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Mold Assessment Report & Mold Remediation Protocol V 1.1

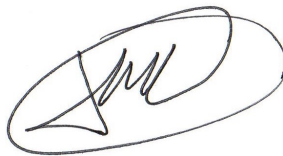
Produced For:

Charles & Amanda Lewis
12053 Oak Forest Ln.
Conroe, Texas

Assessments Performed on June 8 & July 8, 2021

Prepared By:

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DEFINITIONS:

MRC	- MOLD REMEDIATION CONTRACTOR
MAC	- MOLD ASSESSMENT CONSULTANT
TMI	- TEXAS MOLD INSPECTORS
AFD	- AIR FILTRATION DEVICE
HEPA	- HIGH EFFICIENCY PARTICULATE ARRESTOR
OSHA	- OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
NIOSH	- NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH
EPA	- ENVIRONMENTAL PROTECTION AGENCY
CMDR	- CERTIFICATE OF MOLD DAMAGE REMEDIATION
MARAR	- MOLD ASSESSMENT AND REMEDIATORS ADMINISTRATIVE RULES
START DATE	- THE DAY IN WHICH REMEDIAL ACTIVITIES BEGIN
STOP DATE	- THE DAY IN WHICH REMEDIAL ACTIVITIES END
ISLO	- INSIDE LOOKING OUT
OSLI	- OUTSIDE LOOKING IN
MOLD	- ANY LIVING OR DEAD FUNGI OR RELATED PRODUCTS OR PARTS, INCLUDING SPORES, HYPHAE AND MYCOTOXINS
DON	- TO PUT ON (AN ITEM OF CLOTHING)
DOFF	- TO REMOVE (AN ITEM OF CLOTHING)
TIE-IN	- TERM USED FOR DESCRIBING A CONNECTION/JUNCTION COMMON WITH UTILITIES.

AFFECTED AREA(S)

ANY/ALL AREA(S) IN WHICH MOLD REMEDIATION IS BEING PERFORMED. THIS INCLUDES ALL AREAS WITHIN CONTAINMENT WHETHER BEING DIRECTLY AFFECTED OR INDIRECTLY AFFECTED BY ANY/ALL SOURCE(S) OF MOLD GROWTH. AFFECTED AREA(S) ALSO INCLUDE ANY AREAS OUTSIDE ANY/ALL CONTAINMENT PARAMETER(S) IN WHICH THIS MOLD REMEDIATION PROTOCOL DELINEATES REMEDIAL ACTIVITIES TO BE PERFORMED.

NON-AFFECTED AREA(S)

ANY/ALL AREA(S), WITHIN THE STRUCTURE'S AIR ENVELOPE WHICH ARE NOT BEING IDENTIFIED AS AN AFFECTED AREA WITHIN THIS MOLD REMEDIATION PROTOCOL.

DIRECTLY AFFECTED AREA(S)

ANY/ALL AFFECTED AREA(S) WHICH ARE CONSIDERED A SOURCE OF SELF-ORIGINATING MOLD GROWTH.

INDIRECTLY AFFECTED AREA(S)

ANY/ALL AREA(S) WITHIN AN AREA OF CONTAINMENT, WITHIN CLOSE PROXIMITY OF A DIRECTLY AFFECTED AREA OR AN AREA BEING REMEDIATED OF SETTLED MOLD SPORES, HYPHAE & MYCOTOXINS.

INTERIOR WALL SYSTEMS

WALL SYSTEMS WHICH ORIGINATE WITHIN THE STRUCTURE AND ARE COMMON WITH OTHER INTERIOR AREAS OF THE STRUCTURE (NOT TO BE CONSIDERED A PERIMETER WALL)

WHEN DEMOLITION IS TO BE PERFORMED ON INTERIOR WALL SYSTEMS (AS INDICATED WITHIN THIS MOLD REMEDIATION PROTOCOL), ONLY THE INTERIOR FACING SIDE OF THE INTERIOR WALL (I.E. DRYWALL) IS TO BE REMOVED, UNLESS BOTH SIDES OF THE INTERIOR WALL IS SPECIFIED AS PART OF DEMOLITION (IF VISIBLE/SUSPECTED WATER DAMAGE/ CONDENSATION/MOLD GROWTH IS OBSERVED ON THE EXTERIOR FACING, THEN PROCEED WITH ITS REMEDIATION).

EXTERIOR WALL SYSTEMS

WALL SYSTEMS WHICH DEFINE THE STRUCTURE'S FOOTPRINT OR PERIMETERS. EXTERIOR WALL SYSTEMS ARE TYPICALLY WHERE WINDOW FENESTRATIONS ARE LOCATED.

WHEN DEMOLITION IS TO BE PERFORMED ON EXTERIOR WALL SYSTEMS (AS INDICATED WITHIN THIS MOLD REMEDIATION PROTOCOL), ONLY THE INTERIOR FACING SIDE OF THE EXTERIOR WALL (I.E. DRYWALL) IS TO BE REMOVED, UNLESS BOTH SIDES OF THE EXTERIOR WALL ARE SPECIFIED AS PART OF DEMOLITION (IF VISIBLE/SUSPECTED WATER DAMAGE/CONDENSATION/MOLD GROWTH IS OBSERVED ON THE EXTERIOR FACING, THEN PROCEED WITH ITS REMEDIATION).

GENERAL REQUISITES

This Mold Remediation Protocol is designed to satisfy the "Clearance Criteria" while restoring this Home back to its pre-contaminated state; however, due to the general nature of the methods within this protocol, it is the responsibility of the MRC or and all associated Mold Remediation Workers to ensure the methods within this protocol are performed properly and thoroughly. TMI's involvement is to determine the overall extent(s) at which mold growth impacted the air envelope, the structure itself and all associated items/contents which exist within 12053 Oak Forest Ln. located within Conroe, Texas through sampling current & historical surface dust/debris and/or through visual confirmation of self-originating mold growth.

Any changes to this Mold Remediation Protocol should be carefully considered before requesting an Amendment to be produced.

MOLD REMEDIATION WORK PLAN

A Mold Remediation Work Plan must be issued to the Home's Owner(s) & TMI prior to the commencement of any remedial activities.

PERMITTING

Acquire any/all applicable local permits as required by the municipality whose jurisdiction the Home resides.

OCCUPANCY

The MRC will ensure the affected home, along with any/all Affected Areas, are not occupied by unauthorized personnel. The MAC authorizes personnel for this project.

An on-site superintendent is to be appointed by the MRC whom will be the primary point of contact and will remain on-site at all times during working hours.

WORK HOURS

During the mold remediation project, the MRC will use the standard work day of 8:00 am - 5:00 pm. These hours are subject to change with the demands of the project or desires of the Home Owner(s) as long as all applicable Texas Labor Laws are adhered to. An amendment is not necessary for a change in "Work Hours" as long as the Home Owner(s) are in agreement with any changes pertaining to "Work Hours".

UTILITIES

During the mold remediation project, the MRC may be allowed to use the Home's existing Electrical, Water or Gas Utilities.

Each Utility Tie-In required by the MRC shall be performed by licensed professionals whom will warrant, to the Home Owner(s), the connection's integrity for the entire duration of the remediation project until the "Clearance Criteria" has been satisfied.

The licensed professional facilitating each Utility Tie-In will perform any detachments post remediation and warranty, to the Home Owner(s), all work provided.

If a power outage occurs, an on-site generator must be utilized to re-establish negative air pressurization.

PARKING

Park in areas designated by the Home Owner(s). Parking should be available on-site.

ON/OFF-SITE STORAGE & Decontamination (if necessary)

The MRC will provide any/all necessary storage space needed to facilitate the mold remediation project. All associated costs will be the financial responsibility of the MRC. Both the MRC and the Home Owner(s) will have, identical but separate, keys for accessing any on/off-site storage unit/area (if utilized).

An on-site "cleaning room" may be utilized to facilitate the decontamination of items/contents which are able to be salvaged. This "cleaning room" must be equipped with proper climate controls, air filtration, as well as, decontamination chambers & air-locks.

PRE-EXISTING CONDITIONS

It is best practice for the MRC to document any/all pre-existing structural/cosmetic defects or damages for the Home and any/all items/contents. If such defects or damages are not properly documented the MRC may be held liable for damages by the Home Owner(s) in certain circumstances.

SITE VISITS & OCCUPANCY

The Home Owner(s) will not be able to occupy the home during remediation. This is due to the overall scope of the areas to be remediated and because the home's central HVAC System will be removed for an extended period of time.

The MAC, whom is assigned to this project may randomly, without notification to the MRC or Home Owner(s), perform a/multiple Site Visit(s).

Site Visits may be conducted to ensure compliance with the Mold Remediation Protocol, the Project's Progression, or any other reason the MAC feels necessary.

Site Visits of the same nature also apply for the Home Owner(s) as long as proper personal protective equipment is worn at all times and the Home Owner(s) is/are supervised by the MRC or MAC.

COMMUNICATION

Clear and Open Communication between the MRC, Home Owner(s) & MAC must be facilitated by means of e-mail unless timing does not permit. The MRC & MAC are not expected to stop working to check e-mails but will make themselves available at the soonest available time.

PRE-JOB SUBMITTALS

Insurance Certificate(s) are to be issued to the Home's Owner by the MRC or the MRC's Insurance Carrier. The State Mandated Minimum Requirements for coverage must be effective.

If the Home's Owner requires additional coverage (within reason), the MRC must comply with the desired requisite of the Home Owner(s).

The MRC must produce Proper Certifications, Licenses & Insurance that must be kept on-site throughout the project's duration. Documentation supporting each Mold Remediation Worker's credentials must also be kept on-site throughout the project's duration. All Documentation must be kept in an area accessible by the Home Owner(s) to view at any time.

Any/All other requisites of the MARAR must be strictly adhered to.

POST-JOB SUBMITTALS

Post-Job Submittals are listed at the end of the "Clearance Criteria" section of this Protocol.

Level III: Large Area(s) / More Than 25 Contiguous Sq Ft.
-State Notification Required-

Personal Protective Equipment

- Personnel trained in the handling of hazardous materials equipped with;
 - NIOSH Approved Full-Face respirators with, high efficiency particulate air (HEPA) cartridges, should be worn at all times;
 - Disposable protective clothing (TYVEK) covering all of head, body, feet, and hands are to be worn while inside areas of containment;
 - Appropriate, respiratory and personal protective equipment programs shall be established following OSHA regulatory requirement(s). The MRC is solely responsible for all safety items and safe work practices while on the job at all times.
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Containment(s)

Isolating the Directly Affected Areas from Indirectly/Non-Affected Areas

- A Zippered Entry Way with an Isolation Barrier should be placed at the entry ways of areas leading to Non-Affected or Indirectly Affected areas. Negative air pressurization is to be achieved and proven sustainable before containment is to be considered complete. Exhaust HEPA Filtered Air flow through any Exterior Wall System Fenestration as long as any/all collective efforts to achieve negative air pressurization are in parallel with one another. Negative Air Pressurization must remain constant until the day the project satisfies Clearance Criteria.
- Containments must be designed to be as close to air-tight as possible. In order to avoid compromising the/each containment zone, strategically install high efficiency 12" x 12" filters to an/multiple external facet(s) of the containment's isolation barriers; this technique will serve as "pressure relief" for the generated negative air pressurization. The strategic placement of the pressure relief filters should facilitate more efficient air-flow within the area of containment as long as areas of low air flow within containment are be considered.
- Complete isolation of the work area(s) from area(s) outside of containment using plastic sheeting (6 mil) sealed with high quality duct tape or an equivalent (including ventilation ducts/grills, fixtures, receptacles, windows, doors, and other openings), floor to ceiling coverage with a slit entry and covering flap on each side (zippered entry preferred).
- The use of an Exhaust Fan(s)/Air Filtration Devices (AFDs) equipped with a HEPA Filter to generate negative pressurization (port exhaust outside the Home); The use of Air Scrubber(s), separately from any/all Negative Air Machine(s), to properly clean ambient mold spores and demolition debris from the air within the area of containment - per the manufacturer's published specified ratings based on square footage. Any/All AFDs/Air Scrubbers/Exhaust Fans utilized should be cleaned thoroughly, prior to job-site implementation in addition to ensuring new filters are installed in each unit.
- Air-lock(s) must be constructed along with a/multiple Decontamination Room(s)/Chamber(s) and/or Equipment Room(s). Install Critical Barriers as/where needed. All openings into an Airlock/Containment/Decontamination Room, etc. shall be large enough to hold a waste container and allow personnel to don and doff PPE. Air Filtration Devices (AFDs) will be utilized to create the appropriate airflow through any/all rooms/chambers.
- Make-Up Air must be supplied to all areas under negative air pressurization. The amount of make-up air is not to exceed the amount of air being evacuated from the area(s) to be under negative air pressurization. Additionally, the make-up air is to be supplied within a range of 80-90% of the total air being evacuated from the areas to be under negative pressurization.
- The only exception to having to install a/multiple Decontamination Room(s)/Chamber(s) would be when the physical containment connects to an entry door of the home. In such events, while a decontamination chamber would not be necessary, a/multiple air-lock(s) **MUST** be utilized to prevent the area(s) of containment from pressurizing once an entry door is opened to the outside environment.

- The contained area(s) and decontamination room(s), etc. are to be HEPA vacuumed and cleaned with a damp microfiber cloth or mopped with a detergent solution and be visibly clean prior to the MAC's directive to remove/deconstruct containment(s); this is to be carried out only once "Clearance" has been achieved. Multiple Air Scrubbers and Dehumidifiers are to be systematically placed throughout each area of containment and/or throughout the Home (if necessary) and activated. The humidity levels, are to be sustained by the installation of said units, may not fall below 30% RH and not to exceed 50% RH.

The Mold Remediation Contractor is responsible for designing containment configuration to permit reasonable access for gross removal while maintaining the containment requirements of this Protocol and the Mold Assessment and Remediation Administrative Rules (MARAR).

Primary Catalyst(s) for Self-Originating Mold Growth

Ensure, the/all Source(s) of water intrusion/high humidity/water damage/moisture content which entered/originated within, 12053 Oak Forest Ln. located within Conroe, Texas have been properly repaired BEFORE beginning remediation of any kind. Emphasis should be on ensuring proper repairs of the Home's structural system along with the Home's built-in mechanical & water systems, in order to prevent re-occurrence of damage due to water/moisture/condensation/humidity which would lead to self-originating mold growth. In Certain Situations, the source of water intrusion may not be identified or repaired until remedial activities have commenced; whereas, the now clearly identified source of water intrusion/high humidity/water damage/moisture content, may be properly repaired even if remedial activities are already underway.

Indoor Relative Humidity was below 60.0% on the day of each of the assessments performed

The Primary Source of Water Intrusion currently impacting All Wall Systems & Interstitial Cavities Throughout the Home is due to Air Infiltration in possession of Water Vapor

The Home's Roofing System is not adequately Ventilated as it relates to Supply and Exhaust Ventilation. This is a construction defect which will continue to negatively impact the overall integrity of the home along with its systemic function.

This Ventilation Inadequacy of the Roofing System's Design/Construction facilitates the transfer of ambient attic air into the home's air envelope via interstitial wall cavities and any routes which allow air transfer to occur.

The great temperature differentials, which exist between interstitial cavities and surfaces exposed to the home's air envelope, may allow for Dew Point to be achieved within Interstitial Cavities affected by the Attic's (unconditioned/unfiltered) Air; additionally, this occurrence definitively facilitates humidity driven mold growth throughout the majority of any annual climate cycle within Zone 2.

Mold Growth exists (with varying concentrations) within Each of the Wall Cavities/Crawl Spaces associated with the Wall Systems of this home due to humidity driven and/or interstitial condensation driven mold growth.

Mold Growth within select wall systems was confirmed visually through means of a borescope

Mold Growth was verified through Analytical Data provided by the laboratory

Positive Pressurization was confirmed by utilizing a, "Smoke Pen"

During such confirmation, TMI, ensured the following:

All Doors & Windows leading to the Exterior were in the "Closed" position

The HVAC System(s) was/were in the "Off" position

The Primary Source of Water Intrusion which impacted the Exterior Entry Door of the Master Bedroom was, as reported by the Home Owners, a Liquid Water leak in the Roofing System vertically situated above the Entry Door's Location.

The Primary Source of Water Intrusion which is actively impacting the Master Shower is Liquid Water due to the absorbent nature of the Grout Utilized during this shower's construction.

Ceiling/Soffit Areas associated with any overhang of the roofing system. Water Vapor is the Source of Water Intrusion. The Construction Materials Utilized/Applied allows facilitates water vapor's intrusion; thus, formation of self-originating mold growth is the result



Chemically Based Biocides/Fungicides are *NOT* to be applied using any method(s), at any time, for the duration of this remediation project. The only product the MRC may apply during this remediation project is listed directly below.

Product: BIOPROTECT RTU (<https://bioprotect.us>)

For optimal results, when applying Bioprotect RTU utilizing a ULV Fogger (i.e. B&G Flex A Lite 2600), perform at least two complete and thorough applications to any/all Affected Areas, as well as, any/all Indirectly Affected Areas.

First Application	Before Containment and Items/Contents Removal or Additional Remedial Activities Commence
Second Application	After Remedial Activities Have Concluded / Prior to any Post Remediation Assessment(s)

Remediation is to proceed as follows:

Remediation is to commence in each of the Affected Areas and proceed until the source of water intrusion/high humidity/water damage/moisture content is reached and all parameters outlined herein have been met at a minimum while not being limited to such parameters. Thorough visual inspection are necessary throughout every stage of demolition. Documentation via means of ledger & photography is encouraged. The MRC will be cautious of electrical, plumbing and gas lines and will utilize licensed contractors to facilitate such repairs when and where applicable. Any, unforeseen structural impediments, which will cause the remediation project to stop, contract a structural engineer for consultation in order to preserve the structural integrity of the Home.

Directly Affected Areas to be remediated:

Master Bedroom

Exterior Entry Door

Immediately Right once entering the Room

Exterior Wall Systems located on each side of the Entry Door's location / Drywall within Four Feet Laterally from the each Side of the Door's Jamb

Entire Vertical Extent of the Wall System / Approximately Ten Feet

8' x 10' Removal Cut / Including the Entirety of the Entry Door

Master Bathroom

Walk-In Shower

Entire Shower / As it relates to the Shower's Tiled Footprint and associated sublayers

Back Patio Area / Ceiling/Soffit Areas associated with the Entire Home

The Texturing appears to be Traditional Drywall Texturing (typically applied within an indoor environment). Such, texturing is extremely absorbent. Therefore, when applied on a surface within an exterior environment, such texturing will inevitably retain moisture due to capillary action and surface tension. Additionally, due to the presence of Texturing, TMI, was not able to determine in a Cement Board (Hardie) was utilized in such areas. IF, the substrate is not a Cement Board but, considered Gypsum based, the entire substrate is to be removed and replaced with the appropriate construction materials

Second Floor

All Interior & Exterior Wall Systems (Positively Pressurized via Unbalanced Attic Ventilation & Unsealed Water Resistive Barrier associated with the Exterior Cladded Wall Systems of the home)

First Floor

All Interior & Exterior Wall Systems (Positively Pressurized via Unbalanced Attic Ventilation & Unsealed Water Resistive Barrier associated with the Exterior Cladded Wall Systems of the home)

Sub-Flooring

Between the First & Second Floor (Positively Pressurized via Unbalanced Attic Ventilation & Unsealed Water Resistive Barrier associated with the Exterior Cladded Wall Systems of the home)

Indirectly Affected Areas to be remediated:

All Rooms/Areas, other than the aforementioned Directly Affected Areas, including the Attic(s), HVAC System(s) Entirety, Entire Home, etc. (Approximated Drywall Removal 12,000 - 15,000 sq. ft. / Approximated Flooring Removal 3,000 -3,300 sq. ft.)

Applicable to All Aforementioned Areas of Remediation

Interior Wall Systems / Both Sides of the Wall

Remove all drywall, located within any Directly or Indirectly Affected Area(s), starting from the floor and ending at the wall system's vertical extent. This directive also applies to the garage area's Interior Wall System(s).

Exterior Wall Systems / Interior Facing Drywall Only

Remove and discard all drywall and/or any insulation which may be present, located within any Directly or Indirectly Affected Area(s), starting from the floor and ending at the wall system's vertical extent. This directive also applies to the garage area's Exterior Wall Systems(s).

Ceiling Areas

Remove and discard all drywall, associated with a ceiling and located within any Directly or Indirectly Affected Area(s), throughout the entire home and garage area.

Attic Areas

Any/All Attic Insulation is to be removed and discarded. This directive applies to all attic areas associated with this home.

Floor Coverings

Any/All Carpeting, Tiled & Wood Flooring, located within any Directly or Indirectly Affected Area(s), is to be removed and discarded (including padding, tack strips, bonding agents, vapor barriers, mastics, etc.). Baseboards and Trim, located within any Directly or Indirectly Affected Area(s), are to be removed and discarded along with any wall coverings (i.e. wall paper, tile, etc.) and batten insulation (if present).

Fixtures & Appliances

All Fixtures and Appliances located within any Directly or Indirectly Affected Area(s), will need to be removed and discarded. All Electrical Receptacles & Light/Fan/Audio/Home Control Receptacles within any Directly or Indirectly Affected Area(s): apply suction directly to the receptacles once the circuit supply power to each receptacle has been powered down. The MRC shall remove and discard all surface, flush and recess-mounted electronic controls, light fixtures, and ceiling fans.

A supplemental removal cut shall be conducted within the Directly Affected Area(s) if suspected/visible mold growth and/or visible water stains/damage/rot is observed within 24 inches of the/any previous removal cut or anywhere within the Directly Affected Area(s). Any mold contaminated drywall, exposed gypsum sheathing or insulation found inside the/any other miscellaneous/adjacent wall cavities needs to be removed and disposed of.

If wooden materials are wet or contain elevated moisture content(>15.0% Moisture Content), remove and discard. Any/All wood rot must be removed and discarded.

Once, gross demolition has been properly executed, all vertical, horizontal and diagonal wooden structural framing surfaces throughout the entire structure are to be Wet-Sanded to a depth of one sixteenth (1/16) of an inch on all accessible facets; this directive is to be followed by thoroughly HEPA Vacuuming and Wet-Wiping (utilizing a damp microfiber cloth) the entire structure from within. If, visible mold growth/stains or water damage/stains exist once the initial 1/16th of an inch has been sanded from a wooden surface, then an additional 1/16th of an inch is to be sanded away. If, after the second 1/16 of an inch of sanding occurs, visible mold growth/stains or water damage/stains exist, gross removal of the wooden member is to be performed. This directive also applies to all wooden sub flooring.

After all Affected Areas are thoroughly inspected for mold or stains caused by mold growth and/or water damage, the air envelope of the Entire Home, Attic Areas and Garage, is to be scrubbed (cleaned) with HEPA air filtration units for a time sufficient for the air to be deemed clean (per manufacturer's performance ratings). TMI recommends a minimum of 100 air changes per containment and 48 hrs of scrubbing for the air envelope of the home, attic and garage areas to be properly cleaned.

Throughout the remediation process, until clearance testing results are provided by TMI, or a Licensed Mold Assessment Consultant; a/multiple dehumidifier(s) will need to be implemented on-site throughout the entire Home, Garage and Attic Areas in order to maintain levels of relative humidity between 30% - 50%. This is mainly due to the fact the Home's HVAC System will be absent for a period of time during its remediation. The amount of dehumidification equipment will be decided upon by the Mold Remediation Contractor as long as the humidity levels stay within the relative humidity parameters of this protocol.

HVAC System(s)

The entire ducting system, for the HVAC System, associated with this Home, is to be removed and discarded. The Air Handler Units/ Furnaces(s) along with any other associated accessory or component (boots, supply air registers, return air/supply distribution chase(s)/ plenum(s), transitions, heater box(s), evaporator coil(s), etc.) present within the home's air envelope or attic/crawl space areas, are to also be removed and discarded. Ensure a Licensed HVAC Technician evacuates all freon associated with each HVAC System prior to remediation of each HVAC System.

All provisions of the Mold Assessment and Remediation Administrative Rules apply regarding minimum work practices and procedures for mold remediation apply. Use of antimicrobial coatings, fungi stats, and fungicides must be applied by licensed applicators depending on whether the substance application is regulated. The applicator must provide a Material Safety Data Sheet (MSDS) to the Home Owner(s) as required by the OSHA Hazard Communication Standard (29 CFR 1919.1200). The Home Owner(s) must have agreed to the application, and is/are required to notify building occupants in potentially effected areas prior to the application process; additionally, if the Home Owner(s) agree to a chemically based product's application, an amendment to this protocol must be provided (if, agreed upon by the MAC) due to the strict requirement of this Protocol that chemically-based products not be used. If the HVAC system needs modification, the modification shall be performed only by a person whom is licensed in the State of Texas as provided under the Texas Occupations Code.

- SS/SP Guidelines - - (Settled Spores / Small Particle) - Procedural

Decontamination of Items/Contents

Items/Contents within the Air Envelope of the Entire Home & Attic Area(s) are to be removed from the Affected Areas. Only, Trained Professional Mold Remediation Contractors, are to perform the remediation of any/all items/contents. **If, ANY Items/Contents remain within the Home, Garage or Attic Area(s) on the day of the initial Post Remediation Assessment/Clearance, TMI will not continue the assessment and the project will not pass.**

Temporary Storage (within a climate-controlled environment/location) The MRC will provide any/all necessary storage space needed to facilitate the mold remediation project. All associated costs will be the financial responsibility of the MRC. Both, the MRC and the Home Owner(s), will have identical but separate keys, for accessing any on/off-site storage unit/area. An on-site "cleaning room" may be utilized to facilitate the decontamination of items/contents that are able to be salvaged. This "cleaning room" must be equipped with proper climate controls, air filtration, as well as, decontamination chambers & air-locks.

Discard **Porous Items** with suspect/visible mold growth/spores/mycotoxins/hyphae and/or water damage that cannot be cleaned. With any item(s) that are retained by item's owner, documentation supporting each item's level of cleanliness will need to be supplied to them. The safest way to ensure contaminated items will not affect an individual in the future is to remove and discard all items.

Non-porous contents are to be wrapped in plastic and packaged for transport to an off-site facility for cleaning and restoration. Contents being packed-out for transport shall be HEPA vacuumed or wet-wiped with a damp microfiber cloth (at a minimum) prior to transport of an off-site facility. After off-site decontamination has taken place, contents are to be repackaged to prevent mold growth/contamination and stored in an uncontaminated, climate-controlled environment until remedial activities have been achieved successfully (refer to the aforementioned "Temporary Storage" section).

Methods for removing spores from **Non-Porous Surfaces** require wet wiping with a damp microfiber cloth utilizing a cleaning agent such as soapy water or an equivalent. However, if a Non-Porous item's surface contains many facets or is complex by design, discarding the item is recommended.

Porous Materials with visible microbial growth or suspected contamination due to settled spores/mycotoxins/hyphae, that cannot be properly cleaned, must be disposed of.

Clothing Items, Shoes, Boots, Furs, Etc. must be disposed of as it is considered best practice when ensuring cross-contamination does not occur.

Special cleaning procedures are to be utilized when restoring **Porous Items of Great Sentimental Value**, or any item in general, at the Home Owner's request. These items, if retained by the Home owner(s), will require documentation supporting their level of cleanliness, or they are to be considered "contaminated" and should not re-enter the Home or any structure the Home Owner occupies due to the risk of cross-contamination. (Scrap Books, Photo Books, Pictures, Statues, Keep-Sakes, Ornaments, All Books, Arts & Crafts, Antiques, Furniture, Clothing, Movies, Games, Collectibles, Hobby Paraphernalia, All Items in General, etc.)

Upholstered Items must be disposed of; i.e. - (Mattresses, Boxsprings, Couches, Recliners, Pillows, etc.)

Electronic Equipment with visible mold growth or suspected contamination due to settled spores/mycotoxins/hyphae, that cannot be properly cleaned, must be disposed of. This covers all electronic equipment and appliances throughout the entire home, garage and attic areas. (Hair Dryer(s), Ovens, Microwaves, Computer(s), Television(s), Tablets, Laptops, Gaming Consoles, Etc.)

The MRC shall not retain items/contents, belonging to the Home Owner(s), for any period of time after "Clearance" has been issued. In other words, "Clearance" is not able to be achieved until any/all items/contents (which have been certified to be free of spores/mycotoxins/hyphae) have been returned to the Home unless arrangements have been made by the Home Owner(s) which requires the contents to remain in storage or be transported elsewhere. A Pre-Determined number of months, for storage of the items/contents, should be decided upon upfront. A Minimum of 6 Months Storage Time typically is ample time for a project this size; however, if the project experiences unforeseen challenges, additional storage time may be necessary.

To Conclude:

TMI is able to conclude more than 25 contiguous square feet of mold is to be remediated; therefore, notifying the Texas Department of Licensing and Regulation (TDLR) is necessary.

Important Reminders:

- A Mold Remediation Work Plan must be produced before any remedial activities begin
- Encapsulation will NOT be used on this remediation project
- Chemically-Based Products May NOT Be Used on this remediation project
- Ensure all Visible/Probable Mold Growth/Stains are properly remediated
- Ensure all Water Damage/Stains are properly remediated
- Ensure All Wood Rot is properly remediated
- Ensure All Dust & Debris throughout, all Directly Affected Areas, are thoroughly HEPA Vacuumed and Wet-Wiped until Visibly Clean
- Dehumidifiers must maintain 30% - 50% Relative Humidity Levels within the all necessary Area(s)

High Quality Photos will have to be taken before, during, and after remediation begins. Please verify the clarity & exposure of the photos taken before assuming they are of good quality. This step is part of one of the most important steps of this project... which is - Clear Communication and Transparency.

Unforeseen challenges may present themselves; as long as everyone is informed in real time, we will all have the same expectations leading to the same goals.

Unauthorized people are not allowed to enter the Home once remediation begins. The Mold Assessment Consultant, authorizes any/all people to enter the Home, once remediation begins.

*A Biocide can only be used, if it is directed within this protocol & approved by the Home owner(s), after they have had time to review an MSDS/SDS provided by the mold remediation contractor. If the Home owner(s) declines the use of a biocide or any other product's application, alternative methods may be adopted as long as communication with all involved parties is practiced. An MSDS/SDS needs to be provided and approved by the Owner/Occupant & MAC for any chemical application proposed during any stage of this remediation project.



“Clearance Criteria”
associated with each
Post Remediation Assessment/Clearance Attempt

Deactivate all Air Scrubbers a minimum of 48 hrs before any Post Remediation Assessment/Clearance Attempt. The Air Scrubbers must remain deactivated until, TMI, has conducted the Post Remediation Assessment/Clearance; as the machines will artificially influence the Clearance Results, therefore, producing a False-Negative.

Any/All Walk-In Containments must be in place or “Clearance Testing” will not be performed. Negative Air Pressurization must be sustained until the project has achieved “Clearance”. Dehumidifiers must remain in operation in order to maintain proper humidity levels.

Ensure any authorized or unauthorized personnel not enter the Areas of Containment or Home on the day in which a Post Remediation Assessment/Clearance has been scheduled. The MAC authorizes any/all personnel entry on this project.

The following sequence is followed for achieving clearance:

Upon notification by the mold remediation contractor that the entire remediation project is ready for inspection, TMI will visit the affected area(s) and perform a Visual & Procedural Inspection and; IF, both Visual and Procedural Inspections, “Pass”, then representative Analytical sampling will be conducted by TMI. Once, Analytical Sampling results satisfy the requirement of the “Clearance Criteria”, re-instatement of new building materials may begin. This mold remediation project is not considered complete until the MAC endorses a Certificate of Mold Damage Remediation (Form MDR-1).

- I. Visual Inspection: A visual inspection is performed following notification that the area has been cleaned. The inspection includes verification of:
 1. Remediation of materials, surfaces & items/contents as stated in this Mold Remediation Protocol (were the right amount and areas remediated)?
 2. Are there any musty/mildew odors present?
 3. Are there any mold/water stained or damaged materials present? Are there any elevations in moisture content?
 4. Is there any dust on floors, within nooks/crannies or other horizontal/diagonal/vertical surfaces?
 5. Is the containment system intact (i.e. negative air pressurization, scrubbers turned off, etc.)?
 6. Has the underlying cause of the mold been identified and mitigated.
 - (a) If any of the above items fail, the contractor will be notified to re-clean, perform additional surface treatment, etc.
 7. If 48 hours / or 100 air changes, has not elapsed, following final cleaning, then TMI will not sample until the required amount of HEPA scrubbing has occurred.
- II. Sampling: For each directly or indirectly affected area, the following sampling **may/will** be performed.
 - A. Air – For all rooms/areas, spore trap samples (Air-o-cell/Allergenco) will be obtained. Depending upon the number of rooms/areas present, samples will be taken from major rooms/areas. One (1) outside air reference sample will also be obtained.
 1. Acceptance Level:
 - a) Total Spore counts should be less than 25% of the outside reference and;
 - b) The types of mold within the Home are similar to the ones identified in the Outside reference and;
 - c) Water indicator molds (i.e. aspergillus/penicillium, chaetomium, ascospores, pithomyces, etc.) are not acceptable and;
 - d) No air-borne stachybotrys / memnonniella (few 1 or 2 spores are not acceptable).
 - B. Surface - The surfaces (floors, walls, and ceilings, behind wallboard and above cut lines) **may/will** be sampled for mycotoxins, spores, hyphae utilizing a sterile wipe, swab or tape lift(s) (proprietary, bio-tape or traditional method(s)).
 - a) Acceptance Level – The lab reports in relative abundance when referencing surface sampling utilizing bio-tape or traditional tape lift and swab sampling methods and, also reports the genus of fungal structures identified; whereas, any result greater than “Rare” is unacceptable if obtained by tape lift or swab.
 - (1) Water indicator molds or toxigenic molds combined – A few to < 10 fungal structures may be acceptable if obtained by tape lift or swab.
 - (2) Common environmental molds (cladosporium, basidiospores) – up to 100 fungal structures may be acceptable if obtained by tape lift or swab.

- (3) Hyphal Fragments – minor presence if obtained by tape lift or swab.
- b) Acceptance Level - If utilizing a sterile wipe for mycotoxin sampling the results must be lower than the limit of detection for reporting.
- C. Items/Contents - Any/All Items/Contents which have been declared by the MRC to be free of mold post remedial attempt; TMI, will sample EACH INDIVIDUAL Item/Content in order to verify such declaration by the MRC. The Baseline or Control for such sampling will be a Net Zero for ANY ALL MOLD GENERA/SPECIES

Passed Clearance Report

Following acceptable findings on the final inspection and clearance sampling, a written statement of clearance will be forwarded to the client at the conclusion of the Project by the MAC. This final clearance report may/will contain the following information:

- Description of any relevant worksite observations if notable
- Type and location of all measurements made and samples collected if found to be necessary (may be sent before clearance testing begins)
- All data obtained at the project including temperature, humidity, surface moisture readings, etc. (if notable / discretion of MAC)
- Results of analytical evaluation of samples taken if found necessary by the MAC (Verbally, Written, etc.)
- Copies of relevant photographs for the project.
- A statement that the project has passed the clearance criteria described within this mold remediation protocol.

Other Requirements At Completion

- Documentation supporting all sources of water intrusion have been properly repaired.
- Documentation supporting the structural design of the home's attic area will not compromised the mechanical system(s) designed to condition the home's air envelope; also, the design of the home's attic ventilation will not allow for air infiltration to occur.
- The licensed Mold Remediation Contractor (MRC), shall "Guarantee Clearance" to the Home Owner(s) for the remediation project. Additionally, the MRC may not adjust its initial bid/quote which earned the right to perform this remediation project; unless, during the course of remediation, unforeseen issues arise which require additional work not included within the original mold remediation protocol.
 - Ex: The Home owner(s) will be financially responsible for the first clearance attempt. If, the project failed to meet the "Clearance Criteria" in ANY way on the first ATTEMPT, any/all additional ATTEMPTS at achieving clearance, will be the financial responsibility of the Mold Remediation Contractor where the Mold Remediation Contractor will reimburse the Home Owner(s) for settling any clearance attempts with TMI after the initial (1st) Clearance Attempt. Any/All Clearance Attempts must be settled by the Home Owner(s) on the day of the Clearance Attempt unless other arrangements to settled monies owed have been arranged and agreed upon by TMI prior to any services provided.
 - The Home Owner(s) are responsible for settling all monies owed to TMI for Clearance Attempts but will be reimbursed or given a credit toward their "balance due" by the MRC for any/all payments made to TMI, applicable to any Attempt at Clearance with exception to the First/Initial Attempt at Clearance - during settlement of any/all monies owed to the MRC upon completion of the Mold Remediation Project. If, the Home Owner(s) paid the MRC's contract amount upfront and/or in-full, the MRC will issue any/all reimbursements to the Home Owner(s) for settling any reimbursements owed to the Home Owner(s) as required within this protocol. Occurrences outside of these aforementioned parameters are to be settled between the Home Owner(s) and the MRC; TMI, will not be responsible for unpaid balances or monies owed.

Certificate of Mold Damage Remediation

After remediation is complete, the Mold Assessment and Remediation Administrative Rules (295.327(b)(1) and (2) in part) require the licensed mold assessor to provide to the licensed mold remediation contractor a Certificate of Mold Damage Remediation which includes the following:

“(1) a statement by a licensed mold assessment consultant (not the licensed mold remediation contractor) that based on visual, procedural, and analytical evaluation, the mold contamination identified for the project has been remediated as outlined in the mold remediation protocol”; and

“(2) a statement on the certificate that the underlying cause of the mold has been remediated, if the licensed mold assessment consultant determines that the underlying cause of the mold has been remediated so that it is reasonably certain that the mold will not return from that same cause.

The licensed mold remediation contractor shall then provide the Certificate of Mold Damage Remediation to the property owner according to 295.327(b) and, according to 295.327(d), if a property owner sells the property, the property owner shall provide to the buyer a copy of each remediation certificate that has been issued within five (5) years immediately prior to the property sale date.

The Top section of this certificate is signed by a licensed Mold Assessment Consultant and a Mold Remediation Contractor for projects performed under the Mold Assessment and Remediation Administrative Rules.

The Bottom section of the certificate is signed by a licensed Mold Assessment Consultant on mold remediation projects that may be legally performed by unlicensed persons, certifying the property does not contain evidence of mold damage.

Limitations

Affected areas have been identified by visual inspection and/or according to analytical results. Other affected areas may exist which could be discovered only during renovation or demolition activities. This document was written for the site as is and does not take into account any future changes. The contents of this document will not be discussed with any other individuals without your written consent. This document is for your use exclusively. The use of this document by third parties, owners, sellers, realtors, contractors, or any other persons is expressly forbidden unless, when it pertains to this project and permission is granted by TMI/Josh Rachal. If additional information becomes available, Texas Mold Inspectors reserves the right to review and supplement this document as warranted. Under no circumstances does Texas Mold Inspectors accept responsibility for conditions at the site, whether those conditions are identified in this document or not, to the extent that Texas Mold Inspectors neither caused nor contributed to the conditions. Any third party using this document should assume no warranty or guarantee of any kind. The information presented in this document, including conclusions drawn from this information, is not and should not be taken as legal advice.

This document must be read and considered in its entirety. It is the responsibility of the Home Owner(s) to disclose all known issues of prior water intrusion events and/or mold/microbial contamination issues. The Consultant can not assume responsibility for the investigation of any unknown issues, including asbestos & lead, not brought to our attention prior to the commencement of the/any assessment. If elevated moisture content is not found to be present at the time of any/all assessments, it does not definitively conclude that elevated moisture content did not exist within the Home's Wall Systems or, does not exist on the back side of a wall where the moisture meter can not reach for analyzation/detection. Once a water intrusion event has time to evaporate it will be undetectable on any moisture detection device.

This document is based on a limited investigation of conditions in existence at the time of the site inspection(s). The Consultant nor, Texas Mold Inspectors, is not able to state with certainty, the extent of water damage and/or mold contamination and infestation beyond those specifically stated herein. Therefore, this Protocol may be supplemented as new information is obtained during the course of remediation.

HAZARDOUS MATERIALS DISCLOSURE BY CLIENT

The Mold Assessment and Remediation Administrative Rules require the Consultant to inquire of the Client whether hazardous materials, including lead-based paint and asbestos, are present in the project areas. **The Client is requested to provide the Consultant with that information at his/her convenience, if such hazardous materials are present in the project area(s), as long as it is revealed before commencement of remedial activities.**

SAFETY

The remediation contractor is responsible for the safety of all people on the job site until written clearance has been given and all equipment and containment(s) are removed from the job site.



CONSUMER MOLD INFORMATION SHEET



State rules require licensed mold assessors and remediators to give a copy of this Consumer Mold Information Sheet to each client and to the property owner, if not the same person, before starting any mold-related activity [16 TAC 78.70].

How does Texas regulate businesses that do testing for mold or that do mold cleanup?

The Department of Licensing and Regulation (TDLR) regulates such businesses in accordance with the [Texas Occupations Code, Chapter 1958](#). Under the **Texas Mold Assessment and Remediation Rules (rules)** ([16 Tex. Admin. Code, Chapter 78](#)), all companies and individuals who perform mold-related activities in Texas must be licensed by TDLR unless exempt. (See Page 2 regarding owner exemptions.) Individuals must meet certain qualifications, have required training, and pass a state exam and criminal history background check in order to be issued a license. Applicants for a mold remediation worker registration must have training and pass a criminal history background in order to be registered by TDLR. Laboratories that analyze mold samples must also be licensed and meet certain qualifications. The rules set minimum work practices and procedures and also require licensees to follow a code of ethics. To prevent conflicts of interest, the rules also prohibit a licensee from conducting both mold assessment and mold remediation on the same project. While the rules regulate the activities of mold licensees when they are doing mold-related activities, the rules do not require any property owner or occupant to clean up mold or to have it cleaned up.

How can I know if someone is licensed?

A licensed individual is required to carry a current TDLR license certificate with the license number on it. A search tool and listings of currently licensed companies and individuals can be found at: <https://www.tdlr.texas.gov/LicenseSearch/>.

What is “mold assessment?”

Mold assessment is an inspection of a building by a **mold assessment consultant** or **technician** to evaluate whether mold growth is present and to what extent. Samples may be taken to determine the amount and types of mold that are present; however, sampling is not necessary in many cases. When

mold cleanup is necessary a licensed mold assessment consultant can provide you with a **mold remediation protocol**. A protocol must specify the estimated quantities and locations of materials to be remediated, methods to be used and clearance criteria that must be met.

What is meant by “clearance criteria?”

Clearance criteria refer to the level of “cleanliness” that must be achieved by the persons conducting the mold cleanup. It is important to understand and agree with the mold assessment consultant prior to starting the project as to what an acceptable clearance level will be, including what will be acceptable results for any air sampling or surface sampling for mold. There are no national or state standards for a “safe” level of mold. Mold spores are a natural part of the environment and are always present at some level in the air and on surfaces all around us.

What is “mold remediation?”

Mold remediation is the cleanup and removal of mold growth from surfaces and/or contents in a building. It also refers to actions taken to prevent mold from growing back. Licensed **mold remediation contractors** must follow a mold remediation protocol as described above and their own **mold remediation work plan** that provides specific instructions and/or standard operating procedures for how the project will be done.

Before a remediation project can be deemed successful, a mold assessment consultant must conduct a **post-remediation assessment**. This is an inspection to ensure that the work area is free from all visible mold and wood rot, the project was completed in compliance with the remediation protocol and remediation work plan, and that it meets all clearance criteria that were specified in the protocol. The assessment consultant must give you a **passed clearance report** documenting the results of this inspection. If the project fails clearance,



further remediation as prescribed by a consultant will be necessary.

What is a Certificate of Mold Damage Remediation?

No later than the 10th day after a mold remediation project stop date, the remediation contractor must sign and give you a **Certificate of Mold Damage Remediation**. The licensed mold assessment consultant who conducted the post-remediation assessment must also sign the certificate. The consultant must truthfully state on the certificate that the mold contamination identified for the project has been remediated and whether the underlying cause of the mold has been corrected. (That work may involve other types of professional services that are not regulated by the mold rules, such as plumbing or carpentry.) Receiving a certificate documenting that the underlying cause of the mold was remediated is an advantage for a homeowner. It prevents an insurer from making an underwriting decision on the residential property based on previous mold damage or previous claims for mold damage. If you sell your property, the law requires that you provide the buyer a copy of all certificates you have received for that property within the preceding five years.

How is a property owner protected if a mold assessor or remediator does a poor job or damages the property?

The rules require licensees to have commercial general liability insurance in the amount of at least \$1 million, or to be self-insured, to cover any damage to your property. Before hiring anyone, you should ask for proof of such insurance coverage. You may wish to inquire if the company carries additional insurance, such as professional liability/errors and omissions (for consultants) or pollution insurance (for contractors), that would provide additional recourse to you should the company fail to perform properly.

How is my confidentiality protected if I share personal information about myself with a company?

Under the code of ethics in the rules, to the extent required by law, licensees must keep confidential any personal information about a client (including medical conditions) obtained during the course of a mold-related activity. Further, you may be able to negotiate a contract to include language that other personal information be kept confidential unless disclosure “is required by law.” However, licensees are required to identify dates and addresses of projects and other details that can become public information.

How do I file a complaint about a company?

Anyone who believes a company or individual has violated the rules can file a complaint with TDLR. For information on this process, call 1-800-803-9202, or complete the online complaint form at <https://www.tdlr.texas.gov/complaints/>.

Can property owners do mold assessment or remediation on their own property without being licensed?

Yes. A homeowner can take samples for mold or clean it up in the home without a license. An owner, or a managing agent or employee of an owner of a residential property is not required to be licensed, **unless** the property has 10 or more residential dwelling units. For non-residential properties, an owner or tenant, or a managing agent or employee of an owner or tenant, is not required to be licensed to do mold assessment or remediation on property owned or leased by the owner or tenant, **unless** the mold contamination affects a total surface area of 25 contiguous square feet or more. Please refer to 16 TAC §78.30 for further details on exceptions and exemptions to licensing requirements.

For more information about mold and the Texas Mold Assessment and Remediation Rules, contact:

Texas Department of Licensing and Regulation

Mold Assessors and Remediators

PO Box 12057, Austin, TX 78711

Phone: 512-463-6599 or 800-803-9202

www.tdlr.texas.gov

