INFECTION CONTROL CONSTRUCTION PROJECT COMPLIANCE

SOP 11IC.29

Wilkes-Barre VA Medical Center
Wilkes-Barre, Pa 18711

Service Line(s):
Chief of Staff
Facilities Management

Signatory Authority:
WBVAMC Chief of Staff
WBVAMC Associate Director

Effective Date:
February 27, 2025

Responsible Owner:
WBVAMC Infection Preventionist

Recertification Date:
February 28, 2030

1. SUMMARY OF CHANGES

Paragraphs 2.d.e. and f. Defines the use of the Pre-Construction Risk Assessment (VHA-PCRA:S) are intended to eliminate or minimize construction-associated risks.

2. PURPOSE AND AUTHORITY

a. The purpose of this standard operating procedure (SOP) is to establish procedures on safety and health during construction. This SOP must be followed by all employees and contractors that are involved in any phase of the construction process.

b. This SOP sets forth mandatory procedures and processes to ensure compliance with VHA Directive 7715(1), Safety and Health During Construction, dated June 22, 2023 and MCP 138S.01 Safety and Health During Construction Activities, dated June 2, 2022.

c. A multidisciplinary team with representatives from the following program areas: Infection Prevention; Patient Safety; Safety; VA Police and Security Service; Facilities Management Service (FMS); Projects Management; Green Environmental Management System; and Contracting. These team members are responsible to integrate infection prevention and environmental control principles, outlined in this guide, throughout the planning, managing, active phase, through to the completion of each project. This process is identified in the completion of the Pre-Construction Risk Assessment (PCRA) as well as the Infection Control Risk Assessment (ICRA), Appendix A.

d. The Pre-construction Risk Assessment (PCRA) will be completed by the responsible party: this form must be used to assess and document all construction -associated hazards that affect VA medical facilities, their occupants, services and mission -essential functions and capabilities. VHA-PCRA:S are intended to eliminate or minimize construction -associated risks.

e. Initial VHA-PCRAs must be completed for each construction project or activity. Project or construction activity scope and complexity determine the need for multiple VHA-PCRAs. Determinants include, but are not limited to duration, number and size of

areas or locations, work phases, types and number of individuals, (e.g. means, and methods, labor, scheduling, safety precautions, safety training or workers, pricing).

f. VHA-PCRAs must be re-validated and updated as needed based on but not limited to changes from original designs, affected individuals, area(s)/location(s), scope, contractor means and methods, safety requirements, phasing, contractor competencies and capabilities

g. An ICRA, will be required for every renovation and new construction project. The ICRA will be performed by a multidisciplinary team with expertise in Infection Control, Facility Design, Construction, Ventilation and Safety. The team will provide documentation of the risk assessment during initial planning and in subsequent construction phases. ICRA requirements are noted on the construction drawings and specification documents. For facility maintenance activities performed by FMS staff an ICRA will be completed in conjunction with Infection Preventionist. For those construction activities where the initial infection control review within the VHA-PCRA identifies potential risks of infectious disease transmission affecting the care, treatment or services of patients or residents, a detailed analysis must be conducted using the VHA-ICRA form to document an in-depth infection risk assessment(s) and identification of mitigation actions/activities.

h. Construction Activity areas will be assessed for environmental risks for airborne and waterborne disease and measures to contain dust and moisture by appropriate barriers and other means. Adjacent patient care areas, supply storage and areas on levels above and below the proposed project will also be assessed for effects when appropriate.

i. Based on the ICRA an Infection Control permit, Appendix B, will be issued for each project.

j. All construction workers, including subcontractors and FMS employees shall follow the Infection Control procedures as identified in the permit.

k. Infection Preventionist, Safety Officer, and the project Contracting Officer's Representative (COR) will participate in meetings and area walk through inspections which will be conducted according to the risk category and will be assigned for each individual project. Refer to Appendix C.

l. Any employee responsible for purchasing equipment which will require installation is responsible for notifying Infection Preventionist who will assist with completion of Appendix A.

3. PROCEDURES

The multidisciplinary team will ensure compliance with this SOP and all applicable codes.

a. **Planning Phases.**

(1) Infection Preventionist will participate in preliminary design meetings and all planning phases for new construction project specific to the following major components:

(a) Number and placement of isolation rooms with anterooms as required.

(b) Staff and patient traffic patterns.

(c) Decisions regarding locations for patient care areas, storage and supply areas, etc.

(d) Water supply and plumbing to insure re-circulation lines.

(e) Construction waste containment, transport, and disposal.

(f) Selection and installation of medical equipment as it relates to Infection Control.

(g) Accommodation of personal protective equipment (accessibility, security, sanitation, etc.)

(h) Location of sinks and hand washing products dispensers and automatic devises for sinks, toilets.

(i) Air handling systems engineered for optimal performance with easy maintenance and repair.

(j) Air changes per hour and pressure differentials to accommodate special patient care areas.

(k) Location of fixed sharps containers.

(l) Types of surface finishes nonporous versus porous.

(m) Appropriate location and type of ice machines.

(n) Appropriate flooring (e.g., seamless floors in dialysis units).

(o) Sensible use of carpeting.

(p) Properly engineered areas for linen services and solid waste management.

(q) Convenient location of soiled utility rooms.

(2) **Environmental Control.**

(a) Negative air pressure must be maintained within the construction area.

(b) Demolition debris is removed in tightly fitted covered carts using specified traffic patterns.

(c) Sticky or walk-off mats are placed immediately outside the construction zone and changed whenever necessary to control the spread of dust and dirt.

(d) If exterior demolition chutes are used, they must be sealed when not in use; the chute and damper should be sprayed with water, as necessary to control dust.

(e) Control, collection and disposal must be provided for any drain liquid or sludge found when demolishing plumbing.

(3) **Traffic Control.**

(a) Use designated entry and exit procedures

(b) Keep all egress pathways free of debris

(c) No unauthorized personnel should be allowed to enter construction areas

(d) Use designated elevators

(4) **Cleaning.**

(a) Keep the construction area clean on a daily basis

(b) Dust and dirt must be kept to a minimum

(5) **Requirements for Construction Workers and FMS Maintenance Staff.**

(a) Clothing must be free of loose soil and debris when exiting the construction area.

(b) Use personal protective equipment (PPE) as indicated for the task at hand.

(c) Handwashing is the best method of reducing the transmission of infection: Always wash your hands with soap and water after visiting the restroom, before eating, when leaving the construction site.

(d) Construction workers will receive an educational handout for general infection control practices, Appendix D, and a card with construction safety and infection control requirements to be worn with company identification.

(6) **Surveillance During Construction.** The Infection Preventionist evaluates the protection of patients, visitors, and employees from injury and illness, as well as occupational and facility-associated infections through surveillance activities.

4. ASSIGNMENT OF RESPONSIBILITIES

a. **WBVAMC Infection Preventionist.** The Infection Preventionist is assigned the responsibility to respond to requests and provide infection prevention and control related recommendations for project development and maintenance of areas during construction, renovation and maintenance projects

b. **WBVAMC Facilities Management Service Project Supervisor or Designee.** The Project Supervisor or designee is assigned the responsibility to:

(1) Assure that all project CORs, Infection Preventionist and the Safety Officer are appraised of plans involving construction or renovation of clinical and administrative areas of the Medical Center.

(2) Notify the Infection Preventionist and Safety Officer by electronic email of planning meetings related to construction.

c. **WBVAMC Facilities Management Service Maintenance Supervisor.** The Maintenance Supervisor is assigned the responsibility to notify the Infection Preventionist of maintenance activities.

d. **WBVAMC Safety and Occupational Health Manager.** The Safety and Occupational Health Manager is assigned the responsibility to respond to requests and provide safety and health related recommendations for project development and maintenance of areas during construction and renovation projects.

e. **WBVAMC Multidisciplinary Team.** The Multidisciplinary Team is assigned the responsibility to ensure compliance with this SOP and all applicable codes.

5. DEFINITIONS

None.

6. REFERENCES

a. VHA Directive 7715(1), Safety and Health During Construction, dated June 22, 2023, https://vaww.va.gov/vhapublications/ViewPublication.asp?pub_ID=10354 ***NOTE:*** *This is an internal VA Web site that is not available to the public.*

b. MCP 138S.01, Safety and Health During Construction, dated June 2, 2022, https://dvagov.sharepoint.com/sites/VHAWBP/MCPolicies/Medical%20Center%20Policies/Forms/Title.aspx. ***NOTE:*** *This is an internal VA Web site that is not available to the public.*

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

d. CDC's Guideline for Environmental Infection Control in Healthcare Facilities, 2005.

e. Guidelines for Design and Construction of Hospital and Health Care Facilities, Facility Guidelines Institute 2018.

7. RESCISSION

SOP 11IC.29, Infection Control Construction Project Compliance, dated April 10, 2023, is rescinded.

8. REVIEW

This SOP will be reviewed at minimum at recertification and when there are changes to the governing document.

9. RECERTIFICATION

This SOP is scheduled for recertification on or before the last working day of February 2030. In the event of contradiction with national policy, the national policy supersedes and controls.

10. SIGNATORY AUTHORITY

MIRZA ALI Digitally signed by MIRZA ALI Date: 2025.03.13 14:56:57 -04'00'

X_____
Mirza D. Ali MD
Chief of Staff

Sharon, Joseph F. Digitally signed by Sharon, Joseph F. Date: 2025.02.28 14:00:11 -05'00'

X_____
Joseph F. Sharon
Associate Director

NOTE: *The signature remains valid until rescinded by an appropriate administrative action.*

DISTRIBUTION: SOPs are available at:
https://dvagov.sharepoint.com/sites/VHAWBP/MCPolicies/SOPs/default.aspx ***NOTE:*** *This is an internal VA Website that is not available to the public.*

INFECTION PREVENTION RISK ASSESSMENT MATRIX OF PRECAUTIONS FOR CONSTRUCTION & RENOVATION

VHA Pre-Construction Risk Assessment (PCRA)

PCRA Introductory Information and Instructions

Use this template as a baseline for performing facility Pre-Construction Risk Assessments (PCRA) for Construction, Renovation, and Maintenance work (referred to as the "activity" in this document). The template provides minimum requirements for categorizing activity type(s) and safety risk to determine the level of precautions needed to prevent impact related to Construction, Renovation and Maintenance on patients, employees, and contractors.

Ensure that the activity statement of work and any drawings available are used for the PCRA assessment and included in the project file with the completed PCRA.

Communication and coordination of all types of activity with affected areas are to be included among the control measures. The development of communication and coordination plans must begin during the activity planning phase.

Facilities may customize this template to incorporate site-specific information and requirements.

NOTE: *This VHA PCRA template pertains specifically to non-infection-related safety for Construction, Renovation, and Maintenance activities. It must be used in conjunction with the VHA Infection Control Risk Assessment (ICRA) for the activity, if required, which specifically addresses infection risks outside the scope of this PCRA.*

PERMIT: See the last page of this document for a fillable permit form to be used for posting at the activity site.

Activity Location:	
Activity Name, Number, and/or Brief Description:	.

Table 1 - Construction, Renovation, and/or Maintenance Activity Type and Control Measures

NOTE: *If any of the bulleted criteria in a higher activity type pertains to the work that will be done (even if the other criteria are in a lower type), use the higher activity type for the VHA PCRA.*

Controls defined in Table 1 for the activity must be in place before the activity begins and maintained until work is completed and the area is activated. Control measures for each activity must also include the control measures in the preceding row(s).
As the activity progresses, a full re-evaluation of remaining activity type and risk is required prior to changing the level of control measures.

Activity Type determined from Table 1:	

Activity Type and Description	Control Measures
Inspection/upkeep generally defined as follows: • Work can be completed in a single shift, not to exceed 10 hours. • Patients, employees and/or visitors may be in the area depending on the activity. • Work that does not create dust or debris. • Work that does not create vapors or fumes. • Removal of ceiling tile or access to mechanical or electrical chase for visual inspection that will not impair fire safety systems and are limited to 1 tile per 50 square feet with limited exposure time (not to exceed an hour for each tile) within the shift. • Minor interior updates (e.g., replacing floor or ceiling tiles, carpentry work to include hanging signage, and painting with hand tools) that do not create vibration or noise. • Limited building system maintenance that does not require Lock Out Tag Out (LOTO) such as plumbing on potable systems limited to faucet replacement, steam trap replacement etc. and electrical work such as replacement of bulbs, receptacles, or switches.	1. Immediately replace any ceiling tile, close access panels, etc., upon completion of work. 2. Site visits of construction area are required weekly by member of multi-disciplinary team. Site visits will be documented on standard checklist. 3. Site specific safety plan, task hazard analysis, and hazard communication required to be provided by the contractor and approved where a contact is in place. For internal work the shop involved must work with Safety to ensure proper precautions are in place. 4. Must address identified hazards and controls that will be implemented to ensure minimal impact to patients, employees, contractors and facility. 5. Communication and coordination plan for all affected areas

Small scale Construction, Renovation and general maintenance/repair work, generally defined as follows:
• Prolonged work that may take longer than a single shift but not exceeding six months.
• Patients and employees are not to be in the area until activity is completed.
• Work that creates some noise and vibration due to power tool use.
• Selective demolition/removal of preexisting floor covering, casework, lay-in ceiling, or other architectural elements that may
  o disturb asbestos, lead or silica
  o create the potential for falling objects
  o create vibration and/or noise in excess of 80 dB(A) in surrounding areas.
  o cause penetrations in fire or smoke barrier
• Plumbing work such as the installation of new sinks, showers and toilets and associated plumbing that requires utility outages or work on the steam system that may require:
  o LOTO
  o The use of compressed gas cylinders
• Electrical work such as installation of conduit and wire for lighting, receptacles and switches for an area, the installation of conduit and wire for new devices such as terminal units, fans etc. Electrical work such as installation of cabling/wiring/conduit for a single device, installation of new device such as a light fixture that require LOTO.
• Air Handler and/or fan shutdown/startup and HVAC work such as replacement of a single diffuser, single terminal unit, a single device and the installation of ductwork, diffusers, and terminal units for an area that may require:
  o Work on ladders
  o Rigging, hoisting or lifting of equipment or materials overhead
• Modification of existing fire alarm and suppression systems
	All control measures in the row above and the following:
	1. Hazard communication chemical inventory required to be provided by the contractor and approved.
	2. Where construction, Renovation and maintenance are done in an accredited facility, and ILSM assessment is required to be done and ILSMs put into place in accordance with TJC LS.01.02.01 and the local facility policy including Fire watch if necessary. Staff is trained and the ILSM is verified regularly
	3. Hot Work or burn permits in place and staff trained
	4. LOTO procedures in place and staff trained on their use
	5. Site visits will be reviewed using the criteria in standardized guide.
	6. Daily inspections of the site are to be conducted by the General Contractor or shop supervisor and documented on their daily log.

requiring system outages and ILSMs or obstruction of exits and or impact on corridors.
• Architectural, structural, or any other work that may cause vapors or fumes such as:
  ○ Roofing work
  ○ Flooring work
  ○ Painting or other large-scale use of such substances.	

<u>Large-scale</u> <u>construction, renovation, or maintenance generally defined as follows</u>:
• Work exceeding 6 months in duration.
• Patients and employees are not to be in the area until activity is completed.
• Excavation or heavy equipment use taking place
  ○ Dig safe required utility location
  ○ Trench safety
  ○ Dust control plan
  ○ Equipment exhaust, Noise, Vibration
• Confined space entry required (permit required or not)
• Requires crane work
  ○ General crane work
  ○ Lift over buildings
• Includes elevated work
  ○ Roof work, fall protection
  ○ Window work, scaffolding and fall protection
  ○ Odor control
• Welding, cutting or use of torches requiring burn permits
• Demolition of building components and infrastructure including removal of multiple doors, walls, framing, ceilings, flooring, piping, electrical and HVAC that may
  ○ require asbestos, lead or silica abatement
  ○ create the potential for falling objects
  ○ create vibration and/or noise in excess of 90 dB(A) in surrounding areas.
  ○ cause breaches to fire or smoke barrier
• The installation building components such as new walls, ceilings and doors including framing, drywall and associated plaster work that requires transport of significant materials through building and up elevators i.e., weight limits of floors and elevators
• Plumbing work requiring LOTO and system shutdown and startup such as the installation of:
  ○ new medical gas systems,
  ○ steam/heating hot water, condensate systems,
  ○ Potable water and sanitary drainage, multiple sinks, showers and toilets including associated plumbing.
• Electrical work such as installation of electrical feeders, distribution panels, conduit and wire for lighting, receptacles and switches for an area, the installation of conduit and wire for new devices such as terminal units, fans etc. requiring LOTO and system isolation.
• Installation of fire alarm and suppression systems requiring outages of those systems and ILSMs or closure of exits/corridors
	<u>All control measures in the two rows above</u> and the following Activity Hazard Analyses and Control Plans (check all that apply):
	1. Excavation safety plan in place ☐
	2. Dust control plan in place ☐
	3. Pollution prevention plan in place ☐
	4. Dig safe paper work in place ☐
	5. Crane lift plan in place ☐
	  a. Crane placement
	  b. Crane swing
	  c. Crane load evaluation
	6. Fall protection plan in place and staff trained ☐
	7. Confined entry plan in place and staff trained ☐

• Mechanical work such as the installation of air handling equipment, associated ductwork, diffusers, heat exchangers, terminal units and controls requiring lifting and support of equipment and systems.	

Table 2. Affected Adjacent Area Assessment

In addition to the minimum precautions noted above for the Activity Type, it is critical that the activity be coordinated with the areas adjacent to the activity to ensure operations in those areas are not disrupted or impacted. List the adjacent areas in Table 2 below and develop activity-specific coordination plans and associated communication plans with each area to address activity work that could impact or disrupt the operation of the areas, in general as follows:

- If adjacent area is **vacant** (e.g., work outside, construction of new building, etc.):
  - Coordination is typically not necessary other than potentially traffic flow and pedestrian access.
- If adjacent area is **non-continuously occupied** (e.g., areas where outpatient care is provided, employee health, etc.):
  - Develop a list of activities that will potentially impact or disrupt the operation of the area (e.g., work involving noise, vibration or exit obstruction) and meet with POC to coordinate execution of work in a way that mitigates the impact (e.g., conduct work after hours).
- If adjacent area is **occupied continuously** (e.g., areas where inpatient care is provided, residential areas such as Community Living Centers, etc.):
  - Develop a list of activities that will potentially impact or disrupt the operation of the area (e.g., work involving noise, vibration or exit obstruction) and meet with POC to coordinate execution of work in a way that mitigates the impact (e.g., move affected party temporarily)

Area	Service(s)/Type(s) of Area(s) *(e.g., OR, Unit/Ward, Sterile Processing, Administrative, etc.)**	Point of Contact (POC)	POC Contact Information	Construction plan communicated to POC?
Activity Area**				
Area Above				
Area Below		.		
Adjacent Area 1				
Adjacent Area 2				
Adjacent Area 3				
Adjacent Area 4				

* There may be more than one Service/type of area for each row. List all. The information entered on this table must be used in the ICRA if required.

** List the area(s) in which the construction/renovation/maintenance activity will occur.

Infection Control Risk Assessment (ICRA)

Consult with Infection Prevention and Control regarding the assessment of potential infection risks associated with the activity and the need for control measures. See VHA Directive 7715 and the VHA ICRA Template for more information.

Is an ICRA required for the Activity? Yes ☐ No ☐

Pre-Construction Risk Assessment (PCRA) Permit

This page must be posted at the entrance to the project area, or other designated area

Unique permit number:			
Location and brief description of construction/renovation/maintenance			
Project manager		Project start date	
Contact phone number		Completion date	
Contractor or lead shop		Permit expiration date	

Activity Type *Inspection/Upkeep, Small-scale, or Large-scale)*	Small Scale

Activity Type	**Control measures to be in place for the duration of the activity** *(Check the box for the Activity Type to indicate the Control Measures)*
Inspection/Upkeep ☐	1. Immediately replace any ceiling tile, close access panels, etc., upon completion of work. 2. Site visits of construction area are required weekly by member of multi-disciplinary team. Site visits will be documented on standard checklist. 3. Site specific safety plan, task hazard analysis, and hazard communication required to be provided by the contractor and approved. 4. Must address identified hazards and controls that will be implemented to ensure minimal impact patients, employees, contractors and facility. 5. Communication and coordination plan for all affected areas
Small-scale ☐	**<u>All control measures in the row above</u> and the following:** 1. Hazard communication chemical inventory required to be provided by the contractor and approved. 2. ILSMs in place and staff trained on situation 3. Hot Work or burn permits in place and staff trained 4. LOTO procedures in place and staff trained on their use 5. Site visits will be reviewed using the criteria in standardized guide. 6. Daily inspections of the site are to be conducted by the General Contractor and documented on their daily log.
Large-scale ☐	**<u>All control measures in both rows above</u> and the following Activity Hazard Analyses and Control Plans as applicable (check all that apply):** 1. Excavation safety plan in place ☐ 2. Dust control plan in place ☐ 3. Pollution prevention plan in place ☐ 4. Dig safe paperwork in place ☐ 5. Crane lift plan in place ☐ a. Crane placement b. Crane swing c. Crane load evaluation 6. Fall protection plan in place and staff trained ☐ 7. Confined entry plan in place and staff trained ☐

Additional requirements:			
Is an Infection Control Risk Assessment (ICRA) required for the Activity? Yes ☐ No ☐ Infection Prevention and Control signature: Date:			
Project Manager signature		Date	
Safety Officer signature		Date	
Chair, Construction Safety Committee signature		Date	

*The location of all Activity Hazard Analyses and Control Plans (excavation, dust, pollution, etc.) as applicable shall be identified on this permit and shall be made available to all workers on the job.

Infection Prevention and Control Construction/Renovation/Maintenance Permit

Introductory Information and Instructions

Use this template as a baseline for performing facility Infection Control Risk Assessments (ICRAs) for construction, renovation, and maintenance work (referred to as the "activity" in this document). The template provides minimum requirements for categorizing activity types and patient risk to determine the level of precautions needed to prevent infection risks. Facilities may customize this template to incorporate site-specific information and/or to add more stringent criteria.

This VHA ICRA template pertains specifically to infection prevention. It must be used if required by the VHA Pre-Construction Risk Assessment (PCRA) for the activity. *NOTE: The PCRA addresses other activity-related safety concerns (e.g., vibration, noise, hazardous materials) outside the scope of the ICRA.*

To complete the template:

1. Use **Table 1** to identify the category of the construction, renovation and/or maintenance activity.
2. Use **Table 2** to identify the areas affected by the activity.
3. Use **Table 3** to identify the overall patient risk category that will be affected by the activity.
4. Use **Table 4** to determine the level of infection prevention and control precautions needed for the activity.

Once all 4 steps above are completed: Refer to **Table 5** for the minimum required control measures for the level of infection prevention and control precautions needed for the activity. Refer to **Table 6** for the minimum infection prevention and control measures required on completion of the activity.

PERMIT: See the last page of this document for a fillable permit form to be used for posting at the activity site as needed.

Table 1 - Construction, Renovation, and/or Maintenance Activity Category

NOTE: *If any of the bulleted criteria in a higher activity category pertains to the work that will be done (even if the other criteria are in a lower category), use the higher activity category for the VHA ICRA.*

Activity Category determined from Table 1 (*A, B, C, or D*): ☐

Category A	**Inspection and/or facility upkeep generally defined as follows**: • Work can be completed in a single shift, not to exceed 10 hours. • Patients and/or employees may be in the area depending on the activity. • Work that does not create dust or debris. • Removal of ceiling tile or access to mechanical or electrical chase for visual inspection limited to 1 tile per 50 square feet with limited exposure time (not to exceed an hour for each tile) within the shift. • Minor interior updates (e.g., replacing floor or ceiling tiles, carpentry work to include hanging signage, and painting without sanding) that do not create dust or debris. • Limited building system maintenance such as basic plumbing on potable systems (e.g., faucet replacement) or basic electrical work such as replacement of light bulbs, receptacles, or switches.
Category B	**General maintenance and repair work generally defined as follows:** • Prolonged inspection and work that may take longer than a single shift but not exceeding a week. • Patients and employees are not to be in the area until activity is completed. • Work that creates minimal dust and debris. • Interior finish or surface repairs, updates, or modifications such as repair of firewalls and

	barriers, and new flooring that produces minimal dust and debris. Controlled sanding activities (e.g., wet or dry sanding) that produce minimal dust and debris. • Plumbing work such as installation or replacement of a single fixture or piping for a single fixture. Any work on sanitary plumbing including snaking of drains. • Electrical work such as installation of cabling/wiring/conduit for a single device, installation of new device such as a light fixture that produces minimal dust and debris. • Air Handler and/or fan shutdown/startup and HVAC work such as replacement of a single diffuser, single terminal unit or a single device that produces minimal dust and debris.
Category C	**Small-scale construction, renovation, or maintenance generally defined as follows**: • Work requiring longer than a single week to complete but not exceeding 6 months. • Patients and employees are not to be in the area until activity is completed. • Demolition/removal of preexisting floor covering, casework, lay-in ceiling, or other architectural elements. • Demolition/removal of more than 32 ft^2 of drywall/framing, hard ceilings, and doors/framing and minimal infrastructure such as electrical circuits and branch piping. • Installation of new walls, ceilings and doors including framing, drywall/plaster and associated work. • Plumbing work such as the installation of new sinks, showers and toilets and associated plumbing. • Shut down of sections of potable water systems. • Electrical work such as installation of conduit and wire for lighting, receptacles and switches for an area, the installation of conduit and wire for new devices such as terminal units, fans etc. • Modification of existing fire alarm and suppression systems. • Mechanical work such as the installation of ductwork, diffusers, and terminal units for an area.

Category D	**Large-scale construction, renovation, or maintenance generally defined as follows**:
	• Work exceeding 6 months in duration.
	• Patients and employees are not to be in the area until activity is completed.
	• Large-scale demolition of building components and infrastructure including removal of multiple doors, walls, framing, ceilings, flooring, piping, electrical and HVAC.
	• The installation building components such as new walls, ceilings and doors including framing, drywall and associated plaster work.
	• Plumbing work such as the installation of:
	  ○ new medical gas systems,
	  ○ steam/heating hot water, condensate systems,
	  ○ multiple sinks, showers and toilets including associated plumbing.
	• Shutdown of potable water, steam/heating hot water, condensate, and medical gas systems.
	• Electrical work such as installation of electrical feeders, distribution panels, conduit and wire for lighting, receptacles and switches for an area, the installation of conduit and wire for new devices such as terminal units, fans etc.
	• Installation of fire alarm and suppression systems.
	• Electrical shutdown of multiple panels.
	• Mechanical work such as the installation of air handling equipment, associated ductwork, diffusers, heat exchangers, terminal units and controls.

Table 2 - Affected Area Assessment

Identify the areas and associated patients that will be affected by the construction/renovation/maintenance activity (see the Figure for a visual representation of adjacent affected areas).

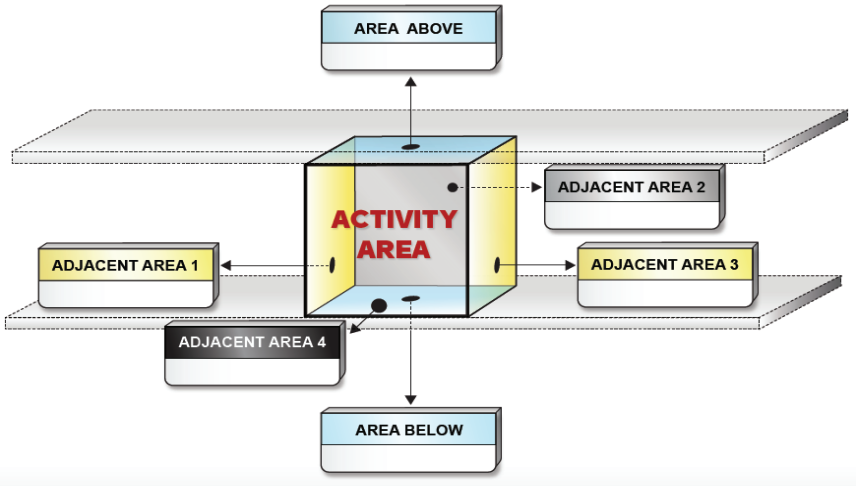


Figure: Isometric drawing of affected area assessment

Area	Service(s)/Type(s) of Area(s) *(e.g., OR, Unit/Ward, Sterile Processing, Administrative, etc.)**	Point of Contact (POC)	POC Contact Information
Activity Area**			
Area Above			
Area Below			
Adjacent Area 1			
Adjacent Area 2			
Adjacent Area 3			
Adjacent Area 4			

* There may be more than one Service/type of area for each row. List all.

** List the area(s) in which the construction/renovation/maintenance activity will occur. ***NOTE: When the Activity Category is B, C, or D, the control measures are determined by the Patient Risk in the adjacent affected areas.***

Table 3 - Patient Risk Category

Using Table 3, identify the patient risk category for each area listed in Table 2. Of the patient risk categories identified, select the one with the greatest risk as the overall Patient Risk Category for the activity.

Overall Patient Risk Category determined from Table 3 (*Low, Medium, High, or Highest*): ☐

Low Risk Non-patient care areas such as:	**Medium Risk** Patient care support areas such as:	**High Risk** Patient care areas such as:	**Highest Risk** Procedural, invasive, sterile support and highly compromised patient care areas such as:
• Public hallways and gathering areas not in clinical areas • Office areas not in clinical areas • Breakrooms not in clinical areas • Bathrooms or locker rooms not in clinical areas • Mechanical/electrical rooms not in clinical areas	• Waiting areas • Clinical engineering (biomedical) • Materials management • Sterile processing department – dirty side • Kitchen, cafeteria, gift shop, coffee shop, and food kiosks	• Patient care rooms and areas, including spinal cord injury units • All acute care units, including mental health • All outpatient units and clinics • Emergency department • Community Living Centers, domiciliary, and transitional residences • Employee health • Pharmacy – general work zone • Medication rooms and clean utility rooms • Imaging suites – diagnostic imaging • Laboratory	• All transplant units • All intensive care units • All oncology units and chemotherapy/infusion centers • OR theaters and restricted areas • Hemodialysis units • Procedural rooms* • Pharmacy compounding area • Sterile processing department – clean side • Transfusion services • Imaging suites – interventional imaging • Dedicated isolation wards/units for infectious diseases

* Procedural Rooms are designated for the performance of patient care activities that may require high-level disinfected or sterile instruments and some environmental controls but is not required to be performed with the environmental controls of an operating room (OR). The room is intended for procedures that are performed in an aseptic surgical field and penetrates the protective surfaces of a patient's body (e.g., subcutaneous tissue, mucous membranes, cornea) or entry into or opening of a sterile body cavity. Examples of these spaces include, and are not limited to, Cardiac Catheterization Suites, Electrophysiology Suites, Endovascular/GI Suites, Angio Suites and other spaces which may have high risk patient populations.

Table 4 - Level of Infection Prevention and Control Precautions

Match the Overall Patient Risk Category (*Low, Medium, High, Highest*) determined from Table 3 with the planned Construction/Renovation/Maintenance Activity Category (*A, B, C, D*) from Table 1 to determine the minimum Level of Infection Prevention and Control Precautions (*I, II, III, or IV*) using Table 4 below.

Level of Precautions determined from Table 4 (*I, II, III, or IV*): ☐

	A	B	C	D
Low Risk	I	II	II	III
Medium Risk	I	II	III	IV
High Risk	I	II	IV	IV
Highest Risk	II	III	IV	IV

An infection prevention and control permit is required for Level III and Level IV. Consult with Infection Prevention and Control for Level I and Level II.

Table 5 - Required Infection Prevention and Control Measures, by Level of Precautions

Controls defined below for the Level of Precautions identified for the activity must be in place before the activity begins and maintained until work is completed and the area is activated. Control measures for each Precaution Level must also include the control measures in the preceding Level(s).

As the activity progresses, a full re-evaluation of remaining activity type and patient risk is required prior to downgrading the Level of Precautions.

Level of Precautions	Control Measures
Level I	1. Perform work activity in a manner that does not create dust. 2. Immediately replace any ceiling tile, close access panels, etc., upon completion of work. 3. Any materials and equipment being brought into the facility must be free of contaminants and loose material.
Level II	**All control measures in Level I and the following:** 1. Provide active means to control airborne dust from dispersing into occupied areas and/or water mist surface to control dust (e.g., Mobile Dust Containment Cart or some other system). 2. Ensure worker clothing is clean and free of visible dust before leaving the work area. 3. Remove or isolate air diffusers (supply and return) to protect the HVAC system from dust and reduce air turbulence. Rebalance system to address diffuser isolation. 4. When the work involves or impacts potable water systems including stagnation due to reduced usage, the piping shall be flushed twice a week or isolated from the main system. 5. Seal doors to prevent dust migration. 6. Contain all trash and debris in the work area. Perform daily cleaning and disposal of trash (covered) from work area using an identified exit route. 7. Any equipment, tools, or materials removed from the work area must be in sealed containers and/or cleaned of dust and debris prior to removal from the area. 8. Nonporous/smooth and cleanable containers (with a hard lid) must be used to transport trash and debris from the construction areas. These containers must be damp-wiped cleaned and free of visible dust/debris before leaving the contained

	work area. 9. Install a sticky (dust collection) mat at entrance of contained work area based on facility policy. Sticky mats must be changed routinely and when visibly soiled. 10. Maintain clean surroundings when area is not contained by damp mopping or HEPA vacuuming surfaces at least daily.
Level III	**<u>All control measures in Levels I and II</u> and the following:** 1. Ensure availability of equipment for cleaning hands. 2. Construct and complete critical barriers meeting NFPA 241 requirements. Barriers must extend to the ceiling or if ceiling tile is removed, to the deck above. 3. All (plastic or hard) barrier construction activities must be completed in a manner that prevents dust release. Plastic barriers must be effectively affixed to floor and ceiling (or floor/roof deck above) and secure from movement or damage. 4. Seal all penetrations in containment barriers, including floors and ceiling, using approved materials (UL schedule firestop if applicable for barrier type). 5. Maintain .01 inches /water gauge negative pressurization of the entire workspace by use of HEPA exhaust air systems directed outdoors or comply with the alternative method outlined in Appendix A of this document. These control measures must be maintained continuously 24/7 for the duration of the project. HEPA filtered exhaust if discharged directly to the outdoors must be at a distance of 25 feet or greater from entrances, air intakes and operable windows. Exhausting discharged air into shared or recirculating HVAC systems, or other shared exhaust systems (e.g., bathroom exhaust) is <u>prohibited</u>. 6. Install a differential pressure sensing device (e.g., magnehelic, manometer, or digital monitoring) on exterior of work containment to continually monitor and document negative pressurization. The “ball in the wall” or similar apparatus are <u>not acceptable</u>.
Level IV	**<u>All control measures in Levels I, II and III</u> and the following:** 1. Barriers must be hard barriers unless temporary to install final barrier. 2. Containment must include an anteroom to ensure pressure control. Anteroom must be large enough for equipment staging, cart cleaning, workers’ PPE and cleaning. 3. Worker clothing and/or PPE must be removed or clean and free of visible dust before leaving the work area anteroom. HEPA vacuuming of clothing or use of cover suits is acceptable. 4. Workers must wear shoe covers or have a method to clean shoes in anteroom. Shoe covers must be removed prior to exiting the anteroom to the occupied space (non-work area). Damaged shoe covers must be changed immediately.

Table 6 - Minimum Infection Prevention and Control Measures Required Upon Completion of the Activity

Controls defined below shall be completed upon completion of the activity and inspected prior to terminating measures defined in Table 5.

Level of Precautions	Measures
Levels I - II	**Cleaning:** 1. Clean work areas including all environmental surfaces, high horizontal surfaces and flooring materials. 2. Check all supply and return air registers for dust accumulation on upper surfaces as well as air diffuser surfaces. **HVAC Systems:** 1. Remove isolation of HVAC system in areas where work is being performed. Verify that HVAC systems are clean and operational. 2. Verify the HVAC systems meet original airflow and air exchange design specifications. **Water systems:** 1. Until the potable water system is activated and in use, flushing shall continue at least twice per week in accordance with VHA Directive 1061.
Levels III - IV	Construction areas must be inspected by an infection preventionist and engineering representative (and others as determined by the facility) for final activity/project close out and removal of infection prevention and control measures. **Work Area Cleaning:** 1. Clean work areas including all environmental surfaces, high horizontal surfaces and flooring materials. 2. Check all supply and return air registers for dust accumulation on upper surfaces as well as air diffuser surfaces. **Removal of Critical Barriers:** 1. Critical barriers must remain in place during all work involving drywall removal, creation of dust and activities beyond simple touch-up work. The barrier may NOT be removed until a work area cleaning has been performed. Additional cleaning may be needed after removal of barrier. 2. All (plastic or hard) barrier removal activities must be completed in a manner that prevents dust release. Use the following precautions when removing hard barriers: i. Carefully remove screws and painter tape. ii. If dust will be generated during screw removal, use hand-held HEPA vacuum. iii. Drywall cutting is prohibited during removal process. iv. Clean all stud tracks with HEPA vacuum before removing outer hard barrier. v. Use a plastic barrier to enclose area if dust could be generated. **Negative Air Requirements:** 1. The use of negative air must be designed to remove contaminants from the work area. 2. Negative air devices (fans, filters, monitoring and documentation equipment) must remain operational at all times and in place for a period after completion of dust creating activities to remove contaminants from the work area and before removal of critical barriers. **HVAC systems:** 1. Upon removal of critical barriers, remove isolation of HVAC system in areas where work is being performed. 2. Verify that HVAC systems are clean and operational. 3. Verify and document through a TAB the HVAC systems meets original airflow and air exchange design specifications. **Water systems:** 1. Until the potable water system is activated and in use, flushing shall continue at least twice per week in accordance with VHA Directive 1061.

Infection Prevention and Control Construction/Renovation/Maintenance Permit

This page must be posted at the entrance to the project area for Level III and Level IV activities.

Unique permit number:			
Location of construction/renovation/maintenance			
Project manager		Project start date	
Contact phone number		Completion date	
Contractor		Permit expiration date	

Activity Category (*A, B, C, or D*)		Overall Patient Risk Category (*Low, Medium, High, or Highest*)		Level of Infection Prevention and Control Precautions (*I, II, III, or IV*)	

Level of Precautions	Control measures to be in place for the duration of the activity *(Check the box for the activity's Level of Precautions to indicate the Control Measures)*
Level I ☐	1. Perform work activity in a manner that does not create dust. 2. Immediately replace any ceiling tile, close access panels, etc., upon completion of work. 3. Any materials and equipment being brought into the facility must be free of contaminants and loose material.
Level II ☐	**All control measures in Level I and the following:** 1. Provide active means to control airborne dust from dispersing into occupied areas and/or water mist surface to control dust (e.g., Mobile Dust Containment Cart or some other system). 2. Ensure worker clothing is clean and free of visible dust before leaving the work area. 3. Remove or isolate air diffusers (supply and return) to protect the HVAC system from dust and reduce air turbulence. Rebalance system to address diffuser isolation. 4. When the work involves or impacts potable water systems including stagnation due to reduced usage, the piping shall be flushed twice a week or isolated from the main system 5. Seal doors, to prevent dust migration. 6. Contain all trash and debris in the work area. Perform daily cleaning and disposal of trash (covered) from work area using an identified exit route. 7. Any equipment, tools, or materials removed from the work area must be in sealed containers and/or cleaned of dust and debris prior to removal from the area. 8. Nonporous/smooth and cleanable containers (with a hard lid) must be used to transport trash and debris from the construction areas. These containers must be damp-wiped cleaned and free of visible dust/debris before leaving the contained work area. 9. Install a sticky (dust collection) mat at entrance of contained work area based on facility policy. Sticky mats must be changed routinely and when visibly soiled. 10. Maintain clean surroundings when area is not contained by damp mopping or HEPA vacuuming surfaces at least daily.
Level III ☐	**All control measures in Levels I and II and the following:** 7. Ensure availability of equipment for cleaning hands. 8. Construct and complete critical barriers meeting NFPA 241 requirements. Barriers must extend to the ceiling or if ceiling tile is removed, to the deck above. 9. All (plastic or hard) barrier construction activities must be completed in a manner that prevents dust release. Plastic barriers must be effectively affixed to floor and ceiling (or floor/roof deck above) and secure from movement or damage. 10. Seal all penetrations in containment barriers, including floors and ceiling, using approved materials (UL schedule firestop if applicable for barrier type). 11. Maintain .01 inches /water gauge negative pressurization of the entire workspace by use of HEPA exhaust air systems directed outdoors or comply with the alternative method outline in Appendix A of the VHA ICRA template. These control measures must be maintained continuously 24/7 for the duration of the project. Exhausting discharged air into shared or recirculating HVAC systems, or other shared exhaust systems (e.g., bathroom exhaust) is prohibited. **Check box to indicate exhaust method:** Exterior ☐ Alternative Interior Method ☐ 12. Install a differential pressure sensing device (e.g., magnehelic, manometer, or digital monitoring) on exterior of work containment to continually monitor and document negative pressurization. The "ball in the wall" or similar apparatus are not acceptable.
Level IV ☐	**All control measures in Levels I, II and III and the following:** 1. Barriers must be hard barriers unless temporary to install final barrier. 2. Containment must include an anteroom to ensure pressure control, Anteroom must be large enough for equipment staging, cart cleaning, workers' PPE and cleaning. 3. Worker clothing and/or PPE must be removed or clean and free of visible dust before leaving the work area anteroom. HEPA vacuuming of clothing or use of cover suits is acceptable. 4. Workers must wear shoe covers or have a method to clean shoes in anteroom Shoe covers must be removed prior to exiting the anteroom to the occupied space (non-work area). Damaged shoe covers must be changed immediately.

Additional requirements:			
Project Manager signature		Date	
Infection Preventionist signature		Date	

Appendix A: Alternative To Outdoor Exhaust Requirements
This Appendix provides an equivalent ICRA control measure to requirements detailed in this VHA ICRA template (Table 5 Level III, item 5) that would allow interior construction space exhaust.

Interior Construction Space Exhaust:

If the facility is not able to exhaust to the building exterior, the Healthcare Environment and Facilities program office has identified an alternate industry-recognized standard interior exhaust procedure that is accepted as providing an equivalent level of infection prevention and control (IPC), and safety. The alternate interior exhaust procedure is implemented by completing the following:

a. If exhaust is directed indoors, then the system must be HEPA filtered. Prior to start of work, including assembly of the ICRA barriers, initial baseline air sampling measurements for particulate levels must be taken in the planned area of discharge. Once containment is erected and completed, HEPA filtration must then be verified by particulate measurement, using a particle counter with multi-channel capabilities to measure down to 0.3 microns, to confirm that the discharge of the HEPA unit does not exceed the baseline particulate count of the area to which the exhaust is directed. Verification must continue at least three times per day (once every 8 hours), 7 days per week, during the use of the negative air machine and HEPA filter. Any exceedance must trigger a work stoppage and an immediate response and resolution. All particulate measurements, including the baseline measurement, must be documented and retrievable.
b. To accommodate the sampling, the negative air pressure machine must be fitted with a 2 ft section of rigid ductwork at the discharge. The sample port for monitoring must be in the rigid ductwork section.
c. Vapor generating processes must be assessed and appropriate filtration must be installed to mitigate transmission to the facility.
d. Engineering must do a complete flow and pressure analysis and document the area to which the air is being discharged to ensure the flow and pressure relationships in that area are not being adversely impacted by the additional flow. Ideally, this is done as part of the construction package to ensure the design is implementable and no additional HVAC changes are required to accommodate the exhaust from the negative air equipment.
e. Install device on exterior of work containment to continually monitor negative pressurization. To ensure proper pressure is continuously maintained, the device(s) shall have a visual pressure indicator, data collection and alarm.
f. Exhaust must be directed to Low Risk areas as defined in Table 3 in this VHA ICRA template. Ideally this discharge must be located so as not to impinge on high traffic areas or create a nuisance with noise or excessive airflow.
   NOTE: *Exhaust into shared or recirculating HVAC systems, or other shared exhaust systems (e.g., bathroom exhaust) is not acceptable.*

INFECTION PREVENTION CONSTRUCTION CHECKLIST

Location: _____ **Date:** _____

Project COTR: _____

Safety Representative: _____

Infection Prevention Coordinator: _____

Contractor Performing Work: _____

CONSTRUCTION ACTIVITY:	YES	NO
Type A: Inspection and non-invasive activities, minimal dust levels	☐	☐
Type B: Small scale, short duration moderate dust levels	☐	☐
Type C: Generates moderate to high levels of dust	☐	☐
Type D: Major duration and construction activities requiring consecutive work shift	☐	☐

INFECTION PREVENTION RISK GROUPS:

Low Risk: _____

Medium Risk: _____

High Risk: _____

Highest Risk: _____

Scope of work: _____

Date: _____ Location: _____ Class of Precautions: _____

BARRIERS:	YES	NO
Construction signs posted for the area		
- Construction site- DO NOT ENTER	☐	☐
- Emergency contact information	☐	☐
- Infection Control Instructions	☐	☐
Door properly closed and sealed	☐	☐
Floor mats/dust tacks mats at entrance and changed	☐	☐
Floor area clean, no dust tracked	☐	☐
Barrier intact	☐	☐
Door sweep	☐	☐
Door closure device	☐	☐
Door/tools locked when no one in area	☐	☐
AIR HANDLING		
All windows closed behind barrier	☐	☐
Negative air at barrier entrance	☐	☐
Negative air machine running	☐	☐
Hepa filter below 2 (above 2 filter change)	☐	☐
PROJECT AREA:		
Debris removed in covered container daily	☐	☐
Debris removed via designated exit route	☐	☐
Trash in appropriate container	☐	☐
Routine clearing done on job site	☐	☐
If chute used, it is not adjacent to open windows or HVAC air intakes	☐	☐
HVAC systems isolated, return ducts covered	☐	☐
TRAFFIC CONTROL:		
Restricted to construction workers and necessary staff only	☐	☐
All doors and exits free of debris	☐	☐
ID badges worn and visible by construction workers	☐	☐

Comments:

Signatures:

Project COTR: _____

Safety Representative: _____

Infection Prevention: _____

Infection Prevention – Construction Services

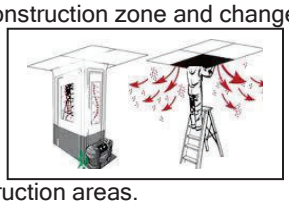
The goal of the Infection Prevention Program is to identify and reduce the risks of acquiring and transmitting infections among patients, employees, and visitors.

During construction, renovation and minor improvement projects, hidden infectious disease hazards may be released into the air, carried on dust particles or on clothing - for example, fungal organisms such as *Aspergillus. Aspergillus* species may be found in decaying leaves and compost, plaster and drywall, and settled dust. These organisms usually do not cause problems in healthy people, but a hospital is full of sick patients! *Aspergillus* and other fungal organisms can cause illness and even death in transplant patients, cancer treatment patients, and patients with lung problems or poor immunity. Therefore, it is critical that you do your part to keep our patients, employees, and visitors as safe and healthy as possible. We, in turn, will make conditions as safe as possible for you.

1. Medical Waste:
   a. We will remove any medical waste, including sharps containers (for used needles and syringes), from construction areas prior to the start of the projects.
   b. If you (contract workers) find any needles, syringes, sharp medical objects, please notify Infection Control IMMEDIATELY.

2. Barrier Walls:
   a. The construction areas MUST be kept separated from patient care areas by barriers that keep the dust and dirt inside the worksite.
   b. The walls must provide a complete seal of the construction area from adjacent areas.
   c. The barrier types must be constructed with the following materials/specifications and comply with National Fire Protection Association (NFPA) standards such as fire retardant polyethylene barrier (minimum 6-mil thickness.) for projects less than 72 hours, gypsum wall board, fire rated reinforced plastic fiberglass, masonite painted with fire resistant paint.
   d. Zip walls/door in polyethylene for entrances.

3. Environmental Control:
   a. Negative air pressure must be maintained within the construction area.
   b. Demolition debris is removed in tightly fitted covered carts - use specified traffic patterns.
   c. Exterior window seals are to be used to reduce the amount of outside excavation debris coming into the building.
   d. If demolition chutes are used, they must be sealed when not in use; the chute and damper should be sprayed with water, as necessary to maintain dust control.
   e. Control, collection and disposal must be provided for any drain liquid or sludge found when demolishing plumbing.
   f. Sticky or walk-off mats are placed immediately outside the construction zone and changed whenever necessary to control the spread of dust and dirt.
   g. Containment cubes keep air from dissipating into the halls.



4. Traffic Control
   a. Use designated entry and exit procedures.
   b. Keep all egress pathways free of debris.
   c. No unauthorized personnel should be allowed to enter construction areas.
   d. Use designated elevators only.

5. Cleaning
   a. Keep the construction area clean on a DAILY basis.
   b. Dust and dirt **must** be kept to a minimum. Use of HEPA vacuum should be used.

6. Workers
   a. Clothing must be free of loose soil and debris when exiting the construction area.
   b. Use personal protective equipment (masks, face shields, etc.) as indicated for the task at hand.
   c. Handwashing is the best method of reducing the transmission of infection: always wash your hands with soap and water after visiting the restroom, before eating, when leaving the construction site.

7. Accidents
   a. For needlesticks or other sharps accidents and body fluid exposures; wash skin with soap and water and flush eyes/nose/mouth with large amounts of water.
   b. Report the incident to your supervisor and report to the Safety and Health Manger for further treatment options.

Questions? Please feel free to call Infection Prevention at ext. 27979