



## BPM Water Emergency Response Plan

**ISOLATE** water-impacted area(s).

**SAFETY FIRST!!** Eliminate electrical and any other imminent hazards.

**STOP** the flow of water.

**REMOVE** any standing or residual water on floor and other building materials.

**ASSESS** potential sources of mold.

**DEVELOP** plan to dry and return area to normal operation.

**DO NOT OPEN** walls or remove cove base without permission from an industrial hygienist

**WARNING!!** If water source is or has come in contact with sewage or other “gray water” (i.e., IICRC Category 2 or 3 water) ; refer to Section 7.0 in this protocol for instructions for handling this type of water hazard safely.

This protocol directs BPM personnel on how to proceed when responding to water leaks or flooding inside the building. Such response is considered a Category III Emergency task and is to be performed only by BPM personnel, BPM-hired contractors and tenant-hired contractors.

The activities constitute coming into contact with water-impacted building surfaces and materials. Any surfaces or materials that may display what appears to be visible mold growth (VMG), should not be touched by the tenant. They are to be handled only by BPM personnel or professional contractors properly trained in the appropriate procedures and in the use of personal protective equipment.

**Note:** An industrial hygienist shall be used to detect, test and direct building management staff when mold is suspected/present. In addition, this protocol assumes that a supply of flood control materials and equipment is maintained in the building and BPM staff has been trained in the purpose, location and use of this material.

**Do NOT use fans** if more than 24 hours have elapsed since initial flooding or if the area is “suspect” and has not been verified to be clear of VMG by the industrial hygienist.

### 1.0 Initial Assessment

#### Step 1. Notification

- A Maintenance Work Order (MWO) shall be submitted by the tenant when reporting the presence of any water-leak or flood in the building.
- Closeout of a specific MWO for a leak or flood requires the identification and mitigation of the water source responsible for the reported leak or flood. The MWO shall remain open until the actual source of water has been identified and mitigated.

#### Step 2. **WARNING !!** Identify and eliminate imminent safety hazards

- BPM personnel assigned the task of responding to the MWO shall immediately evaluate the physical location of the water leak/flood and efforts made to identify the source of the leak/flood.
- Shut-off electrical power to leak/flooded area unless doing so will adversely affect equipment in the impacted area (e.g., critical computer servers).



- Carefully approach the apparent source of the water leak and attempt to determine if any imminent hazard may have been created by the presence of the water (e.g., electrical wiring or equipment exposed to water, water-saturated ceiling tiles, slip hazards, broken glass).
- Immediately mitigate any identified safety hazards and then isolate the affected area before attempting to address the water leak/flood.
- Quickly scan the affected area to determine if there are any signs of visible mold growth.

### **Step 3. Minimize the damage**

Once any imminent safety hazards have been mitigated and the area has been cordoned off, determine what measures can be immediately applied to stem or stop the water leak/flooding. Obtain the necessary equipment and supplies from storage to implement damage control. The following flood control equipment may be useful:

#### Available BPM In-House Flood Control Equipment/Supplies:

- Mops, buckets
- Extractors (wet vacuums)
- “Snail” floor fans
- Sorbent pigs, pads
- Replacement ceiling tiles

#### Additionally Needed Flood Control Equipment/Supplies:

- Infrared camera
- Surface moisture meters
- Thermometer/Psychrometer (air temperature/relative humidity)
- Dehumidifiers

Concurrently, engage other BPM and/or tenant personnel in minimizing damage to tenant documents, equipment, and other property by moving or protecting any affected items from further exposure to water damage.

### **Step 4. Locate the leak/source of water and determine extent of building impacted by water**

Depending on the cause and size of the leak, large quantities of water may be present that make detection of the actual leak difficult. Conversely, slow leaks may also create the same challenge in identifying the actual origination point of the leak. A surface penetrating moisture meter such as the Delmhorst BD-2100, a surface moisture meter such as a Tramex Moisture Encounter Plus, and an infrared (IR) thermographic camera (FLIR ThermaCAM B2 Infrared Camera or equivalent) can be used to evaluate the moisture in the building walls, floors and other structural components affected by a water leak.

- First perform a visual assessment to see if the source of the leak is visually evident. If it is, go directly to “3.0 Handling Active Leaks”.
- When the source of the leak is not immediately visible, an infrared thermographic camera can be used to locate the source of the leak and verify where moisture may be present.



- A surface moisture meter should then be used to scan and define the leak-affected area; and then a penetrating moisture meter should be used to verify the extent/depth and moisture content within the affected area of material.

## 2.0 Residual Moisture

Identify and, to the extent possible, eliminate sources of dampness, high humidity and moisture to prevent mold growth. Wet or damp spots and wet, non-moldy materials should be cleaned and dried as soon as possible, preferably within 24 to 48 hours of discovery (OSHA, 2006).

- Every effort should be made to evaluate all areas immediately adjacent to a water-impacted area of the building. This should include interstitial wall spaces and areas located directly below and laterally adjacent to the water-impacted area (e.g., above ceiling areas of rooms/spaces located on floors below the leak/flood). Failure to adequately dry these areas can provide areas for future mold growth.
- Background readings in drywall areas NOT water-impacted should contain <0.4% moisture content. Drywall areas that contain >0.5% moisture content should be evaluated and “dried” until moisture content is <0.4%.
- Water-impacted fiberglass insulation and ceiling tiles should be removed and replaced.
- Background readings in fire-proofing NOT water-impacted should contain <14.0% moisture content. Fire-proofing that contains >14.0% moisture content should be evaluated and “dried” until moisture content is <14.0%.

## 3.0 Handling Active Leaks

**Stemming or completely stopping the flow** of water may not be possible until the source of water is eliminated or the actual cause of the leak can be determined and corrected. However, there are simple and/or effective “fixes” that can be immediately implemented to temporarily stem or stop the flow of water entering into the occupied tenant space. Select one or a combination of the following fixes:

- Shut-off valves (multiple locations)
- Barriers such as duct tape or portable dams
- Physical plugs such as wood, plastic, putty/clay, or spray urethane foam
- Catch basins, buckets

## 4.0 Wet Building Materials and Furniture

### Step 1.

- Whenever possible, immediately move water-impacted items to a dry and well-ventilated area or, at least, outside the leak-affected area, to expedite drying.
- Move rugs, chair mats, and any furniture that may cover water-impacted areas; and pull up areas of wet carpet as soon as possible.
- Open closet and cabinet doors and move furniture away from walls and raise off floor to increase air circulation to water-impacted areas.

### Step 2.

- Remove excess water from non-porous floor surfaces with mops/buckets or use extractors/wet vacuum on all other surfaces.



### Step 3.

- If VMG is not present/visible, run portable fans to increase air circulation and evaporation.
- Do **NOT** use the building's HVAC system if flooding has occurred in the system or in any of the ducts.
- Do **NOT** use fans if mold may have already started to grow – more than 24 hours since initial flooding, or if the area is “suspect” and has not been verified to be clear of VMG by the industrial hygienist.
- **Any use of fans requires the approval of the industrial hygienist on site.**

### Step 4.

If VMG is present or relative humidity is >60%, use dehumidifiers to lower humidity.

### Step 5.

- Do **NOT** increase room temperature or use heaters in confined areas, as higher temperatures increase the rate of mold growth.
- Reducing the temperature in the impacted area should be considered because it can decrease the rate of mold growth.

### Step 6.

- If water has soaked inside the walls, it may be necessary to open the wall cavities, remove cove base, and/or pry open wall paneling. Removal of cove base in an area known to have been historically subjected to flooding and NOT documented as having been investigated and remediated shall be performed after-hours or weekends and in unoccupied and/or an isolated area of the building.
- If it becomes necessary to remove cove base or open wall cavities, an industrial hygienist shall be used to define control measures to be used for Major Wall Penetrations (>0.5 inch diameter) of areas known to have been historically subjected to flooding; the extent of these controls may vary depending on the potential for mold contamination being present. (*See O&M Protocol for Major Wall Penetrations*)
- Prior to creating the penetration, the industrial hygienist will determine if the activity will require construction of a protective containment at the location of the wall opening and evaluate the extent of any VMG or water-damaged materials.
- At the direction of an industrial hygienist, an appropriate response strategy should be developed (with an authorized mold-remediation vendor, if needed) to remediate any identified mold growth and eliminate the leak. Depending on the magnitude of the problem, engineering controls could consist of such items as sealed critical barriers, wet methods, bleach cleaning solution or equivalent, HEPA vacuums, HEPA-filtered negative pressure enclosure, and a decontamination unit.
- If VMG is present, the protective containment shall be cleaned and then cleared by the industrial hygienist before returning the space for normal use by building personnel.



## 5.0 Clearance

Each area remediated under protective containment must be properly cleared before being returned to the tenant for regular use. The clearance should include the following:

- Work area to be cleared should be dry and visually clear of contamination and debris as determined by the industrial hygienist.
- Each work area that is cleaned shall require a minimum of 24-hours of air scrubbing.
- Two (2) outside air samples (one outside the containment, but on the same floor; one at ground level) must be collected **prior** to collection of inside containment samples.
- The number of inside air samples shall be determined by the size of the containment and at the discretion and consensus of the industrial hygienists; as few as one (1) and no more than five (5).
- One (1) outside air sample **after** collection of inside samples (at ground level on opposite side of the building where initial outside sample was collected).
- Criteria for successful air sample clearance:
  - a. Quantitative spore counts collected inside containment are less than those observed in outside samples.
  - b. Similar in rank order and distribution
  - c. Air sample does not contain specific spores of concern that were identified during initial identification of VMG.

## 6.0 Project Completion

- Confirm all water-impacted areas have been identified and dried to pre-leak/flood condition.
- Return and/or replace any damaged building materials to their original condition.
- Return tenant furniture and equipment to original condition and configuration.
- Any mold-contaminated areas identified and/or remediated during the leak/flood mitigation process shall be documented for future reference by other projects requiring access into the same wall or area.



## 7.0 PROCEDURES FOR CLEANING UP SEWAGE SPILLS

Main Hazards of Concern When Cleaning Sewage are:  
*Fecal Coliform & Escherichia Coli (E. coli)*

1. Block off and isolate the spill area to prevent building occupants from accessing spill area with yellow tape, cones, chairs or whatever can serve as a physical barrier.
2. Don proper protective clothing before addressing spill:
  - ❖ Safety glasses.
  - ❖ Mouth, nose protection.
  - ❖ Tyvek® suit.
  - ❖ Hand protection (latex, neoprene gloves).
  - ❖ Rubber boots.
3. Contain spill with plastic sheeting, absorbent pills, etc or direct sewage to designated location.
4. Spray sewage with disinfectant (biocide) or a 10% aqueous bleach solution and wait 10 minutes.
5. Cover the liquid - raw sewage (black water) with an absorbent material to enhance the clean process by converting the liquid sewage to a solid material.
6. Mop up liquid sewage and pick up any solid material with tool (tongs, dustpan, cardboard, 2 pieces of paper, etc.)
7. Once clean up is completed, the contaminated tools and PPE need to be addressed
  - ❖ Disinfect mop and/or tools by spraying with disinfectant or bleach solution and wait 10 minutes. Wipe down tools with towel. Tools can also be disposed of in regular trash if disinfecting is not feasible.
  - ❖ Removal (Doffing) of personal Protective Equipment (PPE):
    1. Remove boots.
    2. Spray with disinfectant & wait 10 minutes before wiping boots.
    3. Remove Tyvek® suit & trash.
    4. Remove eye and mouth protection & trash.
    5. Remove gloves & trash.
  - ❖ Be sure to wash hands with warm water & soap after clean up is completed.
  - ❖ All employees involved with raw sewage clean up responsibilities must remove (Doff) and/or disinfect all PPE before exiting the isolated & contained spill area.

Please note that contaminated carpets including padding can be sprayed with disinfectants & shampooed. The best practice is to follow the ***Institute of Inspection, Cleaning and Restoration Certification (IICRC) S500 Water Damage Restoration Standard***, Section 12 guidelines and remove & replace the carpet and any affected padding (see attached):



**IICRC S500**

**Standard and Reference  
Guide for Professional  
Water Damage Restoration**



*Second Edition*



#### 11.4.1 Demolition

Demolish unsalvageable structural materials, as necessary, and remove them from the structure. It is highly recommended that unsalvageable materials, especially those that remain wet or damp, be removed from the structure. Removal will help to ensure that such materials do not become a source of biological contamination or add moisture to an already humid environment. Demolition may be required to expose trapped moisture or pockets of saturation. To avoid cross-contamination, containment of unaffected areas may be required during demolition.

#### 11.4.2 Cartage and Disposal

When unsalvageable materials are not removed from job sites by a municipality, transport and proper disposal of such materials (e.g., carpet, cushion, drywall, structural wood) may be required. Transport and disposal must comply with applicable laws. Hazardous materials, such as asbestos and lead, require special handling and disposal procedures.

#### 11.4.3 Structural Restoration

After demolition, debris removal, and assuring thorough drying, qualified and properly licensed persons should perform authorized and necessary structural repairs, reconstruction or cleaning.

#### 11.4.4 Contents Restoration

Careful evaluation of contents to determine salvability is highly recommended before, during and after complete drying. Further, it is highly recommended that cleaning, repairs or refinishing, as required, be accomplished by qualified persons.

#### 11.4.5 Cushion Replacement

If carpet cushion is unsalvageable, comparable type, density, thickness and quality (like, kind and quality, or "LKQ"), based on customer specification and preference, is recommended to replace removed cushion.

#### 11.4.6 Carpet Reinstallation

For installing cushion and installing or reinstalling salvable carpet, conform to the guidelines set forth in the reference guide to this standard and in AS/NZS 2455.1, *Textile Floor Covering Installation Practice Part 1: General*; AS/NZS 2455.2, *Textile Floor Covering Installation Practice Part 2: Carpet Tiles*; BS5325, *Code of Practice for Installation of*

*Textile Floor Coverings*; CRI 104, *Standard for Installation of Commercial Carpet*; and CRI 105, *Standard Industry Reference Guide for Installation of Residential Textile Floorcovering Materials*.

#### 11.4.7 Final Carpet Cleaning

Throughout restoration, foot traffic results in transferring soils from shoes to carpet surfaces. During drying, moisture wicks to the surface of carpet where it evaporates into air. Fine particles of soil are suspended and carried by water up the yarns during wicking; however, these particles cannot vaporize. During drying, they accumulate on yarn tips forming soil residue. In the latter stages of drying, minor odor problems may develop in large fabric surfaces such as carpet, due to microorganism development. For these reasons, final carpet cleaning is required at the conclusion of the restoration project. Cleaning also reduces microbiological levels and removes odorous compounds.

In performing final carpet cleaning, follow the procedures set forth in the *IICRC Carpet Cleaning Standard S001*.

#### 11.4.8 Floor Covering Replacement

If floor coverings are unsalvageable, new materials of LKQ, based on customer specifications and preference, are recommended to replace old floor coverings.

## 12 Category 2 Water and Category 3 Water Source Restoration Procedures

When a building is contaminated with category 2 water or category 3 water, a threat to human health exists. Without appropriate action, extensive damage to materials may occur. The damage may appear immediately or it may develop over time. The severity of contamination depends on the extent, content and degree of water and contaminant penetration into the built environment. The restoration response to each water damage project may vary.

As with category 1 water restoration procedures, normally, category 2 and category 3 water restoration is divided into three phases: loss mitigation (see 12.3), coordination procedures (see 12.4) and completion procedures (see 12.5).

Loss mitigation procedures begin with rapid response and involve reasonable and prudent steps required to preserve, protect and secure property from additional damage. Inspection and evaluation of the loss is a constant and ongoing part of mitigation procedures.

Coordination involves those steps that restoration firms take to initiate and maintain communication with customers (claimants, insureds) or others involved in the loss. It specifically includes scheduling and paperwork systems designed to keep all parties to the loss informed and ultimately, to progress to an organized conclusion.

Following mitigation and coordination, completion procedures are normally followed to bring the claim to a successful conclusion, quickly and efficiently.

Before the mitigation, coordination and completion procedures are implemented, certain evaluation considerations are necessary (see 12.2).

Upon arrival at the job site, and after attending to administrative requirements and obtaining proper authorization, establish priorities for job processing. Priorities are determined based on the requirements of a particular job.

In category 2 water damage situations in particular, use professional judgment to determine whether the steps defined herein are necessary.

### 12.1 Technician Training

Technicians performing category 2 water and category 3 water damage restoration must be trained in the following areas: microbiology, biocide use, psychrometry, health and safety, equipment use, risk assessment, inspection and customer communication.

### 12.2 Evaluation Considerations

When dealing with category 2 and category 3 water sources, it is highly recommended that an evaluation and inspection be conducted, along with mitigation procedures. It is prudent to consider several issues during this phase of job evaluation and processing (see 12.2.1 to 12.2.8).

#### 12.2.1 Occupant Evacuation

Determine if occupants need to be evacuated from the damaged structure, and if so estimate the duration of time. Factors used to make this determination may include, but are not necessarily

limited to: contamination location(s), the nature of contamination, obvious indications of high levels of microbiological or chemical contamination and the presence of young children (especially infants and children under age 2) and potentially immunocompromised occupants (those whose immune systems may be weakened by age, illness or medication). Recommend that customers consult health professionals about the advisability of any occupant remaining in, or returning to, the structure before restoration is complete.

#### 12.2.2 Structural and Contents Contamination Levels

Determine how the structure and contents have been affected by the contamination. This requires the evaluation of factors including, but not necessarily limited to: humidity levels, materials affected, degree of apparent damage, quantity of contaminated absorbent materials and amount of ventilation available.

#### 12.2.3 Material Salvability Evaluation

Determine if materials can be decontaminated, or if they must be removed and replaced. This requires the evaluation of factors including, but not necessarily limited to: material porosity, degree of contamination, obvious potential effect on occupant health and safety, feasibility of cleaning and disinfecting and local, state, provincial and federal licensing regulations.

#### 12.2.4 Structural Systems Evaluation

Determine if contamination has affected other systems in the structure, especially the HVAC system. Considerations may include the source of the water and its volume and direction of flow, as related to the location and type of HVAC system. Additional factors to consider include the ability to inspect systems fully, the types of materials within these systems, the degree of penetration and mitigation procedures and equipment available for use.

#### 12.2.5 Restoration Resources Evaluation

Determine what resources are needed to accomplish a complete restoration. Resources to consider include, but are not necessarily limited to: the types, quantities and availability of chemicals, equipment, supplies and manpower.

### 12.2.6 Mitigation Procedure Evaluation

Evaluate the potential consequences of inadequate mitigation. Factors to consider include, but are not necessarily limited to: the potential for malodor during and after restoration, moisture and microbial damage to structure and contents, potential liability, and most important, the potential for exposing workers and occupants to health hazards during or after restoration.

### 12.2.7 Disposal Considerations

Determine where extracted sewage waste and contaminated materials will be disposed. Determine whether materials and contaminants can be placed in the sanitary sewage system, or whether they must be removed and transported to a remote disposal site by a bulk waste hauler or hazardous materials contractor. Factors to make such determinations may include, but are not necessarily limited to: the quantity of waste, the type of contamination and local, state, provincial and federal laws.

### 12.2.8 Re-Occupancy Criteria

Determine methods to be used to establish when the structure is safe to re-occupy. Obvious malodors, visible signs of biological contamination and abnormal moisture or humidity readings may indicate that a structure is not fully restored and ready for re-occupancy. If these situations are encountered, consider further evaluation that may include testing by an indoor environmental consultant, environmental health specialist or industrial hygienist.

## 12.3 Loss Mitigation

Upon arrival at the job site, the first task is to attend to administrative requirements and complete authorization and informed consent agreements. Immediately thereafter, the elimination of safety hazards is the first priority. Other initial mitigation priorities are determined based on the requirements of a particular job. Procedures to consider include, but are not necessarily limited to, the items discussed under section 12.3 herein (see 12.3.1 to 12.3.16).

### 12.3.1 Rapid Response

Mitigation procedures must begin as soon as possible after loss notification. The longer elevated moisture and humidity remains within a structure, the greater the potential for microbiological growth,

associated material damage and risk of adverse health effects.

### 12.3.2 Health and Safety

Potential health and safety hazards must be identified and, if possible, eliminated prior to the implementation of restoration procedures. Before entering the structure, the building's structural integrity and potential for electrical shock hazards and gas leaks must be assessed. These procedures are particularly critical in rising-water situations. Customers must be warned of imminent hazards that are discovered. It is highly recommended that warning signs be posted when possible to inform workers and occupants of potential hazards that exist.

### 12.3.3 Personal Protection

Persons working in and around unsanitary water during the initial stages of decontamination, cleaning and biocide application must be equipped with personal protective equipment (PPE) including, but not necessarily limited to: an appropriate respirator equipped with HEPA and organic vapor cartridges, rubber gloves, eye protection, protective suit and rubber boots. In the case of overhead hazards or contamination, hard hats must also be worn.

Persons suffering cuts, abrasions or puncture wounds during restoration must leave the contaminated environment immediately and seek medical treatment.

### 12.3.4 Water Source Evaluation

To the extent possible, it is highly recommended that the source of water intrusion be located and eliminated, repaired or contained before restoration procedures begin.

### 12.3.5 Containment

Precautions must be taken to minimize cross contamination from affected to unaffected areas by traffic or material handling. Shut down any air handling equipment and seal off supply and return registers. It is highly recommended that contaminated areas be contained with heavy-gauge polyethylene sheeting, often in combination with negative air pressure, to prevent cross contamination.

### 12.3.6 Contents Protection

It is highly recommended that unaffected structural materials, furnishings, inventories and contents be protected from damage that may be sustained by direct contact with migrating category 2 water or category 3 water. It may be necessary to relocate or remove furnishings and contents to prevent moisture absorption and consequent contamination that may cause irreversible damage.

### 12.3.7 Excess Water and Contaminant Removal

Before comprehensive inspection and evaluation can take place, excess water and organic matter, especially raw sewage and silt, must be physically removed. Removal procedures may include the use of shovels, squeegees, septic pump trucks, pumps, wet vacuums and carpet extraction machines.

Initial removal of water from floor covering fabrics, such as carpet and rugs, should be accomplished through wet vacuum extraction. Water and contaminants should also be removed from ceilings, basements, crawlspaces and HVAC systems. After each use, all tools and machines, especially pumps, vacuum recovery tanks, wands, tools and hoses, must be cleaned and decontaminated.

### 12.3.8 Initial Decontamination

Initially, and before handling, decontaminate sewage-damaged materials by spraying with, or immersing within, a biocide solution. This treatment will not provide full disinfection, nor is it intended to do so. The objective of initial decontamination is to commence the reduction and mitigation of microorganisms as quickly as possible. It is important to recognize that exposure to materials treated during initial decontamination poses a health risk and may result in an adverse reaction.

### 12.3.9 Detailed Inspection

Following the removal of excess water (see 12.3.7) and initial decontamination procedures (see 12.3.8), a detailed inspection must be conducted that considers the extent of water migration, types of affected materials and the degree of apparent damage, in order to evaluate, analyze and determine the job scope. Professional testing equipment and the principles of psychrometry must be used to formulate a plan to dry and restore, or replace, both structure and contents material. A comprehensive inspection may include, but is not necessarily limited to, the following:

- flooring and sub-flooring materials;
- contents items or inventories;
- the HVAC system;
- basements and crawlspaces;
- other structural materials (walls, ceilings, fixtures, framing); and
- documentation of preexisting conditions (wear, urine contamination, delamination) not related to the current loss.

### 12.3.10 Evaluation for Salvability or Disposal

Contaminated structural materials and contents must be evaluated to assess salvability or disposal requirements. The evaluation must take into consideration the direct contact of materials with category 2 water or category 3 water, material porosity, material value and other factors.

#### 12.3.10.1 Carpet Cushion

Remove and dispose of carpet cushion (pad, underlayment) saturated with category 2 water or category 3 water, without exception.

#### 12.3.10.2 Stuffed Fabrics

When directly contaminated, highly absorbent, stuffed fabrics (pillows, stuffed animals, mattresses, box springs, upholstered furniture) must be disposed.

#### 12.3.10.3 Absorbent Materials

Remove and dispose of saturated absorbent materials such as ceiling tiles, drywall, books, papers and other delicate, highly absorbent materials.

#### 12.3.10.4 Structural Materials

Evaluate structural materials such as paneling, plaster and wood for physical damage and degree of contamination to determine the need for removal and disposal. Demolition of structural materials may be required to expose pockets of contamination for cleaning and drying.

#### 12.3.10.5 Carpet

Remove and dispose of carpet that has been saturated with category 3 water.

When it is deemed cost effective to restore category 2 water contaminated carpet or rugs, apply biocide and allow an appropriate dwell time, and employ the hot water extraction cleaning method. Other cleaning methods such as absorbent compound, absorbent pad (bonnet), dry foam or shampoo cleaning are not adequate and may merely redistribute contamination rather than remove it.

#### 12.3.10.6 High-Value Area Rugs

The cleaning of high-value area rugs may be attempted through specialized in-plant cleaning or commercial laundering. If an effort is made to restore area rugs, extensive cleaning and saturation with an appropriate biocide, for a prolonged dwell time, must take place. Organic soils must be removed prior to saturation with a biocide. This procedure does not guarantee the restoration of the textile to a sanitary condition. Prior to returning the rug to the customer, the rug's restoration to a sanitary condition must be confirmed by a qualified third-party evaluator. Rugs that are not returned to a sanitary condition must be disposed.

#### 12.3.10.7 Floor Coverings and Subfloors

If category 2 water or category 3 water penetrates underneath strip-wood flooring, wood laminate, linoleum, sheet vinyl, tile, stone or other floor coverings that may otherwise be deemed salvable, remove and properly dispose of those materials. Subflooring materials and construction fabrics must be fully evaluated for restorability. Subflooring components, if salvable, must be cleaned, disinfected, dried and sealed, as necessary.

#### 12.3.10.8 Evaluation Coordination

If customers, insurance company representatives, municipal officials or other parties insist on salvaging absorbent, category 3 water saturated materials, work must stop until coordination with company management can be made.

#### 12.3.11 Flushing/Cleaning

Residual organic matter in cracks and crevices of salvable materials normally can be removed by flushing with a cleaner/disinfectant solution. Recover the flushing solution with an extraction unit immediately after application to prevent further migration or absorption of contaminants into other porous materials. In some situations, where aerosolization of biocontaminants is not likely, consider using pressurized washing to adequately

flush contaminants out of cracks, crevices and from under structural components.

#### 12.3.12 Waste Disposal

Category 3 water extracted from water-damaged structures must be disposed in a sanitary sewer system, or, if not available or inoperable, collected and hauled off-site for proper disposal using a septic waste hauler. The removal and disposal of contaminated materials must follow accepted mitigation, removal, transport and disposal protocols to reduce the risk of contamination to previously unaffected environments. Follow special handling and disposal procedures, in compliance with local, state, provincial and federal laws, for the disposal of asbestos, lead and other hazardous materials.

#### 12.3.13 Detailed Cleaning

After removing heavy organic soils and contaminants, thoroughly clean remaining materials or components before a second application of a biocide (see 12.2.14). Cleaning helps reduce the amount of microorganisms present so that subsequent biocide applications are not rendered ineffective by organic soils. Lack of meticulous cleaning may render biocide application ineffective. Thorough cleaning is required before implementation of additional procedures.

#### 12.3.14 Secondary Biocide Application

After thoroughly cleaning all contaminated materials, a second application of biocide must take place. This application is important because the effectiveness of biocides is limited, especially when in contact with quantities of organic contaminant.

It is highly recommended that the general properties of biocides be evaluated for use in unsanitary situations. Use chemicals classified as disinfectants that are appropriate for use in sewage backflows. These chemicals are capable of killing or inactivating pathogenic microorganisms on clean, inert substrates. Because the use of biocides can produce irritating vapors, use of appropriate PPE to prevent chemical exposure is required. The type of safety equipment used depends on the type of biocide, its concentration, and the method of application. Material safety data sheets (MSDS) and label instructions on biocides provide more detailed information. It is highly recommended that they be reviewed before products are used.

Evaluate factors that affect the success of disinfection. These include, but are not necessarily

limited to: organic matter present, extent of prior cleaning, type and level of microbial contamination, type of biocide required, concentration and time of exposure to the biocide required, and the nature of the material to be decontaminated.

Customers must be advised of their right to know about any product being applied in their home or work environment. Biocides must be applied by properly protected persons and only in unoccupied buildings or contained areas. Biocide application must comply with applicable local, state, provincial or federal licensing requirements.

#### 12.3.15 Structural Drying

Procedures should be implemented to increase the rate of drying. It is highly recommended that moisture and humidity be reduced as much as possible by using the structure's existing auxiliary fans, unless these fans are contaminated or pose an electrical hazard. Airmovers and dehumidifiers should also be employed to increase the rate of drying.

Use of uncontaminated HVAC systems to accelerate drying must be considered carefully due to possible spread of contamination. Reduce indoor humidity in affected areas to 30%-50% RH as quickly as possible. Where extensive saturation into structural materials has occurred, and particularly on larger commercial water losses, desiccant dehumidifiers may be used to further reduce humidity. When possible, it is recommended that ambient air temperature be maintained at or below 72°F/22°C. When flooding has been extensive, or when excessive time has elapsed, drying may require several days or longer. Evaluate the adequacy of drying with appropriate moisture detection devices. Monitor humidity levels with a hygrometer, and the moisture content of materials with appropriate instruments.

#### 12.4 Coordination Procedures

Job coordination includes those steps that are taken to initiate and maintain communication with customers (claimants, insureds) or others involved in the loss. It specifically includes scheduling and documentation systems designed to keep all parties to the loss informed. Coordination procedures serve to ensure that the project proceeds in an organized manner.

#### 12.4.1 Paperwork and Pricing

Establish the job scope, maintain documentation and paperwork, and convey complete job specifications and pricing to customers and other appropriate parties involved in the loss as soon as practical.

#### 12.4.2 Communication

Communication with customers (claimants, insureds) or insurance representatives before proceeding with completion procedures is highly recommended. When possible, make a concerted effort to keep customers or other materially interested parties informed throughout processing. It is highly recommended that customers be informed about the nature of the damage, obvious health and safety issues, drying procedures implemented and the specific operational features of drying equipment.

#### 12.4.3 Questions and Confirming of Coverage

Answer questions from the customer, agent or adjuster as concisely as possible. Confirm insurance coverage where policies may provide for payment of the loss; however, do not make representations of, nor attempt to interpret, insurance company policies unless specifically authorized. Maintain ongoing communication with customers and authorized insurance representatives on insured losses to the extent possible. Provide phone numbers for further questions or emergency communications.

#### 12.5 Completion Procedures

After stabilizing the claim with appropriate mitigation procedures, and having evaluated and coordinated the claim with involved parties, completion procedures must be implemented to ensure a healthy indoor environment for current and future occupants. Completion procedures may include, but are not necessarily limited to, the activities described herein (see 12.5.1 to 12.5.5).

##### 12.5.1 Third-party Evaluation

In some water loss situations, where microbial contamination was remediated, it may be specified or necessary for a third-party to evaluate the effectiveness of the remediation work. This must be considered under the following circumstances:

- where there is microbial contamination that can adversely affect worker or occupant health;

- where there are high-risk occupants in the structure; and
- where there are public health issues (e.g., elderly care or child care facilities, medical care facilities, public buildings).

#### 12.5.2 Structural Restoration

After demolition, debris removal, and assuring thorough drying, qualified and properly licensed persons should perform authorized and necessary structural repairs, reconstruction or cleaning.

#### 12.5.3 Contents Restoration

Careful evaluation of contents items before, during and after complete drying to determine salvability is highly recommended. Accomplish cleaning, repairs or refinishing, as required, using properly qualified persons.

#### 12.5.4 Material Replacement

It is highly recommended that unsalvageable materials, including floor coverings or other furnishings and fixtures, be replaced with LKQ, based on customer preferences and specifications.

#### 12.5.5 Floor Covering Reinstallation

In preparing subfloors, installing cushion or underlayment and installing floor coverings, conform to the guidelines specified by material manufacturers, those contained in this standard and reference guide, and in other recognized industry standards including AS/NZS 2455.1, *Textile Floor Covering Installation Practice Part 1: General*; AS/NZS 2455.2, *Textile Floor Covering Installation Practice Part 2: Carpet Tiles*; BS5325, *Code of Practice for Installation of Textile Floor Coverings*; CRI 104, *Standard for Installation of Commercial Carpet*; and, CRI 105, *Standard Industry Reference Guide for Installation of Residential Textile Floorcovering Materials*.