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SECTION 00 01 15
LIST OF DRAWING SHEETS

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

Drawing No.	Title
	ELECTRICAL
--	Cover
EP1.00	Partial Floor Plan Electrical

- - - E N D - - -

SECTION 00 72 00

GENERAL CONDITIONS

Part 1 - General

1.1 Provide a Submittal Schedule within fourteen (14) days after receipt of Notice to Proceed and before any items are submitted for review. Compile a complete and comprehensive schedule for all submittals anticipated to be made during progress of the work and submit to the Contracting Officer for approval. The schedule of submittals must be coordinated with the Contractor's construction schedule. Include a list of each type of item for which Contractor's drawings, shop drawings, certificates of compliance, material samples, guarantees, or other types of submittals are required. For each submittal item indicate the specification section and paragraph or other source within the contract documents where the requirements for the submittal item are described. Indicate whether proposed materials, equipment, and other items are as specified or will be submitted as an "or equal" or as a substitution. Upon review and approval by the Contracting Officer, the contractor will be required to adhere to the schedule except where specifically otherwise permitted.

1.2 Work of this project shall be performed between the hours of 5:00 PM **and 5:00** AM **Monday through Friday, holidays excepted unless other times are arranged in advance and approved in writing by the Project Manager.** ***(In order to minimize disruption of daily hospital activities, work of this project may be required to be performed between the hours of 5 PM and 5 AM Monday through Friday and at any time on Saturdays and Sundays, holidays and inpatient wards excepted, unless other times are arranged in advance and approved in writing by the Project Manager.)*** **When the contractor's work interferes with hospital functions, such as when work produces excessive noise, odors, dust, utility service interruptions, or other interferences with normal hospital operations that cannot be contained within the area of work, the contractor shall schedule said work at the hours directed by the Project Manager.**

1.3 Infection Control: All work shall be performed in accordance with the Construction Specifications for Infection Control Section 02 85 00. For purposes of this project, the work shall be considered a minimum protection Class XXX **throughout the existing facility** ***(minimum class 3 protection is required anywhere in Building 1)*** **and shall be accomplished using the controls indicated in the specifications and on the Infection Control Construction Permit (attached as part of the contract documents) for this class of protection. No work will be allowed to proceed until an Infection Control Construction Permit has been completed and signed and all protective measures required by the permit are in place.**

1.4 The contractor shall arrange with the Project Manager for allocation of required workspace and for the storage of equipment and material to be used for this project. Storage space is very limited. There are no exclusive areas within the campus that can be given to the contractor for their storage needs. Additionally, no space will be made available for the placement of a contractor trailer for this project. The

Contractor should schedule delivery of materials to limit the amount of storage space and time.

1.5 The Contractor shall note this scope of work does not detail all existing structures, utilities, or components that may potentially interfere with the contract work required. The contractor shall note any obstruction, utility, or condition that may hinder or interfere with the execution of this contract and the contractor shall make provisions in their contract price to resolve such interferences and other conditions that may hinder the proper completion of the work. All proposed utility relocations, interruptions, and shutdowns shall be approved by the Project Manager prior to commencing such work. The contractor shall verify all existing utility installations and take appropriate action prior to working around any potential utility installation.

1.5.1 Prior to drilling or coring into or through any concrete floor, beam, column, or other structural element the contractor shall conduct non-destructive surveys to identify the presence of any embedded items such as conduits, piping, reinforcing steel, or other items that may be damaged by the proposed drilling or coring. Contractor shall use the results of this survey to determine a location for drilling or coring that will not damage embedded items in the structure.

1.5.2 Prior to excavating for any purpose, the contractor shall perform a survey using ground-penetrating radar or other non-destructive survey method to identify the location of existing underground utilities. The contractor shall use the results of this survey to determine means necessary to protect existing underground utilities from damage during construction.

1.6 In the event a shutdown, restriction, or interruption of any utility services is required, a written request must be submitted (at least 15 calendar days in advance) and approved by the VA Project Manager. All utility shutdowns must be reviewed and approved by the VA. See Article 1.6 of Section 01 00 00 (General Requirements) for additional requirements.

1.7 Comply with Providence VAMC Policy 138-19 regarding Interim life Safety Measures at Appendix C of this specification. Provide Interim Life Safety Measures (ILSM) as necessary to ensure that the continued occupancy of all VAMC Providence buildings can be safely maintained during construction in accordance with NFPA 101, The Life Safety Code.

1.8 Contractor shall participate with the VA in the preparation of an Interim Life Safety Plan that will be implemented during construction of this project. At a minimum, the Contractor shall comply with the following requirements of the interim life safety plan:

1.8.1 Ensure building exits provide free and unobstructed egress for all occupants.

1.8.2 Contractor shall maintain escape facilities for construction workers at all times. Means of egress in construction areas will be inspected daily. If required by the Contractor's operation, establish and mark alternate means of egress.

1.8.3 Ensure free and unobstructed access to all areas of the project site for emergency services and for emergency forces.

1.8.4 Ensure that existing fire alarm, detection, and suppression systems are not impaired by the Contractor's operations.

1.8.5 Do not impair automatic sprinklers, smoke and heat detection, and fire alarm systems except for portions immediately under construction, and temporarily for connections. Provide fire watch in accordance with NFPA standards for impairments more than 4 hours in a 24-hour period. Request interruptions in writing a minimum of 72 hours in advance and coordinate with the Project Manager.

1.8.6 Provide signs to identify exit access, exits, and exit discharges as needed for interim life safety measures that are identified for the contractor's work.

1.8.7 Provide written procedures and guidelines for construction personnel and post in the immediate areas of construction including instructions and personnel to contact in the event of fire or emergency.

1.8.8 Maintain the construction area to minimize the potential for fire or safety hazards resulting from storage of construction material, construction waste and debris during construction operations.

1.8.9 All temporary construction shall be built of noncombustible/fire retardant materials and shall be smoke tight.

1.8.10 Ensure that all penetrations made in fire resistance assemblies of the existing hospital building, to include smoke barriers, fire separation assemblies, and fire walls, are properly fire stopped within 4 hours after making the penetration.

1.8.11 Any fire watch required shall be by a qualified person provided by the Contractor who shall maintain constant observation of the affected area and have no other duties. The person providing the fire watch shall be trained in fire prevention and in the use of fire extinguishers, occupant hose lines, occupant fire protection system, in sounding the building fire alarm and in notifying the local fire department, and in understanding the particular fire safety situation for the project.

1.9 Contractor shall comply with the requirements to prevent false fire alarms as provided in Appendix A of this specification. Contractor shall provide a fire watch in accordance with paragraph 1.8 above when impairment of the fire alarm system or the sprinkler system exceeds 4 hours in a 24 hour period.

1.10 Sprinkler systems will not be shut down except for portions of the sprinkler system under renovation, modification or construction, or for new connections to the sprinkler system. Sprinkler systems will not be shut down to avoid accidental discharge of the sprinkler system caused by unintentional damage to the sprinkler system from construction activity. Provide metal head guards at each sprinkler head within the limits of work.

1.11 Do not compromise the integrity of existing smoke and fire barriers within any building. Comply with Providence VAMC Policy 138-11 requirements for maintaining the integrity of the existing fire protective construction. VAMC Policy 138-11 is at Appendix E to this specification section. Obtain permits from Providence VAMC prior to any installation of equipment, cables, power connections, conduit, piping or other work that penetrates or disturbs a smoke or fire barrier. All such work shall be approved by Facilities Management Service (FMS) of the VAMC Providence. A penetration permit must be secured from FMS prior to disturbing the integrity of any fire or smoke barrier. The

permit must be available for inspection at the project location. After the work is completed, the penetration must be repaired (sealed) utilizing UL/FM-listed through penetration fire stopping materials that meet the original smoke and fire compartmentalization performance of the barrier that was penetrated. All penetrations and miscellaneous openings must be protected according to NFPA 101, chapter 8. Ensure that all penetrations made in fire resistance assemblies of the existing hospital building, to include smoke barriers, fire separation assemblies, and fire walls, are properly fire stopped within 4 hours after making the penetration.

Identify through-penetration fire stop systems with pressure-sensitive, self-adhesive, preprinted vinyl labels. Attach labels permanently to surfaces of penetrated construction on both sides of each fire stop system installation where labels will be visible to anyone seeking to remove penetrating items or fire stop systems. Include the following information on labels:

- **The words: "Warning -Through Penetration Fire stop System-Do Not Disturb. Notify Building Management of Any Damage."**
- **Contractor's Name, address, and phone number.**
- **Through-Penetration fire stop system designation of applicable testing and inspecting agency.**
- **Date of Installation.**
- **Through-Penetration fire stop system manufacturer's name.**
- **Installer's Name.**

Upon completion of any penetration fire stopping, a visual inspection for approval must be requested from, and completed by the COTR.

1.12 Comply with requirements of the Providence VAMC Contractor Safety Manual, latest edition, which is included at Appendix D to this specification.

1.13 The US Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, is incorporated by reference and the contractor shall comply with the requirements of this manual. In the event of a conflict between the requirements of EM 385-1-1 and the Providence VAMC Contractor Safety Manual, the more stringent requirements shall apply.

1.14 Obtain a Crane Permit when use of a crane is intended. Comply with requirements of Providence VA Medical Center Facilities Management Service SOP Policy Memo 138-16 at Appendix G.

1.15 Contractor shall submit a site-specific Safety Plan that provide project-and site-specific activity hazard analyses and accident prevention plans. The Contractor’s site-specific Safety plan shall be submitted for information purposes. The Safety Plan shall conform to the requirements of FAR 52.236-13 and shall include, as a minimum, provisions for the following:

- **Site access and control to restrict access by unauthorized persons and allow for separation of VA staff, patients and visitors from construction personnel.**

- **Site security to restrict unauthorized entry by contractor personnel into areas of building 1 determined by the VA to be non-accessible; and to address the need for identification badges to be worn by construction personnel; key control; and loading/unloading of materials and wastes.**
- **The contractor's substance abuse policy and training requirements**
- **Contractor's plan for site safety and health inspections**
- **Contractor's plan for safety and health training**
- **Contractor's site-specific fall protection program**
- **Contractor's site-specific electrical safety plan**
- **Contractor's requirements for use of personal protective equipment (PPE).**
- **Contractor's accident reporting and investigation program. The contractor shall submit a written incident report to the VA Project Manager within 24 hours after any accident, injury, occupational illness, or other safety-related incident occurs, regardless of how minor the nature of the incident.**
- **Contractor's emergency action plan and fire prevention and protection plan, to include training of contractor personnel in the provisions of these plans.**
- **Contractor's minimum safely training requirements for its personnel and the personnel of its sub-contractors.**
- **Contractor's requirements for sub-contractor conformance to the site-specific Safety Plan**
- **Identity of the Contractor's designated "Competent Person" as defined by 29 CFR 1926 (OSHA Construction Industry Regulations). The contractor shall provide a Competent Person who shall be on the project site during activities when the expertise of the designated Competent Person is required.**
- **Contractor's protocol for inspections by regulatory agencies.**

1.16 Contractor shall comply with Providence VA Medical Center procedures for the Lockout/Tag Out of energy systems and devices. This procedure is stipulated in Facilities Management Service Standard Operating Procedure (SOP) Number 12 dated July 5, 2011, which is included as Appendix F to this specification section.

1.17 All permits shall be posted in a visible location where the work is being performed (e.g., penetration permit, hot work permit, infection control permit).

1.18 Unless noted otherwise, the Contractor shall have present on the project site at any time work is being performed an employee of the Contractor who possesses a PIV (Personal Identity Verification) badge issued by the Providence VAMC. The PIV badge is part of a program mandated by Homeland Security Presidential Directive 12 and the Federal Information Processing Standard Publication 201-1. PIV badges take up to 3 months to obtain due to VA policy that requires that a background investigation (NACI) be completed prior to issuing the PIV badge. Requests for a PIV badge shall be initiated through the VA's Project Manager to the PIV Sponsor in the Facilities Management Service office of the Providence VA Medical Center. The Contractor shall complete and submit the PIV Form 0711 and fingerprint forms, and provide two forms of identification (such as driver's license, birth certificate or

passport). The Contractor shall pay the cost of any background investigation required to obtain the PIV badge. Providence VAMC will approve no more than two (2) PIV badges for a contractor for a single project. In no case will a PIV badge be issued to any sub-contractor. All other contractor personnel shall obtain a short-term identification badge issued by the VA's Project Manager. Such badge shall be worn by the individual and prominently displayed at all times while on VA property. No employee of the contractor shall enter the project site without a valid identification badge issued by the VA. In order to obtain a short-term identification badge, contractor personnel shall present to the VA Project Manager a valid (non-expired) photo identification issued by a US federal, state or local government agency.

1.19 Smoking is not permitted anywhere on VA property, except in areas clearly marked and designated for smoking. Currently, there is only one such designated area at the VAMC Providence.

1.20 For written Requests for Information, Contractors shall use the form at Appendix B to this specification.

1.21 Parking is rigidly controlled throughout the Medical Center. Parking of privately-owned vehicles by contractor personnel is prohibited on the hospital campus and is only allowed at the Davis Park location off Chalkstone Avenue. Parking in designated patient parking areas is strictly prohibited. Parking on grass is also prohibited. Parking for equipment necessary to perform the work will be authorized in advance of starting the project. Parking passes will be issued by the VA Police. Parking by contractors will be regulated in accordance with Providence VA Medical Center Policy Memorandum 07B-3 entitled *Registration of Privately Owned Vehicles* at Appendix H.

1.22 Cutting and Patching: Cutting of existing surfaces shall be made along neat, straight lines and shall extend only to the limits needed for the new work. Where removals leave holes and damaged surfaces exposed in the finished work, patch and repair these holes and damaged surfaces to match adjacent finished surfaces, using new materials of the same quality as that applied to existing adjacent finished surfaces. Perform removals and patching in a manner to produce surfaces suitable for receiving new work. Finished surface of patched area shall be flush with the adjacent existing surface and shall match the existing adjacent surface in appearance, texture, level, and finish. If adjacent existing surfaces are painted, the patched surface shall be painted in 3 coats (primer and 2 finish coats) using a paint that is compatible with the materials used for patching and in a color that matches the existing paint finish. Painting of patched walls shall cover the entire patched surface and extend vertically across existing surfaces from floor level to ceiling level and horizontally to a point where the existing wall surface changes direction. If adjacent existing wall surfaces are finished with wall covering, provide new wall covering to match color and texture of existing. Cover entire patched surface and extend new wall covering vertically across existing surfaces from floor level to ceiling level and extend horizontally across existing surfaces to match existing wall covering in a neat vertical line.

1.23 Warranty Service: This hospital provides medical care to veterans 24 hours per day on every day of the year and therefore all building systems must be operating and functioning at all times. In the event that warranty service is required during the warranty period of any portion of the work provided as part of this contract, the contractor shall respond within 4 hours after notification that warranty service and/or repairs are required. Contractor response shall include dispatch of appropriate skilled trade personnel with the necessary materials, tools and equipment that shall arrive on site within 4 hours after notification of the need for warranty service. The contractor shall provide a single point of contact that is available 24 hours per day on every day of the year to receive notification of the need for warranty service. The requirement to respond within 4 hours of warranty service notification may be waived by the government if, at its sole discretion and judgment, the need for warranty service does not constitute an emergency.

1.24 APPENDICES

A - Fire Systems Protection During Construction
B - Request for Information
C - VAMC Providence Policy 138-19 Interim Life Safety Measures
D - Providence VAMC Contractor Safety Manual
E - VAMC Providence Policy 138-11 Fire Wall/Smoke Barrier Penetration Permits
F - Lockout / Tag out Procedure (FMS SOP #12)
G - Cranes
H - Registration of Privately Owned Vehicles

----END----

Appendix A

Fire Systems Protection During Construction

1. Preventing False Fire Alarms by Smoke Detectors During Construction

Construction and building maintenance activities can potentially generate sufficient airborne dust to activate a fire alarm through nearby smoke detectors. An alarm activated by a smoke detector is immediately transmitted to the municipal fire department, which responds to the hospital with equipment and personnel. In order to prevent false fire alarms from smoke detectors during construction or other maintenance activities, it has been the practice of construction personnel to place a cover over nearby smoke detectors to prevent airborne dust from entering the detector. This practice has been effective in preventing false fire alarms; however this practice has also led to undocumented impairments to the fire alarm system when these covers are not removed when no longer needed to prevent a false alarm.

The following measures will be taken to prevent false fire alarms through smoke detectors during construction while maintaining effective control over impairments to the fire alarm system:

-When it is determined that a smoke detector may be activated by construction dust, the contractor or project manager shall direct a request to one of the hospital's electronics technicians to disable the smoke detector or any other device of the fire alarm system. The request shall include the Node, Loop, and Address of the device(s) to be disabled, the duration, and the specific types of construction or maintenance activities that are planned. The electronics technician will disable the smoke detector until notified by either the contractor or project manager that construction has ended for the day. When notified that construction has ended for the day, the electronics technician will re-enable the smoke detector. The smoke detector that is disabled will indicate a "trouble" condition at the fire alarm control panel and serve as an active indication that a smoke detector or multiple detectors have been impaired. The "trouble" indication will also serve as a continuous reminder to hospital staff that the smoke detector(s) must be restored to normal service.

--Contractors or project managers shall provide at least **48** hours notice to the electronics technicians for disabling of a smoke detector or any other fire alarm system device.

--In no case will the smoke detector(s) be disabled for more than 8 hours in a single 24 hour period. If any smoke detector or any other fire alarm system device is disabled for more than 4 hours in a 24 hour period, the project manager will prepare an ILSM risk assessment and a fire watch shall be provided by the construction contractor as specified in the contract documents, or by hospital staff as designated by the project manager.

--Covers **shall not** be used on a smoke detector at any time. If found, covers shall be immediately removed from smoke detectors.

2. Sprinkler System Shutdowns during Construction

Construction and building maintenance may require the removal, modification, or relocation of sprinkler heads or piping. In order to prevent false fire alarms as a result of this sprinkler work, a procedure has been implemented

for sprinkler system shutdowns. The following measures will be taken to prevent false fire alarms as a result of sprinkler work that maintains effective control over impairments to the installed sprinkler system:

When it is determined that the facility's sprinkler system must be shut down for system modifications, the contractor or project manager shall direct a request for shutdown to the VA. The request shall identify the specific area of the hospital impacted by the shutdown and the shutdown duration. The shutdown will be performed by VA staff. The VA staff will disable the fire alarm system points necessary to prevent false annunciation of a sprinkler system discharge. The VA staff, or the sprinkler system contractor when authorized in writing by the hospital, will close the appropriate riser valve(s) to isolate that portion of the sprinkler system that is being worked on or that needs to be isolated. The closed sprinkler valve(s) shall be identified with a sprinkler valve "SHUT" tag by the party that closed the valve(s). The closed sprinkler valve(s) will indicate a "trouble" condition at the fire alarm control panel to serve as an active indication that the sprinkler system has been impaired. The "trouble" indication will also serve as a continuous reminder to hospital staff that the sprinkler system must be restored to service.

If a section of the sprinkler system is to be drained for piping or sprinkler head replacement work, the VA staff will notify the City of Providence fire alarm division that the master box will be out of service and disable the appropriate sprinkler flow switches and/or fire main. Once the system is drained in the specific area, the VA staff can reinstall all sprinkler system flow switch devices and the master box so that they are not required to be present in the fire alarm room as a fire watch for the system. At the completion of the sprinkler system work, the contractor is responsible for notifying the VA staff that the construction activity has ended for the day and that the sprinkler system is to be refilled and restored to normal operation. The VA staff must take out all flow switches, fire alarm annunciating devices, and possibly main fire pump prior to recharging of the system. Once the appropriate devices are disabled the VA staff, or the contractor when authorized in writing by the hospital, can then start filling the system and bleeding air out the Inspector Test Valve (ITV) until the sprinkler system is completely refilled in the specific area of the facility. The contractor **must** stay in the impacted area for a minimum of **15** minutes after the system is refilled to ensure there are no leaks in or abnormalities to the fire and sprinkler systems.

--Contractors shall provide at least **48** hours notice to the VA for sprinkler system shutdown. Email is the preferred method of notification.

--In no case will the sprinkler system be disabled on two consecutive floors or in multiple areas at the same time in the main hospital building.

--In no case will the sprinkler system be disabled while smoke detectors or other fire alarm initiating devices are disabled in the same area.

--In no case will sprinkler systems be shut down except for portions of the sprinkler system under renovation, modification or construction, or for new connections to the sprinkler system. Sprinkler systems will not be shut down to avoid accidental discharge of the sprinkler system caused by unintentional

damage to the sprinkler system from construction activity. Provide metal head guards at each sprinkler head within the limits of work.

--In no case will the sprinkler system be disabled for more than 8 hours in a single 24 hour period. If the sprinkler system must be disabled for more than 4 hours in a 24 hour period, the project manager will prepare an ILSM risk assessment and a fire watch shall be provided by the construction contractor as specified in the contract documents.

Appendix B

Request for Information Form

(See next Page)

Providence VA Medical Center
Facilities Management Service
633 Atwells Ave. 3rd floor
Providence, R.I. 02909
401-459-4760
Fax 401-421-0594

REQUEST FOR INFORMATION

NO.

PROJECT TITLE: _____ **CONTRACT NO.**_____ **VA PROJECT NO.** _____	**DATE REQUIRED:**
TO:	**FROM:**

REQUEST:

Requested By: _____ Date: _____

Signed: _____

RESPONSE:

☐ This response does not constitute a change to the contract and is not an authorization to the contractor to proceed with any work that modifies the contract price or the time of performance. If the contractor believes that this response modifies any portion of the contract, the contractor shall make timely notice to the Contracting Officer and await the Contracting Officer's direction before proceeding with any work that the contractor believes is a modification to the contract.

☐ This response may constitute a change to the contract documents. Do not proceed with any work indicated in this response that changes the contract documents until directed in writing by the Contracting Officer.

Response By:	Concur:
Signed:	Signed: VA Project Manager
Date:	Date:

Appendix C

PROVIDENCE VAMC
INTERIM LIFE SAFETY MEASURES (ILSM) PLAN

ILSM MAY BE REQUIRED IN AREAS OR SMOKE COMPARTMENTS WHERE NEW CONSTRUCTION OR RENOVATIONS ARE TAKING PLACE.

DEFINITION:

INTERIM LIFE SAFETY MEASURES: A series of operational actions taken to temporarily reduce the hazard posed by existing fire prevention or Life Safety Code deficiencies during, and until the completion of a construction or renovation program within an area or smoke compartment.

OBJECTIVES:

1. Determining when ILSM are necessary.
2. Insure that required ILSM in areas/smoke compartments where construction or renovations are taking place are fully adhered to.
3. Determining when ILSM can be terminated

PROCEDURES

1. All new construction/renovation projects must evaluated by the project coordinator /supervisor using the attached **PVAMC ILSM Requirement Assessment Worksheet.**
2. If, upon completion of the worksheet, it is determined that an ILSM Plan is not needed, the project coordinator will send a copy to the PVAMC Safety Manager for concurrence.
3. If, upon completion of the worksheet, it is determined that an ILSM Plan is needed, the project coordinator will complete the form by documenting the administrative actions necessary to mitigate the Life Safety Code deficiencies introduced, and send a copy to the PVAMC Safety Manager for concurrence.
4. Facilities Management Service staff will utilize the attached Interim Life Safety Measures Checklist for conducting inspections of contractor areas when necessary.
5. The **PVAMC ILSM Requirement Assessment Worksheet**, 11 Administrative Actions that may be applied to the project as ILSM, and ILSM assessment flowchart are provided for reference.

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PVAMC ILSM Requirement Assessment Worksheet

- **These criteria will be used to evaluate smoke compartments in which a Life Safety Code deficiency has been identified, or in which construction, renovation or alteration activities are planned. Any "Yes" answers below may require ILSM to address occupant safety.**

- Document any methods you plan on using, and what measures were taken under comments.
- Send to the Environmental Safety and Health Office-TR7, after completion.

Submitter :_____ Date Submitted:

Log#_____

Project: Expected Duration:

Building: Floor: Room:

Criteria	YES	NO
The issue/work alters or significantly compromises exit access, exiting, or exit discharge building elements		
The issue/work compromises building compartmentation including fire or smoke walls, floor/ceiling assemblies, corridor walls, use area doors, or other defend in place elements		
The issue/work impairs the building Fire Protection Systems (alarm, sprinklers, suppression) for more than 4 hours in a 24-hour period.		
The activity includes Hot Work		
The activity includes large quantities of combustible materials, flammable materials, or generation of large amounts of dust and debris.		
Access to the area by emergency forces will be impaired		
Will non/limited combustible partitions be required?		

[ ] ILSM are required* **[ ] ILSM are not required***

* A yes answer to any of the above criteria may require that an ILSM be initiated. Use the following check sheet to denote the interim life safety measures appropriate for the issue/work which compromises life safety. Daily inspections of egress access will be completed in accordance with the checked sheet and completed on the attached form during the pendency of the compromise to a life safety system.. Periodic inspections of other aspects of an ILSM shall be completed during the pendency of the ILSM. All forms will be maintained by the Safety M anager with copies in the project file.

If an ILSM is not required, provide the completed assessment only to the safety manager for review. Maintain a copy in the project file.

Work:

1.

Comments:

1.

Reviewed by:_____ Safety Manager Date:_____

Approved by:_____Chief Facilities Management Date:_____

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Interim Life Safety Measures Check Sheet to be implemented

Project Name or other identifying information: _____

Log Number: _____

Place a check mark in each applicable ILSM activity as determined by an assessment of the risks identified in the Assessment Work Sheet.

#1 INSPECTIONS / SURVEILLANCE

- ☐ Increased surveillance of buildings, grounds, and equipment: shift / daily / other:
- ☐ Means of exiting construction areas inspected daily
- ☐ Implementation of Fire Watch
- ☐ Not applicable

#2 ACCESSIBILITY

- ☐ Maintenance of escape/egress routes from construction areas
- ☐ Maintenance of access to emergency services for emergency equipment, fire alarm pull stations, Fire Department connections (internal & external)
- ☐ Not applicable

#3 EQUIPMENT – LIFE SAFETY

- ☐ Temporary fire alarm, detection, suppression system in place
- ☐ Monthly testing and inspection of temporary systems
- ☐ Provide additional firefighting equipment in project area
- ☐ Provide additional firefighting equipment in adjacent areas
- ☐ Not applicable

#4 COMMUNICATIONS

- ☐ Notification to Municipal Fire Department (or applicable emergency forces group)
- ☐ Not applicable

#5 CONSTRUCTION MATERIALS / PRACTICES

- ☐ Partitions smoke tight and constructed of noncombustible or limited combustible materials
- ☐ Prohibition of smoking throughout building and in and near construction areas
- ☐ Implement appropriate storage practices

#6 FIRE DRILLS

- ☐ Implement appropriate housekeeping practices
- ☐ Implement appropriate debris removal practices
- ☐ Not applicable
- ☐ 2 fire drills per shift per quarter throughout Hospital (one additional drill beyond requirement of EC.5.30).
- ☐ 2 fire drills per shift per quarter in areas adjacent to project (one additional drill beyond requirement of EC.5.30)
- ☐ More than 2 fire drills per shift per quarter throughout Hospital. If yes, how many_____
- ☐ More than 2 fire drills per shift per quarter in areas adjacent to project. If yes, how many_____
- ☐ Not applicable

#7 TRAINING

- ☐ Additional training for staff in immediate area
- ☐ Additional training for staff throughout hospital
- ☐ Additional training for incident response team
- ☐ Training to promote awareness of fire-safety building deficiencies, construction hazards, ILSM
- ☐ Training on changes in physical environment (egress routes)
- ☐ Training on firefighting equipment
- ☐ Training on compensating for impaired structural or compartmentalization features of fire safety
- ☐ Not applicable

Other measures:_____
Comments:_____

Prepared by: _____

Reviewed by:_____ Safety Manager Date:_____

Approved by:_____ Chief Facilities Management Date:_____

ILSM Inspection Form

Project Name: _____

Log Number: _____

Date:_____

Daily_____**Weekly**_____**Monthly**_____

	Measure	Applicable		Compliance Status	Date/Initials
		Y	N		
1.	Exits are inspected on a daily basis and are free and unobstructed. No construction materials, equipment, or debris block free use of all exits adjacent to the construction site or are impacted by the project. Temporary exit signs are in place.				
2.	Provide temporary, but equivalent fire alarm and detection system.				
3.	Provides additional fire-fighting equipment (fire extinguishers). Equipment is functional and tests are up to date.				
4.	Temporary construction partitions are smoke tight, or made of noncombustible material, or made of limited combustible material that will not contribute to the development or spread of fire.				
5.	Surveillance is increased of buildings, grounds, and equipment with special attention to construction areas and storage, excavation, and field offices.				
6.	Enforces storage, housekeeping, and debris removal practices that reduce the building's flammable and combustible fire load to the lowest feasible level.				
7.	Additional training is provided to those in the hospital on the use of fire-fighting equipment.				
8.	One additional fire drill per shift, per quarter is conducted.				
9.	Temporary systems are tested and inspected monthly, and the completion dates for these tests is documented.				
10.	Education is conducted to promote the awareness of building deficiencies, construction hazards, and temporary measures implemented to maintain fire safety.				
11.	Training for those who work in the hospital is done to compensate for impaired structural or compartmental features.				

Prepared by: _____Project Manager, Date: _____`

Inspected by: _____Date: _____

Appendix D
General Conditions 00 72 00

Providence VA Medical Center
Construction Safety Manual

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INTRODUCTION

All contractors, Project Managers, and employees engaged in construction activities at the PVAMC must be aware of the construction safety requirements outlined in this manual.

The implementation of construction safety programs will minimize the potential for injuries and illnesses to our patients, employees and visitors from unsafe construction activities conducted by contractors and VA employees, including operations and maintenance crews, permanent construction crews and temporary purchase and hire staff.

It is the policy of the VHA to protect patients, staff, visitors and contractors from safety and health hazards associated with construction activity on VA/VHA property and leased property at which VA-funded construction is occurring.

Construction activities are defined as those that include VHA projects performed by employees or contractors and enhanced use lease projects within structures fully managed by VHA or within the purview of VHA authority.

Safety is a philosophy and a practice that identifies and eliminates job site hazards throughout the lifecycle of a project and discourages work practices and equipment that place individuals at risk of injury.

This manual outlines programs and procedures to maintain a healthy environment of care for our patients and a safe and healthy worksite for employees, visitors and contractors during construction activities.

1.0 GENERAL INFORMATION

1.1 Standard Safety and Security Rules

The following are some reasons for which an employee of a contractor may be temporarily or permanently removed from Medical Center premises:

- Possession or use of alcoholic beverages or regulated drugs not prescribed by a physician
- Possession of explosives, firearms, ammunition, and other weapons
- Deliberate violation of safety or security rules
- Illegal dumping, handling, or disposal of hazardous materials
- Destruction or removal, without written permission, of any property belonging to Providence VAMC, the property owner, employee, or other contractors or employees
- Failure to follow the directions or instructions of a VA Police Officer, VA COTR or VA Project Manager
- Failure to wear in a visible manner a facility issued identification badge
- Intimidating, threatening, harassing, impeding or interfering with an inspector, security officer, or Providence VAMC employee or designated representative
- Using emergency exits other than for emergencies
- Misuse of fire prevention and protection equipment
- Unauthorized removal or destruction of a safety barricade, handrail, guardrail, warning sign, fall protection, or other warning devices intended to protect PVAMC's students, faculty, employees, neighbors or property.

For additional information on safety guidelines that are related to security issues, you may refer to the
Providence VAMC Police Department

1.2 Safety Permits and Procedures

The following operations may present a hazard to PVAMC employees, visitors, patients, neighbors or property. Therefore, you must obtain written approval through the Providence VAMC Project Manager before:

- Working on fire protection/detection systems
- Penetrating any smoke/fire barrier wall
- Performing burning, welding, cutting, soldering, or other hot work
- Performing any work above an existing finished ceiling
- Obstructing an exit door or any exit path within any building
- Obstructing access to the hospital by emergency services
- Working on electrical, steam, chilled water systems or other energized systems
- Moving emergency equipment (fire extinguishers, first aid kits, etc.) provided by PVAMC
- Installing a temporary electrical service
- Working with hazardous chemicals (including solvents and paints)
- Generating hazardous wastes (including waste oil)
- Using powder actuated tools
- Using a gas, diesel, or LP (propane) powered engine indoors
- Operating a power vehicle or self-propelled work platform
- Excavation/trenching
- Using radioactive sources or conducting field radiography (x-ray)
- Working with asbestos-containing materials
- Working on security systems
- Working with compressed air/gases
- Using a laser
- Working on a fume or biological hood
- Working on a solvent storage cabinet

- Working on heating, ventilation, or air conditioning equipment
- Working on a roof
- Lifting or hoisting with cranes, derricks, hoists or helicopter
- Performing blasting operations

Special Rules for Operations Involving Utilities:

- Only Providence VAMC Facilities Operations may shut down or start up operating utilities.
- You must notify your Project Manager, who will coordinate with Providence VAMC Facilities Operations, *in advance* of the need for such shutdowns or startups.

Special Rules for Lockout/Tagout of Machinery, Pipes, etc.:

- If you intend to service or maintain machinery that could hurt someone if it were to unexpectedly start up, you must inform the Providence VAMC Project Manager of the Lockout/Tagout procedures you intend to follow.
- See Section 3.3 on Lockout/Tagout generally.

1.3 Housekeeping

You must maintain good housekeeping. You must keep work areas neat, clean, orderly and free of excess trash and debris and never block walkways, stairs, exits, or create a tripping hazard. Cover and/or place guardrails around open holes, trenches, or excavations into which PVAMC's visitors, patients, or employees may fall. Poor housekeeping at a job site may lead to an increased potential for safety hazards and an increased incidence of accidents and chemical spills.

1.4 Accident, Incident, Injury, or Illness

After notifying the appropriate emergency agency (e.g., 9-1-1), work related accidents, incidents, injuries, and illnesses must be immediately reported to the Providence VAMC Project Manager or representative. The Contractor is responsible for notifying OSHA for any incidents that are reportable to that agency.

2.0 ENVIRONMENTAL ISSUES

2.1 Hazardous Waste Management

Hazardous waste generated by a Contractor as part of its work must be properly identified, stored and disposed of in accordance with all applicable local, state and federal laws. The Contractor must coordinate with its Providence VAMC representative to provide a list of hazardous waste(s) to be generated during the project, and to determine the location(s) available for hazardous waste storage. The Contractor must also ensure, at a minimum, proper labeling, adequate secondary containment, segregation of incompatible materials and routine inspection of storage areas as required by law. In addition, all hazardous waste containers shall be constructed of a material that is compatible with the waste, shall be in sound condition, and shall be kept securely closed at all times in accordance with applicable regulations. Containers and/or tanks used to store hazardous wastes must be managed in accordance with applicable regulations and must be inspected daily.

The Contractor is responsible for completing all disposal documents, which may include, but are not limited to, waste profiles, waste analytical samples and hazardous waste manifests. Providence VAMC shall be designated as the Generator on all documents and shall be provided with copies of all waste analyses, land disposal restriction forms and related documentation. Copies of all disposal documents shall be submitted to the Project Manager for review at least 5 days prior to shipment. The Project Manager or an EH&S representative will sign the manifests as the Generator. At the time of shipment, the Contractor shall provide the bottom three copies of the manifest to the Project Manager or the PVAMC EH&S representative for distribution to the appropriate agencies.

Contractor employees must be appropriately trained in hazardous waste procedures. In the event a Contractor encounters previously unidentified material that is reasonably believed to be radioactive, volatile, corrosive, flammable, explosive, biomedical, infectious, toxic, hazardous, asbestos containing or oil-based, the Contractor shall immediately stop work in the affected area and report the condition to the Project Manager. At no time shall such material be disposed of in chutes, dumpsters, drains, pipes or any other waste container. The Contractor agrees to cooperate with the Project Manager and any consultants engaged by the Project Manager to perform services with respect to the analysis, detection, removal, containment, treatment and disposal of such regulated materials.

2.2 Transport of Hazardous Materials

All transportation of hazardous materials while on Providence VAMC property shall be conducted in accordance with USDOT Hazardous Materials Regulations for proper packaging, marking/labeling, handling, documentation, etc. At no time should hazardous materials be transported via public or private roads at Providence VAMC in a manner that could result in an unsafe condition for personnel or the environment.

2.3 Spill Prevention and Control

Providence VAMC’s Spill Prevention Control and Countermeasures (SPCC) Program establishes Medical Center-wide procedures for the prevention and detection of spills and/or releases of oil or hazardous materials, including the following:

- Based on the inventory of oil and hazardous chemicals that will be brought on-site, the Contractor shall have available equipment (e.g., secondary containment pallets, absorbent pads, absorbent booms, speedi-dry) that is suitable and sufficient to control a potential spill/release.
- The Contractor is responsible for identifying conveyances to the environment (e.g., sumps, storm/floor drains, etc.) and adequately minimizing spill potential to these areas.
- The Contractor is responsible for the proper storage of all flammable and combustible chemicals that are brought and/or stored on site to complete the work of this contract. Such storage may require the use of safety containers, safety cabinets, and/or secondary containment. The Contractor shall also ensure that any incompatible chemicals are safely segregated. The Contractor is responsible for maintaining and securing all chemical containers and all chemical storage areas. This requires selecting locations and methods to minimize exposure to rainfall, surface water, and the ground surface or subsurface. Enclosures, shelters, and secondary containment should be used where appropriate.
- The Contractor must use appropriate protective procedures such as double containment, employee training, overflow protection, and other measures as part of activities involving the use, storage, or handling of petroleum products or hazardous materials on Providence VAMC Property.

• The Contractor must ensure that his/her employees are adequately trained in spill procedures outlined
below. The Medical Center's SPCC Program also establishes reporting requirements in the event of a spill or release of oil or hazardous materials. In the event of a release or spill, the Contractor must follow all of the reporting requirements of the SPCC Program as specified below:

(1) The Contractor shall extinguish all sources of ignition and isolate incompatibles or reactive chemical
substances.
(2) The Contractor shall determine if the spill/release is incidental or non-incidental.
(3) For incidental spills/releases:
♦ The Contractor shall attempt to stop or contain the spill/release at the source provided that doing so
does not endanger anyone.
♦ The Contractor shall prevent discharge of materials to environmental receptors including drains,
sumps, soil, etc.
♦ The Contractor shall immediately notify the Project Manager of all incidental spills/releases.
♦ The Contractor is responsible for the proper collection, storage and disposal of waste materials in
compliance with EPA and R.I. DEM regulations and in cooperation with the Project Manager.
(4) For non-incidental spills/release:
♦ The Contractor shall immediately report the spill/release to the Medical Center's Environmental Health & Safety (EH&S) Department who will advise you on the need for initiating contact with spill response vendors.
♦ The Contractor shall follow the steps for incidental spill/releases identified in item (3) above,
provided that it is safe to do so.
♦ PVAMC's EH&S Department will coordinate ALL reporting to outside agencies and will conduct
follow-up written notifications if necessary.
♦ The Contractor will conduct an incident analysis and coordinate with the Project Manager and the
PVAMC EH&S Department on any actions that are required to prevent recurrence.
♦ If it is deemed necessary to engage a professional spill cleanup company, the PVAMC EH&S
Department will coordinate the cleanup through the Project Manager.

2.4 Pest Control

If a Contractor or his/her employees see evidence of cockroaches, mice, ants or other pests during the
course of their work, they must notify the Project Manager immediately. The Contractor shall not use
any insecticide products on Medical Center property unless such activities are part of your contracted work and you are specifically trained to do so.

2.5 Air Emissions

Combustion Units
[Combustion units include, but are not limited to, boilers, heaters, emergency generators and kilns.]

[1] ***"Incidental"*** spills meet **ALL** of the following criteria: 1) personnel are familiar with the hazards associated with the spilled material; 2) containment/response does not pose potential health and safety hazards (e.g. fire, explosion or chemical exposure);

3) a small quantity (less than 10 gallons) of material is spilled/release which **DOES NOT** reach the environment or pose potential health and hazardous; and 4) spilled/release material can be readily absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate area or by maintenance personnel.
"Non-incidental" spills include 1) major spills/release (e.g. greater than 10 gallons) that do not reach the environment or 2) any amount of spilled material that escapes to the environment (including drains, sumps, soil, etc.).

All Contractors must immediately report the following to the Project Manager:

- Any maintenance or repairs to a combustion unit that could result in a change in maximum heat input value or overall emissions (e.g. burner replacement or fuel conversions)
- Any conditions discovered which could have resulted in an increase on air pollutant emissions.

CFC Containing Units [CFC containing units include those containing any ozone depleting refrigerants including, but not limited to, Chlorofluorocarbons (CFC) and Hydrochlorofluorocarbons (HCFC).]

Contractors shall immediately notify the Project Manager whenever they become aware of any unintentional or intentional release of CFCs above de-minimis levels as established by EPA regulators.

Contractors shall provide the following documentation to the Project Manager:

- EPA certifications for any reclaimers to which CFC products evacuated from Providence VAMC systems are to be sent.
- Certifications for any CFC recycle/recovery equipment to be used at PVAMC
- Technician Certifications
- Service records for all units containing greater that 50 pounds of refrigerant. Records must include the date and type of service and the type and quantity of refrigerant added.

Contractors shall immediately notify and provide documentation to the Project Manager whenever:

- A leak rate equals or exceeds 35% per year for commercial/industrial processes
- A leak rate equals or exceeds 15% per year for comfort cooling processes
- A release occurs of >100 pounds in a 24 hour period for CFC-12, CFC-113 ad R-500. *Halon* Service providers shall immediately notify the Project Manager whenever it becomes aware of any unintentional or intentional release of halon.

2.6 Stormwater and Wastewater

Stormwater

Projects that disrupt over one (1) acre of land must adhere to the EPA's Phase II stormwater requirements.

These projects are required to obtain a NPDES permit and implement best management practices. The Contractor is responsible for obtaining such permits before the start of work.

Wastewater

Providence VAMC's wastewater discharge is regulated by Narragansett Bay Commission (NBC). The discharge of any wastewater must adhere to these permit requirements. These include but are not limited to:

- No discharge of mercury, silver or other metal-bearing wastewater
- No discharge of highly corrosive substances (5 < pH > 10.5)
- No discharge of flammable materials that could create a hazard for Providence VAMC personnel these are the only references that will be noted in the policy. or NBC treatment works personnel.

1.0 The Contractor must identify all wastewater streams for the Project Manager and obtain approval for drain discharge.

2.7 Biological/Chemical/Radioactivity Hazards

Some Providence VAMC operations involve the use of biological, chemical, or radioactive material that can be hazardous to PVAMC's visitors, patients, or employees if not handled safely. Areas where work with biological, chemical, or radioactive materials is being performed will be marked with appropriate signs. Do not enter these areas and do not handle hazardous biological, chemical, or radioactive material unless it is part of your contracted work and you are specifically trained to do so.

2.8 Asbestos Containing Materials

Providence VAMC will have determined, before work is begun, the presence, location, and quantity of asbestos-containing or potentially asbestos-containing materials that would be specifically impacted by the work of your contract. The Providence VAMC Project Manager will provide a specific asbestos audit report for those work areas in question. The contractor shall not disturb asbestos-containing materials unless such activities are part of your contracted work and you are specifically trained to do so. Asbestos abatement contractors should coordinate with the Project Manager and the Medical Center's EH&S Department for specific requirements for asbestos abatement work. The Contractor shall not disturb, damage or otherwise handle any *suspect* asbestos containing material. It is recommended that the following suspect materials be assumed to contain asbestos:

Cement Pipes, High Temperature Gaskets, Electrical Wiring Insulation
Cement Wallboard, Lab Hoods/Benches/Gloves, Chalkboards
Cement Wallboard, Fire Blankets/Curtains/Doors, Roofing Shingles and Felt
Flooring, Backing, Elevator Equipment Panels, Base Flashing
Construction Mastics, Elevator Brake Shoes, Thermal Paper Products
Acoustical Plaster, HVAC Duct Insulation, Caulking/Putties
Decorative Plaster, Boiler Insulation Adhesives
Textured Paints/Coatings, Breeching, Insulation, Wallboard
Ceiling Tiles and Lay-in Panels, Pipe Insulation, Joint Compound
Spray-applied Insulation, Cooling Towers, Vinyl Wall Coverings
Blown-in Insulation, Electrical Cloth, Asphalt Floor Tile
Fireproofing Materials, Heating and Electrical Ducts, Vinyl Sheet Flooring
Taping Compounds, Electrical Panel Partitions, Vinyl Floor Tile
Packing Materials (wall/floor penetrations), Ductwork, Flexible Fabric, Connectors, Spackling Compounds

The Contractor shall not sweep, dust, vacuum or mop dust or debris that is the product of a suspect asbestos containing material. The Contractor shall also not pick up or throw away any suspect asbestos-containing waste or trash. If it material that is suspected to be asbestos-containing is disturbed and becomes airborne, the Contractor shall immediately notify the Project Manager.

If it is part of the Contractor's work, stripping of floor finishes shall be done using low abrasion pads at speeds lower than 300 rpm and wet methods shall be used. The Contractor shall take care not to overstrip floors and shall stop stripping immediately upon removal of the old surface coat. Sanding of flooring material is strictly prohibited unless it is part of your contracted work and you are specifically trained to do so.

Any suspect asbestos containing material that is observed by the Contractor to be crushed, ripped, broken

or in any way damaged should be reported to the Project Manager immediately. Contractors must, within 24 hours, convey to the Providence VAMC Project Manager any information
they newly discover concerning the presence, location and quantity of asbestos-containing or potentially
asbestos-containing materials.

2.9 Lead Paint

Unless the Providence VAMC Project Manager provides a specific lead-paint inspection, Contractor's
should assume that any painted surface they come in contact with is coated with lead-based paint.
Therefore, Contractor's should not perform any intrusive, dust-generating work on painted surfaces (e.g.,
drilling, cutting, brazing, scraping, demolition), unless the surface has confirmed to be non-lead or unless
such work is part of your contracted work and you are specifically trained to do so.
Any painted surfaces that have loose, flaking, chipping or otherwise non-intact paint should not be
impacted by the Contractor and should be reported to the Project Manager immediately.
Lead paint abatement contractors should coordinate with the Project Manager and the Medical Center's EH&S Department for specific requirements for lead abatement work. Refer to the section of this manual on Hazardous Waste for guidelines on the proper disposal of lead containing paint.

3.0 OSHA SAFETY ISSUES

3.1 Hazardous Materials and Hazard Communication

Hazardous Materials

- Do not handle or use hazardous materials without training by your company's representative.
- No solvents, paints, or similar flammable, toxic, or irritating materials may be used in areas occupied
by Providence VAMC employees, visitors, or patients unless specifically approved in writing by the
Providence VAMC Project Manager.
- Maintain adequate ventilation when paints or solvents are used.
- Use flammable solvents and materials with extreme caution.
- Store flammable paints and solvents in approved flammable liquid storage cabinets if inside buildings.

Hazard Communication

The Contractor shall submit an inventory of all hazardous chemicals that are brought on-site with
accompanying Material Safety Data Sheets to the Project Manager. The Contractor shall also ensure
that all containers that are brought on site for the storage of hazardous chemicals (e.g., gas, paint, etc.) are
labeled and inspected in accordance with all applicable regulations. The Contractor shall remove all hazardous chemicals that it brings on-site when work involving a specific hazardous chemical is complete.
The Contractor may request and review Material Safety Data Sheets for any chemicals that are encountered
on Medical Center property during the performance of its work.

3.2 Confined Space Entry

Background

Providence VAMC has developed and implemented a Confined Space Entry Program to protect all
Medical Center employees who are required to enter confined spaces. PVAMC's complete written program is available for review upon request to the Project Manager.
This Medical Center-wide program defines a "Confined Space" and an "Enclosed Space" in accordance with 29CFR §§ 1910.146 and 1910.269, respectively. Entrance into any of these spaces by a Contractor requires adherence with all applicable regulations as well as with certain Medical Center protocols as defined further below.
As part of the Confined Space Entry Program, the Medical Center performed hazard assessments, developed inventories and posted all confined and enclosed spaces at the point of entry. These postings include information on the classification of the space (e.g., "Permit Required", "Non-permit Required"), the confined space ID number, the location, the known hazards, and the minimum personal protective equipment needed for entry. Where available the Medical Center's experience with the confined space is also included on the signage. The Medical Center Confined Space Inventory and hazard assessment forms are available for review.

Requirements

- The Contractor is responsible for developing, implementing and maintaining his/her own Confined Space Entry Program, including provisions for emergency rescue in accordance with OSHA regulations as it applies to the work of this contract.
- If during the course of its work, the Contractor encounters a confined space that has not been previously identified by the Medical Center, it must immediately bring the space to the attention of the Project Manager and delay entry until Providence VAMC has examined the space.
- When both Medical Center personnel and Contractor personnel are working in or near confined spaces, the Contractor shall coordinate all operation with the affected Medical Center personnel before entry.
- Advance notification is always required. Whether you enter a confined space with a PVAMC employee or not, the Contractor's entry attendant must always first *inform* the Providence VAMC Project Coordinator *before* you enter a confined space. The Contractor shall provide the Project Coordinator with:
- The exact location of the confined space and confined space ID number;
- The time of entry and approximate entry duration; and
- The names of authorized attendants and entrants.
- *After the entry*: If you have entered a "permit-required" confined space, you must, after the entry is concluded, notify Providence VAMC Project Coordinator of (1) the permit space program you followed and (2) any hazards you confronted or created in the space.

3.3 Lockout / Tagout

Providence VAMC protects its patients, visitors, employees, neighbors and property in part by complying
with 29 CFR 1910.147 – Control of Hazardous Energy Sources (Lockout/Tagout). As part of PVAMC's
Lockout/Tagout Program, standard locks and tags are used to control the start-up of equipment that is being serviced or maintained by its employees. At no time shall the Contractor or its employees override any locks or tags that they encounter during the performance of its work.
The Contractor is responsible for developing; implementing and maintaining his/her own Lockout/Tagout

Program in accordance with OSHA regulations as it applies to the work of this contract. The Contractor shall submit a copy of its Lockout/Tagout Program to the Project Manager or Property Manager before the start of any work where 29 CFR 1910.147 is applicable. The only purpose of this submission is to ensure that, for the safety of PVAMC's students, faculty, employees, neighbors or property, the Contractor's Lockout/Tagout procedures are consistent with restrictions and prohibitions of PVAMC's Lockout/Tagout program.

- Providence VAMC Engineering and Utilities will shut down and start up utility systems.
- The Contractor will maintain a log of all machines and equipment that are locked out and/or tagged out during the performance of the work of this contract. This log shall identify the equipment that was worked on, the date that work was performed, and the name of the individual performing the work. The Contractor will submit this log to the Project Manager on a monthly basis when Lockout/Tagout work is being performed.

3.4 General Electrical Safety

- Only qualified electricians are permitted to work on electrical systems and equipment that uses or controls electrical power.
- Do not operate electrical tools or equipment in wet areas or areas where potentially flammable dusts, vapors, or liquids are present, unless specifically approved for the location.
- Should a circuit breaker or other protective device "trip," ensure that a qualified electrician checks the circuit and equipment and corrects problems before resetting the breaker.
- Erect barriers and post warning signs to ensure non-authorized personnel stay clear of the work area.
- Report hazards (lack of protective guards or covers, damaged equipment, etc.) to the PVAMC Medical Center Project Manager immediately.
- Do not leave electrical boxes, switch gear, cabinets, or electrical rooms open when not directly attended. Insulate energized parts when covers have been removed or doors are ajar. Use of cardboard, plywood, or other flammable materials to cover energized circuits is prohibited.

3.5 Compressed Gas Cylinders

Compressed gases can pose a severe hazard to PVAMC's patients, visitors, employees, neighbors and property. Therefore, the following measures must be taken for their protection:

- Valve protection caps must be in place when compressed gas cylinders are transported, moved, or stored.
- Close cylinder valves and replace valve covers when work is complete and when cylinders are empty or moved.
- Secure compressed gas cylinders in an upright position in a welding cart or to a solid object (using chains, straps, or a rigid retaining bar). Secure compressed gas cylinders on an approved carrier while being transported.
- Keep cylinders at a safe distance or shielded from welding or cutting operations. Do not place cylinders where they can contact an electrical circuit.
- Keep oxygen and flammable gas regulators in proper working order and a wrench in position on the acetylene valve when in use. If not manifolded together, separate oxygen and flammable gas cylinders by 20 feet or a 5 foot high fireproof barrier.

- If a leak develops in a cylinder and it cannot be immediately corrected, move the cylinder to a safe location outside the building.
- Use only approved spark igniters to light torches.
- Cylinders must not be taken into or stored in confined spaces, including gang boxes and office/storage trailers.
- Do not store hoses and regulators in unventilated or closed containers or areas.
- Do not leave behind partially filled or empty cylinders. Always remove them from the site.

3.6 Powder-Actuated Tools

Powder-actuated tools can pose hazards to PVAMC's patients, visitors, employees, neighbors and property.
Such tools are, therefore, not permitted in occupied Providence VAMC buildings without the approval of the PVAMC Medical Center Project Manager. In addition:

- Contractor's who operate powder-actuated tools must be properly trained in their use and carry a valid
operator's card provided by the equipment manufacturer.
- Each powder-actuated tool must be stored in its own locked container when not being used.
- A sign at least 7 inches by 10 inches with bold face type reading "POWDER-ACTUATED TOOL IN
USE" must be conspicuously posted when the tool is being used.
- Powder-actuated tools must be left unloaded until they are actually ready to be used.
- Powder-actuated tools must be inspected for obstructions or defects each day before use.
- All Powder-actuated tool operators must have and use appropriate personal protective equipment such as hard hats, safety goggles, safety shoes and ear protectors.

3.7 Welding, Cutting, and Brazing Hot Work Permit

- Obtain a permit from the Project Manager for each separate work activity and ensure that all conditions of the permit are met at all times. The permit must be obtained from the Contract Coordinator prior to the start of any welding/cutting/brazing work. In addition, the Contractor must also maintain its own hot work permit system in accordance with OSHA regulations.
- Remove combustible materials from the area before beginning work.
- Elevate oxygen/acetylene hoses seven feet above the work area or otherwise protect them from damage.
- Install anti-flash back (safety/check) valves in both the oxygen/acetylene hoses at the regulator.
- Shield adjacent areas with welding partitions.
- Have a second person stand by with an approved fire extinguisher for welding and burning operations in accordance with OSHA regulations and permit requirements. This person should remain in the area for a minimum of 30 minutes after the hot work is completed to ensure the site is cold.

3.8 Cranes and Rigging

Each crane, rigging, or hoist brought onto Providence VAMC property must have an annual inspection
performed by a certified testing agency. Before operations begin on site, documentation, including a log
book, must be provided to Providence VAMC Project Manager or its designee.
The operator is responsible for the proper placement of the crane in relationship to the load to be handled

and the landing area so as to obtain the best rated lift capacity, and the installation and maintenance of
crane swing radius protection.
All operators must possess a valid R.I. hoisting license. Documentation of this license shall be
provided to the Providence VAMC Project Manager. At no time shall loads be hoisted by a non licensed operator.

3.9 Miscellaneous Additional Safety Rules for the Protection of PVAMC Patients, Visitors, Employees, Neighbors and Property

- Do not perform work over the heads of people or leave tools or equipment overhead.
- Isolate your work area with safety markers, tape barriers, blinker lights, etc.
- Report unsafe acts or conditions to your supervisor.

POLICY MEMORANDUM 138 – 11 MARCH, 25 2011

PART 1 GENERAL

1.1 PURPOSE

A. To establish policy and procedures regarding penetrations in ceilings, floors, pipe chases, rated fire walls, and smoke barriers for the purpose of maintaining the integrity of Building #1 Type II-222 Construction as required in NFPA 101, Chapter 8 and the Joint Commission to provide for the safety of occupants during fire incidents. (The equivalent Construction Type per ICC Building Code is Type IB.)

1.2 POLICY

A. All penetrations made in floors, fire barriers and smoke partition for the purpose of installation/removal of pipe, conduit, cable, or ductwork or other modifications including incidental damage, or the removal of such item, will be repaired and firestopped upon the completion of the work, and documented as repaired. This policy applies to all vertical and horizontal penetrations and to all medical center staff and Contractors.

1.3 DEFINITIONS

A. Penetrations are any holes, openings or faults created in a fire barrier or smoke partition that compromise the integrity of the smoke or fire rating of the penetrated structure.

B. Firestopping materials are any materials used to replace or repair any penetrations. Materials used must meet specifications and testing by FM, UL, or WH that ensure that the original integrity and rating of the penetrated surface will be restored.

C. Fire Barriers are floor/ceiling assemblies and walls, including supporting construction that meets the conditions of acceptance of NFPA 251, Standard Methods of Tests of Fire Endurance of Building Construction and Materials. Fire barriers are designed to form fire compartments and are constructed to be continuous from outside wall to outside wall, floor to floor or ceiling, from one fire barrier to another, or a combination thereof, including continuity through concealed spaces.

D. Smoke Barrier is a continuous membrane designed and constructed to restrict the passage of smoke . Smoke Barriers are designed to form smoke compartments and are constructed to be continuous from outside wall to outside wall, floor to floor or ceiling, from one fire or smoke barrier to another, or a combination thereof, including continuity through concealed spaces.

1.4 SUBMITTALS

A. Submit manufacturers literature, data, installation instructions and detail drawings for each type of penetrating item and the construction of the barrier it is passing through indicating the type of firestopping and/or smoke stopping material used. Manufacturer's details shall indicate the listing number given by FM, UL, or WH for each firestopping system.

B. Alternate submittals can be a Certified Laboratory test report for ASTM E814 tests of systems not listed by FM, UL, or WH. (ASTM E814 is the Standard Test Method for Fire Tests of Through-Penetration Firestops.) Another type of submittal is a written Manufacturer's Engineering Judgement, derived from a similar UL system, that a modified design meets the required protection level of the UL listed test.

PART 2 PRODUCTS

2.1 FIRESTOP SYSTEMS

A. Use either factory built Firestop Devices or field erected through penetration firestop systems to form a specific listed firestop system that will maintain the required integrity of the fire or smoke barrier and stop the passage of gases or smoke.

B. Through prenetration firestop systems and firestop devices tested in accordance with ASTM E814 or UL 1479 use the "F" or "T" rating to maintain the same rating and integrity as the fire barrier being sealed. "T" ratings are not required for penetrations smaller than or equal to 4 inch nominal pipe of 16 square inches in overall cross sectional area.

C. Products requiring heat activation to seal an opening by its intumescence shall exhibit a tested and demonstrated ability to function as designed to maintain the fire or smoke barrier.

D. Firestop sealants used for firestopping or smoke sealing shall have the following properties:

1. Contain no flammable or toxic solvents.
2. Have no dangerous or flammable out gassing during the drying or curing of products.

3. Water resistant after drying or curing and unaffected by high humidity, condensation or transient water exposure.
4. When used in exposed areas, shall be capable of being sanded and finished with similar surface treatments as used on the surrounding wall, ceiling or floor surface.

E. Firestopping system or devices used for penetrations by glass pipe, plastic pipe or conduits, unenclosed cables, or other non-metallic materials shall have the following properties:
1. Classified for use with the particular type of penetrating material used.
2. Penetrations containing loose electrical and/or computer data cables, and other non-metallic communications cables shall be protected using firestopping systems that allow unrestricted cable changes without damage to the seal.
3. Intumescent products which would expand to seal the opening shall act as a fire, smoke, toxic fume and water sealant.

F. Maximum flame spread of 25 and smoke development of 50 when tested in accordance with ASTM E84.
G. FM, UL, or WH rated or tested by an approved Laboratory in accordance with ASTM E814.
H. Materials shall be asbestos free.

PART 3 EXECUTION

3.1 Submit for approval all product data drawings and installation instructions, as required by “Submittals”, after examining the Contract Documents and performing an on-site careful examination of the areas to receive firestopping. If there is any doubt about the location of fire rated or smoke rated partitions, request or refer to information contained in the current SOC (Statement of Condition) document and drawings available at the FMS offices.

3.2 In all cases when a ceiling, floor, wall or partition designated as a fire or smoke barrier is compromised for the purpose of installation, repair, or other modification, the following steps are required:

A. All penetration contracted work, **including Information Resource Management (IRM) projects**, is to be submitted and approved by a Facilities Management Service (FMS) Project Manager or Maintenance Department PM.
B. A penetration permit must be secured from a FMS Project Manager or FMS Maintenance Department PM prior to disturbing the integrity of any wall or floor/ceiling barrier. The permit must be available for inspection at the subject location. ***(See Attachment “A”, enclosed.)***
C. Provide temporary firestopping, smoke seal and waterproofing of all penetrations in smoke and fire rated floor and wall assemblies immediately following core drilling or cutting if permanent work and firestopping measures will follow at a later time.
D. Where penetrations are created in existing floors and/or partitions, they shall be temporarily firestopped by the close of construction each day. In the case of major projects requiring the prolonged existence of floor and/or partition openings, temporary firestopping shall be provided at the end of each workday. Temporary firestopping may constitute a single layer of fire rated gypsum board secured in place over the opening or mineral fiber may be placed in the opening. Fiber thickness shall be sufficient to meet or exceed the inherent fire resistance rating of the building material being penetrated and shall be secured in place with non-combustible material or fasteners.
E. After the final work is completed, the penetration must be firestopped according to the submitted and approved UL, FM or WH listed through penetration firestopping materials or system that meet the original smoke barrier or fire rated construction requirements.
F. Upon completion of any penetration repair, a visual inspection for approval shall be requested from and completed by a FMS Project Manager or FMS Maintenance Dept PM.
G After completion of the field inspection, the completed permit will be signed by the Contractor/Installer and the inspecting FMS – PM or FMS Maintenance Dept PM. That signed document shall then become the official Document or Record and be distributed as indicated on the Permit Form.

PART 4 RESPONSIBILITY

4.1 It is the responsibility of the FMS Project Manager or FMS Maintenance Dept to ensure that penetration permits are issued and final inspections are conducted. Any deficiencies found remaining during the inspection will be discussed with the COTR and remedied by the firestop installer.

4.2 The Chief of Facilities Management Service is responsible for ensuring that any PVAMC staff making penetrations into fire and/or smoke barriers shall secure penetration permits prior to beginning work, properly firestop the wall/ceiling/floor penetration, and sign off the permit after inspection and completion of the work.

4.3 Contractors are responsible for assuring that they properly firestop any penetrations that they make in ceiling, floor, pipe chases, fire rated walls, and smoke barriers in accordance with submitted and approved firestop materials and/or systems.

4.4 Contract Officer Technical Representatives (COTR's) are responsible for ensuring that all Contractors and FMS personnel adhere to this policy during construction, renovation or demolition activities, including pulling electrical and/or data cables. The COTR is responsible for verifying that all holes and penetrations made during the construction activities are properly sealed. The COTR is also responsible for ensuring that this memorandum is properly inserted in all applicable Contracts and Work Orders issued by FMS.

End of Policy Memorandum

REFER TO AND FILL OUT THE ATTACHED "FIRE/SMOKE BARRIER PENETRATION PERMIT".

Attachment A

FIRE/SMOKE WALL PENETRATION PERMIT

Contractor or FMS Dept or VA Service Requesting Permit:
_____

Responsible Person For Request (Firm/Dept & Person):
_____

Location of Penetrations (Bldg/Floor):
_____

Work Narrative (Project No. or Purpose):
_____
_____
_____

Before issuing a Floor/Fire Wall/Smoke Barrier Penetration Permit, the FMS Project Manager or Maintenance Dept shall review the following checklist with the Permit Requesting Responsible person for compliance.
(Contractor to be reminded that all penetrations shall be temporarily firestopped at close of each work day.)

Question	**Yes**	**No**	**N/A**
Did the Responsible person (indicated above) obtain prints (SOC Plans) from FMS Maintenance Section or PM Section detailing hourly rated walls and smoke barriers in the building; and have they thoroughly identified the scope of the firestop work?			
Is the manufacturer's UL, FM, or WH product and application guide for each type of wall or floor penetrated by each type of utility element been submitted, approved and available for on- site review by installers and inspectors?			
Has the Responsible person (indicated above) prepared an itemized schedule of floor and fire/smoke walls to be penetrated indicating the UL, FM or WH system to be used?			

Materials utilized in repair:
Fire-stopping UL, FM or WH System Number(s) ***Attach submittals***:
_____
_____
_____
_____
Wall Board Type & number of layers (if used)
_____
Other: (Manufacturer's Engineering Judgment:) ***Attach submittal***:
_____

Approving FMS PM or Maintenance Signature: _____
Date: _____

After penetrations are sealed, FMS - PM or Maintenance Dept, and the Responsible Person shall inspect the area to ensure compliance with the required standards, make any corrections, and sign off on lines below.

Signature of **Responsible Person** Filing for Permit:
_____

Signature **FMS PM** or **Maintenance Staff**:

_____

Signature of **COTR:**

_____

Submit fully signed Copies to Contractor, COTR, Safety Officer, and FMS - PM and/or Maintenance Dept.

APPENDIX F

VA MEDICAL CENTER
PROVIDENCE, RHODE ISLAND

FACILITIES MANAGEMENT SERVICE
FMS/SOP#12
August 30, 2011

LOCKOUT / TAGOUT PROCEDURE

1. PURPOSE

To establish procedures for the Lockout/Tagout (LOTO), of energy isolating devices. The procedures will be used to ensure that the machine or piece of equipment is isolated from all potentially hazardous energy. This includes LOTO by employees performing service or maintenance related activities; where the unexpected energization, start-up or release of stored energy could cause injury.

2. POLICY

a. It is the policy of Facilities Management Service , that FMS Employees are instructed in the safety significance of the LOTO procedures, as well as how to use those procedures. Only Authorized Employees may LOTO machines or equipment.

b. Every new employee and FMS employee whose work operations are or may be in a LOTO are will be instructed in the purpose and use of the LOTO procedure. Affected Employees will be notified by the Authorized Employees whenever a LOTO will occur, as well as when the equipment is being placed back in service.

c. VAMC FMS Personnel will initiate all utility and equipment LOTO with VA LOTO devices. Contractors will add their LOTO padlock to the device or lockbox as appropriate.

3. DEFINITIONS

a. LOCKOUT/TAGOUT: shall mean the procedure of properly and safely securing equipment or systems administratively (tags, instructions, etc.) and physically (mechanical, electrical or pneumatic devices) or a combination of both.

b. AUTHORIZED EMPLOYEE: Employee trained and determined competent to effectively de- energize and LOTO machinery/equipment.

c. AFFECTED EMPLOYEE: Employee that can not perform a LOTO, but is exposed to LOTO when the employee's or surrounding machinery/equipment is under LOTO.

4. PROCEDURES

a. Preparation for LOTO:

1. Obtain the proper Hazardous Energy Control Procedure (Attachment 1) for the equipment or machine to be LOTO. Determine if changes need to be made to the procedures based on changes to the equipment and/or personnel. If a procedure is not written use Attachment 1 to prepare the procedure prior to proceeding with the LOTO.
2. Locate the LOTO Permit, (Attachment 2).
3. Locate the ENERGY LOCKOUT INDEX (Attachment 3) located in the LOTO 3-ring binder in the Lockout Locker. (File attachments 1 & 2 in the LOTO binder in the "ACTIVE LOTO" section after filling them out.)
4. Identify all Affected Employees that may be involved in the impending LOTO.
5. Obtain necessary locks and/or tags and devices to implement the LOTO.

b. Sequence of LOTO System Procedure:

1. Fill out the ENERY LOCKOUT INDEX (Attachment 3), located in the LOTO Binder.
2. Fill out the LOTO PERMIT (Attachment 2), sections 1, 2, & 3.

3. Make a copy of an existing LOTO HAZARDOUS ENERGY CONTROL SPECIFIC INSTRUCTION (Attachment 1) or fill out a blank form with all required information.

4. Notify all Affected Employees that a LOTO is going to utilized and the reason thereof. The Authorized Employee shall know the type and magnitude of energy that the machine or equipment utilizes and shall understand the hazards thereof.

5. If the machine or equipment is operating, shut it down by the normal stopping procedure (depress stop button, open toggle switch, etc.).

6. Operate the switch, valve, or other energy isolating device(s) so that the equipment is isolated from its energy source(s). Stored energy (such as that in springs, elevated machine members, rotating flowheels, hydraulic systems, and air, gas, steam or water pressure, etc.) must be dissipated or restrained by methods such as repositioning, blocking, bleeding down, etc. .

7. LOTO the energy isolating devices with assigned individual lock(s) and tag(s).

8. After ensuring that no personnel are exposed, and as a check on having disconnected the energy sources, operate the push button or other normal operating controls to make certain the equipment will not operate.

CAUTION: Return operating control(s) to "neutral" or "off" position after the test (de-energized state).

9. The equipment is now LOTO.

c. Restoring Machines or Equipment to Normal Production Operations:

1. After the servicing and/or maintenance are completed, equipment is ready for normal operations, check the area around the machines or equipment to ensure that no one is exposed.

2. After all tools have been removed from the machine or equipment, guards have been reinstalled and employees are in the clear, remove all LOTO devices. Operate the energy isolating devices to restore energy to the machine or equipment.

3. Complete Attachments 1, 2 & 3 and file in the "Completed Lockouts" section of the Lockout Binder.

d. Procedure Involving More Than One Person

1. One Authorized Employee will be designated as responsible for the LOTO.

2. The Hazardous Energy Control Procedure (HECP) will be reviewed with each group member.

3. If more than one Facility Management Section or contractor is involved, one Authorized Employee will coordinate the LOTO to ensure that all control measures are applied and that there is continuity of protection for the group.

4. Each Authorized Employee or contractor will affix the LOTO pad lock to the group lockout. Each pad lock must be identified to the person applying it. Authorized Employee or contractor will remove their LOTO device/padlock when they stop working on the equipment or machine being serviced. Outside personnel or contractors involved in operations relating to equipment or machinery lockout that affects our employees, must submit their energy control procedures to the project engineer. Affected Employees must be trained and notified as outlined in this written program. The responsible supervisor for the affected area will ensure that outside personnel and Affected Employees are informed of the proper procedure.

e. Basic Rules for Using LOTO System Procedure.

1. All equipment shall be LOTO to protect against accidental or inadvertent operation when such operation could cause injury to personnel. Do not attempt to operate any switch, valve, or other energy isolating device where it is LOTO. Violation of the LOTO can result in disciplinary action.

2. It is the policy of the Facilities Management Service that VA in-house personnel will **NOT** perform work on equipment that has not had the electrical service LOTO. If circumstances require that work be performed with live electrical connections the work will be contracted out.

4. TRAINING

a. Training will be the responsibility of the Supervisor's within Facility Management Service with assistance from the Environmental Safety & Health Department.

b. Affected and Authorized employee training will consist of at least the following elements:

1. Review of OSHA Standard 29CFR 1910.147 "The Control of Hazardous Energy" requirements.
2. Type and magnitude of energy sources.
3. Purpose and use of the Hazardous Energy Control Procedures.
4. Nature and limitations of tags.
5. How to isolate equipment/machinery for LOTO.
6. Conditions for restoring machinery/equipment and removing tags.

c. The LOTO Training will be given to Affected Employees as part of orientation.

d. Authorized Employees will receive training prior to their initial involvement with any LOTO operation.

e. Retraining will be given for Authorized and Affected Employees whenever there is a change

in job assignment, a change in machines, or equipment or process that presents a new hazard or a change in the Facilities Management Hazardous Energy Control Procedure.

f. A list of names and dates of training will be kept by the Facilities Management Service's Education Tracking Coordinator.

5. ANNUAL INSPECTION

a. Each year the Environmental Safety & Health Department will conduct an inspection of the FMS Maintenance LOTO Program.

b. This will be accomplished by reviewing the LOTO Binders in B-1, B-6 and B-10. The inspection will include the LOTO Cabinet with the various LOTO Devices. Active LOTO's sites will be visited accompanied by a FMS representative to verify the Hazardous Energy Control Procedure (HECP) was implemented.

c. When LOTO is used the HECP will be reviewed with each Authorized Employee.

d. This will be certified by the designated ES&H inspector on an annual basis. The documentation should include employee names, dates of the inspection, and the Annual Lockout/Tagout Assessment Form (Attachment 4) used.

6. RESPONSIBILITY

a. The Chief, Facilities Management Service is responsible for the administration of the maintenance LOTO Program.

b. The Project Engineer is responsible for ensuring that the contractor personnel are thoroughly familiar with and comply with this policy.

c. Facilities Management Service Supervisors are responsible for their personnel's familiarization and strict compliance with this policy and shall ensure that their personnel have available and utilize proper locks, blocks, danger tags, and protective equipment.

7. REFERENCES

NFPA-70E, Electrical Safety Requirements for Employee Workplaces.
OSHA Standard 29 CFR 1910.147

8. RESCISSION

Facilities Management Service Policy Memorandum #05, Lock/Out Tag/Out Procedures, Dated July 14, 2003.

JOHN J. BELIVEAU

Chief, Facilities Management Service

Attachments (4)

Distribution: Engineering Section Employees

APPENDIX G

VA MEDICAL CENTER **FACILITIES MANAGEMENT SERVICE**

PROVIDENCE, RHODE ISLAND **SOP POLICY MEMO 138-16**

May 15, 2012

CRANES

1. PURPOSE

The purpose of this memorandum is to establish procedures for the use of cranes at this facility. The procedures will be used to ensure that the lifting of loads above the ground surface is performed in a safe manner and fully informs facility staff of the details of the lift to be performed using a crane. This policy also defines responsibilities for these procedures.

2. POLICY

a. It is the policy of Facilities Management Service that all work with cranes shall be performed in a manner in strict compliance with construction industry regulations of the Occupational Health and Safety Administration and with the safety guidelines and policies of the Department of Veterans Affairs.

b. It is the policy of Facilities Management Service that employees and contractors be informed about specific details of crane operations when such crane use is proposed at this facility and that such information be provided to the facility staff by the crane user prior to use of a crane at this facility.

c. It is the policy of the Providence VA Facilities Management Service that the requirements stated herein will be enforced.

3. DEFINITIONS

a. *Crane Operator.* A person who has demonstrated that they are proficient in the operation of the various types of cranes. Certification shall be provided by the employer or an accredited testing agency, such as the National Commission for the Certification of Crane Operators (NCCCO).

b. *Competent Operator*. A crane operator who:

1. Is capable of identifying existing and predictable hazards with regard to the particular crane being operated.
2. Is capable of identifying existing and predictable hazards with regard to the hoisting operations being undertaken.
3. Has the training and experience to properly set up and safely control all crane functions.

c. *Competent Person.* Per OSHA, one who is capable of identifying existing and predictable hazards in the surroundings; is capable of identifying working conditions that are unsanitary, hazardous or dangerous to employees; and has authority to take prompt corrective measures to eliminate them.

d. *Controlling Entity.* Contractor or other entity that is in actual control of a project. Could be the General Contractor, Construction Manager, Prime Contractor or the Owner, depending upon the level of control applied with regard to the selection, operation and maintenance of cranes.

e. *Controlling Supervisor.* The individual who is directly responsible for crane operation and maintenance at a particular project.

f. *Crane Load Rigger*. A person trained and competent.

g. *Critical Lift.* A Lift that shall be one that requires a crane to "walk" with a load; or require more than one crane; or one that will be made over an occupied building or facility; or one that exceeds 75% of the crane capacity (taken from block 6 of the Permit Form).

h. *Critical Lift Plan.* A document that is used to plan crane lifts that have the potential for increased risk. A critical lift plan should detail the weight(s) and dimensions of the load to be hoisted; the path of travel of the load, including various height and clearance dimensions; the maximum radius or radii at which the load will be hoisted; and the exact configuration of the crane(s) to be used. Load charts for the make, model, serial number and configuration of the crane(s) shall be attached.

i. *Maximum Intended Load.* The heaviest load that a crane's capacity chart shows it is capable of lifting in a given configuration and radius.

j. *Qualified Person.* By possession of a recognized degree, certificate or professional standing or by extensive knowledge, training and experience, one who has successfully demonstrated his/her ability to solve or resolve problems relating to the subject matter, the work or the project.

k. *Signal Person*. A person trained and competent in the application of the type of signals used during a lift, with a basic understanding of crane operation and limitations, including crane dynamics involved in swinging and stopping loads and boom deflection under load.

l. *Types of Cranes.* Generally mobile cranes, such as crawler cranes, rough terrain cranes, truck cranes, boom trucks and the various other types of mobile cranes generally used on construction sites.

4. <u>PROCEDURES</u>

a. OSHA requires a Competent Person to inspect all operational components of the crane on a daily basis. The Competent Person must have received training in the provisions of the OSHA Standard, be capable of understanding the hazards associated with the crane being used and have the authority from the employer to correct and abate any hazard associated with the crane.

b. The Crane Operator *shall* be certified in the operation of the crane. A certification is determined through a *written test* that the Crane Operator knows the information necessary for safe operation of the specific type of equipment the individual will operate; and the Crane Operator is able to read and locate relevant information in the equipment manual and other materials pertaining to the crane.

c. A Signal Person shall be used for any crane operation. Each Signal Person should know and understand the type of signals used; be competent in the application of the type of signals used; and have a basic understanding of crane operation and limitations, including the crane dynamics involved in swinging and stopping loads, and boom deflection from hoisting loads.

d. After assembly on-site, the crane shall have a thorough inspection similar to an annual inspection. A Competent Person shall perform this inspection.

e. The Crane Operator shall perform a daily visual inspection at the beginning of each shift. All functional operating mechanisms, air and hydraulic systems, chains, ropes, slings, hooks and other lifting equipment shall be inspected. The rated load of each crane shall be plainly marked on both sides of the crane and visible from the ground. Each hoist and sling shall also be marked with the load limit. Unsafe conditions found during the

inspection shall be reported to the Controlling Supervisor and shall be corrected before operation is resumed.

f. A Crane Permit shall be obtained from Facilities Management Service Engineering Section by any party proposing to use a crane at this facility. The permit shall be submitted to the designated Project Manager of the Facilities Management Service Engineering Section and shall not be valid until signed by the FMS Project Manager. The Permit Form to be used is at Attachment "A" to this memorandum.

g. If any crane operation is determined to be a Critical Lift, the party submitting the Crane Permit shall include with the permit form a Critical Lift Plan that is signed by a registered Professional Engineer.

5. RESPONSIBILITY

a. The Chief, Facilities Management Service is responsible for the administration of the Crane program.

b. The FMS Project Manager is responsible for ensuring that contractor personnel are thoroughly familiar with and comply with this memorandum including the required use of the attached Crane Permit Application for all lifts.

c. The Contractor is responsible for the following:

1. Preparation and submittal to the FMS Project Manager a completed Crane Permit Application with all required information.
2. Provide adequate supervision of all hoisting operations.
3. Ensure that the Crane Operator performs a daily inspection of the crane, including an operational check of all control mechanisms.
4. Determine if the crane operation will be a "Critical Lift" as defined by the evaluation on the attached Crane Permit Application form.
5. Determine, through verifiable methods, the weight(s) of items to be hoisted.
6. Ensure that all parties involved know the weight(s) of the loads to be lifted
7. Ensure that appropriate rigging equipment is available to handle the specified loads
8. Ensure that a qualified Crane Load Rigger is assigned to inspect all rigging equipment and to oversee the rigging of all loads.
9. Ensure that all parties understand the hoisting operations as planned, including the path of travel of all hoisted loads.
10. Determine if outside factors, such as weather, will interfere with the hoisting operations.
11. Ensure that tag lines or other methods are used to maintain complete control of the load at all times.
12. Ensure that persons who are not involved in hoisting operations are not in the path of travel or otherwise endangered by hoisted loads.
13. Ensure that the Signal Person(s) is properly qualified and that the chosen signaling system is appropriate and adequate for the job.

d. The Crane Operator has the overall responsibility for the lift. Supervisors should never be able to override a Crane Operator's decision to stop a lift. If an Operator does stop a lift, a full review of all parameters shall be undertaken before operations are resumed.

JOHN J. BELIVEAU

Chief, Facilities Management Service

ATTACHMENTS

A – Crane Permit

VAMC Providence May 15, 2012

Planned Critical Lift Plan & Crane Permit

Permits must be posted at the lift site until work is complete or a new permit is issued. This permit must be reviewed every shift and reissued if a change in conditions (equipment, weather, and/or ground) or scope of work has occurred. Expired permits shall be returned to the VA for filing. This permit and supporting data must be submitted before any of the following lifts are made (check all that apply):

- ☐ A multiple crane lift
- ☐ Personnel Hoisting
- ☐ A non-routine lift of 20 tons or more
- ☐ An expected load lift is 75% or more of the crane's rated load capacity
- ☐ A lift over electrical lines, HVAC piping or operating facilities which may endanger patients and personnel

Description of Proposed Crane Work: (Include # of items to be picked and expected # of days and location)			
Proposed date for lift start:		Expected completion date:	
1. Crane Information			
Make:	Model:		Capacity (tons):
Total Boom Length:	Will Jib Be Used: (yes or no)		Jib Length:
Maximum Boom Length Required:		Maximum pick Radius Required:	
☐ Verify manufacturer's load chart indicates lifting capacity at stipulated load radius and boom lengths. Note: If boom length and/or radius is between the stipulated or posted value on the load chart select the next lesser rating capacity. The next lesser rating capacity may be the next longer or shorter boom length.			
2. Outriggers, Pads, and Tires:			
☐ Outriggers Fully Extended and Set Check One: _____ Track _____Tires ☐ Soil Type is Determined to be Acceptable for Imposed Load			

☐ VA Engineering has reviewed and determined underground utilities and structures are not at risk for damage.

3. Load information

Note: Cranes equipped with computers indicating boom length, angle, and radius are safety devices only and should not be used in place of the operator's responsibility to actually determine the measurements required to calculate a safe lift.

Note: Accessories, Crane Capacity, Parts of Line and Rope Capacity, and the working quadrant of the crane should be considered when calculating Net Crane Capacities.

Description of Maximum load (include Dimensions):	
Weight of Max Load:	How was load determined:

4. Rigging Information

List all rigging components (Including number, type, size, capacity, etc.) **Note – Anti-Two Block device is required:**

Weight of Line, Block & All Rigging:

5. Total Gross Load	**5. "Worst Case" Lift Scenario**
a) Weight of Max Load:	a) Maximum Pick Radius:
b) Weight of Line, Block & All Rigging:	b) Total Gross Load:
c) Safety Factor Added Weight:	c) Crane Chart Capacity at Max Pick Radius:
d) Total Gross Load:	d) % of Crane Capacity (b/c):

6. **Critical Pick Evaluation**

a) Will crane need to "walk" with loads?	_____ Yes _____

b) Will pick require more than one crane?	No
c) Will pick be made over occupied building or facility?	_____ Yes _____ No
d) Does "worst case" lift scenario exceed 75% of crane capacity (5d)?	_____ Yes _____ No
	_____ Yes _____ No
If the answer to any of the above is "yes" then this is a critical lift that will require additional information and the signature of a licensed professional engineer.	
7. Crane Location Information	
a) Will crane pick affect pedestrian or vehicular traffic? If "yes", a traffic control plan must be submitted.	_____ Yes _____ No
b) Are there overhead power lines or other hazards in the lift area?	
c) Will load or any part of the crane be over or within 15 feet of electrical lines, pipes, process systems or operating equipment?	_____ Yes _____ No
d) Will crane height exceed 120 feet? If 'yes" the crane must have a light beacon at the top.	
e) Will crane height exceed 200 feet? If 'yes" the FAA must be notified at least 30 days prior.	_____ Yes _____ No
	_____ Yes _____ No
	_____ Yes _____ No
8. Additional Information (All must be provided)	
a) Plot plan showing crane location, adjacent structures, roadways, utilities, etc. within the swing radius.	
b) Scale elevation sketch or drawing showing crane location, adjacent structures and load.	
c) Applicable crane load charts.	
d) Valid crane operators' license.	
e) Valid third party annual inspection certificate.	
9. Wind Speed	
a) Lifts are not allowed with wind speed in excess of: _____MPH	
b) Wind Speed at time of lift: _____MPH	
10. Comments, Notes, and Sketches:	

12. APPROVALS

The Contractor, Rigger, and Crane Operator are the Competent Persons solely responsible for the safe execution of the lift(s). Execution of the lift will be in complete accordance with OSHA regulations.

COMPLETE CHECKLIST BELOW TO ENSURE A SAFE LIFT IS PLANNED

- ☐ The load weight is confirmed known
- ☐ The load hook is directly over the load center of gravity
- ☐ Boom angle, boom length, lift radius, and the crane capacity are known
- ☐ Outrigger pads are fully extended and blocking is sufficient for the load
- ☐ Tires are clear of the ground and the crane is level
- ☐ Ground, soil, and/or pavement is confirmed to have capacity for the imposed load
- ☐ Rigging equipment has been inspected and in safe working condition
- ☐ All obstacles and obstructions have been identified
- ☐ Lifts in close proximity to power transmission lines shall meet OSHA 29 CFR 1926.550, MIOSHA R 408.11936, and applicable ANSI B30.5 safety standards
- ☐ A final check will determine the wind speed is within approved limits for this lift
- ☐ A signal method is has been determined between the crane operator and the signalman
- ☐ An individual has been designated to observe for obstructions and unauthorized personnel
- ☐ The crane operator meets OSHA qualifications requirements to operate the crane

- ☐ Verify a "competent person" is to inspect prior to use and during use, all slings, fastenings, and attachments for damage or defects. Damaged or defective equipment shall be immediately removed from service.

- ☐ Verify a "competent person" is to inspect all crane equipment and machinery prior to use and during use to ensure it is in safe operating condition. Any deficiencies shall be repaired prior to continued use.

- ☐ Verify the crane is in compliance with Federal and State regulations requiring frequent, periodic, and annual inspections. A thorough annual inspection has been made by a competent person, government, or private party recognized by the U.S. Department of Labor.

Date of Last Annual Inspection: _____ Inspected by: _____

Competent Person:

Name: _____ Signature: _____ Date: _____

Contractor Representative:

Name: _____ Signature: _____ Date: _____

Crane Operator:

Name: _____ Signature: _____ Date: _____

Crane Load Rigger:

Name: _____ Signature: _____ Date: _____

The individuals listed below have reviewed this Permit for completion of the listed requirements only, without regard for accuracy. All responsibility for crane operations rests with the individuals signing the form above this Statement.

VA Project Manager:

Name: _____ Signature: _____ Date: _____

VA Safety Representative:

Name: _____ Signature: _____ Date: _____

VA Police (if required):

Name: _____ Signature: _____ Date: _____

APPENDIX H

VA MEDICAL CENTER **POLICY MEMORANDUM 07B-**
3PROVIDENCE, RHODE ISLAND **January 03, 2012 (07B)**

REGISTRATION OF PRIVATELY OWNED VEHICLES

1. PURPOSE

To provide for the registration of all staff members and contractor vehicles which are parked or operated on the Medical Center grounds. This program will allow VA Police Officers to identify the ownership of vehicles, monitor and control vehicle parking, enforce applicable traffic regulations and facilitate contact with the owners of vehicles when it is necessary and in the interest of safety, security and legitimate enforcement efforts.

2. POLICY

a. All staff members must register their vehicles with the VA Police Service within 48 hours after their reporting for duty at the Medical Center. Compliance with this policy is a condition of employment.

b. The registration process will include issuance of a numbered VA parking permit. This permit must be displayed on the inside, driver side, lower corner of the windshield or inside, center, of the windshield by the rear-view mirror. Permits may be displayed in any visible location on motorcycles.

3. DEFINITIONS

4. MEMBERSHIP

None.

5. PROCEDURES

a. All staff members and contractor supervisors will complete the vehicle registration form at the time of initial employment or service and will report to the VA Police Service for issuance of a permit. Proof of a valid state vehicle registration and current motor vehicle insurance policy must be provided at the time of registration. Color coded and numbered permits will be issued as follows:

(1) Staff Physicians, the Director and Associate Directors - RED.

(2) Employees - GREEN or Employees in Car Pool Program - BROWN.

(3) Volunteers - YELLOW.

(4) Temporary - BLACK.

(5) Contractor Supervisor - ORANGE (hanging style)

(6) Special Permit- As directed by Police Services.

b. All staff members who have previously registered their vehicles must re-register their vehicle each time any of the following occurs:

(1) Change of state registration plate number.

(2) Change of vehicle.

(3) Loss of permit (i.e., windshield replacement).

c. Vehicle permits are considered a controlled item and as such, must be returned to the VA Police upon completion of a staff member's employment or service at the Medical Center.

d. Handicapped parking spaces, located in all parking lots on Medical Center grounds, may be utilized by any staff member who has been issued a state or VA handicap placard. The placard must be displayed at all times while said vehicles are parked in a handicapped designated space.

(1) Requests for VA handicap placards will be submitted to the Chief, VA Police. The requesting employee will be referred to the Employee Health Clinician for determination of the extent of disability. The Employee Health Clinician will then forward this determination to the Chief, VA Police for determination of issuance or non-issuance of the placard. All VA handicap placards will be issued for a limited period of time. Long term disabilities will require issuance of a state handicap placard. VA handicap placards are considered a controlled item and as such, must be returned to the VA Police.

e. Vendors and contract staff of administrative services are required to obtain a temporary parking placard issued by either the Facilities Management Service or the Police Service.

6. RESPONSIBILITY

a. The Human Resources Management Service is responsible for instructing new employees as to this policy and the requirement to respond to the VA Police office to process a vehicle registration form.

b. Service Chiefs/Line Managers are responsible for instructing new volunteers as to this policy and the requirement to respond to the VA Police office to process a vehicle registration form.

c. The VA Police Service is responsible for issuance of all parking permits and placards and maintaining accurate records of all motor vehicles registered at the Medical Center.

d. The Employee Health Clinician is responsible for assisting the Chief, VA Police in determining a staff member's eligibility for issuance of a VA handicap placard for acute or episodic illnesses requiring short-term parking needs.

e. All staff members are responsible for compliance with this policy and notifying the VA Police Service of all incidences of lost, stolen or damaged permits.

7. REFERENCES

VA Handbook 0730

8. RESCISSIONS

Policy Memorandum 07B-03, Registration of Privately Owned Vehicles, dated August 1, 2009.

VINCENT NG

Medical Center Director

Attachments: None

DISTRIBUTION: D

SECTION 01 00 00
GENERAL REQUIREMENTS

1.1 GENERAL INTENTION

A. All employees of general contractor and subcontractors shall comply with VA security management program and obtain permission of the VA police, be identified by project and employer, and restricted from unauthorized access.

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

C. Training:

1. All employees of general contractor or subcontractors shall have the 10-hour OSHA certified Construction Safety course and or other relevant competency training, as determined by the VA CP with input from the Construction Safety Committee of VAMC Providence.

2. Submit training records of all such employees for approval before the start of work.

1.2 STATEMENT OF BID ITEMS

A. The Contractor shall completely prepare site for building operations, including demolition and removal of existing structures, and furnish labor and materials and perform work for the provision of new remote generator connection systems in and related to building 1 at the VAMC Providence, RI as required by drawings and specifications.

B. The Contractor shall remove all items shown to be demolished in their entirety. All existing items to be relocated shall be removed, protected and re-installed as shown on the documents.

C. Provide new generator cabling termination cabinets and generator enclosed circuit breakers as shown in the documents.

D. Provide new cable taps on the existing main switchboard buss of the Normal 480V Switchboard and the Emergency 208V switchboard.

E. Provide a key interlock system between each generator enclosed circuit breaker and the related switchboard main disconnect. The key will be captive at the main switchboard disconnect and will not be released unless the main switchboard disconnect is locked open. The generator enclosed circuit breaker shall be locked open and may only be closed with the captured key from the related main disconnect.

1.3 SPECIFICATIONS AND DRAWINGS FOR CONTRACTOR

A. AFTER AWARD OF CONTRACT, A single CD-ROM of the contract documents in pdf format will be furnished.

B. Additional sets of drawings may be made by the Contractor, at Contractor's expense, from the CD-ROM furnished by the Contracting Officer.

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 day’s notice to obtain approval of the Contracting Officer so that security and escort 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 VA premises is allowed without written permission of the Contracting Officer.

4. VA reserves the right to close down or shut down the project site and order General Contractor's employees off the premises in the event of a national emergency. The General Contractor may return to the site only with the written approval of the Contracting Officer.

C. Key Control:

1. The General Contractor shall provide duplicate keys and lock combinations to the Project Manager for the purpose of security inspections of every area of project including tool boxes and parked machines and for the purpose of taking any emergency action.

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".

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

3. Certain documents, sketches, videos or photographs and drawings may be marked "Law Enforcement Sensitive" or "Sensitive Unclassified". Secure such information in separate containers and limit the access to only those who will need it for the project. Return the information to the Contracting Officer upon request.

4. These security documents shall not be removed or transmitted from the project site without the written approval of Contracting Officer.

5. All paper waste or electronic media such as CD's and diskettes shall be shredded and destroyed in a manner acceptable to the VA.

6. Notify Contracting Officer and Site Security Officer immediately when there is a loss or compromise of "sensitive information".

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

a. Security, access and maintenance of all project drawings, both scanned and electronic shall be performed and tracked through the EDMS system.

b. "Sensitive information" including drawings and other documents may be attached to e-mail provided all VA encryption procedures are followed.

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. Parking in designated patient parking is strictly prohibited as is parking on grass.

1.5 FIRE SAFETY

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

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

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

2. National Fire Protection Association (NFPA):

10-2006.....Standard for Portable Fire Extinguishers

30-2007.....Flammable and Combustible Liquids Code

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

70-2007.....National Electrical Code

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

3. Occupational Safety and Health Administration (OSHA):

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

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 Project Manager for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES. Prior to any worker for the contractor or subcontractors beginning work, they shall undergo a safety briefing provided by the general contractor's competent person per OSHA requirements. This briefing shall include information on the construction limits, VAMC safety guidelines, means of egress, break areas, work hours, locations of restrooms, use of VAMC equipment, etc. Documentation shall be provided to the Resident Engineer that individuals have undergone contractor's safety briefing.

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

D. Separate temporary facilities, such as trailers, storage sheds, and dumpsters, from existing buildings and new construction by distances in accordance with NFPA 241. For small facilities with less than 6 m (20 feet) exposed overall length, separate by 3m (10 feet).

E. Temporary Construction Partitions:

1. Install and maintain temporary construction partitions to provide smoke-tight separations between construction areas and adjoining areas. Fire-retardant plastic may be used for temporary construction partitions that remain in place for no more than 72 hours. Construct all other partitions of gypsum board (flame spread rating of 25 or less in accordance with ASTM E84) on both sides of metal steel studs. Extend the partitions through suspended ceilings to floor slab deck or roof. Seal joints and penetrations. At door openings, install Class C, ¾ hour fire/smoke rated doors and frames with self-closing devices.

2. Close openings in smoke barriers and fire-rated construction to maintain fire ratings. Seal penetrations with listed through-

penetration firestop materials in accordance with Section 07 84 00, FIRESTOPPING.

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

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

H. Egress Routes for Construction Workers: Maintain free and unobstructed egress. Inspect daily. Report findings and corrective actions weekly to Project Manager.

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

J. Flammable and Combustible Liquids: Store, dispense and use liquids in accordance with 29 CFR 1926, NFPA 241 and NFPA 30.

K. Existing Fire Protection: Do not impair automatic sprinklers, smoke and heat detection, and fire alarm systems, except for portions immediately under construction, and temporarily for connections. Provide fire watch for impairments more than 4 hours in a 24-hour period. Request interruptions in accordance with Article, OPERATIONS AND STORAGE AREAS, and coordinate with Project Manager. All existing or temporary fire protection systems (fire alarms, sprinklers) located in construction areas shall be tested as coordinated with the medical center. Parameters for the testing and results of any tests performed shall be recorded by the medical center and copies provided to the Project Manager.

L. Smoke Detectors: Prevent accidental operation. Comply with Providence VAMC procedures for preventing false fire alarms(Specification Section 00 72 00, Appendix A).

M. Hot Work: Perform and safeguard hot work operations in accordance with NFPA 241 and NFPA 51B. Coordinate with Project Manager. Obtain permits from Project Manager at least 48 hours in advance

N. Fire Hazard Prevention and Safety Inspections: Inspect entire construction areas weekly. Coordinate with, and report findings and corrective actions weekly to Project Manager.

O. Smoking: Smoking is prohibited in, and adjacent to, construction areas inside existing buildings and additions under construction. In separate and detached buildings under construction, smoking is prohibited except in designated smoking areas.

P. Dispose of waste and debris in accordance with NFPA 241. Remove from buildings daily.

Q. Perform other construction, alteration and demolition operations in accordance with 29 CFR 1926.

1.6 OPERATIONS AND STORAGE AREAS

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

B. Temporary buildings (e.g., storage sheds, shops, offices) and utilities may be erected by the Contractor only with the approval of the Contracting Officer and shall be built with labor and materials furnished by the Contractor without expense to the Government. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at its expense upon completion of the work. With the written consent of the Contracting Officer, the buildings and utilities may be abandoned and need not be removed.

C. The Contractor shall, under regulations prescribed by the Contracting Officer, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Contracting Officer. When materials are transported in performance of the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any Federal, State, or local law or regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor

shall repair or pay for the repair of any damaged curbs, sidewalks, or roads.

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

E. Execute work so as to interfere as little as possible with normal functioning of the Medical Center as a whole, including operations of utility services, fire protection systems and any existing equipment, and with work being done by others. Use of equipment and tools that transmit vibrations and noises through the building structure, are not permitted in buildings that are occupied, during construction, jointly by patients or medical personnel, and Contractor's personnel, except as permitted by Resident Engineer 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 Department of Veterans Affairs in quantities sufficient for not more than two work days. Provide unobstructed access to Medical Center areas required to remain in operation.

3. Where access by Medical Center personnel to vacated portions of buildings is not required, storage of Contractor's materials and equipment will be permitted subject to fire and safety requirements.

F. Phasing: To insure such executions, Contractor shall furnish the Project Manager with a schedule of approximate phasing dates on which the Contractor intends to accomplish work in each specific areas of site, building or portion thereof. In addition, Contractor shall notify the Project Manager 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 Medical Center Director, Project Manager and Contractor.

G. All Buildings will be occupied during performance of work. Contractor shall take all measures and provide all material necessary for protecting existing equipment and property in affected areas of

construction against dust and debris, so that equipment and affected areas to be used in the Medical Centers operations will not be hindered. Coordinate alteration work in areas occupied by Department of Veterans Affairs so that Medical Center operations will continue during the construction period.

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

1. No utility service such as water, gas, steam, sewers or electricity, or fire protection systems and communications systems may be interrupted without prior approval of the Medical Center. Electrical work shall be accomplished with all affected circuits or equipment de-energized. When an electrical outage cannot be accomplished, work on any energized circuits or equipment shall not commence without the Medical Center Director’s prior knowledge and written approval.

2. Contractor shall submit a request to interrupt any such services to the Medical Center Project Manager, in writing, a minimum of 15 calendar days in advance of proposed interruption. A minimum of 15 calendar days is required by Medical Center staff to assess interruption impacts and to prepare mitigation measures; therefore, the requirement to make utility interruption requests a minimum of 15 calendar days in advance of the planned interruption will not be waived. Request shall state specific details of the interruption to include identification of the utility system and device to be interrupted, its location, 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 that such interruption will cause least inconvenience to activities of Medical Center. Interruption time approved by Medical Center will occur at other than Contractor's normal working hours unless the VA determines that the interruption

is of a minor nature and will not cause inconvenience to hospital activities.

4. If the Medical Center determines that the requested interruption is of a minor nature and will not cause inconvenience to hospital activities, the Medical Center may allow the interruption to proceed in less than 15 calendar days after receipt of the contractor's request for interruption.

5. In case of a contract construction emergency, service will be interrupted on approval of Project Manager. Such approval will be confirmed in writing as soon as practical.

6. Contractor shall not manipulate any utility device that will interrupt any utility service. Medical Center staff will operate utility devices to initiate and to terminate an approved utility service interruption. Contractor shall comply with lock out/tag out procedures.

I. 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.

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

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

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

1.7 ALTERATIONS

A. Survey: Before any work is started, the Contractor shall make a thorough survey with the Project Manager of areas of buildings in which

alterations occur and areas which are anticipated routes of access, and furnish a report, signed by both, to the Contracting Officer. This report shall list by rooms and spaces:

1. Existing condition and types of resilient flooring, doors, windows, walls and other surfaces not required to be altered throughout affected areas of building.

3. Shall note any discrepancies between drawings and existing conditions at site.

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

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 Project Manager to be in such condition that their use is impossible or impractical, shall be furnished and/or replaced by Contractor with new items in accordance with specifications which will be furnished by Government. Provided the contract work is changed by reason of this subparagraph B, the contract will be modified accordingly, under provisions of clause entitled "DIFFERING SITE CONDITIONS" (FAR 52.236-2) and "CHANGES" (FAR 52.243-4 and VAAR 852.236-88).

C. Re-Survey: Thirty days before expected partial or final inspection date, the Contractor and Project Manager 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.

D. Protection: Provide the following protective measures:

1. Wherever existing roof surfaces are disturbed they shall be protected against water infiltration. In case of leaks, they shall be repaired immediately upon discovery.

2. Temporary protection against damage for portions of existing structures and grounds where work is to be done, materials handled and equipment moved and/or relocated.

3. Protection of interior of existing structures at all times, from damage, dust and weather inclemency. Wherever work is performed, floor surfaces that are to remain in place shall be adequately protected prior to starting work, and this protection shall be maintained intact until all work in the area is completed.

1.8 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 as specified in these contract documents. Prior to start of work, prepare a plan detailing project-specific dust protection measures, including periodic status reports, and submit to Project Manager for review for compliance with contract requirements in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA AND SAMPLES.

   1. All personnel involved in the construction or renovation activity shall be educated and trained in infection prevention measures established by the medical center.

C. Medical center Infection Control personnel shall monitor for airborne disease (e.g. aspergillosis) as appropriate during construction. A baseline of conditions may be established by the medical center prior to the start of work and periodically during the construction stage to determine impact of construction activities on indoor air quality. In addition:

1. The Project Manager and VAMC Infection Control personnel will review pressure differential monitoring documentation to verify that pressure differentials in the construction zone and in the patient-care rooms are appropriate for their settings. The requirement for negative air pressure in the construction zone shall depend on the location and type of activity. Upon notification, the contractor shall implement corrective measures to restore proper pressure differentials as needed.

2. In case of any problem, the medical center, along with assistance from the contractor, shall conduct an environmental assessment to find and eliminate the source.

D. In general, following preventive measures shall be adopted during construction to keep down dust and prevent mold.

1. Dampen debris to keep down dust and provide temporary construction partitions in existing structures where directed by Resident Engineer. Blank off ducts and diffusers to prevent circulation of dust into occupied areas during construction.

2. Do not perform dust producing tasks within occupied areas without the approval of the Project Manager. For construction in any areas that will remain jointly occupied by the medical Center and Contractor’s workers, the Contractor shall:

a. Provide dust proof one-hour fire-rated temporary drywall construction barriers to completely separate construction from the operational areas of the hospital in order to contain dirt debris and dust. Barriers shall be sealed and made presentable on hospital occupied side. Install a self-closing rated door in a metal frame, commensurate with the partition, to allow worker access. Maintain negative air at all times. A fire retardant polystyrene, 6-mil thick or greater plastic barrier meeting local fire codes may be used where dust control is the only hazard, and an agreement is reached with the Project Manager and Medical Center.

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 medical center 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 medical center.

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 medical center area. These mats shall be changed as often as required to maintain clean work areas directly outside construction area at all times.

d. Vacuum and wet mop all transition areas from construction to the occupied medical center at the end of each workday. Vacuum shall utilize HEPA filtration. Maintain surrounding area frequently. Remove debris as they are created. Transport these outside the construction area in containers with tightly fitting lids.

e. The contractor shall not haul debris through patient-care areas without prior approval of the Project Manager and the Medical Center. When, approved, debris shall be hauled in enclosed dust proof containers or wrapped in plastic and sealed with duct tape. No sharp objects should be allowed to cut through the plastic. Wipe down the exterior of the containers with a damp rag to remove dust. All equipment, tools, material, etc. transported through occupied areas shall be made free from dust and moisture by vacuuming and wipe down.

f. Using a HEPA vacuum, clean inside the barrier and vacuum ceiling tile prior to replacement. Any ceiling access panels opened for investigation beyond sealed areas shall be sealed immediately when unattended.

g. There shall be no standing water during construction. This includes water in equipment drip pans and open containers within the construction areas. All accidental spills must be cleaned up

and dried within 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, but is not limited to, walls, ceilings, cabinets, furniture (built-in or free standing), partitions, and flooring.

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 Resident Engineer.

2. Items not reserved shall become property of the Contractor and be removed by Contractor from Medical Center.

3. Items of portable equipment and furnishings located in rooms and spaces in which work is to be done under this contract shall remain the property of the Government. When rooms and spaces are vacated by the Department of Veterans Affairs during the alteration period, such items which are NOT required by drawings and specifications to be either relocated or reused will be removed by the Government in advance of work to avoid interfering with Contractor's operation.

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

A. The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site which are not to be removed and which do not unreasonably interfere with the work required under this contract.

B. The Contractor shall protect from damage all existing improvements and utilities at or near the work site and on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

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 Resident Engineer. Existing work to be altered or extended and that is found to be defective in any way, shall be reported to the Resident Engineer before it is disturbed. Materials and workmanship used in restoring work shall conform in type and quality to that of original existing construction, except as otherwise shown or specified.

B. Upon completion of contract, deliver work complete and undamaged. Existing work (walls, ceilings, partitions, floors, mechanical and electrical work, lawns, paving, roads, walks, etc.) disturbed or removed as a result of performing required new work, shall be patched, repaired, reinstalled, or replaced with new work, and refinished and left in as good condition as existed before commencing work.

C. At Contractor's own expense, Contractor shall immediately restore to service and repair any damage caused by Contractor's workmen to existing piping and conduits, wires, cables, etc., of utility services or of fire protection systems and communications systems (including telephone)

which are indicated on drawings and which are not scheduled for discontinuance or abandonment.

D. Expense of repairs to such utilities and systems not shown on drawings or locations of which are unknown will be covered by adjustment to contract time and price in accordance with clause entitled "CHANGES" (FAR 52.243-4 and VAAR 852.236-88) and "DIFFERING SITE CONDITIONS" (FAR 52.236-2).

1.15 AS-BUILT DRAWINGS

A. The contractor shall maintain two full size sets of as-built drawings which shall 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 Resident Engineer's review, as often as requested.

C. Contractor shall deliver two approved completed sets of as-built drawings to the Resident Engineer within 15 calendar days after each completed phase and after the acceptance of the project by the Resident Engineer.

D. Paragraphs A, B, & C shall also apply to all shop drawings.

1.16 USE OF ROADWAYS

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

1.18 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 Project Manager. If the equipment is not installed and maintained in accordance with the following provisions, the Project Manager will withdraw permission for use of the equipment.

2. Electrical installations used by the equipment shall be completed in accordance with the drawings and specifications to prevent damage to the equipment and the electrical systems, i.e. transformers, relays, circuit breakers, fuses, conductors, motor controllers and their overload elements shall be properly sized, coordinated and adjusted. Voltage supplied to each item of equipment shall be verified to be correct and it shall be determined that motors are not overloaded. The electrical equipment shall be thoroughly cleaned before using it and again immediately before final inspection including vacuum cleaning and wiping clean interior and exterior surfaces.

3. Units shall be properly lubricated, balanced, and aligned. Vibrations must be eliminated.

4. Automatic temperature control systems for preheat coils shall function properly and all safety controls shall function to prevent coil freeze up damage.

5. 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.

6. 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.

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.

1.19 TEMPORARY USE OF EXISTING ELEVATORS

A. Use of existing elevators for handling building materials and Contractor's personnel will be permitted subject to following provisions:

1. Contractor makes all arrangements with the Project Manager for use of elevators. The Project Manager will ascertain that elevators are in proper condition. Contractor may use elevator No. 1 in Building No. 1 for daily use.

2. Contractor covers and provides maximum protection of following elevator components:

   a. Entrance jambs, heads soffits and threshold plates.

   b. Entrance columns, canopy, return panels and inside surfaces of car enclosure walls.

   c. Finish flooring.

6. Place elevator in condition equal, less normal wear, to that existing at time it was placed in service of Contractor as approved by Contracting Officer.

1.21 TEMPORARY TOILETS

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

1.22 AVAILABILITY AND USE OF UTILITY SERVICES

A. The Government shall make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the contract. The amount to be paid by the Contractor for chargeable 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 Medical Center a monthly record of the Contractor's usage of electricity as hereinafter specified.

D. Heat: Furnish temporary heat necessary to prevent injury to work and materials through dampness and cold. Use of open salamanders or any temporary heating devices which may be fire hazards or may smoke and damage finished work, will not be permitted. Maintain minimum temperatures as specified for various materials:

1. Obtain heat by connecting to Medical Center heating distribution system.

a. Steam is available at no cost to Contractor.

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

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

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

1. Obtain water by connecting to the Medical Center water distribution system. Provide reduced pressure backflow preventer at each connection. 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 Project Manager’s discretion) of use of water from Medical Center's system.

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

D. All related components as defined above shall be functioning when any system component is tested. Tests shall be completed within a reasonably short period of time during which operating and environmental conditions remain reasonably constant.

E. Individual test result of any component, where required, will only be accepted when submitted with the test results of related components and of the entire system.

1.25 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 Project Manager 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 Resident Engineer and shall be considered concluded only when the Resident Engineer 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 Resident Engineer, does not demonstrate sufficient qualifications in accordance with requirements for instructors above.

1.33 HISTORIC PRESERVATION

A. Where the Contractor or any of the Contractor's employees, prior to, or during the construction work, are advised of or discover any possible archeological, historical and/or cultural resources, the Contractor shall immediately notify the Resident Engineer verbally, and then with a written follow up.

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

1.2 CONTRACTOR'S REPRESENTATIVE:

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

B. The Contractor's representative shall have direct project control and complete authority to act on behalf of the Contractor in fulfilling the requirements of this specification section.

C. The Contractor’s representative shall have the option of developing the project schedule within their organization or to engage the services of an outside consultant. If an outside scheduling consultant is utilized, Section 1.3 of this specification will apply.

1.3 CONTRACTOR'S CONSULTANT:

A. The Contractor shall submit a qualification proposal to the COTR, within 10 days of bid acceptance. The qualification proposal shall include:

1. The name and address of the proposed consultant.
2. Information to show that the proposed consultant has the qualifications to meet the requirements specified in the preceding paragraph.
3. A representative sample of prior construction projects, which the proposed consultant has performed complete project scheduling services. These representative samples shall be of similar size and scope.

B. The Contracting Officer has the right to approve or disapprove the proposed consultant, and will notify the Contractor of the VA decision within seven calendar days from receipt of the qualification proposal. In case of disapproval, the Contractor shall resubmit another consultant

within 10 calendar days for renewed consideration. The Contractor shall have their scheduling consultant approved prior to submitting any schedule for approval.

1.4 COMPUTER PRODUCED SCHEDULES

A. The contractor shall provide monthly, to the Department of Veterans Affairs (VA), all computer-produced time/cost schedules and reports generated from monthly project updates. This monthly computer service will include: three copies of up to five different reports (inclusive of all pages) available within the user defined reports of the scheduling software approved by the Contracting Officer; a hard copy listing of all project schedule changes, and associated data, made at the update and an electronic file of this data; and the resulting monthly updated schedule in PDM format. These must be submitted with and substantively support the contractor’s monthly payment request and the signed look ahead report. The COTR shall identify the five different report formats that the contractor shall provide.

B. The contractor shall be responsible for the correctness and timeliness of the computer-produced reports. The Contractor shall also responsible for the accurate and timely submittal of the updated project schedule and all CPM data necessary to produce the computer reports and payment request that is specified.

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

1.5 THE COMPLETE PROJECT SCHEDULE SUBMITTAL

A. Within 45 calendar days after receipt of Notice to Proceed, the Contractor shall submit for the Contracting Officer's review; three blue line copies of the interim schedule on sheets of paper 765 x 1070 mm (30 x 42 inches) and an electronic file in the previously approved CPM schedule program. The submittal shall also include three copies of a computer-produced activity/event ID schedule showing project duration; phase completion dates; and other data, including event cost. Each activity/event on the computer-produced schedule shall contain as a minimum, but not limited to, activity/event ID, activity/event description, duration, budget amount, early start date, early finish date, late start date, late finish date and total float. Work activity/event relationships shall be restricted to finish-to-start or

start-to-start without lead or lag constraints. Activity/event date constraints, not required by the contract, will not be accepted unless submitted to and approved by the Contracting Officer. The contractor shall make a separate written detailed request to the Contracting Officer identifying these date constraints and secure the Contracting Officer’s written approval before incorporating them into the network diagram. The Contracting Officer’s separate approval of the Project Schedule shall not excuse the contractor of this requirement. Logic events (non-work) will be permitted where necessary to reflect proper logic among work events, but must have zero duration. The complete working schedule shall reflect the Contractor's approach to scheduling the complete project. **The final Project Schedule in its original form shall contain no contract changes or delays which may have been incurred during the final network diagram development period and shall reflect the entire contract duration as defined in the bid documents.** These changes/delays shall be entered at the first update after the final Project Schedule has been approved. The Contractor should provide their requests for time and supporting time extension analysis for contract time as a result of contract changes/delays, after this update, and in accordance with Article, ADJUSTMENT OF CONTRACT COMPLETION.

D. Within 30 calendar days after receipt of the complete project interim Project Schedule and the complete final Project Schedule, the Contracting Officer or his representative, will do one or both of the following:
   1. Notify the Contractor concerning his actions, opinions, and objections.
   2. A meeting with the Contractor at or near the job site for joint review, correction or adjustment of the proposed plan will be scheduled if required. Within 14 calendar days after the joint review, the Contractor shall revise and shall submit three blue line copies of the revised Project Schedule, three copies of the revised computer-produced activity/event ID schedule and a revised electronic file as specified by the Contracting Officer. The revised submission will be reviewed by the Contracting Officer and, if found to be as previously agreed upon, will be approved.

E. The approved baseline schedule and the computer-produced schedule(s) generated there from shall constitute the approved baseline schedule until subsequently revised in accordance with the requirements of this section.

F. The Complete Project Schedule shall contain approximately 70 work activities/events.

1.6 WORK ACTIVITY/EVENT COST DATA

A. The Contractor shall cost load all work activities/events except procurement activities. The cumulative amount of all cost loaded work activities/events (including alternates) shall equal the total contract price. Prorate overhead, profit and general conditions on all work activities/events for the entire project length. The contractor shall generate from this information cash flow curves indicating graphically the total percentage of work activity/event dollar value scheduled to be in place on early finish, late finish. These cash flow curves will be used by the Contracting Officer to assist him in determining approval or disapproval of the cost loading. Negative work activity/event cost data will not be acceptable, except on VA issued contract changes.

B. The Contractor shall cost load work activities/events for guarantee period services, test, balance and adjust various systems in accordance with the provisions in Article, FAR 52.232 – 5 (PAYMENT UNDER FIXED-PRICE CONSTRUCTION CONTRACTS) and VAAR 852.236 – 83 (PAYMENT UNDER FIXED-PRICE CONSTRUCTION CONTRACTS).

C. In accordance with FAR 52.236 – 1 (PERFORMANCE OF WORK BY THE CONTRACTOR) and VAAR 852.236 – 72 (PERFORMANCE OF WORK BY THE CONTRACTOR), the Contractor shall submit, simultaneously with the cost per work activity/event of the construction schedule required by this Section, a responsibility code for all activities/events of the project for which the Contractor's forces will perform the work.

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

1.7 PROJECT SCHEDULE REQUIREMENTS

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

1. Show activities/events as:

a. Contractor's time required for submittal of shop drawings, templates, fabrication, delivery and similar pre-construction work.

b. Contracting Officer's and Architect/Engineer's review and approval of shop drawings, equipment schedules, samples, template, or similar items.

c. Interruption of VA Facilities utilities, delivery of Government furnished equipment, and rough-in drawings, project phasing and any other specification requirements.
d. Test, balance and adjust various systems and pieces of equipment, maintenance and operation manuals, instructions and preventive maintenance tasks.
e. VA inspection and acceptance activity/event with a minimum duration of five work days at the end of each phase and immediately preceding any VA move activity/event required by the contract phasing for that phase.

2. Show not only the activities/events for actual construction work for each trade category of the project, but also trade relationships to indicate the movement of trades from one area, floor, or building, to another area, floor, or building, for at least five trades who are performing major work under this contract.
3. Break up the work into activities/events of a duration no longer than 20 work days each or one reporting period, except as to non-construction activities/events (i.e., procurement of materials, delivery of equipment, concrete and asphalt curing) and any other activities/events for which the COTR may approve the showing of a longer duration. The duration for VA approval of any required submittal, shop drawing, or other submittals will not be less than 20 work days.
4. Describe work activities/events clearly, so the work is readily identifiable for assessment of completion. Activities/events labeled "start," "continue," or "completion," are not specific and will not be allowed. Lead and lag time activities will not be acceptable.
5. The schedule shall be generally numbered in such a way to reflect either discipline, phase or location of the work.

B. The Contractor shall submit the following supporting data in addition to the project schedule:
1. The appropriate project calendar including working days and holidays.
2. The planned number of shifts per day.
3. The number of hours per shift.

Failure of the Contractor to include this data shall delay the review of the submittal until the Contracting Officer is in receipt of the missing data.

C. To the extent that the Project Schedule or any revised Project Schedule shows anything not jointly agreed upon, it shall not be deemed to have been approved by the COTR. Failure to include any element of work

required for the performance of this contract shall not excuse the Contractor from completing all work required within any applicable completion date of each phase regardless of the COTR's approval of the Project Schedule.

D. Compact Disk Requirements and CPM Activity/Event Record Specifications: Submit to the VA an electronic file(s) containing one file of the data required to produce a schedule, reflecting all the activities/events of the complete project schedule being submitted.

1.8 PAYMENT TO THE CONTRACTOR:

A. Monthly, the contractor shall submit the AIA application and certificate for payment documents G702 & G703 reflecting updated schedule activities and cost data in accordance with the provisions of the following Article, PAYMENT AND PROGRESS REPORTING, as the basis upon which progress payments will be made pursuant to Article, FAR 52.232 – 5 (PAYMENT UNDER FIXED-PRICE CONSTRUCTION CONTRACTS) and VAAR 852.236 – 83 (PAYMENT UNDER FIXED-PRICE CONSTRUCTION CONTRACTS). The Contractor shall be entitled to a monthly progress payment upon approval of estimates as determined from the currently approved updated project schedule. Monthly payment requests shall include: a listing of all agreed upon project schedule changes and associated data; and an electronic file (s) of the resulting monthly updated schedule.

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

1.9 PAYMENT AND PROGRESS REPORTING

A. Monthly schedule update meetings will be held on dates mutually agreed to by the COTR and the Contractor. Contractor and their CPM consultant (if applicable) shall attend all monthly schedule update meetings. The Contractor shall accurately update the Project Schedule and all other data required and provide this information to the COTR three work days in advance of the schedule update meeting. Job progress will be reviewed to verify:

1. Actual start and/or finish dates for updated/completed activities/events.
2. Remaining duration for each activity/event started, or scheduled to start, but not completed.
3. Logic, time and cost data for change orders, and supplemental agreements that are to be incorporated into the Project Schedule.

4. Changes in activity/event sequence and/or duration which have been made, pursuant to the provisions of following Article, ADJUSTMENT OF CONTRACT COMPLETION.
5. Completion percentage for all completed and partially completed activities/events.
6. Logic and duration revisions required by this section of the specifications.
7. Activity/event duration and percent complete shall be updated independently.

B. After completion of the joint review, the contractor shall generate an updated computer-produced calendar-dated schedule and supply the Contracting Officer’s representative with reports in accordance with the Article, COMPUTER PRODUCED SCHEDULES, specified.

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

D. Following approval of the CPM schedule, the VA, the General Contractor, its approved CPM Consultant, RE office representatives, and all subcontractors needed, as determined by the SRE, shall meet to discuss the monthly updated schedule. The main emphasis shall be to address work

activities to avoid slippage of project schedule and to identify any necessary actions required to maintain project schedule during the reporting period. The Government representatives and the Contractor should conclude the meeting with a clear understanding of those work and administrative actions necessary to maintain project schedule status during the reporting period. This schedule coordination meeting will occur after each monthly project schedule update meeting utilizing the resulting schedule reports from that schedule update. If the project is behind schedule, discussions should include ways to prevent further slippage as well as ways to improve the project schedule status, when appropriate.

1.10 RESPONSIBILITY FOR COMPLETION

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

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

1.11 CHANGES TO THE SCHEDULE

A. Within 30 calendar days after VA acceptance and approval of any updated project schedule, the Contractor shall submit a revised electronic file (s) and a list of any activity/event changes 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 made under this paragraph which affect the previously approved computer produced schedules for Government furnished equipment, vacating of areas by the VA Facility, contract phase(s) and sub phase(s), utilities furnished by the Government to the Contractor, or any other previously contracted item, shall be furnished in writing to the Contracting Officer for approval.

C. Contracting Officer's approval for the revised project schedule and all relevant data is contingent upon compliance with all other paragraphs of this section and any other previous agreements by the Contracting Officer or the VA representative.

D. The cost of revisions to the project schedule resulting from contract changes will be included in the proposal for changes in work as specified in FAR 52.243 – 4 (Changes) and VAAR 852.236 – 88 (Changes – Supplemental), and will be based on the complexity of the revision or contract change, man hours expended in analyzing the change, and the total cost of the change.

E. The cost of revisions to the Project Schedule not resulting from contract changes is the responsibility of the Contractor.

1.12 ADJUSTMENT OF CONTRACT COMPLETION

A. The contract completion time will be adjusted only for causes specified in this contract. Request for an extension of the contract completion date by the Contractor shall be supported with a justification, CPM data and supporting evidence as the COTR may deem necessary for determination as to whether or not the Contractor is entitled to an extension of time under the provisions of the contract. Submission of proof based on revised activity/event logic, durations (in work days) and costs is obligatory to any approvals. The schedule must clearly display that the Contractor has used, in full, all the float time available for the work involved in this request. The Contracting Officer's determination as to the total number of days of contract extension will be based upon the current computer produced calendar dated schedule for the time period in question and all other relevant information.

B. Actual delays in activities/events which, according to the computer-produced calendar dated schedule, do not affect the extended and

predicted contract completion dates shown by the critical path in the network, will not be the basis for a change to the contract completion date. The Contracting Officer will within a reasonable time after receipt of such justification and supporting evidence, review the facts and advise the Contractor in writing of the Contracting Officer's decision.

C. The Contractor shall submit each request for a change in the contract completion date to the Contracting Officer in accordance with the provisions specified under FAR 52.243 – 4 (Changes) and VAAR 852.236 – 88 (Changes – Supplemental). The Contractor shall include, as a part of each change order proposal, a sketch showing all CPM logic revisions, duration (in work days) changes, and cost changes, for work in question and its relationship to other activities on the approved network diagram.

D. All delays due to non-work activities/events such as RFI’s, WEATHER, STRIKES, and similar non-work activities/events shall be analyzed on a month by month basis.

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

1-1. Refer to Articles titled SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION (FAR 52.236-21) and, SPECIAL NOTES (VAAR 852.236-91), in GENERAL CONDITIONS.

1-2. For the purposes of this contract, samples, test reports, certificates, and manufacturers' literature and data shall also be subject to the previously referenced requirements. The following text refers to all items collectively as SUBMITTALS.

1-3. Submit for approval, all of the items specifically mentioned under the separate sections of the specification, with information sufficient to evidence full compliance with contract requirements. Materials, fabricated articles and the like to be installed in permanent work shall equal those of approved submittals. After an item has been approved, no change in brand or make will be permitted unless:

A. Satisfactory written evidence is presented to, and approved by Contracting Officer, that manufacturer cannot make scheduled delivery of approved item or;

B. Item delivered has been rejected and substitution of a suitable item is an urgent necessity or;

C. Other conditions become apparent which indicates approval of such substitute item to be in best interest of the Government.

1-4. Forward submittals in sufficient time to permit proper consideration and approval action by Government. Time submission to assure adequate lead time for procurement of contract required items. Delays attributable to untimely and rejected submittals will not serve as a basis for extending contract time for completion.

1-5. Submittals will be reviewed for compliance with contract requirements by Architect/Engineer, and action thereon will be taken by Resident Engineer on behalf of the Contracting Officer.

1-6. Upon receipt of submittals, Architect/Engineer will assign a file number thereto. Contractor, in any subsequent correspondence, shall refer to this file and identification number to expedite replies relative to previously approved or disapproved submittals.

1-7. The Government reserves the right to require additional submittals, whether or not particularly mentioned in this contract. If additional submittals beyond those required by the contract are furnished pursuant to request therefore by Contracting Officer, adjustment in contract price and time will be made in accordance with Articles titled CHANGES

(FAR 52.243-4) and CHANGES - SUPPLEMENT (VAAR 852.236-88) of the GENERAL CONDITIONS.

1-8. Schedules called for in specifications and shown on shop drawings shall be submitted for use and information of Department of Veterans Affairs and Architect/Engineer. However, the Contractor shall assume responsibility for coordinating and verifying schedules. The Contracting Officer and Architect- Engineer assumes no responsibility for checking schedules or layout drawings for exact sizes, exact numbers and detailed positioning of items.

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

A. Submit samples in single units unless otherwise specified. Submit shop drawings, schedules, manufacturers' literature and data, and certificates in quadruplicate, except where a greater number is specified.

B. Submittals will receive consideration only when covered by a transmittal letter signed by Contractor. Letter shall be sent via mail and shall contain the list of items, name of Medical Center, name of Contractor, contract number, applicable specification paragraph numbers, applicable drawing numbers (and other information required for exact identification of location for each item), manufacturer and brand, ASTM or Federal Specification Number (if any) and such additional information as may be required by specifications for particular item being furnished. In addition, catalogs shall be marked to indicate specific items submitted for approval.

1. A copy of letter must be enclosed with items, and any items received without identification letter will be considered "unclaimed goods" and held for a limited time only.
2. Each sample, certificate, manufacturers' literature and data shall be labeled to indicate the name and location of the Medical Center, name of Contractor, manufacturer, brand, contract number and ASTM or Federal Specification Number as applicable and location(s) on project.
3. Required certificates shall be signed by an authorized representative of manufacturer or supplier of material, and by Contractor.

D. If submittal samples have been disapproved, resubmit new samples as soon as possible after notification of disapproval. Such new samples shall be marked "Resubmitted Sample" in addition to containing other previously specified information required on label and in transmittal letter.

E. Approved samples will be kept on file by the Resident Engineer at the site until completion of contract, at which time such samples will be delivered to Contractor as Contractor's property. Where noted in technical sections of specifications, approved samples in good condition may be used in their proper locations in contract work. At completion of contract, samples that are not approved will be returned to Contractor only upon request and at Contractor's expense. Such request should be made prior to completion of the contract. Disapproved samples that are not requested for return by Contractor will be discarded after completion of contract.

F. Submittal drawings (shop, erection or setting drawings) and schedules, required for work of various trades, shall be checked before submission by technically qualified employees of Contractor for accuracy, completeness and compliance with contract requirements. These drawings and schedules shall be stamped and signed by Contractor certifying to such check.

1. For each drawing required, submit one legible photographic paper or vellum reproducible.
2. Reproducible shall be full size.
3. Each drawing shall have marked thereon, proper descriptive title, including Medical Center location, project number, manufacturer's number, reference to contract drawing number, detail Section Number, and Specification Section Number.
4. A space 4-3/4 by 5 inches shall be reserved on each drawing to accommodate approval or disapproval stamp.
5. Submit drawings, ROLLED WITHIN A MAILING TUBE, fully protected for shipment.
6. One reproducible print of approved or disapproved shop drawings will be forwarded to Contractor.
7. When work is directly related and involves more than one trade, shop drawings shall be submitted to Architect/Engineer under one cover.

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

AI Engineers, Inc.

919 Middle Street

Middletown, CT 06457

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

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SECTION 01 42 19
REFERENCE STANDARDS

PART 1 - GENERAL

1.1 DESCRIPTION

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

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

A. The GSA Index of Federal Specifications, Standards and Commercial Item Descriptions, FPMR Part 101-29 and copies of specifications, standards, and commercial item descriptions cited in the solicitation may be obtained for a fee by submitting a request to – GSA Federal Supply Service, Specifications Section, Suite 8100, 470 East L'Enfant Plaza, SW, Washington, DC 20407, Telephone (202) 619-8925, Facsimile (202) 619-8978.

B. If the General Services Administration, Department of Agriculture, or Department of Veterans Affairs issued this solicitation, a single copy of specifications, standards, and commercial item descriptions cited in this solicitation may be obtained free of charge by submitting a request to the addressee in paragraph (a) of this provision. Additional copies will be issued for a fee.

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

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

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

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

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

AA	Aluminum Association Inc. http://www.aluminum.org
AABC	Associated Air Balance Council http://www.aabchq.com
AAMA	American Architectural Manufacturer's Association http://www.aamanet.org
AAN	American Nursery and Landscape Association http://www.anla.org
AASHTO	American Association of State Highway and Transportation Officials http://www.aashto.org
AATCC	American Association of Textile Chemists and Colorists http://www.aatcc.org
ACGIH	American Conference of Governmental Industrial Hygienists http://www.acgih.org
ACI	American Concrete Institute http://www.aci-int.net
ACPA	American Concrete Pipe Association http://www.concrete-pipe.org
ACPPA	American Concrete Pressure Pipe Association http://www.acppa.org
ADC	Air Diffusion Council http://flexibleduct.org
AGA	American Gas Association http://www.aga.org
AGC	Associated General Contractors of America http://www.agc.org
AGMA	American Gear Manufacturers Association, Inc. http://www.agma.org
AHAM	Association of Home Appliance Manufacturers http://www.aham.org
AISC	American Institute of Steel Construction http://www.aisc.org
AISI	American Iron and Steel Institute http://www.steel.org
AITC	American Institute of Timber Construction http://www.aitc-glulam.org
AMCA	Air Movement and Control Association, Inc. http://www.amca.org
ANLA	American Nursery & Landscape Association http://www.anla.org

ANSI	American National Standards Institute, Inc. http://www.ansi.org
APA	The Engineered Wood Association http://www.apawood.org
ARI	Air-Conditioning and Refrigeration Institute http://www.ari.org
ASAE	American Society of Agricultural Engineers http://www.asae.org
ASCE	American Society of Civil Engineers http://www.asce.org
ASHRAE	American Society of Heating, Refrigerating, and Air-Conditioning Engineers http://www.ashrae.org
ASME	American Society of Mechanical Engineers http://www.asme.org
ASSE	American Society of Sanitary Engineering http://www.asse-plumbing.org
ASTM	American Society for Testing and Materials http://www.astm.org
AWI	Architectural Woodwork Institute http://www.awinet.org
AWS	American Welding Society http://www.aws.org
AWWA	American Water Works Association http://www.awwa.org
BHMA	Builders Hardware Manufacturers Association http://www.buildershardware.com
BIA	Brick Institute of America http://www.bia.org
CAGI	Compressed Air and Gas Institute http://www.cagi.org
CGA	Compressed Gas Association, Inc. http://www.cganet.com
CI	The Chlorine Institute, Inc. http://www.chlorineinstitute.org
CISCA	Ceilings and Interior Systems Construction Association http://www.cisca.org
CISPI	Cast Iron Soil Pipe Institute http://www.cispi.org

CLFMI	Chain Link Fence Manufacturers Institute http://www.chainlinkinfo.org
CPMB	Concrete Plant Manufacturers Bureau http://www.cpmb.org
CRA	California Redwood Association http://www.calredwood.org
CRSI	Concrete Reinforcing Steel Institute http://www.crsi.org
CTI	Cooling Technology Institute http://www.cti.org
DHI	Door and Hardware Institute http://www.dhi.org
EGSA	Electrical Generating Systems Association http://www.egsa.org
EEI	Edison Electric Institute http://www.eei.org
EPA	Environmental Protection Agency http://www.epa.gov
ETL	ETL Testing Laboratories, Inc. http://www.et1.com
FAA	Federal Aviation Administration http://www.faa.gov
FCC	Federal Communications Commission http://www.fcc.gov
FPS	The Forest Products Society http://www.forestprod.org
GANA	Glass Association of North America http://www.cssinfo.com/info/gana.html/
FM	Factory Mutual Insurance http://www.fmglobal.com
GA	Gypsum Association http://www.gypsum.org
GSA	General Services Administration http://www.gsa.gov
HI	Hydraulic Institute http://www.pumps.org
HPVA	Hardwood Plywood & Veneer Association http://www.hpva.org
ICBO	International Conference of Building Officials http://www.icbo.org

ICEA	Insulated Cable Engineers Association Inc. http://www.icea.net
\ICAC	Institute of Clean Air Companies http://www.icac.com
IEEE	Institute of Electrical and Electronics Engineers http://www.ieee.org\
IMSA	International Municipal Signal Association http://www.imsasafety.org
IPCEA	Insulated Power Cable Engineers Association
NBMA	Metal Buildings Manufacturers Association http://www.mbma.com
MSS	Manufacturers Standardization Society of the Valve and Fittings Industry Inc. http://www.mss-hq.com
NAAMM	National Association of Architectural Metal Manufacturers http://www.naamm.org
NAPHCC	Plumbing-Heating-Cooling Contractors Association http://www.phccweb.org.org
NBS	National Bureau of Standards See - NIST
NBBPVI	National Board of Boiler and Pressure Vessel Inspectors http://www.nationboard.org
NEC	National Electric Code See - NFPA National Fire Protection Association
NEMA	National Electrical Manufacturers Association http://www.nema.org
NFPA	National Fire Protection Association http://www.nfpa.org
NHLA	National Hardwood Lumber Association http://www.natlhardwood.org
NIH	National Institute of Health http://www.nih.gov
NIST	National Institute of Standards and Technology http://www.nist.gov
NLMA	Northeastern Lumber Manufacturers Association, Inc. http://www.nelma.org
NPA	National Particleboard Association 18928 Premiere Court Gaithersburg, MD 20879 (301) 670-0604

NSF	National Sanitation Foundation http://www.nsf.org
NWWDA	Window and Door Manufacturers Association http://www.nwwda.org
OSHA	Occupational Safety and Health Administration Department of Labor http://www.osha.gov
PCA	Portland Cement Association http://www.portcement.org
PCI	Precast Prestressed Concrete Institute http://www.pci.org
PPI	The Plastic Pipe Institute http://www.plasticpipe.org
PEI	Porcelain Enamel Institute, Inc. http://www.porcelainenamel.com
PTI	Post-Tensioning Institute http://www.post-tensioning.org
RFCI	The Resilient Floor Covering Institute http://www.rfci.com
RIS	Redwood Inspection Service See - CRA
RMA	Rubber Manufacturers Association, Inc. http://www.rma.org
SCMA	Southern Cypress Manufacturers Association http://www.cypressinfo.org
SDI	Steel Door Institute http://www.steeldoor.org
IGMA	Insulating Glass Manufacturers Alliance http://www.igmaonline.org
SJI	Steel Joist Institute http://www.steeljoist.org
SMACNA	Sheet Metal and Air-Conditioning Contractors National Association, Inc. http://www.smacna.org
SSPC	The Society for Protective Coatings http://www.sspc.org
STI	Steel Tank Institute http://www.steeltank.com
SWI	Steel Window Institute http://www.steelwindows.com

TCA	Tile Council of America, Inc. http://www.tileusa.com
TEMA	Tubular Exchange Manufacturers Association http://www.tema.org
TPI	Truss Plate Institute, Inc. 583 D'Onofrio Drive; Suite 200 Madison, WI 53719 (608) 833-5900
UBC	The Uniform Building Code See ICBO
UL	Underwriters' Laboratories Incorporated http://www.ul.com
ULC	Underwriters' Laboratories of Canada http://www.ulc.ca
WCLIB	West Coast Lumber Inspection Bureau 6980 SW Varns Road, P.O. Box 23145 Portland, OR 97223 (503) 639-0651
WRCLA	Western Red Cedar Lumber Association P.O. Box 120786 New Brighton, MN 55112 (612) 633-4334
WWPA	Western Wood Products Association http://www.wwpa.org

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SECTION 01 45 29
TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.1 DESCRIPTION:

This section specifies materials testing activities and inspection services required during project construction to be provided by a Testing Laboratory retained and paid for by Contractor.

1.2 APPLICABLE PUBLICATIONS:

A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

B. American Association of State Highway and Transportation Officials (AASHTO):

T27-06.....Sieve Analysis of Fine and Coarse Aggregates

T96-02 (R2006).....Resistance to Degradation of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine

T99-01 (R2004).....The Moisture-Density Relations of Soils Using a 2.5 Kg (5.5 lb.) Rammer and a 305 mm (12 in.) Drop

T104-99 (R2003).....Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate

T180-01 (R2004).....Moisture-Density Relations of Soils using a 4.54 kg (10 lb.) Rammer and a 457 mm (18 in.) Drop

T191-02(R2006).....Density of Soil In-Place by the Sand-Cone Method

C. American Concrete Institute (ACI):

506.4R-94 (R2004).....Guide for the Evaluation of Shotcrete

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

A325-06.....Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength

A370-07.....Definitions for Mechanical Testing of Steel Products

A416/A416M-06.....Steel Strand, Uncoated Seven-Wire for Prestressed Concrete

A490-06.....Heat Treated Steel Structural Bolts, 150 ksi Minimum Tensile Strength

C31/C31M-06.....Making and Curing Concrete Test Specimens in the Field

C33-03.....Concrete Aggregates

C39/C39M-05.....Compressive Strength of Cylindrical Concrete Specimens
C109/C109M-05.....Compressive Strength of Hydraulic Cement Mortars
C138-07.....Unit Weight, Yield, and Air Content (Gravimetric) of Concrete
C140-07.....Sampling and Testing Concrete Masonry Units and Related Units
C143/C143M-05.....Slump of Hydraulic Cement Concrete
C172-07.....Sampling Freshly Mixed Concrete
C173-07.....Air Content of freshly Mixed Concrete by the Volumetric Method
C330-05.....Lightweight Aggregates for Structural Concrete
C567-05.....Density Structural Lightweight Concrete
C780-07.....Pre-construction and Construction Evaluation of Mortars for Plain and Reinforced Unit Masonry
C1019-08.....Sampling and Testing Grout
C1064/C1064M-05.....Freshly Mixed Portland Cement Concrete
C1077-06.....Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation
C1314-07.....Compressive Strength of Masonry Prisms
D698-07.....Laboratory Compaction Characteristics of Soil Using Standard Effort
D1143-07.....Piles Under Static Axial Compressive Load
D1188-07.....Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Paraffin-Coated Specimens
D1556-07.....Density and Unit Weight of Soil in Place by the Sand-Cone Method
D1557-07.....Laboratory Compaction Characteristics of Soil Using Modified Effort
D2166-06.....Unconfined Compressive Strength of Cohesive Soil
D2167-94(R2001).....Density and Unit Weight of Soil in Place by the Rubber Balloon Method
D2216-05.....Laboratory Determination of Water (Moisture) Content of Soil and Rock by Mass
D2922-05.....Density of soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)
D2974-07.....Moisture, Ash, and Organic Matter of Peat and Other Organic Soils

D3666-(2002).....Minimum Requirements for Agencies Testing and Inspection Bituminous Paving Materials
D3740-07.....Minimum Requirements for Agencies Engaged in the Testing and Inspecting Road and Paving Material
E94-04.....Radiographic Testing
E164-03.....Ultrasonic Contact Examination of Weldments
E329-07.....Agencies Engaged in Construction Inspection and/or Testing
E543-06.....Agencies Performing Non-Destructive Testing
E605-93(R2006).....Thickness and Density of Sprayed Fire-Resistive Material (SFRM) Applied to Structural Members
E709-(2001).....Guide for Magnetic Particle Examination
E1155-96(R2008).....Determining FF Floor Flatness and FL Floor Levelness Numbers

E. American Welding Society (AWS):
D1.1-07.....Structural Welding Code-Steel

1.3 REQUIREMENTS:

A. Accreditation Requirements: Construction materials testing laboratories must be accredited by a laboratory accreditation authority and will be required to submit a copy of the Certificate of Accreditation and Scope of Accreditation. The laboratory’s scope of accreditation must include the appropriate ASTM standards (i.e.; E 329, C 1077, D 3666, D3740, A 880, E 543) listed in the technical sections of the specifications. Laboratories engaged in Hazardous Materials Testing shall meet the requirements of OSHA and EPA. The policy applies to the specific laboratory performing the actual testing, not just the “Corporate Office.”

B. Inspection and Testing: Testing laboratory shall inspect materials and workmanship and perform tests described herein and additional tests requested by Resident Engineer. When it appears materials furnished, or work performed by Contractor fail to meet construction contract requirements, Testing Laboratory shall direct attention of Resident Engineer to such failure.

C. Written Reports: Testing laboratory shall submit test reports to Resident Engineer, Contractor, unless other arrangements are agreed to in writing by the Resident Engineer. Submit reports of tests that fail to meet construction contract requirements on colored paper.

D. Verbal Reports: Give verbal notification to Resident Engineer immediately of any irregularity.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 EARTHWORK:

A. General: The Testing Laboratory shall provide qualified personnel, materials, equipment, and transportation as required to perform the services identified/required herein, within the agreed to schedule and/or time frame. The work to be performed shall be as identified herein and shall include but not be limited to the following:

1. Observe fill and subgrades during proof-rolling to evaluate suitability of surface material to receive fill or base course. Provide recommendations to the Resident Engineer regarding suitability or unsuitability of areas where proof-rolling was observed. Where unsuitable results are observed, witness excavation of unsuitable material and recommend to Resident Engineer extent of removal and replacement of unsuitable materials and observe proof-rolling of replaced areas until satisfactory results are obtained.
2. Provide part time observation of fill placement and compaction and field density testing in building areas and provide part time observation of fill placement and compaction and field density testing in pavement areas to verify that earthwork compaction obtained is in accordance with contract documents.
3. Provide supervised geotechnical technician to inspect excavation, subsurface preparation, and backfill for structural fill.

B. Testing Compaction:

1. Determine maximum density and optimum moisture content for each type of fill, backfill and subgrade material used, in compliance with AASHTO T99/T180 and/or ASTM D1557.
2. Make field density tests in accordance with the primary testing method following AASHTO T238 wherever possible. Field density tests utilizing AASHTO T191, or ASTM D2167 shall be utilized on a case by case basis only if there are problems with the validity of the results from the primary method due to specific site field conditions. Should the testing laboratory propose these alternative methods, they should provide satisfactory explanation to the Resident Engineer before the tests are conducted.
   a. Foundation Wall Backfill: One test per 30 m (100 feet) of each layer of compacted fill but in no case fewer than two tests.
   b. Pavement Subgrade: One test for each 335 m^2 (400 square yards), but in no case fewer than two tests.

c. Curb, Gutter, and Sidewalk: One test for each 90 m (300 feet), but in no case fewer than two tests.
d. Trenches: One test at maximum 30 m (100 foot) intervals per 1200 mm (4 foot) of vertical lift and at changes in required density, but in no case fewer than two tests.

C. Testing for Footing Bearing Capacity: Evaluate if suitable bearing capacity material is encountered in footing subgrade.

D. Testing Materials: Test suitability of on-site and off-site borrow as directed by Resident Engineer.

3.4 LANDSCAPING:

A. Test topsoil for organic materials, pH, phosphate, potash content, and gradation of particles.
   1. Test for organic material by using ASTM D2974.
   2. Determine percent of silt, sand, clay, and foreign materials such as rock, roots, and vegetation.

B. Submit laboratory test report of topsoil to Resident Engineer.

3.5 ASPHALT CONCRETE PAVING:

A. Aggregate Base Course:
   1. Determine maximum density and optimum moisture content for aggregate base material in accordance with AASHTO T180, Method D.
   2. Make a minimum of three field density tests on each day's final compaction on each aggregate course in accordance with AASHTO T191.
   3. Sample and test aggregate as necessary to insure compliance with specification requirements for gradation, wear, and soundness as specified in the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, Latest Edition including any Supplemental Revisions.

B. Asphalt Concrete:
   1. Sample and test asphalt concrete as necessary to insure compliance with specification requirements for asphalt grade, quantity and granular material as specified in the Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction, Latest Edition including any Supplemental Revisions.
   2. Temperature: Check temperature of each load of asphalt concrete at mixing plant and at site of paving operation.
   3. Density: Make a minimum of two field density tests in accordance with ASTM D1188 of asphalt base and surface course for each day's paving operation.

3.6 SITE WORK CONCRETE:

Test site work concrete including materials for concrete as required in Article CONCRETE of this section.

3.8 CONCRETE:

A. Batch Plant Inspection and Materials Testing:
   1. Perform continuous batch plant inspection until concrete quality is established to satisfaction of Resident Engineer with concurrence of Contracting Officer and perform periodic inspections thereafter as determined by Resident Engineer.
   2. Periodically inspect and test batch proportioning equipment for accuracy and report deficiencies to Resident Engineer.
   3. Sample and test mix ingredients as necessary to insure compliance with specifications.
   4. Sample and test aggregates daily and as necessary for moisture content. Test the dry rodded weight of the coarse aggregate whenever a sieve analysis is made, and when it appears there has been a change in the aggregate.
   5. Certify, in duplicate, ingredients and proportions and amounts of ingredients in concrete conform to approved trial mixes. When concrete is batched or mixed off immediate building site, certify (by signing, initialing or stamping thereon) on delivery slips (duplicate) that ingredients in truck-load mixes conform to proportions of aggregate weight, cement factor, and water-cement ratio of approved trial mixes.

B. Field Inspection and Materials Testing:
   1. Provide a technician at site of placement at all times to perform concrete sampling and testing.
   2. Review the delivery tickets of the ready-mix concrete trucks arriving on-site. Notify the Contractor if the concrete cannot be placed within the specified time limits or if the type of concrete delivered is incorrect. Reject any loads that do not comply with the Specification requirements. Rejected loads are to be removed from the site at the Contractor’s expense. Any rejected concrete that is placed will be subject to removal.
   3. Take concrete samples at point of placement in accordance with ASTM C172. Mold and cure compression test cylinders in accordance with ASTM C31. Make at least three cylinders for each 40 m^3 (50 cubic yards) or less of each concrete type, and at least three cylinders for any one day's pour for each concrete type. Label each cylinder

with an identification number. Resident Engineer may require additional cylinders to be molded and cured under job conditions.

4. Perform slump tests in accordance with ASTM C143. Test the first truck each day, and every time test cylinders are made. Test pumped concrete at the hopper and at the discharge end of the hose at the beginning of each day’s pumping operations to determine change in slump.
5. Determine the air content of concrete per ASTM C173. For concrete required to be air-entrained, test the first truck and every 20 m^3 (25 cubic yards) thereafter each day. For concrete not required to be air-entrained, test every 80 m^3 (100 cubic yards) at random. For pumped concrete, initially test concrete at both the hopper and the discharge end of the hose to determine change in air content.
6. If slump or air content fall outside specified limits, make another test immediately from another portion of same batch.
7. Perform unit weight tests in compliance with ASTM C138 for normal weight concrete and ASTM C567 for lightweight concrete. Test the first truck and each time cylinders are made.
8. Notify laboratory technician at batch plant of mix irregularities and request materials and proportioning check.
9. Verify that specified mixing has been accomplished.
10. Environmental Conditions: Determine the temperature per ASTM C1064 for each truckload of concrete during hot weather and cold weather concreting operations:
    a. When ambient air temperature falls below 4.4 degrees C (40 degrees F), record maximum and minimum air temperatures in each 24 hour period; record air temperature inside protective enclosure; record minimum temperature of surface of hardened concrete.
    b. When ambient air temperature rises above 29.4 degrees C (85 degrees F), record maximum and minimum air temperature in each 24 hour period; record minimum relative humidity; record maximum wind velocity; record maximum temperature of surface of hardened concrete.
11. Inspect the reinforcing steel placement, including bar size, bar spacing, top and bottom concrete cover, proper tie into the chairs, and grade of steel prior to concrete placement. Submit detailed report of observations.
12. Observe conveying, placement, and consolidation of concrete for conformance to specifications.

13. Observe condition of formed surfaces upon removal of formwork prior to repair of surface defects and observe repair of surface defects.
14. Observe curing procedures for conformance with specifications, record dates of concrete placement, start of preliminary curing, start of final curing, end of curing period.
15. Observe preparations for placement of concrete:
    a. Inspect handling, conveying, and placing equipment, inspect vibrating and compaction equipment.
    b. Inspect preparation of construction, expansion, and isolation joints.
16. Observe preparations for protection from hot weather, cold weather, sun, and rain, and preparations for curing.
17. Observe concrete mixing:
    a. Monitor and record amount of water added at project site.
    b. Observe minimum and maximum mixing times.
18. Measure concrete flatwork for levelness and flatness as follows:
    a. Perform Floor Tolerance Measurements F_F and F_L in accordance with ASTM E1155. Calculate the actual overall F- numbers using the inferior/superior area method.
    b. Perform all floor tolerance measurements within 48 hours after slab installation and prior to removal of shoring and formwork.
    c. Provide the Contractor and the Resident Engineer with the results of all profile tests, including a running tabulation of the overall F_F and F_L values for all slabs installed to date, within 72 hours after each slab installation.
19. Other inspections:
    a. Grouting under base plates.
    b. Grouting anchor bolts and reinforcing steel in hardened concrete.

C. Laboratory Tests of Field Samples:
1. Test compression test cylinders for strength in accordance with ASTM C39. For each test series, test one cylinder at 7 days and one cylinder at 28 days. Use remaining cylinder as a spare tested as directed by Resident Engineer. Compile laboratory test reports as follows: Compressive strength test shall be result of one cylinder, except when one cylinder shows evidence of improper sampling, molding or testing, in which case it shall be discarded and strength of spare cylinder shall be used.
2. Make weight tests of hardened lightweight structural concrete in accordance with ASTM C567.

3. Furnish certified compression test reports (duplicate) to Resident Engineer. In test report, indicate the following information:
   a. Cylinder identification number and date cast.
   b. Specific location at which test samples were taken.
   c. Type of concrete, slump, and percent air.
   d. Compressive strength of concrete in MPa (psi).
   e. Weight of lightweight structural concrete in kg/m^3 (pounds per cubic feet).
   f. Weather conditions during placing.
   g. Temperature of concrete in each test cylinder when test cylinder was molded.
   h. Maximum and minimum ambient temperature during placing.
   i. Ambient temperature when concrete sample in test cylinder was taken.
   j. Date delivered to laboratory and date tested.

3.9 REINFORCEMENT:

A. Review mill test reports furnished by Contractor.
B. Make one tensile and one bend test in accordance with ASTM A370 from each pair of samples obtained.
C. Written report shall include, in addition to test results, heat number, manufacturer, type and grade of steel, and bar size.
D. Perform tension tests of mechanical and welded splices in accordance with ASTM A370.

3.13 MASONRY:

A. Mortar Tests:
   1. Laboratory compressive strength test:
      a. Comply with ASTM C780.
      b. Obtain samples during or immediately after discharge from batch mixer.
      c. Furnish molds with 50 mm (2 inch), 3 compartment gang cube.
      d. Test one sample at 7 days and 2 samples at 28 days.
   2. Two tests during first week of operation; one test per week after initial test until masonry completion.
B. Grout Tests:
   1. Laboratory compressive strength test:
      a. Comply with ASTM C1019.
      b. Test one sample at 7 days and 2 samples at 28 days.
      c. Perform test for each 230 m^2 (2500 square feet) of masonry.
C. Masonry Unit Tests:
   1. Laboratory Compressive Strength Test:

a. Comply with ASTM C140.

b. Test 3 samples for each 460 m^2 (5000 square feet) of wall area.

D. Prism Tests: For each type of wall construction indicated, test masonry prisms per ASTM C1314 for each 460 m^2 (5000 square feet) of wall area. Prepare one set of prisms for testing at 7 days and one set for testing at 28 days.

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SECTION 01 57 19
TEMPORARY ENVIRONMENTAL CONTROLS

EP-1. DESCRIPTION

A. This section specifies the control of environmental pollution and damage that the Contractor must consider for air, water, and land resources. It includes management of visual aesthetics, noise, solid waste, radiant energy, and radioactive materials, as well as other pollutants and resources encountered or generated by the Contractor. The Contractor is obligated to consider specified control measures with the costs included within the various contract items of work.

B. Environmental pollution and damage is defined as the presence of chemical, physical, or biological elements or agents which:
   1. Adversely effect human health or welfare,
   2. Unfavorably alter ecological balances of importance to human life,
   3. Effect other species of importance to humankind, or;
   4. Degrade the utility of the environment for aesthetic, cultural, and historical purposes.

C. Definitions of Pollutants:
   1. Chemical Waste: Petroleum products, bituminous materials, salts, acids, alkalis, herbicides, pesticides, organic chemicals, and inorganic wastes.
   2. Debris: Combustible and noncombustible wastes, such as leaves, tree trimmings, ashes, and waste materials resulting from construction or maintenance and repair work.
   3. Sediment: Soil and other debris that has been eroded and transported by runoff water.
   4. Solid Waste: Rubbish, debris, garbage, and other discarded solid materials resulting from industrial, commercial, and agricultural operations and from community activities.
   5. Surface Discharge: The term "Surface Discharge" implies that the water is discharged with possible sheeting action and subsequent soil erosion may occur. Waters that are surface discharged may terminate in drainage ditches, storm sewers, creeks, and/or "water of the United States" and would require a permit to discharge water from the governing agency.
   6. Rubbish: Combustible and noncombustible wastes such as paper, boxes, glass and crockery, metal and lumber scrap, tin cans, and bones.

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

EP-2. QUALITY CONTROL

A. Establish and maintain quality control for the environmental protection of all items set forth herein.

B. Record on daily reports any problems in complying with laws, regulations, and ordinances. Note any corrective action taken.

EP-3. REFERENCES

A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

B. U.S. National Archives and Records Administration (NARA):
33 CFR 328.....Definitions

EP-4. SUBMITTALS

A. In accordance with Section, 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES, furnish the following:

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

f. Methods for protection of features to be preserved within authorized work areas including trees, shrubs, vines, grasses, ground cover, landscape features, air and water quality, fish and wildlife, soil, historical, and archeological and cultural resources.

g. Procedures to provide the environmental protection that comply with the applicable laws and regulations. Describe the procedures to correct pollution of the environment due to accident, natural causes, or failure to follow the procedures as described in the Environmental Protection Plan.

h. Permits, licenses, and the location of the solid waste disposal area.

i. Drawings showing locations of any proposed temporary excavations or embankments for haul roads, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials. Include as part of an Erosion Control Plan approved by the District Office of the U.S. Soil Conservation Service and the Department of Veterans Affairs.

j. Environmental Monitoring Plans for the job site including land, water, air, and noise.

k. Work Area Plan showing the proposed activity in each portion of the area and identifying the areas of limited use or nonuse. Plan should include measures for marking the limits of use areas. This plan may be incorporated within the Erosion Control Plan.

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

EP-5. PROTECTION OF ENVIRONMENTAL RESOURCES

A. Protect environmental resources within the project boundaries and those affected outside the limits of permanent work during the entire period of this contract. Confine activities to areas defined by the specifications and drawings.

B. Protection of Land Resources: Prior to construction, identify all land resources to be preserved within the work area. Do not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, top soil, and land forms without permission from the Resident Engineer. Do not fasten or attach ropes, cables, or guys to trees for anchorage unless specifically authorized, or where special emergency use is permitted.

1. Work Area Limits: Prior to any construction, mark the areas that require work to be performed under this contract. Mark or fence isolated areas within the general work area that are to be saved and protected. Protect monuments, works of art, and markers before construction operations begin. Convey to all personnel the purpose of marking and protecting all necessary objects.
2. Protection of Landscape: Protect trees, shrubs, vines, grasses, land forms, and other landscape features shown on the drawings to be preserved by marking, fencing, or using any other approved techniques.
   a. Box and protect from damage existing trees and shrubs to remain on the construction site.
   b. Immediately repair all damage to existing trees and shrubs by trimming, cleaning, and painting with antiseptic tree paint.
   c. Do not store building materials or perform construction activities closer to existing trees or shrubs than the farthest extension of their limbs.
3. Reduction of Exposure of Unprotected Erodible Soils: Plan and conduct earthwork to minimize the duration of exposure of unprotected soils. Clear areas in reasonably sized increments only as needed to use. Form earthwork to final grade as shown. Immediately protect side slopes and back slopes upon completion of rough grading.
4. Temporary Protection of Disturbed Areas: Construct diversion ditches, benches, and berms to retard and divert runoff from the construction site to protected drainage areas approved under paragraph 208 of the Clean Water Act.

   a. Sediment Basins: Trap sediment from construction areas in temporary or permanent sediment basins that accommodate the runoff of a local (design year) storm. After each storm, pump the basins dry and remove the accumulated sediment. Control overflow/drainage with paved weirs or by vertical overflow pipes, draining from the surface.
   b. Reuse or conserve the collected topsoil sediment as directed by the Resident Engineer. Topsoil use and requirements are specified in Section 31 20 00, EARTH MOVING.
   c. Institute effluent quality monitoring programs as required by Federal, State, and local environmental agencies.
5. Erosion and Sedimentation Control Devices: The erosion and sediment controls selected and maintained by the Contractor shall be such that

water quality standards are not violated as a result of the Contractor's activities. Construct or install all temporary and permanent erosion and sedimentation control features required. Maintain temporary erosion and sediment control measures such as berms, dikes, drains, sedimentation basins, grassing, and mulching, until permanent drainage and erosion control facilities are completed and operative.

6. Manage borrow areas on and off Government property to minimize erosion and to prevent sediment from entering nearby water courses or lakes.
7. Manage and control spoil areas on and off Government property to limit spoil to areas shown and prevent erosion of soil or sediment from entering nearby water courses or lakes.
8. Protect adjacent areas from despoilment by temporary excavations and embankments.
9. Handle and dispose of solid wastes in such a manner that will prevent contamination of the environment. Place solid wastes (excluding clearing debris) in containers that are emptied on a regular schedule. Transport all solid waste off Government property and dispose of waste in compliance with Federal, State, and local requirements.
10. Store chemical waste away from the work areas in corrosion resistant containers and dispose of waste in accordance with Federal, State, and local regulations.
11. Handle discarded materials other than those included in the solid waste category as directed by the Resident Engineer.

C. Protection of Water Resources: Keep construction activities under surveillance, management, and control to avoid pollution of surface and ground waters and sewer systems. Implement management techniques to control water pollution by the listed construction activities that are included in this contract.

1. Washing and Curing Water: Do not allow wastewater directly derived from construction activities to enter water areas. Collect and place wastewater in retention ponds allowing the suspended material to settle, the pollutants to separate, or the water to evaporate.
2. Control movement of materials and equipment at stream crossings during construction to prevent violation of water pollution control standards of the Federal, State, or local government.
3. Monitor water areas affected by construction.

D. Protection of Fish and Wildlife Resources: Keep construction activities under surveillance, management, and control to minimize interference with, disturbance of, or damage to fish and wildlife. Prior to beginning construction operations, list species that require specific attention along with measures for their protection.

E. Protection of Air Resources: Keep construction activities under surveillance, management, and control to minimize pollution of air resources. Burning is not permitted on the job site. Keep activities, equipment, processes, and work operated or performed, in strict accordance with the State of Rhode Island and Federal emission and performance laws and standards. Maintain ambient air quality standards set by the Environmental Protection Agency, for those construction operations and activities specified.

1. Particulates: Control dust particles, aerosols, and gaseous by-products from all construction activities, processing, and preparation of materials (such as from asphaltic batch plants) at all times, including weekends, holidays, and hours when work is not in progress.
2. Particulates Control: Maintain all excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, spoil areas, borrow areas, and all other work areas within or outside the project boundaries free from particulates which would cause a hazard or a nuisance. Sprinklering, chemical treatment of an approved type, light bituminous treatment, baghouse, scrubbers, electrostatic precipitators, or other methods are permitted to control particulates in the work area.
3. Hydrocarbons and Carbon Monoxide: Control monoxide emissions from equipment to Federal and State allowable limits.
4. Odors: Control odors of construction activities and prevent obnoxious odors from occurring.

F. Reduction of Noise: Minimize noise using every action possible. Perform noise-producing work in less sensitive hours of the day or week as directed by the Resident Engineer. Maintain noise-produced work at or below the decibel levels and within the time periods specified.

1. Perform construction activities involving repetitive, high-level impact noise only between 8:00 am and 6:00 pm unless otherwise permitted by local ordinance or the Resident Engineer. Repetitive impact noise on the property shall not exceed the following dB limitations:

Time Duration of Impact Noise	Sound Level in dB

More than 12 minutes in any hour	70
Less than 30 seconds of any hour	85
Less than three minutes of any hour	80
Less than 12 minutes of any hour	75

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

EARTHMOVING		MATERIALS HANDLING	
FRONT LOADERS	75	CONCRETE MIXERS	75
BACKHOES	75	CONCRETE PUMPS	75
DOZERS	75	CRANES	75
TRACTORS	75	DERRICKS IMPACT	75
SCAPERS	80	PILE DRIVERS	95
GRADERS	75	JACK HAMMERS	75
TRUCKS	75	ROCK DRILLS	80
PAVERS, STATIONARY	80	PNEUMATIC TOOLS	80
PUMPS	75		
GENERATORS	75	SAWS	75
COMPRESSORS	75	VIBRATORS	75

   b. Use shields or other physical barriers to restrict noise transmission.
   c. Provide soundproof housings or enclosures for noise-producing machinery.
   d. Use efficient silencers on equipment air intakes.
   e. Use efficient intake and exhaust mufflers on internal combustion engines that are maintained so equipment performs below noise levels specified.
   f. Line hoppers and storage bins with sound deadening material.
   g. Conduct truck loading, unloading, and hauling operations so that noise is kept to a minimum.
3. Measure sound level for noise exposure due to the construction at least once every five successive working days while work is being performed above 55 dB(A) noise level. Measure noise exposure at the property line or 15 m (50 feet) from the noise source, whichever is

greater. Measure the sound levels on the A weighing network of a General Purpose sound level meter at slow response. To minimize the effect of reflective sound waves at buildings, take measurements at 900 to 1800 mm (three to six feet) in front of any building face. Submit the recorded information to the Resident Engineer noting any problems and the alternatives for mitigating actions.

G. Restoration of Damaged Property: If any direct or indirect damage is done to public or private property resulting from any act, omission, neglect, or misconduct, the Contractor shall restore the damaged property to a condition equal to that existing before the damage at no additional cost to the Government. Repair, rebuild, or restore property as directed or make good such damage in an acceptable manner.

H. Final Clean-up: On completion of project and after removal of all debris, rubbish, and temporary construction, Contractor shall leave the construction area in a clean condition satisfactory to the Resident Engineer. Cleaning shall include off the station disposal of all items and materials not required to be salvaged, as well as all debris and rubbish resulting from demolition and new work operations.

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01 62 35

RECYCLED / RECOVERED MATERIALS

PART 1 GENERAL

This section covers the requirements of the EPA's Comprehensive Procurement Guide (CPG) Program. The CPG program is part of EPA's continuing effort to promote the use of materials recovered from solid waste. Buying recycled-content products ensures that the materials collected in recycling programs will be used again in the manufacture of new products. The CPG program is authorized by Congress under Section 6002 of the Resource Conservation and Recovery Act (RCRA) and Executive Order 13148. EPA is required to designate products that are or can be made with recovered materials, and to recommend practices for buying these products. Once a product is designated, procuring agencies are required to purchase it with the highest recovered material content level practicable.

1.1 REFERENCES

Section 6002 of the Resource Conservation and Recovery Act (RCRA)

Executive Order 13148, Greening the Government Through Leadership in Environmental Management

40 CFR 247, Comprehensive Procurement Guideline for Products Containing Recovered Materials.

1.2 OBJECTIVES

It is the Providence VA's procurement policy to acquire, in a cost effective manner, items containing the highest percentage of recycled and recovered materials practicable, consistent with maintaining a satisfactory level of competition without adversely affecting performance requirements or exposing suppliers' employees to undue hazards from the recovered materials. A key component of the CPG program is EPA's list of designated products and the accompanying recycled-content recommendations. EPA has already designated or is proposing to designate the products listed below. They are grouped into eight categories:

Construction Products
Landscaping Products
Nonpaper Office Products
Paper and Paper Products
Park and Recreation Products
Transportation Products
Vehicular Products
Miscellaneous Products

The above CPG list is located at the following URL:
http://www.epa.gov/cpg/products.htm

The Contractor shall make all reasonable efforts to use recycled and recovered materials in providing the EPA designated products and in otherwise utilizing recycled and recovered materials in the execution of the contracted work.

1.3 EPA ITEMS INCORPORATED INTO THE WORK

It is the responsibility of the Architectural Engineering (AE) firm performing the design to be aware of current EPA requirements and to determine the suitability of an EPA designated item in the work. Level of competition, delivery time, performance requirements, and price should all be considered in making the determination.

These items, when incorporated into the work under this contract, shall contain at least the specified percentage of recycled or recovered materials unless adequate justification (non-availability) for non-use is provided. When a designated item is specified as an option to a non-designated item, the designated item requirements apply only if the designated item is used in the work.

1.4 EPA PROPOSED ITEMS IN THE WORK

Products other than those designated by EPA are still being researched and are being considered for future Comprehensive Procurement Guideline (CPG) designation. It is recommended that these items, when incorporated in the work under this contract, contain the highest practicable percentage of recycled or recovered materials, provided specified requirements are also met.

1.5 EPA LISTED ITEMS USED IN CONDUCT OF THE WORK BUT NOT INCORPORATED IN THE WORK

There are many products listed in 40 CFR 247 which have been designated or proposed by EPA to include recycled or recovered materials that may be used by the Contractor in performing the work but will not be incorporated into the work. These products include office products, temporary traffic
control products, and pallets. It is recommended that these non-construction products, when used in the conduct of the work, contain the highest practicable percentage of

recycled or recovered materials and that these products be recycled when no longer needed.

1.6 RECORDKEEPING AND DOCUMENTATION

It is the responsibility of the Contractor to provide the Providence VA submittals outlining the individual products and quantities that have been used on the project which meet the CPG guidance outlined in the preceding sections. These submittals shall be prepared on a quarterly basis throughout the term of the contract and submitted to the COR for inclusion in the contract records and documentation.

SECTION 01 74 19
CONSTRUCTION WASTE MANAGEMENT

PART 1 – GENERAL

1.1 DESCRIPTION

A. This section specifies the requirements for the management of non-hazardous building construction and demolition waste.

B. Waste disposal in landfills shall be minimized to the greatest extent possible. Of the inevitable waste that is generated, as much of the waste material as economically feasible shall be salvaged, recycled or reused.

C. Contractor shall use all reasonable means to divert construction and demolition waste from landfills and incinerators, and facilitate their salvage and recycle not limited to the following:

1. Waste Management Plan development and implementation.
2. Techniques to minimize waste generation.
3. Sorting and separating of waste materials.
4. Salvage of existing materials and items for reuse or resale.
5. Recycling of materials that cannot be reused or sold.

D. At a minimum the following waste categories shall be diverted from landfills:

1. Soil.
2. Inerts (eg, concrete, masonry and asphalt).
3. Clean dimensional wood and palette wood.
4. Green waste (biodegradable landscaping materials).
5. Engineered wood products (plywood, particle board and I-joists, etc).
6. Metal products (eg, steel, wire, beverage containers, etc).
7. Cardboard, paper and packaging.
8. Bitumen roofing materials.
9. Plastics (eg, ABS, PVC).
10. Carpet and/or pad.
11. Gypsum board.
12. Insulation.
13. Paint.

1.2 RELATED WORK

A. Section 02 41 00, DEMOLITION.

B. Section 01 00 00, GENERAL REQUIREMENTS.

C. Lead Paint: Section 02 83 33.13, LEAD BASED PAINT REMOVAL AND DISPOSAL.

D. Section 01 62 35 RECYCLED/RECOVERED MATERIALS

1.3 QUALITY ASSURANCE

A. Contractor shall practice efficient waste management when sizing, cutting and installing building products. Processes shall be employed to ensure the generation of as little waste as possible. Construction /Demolition waste includes products of the following:
   1. Excess or unusable construction materials.
   2. Packaging used for construction products.
   3. Poor planning and/or layout.
   4. Construction error.
   5. Over ordering.
   6. Weather damage.
   7. Contamination.
   8. Mishandling.
   9. Breakage.

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

C. Contractor shall develop and implement procedures to reuse and recycle new materials to a minimum of 50 percent.

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

E. Contractor shall provide all demolition, removal and legal disposal of materials. Contractor shall ensure that facilities used for recycling, reuse and disposal shall be permitted for the intended use to the extent required by local, state, federal regulations.

F. Contractor shall assign a specific area to facilitate separation of materials for reuse, salvage, recycling, and return. Such areas are to be kept neat and clean and clearly marked in order to avoid contamination or mixing of materials.

G. Contractor shall provide on-site instructions and supervision of separation, handling, salvaging, recycling, reuse and return methods to be used by all parties during waste generating stages.

H. Record on daily reports any problems in complying with laws, regulations and ordinances with corrective action taken.

1.4 TERMINOLOGY

A. Class III Landfill: A landfill that accepts non-hazardous resources such as household, commercial and industrial waste resulting from construction, remodeling, repair and demolition operations.

B. Clean: Untreated and unpainted; uncontaminated with adhesives, oils, solvents, mastics and like products.

C. Construction and Demolition Waste: Includes all non-hazardous resources resulting from construction, remodeling, alterations, repair and demolition operations.

D. Dismantle: The process of parting out a building in such a way as to preserve the usefulness of its materials and components.

E. Disposal: Acceptance of solid wastes at a legally operating facility for the purpose of land filling (includes Class III landfills and inert fills).

F. Inert Backfill Site: A location, other than inert fill or other disposal facility, to which inert materials are taken for the purpose of filling an excavation, shoring or other soil engineering operation.

G. Inert Fill: A facility that can legally accept inert waste, such as asphalt and concrete exclusively for the purpose of disposal.

H. Inert Solids/Inert Waste: Non-liquid solid resources including, but not limited to, soil and concrete that does not contain hazardous waste or soluble pollutants at concentrations in excess of water-quality objectives established by a regional water board, and does not contain significant quantities of decomposable solid resources.

I. Mixed Debris: Loads that include commingled recyclable and non-recyclable materials generated at the construction site.

J. Mixed Debris Recycling Facility: A solid resource processing facility that accepts loads of mixed construction and demolition debris for the purpose of recovering re-usable and recyclable materials and disposing non-recyclable materials.

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

L. Recycling: The process of sorting, cleansing, treating, and reconstituting materials for the purpose of using the altered form in the manufacture of a new product. Recycling does not include burning, incinerating or thermally destroying solid waste.

1. On-site Recycling – Materials that are sorted and processed on site for use in an altered state in the work, i.e. concrete crushed for use as a sub-base in paving.
2. Off-site Recycling – Materials hauled to a location and used in an altered form in the manufacture of new products.

M. Recycling Facility: An operation that can legally accept materials for the purpose of processing the materials into an altered form for the manufacture of new products. Depending on the types of materials accepted and operating procedures, a recycling facility may or may not be required to have a solid waste facilities permit or be regulated by the local enforcement agency.

N. Reuse: Materials that are recovered for use in the same form, on-site or off-site.

O. Return: To give back reusable items or unused products to vendors for credit.

P. Salvage: To remove waste materials from the site for resale or re-use by a third party.

Q. Source-Separated Materials: Materials that are sorted by type at the site for the purpose of reuse and recycling.

R. Solid Waste: Materials that have been designated as non-recyclable and are discarded for the purposes of disposal.

S. Transfer Station: A facility that can legally accept solid waste for the purpose of temporarily storing the materials for re-loading onto other trucks and transporting them to a landfill for disposal, or recovering some materials for re-use or recycling.

1.5 SUBMITTALS

A. In accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, and SAMPLES, furnish the following:

B. Prepare and submit to the Resident Engineer a written demolition debris management plan. The plan shall include, but not be limited to, the following information:

1. Procedures to be used for debris management.
2. Techniques to be used to minimize waste generation.
3. Analysis of the estimated job site waste to be generated:
   a. List of each material and quantity to be salvaged, reused, recycled.
   b. List of each material and quantity proposed to be taken to a landfill.

4. Detailed description of the Means/Methods to be used for material handling.
   a. On site: Material separation, storage, protection where applicable.
   b. Off site: Transportation means and destination. Include list of materials.
      1) Description of materials to be site-separated and self-hauled to designated facilities.
      2) Description of mixed materials to be collected by designated waste haulers and removed from the site.
   c. The names and locations of mixed debris reuse and recycling facilities or sites.
   d. The names and locations of trash disposal landfill facilities or sites.
   e. Documentation that the facilities or sites are approved to receive the materials.

B. Designated Manager responsible for instructing personnel, supervising, documenting and administer over meetings relevant to the Waste Management Plan.

C. Monthly summary of construction and demolition debris diversion and disposal, quantifying all materials generated at the work site and disposed of or diverted from disposal through recycling.

1.6 APPLICABLE PUBLICATIONS

Publications listed below form a part of this specification to the extent referenced. Publications are referenced by the basic designation only. In the event that criteria requirements conflict, the most stringent requirements shall be met.

A. U.S. Green Building Council (USGBC):
LEED Green Building Rating System for New Construction

1.7 RECORDS

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

PART 2 - PRODUCTS

2.1 MATERIALS

A. List of each material and quantity to be salvaged, recycled, reused.

B. List of each material and quantity proposed to be taken to a landfill.

C. Material tracking data: Receiving parties, dates removed, transportation costs, weight tickets, tipping fees, manifests, invoices, net total costs or savings.

PART 3 - EXECUTION

3.1 COLLECTION

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

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

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

3.2 DISPOSAL

A. Contractor shall be responsible for transporting and disposing of materials that cannot be delivered to a source-separated or mixed materials recycling facility to a transfer station or disposal facility that can accept the materials in accordance with state and federal regulations.

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

3.3 REPORT

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

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

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

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