

**SECTION 02 8500****MOLD REMEDIATION****PART 1 - GENERAL****1.01 SUMMARY**

- A. Section includes the requirements for the removal and disposal of mold contaminated materials. Work includes the handling and control of microbial contaminated materials and the resultant procedures and equipment required to protect workers, the environment, and occupants of the building from contact with microbial products and spores. The work includes the disposal of microbial contaminated materials.
- B. Microbial remediation specifications apply to the cleaning, removal, and disposal of microbial-contaminated porous, semi porous, and non-porous surfaces within existing project's campus structures. The level of containment and requirements for cleaning and remediation of materials will depend on the condition of the space and materials being remediated.

**1.02 REQUIREMENTS**

- A. Use proper cleaning procedures, engineering controls, and apply best management practices to remove microbial growth and spore fallout from surfaces and building materials to minimize the further release of microbial spores. Address semi-porous and nonporous surfaces within the facility in each cleaning phase of the project. Damp wipe and high-efficiency particulate air (HEPA) vacuum surfaces, at a minimum. Remove and dispose of porous building materials that are supporting microbial growth
- B. Microbial contaminated material removal work shall be supervised by a microbial remediation supervisor. The supervisor shall have documented training in microbial remediation and have at least three years' experience in microbial remediation work. Supervisor shall have one of the following certifications: Council-Certified Mold Remediator (CMR) or Council-Certified Mold Remediation Supervisor (CMRS) as certified by the American Council for Accredited Certification, or Applied Microbial Remediation Specialist (AMRS), Institute of Inspection, Cleaning, and Restoration Certification (IICRC) or other University approved certification.
- C. Containment Entry and Exit Procedure
  - 1. Ensure that each worker and authorized visitor follows entry and exit procedures detailed in the Microbial Remediation Plan.
- D. Fire Protection
  - 1. Provide portable fire extinguishers within the containment area and outside the decontamination unit. Fire extinguishers shall be rated for the class of fire hazards in the work area and shall be sized for coverage of the areas within the containment. At a minimum, one 10 pound ABC fire extinguisher for every 1,000 square feet shall be strategically placed around the containment. Personnel shall be trained for

emergency egress and the use of fire extinguishers. Notify University's Representative and Campus Designated Fire Marshal of work activities as required.

### **1.03 PREINSTALLATION MEETINGS**

#### **A. Pre-Microbial Remediation Work Conference**

1. Discuss in detail the Microbial Remediation Plan, including work procedures and safety precautions. Once approved by the University's Representative, the plan shall be enforced as if a part of this specification. Any variances to the specification as a result of the plan shall be specifically identified to allow for free discussion and approval by the University's Representative prior to starting work.

### **1.04 ACTION SUBMITTALS**

#### **A. Preliminary Visual Assessment Report: Within ten (10) days of the Notice to Proceed and prior to starting work, prepare a Preliminary Visual Assessment Report to document the pre-remediation condition of the work areas. Submit this written pre-remediation condition report to the University's Representative for approval and instructions to proceed.**

#### **B. Microbial Remediation Plan: After approval of the Preliminary Visual Assessment Report and having instructions to proceed, prepare a job-specific Microbial Remediation Plan for approval. Microbial remediation plan shall include:**

1. Description of materials to be remediated, providing location and quantities (map if available), and methods to be used for remediation.
2. Types of biocides and fungicidal agents, (EPA/FIFRA [Federal Insecticide, Fungicide, and Rodenticide Act] approved).
3. Containment procedures to include description and locations of engineering controls and decontamination unit to include entry and exit procedures (provide sketch of floor plan showing location of containment barriers and decontamination units).
4. Description of personal protective equipment to be used during the remediation.
5. Construction barricades and barriers in occupied areas.
6. Heating, Ventilation, and Air Conditioning (HVAC) shut down and start-up procedures.
7. HVAC evaluation and remediation procedures, if applicable.
8. Moisture and relative humidity control procedures and equipment.
9. Packaging and disposal procedures.
10. Safety precautions to include lockout/tag-out, fall protection, confined space entry procedures, and fire protection.
11. Description of the method to be employed to control cross contamination of areas not in the work area. This shall include a risk assessment related to the suitability of people to occupy areas adjoining to the remediation area while remediation activities are ongoing.
12. Quality Control procedures to include visual inspection.
13. Respiratory Protection Program: Provide written copy of Respiratory Protection program, if requested.

- C. Worker Records and Employee Instruction and Release Form: Provide the following documents for workers, including supervisory personnel. If new workers are added to the crew, provide the same documentation for them.
1. Use and fit of respirators (for employees entering and working in the containment).
  2. Protective clothing.
  3. Protective measures.
  4. Safety and Emergency Egress Procedures.
  5. Site specific fall protection plan and training.
  6. Microbial remediation hazards and practices including engineering controls and isolation. Training should include "hands on" training for microbial remediation supervisors.
  7. Workers' release forms stating the potential hazards involved with the scope of the work.
  8. Worker Training Certification: Submit copies of training certificates for each employee indicating that the employee has received training at the appropriate level for the work prescribed in the description of work, if requested.

#### **1.05 INFORMATIONAL SUBMITTALS**

- A. Daily Reports: Prepare a written report for each day that microbial remediation work is being accomplished. The report at a minimum shall include measurements of differential pressure and temperature and relative humidity, area where work occurred and names of personnel.

#### **1.06 QUALIFICATIONS**

- A. Contractor Qualifications
1. Work shall be performed by a qualified remediation company. Carry insurance that specifically covers mold remediation.
  2. Submit, for review and approval, evidence of experience in working on projects of comparable size and complexity as that of the project in view. A minimum of three projects, with associated contact information, shall be provided.
  3. Microbial remediation workers shall be given training in Personal Protective Equipment (PPE) and microbial remediation activities as required for their particular job. Microbial remediation plan shall provide details of worker training.
- B. Microbial Remediation Supervisor Qualifications: Onsite supervisor shall have one of the following certifications, or other as approved:
1. Certified Mold Remediator (CMR),
  2. Certified Mold Remediation Supervisor (CMRS), or
  3. Applied Microbial Remediation Specialist (AMRS). Submit copies of supervisory training certificates.
  4. Qualified supervisor shall be onsite whenever active remediation is being performed. Set-up activities may be performed without supervisor present; qualified supervisor shall review set-up prior to start of work.
- C. HVAC Cleaning Contractor Qualifications, if applicable

1. Shall be a certified member of National Air Duct Cleaning Association (NADCA).
2. The HVAC cleaning contractor shall have at least one individual with Ventilation System Mold Remediator Qualifications certified by NADCA onsite during duct and HVAC system cleaning.

## **PART 2 - PRODUCTS**

### **2.01 MATERIALS**

- A. Detergents, disinfectants, biocides, sanitizing solutions, and fungicidal agents shall be approved by EPA/FIFRA for the use detailed in the Microbial Remediation Plan and used in accordance with the manufacturer's specifications.
- B. Detergents are prepared compounds that act as cleaning agents. These may include surfactants, builders, dry solvents, softeners, etc.
- C. Provide protective clothing and respirators as required by the Microbial Remediation Plan for use by any authorized visitors. Provide manufacturer's certificate of compliance for equipment used to contain the microbial contamination.
- D. Respirators: Select respirators from those approved by the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services. Provide personnel engaged in set-up, pre-cleaning, cleanup, handling, and removal of contaminated materials with the appropriate respiratory protection as specified in 29 Code of Federal Regulations (CFR) 1910.134 and/or California Code of Regulations (CCR) Title 8 Section 5144. Microbial remediation plan shall consider Table 17.1 in AIHA IMOM08-679 "Recognition, Evaluation, and Control of Indoor Mold," which lists the minimum levels of respiratory protection based on the activity and size of the remediated area.
- E. Protective Clothing: Provide workers with protective clothing as appropriate for the work being accomplished, as required by the Microbial Remediation Plan.
- F. Warning Signs and Labels: Provide bilingual warning signs printed in English and Spanish at approaches to the work areas. Locate signs at such a distance that personnel may read the sign and take the necessary protective steps required before entering the area. Warning signs may be in the form of continuous plastic tape. The warning signs shall have black characters on a yellow background with the following words centered on it:

**WARNING  
DO NOT ENTER  
MICROBIAL REMEDIATION WORK IN PROGRESS**

- G. Dehumidifiers: Provide dehumidifiers as needed during the remediation to maintain relative humidity below 60 percent in the work area. Drain the condensate water to a permanent drain, or empty as needed to prevent water overflowing from the dehumidifiers.
- H. Air Filtration Unit (AFU)
  1. Install and use one or more AFUs with HEPA filters, and manufacturer specified pre-filters, as part of the exhaust ventilation system to develop and maintain the specified

desired air pressure differential inside the enclosed work area relative to the outside areas.

2. Acquire and pay for licenses needed for use of equipment, including, and not limited to, air pressure differential systems and air filtration systems. Replace HEPA filters and pre-filters for AFUs as required to maintain pressurization performance requirements during removal and cleaning. Do not reuse filters. Bag used filters at a minimum in clear 6-mil polyethylene bags within the containment and disposed as contaminated waste.
3. Discharge air from any AFUs located in the work area containment to the outside environment when creating a negative pressure containment to create a negative pressure relative to occupied areas. Discharge air in excess of that required for creating the proper negative pressure to the work area. The AFUs shall provide four to six air changes per hour in the work area. Under no circumstances may air from AFUs discharge to an occupied area. Coordinate location of window sashes or doors required for discharge openings with the University's Representative. Seal around openings used for discharge of exhaust air airtight. Exhaust discharge openings may be constructed of plywood. Seal exhaust and intake openings in AFUs with one layer of 6-mil polyethylene sheeting when not in use.

I. Vacuum Cleaners Equipped with HEPA Filters

1. Provide vacuum cleaners equipped with HEPA filters designed for continuous operation to perform the work in a timely and efficient manner. Provide nozzle attachments as required to adequately remove dust. As a minimum, nozzle attachments shall include crevice and extended bristle brush nozzles. Any vacuum that is not equipped with a HEPA filter shall not be used at any time. Provide sufficient vacuum cleaners equipped with HEPA filters designed for continuous operation in the work area during microbial remediation inside the containment area. Provide additional vacuum cleaners equipped with HEPA filters in the enclosed work area during remediation or cleaning work as required by the size (area) of the containment and to maintain timely progress of the work.

## **PART 3 - EXECUTION**

### **3.01 PREPARATION**

A. Protection of Existing Work Areas

1. Perform work in a manner to minimize the damage or contamination to areas outside or directly adjacent to the work area. Inspect areas inside and outside proposed work areas to identify existing damage and notify the University's Representative prior to start of work.
2. Where materials outside work area are damaged or contaminated as a result of the Work efforts as verified by the University's Representative using visual inspection or sample analysis, it shall be restored to its original condition or decontaminated at no additional expense to the University. Should adjacent or outside areas become contaminated as a result this contract's work efforts stop work immediately. Newly contaminated areas shall be cleaned and verified by visual inspection. The work may proceed at the discretion of the University's Representative once the area has been verified as restored.

**B. Remediation of Microbial Contaminated Building Materials**

1. The removal of contaminated materials shall follow in general the listed sequence of work. Changes to improve work flow can be made with the approval of the University's Representative.

**C. Provide level of containment and PPE required by the Microbial Remediation Plan.****D. Disable HVAC units and exhaust fans in the area to be remediated.****E. Protect materials to remain in work area. Where possible, materials to be salvaged should be cleaned in place to prevent possible cross-contamination created by moving materials through non-remediation areas.****F. Remove undamaged non-contaminated items and materials to be cleaned and salvaged from the work area. Materials shall be stored in an area with relative humidity maintained below 60 percent and where temperatures will not damage the material. Notify the University's Representative of existing damage to items prior to removal.****3.02 PROCEDURE****A. Construct containment barriers, set up containments, including protection of materials remaining within the containment, and install the AFUs and dehumidifiers. Existing walls can be used as a portion of the containment barriers if existing openings in walls (such as doors, wall openings, vents, etc.) are sealed using polyethylene.**

1. Provide interior shoring, bracing, or support to prevent movement, settlement, or collapse of structure or element to be demolished and adjacent facilities or work to remain. Shoring, bracing or support will be necessary when structural wood studs or metal framing need to be removed and replaced when they cannot be cleaned.
2. Do not disturb microbial-contaminated building materials while isolating work areas. This precaution prevents the release of microbial spores.
3. Workers shall wear respirators and other PPE as outlined in the microbial remediation plan when installing critical barriers where microbial contaminated surfaces (walls or surfaces with visible settled dusts) are likely to be disturbed. Operate an AFU if disturbance is likely during setup.
4. Monitor the air pressure differential across work area containments. The monitoring system shall be in place before the start of remedial activities. Verification by the Industrial Hygienist is required prior to the start of the microbial remediation.

**B. Clean diffusers and grilles using procedures detailed in Remediation Procedures.****C. Seal supply, return, and exhaust openings with polyethylene sheeting and protect intakes to air handling units. Air handling units shall remain off.****D. Install equipment needed for removal work in the containment area to minimize egress during removal.****E. Notify University's Representative that the area is prepared for remediation activities.****F. University's Representative will perform a pre-demolition inspection.**

1. The University's Representative will inspect the containment to verify that the containment is properly constructed and the containment area has an overall negative pressure of 0.02 to 0.04 inch water column relative to the outside and adjacent work areas not undergoing active remediation, prior to beginning removal work.
- G. Removal and cleaning of contaminated materials as follows in Article "Microbial Removal."
- H. University's Representative will perform post-remediation inspection.
  1. The University's Representative will inspect the containment area to verify that contaminated materials have been removed.
  2. Allow a minimum of 12 hours after completion of removal work, with AFUs operating, for airborne dust in the containment to settle or be removed by the AFUs.
- I. Perform final cleaning in the containment per following requirements.
- J. Clean carpet in the containment, as applicable.
- K. Duct and HVAC cleaning, if necessary.
- L. University's Representative will perform clearance inspection.
- M. Deconstruction of containment, removal of AFUs.
- N. Clean previously removed items prior to returning to occupied area.

### **3.03 REMEDIATION PROCEDURES**

- A. Procedures for remediation depend on the amount of microbial growth and the type of material with fungal growth.
- B. Remediation of Non-Porous Materials: The method of remediating non-porous items shall be:
  1. HEPA vacuum surfaces.
  2. Damp wipe surfaces using clean water or a detergent solution.
- C. Remediation of Semi-Porous Materials (Unfinished Wood): The method of remediating unfinished wood-based items, including wood and wood framing in wall cavities, shall be:
  1. Clean with HEPA vacuum semi-porous surfaces.
  2. Scrub surfaces with a brush and detergent to remove microbial growth.
  3. HEPA vacuum surfaces to remove dust.
  4. Repair finishes as required to match original.
  5. Where unfinished wood product has been structurally damaged, replace it with an equivalent product. This shall include wall studs and sheathing, such as OSB used in flooring, wall, or roof construction.

- D. Remediation of Semi-Porous Materials: The method of surface cleaning semi-porous materials such as concrete, vinyl wall covering, linoleum, leather furniture, and finished wood products shall be:
1. HEPA vacuum surfaces.
  2. Damp wipe surfaces with using clean water or a detergent solution. Avoid over-wetting the material.
- E. Remediation of Porous Materials
1. Carpet
    - a. Removal: Replace carpet that has remained wet for 48 hours or longer.
    - b. Cleaning: Use a dry absorbent compound cleaning method as designated by IICRC S100. This method uses an absorbent compound to dissolve, suspend, and absorb carpet soils. It does not add moisture back into the carpet.
  2. Gypsum Wallboard (GWB)
    - a. Removal: Replace gypsum wallboard that has remained wet for 48 hours or longer, visible microbial growth, or as directed by University's Representative. Where removal of GWB exposes insulation, remove and replace the insulation with an insulation having equal or better characteristics for insulating value and permeability.
    - b. Surface Cleaning: Where GWB has a small amount of surface microbial growth and the GWB is structurally sound, a surface cleaning method may be used with the permission of the University's Representative. The method of surface cleaning GWB shall be HEPA vacuum surfaces, followed by wet wiping or treatment with an EPA/FIFRA approved disinfectant, biocide, sanitizing solution, or fungicidal agent. Surface cleaning shall not be used where microbial growth penetrates wallboard substrate.
  3. Ceiling Tile
    - a. Removal: Replace ceiling tile that has remained wet for 48 hours or longer, or has visible microbial growth.
    - b. Surface Cleaning: Where settled dust on ceiling tiles contains microbial spores and the ceiling tile is structurally sound, is not sagging, and has not been wet, a surface cleaning method may be used with written permission. The method of surface cleaning ceiling tile shall be HEPA vacuum surfaces, followed by wet wiping or treatment with an EPA/FIFRA approved disinfectant, biocide, sanitizing solution, or fungicidal agent. Surface cleaning shall not be used where microbial growth is occurring on ceiling tiles.
  4. Paper Materials
    - a. Removal: Discard paper materials that have remained wet for 48 hours or longer, or that have visible microbial growth.



- b. Containment: Where paper materials must be retained, the following containment methods may be used with written permission. The method of containment for paper products shall be:

- 1) Thoroughly dry the paper material.
- 2) Where routine access to the material is required, a copy shall be made.
- 3) Store the container in an area where the relative humidity is maintained below 60 percent to prevent further mold growth.

#### 5. Textiles

- a. Discard textiles with visible microbial growth.
- b. Clean textile based items, including clothing, linens, and toys that do not have visible microbial growth, and have been wet, in standard commercial or residential washing machines with standard washing machine detergent, or treatment with an EPA/FIFRA approved disinfectant, biocide, sanitizing solution, or fungicidal agent.
- c. Dry items completely before returning to the building.
  - 1) When possible, use dryers to dry items.
  - 2) If dryers will cause irreversible harm to the item, hang the item on a drying rack in a temperature and humidity controlled space. Discard items not dry within 48 hours.

#### 6. Upholstered Furniture

- a. Removal: Discard upholstered furniture that has remained wet for 48 hours or longer, or that have visible microbial growth.
- b. Cleaning: Clean upholstered furniture that has been exposed to microbial spores and does not have visible microbial growth by HEPA vacuuming upholstery and wood or metal structure, followed by wet wiping and/or treatment with an EPA/FIFRA approved disinfectant, biocide, sanitizing solution, or fungicidal agent of semi-porous or non-porous portions of the furniture.

### 3.04 MICROBIAL REMOVAL

- A. Remove microbial contaminated materials to be discarded, such as paper, and furniture. Double bag material in 6-mil polyethylene bags. Seal polyethylene bags using duct tape inside the containment. HEPA vacuum bags before removing them from the containment or airlock. When possible, pass the bags directly from the containment or airlock to the outside. Transport bags to a dumpster. Do not leave the bags at the building / structure.
- B. Remove contaminated gypsum wallboard (GWB) at the preliminary limits of removal specified in the Microbial Remediation Plan. Inspect back side of removed GWB. If microbial growth is observed on the back side of the GWB, report this condition to the University's Representative. After obtaining University's Representative approval, continue removing GWB until no microbial growth is observed. If hidden microbial growth is discovered that will extend past the extents of the containment, stop work immediately and contact the University's Representative. If required, reconstruct the containment to extend past the

suspected contamination. Re-evaluate level of containment and PPE. Continue to operate AFUs during reconfiguring of containment.

- C. Remove GWB by cutting in pieces as large as possible to minimize aerosolization of microbial spores. GWB screws can either be backed out during removal or later during cleanup.
- D. Use dust collection attachments on power tools, such as sanders, saws, etc., to capture dust created when using the tools. Outlet of dust collector should discharge into inlet of AFU.
- E. Remove fiberglass insulation behind removed gypsum board.
- F. If wood studs are contaminated, scrub them with a brush and detergent to remove microbial growth. Replace wood studs with damage severe enough to reduce the structural capacity of the member. Prior to removal of any structural member consult with the University's Representative.
- G. Clean metal framing with a dilute detergent solution. Clean metal framing with light rust using steel wool and coat with a rust inhibiting paint. Replace metal framing with rust damage severe enough to reduce the structural capacity of the member. Prior to removal of any structural material, consult with the University's Representative.
- H. Remove contaminated carpet scheduled for removal.
- I. Place removed gypsum board, insulation, carpet, and remaining debris in two layers of 6-mil polyethylene. Seal polyethylene bags using duct tape inside the containment. HEPA vacuum bags before removing them from the containment or airlock. When possible pass the bags directly from the containment or airlock to the outside. Transport bags to a dumpster. Do not leave the bags at the building / house. Remediation workers shall HEPA vacuum their PPE, then remove them within the airlock chamber. Discard disposable coverall suits into a 6-mil polyethylene bag.

### **3.05 FINAL CLEANING**

- A. Cleaning after Removal, and Cleaning of Settled Spores from Porous / Non-Porous Materials
  - 1. Continue to operate AFUs during cleaning.
  - 2. Clean exposed surfaces.
    - a. HEPA vacuum surfaces.
    - b. Damp wipe non-porous exposed surfaces including polyethylene sheets used to protect materials, external surfaces of ductwork, studs, and floors with clean rag and clean potable water or detergent solution.
    - c. Remove polyethylene sheeting inside the containment.
    - d. HEPA vacuum surfaces protected by polyethylene sheeting.
    - e. Damp wipe non-porous surfaces protected by polyethylene sheeting with clean water or a detergent solution.
    - f. Clean carpet using procedures in Remediation of Microbially Contaminated Building Materials.

3. Final clearance inspection will be conducted by University's Representative. Clearance inspections will be performed using the procedures detailed in Post-Remediation Inspection. Maintain containments in place until spaces are inspected and accepted by the University as being fully remediated. The University's Representative will determine whether additional cleaning is needed and repeat the clearance process.

B. Duct and HVAC System Cleaning, if applicable

1. Inspection: University's Representatives shall visually inspect the HVAC system serving work areas (or as required in the initial Microbial Assessment Survey performed by the University), and determine if additional remediation is needed to clean the HVAC system, thus preventing re-contamination. Notify the University's Representative of the inspection results. Receive written approval from the University's Representative before proceeding with HVAC microbial remediation.
2. Follow requirements of the NADCA ACR "Standard for Assessment, Cleaning, and Restoration of HVAC Systems."
3. Using a "gassing" or "fogging" method of cleaning with gaseous chlorine dioxide or ozone will not be allowed.
4. Disable HVAC equipment prior to cleaning any component of the system.
5. The method of cleaning the air handling units, terminal units, blowers and exhaust fans shall be:
  - a. Construct a limited containment around equipment to be cleaned. Provide appropriate PPE for workers.
  - b. Remove filters. Seal filters in 6-mil polyethylene bags for disposal.
  - c. Disassemble units as necessary to clean components and reassemble equipment after cleaning.
  - d. Clean disassembled components within the containment or in a separate two chamber cleaning containment. Seal disassembled components in 6-mil polyethylene bags for transport out of building.
  - e. HEPA vacuum surfaces.
  - f. Damp wipe non-porous surfaces and components with clean water or a detergent solution.
6. The method of cleaning HVAC coils shall be:
  - a. Clean coils using a method which will render the coil visibly clean. Coil cleaners shall be neutral pH detergent based. Clean the drain pans. The drain(s) for the condensate drain pan(s) shall be operational during the cleaning.
  - b. Rinse coils and drain pans with clean water to remove any latent residues.
  - c. Cleaning methods shall not cause damage to the coil surface or fins.
  - d. Cleaning must restore the coil pressure drop to within 10 percent of the pressure drop measured when the coil was first installed. If the original pressure drop is not known, the coil shall be considered clean only if the coil is free of foreign matter and chemical residue.
7. The method of cleaning the duct system shall be:

- a. During cleaning, connect a vacuum collection system to the downstream end of the section being cleaned. The vacuum collection device must be of sufficient power to render areas of duct being cleaned under negative pressure relative to rooms and areas of duct not being cleaned. Negative pressure must be verified at the furthest point from the collection system with a micro-manometer and verification measurements included in the Daily Report.
  - b. Equip the vacuum collection systems with HEPA filters. Exhaust the vacuum collection systems directly to the outside.
  - c. Use mechanical agitation devices to dislodge debris adhered to the ductwork, such that debris may be safely conveyed to vacuum collection devices. Cleaning methods shall not damage the integrity of the ductwork, nor damage porous surface materials such as liners inside the ductwork.
  - d. HEPA vacuum duct surfaces.
  - e. When possible, damp wipe metal duct surfaces with clean water or detergent solution. Do not wet fibrous glass thermal or acoustical insulation.
8. Identify areas where there is evidence of damage to or uncleanable microbial growth in duct insulation. The University Representative will make the decision to discard the insulation, if necessary.
  9. Final clearance of HVAC and duct system can be based on a visual assessment (no visible dust, no visible microbial growth) by University's Representative. The University may also opt or require other final clearance testing methods; for example, surface wipe samples, tape lift samples, etc., as appropriate.

### **3.06 WASTE MANAGEMENT AND REMOVAL**

- A. Keep the site and work area free from accumulations of dust, waste materials, or rubbish caused operations and free from any flammable materials or other sources of fire hazard. Remove waste materials and rubbish from and about the work site in strict accordance with the specifications and applicable codes and regulations.
- B. Post-Remediation Inspection
  1. Clean up debris and dust in interior spaces outside the work area resulting from remediation work.
  2. After visible accumulations of material and debris are removed from the containment, provide the University's Representative a 24-hour notice for a final clearance visual inspection. The University's Representative and Contractor's Representative shall conduct a thorough visual inspection of the work area. If during this inspection any visible debris or microbial contamination is observed, re-clean the work area.
- C. Clearance Criteria
  1. Clearance can be based on visual assessment (visible microbial spores removed, visible dust removed, based on a "white glove" test) by the University's Representative. "White glove" test shall consist of wiping the surface with a clean cloth of color suitable to reveal dust residues. For most surfaces, a white cloth is suitable. For GWB dust, a dark cloth may be more appropriate. The University may

also opt or require other final clearance testing methods; for example, surface wipe samples, tape lift samples, etc., as appropriate.

2. Failed remediation areas will be re-cleaned and the AFUs kept in operation another 12 hours, followed by another visual assessment. Subsequent failures will follow the same routine until a pass condition is secured.

**D. Clean-Up and Disposal**

1. Disposal of Material: Dispose of contaminated bagged waste materials removed during remediation as general construction debris. Follow applicable local, State, and Federal requirements for the disposal of this material.
2. Material Packaging: Place waste, as waste is removed, into a disposal container promptly. Disposal containers shall consist of at a minimum, two layers of clear 6-mil polyethylene bags. Tape bags in a gooseneck fashion to form an airtight seal and label appropriately. Bag waste from vacuums equipped with HEPA filters in 6-mil polyethylene bags.
3. Building Exit (Waste Disposal): HEPA vacuum and damp wipe bags of contaminated waste material prior to removal from the building.
4. Hazardous Material: Should hazardous materials be encountered, notify the University's Representative immediately for direction.

**END OF SECTION**