



United States Army Garrison Fort Gregg-Adams

Directorate of Public Works

STANDARD OPERATING PROCEDURES

FOR

MOLD IDENTIFICATION

AND

REMEDICATION

May 30, 2023

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United States Army Garrison Fort Gregg-Adams, Directorate of Public Works, Standard
Operating Procedures for Mold Identification and Retention

1. References:

- a. Headquarters Department of the Army (HQDA) Execution Order (EXORD) 030-23: Improving COMPO 01 Army Readiness Facilities, 07 Oct 22
- b. HQDA EXORD 273-20: Ten Year Facility Investment Planning, 20 Nov 20
- c. Secretary of the Army-Chief of Staff of the Army (SECARMY-CSA) Memorandum: Facility Investment Priorities for the US Army, 16 Sep 20
- d. Army Regulation (AR) 210-20, (Real Property Master Planning for Army Installations), 16 May 05
- e. AR 600-20 (Army Command Policy), 24 Jul 20
- f. Installation Management Command (IMCOM) Warning Order (WARNO) 01 to Operations Order (OPORD) 23-007: IMCOM FY23 Operation Counter Mold, 16 Nov 22
- g. Army Barracks Management Program (ABMP) Handbook V2, 12 Jan 21
- h. U.S. Army Public Health Center Technical Guide (TG) 277, (Industrial Hygiene Public Health: Army Mold Remediation Guidance), Feb 19
- i. U.S. Army Public Health Center Technical Guide (TG) 278, (Industrial Hygiene Public Health: Mold Assessment Guidance), Oct 18
- j. Health: Mold Assessment Guide, Oct 18

2. Purpose.

To provide guidelines for remediating building materials contaminated with mold. It is the intent of the Directorate of Public Works (DPW) that all mold remediation be conducted as safely as possible.

3. Job Scope.

a. Army leaders continue to inspect Army maintained barracks, housing, and facilities for mold, unhealthy, and unsafe, living conditions. Data collected from recent inspections provides the Army valuable information to understand the level of mold contamination in our facilities.

b. If the quantity of surface area affected by the mold contamination is:

(1) Less than 10 square feet: Remediation can be completed by building occupants. Work must be completed in accordance with this document (see Section 7 Appendix). Remediation support may be requested from DPW in-house or contracted staff under circumstances where the building or barracks manager feels it is required.

(2) Greater than 10 square feet: Contact DPW to visually assess the affected area. DPW will determine the execution method for remediation and repairs.

c. Note: Quality of Life (QOL) Team, comprised of Kenner Army Health Clinic-Department of Public Health-Industrial Hygiene Section (KAHC-IH), Garrison Safety, Combined Arms Support Command (CASCOM) Safety, and Directorate of Public Works (DPW) should be consulted prior to any mold remediation work greater than 10 ft² sq. Building occupants may be financially responsible if the mold occurred due to negligence in accordance with AR 735-5 Financial Liability Investigation of Property Loss (i.e., not reporting Heating, Ventilation, and Air Conditioning (HVAC) issues, not reporting leaks, leaving windows and doors open).

4. Definitions.

a. Mildew is a general term used to refer to certain kinds of mold or fungus that typically grow in a flat growth pattern and found on shower walls, windowsills, and other places with high moisture levels.

b. Mold is a naturally occurring microscopic fungi that can grow on indoor and outdoor surfaces. Mold can live in all environments, climates, and seasons but requires oxygen, moisture, and a nutrient source to grow. The types of molds and their abundance in an area depend on the availability of nutrients like dirt, water, and temperature. Molds grow well on cardboard, ceiling tiles, paper, and wood products.

c. Black/Toxic Mold is a generic term used to refer to toxigenic molds, or molds that produce mycotoxins. This term typically refers to the species *stachybotrys chartarum*, which can be identified in water damaged buildings.

d. 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.

5. Roles/Responsibilities:

QOL Team, DPW Inspectors, Housing Inspectors, DPW work order clerks, barracks managers, facility managers and facilities maintenance technicians who conduct mold prevention, assessment, and/or remediation activities shall complete competency training offered through HQ IMCOM G4, DPW School of Public works before performing duties with regards to mold assessment and remediation. Individuals will be responsible for any additional state required training, if applicable per OPOD 23-007 or follow-on orders.

a. DPW shall:

- (1) Provide past inspections and work order information for the facility.
- (2) Provide a trained Engineer to accompany the QOL and assess the structural, HVAC, and plumbing systems to determine if a work order is needed.
- (3) Provide a trained Environmental Professional to accompany the QOL for site inspections and provide recommendations. (See Annex A)
- (4) Provide a trained Housing Specialist to accompany the team for site inspections concerning residential homes, barracks, lodging, and dining facilities. The Housing Specialist shall coordinate with privatized housing and lodging for appointments and repair progress. Distribute brochures to residents that include the email address.
- (5) Provide displaced Soldier/Family updates to Commanding General, Garrison Commander, ID-T, and HQ. Attend Displaced Soldier/Family meetings, as required.
- (6) Assist tenants with submitting a work order, if needed.
- (7) Brief tenant and leadership on recommended Courses of Action (COAs), progress, and schedule.
- (8) Identify and fix the source(s) of water leak(s) or intrusion.
- (9) Arrange and manage contract services for water removal and drying of affected areas.
- (10) Ensure trained service technicians complete the IMCOM Post Remediation Verification (PRMV) worksheet as identified in Appendix 1 of OPOD 23-007 when required. (Annex B)

(11) Annually review mold work orders and investigate root causes or systemic issues. Note systemic issues as baseline to ensure units are not erroneously charged and projects are prioritized in the Annual Work Plan/Real Property Planning Board. Send QOL annual mold review and draft slide for Garrison Commander's Environmental Management review. Brief Garrison Commander on mold program with Environmental program.

b. Kenner Army Health Clinic (KAHC) shall:

(1) Provide a POC from Department of Public Health- Industrial Hygiene (IH) Section to serve as a member of the QOL.

(2) Monitor usarmy.lee.medcom-kahc.list.industrial-hygiene-section@mail.mil email account.

(3) Review and distribute Indoor Air Quality assessment request to QOL.

(4) Team. Accompany Fort Gregg-Adams Garrison Safety, CASCOM Safety, and/or DPW to investigate indoor air quality concerns.

(5) Conduct an assessment to verify the source (for example, moisture) and make recommendations for remediation of issues related to indoor air quality concerns.

c. Garrison Safety shall:

(1) Outside contractors shall be certified / licensed, as required by the Commonwealth of Virginia and provided to USAG Fort Gregg-Adams, as a "mold remediation contractor."

(2) Outside personnel performing "mold inspections" must also meet Commonwealth of Virginia and USAG Fort Gregg-Adams regulations.

(3) Provide a POC to serve as a member of the QOL and participate in site investigations of indoor air quality concerns at Garrison and tenant facilities that fall under Garrison Safety's responsibility.

(4) Assist in assessing indoor air quality issues, determining the contributing factors, making recommendations for remediation, and providing guidance to the affected party.

(5) Provide a Risk Assessment Code (RAC) for recognized hazards to assist in prioritizing the remediation of these issues.

(6) Provide awareness information to help the installation better understand how to improve their indoor air quality.

d. CASCOM Safety shall:

(1) Provide a POC to serve as a trained member of the QOL and participate in investigations of indoor air quality concerns at CASCOM facilities. Ensure barracks military managers complete competency training offered through HQ IMCOM G4, DPW School of Public Works for existing managers and newly assigned managers, including any additional required training, if applicable per OPORD 23-007.

(2) Assist in assessing indoor air quality issues, determining the contributing factors, making recommendations for remediation, and providing guidance to the affected party.

(3) Provide a Risk Assessment Code (RAC) for recognized hazards to assist in prioritizing the remediation of these issues.

(4) Provide awareness information to help the installation better understand how to improve their indoor air quality.

e. Contractor (If contracted) shall:

(1) Evaluate and document the extent of damage (e.g., water or mold) in the structure, systems, and building contents using appropriate monitoring and detection equipment.

(2) Designate a project leader, representing the contractor, to work with Operations and Maintenance (O&M) or Environmental Management Division (EMD) personnel during the entire project.

(3) Provide DPW representative 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.

(4) The contractor must notify DPW if situations arise that may require a deviation from the original action plan.

(5) Record and document all activities and services performed in response to the problem. For water restoration, records would include complete moisture readings.

(6) Complete the project in a manner which complies with all federal, state, and local government regulations and procedures.

f. Barracks or Building Occupants shall:

(1) Report service orders and mold issues immediately, via the DPW ARMA Service Order system, priority one level <https://www.armymaintenance.com/arma> or phone number 804-451-1914.

(2) Set thermostats to 65 degrees Fahrenheit on heat from November through March and 75 degrees Fahrenheit on air conditioning from April through October, in accordance with Army policy.

(3) Barracks residents will notify Unit and Command leadership of absences greater than five days.

g. Housing Residents shall:

(1) Report service orders and mold issues immediately, via the Hunt Military Communities portal in accordance with their lease or call 804-566-3300.

(2) Notify Unit and their Command leadership of absences greater than five days from their residence, in accordance with their lease.

(3) Set thermostats to 65 degrees Fahrenheit on heat from November through March and 75 degrees Fahrenheit on air conditioning from April through October, in accordance with their lease.

(4) Dust furniture, vents, and ceiling tiles. Clean surface mold for areas less than ten square feet. Clean shower tiles and ceilings to prevent surface mold.

(5) Residents may be financially responsible if mold or damage (i.e., broken pipes) occurred due to negligence (i.e., improper temperature setting, inadequate cleaning, not reporting leaks, not reporting HVAC issues, or leaving windows and/or doors open) in accordance with their lease and/or AR 735-5.

6. Mold Prevention:

(a) Mold thrives on moisture, the right humidity and temperature, and a food source, which could be as little as dust.

(b) Control moisture effectively and report problems with temperature and humidity via www.armymaintenance.com.

(c) Fix source(s) of moisture problem(s) as soon as possible.

(d) Fix leaking pipes and leaks in the building envelope as soon as possible.

(e) Watch for condensation and wet spots. Clean and dry wet or damp materials within 48 hours.

(f) Prevent moisture due to condensation by increasing surface temperature or reducing the moisture level in air (humidity). To increase surface temperature, insulate or increase air circulation. To reduce the moisture level in air, repair leaks, increase ventilation (if outside air is cold and dry), or dehumidify (if outdoor air is warm and humid). Whenever possible, ventilate areas with high humidity (showers and dishwashing areas) to the outside.

(g) Keep heating, ventilating, and air-conditioning (HVAC) drip pans clean, flowing properly, and unobstructed.

(h) Vent moisture-generating appliances, such as dryers, to the outside.

(i) Maintain relative humidity below 60%, ideally 30-50%, if possible.

(j) Maintain a positive pressure on the building envelope.

(k) Perform regular building HVAC inspections and maintenance as scheduled.

(l) Do not let foundations stay wet. Provide adequate drainage and slope the ground away from the foundation.

(m) Clean and repair gutters regularly.

(n) Allow for adequate natural ventilation in crawlspaces under structures.

(o) Building occupants are responsible for light dusting to include dusting ceiling tiles and air vents.

7. Procedure for Mold Remediation in UH and Other OMA facilities.

a. Mold growth within an occupied building is indicative of a water problem. The cause of the water problem must be investigated and resolved to prevent remediating the same site multiple times. Likewise, when water is introduced into the indoor environment the affected area must be dried as soon as possible (within 24-48 hours) to avoid the promotion of mold growth. Typical conditions that lead to mold growth in buildings are chronic water intrusion, lack of adequate ventilation and moisture control, or isolated floods caused by the weather or a water pipe bursting.

b. Once the source of the water problem is identified and eliminated, several methods for remediating visible mold growth are possible. Each situation will dictate which method is most appropriate.

c. Methods.

(1) Method 1: Wet vacuum-steam cleaning may be an alternative for carpets and upholstery.

(2) Method 2: Damp wipe with plain water or with water/detergent solution, scrub as necessary. Never mix bleach and ammonia. Toxic fumes may be produced. Detergent must be approved by O&M or EMD.

(3) Method 3: High Efficiency Particulate Air (HEPA) vacuum on thoroughly dry surfaces. Dispose of HEPA contents in a well-sealed plastic bag.

(4) Method 4: Discard contaminated material in a sealed plastic bag. HEPA vacuum area after material has been removed and then dispose of HEPA contents in a well-sealed plastic bag.

d. Work Area Containment

(1) Containment of a work area for in-house work less than 10 sq. ft. will not likely be needed, but there are some precautions that will be required prior to performing actual remediation work. For all mold remediation projects, general isolation will be required.

(2) The following are best management practices:

(a) Close all doors and restrict general access to the workplace while actual remediation is being performed.

(b) If possible, perform work during hours of minimal building occupancy, such as nights or weekends.

(c) HVAC systems in the immediate area of the work shall be shut down and/or the HVAC returns shall be blocked off where applicable.

(d) Windows in the workplace should be closed and any portable fans shall be turned off.

(e) Personal Protective Equipment (PPE):

(1) Employees engaging in the abatement of mold shall have the following PPE available for their use:

(a) Safety glasses/goggles

(b) N95 respirator or greater protection (with documentation of training and fit testing IAW 29 CFR 1910.134 and/or AR 11-34 (Army Respiratory Protection Program)).

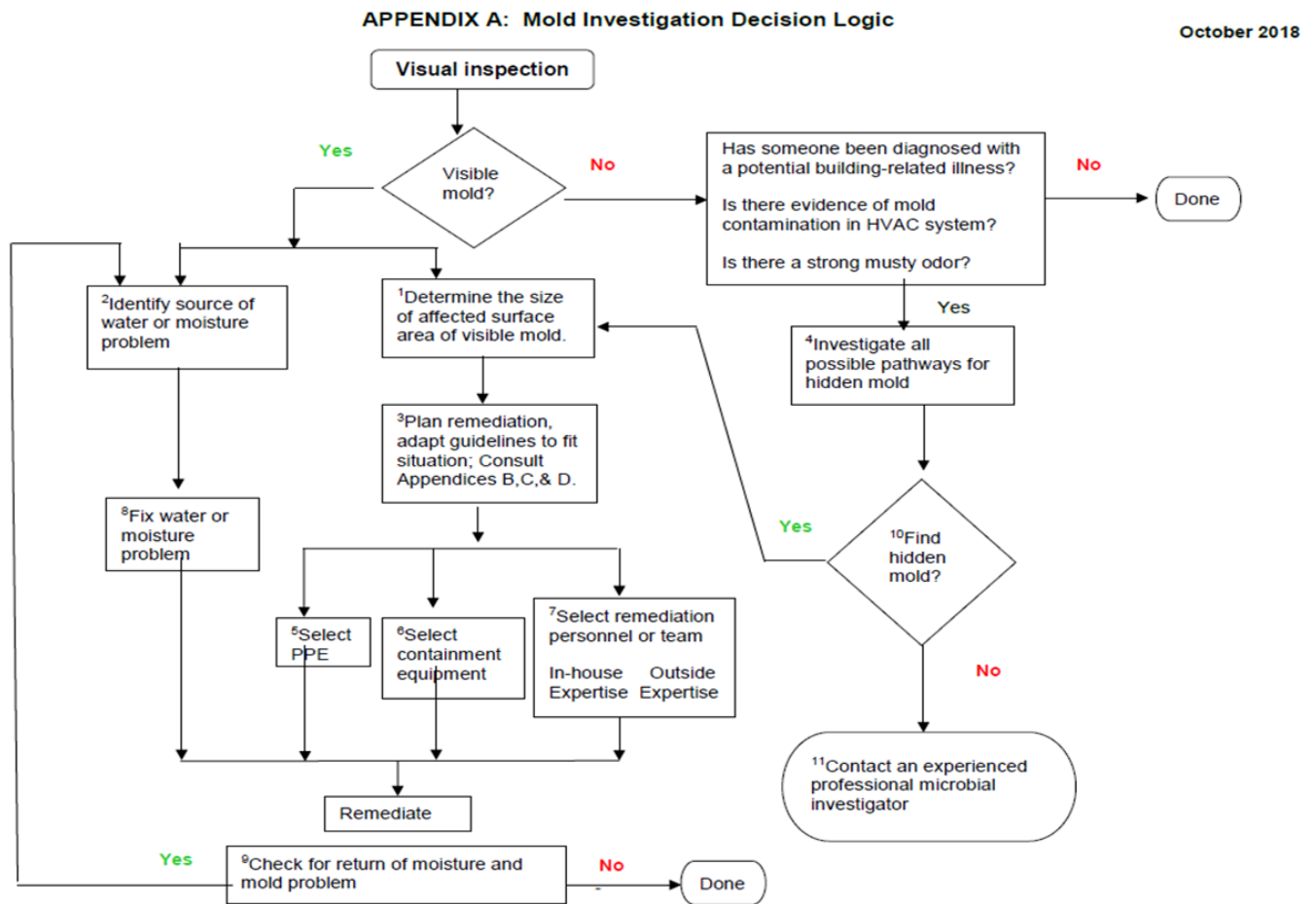
(c) Disposable Coveralls

(d) Gloves

(2) If an employee has questions concerning the appropriate PPE, they should contact their supervisor or KAHC-IH.

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

8. Investigation Decision Logic Plan Flow Chart



9. References/Training Materials:

- a. OPERATIONS ORDER (OPORD) 23-007/1800ZFEB23
- b. U.S. Army Public Health Center Technical Guide 277 (TG-277): Industrial Hygiene Public Health - Army Mold Remediation Guidance
- c. U.S. Army Public Health Center Technical Guide 278 (TG-278): Industrial Hygiene Public Health - Mold Assessment Guide
- d. Housing Inspection Tutorial <https://www.youtube.com/watch?v=tCtu7XMLKvA>
- e. Inspection Briefing <https://www.youtube.com/watch?v=WQxTpuNbtpo>
- f. Mold and Mildew Information, <https://www.youtube.com/watch?v=K4rbNpH8Op0>

g. Annex A Dampness and Mold Visual Assessment Worksheet

h. Annex B Post Remediation Verification Letter

Annex A (Dampness and Mold Visual Assessment (VSA) Worksheet) to OPOD 23-007

(U)
Dampness and Mold Visual Assessment

Check if component in room	Component	Check if nothing found	Damage or Stains Select the correct score	Check if Near exterior wall*	Visible Mold Select the correct score	Check if Near exterior wall*	Wet or Damp Select the correct score	Check if Near exterior wall*	Component Notes Check the type of material that is affected	Assessment Notes Check for additional detail. Describe if "Other"

*Within 3 feet of exterior wall.



**Annex B (Post Mold Verification Letter) to OPERATIONS ORDER 23-007 (U)
Post Remediation Verification Letter**

Property location

Installation _____

Property Address _____

Instructions

- **Areas reported and identified as mold have been treated (remediated):** Either Box A or B below must be filled out. The mold remediation team member must fill out Box A.
- **Areas reported that do not contain mold:** The mold remediation team member must fill out Box C.

Mold damage has been treated: (If Box A and B are filled out, Box C does not need to be filled out.)

Box A: To be filled out by the certified mold remediation team member (can be remediated in a single visit).

I certify that:

- I treated the areas that were reported and identified as having mold. Treatment can include removing, cleaning, sanitizing, and preventing mold.
- I gave a copy of my report to the tenant and recorded it for maintenance records.

Mold remediation team member signature

Date

Garrison Commander or delegated authority signature

Date

Box B: To be filled out by the certified mold remediation team member (will require rescheduling for more extensive remediation services).

I certify that:

- The reported areas with mold at this property have been treated (remediated).
- With reasonable certainty, the underlying causes of the mold reported have been treated.
- I gave a copy of my report to the tenant and recorded it for maintenance records.

Mold remediation team member signature

Date

Garrison Commander or delegated authority signature

Date

Annex B (Post Mold Verification Letter) to OPERATIONS ORDER 23-007 (U)

No mold damage was found (If Box C is filled out, Box A and B do not need to be filled out.)

Box C: To be filled out by the mold remediation team member

I certify that:

- I inspected this property.
- I did not find signs (evidence) of any mold.
- I gave a copy of my report to the tenant and recorded it for maintenance records.

Mold remediation team member signature

Date

Garrison Commander or delegated authority signature

Date