



West Virginia University®

ENVIRONMENTAL HEALTH & SAFETY

MOLD REMEDIATION PROGRAM

Revised – June 2022

WEST VIRGINIA UNIVERSITY
**STANDARD OPERATING PROCEDURES FOR MOLD
REMEDICATION
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1. Purpose

The Mold Remediation Program is to provide guidelines for remediating building materials contaminated with mold based on EPA guidelines and accepted best practices. It is the intent of Environmental Health & Safety (EHS) that all mold remediation be conducted as safely as possible.

2. Scope

The scope of the Mold Remediation Program is based on the surface area affected by the mold contamination. If the quantity of surface area affected by the mold contamination is:

Less than ten square feet: Remediation may be performed by properly trained in-house staff. Work must be performed in accordance with this program.

Greater than ten square feet: Contact EHS to conduct an assessment of the affected area. Facilities Management (FM) should work with EHS to determine if contractors are needed.

Note: EHS should be consulted prior to any mold remediation work greater than ten square feet that is located directly within an HVAC system, or if any impacted materials are suspect asbestos containing building materials.

3. Definitions

Containment: A component or enclosure designed or intended to control the release of mold or mold-containing dust or materials into surrounding areas in the building.

Indoor air: Air within the envelope of a building, including air in spaces normally occupied by persons in the building but excluding air in attics and crawl spaces that are vented to the outside of the building.

Indoor mold: Mold contamination that was not purposely grown or brought into a building and that has the potential to affect the indoor air quality of the building.

Mold: Any living or dead fungi or related products or parts, including spores, hyphae, and mycotoxins.

Mold remediation: The removal, cleaning, sanitizing, demolition, or other treatment, including preventive activities, of mold or mold-contaminated matter that was not purposely grown at a location. Preventive activities include those intended to prevent future mold contamination of a remediated area, including applying biocides or anti-microbial compounds.

4. Roles and Responsibilities

4.1 Facilities Management Department (Directors/Managers/Supervisors)

- Support, follow, and ensure employees follow remediation work practices in this procedure.
- Assess affected area to determine if the work can be handled internally or if a contractor is needed.
- Schedule and coordinate mold remediation with outside contractors, when necessary.
- Notify EHS when an area of suspected mold growth discovered is:
 - Greater than ten square feet;
 - Located within HVAC equipment; or
 - Impacting suspected asbestos containing materials.
- Provide appropriate personal protective equipment (PPE) to employees responding to mold remediation.

4.2 Facilities Management (Zone Personnel)

- Identify water source and make repairs as needed.
- Perform mold remediation activities for affected areas under ten square feet according to this program.
- Notify supervisor when an area of suspected mold growth discovered is:
 - Greater than ten square feet;
 - Located within HVAC equipment; or
 - Impacting suspected asbestos containing materials.
- Wear proper PPE.
- Schedule and coordinate remediation activities, as necessary.
- Follow recommendations provided by Environmental Health and Safety.

4.3 Facilities Management (Campus Service Personnel)

- Assist facilities management with mold remediation activities, when needed.
- Clean and remove mold in affected areas less than ten square feet according to this program.
- Notify supervisor when an area of suspected mold growth discovered is:
 - Greater than ten square feet;
 - Located within HVAC equipment; or
 - Impacting suspected asbestos containing materials.
- Wear proper PPE.
- Follow recommendations provided by Environmental Health and Safety.

4.4 After Hours Facilities Management (Unit 35 Personnel)

- Respond to all mold related dispatch calls.
- Identify water source and make repairs as needed.
- Perform mold remediation activities for affected areas under ten square feet according to this program.
- Notify supervisor when an area of suspected mold growth discovered is:
 - Greater than ten square feet;
 - Located within HVAC equipment; or

- Located impacting suspected asbestos containing materials.
- Wear proper PPE.
- Follow recommendations provided by Environmental Health and Safety.

4.5 Environmental Health and Safety (EHS)

- Develop and help support the implementation of this program.
- Provide training to FM employees on mold remediation response.
- Respond to reported potential mold related events when requested.
- Provide mold remediation recommendations to FM employees.
- Assist FM in identifying the underlying causes of mold growth and develop the appropriate response(s) to prevent recurrence.
- Gather quotes and invoice for mold remediation if it becomes an insurance claim.
- Manage mold remediation contractor during remediation, if applicable.
- Assess conditions for re-occupancy after water restoration or mold remediation activities are completed.

4.6 Contractors

- Evaluate and document the extent of mold damage in the structure, systems and building contents using appropriate monitoring and detection equipment.
- Communicate evaluation results to EHS and FM.
- Designate a project leader, representing the contractor, to work with EHS and FM personnel during the entire project.
- Provide EHS and FM representative with a written action plan. Depending on the response activity, the action plan will include a timeline and goals for drying and the implementation of mold remediation techniques.
- Notify EHS and FM of situations that may require a deviation from the original action plan.
- Record and document all activities and services performed in response to the problem.
- Complete the project in a manner which complies with all government regulations and University procedures.

5. Procedures

Mold has the potential to grow when water is introduced into the environment and is left unresolved for an extended amount of time. To avoid mold growth, the area affected by water must be dried as soon as possible (within 24-48 hours). Prior to beginning mold remediation activities, the source of the water intrusion must be identified and resolved. Refer to the Water Intrusion Program for guidance on how to effectively respond to water intrusion events. *Appendix A: Mold Remediation Flow Chart* should be followed when potential mold is discovered.

When performing mold remediation activities, several methods of remediation and types of PPE should be utilized. *Appendix B: Guidelines for Remediating Building Materials with Mold Growth* will help determine which of the following methods, along with which personal protective equipment, should be utilized when remediating areas with mold growth. Contact EHS for guidance when needed.

5.1 Methods

Method 1 - Wet Vacuum: Wet vacuums may be used for flooring, carpets, and hard surfaces where mold growth is present. Sufficient liquid must be used when using a wet vacuum. Wet vacuums should not be used to clean porous surfaces. After use, the tanks, hoses, and attachments must be thoroughly cleaned and dried.

Method 2 - Damp Wipe: Mold can generally be removed from nonporous surfaces by wiping, or scrubbing as necessary, with water or water/detergent solution. Porous materials that are wet and have mold growing on them should be discarded. Note: Never mix bleach and ammonia. Toxic fumes may be produced. Detergent must be approved by FM.

Method 3 - HEPA Vacuum: HEPA (High-Efficiency Particulate Air) vacuums are recommended for final cleanup of remediation areas after materials have been thoroughly dried and contaminated materials removed. Dispose of HEPA contents in a well-sealed plastic bag.

Method 4 - Discard: Remove and discard contaminated materials that are not salvageable in a well-sealed plastic bag. HEPA vacuum area after material has been removed and then dispose of HEPA contents in a well-sealed plastic bag.

5.2 Personal Protective Equipment (PPE)

Employees engaging in mold remediation activities shall have the following PPE, at minimum, available for their use:

- Safety glasses/goggles
- N95 Respirator
- Disposable Coveralls
- Gloves

If an employee has questions concerning the appropriate PPE, they should contact their supervisor or EHS.

5.3 Work Area Containment

For all mold remediation projects, general isolation will be required regardless of size. General isolation best practices when performing mold remediation activities include, but are not limited to:

- Close all doors and restrict general access to the workplace while actual remediation is being performed.
- Perform work during hours of minimal building occupancy, such as at night or on weekends, if possible.
- Shut down HVAC systems in the immediate area of the work and/or cover the HVAC returns where applicable.
- Close windows in the workplace and turn off any portable fans.

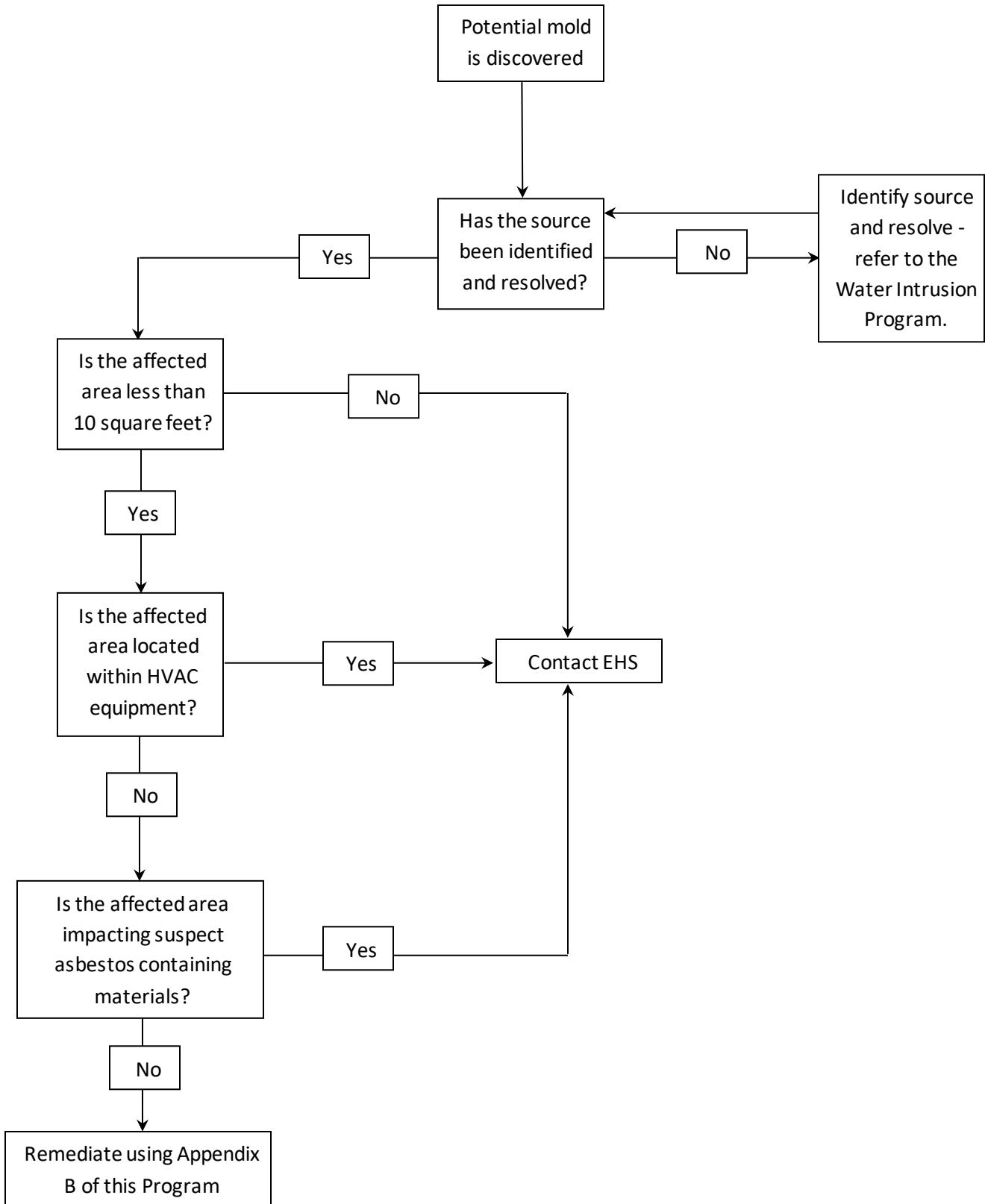
5.4 Disposal

Once mold contaminated materials have been removed and sealed in a plastic bag, waste can be disposed of as regular trash. No special labeling or disposal requirements are necessary.

6. References

- Institute of Inspection, Cleaning and Restoration Certification (IICRC) IICRC S500, Standard and Reference Guide for Professional Water Damage Restoration, 2nd edition. 1999.
- Mold cleanup after the flood.
[http://www.schoharierecovery.org/Cornell%20Mold Cleanup After the Flood.pdf](http://www.schoharierecovery.org/Cornell%20Mold%20Cleanup%20After%20the%20Flood.pdf)
- Mold Inspection and Remediation Rules. Indoor Air Quality Program. HTML version of the file. <http://www.normi.org/docs-laws/NORMIRecommendedLicensingRegulationsFINAL.pdf>.
- New York City Department of Health, Bureau of Environmental & Occupational Disease Epidemiology. Guidelines on Assessment and Remediation of Fungi in Indoor Environments. 2000. HTML version of the file <http://www.nyc.gov/html/doh/downloads/pdf/epi/epi-mold-guidelines.pdf>.
- The Ohio State University. Facilities Operations and Development. Indoor Flood Cleanup and Mold remediation Standard Operating Procedure (SOP)
- U.S. Environmental Protection Agency. Mold Remediation in Schools and Commercial Buildings EPA 402-K-01-001. <http://www.epa.gov/iedmold1/table2.html>

APPENDIX A: Mold Response Plan Flow Chart



APPENDIX B: Guidelines for Remediating Building Materials with Mold Growth

This Appendix accompanies Section 5.1 of the Mold Remediation Program and applies to areas where mold growth is present.

Material or Furnishing Affected	Cleanup Methods	Personal Protective Equipment	Containment
SMALL – Total Surface Area Affected Less Than 10 square feet			
Books and papers	3	Recommended N-95 respirator, gloves, and goggles	None required
Carpet and backing	1, 3		
Concrete or cinder block	1, 3		
Hard surface, porous flooring (linoleum, ceramic tile, vinyl)	1, 2, 3		
Non-porous, hard surfaces (plastics, metals)	1, 2, 3		
Upholstered furniture & drapes	1, 3		
Wallboard (drywall and gypsum board)	2, 3		
Wood surfaces	1, 2, 3		
MEDIUM TO LARGE – Total Surface Area Affected Greater than 10 square feet			
Books and papers	3	Limited* or Full** Use professional judgment, consider potential for remediator exposure and size of contaminated area	Limited* or Full** Use professional judgment, consider potential for remediator/occupant exposure and size of contaminated area
Carpet and backing	1,3,4		
Concrete or cinder block	1,3		
Hard surface, porous flooring (linoleum, ceramic tile, vinyl)	1,2,3,4		
Non-porous, hard surfaces (plastics, metals)	1,2,3		
Upholstered furniture & drapes	1,2,3,4		
Wallboard (drywall and gypsum board)	3,4		
Wood surfaces	1,2,3,4		

*Limited PPE consists of safety glasses/goggles, N-95 respirator, disposable coveralls, and gloves.

**Full PPE consists of safety glass/goggles, full-face respirator with HEPA filter, disposable full body coveralls including head gear and foot coverings, and gloves.