

March 21, 2017

Mold and Moisture Investigation Report: Findings of Initial Assessment

**John Adams Middle School
Classroom 11
2425 Sixteenth Street
Santa Monica, CA 90405**

Prepared for:

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FACS Project #PJ33113

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Executive Summary

Forensic Analytical Consulting Services, Inc. performed an initial mold and moisture assessment of Classroom 11 at John Adams Middle School. Visible mold growth and conditions conducive to mold growth were not identified in the classroom. Additionally, based on visual observations and air sample results, elevated mold spore levels in the air and on surfaces in the subject classroom is not suspected. A more complete discussion of findings, conclusions and recommendations is provided below.

Introduction

Forensic Analytical Consulting Services, Inc. (FACS) was retained by ASCIP on behalf of Santa Monica-Malibu Unified School District to perform an initial mold and moisture assessment of Classroom 11 at John Adams Middle School located at 2425 Sixteenth Street in Santa Monica, CA. The assessment was performed by Ms. Madeleine Dangazyan of FACS on March 10, 2017. This report contains the findings and recommendations from our investigation. The purpose of the investigation was to attempt to identify areas of moisture intrusion and mold growth, make recommendations regarding corrective actions, and provide information for consideration in assessing risk to occupants.

Classroom Characterization

Classroom 11 is located in a single-story building on the John Adams Middle School campus in a primarily residential neighborhood. Interior construction consists primarily of plaster walls and ceiling in the instructional area and 2'x4' suspended ceiling tiles in the teacher's work area. Flooring consists of carpeting throughout and generally appeared in good condition with a walk-off mat located at the entrance door to the classroom. Exterior construction is characterized by stucco sidings and a flat roof. The classroom is supplied by a package air handling unit located on the roof. The classroom was unoccupied during FACS' assessment.

Site History

Based on information provided by district and site representatives, the following history relative to moisture intrusion and potential mold growth was developed:

- Reportedly, some of the occupants have reported musty odors and expressed concerns regarding potential mold growth.
- The classroom has no known history of moisture intrusion.
- On March 10, 2017, FACS conducted an initial mold and moisture assessment of the classroom.

Scope of Work

In the course of this project, FACS conducted the following scope of work:

1. Development of a site characterization and history (see sections above).
2. Visual assessment of the accessible areas of the interior and exterior of the classroom.
3. FACS did not have access to the roof on the day of assessment; therefore a visual assessment of the air handling unit (AHU) that serves the classroom was not performed.
4. Selective moisture meter assessment of selected building materials in the assessed areas.
5. Collection of one (1) spore trap air sample in the classroom and two (2) outdoor control locations. The indoor sampling locations were selected to be representative of indoor air. Outdoor sampling locations were selected to be representative of air entering the classroom.

The data collected in the course of the investigation and supporting information is presented in this report as follows:

- Appendix A: Data collection methodologies
- Appendix B: Observations and mold growth conclusions and repair recommendations tables
- Appendix C: Laboratory reports
- Appendix D: Photographs (depicting inspection observations)
- Appendix E: Site Floor Plan

Conclusions

Based on this investigation, the following conclusions are reached:

1. *Mold Growth & Remediation (General)*. Mold (a.k.a., “fungal”) growth can occur when organic building materials or accumulated organic debris is impacted by moisture. This may occur within 24-48 hours from the time such materials become wet, hence it is critical that materials are substantially dried within this time frame in order to minimize the potential for mold growth to develop. Mold growth has the potential to elicit negative health effects in sensitive persons. This most frequently manifests as allergic respiratory symptoms which may range from mild to severe depending on individual sensitivities. Irritant and infectious effects are possible. It is generally accepted that mold growth in buildings should be removed following appropriate precautions to protect workers involved in the clean-up and the surrounding environment. Greater precautions are taken for greater amounts of mold growth. In addition, the underlying cause of mold and moisture intrusion should be identified and corrected in order to minimize the potential for recurrent mold growth. Additional information can be found at the U.S. Environmental Protection Agency website (<http://www.epa.gov/mold/>).
2. *Locations of Mold Growth*. With regard to Classroom 11, mold growth and conditions conducive to mold growth (i.e. elevated moisture) were not identified. Specific locations, descriptions, conclusions and supporting reasoning are provided in Appendix B, Table 2.
3. *Airborne & Settled Mold Spore Contamination*. Elevated mold spore levels in the air and in settled dust on surfaces in the classroom is not suspected. This conclusion is based on the absence of mold growth and the indoor air sampling results that indicated similar types and significantly lower concentrations of mold spores than outdoor controls on the day of sampling. Specific locations, descriptions, conclusions and supporting reasoning are provided in Appendix B, Table 2.
4. *Occupant Exposure*. Elevated occupant exposure to airborne mold spores in classroom 11 is not suspected. This conclusion is based on the absence of mold growth and on the indoor air sampling results that indicated similar types and significantly lower concentrations of mold spores than outdoor controls on the day of sampling. In general, when considering the risk of occupant exposure to indoor mold growth, the following should be recognized:
 - a. No accepted quantitative standards currently exist by which to assess the health risks related to fungal exposure. Since fungus and airborne fungal spores are common in the natural environment, most guidelines focus on the amount and location of visible fungal growth present and comparison of indoor and outdoor spore levels.
 - b. Airborne fungal spore levels can vary greatly over time due to changes in environmental conditions and activity patterns.
 - c. Based on these limitations, and on the potential presence of other adverse biological agents that may develop on moisture impacted materials, mold growth and dampness in

buildings should be controlled and impacted areas should be appropriately addressed in order to promote a healthful indoor environment.

5. *Causal Conditions.* Conditions resulting in moisture impact upon organic building materials should be determined and corrected in order to prevent the development of mold growth. These findings should be reviewed and verified by an appropriately qualified construction professional in order to ensure accurate identification and correction of the causes of moisture intrusion issues.

Recommendations

Based on FACS assessment, these actions should include the following:

1. Repair damage or missing crawlspace vent covers to prevent animals/rodents from entering the crawlspace.
2. Remove and replace all stained ceiling tiles.

Limitations

This investigation is limited to the conditions and practices observed and information made available to FACS. The methods, conclusions and recommendations provided are based on FACS' judgment, expertise and the standard of practice for professional service. They are subject to the limitations and variability inherent in the methodology employed. As with all environmental investigations, this investigation is limited to the defined scope and does not purport to set forth all hazards, nor indicate that other hazards do not exist.

Please do not hesitate to contact our offices at 310-668-5600 with any questions or concerns. Thank you for the opportunity to assist ASCIP and Santa Monica-Malibu School District in promoting a more healthful environment.

Respectfully,

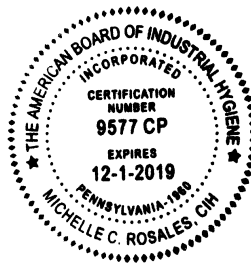


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Reviewed by:



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Appendix A

FACS Data Collection Methods

Moisture Meter Readings. The moisture content of various building substrates was evaluated using a direct reading instrument. Forensic Analytical routinely uses a Delmhorst BD 2100 moisture meter. The BD 2100 is capable of measuring the moisture content of wood, concrete/plaster and wallboard using preset factory scales.

Non-Viable Air Sampling. Air samples are collected using an Allergenco D spore trap sampling cassette and portable high volume sampling pump. The sampling train is calibrated in the field to approximately 15 liters per minute with a target collection sample volume between 75 liters and 150 liters depending on the anticipated concentration of fungal spores or particulate matter in the air. The air samples are labeled with unique samples numbers and information recorded on field chain of custody forms. The samples are promptly delivered to the laboratory for analysis.

Appendix B

Observations and Mold Growth Conclusions and Repair Recommendations Tables

Table 1: Observations

Ref #	Functional Area/Location	Observations/History	Area of Mold ^a	Area of Moisture ^b	Moisture Readings ^c	Photo # ^d	Sample # ^d
A	Classroom 11 – General Interior	Overview of classroom interior – east and west	\	\	\	2,3	IA1
		Overview – windows – south elevation	\	\	\	4	
		AHU return and supply air grilles along north and west wall observed to be in good condition.	\	\	\	5,6	
		Overview of teacher’s work area.	\	\	\	7	
		Discoloration/staining observed on center ceiling.	\	\	\	8	
		Stained ceiling tiles observed at the southwest corner in the teacher’s work area.	\	< 1ft. ²	\	9	
		No visible staining or moisture under the sink at southwest elevation.	\	\	\	10,11	
		Moisture level measurements were not elevated at the wood sink counter and beneath the sink.	\	\	Wood 9.7% - 10.1%	12	
		Overviews of cleaners stored in cabinets.	\	\	\	13-14	
		Overviews of classroom instructional materials.				15-16	
B	Classrooms 11 – General Exterior	Overview of Classroom 11 at entry.	\	\	\	1	OA1, OA2
		Overview – moderate vegetation under classroom windows – south elevation	\	\	\	17	
		Fresh air supply is in unobstructed, wire mesh in place and in good condition.	\	\	\	19	
		Open crawl space vent observed along the south elevation. Potential for animal/rodent entry and/or habitation.	\	\	\	18	
Notes: ^a Estimated total surface area of mold growth actually observed and mold growth intensity (light, moderate or heavy). ^b Estimated total cross-sectional area of moisture impact actually observed (i.e., staining/damage, elevated moisture meter readings, visible moisture). ^c Moisture meter readings and substrate. ^d Refer to photo appendix.							

Table 2: Mold Growth Conclusions and Repair Recommendations

#	Mold Growth Location, Description & Reasoning	Mold Growth ^a	Repair Level ^b	Repair Detail	Preliminary Cause ^c
1	Classroom 11 – General Interior Mold growth in classroom 11 is not suspected. This conclusion is based on the absence of visible mold growth and conditions conducive to mold growth (e.g. elevated moisture levels).	Not Suspected	\	Replace stained ceiling tiles.	\
2	General surfaces and air. Contamination of surfaces and air is not suspected. This conclusion is based on the indoor air sampling results that indicated similar types and significantly lower concentrations of mold spores than outdoor controls on the day of sampling.	Not Suspected	\	\	\
Notes: ^a Conclusion regarding presence of mold growth/contamination (Suspected , Potential , Not Suspected), total surface area of mold growth anticipated (visible and hidden) and anticipated mold growth intensity (light, moderate, heavy). ^b Refer to appendix containing FACS General Mold Remediation Guidelines for description of work practices and guidance documents. ^c Preliminary cause of moisture intrusion and mold growth based upon general observations. Construction related causal factors should be confirmed by an appropriately qualified building professional.					

Appendix C

Sampling Results Summary and Laboratory Reports

Table 1: Spore Trap Air Samples (Lab Report # F119047)

Sample Number	Location	Summary of Comparison to Controls	
		Types	Concentrations
IA1	Classroom 11 - Center	Too low for comparison	Significant lower
OA1	Outdoors – North elevation	Control sample	Control sample
OA2	Outdoors – South elevation	Control sample	Control sample
Notes: Findings in bold considered elevated.			

Non-Viable Air Fungal Analysis

Forensic Analytical Consulting Svcs

Marc Waz

2959 Pacific Commerce Drive

Rancho Dominguez, CA 90221

Sample Type: Allergenco-D

Analysis: Direct Microscopy; FALI Method IAQ 101; Modified ASTM D7391

Job ID / Site: PJ33113; John Adams MS - Room 11 - Moisture/Mold Assessment, 2425 Sixteenth Street, Santa Monica CA 90405

Client ID: LA05

Report Number: F119047

FALI Job ID: LA05

Date Received: 03/13/17

Date Analyzed: 03/16/17

Date Printed: 03/17/17

First Reported: 03/17/17

Total Samples Submitted: 3

Total Samples Analyzed: 3

Lab Number	60196675				60196676				60196677			
Sample ID	OA1				OA2				IA1			
Location	Outdoor (Pre) - Outside Classroom - N. Elev.				Outdoor (Post) - S. Elev.				Classroom #11			
Sample Date	03/10/17				03/10/17				03/10/17			
Volume	75.0 L				75.0 L				75.0 L			
Organism	Spores ⁺	%	LOD	S/m ³	Spores ⁺	%	LOD	S/m ³	Spores ⁺	%	LOD	S/m ³
Alternaria	2	0.8	13	27	ND	-	-	ND	ND	-	-	ND
Ascospores	3	3.1	32	96	11	9.9	32	350	ND	-	-	ND
Basidiospores	47	47.8	32	1,500	79	70.9	32	2,500	1	54.6	32	32
Bipolaris / Drechslera	1	0.4	13	13	ND	-	-	ND	ND	-	-	ND
Cladosporium	40	40.8	32	1,300	16	14.4	32	510	ND	-	-	ND
HYPHAL FRAGMENTS *	ND	-	-	ND	1	-	32	32	1	-	32	32
Penicillium / Aspergillus	4	4.1	32	130	ND	-	-	ND	ND	-	-	ND
Rusts/smuts/myxomycetes	7	3	13	93	11	4.1	13	150	ND	-	-	ND
Torula	ND	-	-	ND	2	0.7	13	27	ND	-	-	ND
Ulocladium	ND	-	-	ND	ND	-	-	ND	2	45.4	13	27
Total	104			3,100	119			3,600	3			59
Particulate Density	Major				Major				Minor			
Comments												



Non-Viable Air Fungal Analysis

Forensic Analytical Consulting Svcs
Marc Waz
2959 Pacific Commerce Drive

Rancho Dominguez, CA 90221

Sample Type: Allergenco-D

Analysis: Direct Microscopy; FALI Method IAQ 101; Modified ASTM D7391

Job ID / Site: PJ33113; John Adams MS - Room 11 - Moisture/Mold Assessment, 2425 Sixteenth Street, Santa Monica CA 90405

Client ID: LA05
Report Number: F119047
FALI Job ID: LA05
Date Received: 03/13/17
Date Analyzed: 03/16/17
Date Printed: 03/17/17
First Reported: 03/17/17

Total Samples Submitted: 3
Total Samples Analyzed: 3

Explanations:

Spores ⁺	Actual number of spores counted in portion of sample examined
%	Percent of Total
LOD	Limit of Detection (Units are the same as result units)
S/m ³	Spores per cubic meter of air sampled
Spores/S	Number of spores per sample
*	Not included in Totals Calculations
ND	None Detected
Particulate Density	Amount of background particulate present
-	Not Applicable

Background Particulate Density Estimated As Follows:

Trace	Very little present
Minor	Present but not in large quantity
Major	Present in most of sample
Abundant	Covering almost entire sample
Overloaded	Covering entire sample

Guidelines For Interpretation:

No accepted quantitative regulatory standards currently exist by which to assess the health risks related to mold exposure. Molds have been associated with a variety of health effects and sensitivity varies from person to person.

Several organizations, including: the American Conference of Governmental Industrial Hygienists (ACGIH); the American Industrial Hygiene Association (AIHA); the Indoor Air Quality Association (IAQA); the United States Environmental Protection Agency (USEPA); the Centers for Disease Control (CDC), as well as the California Department of Health Services (CADHS), have all published guidelines for assessment and interpretation of mold resulting from water intrusion in buildings.

FALI reports solely the organisms observed on the sample(s). The limit of detection is based on observing one spore/colony per area analyzed. This is not an inclusive list of the fungal types identified in the microbiology laboratory.

Tiffani Ludd, Microbiology Laboratory Supervisor, Rancho Dominguez Laboratory

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Appendix D

Photographs



Photo #1: Classroom 11



Photo #2: Overview of Classroom 11 interior



Photo #3: Overview of Classroom 11 interior



Photo #4: Overview – windows - south wall



Photo #5: Overview of AHU return air grill on north wall



Photo #6: Overview of AHU supply air grill on west wall



Photo #7: Overview – teacher's work area



Photo #8 Light discoloration/staining observed on the center of ceiling



Photo #9: Discoloration/staining observed on the ceiling tile at the southwest corner – teacher's work area



Photo #10: No staining or visible moisture under the sink area



Photo #11: No staining or visible moisture under the sink area



Photo #12: Wood counter top adjacent sink—measured moisture level not elevated – 9.7% - 10.1%



Photo #13: Overviews of cleaners stored in cabinets



Photo #14: Overviews of cleaners stored in cabinets



Photo #15: Overviews of classroom materials



Photo #16: Overviews of classroom materials



Photo #17: Overviews of exterior – south elevation – vegetation under classroom windows



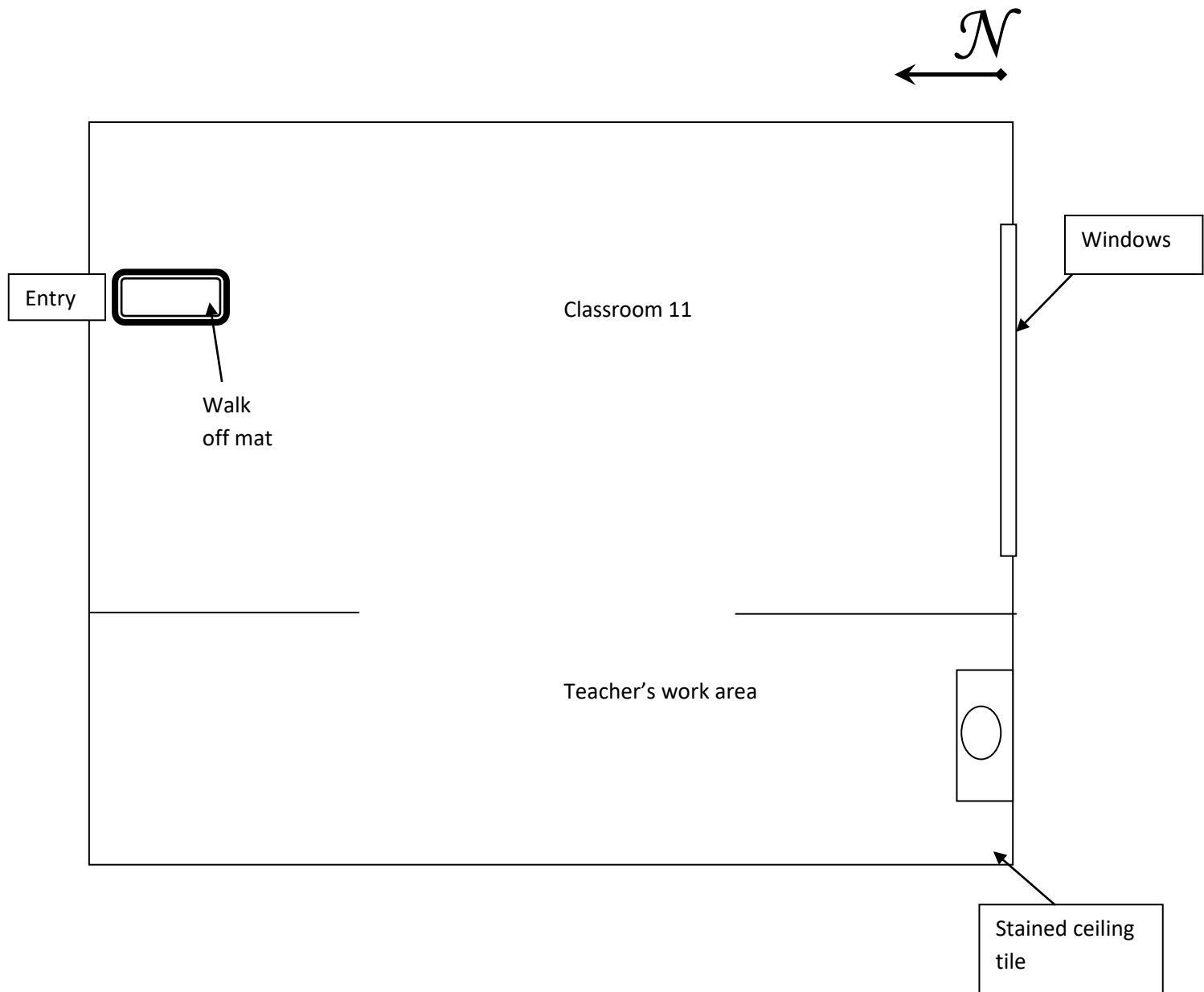
Photo #18: Open crawl space vent – south elevation



Photo #19: Fresh air supply – unobstructed – wire mesh in place

Appendix E

Site Floor Plan



Appendix F

FACS General Mold Remediation Guidelines



CONTENTS

- Global Mold Remediation Guidelines
- General Procedures for:
 - M0 De Minimus Mold Remediation
 - M1 Small Scale Mold Remediation
 - M2 Medium Scale Mold Remediation
 - M3 Large Scale Mold Remediation
 - MC Removal of Mold Spore Contamination
 - ME Exterior Mold Remediation
 - MT Invasive Inspection for Mold

GLOBAL MOLD REMEDIATION GUIDELINES

1. *General Practices.* All work, which may result in the disturbance of mold growth or contamination, should be performed using work practices that minimize the disturbance of affected materials and dispersion of mold spores. Measures should also be taken to protect the health and safety of individuals performing remediation activities. At a minimum, work should be performed in accordance with the following guidelines addressing mold/water intrusion remediation:
 - Environmental Protection Agency. (September 2008). *Mold Remediation in Schools and Commercial Buildings*. EPA 402-K-01-001. Appendix B.
 - New York City Department of Health. (November 2008). *Guidelines on Assessment and Remediation of Fungi in Indoor Environments*. Appendix A.
 - U.S. Department of Labor Occupational Safety and Health Administration (November 8, 2013). *Safety and Health Information Bulletin: A Brief Guide to Mold in the Workplace*. SHIB 03-10-10.
 - American Industrial Hygiene Association. (2008). *Recognition, Evaluation and Control of Indoor Mold*. IMOM08-679.
 - Institute of Inspection, Cleaning and Restoration Contractors. (2006). *IICRC 500 Standard and Reference Guide for Professional Water Damage Restoration*. Third edition.
 - Institute of Inspection, Cleaning and Restoration Contractors. (2008). *IICRC S520 Standard and Reference Guide for Professional Mold Remediation*. Second edition.
2. *Material Removal.* In the course of removing building materials, bulk quantities of visible mold growth shall be removed from all wood structural members or other materials. Materials should be cleaned or removed 18 inches past visible mold growth unless otherwise specified.
3. *Regulated Materials.* Prior to commencing remediation activities, building materials that may be disturbed should be assessed for asbestos and lead-based paint hazards per applicable regulations.
4. *Sources of Moisture.* Mold growth is most frequently caused by a failure to adequately control moisture. Thus, whenever mold remediation is performed, measures should be taken to correct the conditions resulting in excess moisture and mold growth.



GENERAL PROCEDURES

M0: General Procedures for De Minimus Mold Remediation

The following procedures are provided for general guidance and may be modified as appropriate to address specific conditions on a case-by-case basis. All work should be performed in accordance the aforementioned guideline publications.

- **Example Applications**
 - Surface cleaning and non-aggressive removal of ≤ 1 ft.² of mold growth.
 - Surface cleaning of areas with light or minimal mold spore deposition/contamination.
 - Typical housekeeping activities.
- **Personal Protective Equipment**
 - May include the use of an N-95 disposable respirator, gloves and eye protection.
- **Containment Provisions**
 - None required.
- **Work Practices**
 - Mist surface and wet-wipe in a manner that minimizes disturbance of growth.
- **Post-Remediation Assessment**
 - Visual confirmation of removal of growth.

M1: General Procedures for Small Scale Mold Remediation

The following procedures are provided for general guidance and may be modified as appropriate to address specific conditions on a case-by-case basis. All work should be performed in accordance the aforementioned guideline publications.

- **Example Applications**
 - Surface cleaning and non-aggressive removal of >1 to <10 ft.² of mold growth.
 - Aggressive removal of materials with ≤ 1 ft.² of dense mold growth, or <10 ft.² of sparse mold growth.
 - General construction dust control for removal of building materials.
- **Personal Protective Equipment**
 - N-95 disposable respirator, gloves and eye protection.
- **Containment Provisions**
 - Cover the immediate work area with plastic sheeting.
 - A floor to ceiling plastic barrier should be erected to further isolate the work area if greater than approximately 5 ft. of material is being aggressively removed (e.g., removal of drywall).
 - Ensure ventilation provisions in the area are turned off.
- **Work Practices**
 - Remediation performed by maintenance/construction personnel with awareness training regarding proper clean up methods, personal protection, and potential health hazards associated with mold.
 - Clean surfaces using a HEPA vacuum or dust suppression methods (e.g., misting).
 - Remove materials using methods to minimize the disturbance of growth and for general dust suppression (e.g., HEPA vacuum positioned at the point of operation/removal and misting).
 - If removal cannot be accomplished without significant disturbance of mold growth or more extensive mold growth is encountered, then work should stop and medium or large scale remediation procedures should be implemented.
 - All contaminated materials should be removed from the work area in a sealed plastic bag.
 - Following removal of mold growth, clean the work area and immediately adjacent surfaces using a HEPA vacuum or wet-wiping.



- **Post-Remediation Assessment**

- Assessment by a designated individual familiar with these procedures and with mold awareness training.
- Visual confirmation of removal of growth and absence of contamination and debris prior to removal of containment provisions.
- Materials should be dried and causes of moisture impact controlled to prevent future growth.

M2: General Procedures for Medium Scale Mold Remediation

The following procedures are provided for general guidance and may be modified as appropriate to address specific conditions on a case-by-case basis. All work should be performed in accordance the aforementioned guideline publications.

- **Example Applications**

- Surface cleaning and non-aggressive removal of 10 to <100 ft.² of mold growth.
- Aggressive removal of materials with >1 to <10 ft.² of dense mold growth, or 10 to <100 ft.² of sparse mold growth.

- **Personal Protective Equipment**

- ½-face respirator with HEPA filters, gloves, disposable coveralls and goggles. Consider the use of HEPA/organic vapor combination cartridges if strong musty odors are present.

- **Containment Provisions**

- Isolate the work area from the surrounding environment using 1 layer of plastic sheeting configured with a slit entry and covering flap.
- Seal all penetrations to surrounding areas using plastic and tape (e.g., outlets, light switches, ventilation grills).
- Negatively pressurize the work area and exhaust out of the work area with HEPA filtration.

- **Work Practices**

- Remediation performed by professional mold remediation contractors with appropriate training and experience in mold remediation practices.
- Clean surfaces using a HEPA vacuum or dust suppression methods (e.g., misting).
- Remove materials using methods to minimize the disturbance of growth to the extent feasible.
- All contaminated materials should be removed from the work area in a sealed plastic bag.
- Following removal of mold growth, clean the work area, immediately surrounding area, and worker egress pathways using a HEPA vacuum or wet-wiping.

- **Post-Remediation Assessment**

- Assessment performed by a professional mold consultant with appropriate training and experience.
- Visual confirmation of removal of growth and absence of contamination and debris.
- Collection and evaluation of air and surface samples as appropriate to support visual inspection.
- Materials should be dried and causes of moisture impact controlled to prevent future growth.
- Containment provisions remain in place until the work areas has passed the assessment criteria.

M3: General Procedures for Large Scale Mold Remediation

The following procedures are provided for general guidance and may be modified as appropriate to address specific conditions on a case-by-case basis. All work should be performed in accordance the aforementioned guideline publications.

- **Example Applications**

- Surface cleaning and non-aggressive removal of ≥100 ft.² of mold growth.



- Aggressive removal of materials with ≥ 100 ft.² of dense or sparse mold growth.
- **Personal Protective Equipment**
 - Full-face respirator with HEPA filters, gloves, disposable coveralls with head and foot coverings and goggles. Consider the use of HEPA/organic vapor combination cartridges if strong musty odors are present.
- **Containment Provisions**
 - Isolate the work area from the surrounding environment using 2 layers of plastic sheeting configured with a decontamination area between two slit entries with covering flaps.
 - Seal all penetrations to surrounding areas using plastic and tape (e.g., outlets, light switches, ventilation grills).
 - Negatively pressurize the work area and exhaust to the outdoor environment with HEPA filtration.
- **Work Practices**
 - Remediation performed by professional mold remediation contractors with appropriate training and experience in mold remediation practices.
 - Clean surfaces using a HEPA vacuum or dust suppression methods (e.g., misting).
 - Remove materials using methods to minimize the disturbance of growth to the extent feasible.
 - All contaminated materials should be removed from the work area in a sealed plastic bag.
 - Following removal of mold growth, clean the work area, immediately surrounding area, and worker egress pathways using a HEPA vacuum or wet-wiping.
 - Mist surface and wet-wipe in a manner that minimizes disturbance of growth.
- **Post-Remediation Assessment**
 - Assessment performed by a professional mold consultant with appropriate training and experience.
 - Visual confirmation of removal of growth and absence of contamination and debris.
 - Collection and evaluation of air and surface samples as appropriate to support visual inspection.
 - Materials should be dried and causes of moisture impact controlled to prevent future growth.
 - Containment provisions remain in place until the work areas has passed the assessment criteria.

MC: General Procedures for Removal of Mold Spore Contamination/Deposition

The following procedures are provided for general guidance and may be modified as appropriate to address specific conditions on a case-by-case basis. All work should be performed in accordance the aforementioned guideline publications.

- **Example Applications**
 - Removal of secondary mold spore deposition from surfaces and contents resulting from the presence of mold growth reservoirs in the shared environment.
 - Note: Areas of light or minimal contamination may be cleaned in accordance with procedure M0.
 - Note: Cleaning of HVAC systems should be conducted in accordance with procedure MV.
- **Personal Protective Equipment**
 - Minimum of N-95 disposable respirator, gloves and eye protection. More extensive protective equipment may be appropriate depending on the severity of contamination.
- **Containment Provisions**
 - Not generally required, however conditions of severe contamination may necessitate containment provisions depending on conditions in surrounding environments.
- **Work Practices**
 - Remediation performed by professional mold remediation contractors with appropriate training and experience in mold remediation practices.



- Clean horizontal and vertical surfaces in place.
- Wet-wipe hard, non-porous surfaces.
- HEPA vacuum soft, porous surfaces. Disposal of porous materials exhibiting growth may be necessary.
- Launder or dry-clean textiles.
- Consider use of HEPA filtered negative air machines to purge or scrub the air in the area.
- **Post-Remediation Assessment**
 - Assessment performed by a professional mold consultant with appropriate training and experience.
 - Visual confirmation of removal of growth and absence of contamination and debris.
 - Collection and evaluation of air and surface samples as appropriate to support visual inspection.

ME: General Procedures for Exterior Mold Remediation

The following procedures are provided for general guidance and may be modified as appropriate to address specific conditions on a case-by-case basis. All work should be performed in accordance the aforementioned guideline publications.

- **Example Applications**
 - Cleaning of ≥ 10 ft.² of mold growth from exterior surfaces.
 - General construction dust control for the exterior removal of building materials.
 - Note: Cleaning of < 10 ft.² of exterior mold growth may be conducted in accordance with procedure M0.
- **Personal Protective Equipment**
 - Minimum of N-95 disposable respirator, gloves and eye protection. More extensive protective equipment may be appropriate depending on the severity of growth or intensity of removal activities.
- **Containment Provisions**
 - Prior to commencing work, close all windows and doors in or adjacent to the work area and seal interior window and door penetrations with tape (easy release or painters tape).
 - If removal of exterior building materials is to occur, seal all wall penetrations (i.e., electrical outlets and light switches) and base of wall on the associated interior wall being repaired with tape (easy release or painters tape).
- **Work Practices**
 - Remediation performed by maintenance/construction personnel with awareness training regarding proper clean up methods, personal protection, and potential health hazards associated with mold. The use of a professional mold remediation contractor may be appropriate depending on the severity of mold growth.
 - Proceed with exterior cleaning or building material removal using dust control methods (e.g., misting).
 - Inspect the back of exposed interior wall systems for evidence of mold growth. If mold growth is observed, proceed with cleaning or removal in accordance with procedures M0-M3 as appropriate.
 - Use a HEPA vacuum to remove excess debris from the wall cavity prior to reconstruction.
- **Post-Remediation Assessment**
 - Assessment by a designated individual familiar with these procedures and with mold awareness training.
 - Visual confirmation of removal of growth and absence of contamination and debris prior to removal of containment provisions.
 - Materials should be dried and causes of moisture impact controlled to prevent future growth.



MT: General Procedures for Invasive Inspection for Mold

The following procedures are provided for general guidance and may be modified as appropriate to address specific conditions on a case-by-case basis. All work should be performed in accordance the aforementioned guideline publications.

- **Example Applications**
 - Removal of building materials in areas where there is the potential for mold growth (i.e., the presence of mold growth has not been confirmed).
- **Personal Protective Equipment**
 - May include the use of an N-95 disposable respirator, gloves and eye protection as appropriate for general construction activities.
- **Containment Provisions**
 - Follow practices for general construction dust control (see M1 above). No special provisions for controlling mold growth are required.
- **Work Practices**
 - Remove a small area of building material from the area in question to facilitate visual inspection (e.g., <1ft.²).
 - In the course of removal, proceed in a manner that minimizes disturbance of potential concealed mold growth reservoirs. For example, cut around and gently remove a section of drywall as a single piece rather than demolishing the area with a hammer. A HEPA vacuum nozzle placed at the point of removal may further control potential releases.
 - Continue removal of materials in a stepwise fashion in order to perform desired construction repairs or to determine if any hidden mold growth exists.
 - If mold growth is encountered in the course of removal, immediately stop and proceed in accordance with mold remediation procedures as appropriate (see M0-M3 above).
- **Post-Remediation Assessment**
 - No assessment is necessary if no mold growth is encountered. If mold growth is encountered, follow the appropriate post-remediation assessment guidelines as discussed in M0-M3 above.



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