open hardware shall provide for maximum six inches of window opening and shall include an adjustable friction shoe to provide resistance when closing the window.
 - c. Handles shall be removable.
6. Hardware for Maintenance Opening of Windows: Opening beyond the six inch position shall be accomplished with a window washer's key. The release device shall capture the key when window is in the open position.
7. Design operating device to prevent opening with standard tools, coins or bent wire devices.

G. Integral Venetian Blinds:

1. 5/8-inch wide aluminum slats; color, white.
2. Integrally mounted between dual glazing.
3. Locate flush tilt-control housing with removable control knob on interior face with slip clutch feature.
4. Locate raise and lower cords between dual glazing, accessible only when emergency ventilator is opened.

H. Basis of Design:

1. Basis of Design shall Model 3151-ST series, Wausau Window and Wall Systems, Wausau, WI 54401, 715.845.2161, www.wausauwindows.com; or approved equal.
 - a. Aluminum simulated single hung fixed window with insect screen.
 - b. Factory finished.
 - c. Factory glazed with insulating glass units and warm window edge technology.
 - d. Include integral venetian blind option.

2.2 THERMAL AND CONDENSATION PERFORMANCE

- A. Condensation Resistance Factor (CRF): Minimum CRF of C 50.
- B. Thermal Transmittance:
 1. Maximum U value class for insulating glass windows: 50 (U=0.50).
- C. Solar Heat Gain Coefficient (SHGC): SHGC shall comply with State or local energy code requirement.

2.3 FABRICATION

- A. Fabrication to exceed or meet requirements of Physical Load Tests, Air Infiltration Test, and Water Resistance Test of AAMA 101/I.S.2.
- B. Glazing:
 1. Factory glazing optional.
 2. Glaze in accordance with Section 08 80 00, GLAZING.
 3. Windows reglazable without dismantling sash framing.
 4. Design rabbet to suit glass thickness and glazing method specified.
 5. Glaze from interior except where not accessible.
 6. Provide removable fin type glazing beads.
- C. Trim:
 1. Trim includes casings, closures, and panning.
 2. Fabricate to shapes shown of aluminum not less than 1.6 mm (0.062 inch) thick
 3. Extruded or formed sections, straight, true, and smooth on exposed surfaces.
 4. Exposed external corners mitered and internal corners coped; fitted with hairline joints.
 5. Reinforce 1.6 mm (0.062 inch) thick members with not less than 3 mm (1/8-inch) thick aluminum.

6. Except for strap anchors, provide reinforcing for fastening near ends and at intervals not more than 305 mm (12 inches) between ends.
7. Design to allow unrestricted expansion and contraction of members and window frames.
8. Secure to window frames with machine screws or expansion rivets.
9. Exposed screws, fasteners or pop rivets are not acceptable on exterior of the casing or trim cover system.

D. Thermal-Break Construction:

1. Manufacturer's Standard.
2. Low conductance thermal barrier.
3. Capable of structurally holding sash in position and together.
4. All Thermal Break Assemblies (Pour & Debridge, Insulbar or others) shall be tested as per AAMA TIR A8 and AAMA 505 for Dry Shrinkage and Composite Performance.
5. Location of thermal barrier and design of window shall be such that, in closed position, outside air shall not come in direct contact with interior frame of the window.

E. Mullions: AAMA 101.

F. Subsills and Stools:

1. Fabricate to shapes shown of not less than 2 mm (0.080 inch) thick extruded aluminum.
2. One piece full length of opening with concealed anchors.
3. Sills turned up back edge not less than 6 mm (1/4 inch). Front edge provide with drip.
4. Sill back edge behind face of window frame. Do not extend to interior surface or bridge thermal breaks.
5. Do not perforate for anchorage, clip screws, or other requirements.

2.4 SINGLE HUNG WINDOWS:

A. AAMA 101/I.S.2. single hung type H-HC40.

B. AAMA certified product to the AAMA 101/I.S.2.-97 standard.

1. Provide units with "Tilt-in" feature permitting both sides of sash to be cleaned from interior.
2. Do not tilt-in sash without use of maintenance only release mechanism and removable locking handle. Finger operated tilt latches not acceptable.

C. Insect Screens:

1. AAMA 101/I.S.2.
2. Aluminum screen cloth.

2.5 FINISH

- A. In accordance with NAAMM AMP 500 series.
- B. Finish exposed aluminum surfaces as follows:
 - 1. Anodized Aluminum:
 - a. Color: White
 - b. Finish in accordance with AMP 501 letters and numbers.
 - c. Colored anodized Finish: AA-C22A42 (anodized) or AA-C22A44 (electrolytically deposited metallic compound) medium matte, integrally colored coating, Class 1 Architectural, 0.7 mils thick.
 - 1) Dyes not accepted.
 - 2) Coated aluminum.
 - 3) Variation of more than 50 percent of maximum shade range approved will not be accepted in a single window or in adjacent windows and mullions on a continuous series.
 - a) AMP 501 and 505.
 - b) Fluorocarbon Finish: AAMA 2605, superior performing organic coating.
 - c) Steel: AMP 504.
 - d) Stainless steel: AMP 503.
 - (1) Concealed: 2B or 2D.
 - (2) Exposed: No. 4 unless specified otherwise.
- C. Hardware: Finish hardware exposed when window is in the closed position: Match window color.

PART 3 - EXECUTION

3.1 PROTECTION (DISSIMILAR MATERIALS): AAMA 101/I.S.2.

3.2 INSTALLATION, GENERAL

- A. Install window units in accordance with manufacturer's specifications and recommendations for installation of window units, hardware, operators and other components of work.
- B. Where type, size or spacing of fastenings for securing window accessories or equipment to building construction is not shown or specified, 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.
- C. Set windows plumb, level, true, and in alignment; without warp or rack of frames or sash.
- D. Anchor windows on four sides with anchor clips or fin trim.
1. Do not allow anchor clips to bridge thermal breaks.
 2. Use separate clips for each side of thermal breaks.
 3. Make connections to allow for thermal and other movements.
 4. Do not allow building load to bear on windows.
 5. Use manufacturer's standard clips at corners and not over 600 mm (24 inches) on center.
 6. Where fin trim anchorage is shown build into adjacent construction, anchoring at corners and not over 600 mm (24 inches) on center.
- E. Replacement Windows:
1. Do not remove existing windows until new replacement is available, ready for immediate installation.
 2. Remove existing work carefully; avoid damage to existing work to remain.
 3. Perform all other operations as necessary to prepare openings for proper installation and operation of new units.
 4. Do not leave openings uncovered at end of working day, during precipitation or temperatures below 16 degrees C (60 degrees F.).

3.3 MULLIONS CLOSURES, TRIM, AND PANNING

- A. Cut mullion full height of opening and anchor directly to window frame on each side.
- B. Closures, Trim, and Panning: External corners mitered and internal corners coped, fitted with hairline, tightly closed joints.
- C. Secure to concrete or solid masonry with expansion bolts, expansion rivets, split shank drive bolts, or powder actuated drive pins.
- D. Toggle bolt to hollow masonry units. Screwed to wood or metal.
- E. Fasten except for strap anchors, near ends and corners and at intervals not more than 300 mm (12 inches) between.
- F. Seal units following installation to provide weathertight system.

3.4 ADJUST AND CLEAN

- A. Adjust ventilating sash and hardware to provide tight fit at contact points, and at weather-stripping for smooth operation and weathertight closure.
- B. Clean aluminum surfaces promptly after installation of windows, exercising care to avoid damage to protective coatings and finishes.
- C. Remove excess glazing and sealant compounds, dirt, and other substances.
- D. Lubricate hardware and moving parts.
- E. Clean glass promptly after installation of windows. Remove glazing and sealant compound, dirt and other substances.
- F. Except when a window is being adjusted or tested, keep locked in the closed position during the progress of work on the project.

3.5 OPERATION DEVICES

- A. Provide wrenches, keys, or removable locking operating handles, as specified to operate windows.
- B. Provide one emergency ventilating operating handle for every four windows.
- C. Provide 6 maintenance or window washer operating handles.

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