Health & Safety Department

(Environmental Health Section)

Document Title	**Technical Guideline for Mold Remediation and Control**
Document Code	DM-HSD-GU142-MRC2
Version #	V1
Issue Date	12th May 2025
Superseded Issue Date	New

Version #	Date	Prepared/reviewed by	Modifications summary
V 1.0	12th May 2025	Environmental Health Section	Issue - Version 1

Table of Content

1. Introduction

Mold growth in indoor environments presents serious health hazards, contributes to structural deterioration, and can result in considerable economic losses if not properly addressed. This technical guideline provides a comprehensive framework for the identification, prevention, remediation, and ongoing management of mold contamination across various types of buildings and facilities within the Emirate of Dubai.

The guideline promotes a proactive and preventive approach by addressing the root causes of mold growth—primarily moisture, dampness, and flooding. It emphasizes the importance of continuous maintenance, routine inspection, and occupant awareness as essential elements in mold prevention and control. To support implementation, practical tools such as checklists, templates, and reference materials are provided in the appendices.

Developed in accordance with internationally accepted best practices and aligned with applicable local regulations, the guideline ensures a consistent and effective approach to mold control. It is intended for use by building owners, facility managers, contractors, and environmental health professionals responsible for managing indoor environmental quality in residential, commercial, institutional, and public settings.

The document outlines the following key components:

- Preventive measures and maintenance strategies to control moisture and limit mold development.
- Remediation procedures to enable safe and effective mold removal.
- Post-remediation verification (PRV) protocols to confirm restoration of safe indoor conditions.
- Health and safety considerations to protect remediation personnel and building occupants.
- Emergency response protocols for addressing significant mold contamination and water intrusion incidents.

2. Legal Regulatory Framework

This guideline prepared based on the Dubai Municipality's regulations on Local order law No.11 for 2003, and its Executive Regulations, on public health and community safety in the Emirate of Dubai, IAQ and building safety.

2. Purpose

The Mold Remediation and Control Guideline aims to provide a comprehensive and systematic approach to identifying, assessing, and remediating mold in various building environments. The primary objective is to ensure the health and safety of building occupants by maintaining high indoor air quality (IAQ) and minimizing health issues and structural damage associated with mold. This guideline serves as an essential resource for building owners, facility managers, remediation professionals, and regulatory bodies in Dubai, ensuring that mold issues are managed effectively and in accordance with established regulatory standards.

3. Scope

This guideline applies to residential, commercial, industrial, and related public buildings in Dubai. It outlines the responsibilities of various stakeholders, such as building owners, occupants, facility managers, and remediation professionals.

4. Definitions

Term	Definition and meaning
Mold	A type of fungus that grows in multicellular filaments called hyphae, commonly found in damp and poorly ventilated areas.
Mold Remediation	The process of identifying, removing, cleaning, and preventing mold contamination in buildings and premises.
IAQ (Indoor Air Quality)	The quality of the air inside and around buildings, relating to the health and comfort of occupants.
HVAC (Heating, Ventilation, and Air Conditioning)	Systems used to regulate indoor temperature, humidity, and air quality.
Dampness	Excessive moisture in building materials or indoor air caused by leaks, condensation, or flooding, which can lead to mold growth and other indoor air quality issues.
Moisture Intrusion	The unintended presence of water or humidity within building materials or indoor environments, often caused by leaks, flooding, or condensation
Post-Remediation Verification (PRV)	The process of inspecting and testing a remediated area to confirm that all mold contamination has been effectively removed and that the environment is safe for occupancy.
Containment	A physical barrier, typically made of polyethylene sheeting, used during mold remediation to isolate affected areas and prevent the spread of mold spores to uncontaminated spaces.
HEPA (High-Efficiency Particulate Air)	A type of filter capable of trapping at least 99.97% of airborne particles 0.3 microns or larger in diameter. HEPA filters are used in air scrubbers and vacuums during mold remediation.

5. Background and Importance

issues such as respiratory problems, allergic reactions, and other adverse health effects. For example, prolonged exposure to mold can exacerbate asthma and other respiratory issues, particularly among vulnerable populations such as children, the elderly, and individuals with weakened immune systems. Additionally, mold can cause significant structural damage to buildings, leading to high repair costs and decreased property values.

Given the hot and humid climate of Dubai, buildings are more susceptible to mold growth. Therefore, implementing effective mold management practices is essential to mitigate health risks and maintain the structural integrity of buildings. This guideline integrates internationally recognized standards and local regulations to provide a comprehensive framework for mold remediation. By adhering to these guidelines, stakeholders can ensure prompt and effective mold removal, contributing to the protection of occupant health and the safety of buildings.

6. Identification and Assessment of Mold

6-1 Signs of Mold Growth:

Visual Indicators:

- Discoloration and Staining: Mold often appears as black, green, white, or other colored spots and stains on walls, ceilings, floors, and furnishings. Look for discoloration in areas prone to moisture, such as bathrooms, kitchens, basements, and around windows ...etc.,.
- Surface Growth: Mold can present as fuzzy or slimy patches on various surfaces. It is commonly found on drywall, wood, wallpaper, insulations, and upholstery.
- Water Damage: Signs of water damage, such as peeling paint, bubbling wallpaper, and warped wood, are clear indicators for mold presence.

Olfactory Indicators:

- Musty Odors: Mold often produces a distinct musty or earthy smell. Persistent odors, especially in areas that have experienced water damage or high humidity, strongly indicate hidden mold.

Hidden Mold:

- Concealed Growth: Mold can grow behind walls, under floors, and in HVAC systems. Look for signs such as increased allergy symptoms among occupants, unexplained stains on walls or ceilings, and persistent musty odors.

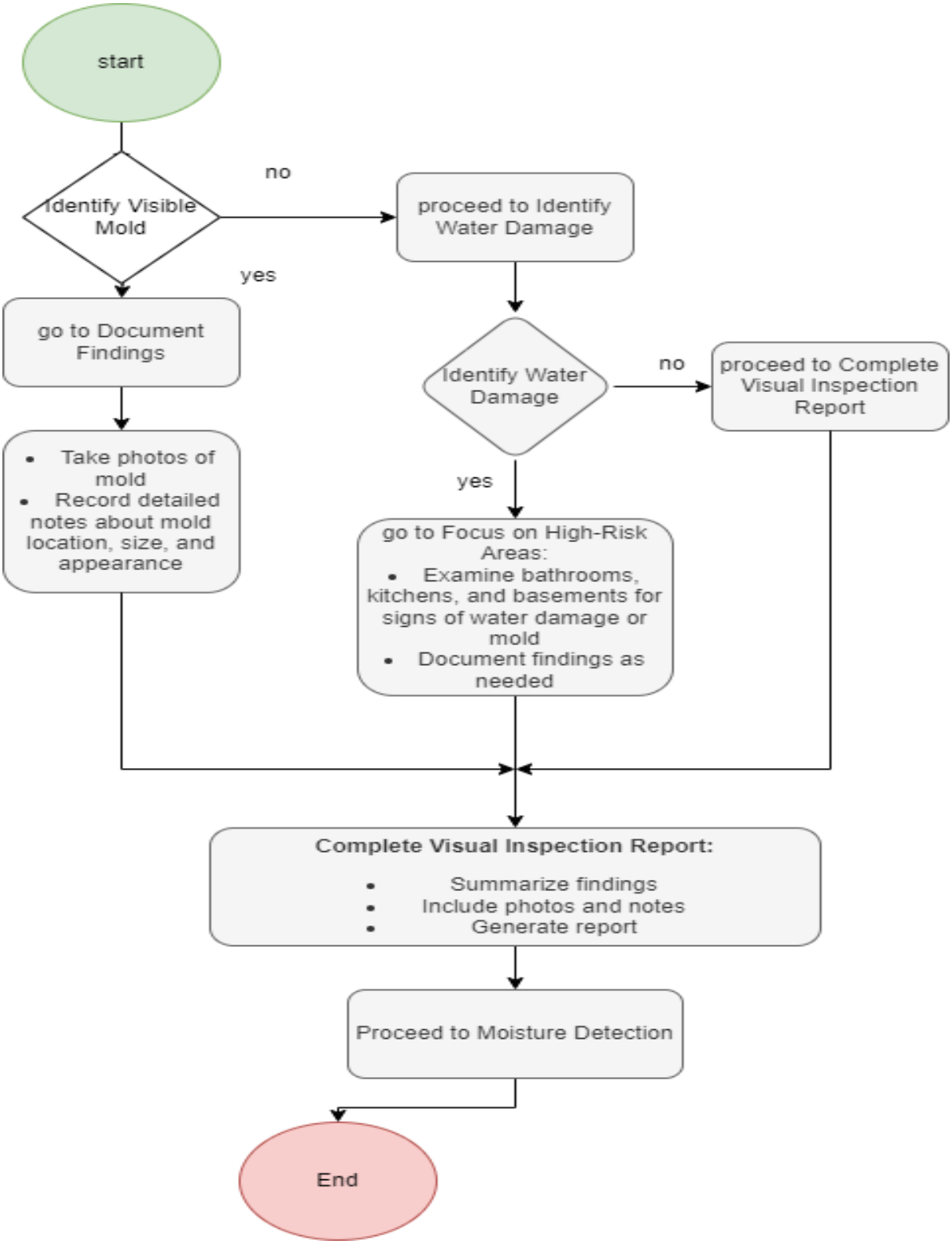
6-2 Mold Inspection and Testing:

Effective mold inspection and testing are essential components of mold remediation efforts. Accurate identification and comprehensive assessment ensure a complete understanding of mold issues and their resolution, thereby minimizing health risks and structural damage. This section outlines the detailed procedures for mold inspection and testing by owners or representative.

Inspection procedures:

- **Visual Inspection:**
  conduct a thorough visual inspection of the entire building, focusing on areas prone to moisture and poor ventilation. The inspection should cover all visible surfaces, including walls, ceilings, floors, furnishings and HVAC systems. Use flashlights, magnifying glasses to examine less accessible areas, and look for signs of water damage, such as discoloration, staining, peeling paint, and bubbling wallpaper. **Appendix-1, Appendix-2**
- **Document Findings Inspection:**
  Use a standardized form to document findings, including photographs and detailed descriptions of the affected areas. Be sure to note the extent of visible mold growth and any signs of water damage.
- **Moisture Meters Inspection:**
  Utilize moisture meters to detect moisture levels in building materials. High readings indicate the potential for mold growth, so these readings should be recorded and compared to industry standards.
- **Infrared Cameras Inspection:**
  These cameras assist in detecting moisture behind walls and under floors without the need for invasive procedures, providing valuable information about moisture sources.
- **Endoscopes/Borescopes Inspection:**
  The use of These tools allows for visual inspection inside walls, ceilings, and other hard-to-reach areas, reducing the need for extensive demolition and increasing the efficiency of the inspection.

Diagrams and Flowcharts for Stages of Inspection and Testing:



Testing Methods:

- **Air Sampling:**
  Air samples are collected to measure the concentration of mold spores in the indoor environment. Indoor samples are compared with outdoor samples to identify potential mold issues. Impact sampler devices, cassette samplers, or spore traps are used for this purpose.

- **Surface Sampling:**
  Samples are collected from surfaces using tape lifts, swabs, or bulk samples. This method helps identify the type and concentration of mold present on surfaces.

- **Bulk Sampling:**
  This Involves taking pieces of contaminated material either drywall or carpet for comprehensive laboratory analysis.

Samples are sent to laboratories accredited by accredited by Emirates International Accreditation Centre (EIAC) under **ISO/IEC 17025** for environmental testing aiming to identify the species of mold and assess the extent of contamination.

Types of Analysis:

- Microscopic Examination: : This is used to identify mold spores and microscopic structures directly from samples.
- Culture Analysis: In this process mold is cultivated from the samples to identify species and assess viability.
- Mycotoxin Testing: This is used to detect the presence of mycotoxins produced by certain mold species.
- Interpretation: Laboratory reports should include detailed findings, such as mold species, spore counts, and necessary recommendations for remediation.

6-3 Risk Assessment:

Assessment Criteria:

- Extent of Water Damage: The area affected by water damage should be assessed, as mold often follows water intrusion. Larger areas of water damage typically result in more extensive mold growth.
- Type of Mold: Identify the species of mold present, as some types (such as Stachybotrys chartarum, commonly known as black mold) are more hazardous than others.
- Size of the Affected Area: Classify the affected area as small (less than 10 square feet), medium (10-100 square feet), or large (over 100 square feet). This classification helps determine the level of response required.

Categorization:

a) Level 1 (Small): Less than 10 square feet. Typically, this can be handled by building maintenance staff with necessary precautions.

b) Level 2 (Medium): Between 10 and 100 square feet. Professional remediation may be required depending on the building type and occupancy.

c) Level 3 (Large): More than 100 square feet or significant contamination of HVAC systems or large-scale water damage. Professional remediation is necessary in these cases.

Risk Management:

- Health Risk Evaluation: Consider the health risk to occupants, especially vulnerable populations such as children, the elderly, and individuals with pre-existing health conditions.
- Building Integrity: Assess the potential impact on the structural integrity of the building, as prolonged mold growth can weaken building materials and affect structural stability (according to ASHRAE standards).

7. Mold Remediation Planning

7-1 Developing a Remediation Plan

Owners or representative to creating a comprehensive mold remediation plan involves several key steps to ensure the effectiveness of the actions taken while minimizing health risks and structural damage.

1. **Initial Assessment:**
   - Conduct a thorough assessment of the mold contamination to determine its extent and the affected areas.
   - Identify the sources of moisture contributing to mold growth.
   - Document findings with photographs, sketches, and detailed notes.

2. **Scope of Work:**
   - Define the areas to be addressed and specify the boundaries of the contamination.
   - Determine the necessary remediation methods based on the extent and type of mold contamination.

3. **Methods:**
   - Select appropriate remediation methods, such as HEPA vacuuming, damp wiping, and abrasive cleaning for different types of materials and surfaces.
   - Specify effective containment methods to prevent mold spores from spreading to unaffected areas.

4. **Timelines:**
   - Establish a detailed timeline for the remediation process, including start and end dates.
   - Plan for periodic assessments to monitor progress and effectiveness.

5. **Documentation:**
   - Maintain accurate records of all actions taken during the remediation process.
   - Document the condition of the affected areas before, during, and after the remediation.
   - Prepare a final report summarizing findings, actions taken, and necessary recommendations for preventing future mold growth.

7-2 Selection of Remediation Company and Personnel

Selecting qualified and certified mold remediation professionals is essential to ensure the effectiveness and safety of the remediation process.

Company Qualifications:

1. **Certifications:**
   - Companies should hold relevant certifications from recognized organizations which determine by Local Authorities. These certifications ensure that the company follows industry standards and best practices.
2. **Trained Personnel:**
   - Ensure that remediation personnel have undergone proper training and certification. They should be knowledgeable about remediation techniques, health and safety protocols, and the use of personal protective equipment (PPE).

Personnel Qualifications:

1. **Qualifications:**
   - Remediation personnel should hold recognized certifications from local Authorities, or any alternative certifications issued by inspection institutes, as determined by local authorities.
   - Staff should receive specialized training in mold remediation techniques, as well as health and safety protocols, and the use of personal protective equipment (PPE).
2. **Ongoing Training:**
   - Ensure that remediation personnel engage in continuous education and training to stay updated on the latest industry standards and best practices.

7-3 Communication with Occupants

Effective communication with building occupants is crucial to ensure their safety and cooperation during the remediation process.

1. **Informing Occupants:**

- Provide timely and clear information about upcoming works that may affect indoor environmental conditions, including any associated health or safety considerations.
- Use multiple communication methods, such as emails, posted notices, meeting, briefings, or any suitable methods satisfying the objective to ensure all occupants are informed.

2. **Protecting Occupants:**

- Implement measures to minimize occupants' exposure to mold during the remediation process, such as temporary relocation or restricted access to affected areas.
- Provide guidance on actions occupants can take to protect themselves, such as avoiding affected areas and following proper cleaning protocols.

8. Remediation Procedures

8-1 Containment and Ventilation

Effective containment and ventilation are crucial to prevent mold spores from spreading to unaffected areas during the remediation process.

1. **Physical Barriers:**

- Use plastic sheeting and temporary walls to isolate contaminated areas from the rest of the building.
- Seal all openings, such as doors, windows, and vents, with duct tape and plastic sheeting to prevent spores from escaping.

2. **Negative Air Pressure:**

- Set up negative air machines equipped with HEPA filters to create negative air pressure in the containment area. This prevents mold spores from spreading to adjacent areas.
- Monitor air pressure periodically to ensure the continued effectiveness of containment.

3. **Ventilation:**

- Use exhaust fans and air purifiers to ventilate the containment area and reduce the concentration of airborne mold spores.
- Ensure that the exhausted air is filtered through HEPA filters before being released outside the building.

8-2 Removal and Cleaning

Safe and effective methods for the removal and cleaning of mold-contaminated materials are essential to eliminate mold and prevent recurrence.

1. **HEPA Vacuuming:**

- Use HEPA vacuums to remove mold spores and debris from surfaces. This method is particularly effective for cleaning hard surfaces, such as floors and walls.

2. **Damp Wiping:**

- Clean non-porous and semi-porous surfaces with a damp cloth or sponge soaked in a mild detergent solution. Avoid using excessive water to prevent further moisture issues.

3. **Abrasive Cleaning:**

- For heavily contaminated porous materials, such as wood and concrete, use abrasive cleaning techniques, such as wire brushing or sanding, to remove mold growth.

<u>Cleaning Techniques:</u>

1. **Salvageable Materials:**

- Clean and disinfect salvageable materials, such as furniture and fixtures, using appropriate cleaning agents. Ensure that the materials are thoroughly dried after cleaning to prevent mold regrowth.

2. **Non-Salvageable Materials:**

- Remove and dispose of materials that cannot be effectively cleaned or have been severely damaged by mold, such as drywall and insulation.

8-3 Disposal of Contaminated Materials

Proper disposal of mold-contaminated materials is necessary to prevent further contamination and comply with local regulations.

1. **Double-Bagging:**
   - Place contaminated materials in heavy-duty plastic bags. Seal the bags tightly and then place them in a second bag for added protection.
2. **Sealing:**
   - Seal the outer bag securely with duct tape to prevent mold spores from escaping during transport.
3. **Disposal:**
   - Dispose of the sealed bags in accordance with local regulations for hazardous waste. Ensure that the disposal site is approved for handling mold-contaminated materials.

8-4 Repair and Restoration

Repairing and restoring affected areas involves replacing damaged materials and following the below steps to prevent future mold growth.

1. **Replacing Materials:**
   - Replace damaged building materials (such as drywall, insulation, and carpeting) with mold-resistant alternatives. Use materials treated with mold inhibitors to reduce the risk of future growth.
2. **Restoration:**
   - Restore the affected areas to their original condition, ensuring that all necessary repairs are made to prevent moisture intrusion. This includes fixing leaks, improving ventilation, and installing dehumidifiers where necessary.
3. **Preventive Measures:**
   - Implement preventive measures (such as regular inspections and maintenance) to identify and address potential moisture issues before they lead to mold growth.

8-5 Specifications for Remediation Companies

1. **Equipment:**
   - Companies should use appropriate and well-maintained equipment, such as HEPA vacuums, negative air machines, and moisture meters, to ensure effective remediation.

2. **Health and Safety Protocols:**
   - Companies must adhere to strict health and safety protocols to protect workers and occupants. This includes using PPE, following containment procedures, and properly handling and disposing of contaminated materials.

3. **Documentation:**
   - Companies should provide comprehensive documentation of the remediation process, including assessment findings, actions taken, and recommendations for preventing future mold growth.

9. Post Remediation Verification

The purpose of post-remediation verification (PRV) is to ensure that the remediation process has been successful and that the environment is safe for use. This phase includes inspection, air quality testing, documentation, and reporting to verify the effectiveness of the remediation efforts.

9-1 Inspection and Testing

Procedures for Post-Remediation Inspection and Air Quality Testing:

1. **Visual Inspection:**
   - Conduct a thorough inspection of the remediated area to verify that all visible mold growth has been removed. Ensure that:
     - There are no stains or discoloration on surfaces.
     - There are no signs of moisture or water damage.
     - The integrity of materials that have been replaced or restored is intact.
   - Use a detailed checklist aligned with guidelines in the **Appendix No.3**

2. **Moisture Measurement:**
   - Measure moisture levels in building materials using calibrated moisture meters to ensure they are within acceptable ranges. Dry standards may vary based on material type, but relative moisture content should not exceed **16-18%.**
   - Confirm that moisture sources identified during the assessment phase have been repaired.

3. **Airborne Mold Testing:**
   - Conduct air sampling to evaluate airborne mold spore concentrations in the remediated area. Use standardized methods, such as spore traps or impact sampling.
   - Compare indoor spore levels to outdoor control samples to ensure they are within acceptable thresholds, where indoor levels should not exceed 50% of outdoor levels.

4. **Surface Testing:**
   - Surface sampling (e.g., swabs or tape lifts) shall be conducted on previously contaminated areas to confirm the absence of mold spores. Sampling procedures should follow validated methodologies such as American Society for Testing and Materials-ASTM D7338-14, ISO 16000-21, or other internationally recognized protocols for fungal surface assessment.

5. **Laboratory Analysis:**
   - Submit air and surface samples to accredited laboratories that comply with **ISO/IEC 17025** for quality assurance in testing and calibration, and the laboratories shall be accredited by the Emirates International Accreditation Centre (EIAC).
   - Ensure that labs follow the Emirates International Accreditation Centre (EIAC) protocols for spore identification and quantification.

The structure and content of the mold remediation report shall be prepared in accordance with the provisions outlined in Appendix nNo.4. Where necessary, additional information required to ensure the report's completeness and regulatory compliance shall be included.

10. Preventive Measures and Maintenance

Effective mold prevention and maintenance strategies are for maintaining healthy indoor air quality and avoiding costly remediation expenses. This section outlines actionable preventive measures based on international standards, research, and guidelines.

10-1 Moisture Control

Strategies for Controlling Moisture to Prevent Mold Growth:

1. **Identify and Repair Water Leaks:**
   - Regularly inspect plumbing systems, roofs, and windows for leaks.
   - Promptly repair leaks to prevent water intrusion. As per **ASHRAE Standard 160** – Criteria for Moisture Control Design Analysis in Buildings.

2. **Control Indoor Humidity:**
   - Maintain indoor relative humidity levels below **60%,** ideally between **30-50%.**
   - Use dehumidifiers and ensure proper ventilation in moisture-prone areas like bathrooms and kitchens.

3. **HVAC Maintenance:**
   - Clean and inspect HVAC systems regularly to ensure proper functioning and avoid condensation buildup.
   - Replace filters with **High MERV filters** as per **ASHRAE 62.1** (Ventilation for Acceptable Indoor Air Quality).

4. **Building Envelope Integrity:**
   - Seal cracks and gaps in the building envelope to prevent water infiltration.
   - Use water-resistant materials for construction in high-humidity areas.

10-2 Regular Inspections and Monitoring

1. **Inspection Protocols:**
   - Conduct visual inspections of high-risk areas, including basements, crawl spaces, and HVAC ducts.
   - Implement a bi-annual inspection schedule.

2. **Moisture Monitoring Devices:**
   - Utilize tools like moisture meters and thermal imaging cameras for non-invasive monitoring.
   - Use smart sensors that send alerts regarding moisture changes in real time.

11. Appendixes

11-1 Appendix-1: Detailed Mold Remediation Checklist

Below is a detailed checklist. This checklist helps ensure compliance with industry best practices for mold remediation:

1. Pre-Remediation Assessment

- **Initial Inspection and Evaluation:**
  - ☐ Identify and document visible mold growth (type, extent, and affected materials).
  - ☐ Inspect for water intrusion or moisture sources contributing to mold growth.
  - ☐ Conduct moisture mapping using moisture meters and thermal imaging.
  - ☐ Take photos or videos of the affected areas for documentation.
  - ☐ Evaluate HVAC systems for contamination or contributing factors.
  - ☐ Perform air and surface sampling (if necessary) to identify mold species.
- **Health and Safety Assessment:**
  - ☐ Identify potential hazards (e.g., structural instability, electrical risks).
  - ☐ Confirm the presence of hazardous materials (e.g., asbestos, lead paint).
  - ☐ Assess the need for containment and air filtration.

2. Development of Remediation Plan:

- **Define Project Scope:**
  - ☐ Identify areas and materials to be remediated or removed.
  - ☐ Specify containment measures to be used (e.g., critical barriers, negative pressure).
  - ☐ Detail cleaning and disinfection procedures.
  - ☐ Outline HVAC cleaning or sealing plans, if applicable.
- **Select Equipment and Tools:**
  - ☐ High-Efficiency Particulate Air (HEPA) vacuum.
  - ☐ Negative air machines with HEPA filtration.
  - ☐ Dehumidifiers and air movers for drying.
  - ☐ Personal Protective Equipment (PPE) for workers.

- **Determine Waste Disposal Needs:**
  - ☐ Plan for disposal of contaminated materials per local regulations.

3. Containment and Control

- **Establish Containment:**
  - ☐ Use critical barriers (e.g., plastic sheeting) to isolate the work area.
  - ☐ Seal all HVAC vents and other openings in the containment area.
  - ☐ Install negative air machines to maintain negative pressure.
- **Access Control:**
  - ☐ Limit entry to authorized personnel only.
  - ☐ Post warning signs indicating a remediation zone.
- **Prevent Cross-Contamination:**
  - ☐ Set up a decontamination chamber for workers and tools.
  - ☐ Use sticky mats at containment entrances and exits.

4. Removal and Cleaning

- **Material Removal:**
  - ☐ Remove porous materials (e.g., drywall, carpeting) that are extensively contaminated.
  - ☐ Clean and salvageable materials using HEPA vacuuming and wiping.
- **Cleaning Procedures:**
  - ☐ HEPA vacuum all surfaces to remove mold spores and debris.
  - ☐ Use antimicrobial agents for cleaning non-porous and semi-porous surfaces.
  - ☐ Use damp wiping or abrasive cleaning methods for hard-to-clean surfaces.
- **Structural Drying:**
  - ☐ Confirm the complete drying of materials and surfaces (moisture content below acceptable levels).
  - ☐ Use dehumidifiers and air movers as necessary.
- **HVAC System Cleaning:**
  - ☐ Clean HVAC components and ductwork if contaminated.
  - ☐ Seal the system during cleaning to prevent spore spread.

5. Post-Remediation Verification

- **Visual Inspection:**
  - ☐ Confirm no visible mold growth or debris remains.
  - ☐ Ensure all surfaces are visibly clean and dry.
- **Moisture Testing:**
  - ☐ Verify that moisture levels in materials are within acceptable limits.
- **Air and Surface Sampling (if required):**
  - ☐ Conduct post-remediation air sampling to verify spore levels are within acceptable limits.
  - ☐ Perform surface sampling to ensure the absence of mold spores.

6. Final Steps

- **Waste Disposal:**
  - ☐ Dispose of all contaminated materials according to local, state, and federal regulations.
- **Decontamination of Equipment:**
  - ☐ Clean and sanitize all equipment used during remediation.
- **Documentation:**
  - ☐ Prepare a final report including:
    - Photos of the remediated area.
    - Moisture level readings.
    - Laboratory test results (if applicable).
    - Steps performed during remediation.
  - ☐ Obtain client sign-off on remediation completion.

7. Long-Term Recommendations

- **Address Underlying Moisture Issues:**
  - ☐ Repair leaks, improve drainage, or fix plumbing problems.
  - ☐ Recommend improvements to ventilation and HVAC systems.
- **Preventive Measures:**
  - ☐ Suggest periodic inspections for water damage or mold growth.
  - ☐ Provide advice on maintaining indoor humidity levels between 30–50%.

This checklist ensures thorough, compliant remediation, minimizes risks, and facilitates clear documentation for clients and stakeholders.

11-2 Appendix-2:Visual Inspection Checklist for Mold Remediation:

Visual Inspection Checklist for Mold Remediation

Pre-Inspection Preparation

1. **Inspector Qualifications**
   - ☐ Ensure the inspector is certified in mold remediation
   - ☐ Confirm familiarity with IICRC S520 and NYC DOH 2008 guidelines.

2. **Equipment Check**
   - ☐ Flashlight and magnifying glass for detailed examination.
   - ☐ Moisture meters (pin-type and pinless) to assess material moisture content.
   - ☐ Hygrometer to measure indoor relative humidity (RH).
   - ☐ Infrared thermography camera for identifying hidden moisture.
   - ☐ Personal protective equipment (PPE): gloves, respirators, and coveralls.

3. **Documentation Tools**
   - ☐ Digital camera for photographic evidence.
   - ☐ Inspection checklist and notes for documentation.
   - ☐ Floor plans or diagrams of the affected areas.

Inspection Steps

1. General Building Assessment

- ☐ Examine the building's exterior for signs of water intrusion:
  - Cracked or missing roof tiles.
  - Poor drainage or clogged gutters.
  - Damaged window seals or caulking.
- ☐ Inspect HVAC systems, including ducts and filters, for visible mold or dampness.
- ☐ Check for signs of high indoor humidity (condensation on windows, walls, or pipes).

2. Visual Inspection for Mold Contamination

- ☐ Identify visible mold growth on surfaces:
  - Color: black, green, brown, or white spots.
  - Texture: powdery, fuzzy, slimy, or crusty.
- ☐ Assess mold growth in common areas:
  - Walls, ceilings, and baseboards.
  - Carpets, upholstery, and soft furnishings.
  - Bathrooms: around tiles, sinks, and tubs.
  - Kitchens: under sinks and around appliances.
  - Basements, attics, and crawl spaces.
- ☐ Examine less visible areas:
  - Inside cabinets and closets.
  - Under carpets or rugs.
- ☐ Look for staining or discoloration:
  - Yellow or brown water stains on ceilings or walls.
- ☐ Check for warped or deteriorating materials:
  - Buckling floors or sagging ceilings.

3. Inspection of Moisture and Water Damage

- ☐ Locate sources of moisture:
  - Plumbing leaks or broken pipes.
  - Roof leaks.
  - Flood damage or past water intrusion events.
- ☐ Evaluate moisture levels in building materials:
  - Moisture content >16-18% in wood or drywall indicates dampness.

4. Odor Assessment

- ☐ Detect musty or earthy odors, indicating potential hidden mold growth.

5. HVAC System Inspection

- ☐ Inspect ductwork, coils, and filters for microbial contamination or water damage.
- ☐ Verify proper airflow and humidity control.

6. Containment and Work Area Conditions

- ☐ Confirm containment measures (e.g., polyethylene sheeting, negative air pressure).
- ☐ Ensure the remediation work area is sealed off to prevent cross-contamination.

11-3 Appendix-3: Post-Remediation Visual Inspection

1. **Removal of Visible Mold**
   - ☐ Verify that all visible mold has been removed from surfaces.
   - ☐ Ensure no signs of discoloration, stains, or residue remain.

2. **Material Condition**
   - ☐ Inspect areas where contaminated materials were removed and confirm proper replacement.
   - ☐ Check that all surfaces are clean and free of dust and debris.

3. **Moisture and Humidity Levels**
   - ☐ Confirm moisture levels in building materials are within acceptable limits:
     - Moisture content <16% for wood and drywall.
     - Relative humidity <60% in the affected area.

4. **Containment Area Cleanliness**
   - ☐ Confirm that containment materials (e.g., polyethylene sheeting) have been removed and the area is clean.
   - ☐ Check HEPA vacuumed surfaces for residual dust or mold spores.

5. **Final HVAC Inspection**
   - ☐ Ensure HVAC system components have been cleaned and are mold-free.
   - ☐ Verify the system is functioning properly and maintaining acceptable indoor air quality (IAQ).

6. **Odor Assessment**
   - ☐ Verify the absence of musty or unpleasant odors.

Documentation

1. **Photographs**
   - ☐ Include before, during, and after remediation images for all inspected areas.
2. **Inspection Notes**
   - ☐ Record moisture readings and locations of detected contamination.
   - ☐ Document any anomalies or areas requiring further investigation.
3. **Reports**
   - ☐ Prepare a visual inspection report summarizing findings:
     - Areas inspected.
     - Mold and moisture sources identified.
     - Clearance criteria met or unmet.
4. **Recommendations**
   - ☐ Suggest further actions if inspection criteria are not fully met.

11-4 Appendix-4: Guidelines for Reporting Findings:

1. **Content of the Report:**
   - Include the following sections in the final remediation report:
     - **Executive Summary:** An overview of the remediation process and outcomes.
     - **Scope of Work:** Details of the areas remediated, and methods used.
     - **Inspection Results:** Findings from post-remediation inspections and moisture assessments.
     - **Air and Surface Testing Results:** Analytical data from accredited laboratories, including spore counts and identified species.
     - **Photographic Evidence:** Before-and-after images to visually demonstrate the success of the remediation process.
     - **Moisture Source Repairs:** Documentation of measures taken to eliminate moisture sources.
     - **Preventive Recommendations:** Suggestions for maintaining indoor air quality and preventing future mold growth.
2. **Retention Period:**

- Maintain records for at least 5 years,

12. References

- WHO Guidelines for Indoor Air Quality: Dampness and Mold
- AIHA (American Industrial Hygiene Association): Guidelines for the Assessment of Bioaerosols in the Indoor Environment.
- AIHA (American Industrial Hygiene Association) Guidelines for Recognition, Evaluation, and Control of Indoor Mold
- AIHA: Field Guide for the Determination of Biological Contaminants in Environmental Samples.
- EPA (Environmental Protection Agency): "Mold Remediation in Schools and Commercial Buildings."
- ISO 16000-19: Indoor Air Quality — Sampling Strategy for Mold Evaluation.
- ISO 6946 – Building Components and Elements.
- IICRC S520 (Institute of Inspection, Cleaning, and Restoration Certification): Standard and Reference Guide for Professional Mold Remediation.
- ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers): Standards for Ventilation and Indoor Air Quality.
- OSHA (Occupational Safety and Health Administration): Guidelines for preventing mold-related hazards in the workplace. Covers worker protection and standards for handling mold contamination.
- CDC (Centers for Disease Control and Prevention): Information on mold and health effects.
- ASTM D7338-14 (American Society for Testing and Materials (2014): Guide for the Assessment of Fungal Growth in Buildings
- New York City Department of Health (NYC DOH -2008): Guidelines on Assessment and Remediation of Fungi in Indoor Environments
- Green Building Regulations and Specifications (Dubai Building Code, Al Sa'fat Initiative).
- Technical Guideline (119) for Indoor Air Quality for Healthy Life.

For (suggestions, comments, and complaints)	For further information
▪ Unified interactive platform that connects Dubai Government and its customers: The 04 Platform https://04.gov.ae/ ▪ ✆ Dubai Municipality - Call Center (24/7): 800900	▪ ✉ ehcinspection@dm.gov.ae ▪ ✆ Dubai Municipality - Call Center (24/7): 800900