

**Dorn VA Medical Center  
Construction/Renovation Risk Assessment Package**

**Instructions:** Project Managers (COTRs) will collaborate with Infection Control, Safety Office, and VA Police to complete the risk assessment package as part of managing the safe design and construction/renovation of the medical center environment. COTRs shall collaborate with Infection Control, the Safety Office, and the VA Police as necessary in the completion of these assessments. COTRs, Infection Control Coordinator, Safety Office staff, and VA Police will ensure all identified actions and control measures are implemented in their respective area of responsibility as long as the potential hazard exists. The initial assessment should be completed in the design phase. Reassess as conditions change and prior to the beginning of each project phase. The assessments are conducted by the responsible program official using the attached risk assessment forms, and should be completed as follows:

1. **Vertical Environmental Impact Assessment:**
  - a. Show the construction area and the functions/services located in adjacent areas, including floors above and below.
2. **Horizontal Environmental Impact Assessment:**
  - a. Using a current drawing of the area, show the construction area and surrounding patient/staff areas as indicated on the example provided.
3. **Interim Life Safety Measures:**
  - a. Evaluate each listed "Requirement or Deficiency" as related to the project's impact on Life Safety components of the facility.
  - b. Provide a summary of required actions on the sheet provided.
4. **Hazard Assessment and Exposure Controls:**
  - a. Evaluate the potential for hazards during construction that may impact patients and staff. Indicate the required control measure for each hazard.
  - b. Provide a summary of the required control measures on the sheet provided.
5. **Ceiling Mounted Patient Lift**
  - a. During 50% and 100% Design Reviews, the COTR will verify that the patient lift design is in compliance with the requirements of VHA Directive 2005-019 Seismic Safety of VHA Buildings and VA Master Design Specification 3.05.041 Seismic Restraint Requirements for Non-Structural Components. The COTR will also ensure the requirements on the "Design Checklist for Ceiling Mounted Patient Lifts" are met.
  - b. Complete the "After Installation Checklist for Ceiling Mounted Patient Lifts" prior to permitting the equipment to be used for patient movement.
6. **Infection Control Risk Assessment:**
  - a. Determine and record the Location Group(s) that will be affected.
  - b. Determine and record the type of construction and magnitude of disruption.
  - c. Review the Infection Control Matrix using the Location and Type of Construction Groups (determined in steps a. and b.) and record the Class of Precautions associated with the project.
  - d. Complete the Infection Control Measures List and assign responsibility for each measure.
7. **Approvals:**

- a. Upon completion of the risk assessment obtain approval signatures as applicable on the attached sheet.

**8. Contract Documents:**

- a. Include applicable risk assessment action items in the contract documents.
- b. Provide the contractor's superintendant with copies of the completed risk assessment and action plans.
- c. File all risk assessment documents in the project file.

**9. Daily Inspections:**

- a. Ensure the contractor conducts and documents daily construction site inspections.

**10. Construction Site Inspection:**

- a. Each discipline (Infection Control, Safety Office, VA Police) shall inspect the construction site as applicable. All inspections will be documented.

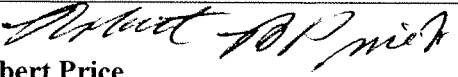
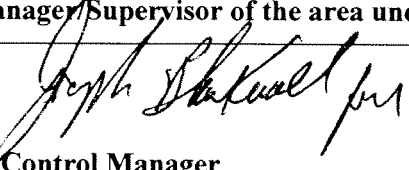
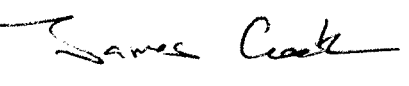

**11. Post Project Review:**

- a. Upon completion of the project conduct a review of risk assessment process.
- b. Present the results to the Construction Safety Sub-council.









# CONSTRUCTION RISK ASSESSMENTS AND HAZARD CONTROL APPROVALS

<b>Project Title:</b> Replace Boiler Plant/Cogen/CHP	<b>Project Number:</b> 544-11-101
<b>Estimated Start Date:</b>	<b>Estimated Duration:</b> 730 Calendar Days

Obtain the following approvals as applicable:

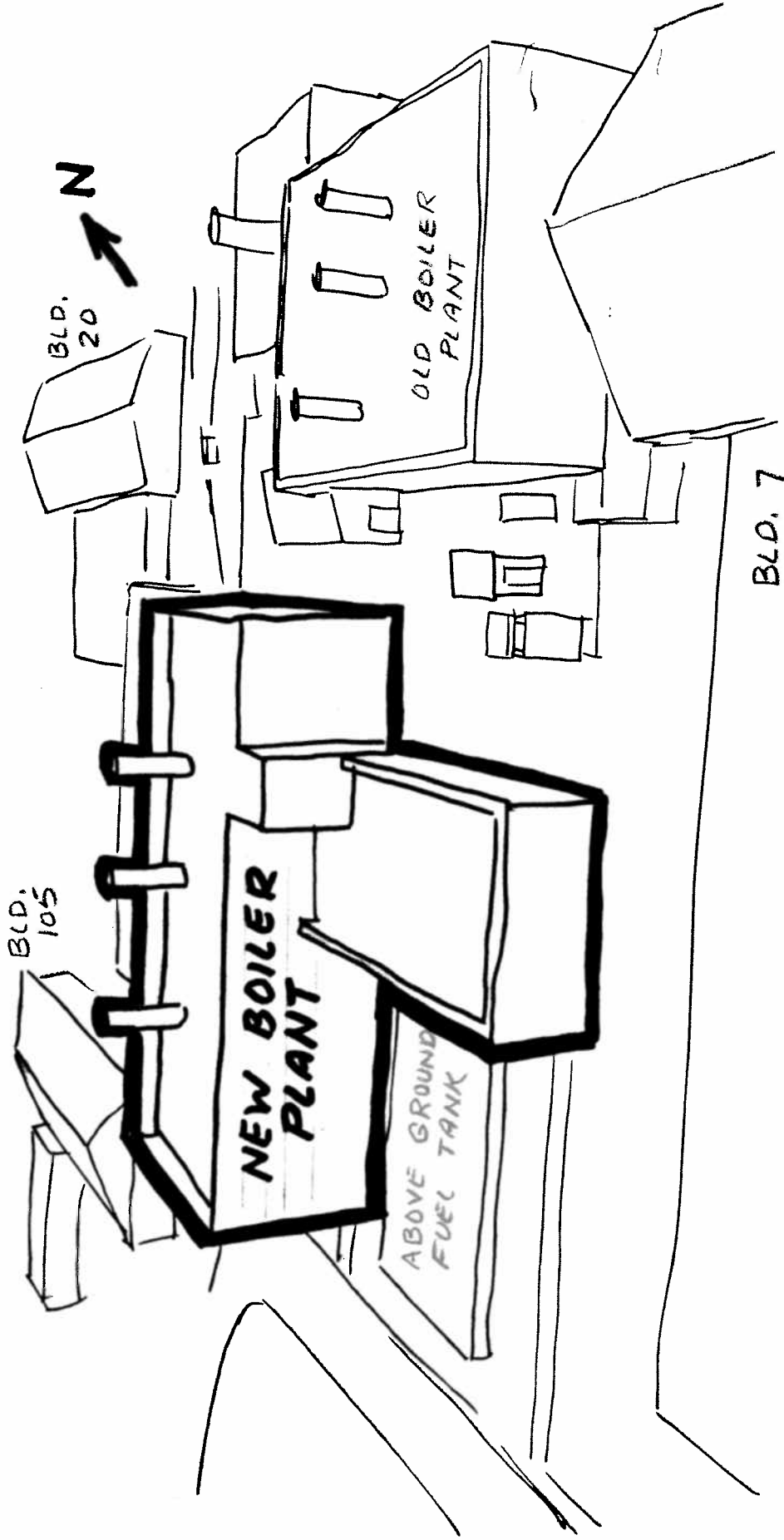
 <b>Robert Price</b> <b>Responsible VA Supervisor of the area under construction</b>	<b>Date</b> 3/26/2013
<b>(Not Applicable)</b> <b>VA Nurse Manager/Supervisor of the area under construction</b>	<b>Date</b>
 <b>David Bagley</b> <b>Maintenance Control Manager</b>	<b>Date</b> 3/27/13
 <b>James Cook</b> <b>Project Section Chief</b>	<b>Date</b> 3/27/13
 <b>Stan Domann</b> <b>Chief, Facilities Management Service</b>	<b>Date</b> 3-27-13

**Dorn VA Medical Center  
Construction/Renovation Risk Assessment Package**

<b>Project Title:</b> Replace Boiler Plant/Cogen/CHP		<b>Project Number:</b> 544-11-101	
<b>Location:</b> Near Building 8			
<b>Date:</b> Mar 26, 2013	<b>Project Phase:</b> <input type="checkbox"/> Design <input type="checkbox"/> Phase I (25-50%) <input checked="" type="checkbox"/> Final	<b>Pre-Con</b> <input type="checkbox"/> N/A	
<b>Construction Start Date:</b>	<b>Estimated Duration:</b> 730 Calendar Days	<b>Completion Date:</b>	
<b>Staff Assigned:</b>			
<b>Project Engineer:</b> Robert Price		<b>Assessment Approval Signature:</b>	<b>Date:</b>
<b>Infection Control Representative:</b> Hope Beddingfield			3/26/2013
<b>Safety Representative:</b> Jeff Brown			3/26/13
<b>VA Police Representative:</b> Michael Johnson			3/27/13
<p><b>Scope of Work:</b> Construct a replacement boiler plant – Building 8. The new boiler plant will have two new 500 hp tube boilers and will relocate an existing 400 hp fire tube from the existing boiler plant. The work will also include the construction of a new administration wing on the new building. The new boiler system will be connected to the medical center's existing steam distribution system. Work shall include construction phasing necessary to ensure that the steam generation system remains in continuous operation.</p>			
<p><b>Note:</b> The risk assessment process should begin in the design phase. Identified risk controls shall be incorporated into the technical plans and specifications as applicable.</p> <p>X Prior to commencing work, general contractor shall provide proof that an OSHA certified competent person (CP) [29 CFR 1926.20(b)(2)] will maintain a presence at the worksite whenever the general or subcontractors are present. An OSHA 30-hour training completion card is considered certification. Any other certification provided will be evaluated by the Project Manager and Safety Office in accordance with V/A Directive 2004-012 to determine relevancy.</p> <p><b>Signature:</b>  3/26/2013</p>			

# Vertical Environmental Impact Building Assessment

Building: \_\_\_\_\_ Floor: \_\_\_\_\_ N/A: \_\_\_\_\_  
 Phase I: \_\_\_\_\_ Phase II: \_\_\_\_\_ Phase III: \_\_\_\_\_ Phase IV: \_\_\_\_\_



*SEE  
SHEET #5*

## CONTRACTOR CONSTRUCTION/RENOVATION AREA ILSM INSPECTION

Week Of: \_\_\_\_\_

Project Title/Number: \_\_\_\_\_ Location: \_\_\_\_\_

1. Means of egress is clear in construction area:

☐ MON ☐ TUE ☐ WED ☐ THU ☐ FRI ☐ SAT ☐ SUN

2. Accesses for fire department and emergency services are clear:

☐ MON ☐ TUE ☐ WED ☐ THU ☐ FRI ☐ SAT ☐ SUN

3. Fire detection/Sprinkler systems operational:

☐ MON ☐ TUE ☐ WED ☐ THU ☐ FRI ☐ SAT ☐ SUN

Note: If system is impaired ensure a temporary, but equivalent, system is provided. Temporary systems to be tested monthly. Describe temporary system(s) provided: \_\_\_\_\_.

4. Construction partitions are being maintained as a 1 hour fire barrier, all penetrations firestopped at the end of each day:

☐ MON ☐ TUE ☐ WED ☐ THU ☐ FRI ☐ SAT ☐ SUN

5. Good housekeeping practices are being used in construction area. Flammables and combustible fire load is being kept to a minimum:

☐ MON ☐ TUE ☐ WED ☐ THU ☐ FRI ☐ SAT ☐ SUN

6. Buildings, grounds, and equipment are being maintained in a safe manner (pay special attention to excavations, construction areas, and construction storage):

☐ MON ☐ TUE ☐ WED ☐ THU ☐ FRI ☐ SAT ☐ SUN

7. The "No Smoking Policy" is being enforced throughout the project area:

☐ MON ☐ TUE ☐ WED ☐ THU ☐ FRI ☐ SAT ☐ SUN

8. Job site fire extinguishers and other additional fire fighting equipment (if necessary) in place and inspected:

☐ MON ☐ TUE ☐ WED ☐ THU ☐ FRI ☐ SAT ☐ SUN

9. Deficiencies and appropriation corrective actions to be listed here:

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10. Inspector's Initials: ☐ MON ☐ TUE ☐ WED ☐ THU ☐ FRI ☐ SAT ☐ SUN

Form Completed By: \_\_\_\_\_

Completed form will be filed in the project file.

## Interim Life Safety Measure (ILSM) Evaluation for Construction/Renovation Projects

<b>Project Name:</b> <b>Replace Boiler Plant/Cogen/CHP</b>	<b>Date:</b> March 26, 2013	<b>Project Manager (COTR):</b> Robert Price <b>Safety Staff Member:</b> Jeff Brown
<p><b>Instructions:</b> Use this evaluation to identify and implement activities to protect occupants during construction and renovations and during periods when the building and/or construction area does not meet the applicable provisions of the Life Safety Code. This evaluation is to be updated throughout the project to identify code deficiencies that cannot be immediately corrected and the ensuing special measures to be taken to compensate for increased life safety risk. Check all conditions that apply and add any other identified deficiencies and additional special measures:</p>		

Evaluation Criteria:	Deficiency Description and Location:	ILSM required to compensate for increased life safety risk:	
Building/area egress routes blocked or altered. This applies to the construction area as well as surrounding areas. Egress routes for all personnel (including construction workers) must be maintained at all times.	List blocked egress route locations:	1. Provide alternate means of egress. Personnel in the area shall be given additional training when alternative egress routes are designated. Signage shall be posted identifying the location of the alternate means of egress or exit to everyone affected.	<input checked="" type="checkbox"/> Required <input type="checkbox"/> N/A
		2. Exits in affected area(s) shall be inspected daily.	<input checked="" type="checkbox"/> Required <input type="checkbox"/> N/A
		3. Conduct one additional fire drill per shift per quarter in the affected area.	<input type="checkbox"/> Required <input checked="" type="checkbox"/> N/A
Obstructed or altered access to emergency services and for fire, police, and other emergency forces.	List access routes blocked:	1. Provide and mark alternate access routes. 2. Inspect routes daily.	<input checked="" type="checkbox"/> Required <input type="checkbox"/> N/A <input checked="" type="checkbox"/> Required <input type="checkbox"/> N/A
	List each system out of service:  List each temporary system required:	1. Provide temporary, equivalent alarm and detection systems.  2. Inspect and test temporary systems monthly. The completion date of the test shall be documented.  3. Fire alarm, detection, and suppression system outages > 4 hours in a 24-hour period require a fire watch and fire dept. notification. Fire watch shall be documented.  4. Conduct one additional fire drill per shift per quarter in the affected area.	<input type="checkbox"/> Required <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Required <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Required <input checked="" type="checkbox"/> N/A <input type="checkbox"/> Required <input checked="" type="checkbox"/> N/A
Fire alarm, detection, and/or suppression systems out of service. Each outage will be assessed based on duration, location, building occupancy, existing fire barriers, and type of system out of service to determine necessary measures. Compliance with the applicable chapter of the LSC required.			



Evaluation Criteria:	Deficiency Description and Location:	ILSM required to compensate for increased life safety risk:	
Temporary construction separation requirements (see attached "Construction Partition Evaluation Criteria")	List project separation requirements and locations: 1. 2. 3. 4.	Inspect partitions daily. Ensure all smoke tight and fire barrier features are in place at the end of each workday.	<input type="checkbox"/> Required <input checked="" type="checkbox"/> N/A
Additional fire-fighting equipment: Minimum requirement for all projects = properly maintained fire extinguisher every 75 ft. Assess all construction work and require other equipment based on criteria contained in NFPA 241.	List all additional firefighting equipment: 1. Fire Extinguisher(s) 2. 3. 4.	1. Contractor to provide equipment and properly train all personnel in the use of all additional firefighting equipment. Training shall be documented. Equipment shall be properly maintained. 2. Provide additional firefighting equipment and training to medical center staff.	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Required <input checked="" type="checkbox"/> N/A
Hot Work: evaluate all stages of construction to determine the type of hot work to be conducted.	List hot work tasks/locations: 1. Welding - New plant building 2. Cutting - New plant building 3. Grinding - New plant building 4. Brazing - New plant building 5. Soldering - New plant building	1. Obtain Hot Work Permit in accordance with medical center procedure/project specifications. 2. Provide additional firefighting equipment. 3. Provide fire watch in accordance with NFPA 241. Documentation required. 4. Additional requirements for hot work operations and fire prevention precautions, including permits and fire watches, shall be in accordance with NFPA 51 and 51B as applicable. List other requirements: 1. 2. 3. 4.	<input checked="" type="checkbox"/> Required <input type="checkbox"/> Required <input type="checkbox"/> Required <input checked="" type="checkbox"/> Required <input type="checkbox"/> Required <input checked="" type="checkbox"/> N/A <input type="checkbox"/> N/A <input checked="" type="checkbox"/> N/A

Evaluation Criteria:	Deficiency Description and Location:	ILSM required to compensate for increased life safety risk:	
Smoking prohibited in all buildings and in and near construction areas.	Applicable to all projects.	Strict enforcement of no smoking policy.	<input checked="" type="checkbox"/> Required
Storage, housekeeping, and debris removal practices will be conducted to ensure the building's flammable and combustible fire load is reduced to the lowest feasible level.	Applicable to all projects.	Accumulations of combustible waste material, dust, and debris shall be removed from the construction area and the immediate vicinity at the end of each work shift or more frequently as necessary for safe operations.	<input checked="" type="checkbox"/> Required
Fire/smoke barrier penetrations. Determine if construction will require the penetration of existing fire and/or smoke barriers.	List locations of project fire/smoke barriers required to be maintained for the duration of the project: 1. Floor and ceiling barriers. 2. 3. 4.		<input type="checkbox"/> Required <input checked="" type="checkbox"/> N/A
Increased hazard surveillance is required when any Life Safety Code deficiency is identified during period of construction. Required for construction in occupied buildings.	List LSC deficiencies: 1. 2. 3. 4.	Increase surveillance of building(s), grounds, and equipment, giving special attention to construction areas and storage (lay down locations), excavation, and field offices as applicable.	<input type="checkbox"/> Required <input checked="" type="checkbox"/> N/A
Construction occurring adjacent to occupied areas of the building.	List ILSMs implemented for this project: 1. Provide fire watches for hot work. 2. No smoking on construction site. 3. Maintain tidy work site. 4. Close air intakes to Bld. 7 for very dusty work. 5. Keep dust down by moistening earth.	Department specific education to promote awareness of building deficiencies, construction hazards, and temporary measures implemented to maintain fire safety. This is the responsibility of the area Supervisor with assistance from the COTR and Safety Office.	<input checked="" type="checkbox"/> Required <input type="checkbox"/> N/A

Evaluation Criteria:	Deficiency Description and Location:	ILSM required to compensate for increased life safety risk:	
During construction the building's structural or compartmental fire safety features (fire zones) are impaired or altered.	List features impaired: 1. 2. 3. 4.	Medical Center workers in the affected building will be trained to compensate for impaired structural or compartmental fire safety features (fire zones). This is the responsibility of the COTR and Safety Office.	<input type="checkbox"/> Required <input checked="" type="checkbox"/> N/A

### Construction Partition Evaluation Criteria:

#### The VA Fire Safety Design Manual:

C. Separate all occupied areas from demolition, renovation, or construction activities by temporary smoke-tight construction partitions of gypsum board or other approved non-combustible or limited-combustible material. Partitions shall be full height, extending through suspended ceilings to the floor slab or roof deck above and shall be one-hour fire rated, unless sprinklers are installed and are operational **on both sides of the temporary partition whereupon the partition may be permitted to terminate at the ceiling** in accordance with NFPA 241.

*Note: This requirement is due to the inherently greater potential for fire or hazardous materials incidents associated with the combustibles and operations of demolition/construction. This risk is made worse by the likelihood of compromised fire protection systems and fire/smoke resistant construction. This does not obviate the need to provide other protective measures to contain dust and debris as specified by VAMCS 01010 section 1.6(D)(5). Sprinklers are considered to be operational when they are installed in accordance with NFPA 13 (spacing, protection, distance from the ceiling, etc.) and there is a sufficient automatic water supply.*

#### NFPA 101 Chapter 4

##### 4.6.11 Construction, Repair, and Improvement Operations.

**4.6.11.1\*** Buildings, or portions of buildings, shall be permitted to be occupied during construction, repair, alterations, or additions only where required means of egress and required fire protection features are in place and continuously maintained for the portion occupied or where alternative life safety measures acceptable to the authority having jurisdiction are in place.

**4.6.11.2\*** In buildings under construction, adequate escape facilities shall be maintained at all times for the use of construction workers. Escape facilities shall consist of doors, walkways, stairs, ramps, fire escapes, ladders, or other approved means or devices arranged in accordance with the general principles of the *Code* insofar as they can reasonably be applied to buildings under construction.

**A.4.6.11.1** Fatal fires have occurred when, for example, a required stair has been closed for repairs or removed for rebuilding, or when a required automatic sprinkler system has been shut off to change piping.

**A.4.6.11.2** See also NFPA 241, *Standard for Safeguarding Construction, Alteration, and Demolition Operations*.

## **NFPA 241 Chapter 8**

### **8.6.2 Temporary Separation Walls.**

**8.6.2.1** Protection shall be provided to separate an occupied portion of the structure from a portion of the structure undergoing alteration, construction, or demolition operations when such operations are considered as having a higher level of hazard than the occupied portion of the building.

**8.6.2.2** Walls shall have at least a 1-hour fire resistance rating.

**8.6.2.3** Opening protectives shall have at least a 45-minute fire protection rating.

**8.6.2.4 \*** Nonrated walls and opening protectives shall be permitted when an approved automatic sprinkler system is installed.

**A.8.6.2.4** Construction tarps would not be considered appropriate barriers or opening protectives.

## ILSM Implementation List

Project Name:	Replace Boiler Plant/Cogen/CHP	Date: 3/26/13	Project Manager (COTR): Robert Price
<b>Instructions:</b> List all "required" actions from the above ILSM evaluation.			
1.	Applicable to all projects: Contractor to provide and maintain fire extinguishers and other fire-fighting equipment, on-site.		
2.	Applicable to all projects: Strict enforcement of no smoking policy.		
3.	Applicable to all projects: Storage, housekeeping, and debris removal practices will be conducted to ensure the building's flammable and combustible fire load is reduced to the lowest feasible level.		
4.	Provide alternate means of egress for blocked egress routes.		
5.	Provide and mark alternate access routes and inspect routes daily.		
6.	Provide hot work permits for all welding, cutting, grinding, brazing, and soldering. Provide fire watch as required and all equipment as specified in the hot work permit.		
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			

## Hazard Assessment and Exposure Controls

<b>Project Name:</b>		<b>Date:</b>	<b>Project Manager (COTR):</b>
<b>Instructions:</b> Identify potential hazards and required control measures. See attached list for sample control measures.			

Hazard:	Concern?		Control Measure(s):	Remarks:
Asbestos Containing Material (ACM)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Asbestos containing materials affected by work shall be properly abated per VA and state regulations.	
Dust	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	The area of work is not a patient care area. The work will generate dust. Workers shall comply with OSHA standards for personal protection.	Also see Infection Control Risk Assessment
Moisture/Water Leaks	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Vapors/Fumes	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Workers shall comply with OSHA regulations concerning the risks of working around fumes and smoke.	

Hazard:	Concern?		Control Measure(s):	Remarks:
Noise	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Workers shall comply with OSHA regulations concerning personal hearing protection.	
Vibration	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Workers shall comply with OSHA regulations concerning vibrating work.	
Air Pressure Relationships	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Traffic Flow	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	The new boiler plant will displace existing parking spaces. Any reserved parking spaces that are affected by the construction will have to be relocated.	
Proximity to HVAC intakes	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	During demolition and construction consideration shall be given to control the of dust, fumes and smoke that may be drawn in to the building 7 ventilation system.	
Utility Outages	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	All utility outages that affect buildings other than boiler plant (Bldg. 8) shall be coordinated with the work and schedules of the occupants of the affected buildings.	Minimize impact to the medical center. Ensure proper notifications are made. COTR to ensure compliance with Engineering Specification requirements for utility outages.

Hazard:	Concern?		Control Measure(s):	Remarks:
	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Security Systems				
Inaccessible Fire Dampers Impacted?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Make damper accessible and conduct test in accordance with NFPA standards.	
Ceiling-Mounted Patient Lifts	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Other (describe):	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		



# Ceiling Mounted Patient Lift NOT APPLICABLE

## Design Checklist (Patient Safety Alert #AL 10-07)

Project Title:		Patient Lift Location(s):	
<b>Required Element:</b>	<b>Yes</b>	<b>No</b>	<b>Comments:</b>
Manufacturer information, including model and serial number available?	<input type="checkbox"/>	<input type="checkbox"/>	<u>Model:</u> <u>Serial:</u>
Verification of as-built and structural engineering drawings?	<input type="checkbox"/>	<input type="checkbox"/>	
Contractor made aware of seismic restraint requirements?	<input type="checkbox"/>	<input type="checkbox"/>	Ensure VA Master Design Specification number 3.05.041 in incorporated and followed.
Verification of design compliance with NFPA 13 for fire sprinklers?	<input type="checkbox"/>	<input type="checkbox"/>	
Verification of design compliance with NFPA 99 and NFPA 70 for access to electrical and safety systems.	<input type="checkbox"/>	<input type="checkbox"/>	
Verification of required access to mechanical, HVAC, and other engineering spaces within the mounting area of the lift units.	<input type="checkbox"/>	<input type="checkbox"/>	

# **Ceiling Mounted Patient Lift** **Post Installation Checklist (Patient Safety Alert #AL 10-07) Lift NOT APPLICABLE**

The commissioning for a patient ceiling lift system(s) shall include, but not limited to, the following points as components of the commissioning procedures. Manufacturer post installation procedures shall be followed and documented as well. Proper PPE shall be worn as required by staff members during the commissioning process. Verify that ceiling lifts are not installed in treatment units with actively suicidal patients.

1. Refer to manufacturer's specific model specifications to verify all location information, including minimum clearances for operation are compliant. If clearance information is not provided suggested clearances are 31 inches adjacent to toilet and 55 inches adjacent to a bed.

<b>Project Title:</b>		<b>Patient Lift Location(s):</b>	
<b>Required Element:</b>	<b>Action Complete</b>	<b>Comments:</b>	
1. Manufacturer information, including model and serial number available?	<input type="checkbox"/>	<u>Model:</u>	<u>Serial:</u>
2. Confirm receipt of operator & maintenance manuals.	<input type="checkbox"/>		
3. Verification of proper connections of structural system to building's structure to include seismic bracing.	<input type="checkbox"/>		
4. Verification of proper structural component sizing and physical installation to ensure lift is properly supported.	<input type="checkbox"/>		
5. Verification of proper interface of lift unit at ceiling (hard deck or soft tile) and proper installation of all protective features around the support rods and rails/tracks.	<input type="checkbox"/>		
6. Inspection of lift motor casing for cracks and proper alignment.	<input type="checkbox"/>		
7. Full extension and inspection of lift strap for loose threads or frays.	<input type="checkbox"/>		
8. Inspection of sling material and sling stitching for loose threads or frays.	<input type="checkbox"/>		
9. Inspection of spreader bar and clips for cracks and for	<input type="checkbox"/>		

loose or missing rings or cotter pins.		
10. Verification that all rail end stops are in place and tightened.	<input type="checkbox"/>	
11. Inspection and activation of hand control for full operation (e.g., up, down, left, right) and "return to charge" function if applicable.	<input type="checkbox"/>	
12. Inspection and activation of emergency up/down motor case control buttons if applicable.	<input type="checkbox"/>	
13. Confirm any and all motor case indicator lights are functioning (e.g., red service warning light, charging state light).	<input type="checkbox"/>	
14. If included in installation, verify rail turntable function, exchanger function, and gait alignment.	<input type="checkbox"/>	
15. Confirm track is clean and clear of all debris (suggest wiping entire length of interior track channel with a soft cloth). Note: use manufacturer's recommended cleaning materials to avoid damage to the motor case and other components. Phenol or chlorine solutions may damage some motor case surfaces.	<input type="checkbox"/>	
16. Verification of any "soft start" or "soft stop" features and that lifting speed does not exceed 2.5 inches per second with "zero" load.	<input type="checkbox"/>	
17. Verification of load testing and deflection testing at lift listed maximum for each lift unit at its maximum rated lift capacity. Conduct this test in three progressive stages starting with a 100 pound load, then 50% of maximum rated lift capacity, then 100% maximum rated lift capacity.	<input type="checkbox"/>	
18. Verification of any "soft start" or "soft stop" features and that lifting speed does not exceed 1.5 inches per second under maximum rated lift capacity.	<input type="checkbox"/>	
19. Verification of function of emergency brake at maximum rated lift capacity.	<input type="checkbox"/>	
20. Verification of emergency lowering feature at maximum rated lift capacity.	<input type="checkbox"/>	

21. Inspection of units by the Project Engineer and Biomedical Engineering prior to release for clinical use.	<input type="checkbox"/>	
22. Training of clinicians and other staff who move and handle patients on the use of this equipment is accomplished by the manufacturer or their designated representative. Training is documented and competency verified prior to equipment use for patient handling.	<input type="checkbox"/>	
<p>Inspection completed by: _____ Date: _____</p> <p>Inspection verified by: _____ Date: _____</p>		

### Hazard Control Measure List

Project Name: Repace Boiler Plant/Cogen/CHP	Date: 3/20/13	Project Manager (COTR): Robert Price
<b>Instructions:</b> List all identified hazard controls from the assessment above.		
1. Provide all necessary fire protection equipment for spark and flame producing work.		
2. Personal Protective Equipment to be used in accordance with OSHA regulations.		
3. Appropriate VA and State regulations regarding asbestos removal, control and clean-up shall be followed.		
4. Abate all asbestos containing material(ACM) per VA and state regulations		
5. Comply with OSHA standards for dust control.		
6. Comply with OSHA regulations concerning the risks working around fumes and smoke.		
7. Comply with OSHA regulations concerning personal hearing protection.		
8. Comply with OSHA regulations concerning vibrations.		
9. Provide traffic control during all stage construction and associated utility construction.		
10. Provide dust and fume control to the air intake for building seven during dust induced operations.		
11. Coordinate any required utility outage with the COR.		
12.		
13.		
14.		

## **SAMPLE Hazard Control Measures**

(If used, modify as necessary for the specific hazard)

### **Asbestos:**

- a. Appropriate VA and state asbestos removal, control, monitoring, and clean-up incorporated into the project specifications.
- b. VA to hire independent Industrial Hygienist to inspect and clear area for occupancy in accordance with VA standards.
- c. Project area will be encased with spray-applied hard surface encasement material.
- d. Provide mini containments under negative air in public areas.
- e. Sealed gypsum board barrier will be constructed to isolate the construction area from the public.
- f. Transite panels will be removed, which is considered Class B removal.

### **Dust:**

- a. Sealed gypsum board barrier will be constructed to isolate the construction area from the public.
- b. Trash carts will be covered when transported through the building.
- c. Provide negative air machine exhausted to outside.
- d. Provide mini containments under negative air in public areas.
- e. Provide negative air machine in space as air scrubber.
- f. Provide walk off mats at entrances to work area.
- g. Perimeter barrier will be constructed above the ceiling to isolate the construction area with other areas above the ceiling.

### **Moisture Water Leaks**

- a. Contain any water from core drilling activities.
- b. Dike any floor penetrations to minimize risk of leaks from construction zone.

### **Vapors/Fumes:**

- a. Use of products with low Volatile Organic Compounds (VOCs).
- b. Provide negative air in construction zone exhausted to outside, away from HVAC intakes.
- c. Seal work area with airtight barrier.
- d. Use of combustion engine and propane powered equipment prohibited in buildings. Ensure use outdoors is away from HVAC intakes.
- e. Properly seal any floor penetrations in accordance with fire-stopping specifications to minimize risk of fumes from construction zone migrating to other areas of the building.
- f. Shut down or modify operation of air handler to minimize infiltration of fumes from outside.
- g. Use charcoal and/or HEPA filters on HVAC outside air intakes to protect interiors spaces from dust or fumes.

### **Noise:**

- a. Schedule demolition work after normal work hours, to extent possible.
- b. Cut all metal outside the building.

**Vibration:**

- a. Schedule demolition work after normal work hours, to extent possible.
- b. Coordinate with occupants in surrounding areas to explain the work occurring.

**Air Pressure Relationships:**

- a. Provide negative air during asbestos abatement.
- b. Provide negative air during construction.
- c. Seal off supply and exhaust Heating, Ventilation and Air-Conditioning (HVAC) registers.
- d. Provide anti room under negative pressure at entrance to project zone.

**Traffic Control:**

- a. Access construction area via exterior door.
- b. Schedule delivery of large quantities of material and demolition haul out after hours.

**Open Outside Walls:**

Construct temporary outside wall to limit the infiltration of wind, air and temperature differences into the project site.

**Impact to Levels Above and Below:**

- a. Coordinate with occupants in surrounding areas to explain the work occurring.
- b. Follow asbestos protocol when doing under floor work.
- c. Vacate areas when doing below floor work off of the catwalk.

**Proximity of Air Intakes:**

Shut down air handlers to reduce infiltration of fumes from exterior activities such as painting, gasoline powered engines, roofing operations, equipment, etc.

## INFECTION CONTROL RISK ASSESSMENT/IMPLEMENTATION

### **PROCEDURES:**

A. Determine Location Group based upon work location:

<b>LOCATION GROUP 1 LOWEST</b>	<b>LOCATION GROUP 2 MEDIUM</b>	<b>LOCATION GROUP 3 MEDIUM HIGH</b>	<b>LOCATION GROUP 4 HIGHEST</b>
1) Office areas 2) Engineering 3) Environmental services	1) At patient care units (example: Cardiac, Rehab., ultrasound) 2) Outpatient areas	1) Emergency Room 2) Radiology/MRI 3) Post-anesthesia Care unit 4) Intensive Care Units 5) Nuclear Medicine 6) Admission/Discharge area 7) PT – tank areas 8) Cafeteria 9) Echocardiography 10) Laboratories 11) Dialysis 12) Central sterile supply 13) Oncology 14) Cardiology	1) Operating Rooms; Sterile Processing 2) Intensive Care units 3) Cardiac Catheterization 4) Anesthesia areas 5) All endoscopy areas 6) Pharmacy

B. Determine Work Type:

**Work Type A:** Inspections and Non-Invasive Activities. Includes, but is not limited to, removal of ceiling tiles for visual inspection limited to 1 tile per 50 square feet, painting (but not sanding) wall covering, electrical trim work, minor plumbing, and activities which do not generate dust or require cutting of walls or access to ceilings other than for visual inspection.

**Work Type B:** Small scale, short duration activities which create minimal dust. Includes, but is not limited to, installation of telephone and computer cabling, access to chase spaces, cutting of walls or ceiling where dust migration can be controlled.

**Work Type C:** Any work which generates a moderate to high level of dust or requires demolition or removal of any fixed building components or assemblies. Includes, but is not limited to, sanding of wall for painting or wall covering, removal of floor coverings, ceiling tiles and casework, new wall construction, minor ductwork or electrical work above ceilings, major cabling activities, and any activity which cannot be completed within a single work shift.

**Work Type D:** Major demolition and construction projects. Includes, but is not limited to, activities which require consecutive work shifts, require heavy demolition or removal of a complete ceiling system, and new construction.

C. Determine Interim Measure Class:



<b>CONSTRUCTION ACTIVITY→</b>	<b>TYPE "A"</b>	<b>TYPE "B"</b>	<b>TYPE "C"</b>	<b>TYPE "D"</b>
<b>RISK LEVEL ↓</b>				
<b>Group 1</b>	<b>I</b>	<b>II</b>	<b>II</b>	<b>III/IV</b>
<b>Group 2</b>	<b>I</b>	<b>II</b>	<b>III</b>	<b>IV</b>
<b>Group 3</b>	<b>I</b>	<b>III</b>	<b>III/IV</b>	<b>IV</b>
<b>Group 4</b>	<b>III</b>	<b>III/IV</b>	<b>III/IV</b>	<b>IV</b>

#### **Interim Measure Class I**

1. Execute work by methods to minimize raising dust from construction operations.
2. Immediately replace any ceiling tile displaced for visual inspection.
3. Cleanup and disposal as appropriate.

#### **Interim Measure Class II**

1. Provide active means to prevent air-borne dust from dispersing into atmosphere, including water mist work surfaces to control dust while cutting.
2. Seal unused doors with masking tape.
3. Block off and seal air vents.
4. Cleanup and disposal as appropriate.

#### **Interim Measure Class III**

1. Isolate HVAC system in area where work is being done to prevent contamination of duct system.
2. Complete all critical barriers before construction begins or implement control cube method.
3. Maintain negative air pressure within work site utilizing HEPA equipped air filtration filter as required on a per project basis.
4. Contain construction waste and during transport in appropriate container.
5. Wet mop and/or vacuum with HEPA filtered vacuum before leaving work areas.
6. Place dust mat at entrance and exit of work area.
7. Clean construction area before leaving work area daily.

#### **Interim Measure Class IV**

1. Isolate HVAC system in area where work is being done to prevent contamination of duct system.
2. Complete all critical barriers before construction begins per project basis.
3. Maintain negative air pressure within work site utilizing HEPA equipped air filtration units as required on a per project basis.
4. Seal holes, pipes, conduits, and punctures appropriately.
5. Construct anteroom and require all personnel to pass through this room so they can be vacuumed using an HEPA vacuum cleaner before leaving work site or they can wear cloth or paper coveralls that are removed each time they leave the work site as required per project basis.
6. All personnel entering work site are required to wear appropriate protective clothing as required by the area.
7. Provide adhesive/carpet walk-off mats at entrance to work area within the anteroom. Replace used mats with new mats in accordance with manufacturer's recommendations and/or as needed.
8. Do not remove barriers from work area until completed project is inspected by the VAMC's Safety and Infection Control Departments, COTR, and thoroughly cleaned.
9. Provide appropriate clean up daily.

10. Wet mop area with disinfectant as required.
  11. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction.
  12. Contain construction waste before and during transport in appropriate covered containers.
- D. Document infection control measures to be implemented on attached form. List contractor, service line or individual responsible for implementation.
- E. Obtain appropriate approvals.
- F. Review and implement all required interim measures with the Contractor's Project Managers and personnel performing work.
- G. Complete Infection Control Permit and ensure it is posted outside the work site entrance at all times.**

## INFECTION CONTROL MEASURES

<b>Location Group: GROUP 1</b>
<b>Work Type: TYPE D</b>
<b>Interim Measure Class: CLASS I</b>
<b>Infection Control actions to be implemented: PATIENT AREAS NOT INVOLVED. PROJECT LIMITS ARE LOCATED AWAY FROM TREATMENT AREAS.</b>
1)
2)
3)
4)
5)
6)
7)
8)
9)
10)

<b>Responsibility for implementation:</b>
1)
2)
3)
4)
5)
6)
7)
8)
9)
10)

## WJB Dorn VAMC Infection Control Construction Permit

Location of Construction: Building 8				Project Start Date:	
Project Coordinator: Robert Price				Estimated Duration:	
Contractor Performing Work:				Permit Expiration Date: when finished	
Supervisor:				Constr. Supervisor phone:	
YES	NO	CONSTRUCTION ACTIVITY TYPES	YES	NO	PATIENT RISK GROUP
		TYPE A: Inspection, non-invasive activity	X		GROUP 1: Least Risk
		TYPE B: Small scale, short duration, moderate to high levels			GROUP 2: Medium Risk
		TYPE C: Activity generates moderate to high levels of dust, requires greater 1 work shift for completion			GROUP 3: Medium/High Risk
X		TYPE D: Major duration and construction activities Requiring consecutive work shifts			GROUP 4: Highest Risk
CLASS I		1. Execute work by methods to minimize raising dust from construction operations. 2. Immediately replace any ceiling tile displaced for visual inspection. 3. Use control cube for ceiling access when >1 ceiling tile removed. 4. Clean work area immediately after task completion.			
CLASS II		1. Provide active means to prevent air-borne dust from dispersing into atmosphere 2. Water mist work surfaces to control dust while cutting. 3. Seal unused doors with duct tape. 4. Block off and seal all air vents. 5. Place dust mats at entrance and exits of work areas. 6. Wipe work surfaces with approved disinfectant. 7. Contain construction waste before transport in tightly covered containers. 8. Wet mop and/or vacuum with HEPA filtered vacuum before leaving work area. 9. Remove or isolate HVAC system in areas where work is being performed.			
CLASS III		1. Remove or Isolate HVAC system in area where work is being done to prevent contamination of the duct system. 2. Complete all critical barriers to seal area from non work area before construction begins. 3. Maintain negative air pressure within work site 24/7, utilizing HEPA equipped air filtration units; with filter changes as needed. 4. Do not remove barriers from work area until completed project is thoroughly cleaned with hospital-approved disinfectant by Housekeeping, and approved by Project Coordinator. 5. Vacuum work area with HEPA filtered vacuums. 6. Wet mop with disinfectant. 7. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. 8. Contain construction waste before transport in tightly-covered containers. 9. Cover transport receptacles or carts. Tape covering. Wipe off cart and wheels with approved disinfectant before transporting debris.			
3-26-13 Date HWB Initial					
Class IV HWB 04/20/TT Date Initial HWB		1. Isolate HVAC system in area where work is being done to prevent contamination of duct system. 2. Complete all critical barriers or implement control cube method before construction begins. 3. Maintain negative air pressure within work site 24/7, utilizing HEPA equipped air filtration units; with filter changes as needed. 4. Seal holes, pipes, conduits, and punctures appropriately. 5. Construct anteroom and require all personnel to pass through this room so they can be vacuumed using a HEPA vacuum cleaner before leaving work site or they can wear cloth or paper coveralls that are removed each time they leave the work site. 6. All personnel entering work site are required to wear shoe covers; changed each time exiting work area. 7. Do not remove barriers from work area until completed project is thoroughly cleaned with approved disinfectant by Housekeeping and approved by Project Coordinator. 8. Vacuum work area with HEPA filtered vacuums. 9. Wet mop with disinfectant. 10. Remove barrier materials carefully to minimize spreading of dirt and debris associated with construction. 11. Contain construction waste before transport in tightly covered containers. 12. Cover transport receptacles or carts. Tape covering. 13. Remove or isolate HVAC system in areas where work is being done.			
Additional Requirements: Adhesive walk-off mats required at entrance to and exit from work areas for Class III and Class IV projects. <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO 2-step tuberculosis skin testing (TST) documentation is required for this project involving occupied rooms. <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO N-95 respirator fit-testing documentation is required for projects involving occupied airborne isolation rooms. TB risk assessment: Per CDC criteria Dorn VAMC is low risk and although not required (except as listed above), all construction workers are encouraged to have 2-step tuberculosis skin testing (TST).					
Date Initials :			HWB Exceptions/Additions to this permit Date Initials are noted by attached memoranda		
Permit Request By: Bob Price Jr.			Permit Authorized By: <i>Hyge Beddingfield</i>		
Date: March 26, 2013			Date: 03-26-13		

