



University of New Haven

MOLD RESPONSE AND REMEDICATION PLAN

Prepared By:
Triumvirate Environmental

Developed: April 2011
Last Revised: March 2015

Program Approval

Associate Vice President of Public Safety & Administrative Services

Associate Vice President of Facilities

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Date



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Table of Contents

1.0 Policy Statement.....	3
1.1 Purpose and Scope.....	3
1.2 Review	3
2.0 Roles and Responsibilities	3
2.1 Associate Vice President of Facilities	3
2.1 Associate Vice President of Public Safety and Administrative Services	3
2.2 Director of Facilities.....	4
2.3 Custodial Services Manager.....	4
2.4 Manager Maintenance Operations	4
2.3 Custodial Services.....	4
2.4 Maintenance Mechanics.....	4
3.0 Introduction to Mold.....	5
4.0 Preventing the Growth of Mold.....	5
5.0 Reporting Leaks and Visible Mold.....	6
6.0 Mold Sampling.....	6
7.0 Water Damage – Clean-up and Mold Prevention.....	6
8.0 Mold Remediation.....	8
8.1 Mold Clean-up Methods.....	9
9.0 Post Remediation.....	9

1.0 Policy Statement

The University of New Haven has developed a mold response and remediation plan in accordance with best practices set forth by the Environmental Protection Agency (EPA), Occupational Safety and Health Administration (OSHA) and the Connecticut Department of Public Health (CTDPH).

This policy is meant to serve for the clean-up and remediation of areas affected by clean water leaks. If a sewage leak is reported, a third party contractor should be notified for clean-up and if needed remediation.

1.1 Purpose and Scope

The University of New Haven has developed a mold response and remediation plan to identify and correct conditions within the University that permit mold growth while protecting the health of faculty, staff and students.

The University of New Haven will provide and maintain a safe and healthy environment for faculty, staff, students and visitors through proper building maintenance and prompt remediation of areas damaged or negatively affected by moisture and/or resultant mold growth.

1.2 Review

The Associate Vice President of Public Safety will review and update this policy whenever necessary or at least annually.

All the elements of this policy are considered University of New Haven policy and may be enforced as such. Failure on the part of employees to follow the policies and safety requirements of this Plan may result in disciplinary action.

2.0 Roles and Responsibilities

2.1 Associate Vice President of Facilities

- Serves as the program administrator and has overall responsibility for facility staff compliance with the Mold Response and Remediation Plan.
- Ensure that all facility staff has been trained on the contents of this Plan including the proper mold cleaning procedures and personal protective equipment required for tasks.

2.1 Associate Vice President of Public Safety and Administrative Services

- Ensure that the mold response and remediation plan is being followed at the University.
- Update the mold response and remediation plan at least annually.

2.2 Director of Facilities

- Ensure that the appropriate resources are secured to clean-up water leaks and remediate mold growth.
- Ensure that staff has been appropriately trained to clean-up water leaks and remediate small and medium sized mold growth areas.
- Determine whether an outside contractor must be called in to assist in water release clean-up and/or remediate mold.

2.3 Custodial Services Manager

- Ensure that employees assigned to their work areas have been trained on the mold response and remediation plan.
- Ensure that respirators are not removed by employees until the employees have left the area of contamination or until contaminants have been effectively removed from the work area.
- Work closely with the Director of Facilities to enforce and ensure effective and compliant use of this program.
- Share any problems or concerns with the program with Director of Facilities.

2.4 Manager Maintenance Operations

- Ensure that employees assigned to their work areas have been trained on the mold response and remediation plan.
- Ensure that respirators are not removed by employees until the employees have left the area of contamination or until contaminants have been effectively removed from the work area.
- Share any problems or concerns with the program with Director of Facilities.

2.3 Custodial Services

- Promptly call the facility department at 203.932.7087 to report discovery of water leaks, water damaged materials, odor of mildew or the presence of visible mold.
- Assist in cleaning up water, if any, inclusive of wet vacuuming, mopping and HEPA vacuuming.

2.4 Maintenance Mechanics

- Respond promptly to requests for inspection and remediation.
- Promptly identify and locate the source of leak and in cases where mold is present notify the

Director of Facilities.

- Determine with the assistance of the Director of Facilities if the contaminated area is small enough (small and mid-sized isolated areas) to remediate using in-house resources or if an outside contractor must be called in for water leak and or mold remediation.

3.0 Introduction to Mold

Molds are part of the natural environment. Molds are fungi that can be found anywhere - inside or outside - throughout the year. About 1,000 species of mold can be found in the United States, with more than 100,000 known species worldwide.

Molds can grow on virtually any substance, as long as moisture or water, oxygen and an organic source are present. Molds reproduce by creating tiny spores (viable seeds) that usually cannot be seen without magnification. Mold spores continually float through the indoor and outdoor air.

All molds share the characteristic of being able to grow without sunlight; mold needs only a viable seed (spore), a nutrient source, moisture and the right temperature to proliferate.

4.0 Preventing the Growth of Mold

Moisture control and adequate ventilation are the keys to mold control. All University staff shall act promptly in reporting water leaks to the facilities department. All water leaks at the University should be identified, stopped and cleaned up as soon as possible.

A prompt response (within 24-48 hours) and thorough clean- up, drying and/or removal of water-damaged materials will prevent or limit mold growth.

The list below contains recommended ways to prevent the growth of mold:

- Look for condensation and wet spots (i.e. walls and ceilings), identify the source of moisture and fix problem as soon as possible.
- Indoor relative humidity levels should be kept at 45 +/-15% (recommended by American Society of Heating, Refrigerating and Air Conditioning Engineers, ASHRAE, Guidelines in Standard 55-1992) if possible.

- Perform regularly scheduled building/HVAC inspections and maintenance, including filter changes and checking to assure exhaust fan screens are not clogged.
 - Dust can clog an exhaust fan at the outlet of the fan duct and can cause a backflow of ventilation which could potentially promote mold growth. Preventative cleaning should be done annually.

5.0 Reporting Leaks and Visible Mold

If mold growth is observed or if musty odors are detected, contact the facilities department. Do not disturb any visible mold growth without consulting with the facility office since doing so may cause unnecessary contamination to adjacent surfaces and objects and cause unwanted adverse health effects.

6.0 Mold Sampling

If the Director of Facilities and/or the Associate Vice President of Facilities decide that mold testing shall occur, all mold sampling will be completed by an independent contractor and analyzed at a state certified laboratory. In most cases, if visible mold growth is present, sampling is unnecessary. Appropriate remediation strategies can usually be made on the basis of a visual inspection. Since no federal agencies have set standards or recommendations for acceptable levels of mold or mold spores, sampling cannot be used to determine if there is an overexposure to mold. However, analytical results can be used to determine if mold is present at concentrations greater than the naturally occurring 'background' concentrations which may indicate that uncontrolled mold growth is occurring.

7.0 Water Damage – Clean-up and Mold Prevention

The table below outlines steps to follow in the event there is a release of clean water at the University. These steps have been developed to help prevent the growth of mold by controlling and eliminating moisture before mold has the ability to grow. These steps are meant for response to a clean water release that is detected within 48 hours.

Table 1* : Water Damage - Cleanup and Mold Prevention

Guidelines for Response to Clean Water Damage within 24-48 Hours to Prevent Mold Growth

Water-Damaged Material	Actions
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Books and papers	<ul style="list-style-type: none"> • For non-valuable items, discard books and papers. • Photocopy valuable/important items, discard originals. • Freeze (in frost-free freezer or meat locker) or freeze-dry.
Carpet and backing - dry within 24-48 hours	<ul style="list-style-type: none"> • Remove water with water extraction vacuum. • Reduce ambient humidity levels with dehumidifier. • Accelerate drying process with fans.
Ceiling tiles	<ul style="list-style-type: none"> • Discard and replace.
Cellulose insulation	<ul style="list-style-type: none"> • Discard and replace.
Concrete or cinder block surfaces	<ul style="list-style-type: none"> • Remove water with water extraction vacuum. • Accelerate drying process with dehumidifiers, fans, and/or heaters.
Hard surface, porous flooring (Linoleum, ceramic tile, vinyl)	<ul style="list-style-type: none"> • Vacuum or damp wipe with water and mild detergent and allow to dry; scrub if necessary. • Check to make sure underflooring is dry; dry underflooring if necessary.
Non-porous, hard surfaces (Plastics, metals)	<ul style="list-style-type: none"> • Vacuum or damp wipe with water and mild detergent and allow to dry; scrub if necessary.
Upholstered furniture	<ul style="list-style-type: none"> • Remove water with water extraction vacuum. • Accelerate drying process with dehumidifiers, fans, and/or heaters. • May be difficult to completely dry within 48 hours. If the piece is valuable, you may wish to consult a restoration/water damage professional who specializes in furniture.
Drywall and gypsum board	<ul style="list-style-type: none"> • May be dried in place if there is no obvious swelling and the seams are intact. If not, remove, discard, and replace. • Ventilate the wall cavity, if possible.
Window drapes	<ul style="list-style-type: none"> • Follow laundering or cleaning instructions recommended by the manufacturer.
Wood surfaces	<ul style="list-style-type: none"> • Remove moisture immediately and use dehumidifiers, gentle heat, and fans for drying. (Use caution when applying heat to hardwood floors.) • Treated or finished wood surfaces may be cleaned with mild detergent and clean water and allowed to dry. • Wet paneling should be pried away from wall for drying.

* This table has been adapted and modified from the EPA's "Mold Remediation in Schools and Commercial Buildings".

In the event mold has started to grow within 48 hours, table 2 below should be consulted.

8.0 Mold Remediation

The Director of Facilities shall direct all mold remediation. Before mold remediation begins, the building and grounds department shall ensure that all sources of moisture have been identified and repaired. A combination of custodial services and building and grounds staff shall clean-up all small and mid-size affected areas. Any area larger than 30 square feet shall be remediated by an outside contractor.

Any portion of an air handling system including registers, grilles, diffusers and the air handling unit housing shall be remediated by an outside contractor with a plan that has been approved by the building and grounds department and if necessary an outside consultant.

The following table provides mold remediation guidelines. Select the method most appropriate for the situation and locate the method description below the table.

Table 2*: Guidelines for Remediating Building Materials with Mold Growth Caused by Clean Water			
Material or Furnishing Affected	Cleanup Methods	Personal Protective Equipment	Containment
SMALL - Total Surface Area Affected Less Than 10 square feet (ft²)			
Books and papers	3	Minimum - 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)	3		
Wood surfaces	1, 2, 3		
MID SIZE - Total Surface Area Affected Between 10 and 30 (ft²)			
Books and papers	3	Use professional judgment,	Use professional judgment,
Carpet and backing	1,3,4		

Concrete or cinder block	1,3	consider potential for remediator exposure and size of contaminated area	consider potential for remediator/occupant exposure and size of contaminated area
Hard surface, porous flooring (linoleum, ceramic tile, vinyl)	1,2,3		
Non-porous, hard surfaces (plastics, metals)	1,2,3		
Upholstered furniture & drapes	1,3,4		
Wallboard (drywall and gypsum board)	3,4		
Wood surfaces	1,2,3		
LARGE - Total Surface Area Affected Greater Than 30 (ft²) or Potential for Increased Occupant or Remediator Exposure During Remediation Estimated to be Significant			
All large scale remediation projects shall be completed by an outside contractor.			

* This table has been adapted and modified from the EPA's "Mold Remediation in Schools and Commercial Buildings".

** The use of an N-95 disposable respirator requires a medical evaluation, proper training and a fit test. Please refer to the University of New Haven's Respiratory Protection Program for more information.

8.1 Mold Clean-up Methods

- **Method 1:** Wet vacuum (in the case of porous materials, some mold spores/fragments will remain in the material but will not grow if the material is completely dried). Steam cleaning may be an alternative for carpets and some upholstered furniture.
- **Method 2:** Damp-wipe surfaces with plain water or with water and detergent solution (except wood – use wood floor cleaner); scrub as needed.
- **Method 3:** High-efficiency particulate air (HEPA) vacuum after the material has been thoroughly dried. Dispose of the contents of the HEPA vacuum in well-sealed plastic bags.
- **Method 4:** Discard - remove water-damaged materials and seal in plastic bags while inside of containment, if present. Dispose of as normal waste. HEPA vacuum area after it is dried.

* This listing has been adapted and modified from the EPA's "Mold Remediation in Schools and Commercial Buildings".

9.0 Post Remediation

The Director of Facilities shall tour the remediated area to determine if the clean-up and/or remediation project was a success. This will be a visible inspection of the area cleaned and/or remediated ensuring

that all affected areas has been cleaned.

All departments, maintenance and custodial staffs shall contact the facilities department if any reoccurring moisture issues occur or returning mold growth is detected.

