

# **Mold/Water Damage Remediation Assessment**

**Massachusetts Registry of Motor Vehicles  
278 Union Street  
New Bedford, Massachusetts**



**Prepared by:  
Massachusetts Department of Public Health  
Bureau of Environmental Health  
Indoor Air Quality Program  
May 2011**

## **Background/Introduction**

In response to a request by Mr. Robert Northrup, Program Coordinator, Massachusetts Department of Transportation (MDOT), the Massachusetts Department of Public Health (MDPH), Bureau of Environmental Health (BEH) provided assistance and consultation regarding water damage at the Registry of Motor Vehicles (RMV) located at 278 Union Street, New Bedford, MA. On March 11, 2011, Cory Holmes, an Environmental Analyst/Regional Inspector within BEH's Indoor Air Quality (IAQ) Program visited the RMV to conduct an assessment. Mr. Holmes was accompanied by Mr. Northrup during the assessment.

The assessment was conducted to evaluate mold/water damage remediation that was recently completed by ServiceMaster Clean, a flood restoration firm. The scope of work/proposal is included as Appendix A and included:

- Containment and isolation of remediation areas;
- Removal and disposal of all affected ceiling tiles;
- Vacuuming of affected roof surfaces and ceiling beams with a high efficiency particulate arrestance (HEPA) filter equipped vacuum cleaner;
- Washing/treating of affected surfaces with an anti-microbial agent; and
- Sealing of affected areas with a mold resistant coating material (ServiceMaster, 2010).

## **Methods**

MDPH staff performed a visual inspection of building materials for water damage and/or microbial growth. Moisture content of porous building materials [i.e., Gypsum wallboard (GW),

wood] was measured with a Delmhorst, BD-2000 Model, Moisture Detector equipped with a Delmhorst Standard Probe.

## **Results and Discussion**

As reported by DOT staff, the RMV in New Bedford has been prone to chronic water penetration, mainly due to roof leaks. The roof was replaced in December 2010, which has eliminated leakage. At the time of the assessment, all water-damaged materials were removed and remediation related to roof leaks was completed (January 22, 2011). This assessment occurred during several days of heavy wind-driven rain (Weather Underground, 2011). No further water damage from roof leaks/snow melting were observed by BEH staff or reported by RMV personnel during the assessment.

Water damaged building materials in the form of stained ceiling tiles, wooden window trim and gypsum wallboard (GW) around the window frame in the breakroom was observed (Pictures 1 through 3). The most likely source of water penetration was missing/damaged exterior caulking/flashing around the window (Picture 4). Elevated moisture content and visible water damage/mold growth was observed on GW beneath vinyl wall covering along the base of the window frame (Picture 3). Vinyl wallpaper is a water impermeable material that can “trap” moisture. Although water-damaged, wooden window trim and ceiling tiles were dry (i.e., low moisture) at the time of the assessment (Table 1).

The US Environmental Protection Agency (US EPA) and the American Conference of Governmental Industrial Hygienists (ACGIH) recommend that porous materials be dried with fans and heating within 24 to 48 hours of becoming wet (US EPA, 2001; ACGIH, 1989). If not

dried within this time frame, mold growth may occur. Once mold has colonized porous materials, they are difficult to clean and should be removed/discarded.

## **Conclusions/Recommendations**

It appears that mold/water damage remediation related to roof leaks has been successful. In addition, replacement of the roof has prevented further roof leaks. However, attention should be paid to preventing water infiltration through the breakroom window. In view of the findings at the time of assessment, the following recommendations are made:

1. Make repairs to exterior window caulking/flashing around breakroom window. Use high pressure water to check repairs/identify further leakage.
2. Replace water-damaged ceiling tiles, wooden window trim, and mold-colonized vinyl wallpaper and GW at the base of the breakroom window.
3. Refer to resource manual and other related indoor air quality documents located on the MDPH's website for further building-wide evaluations and advice on maintaining public buildings. These documents are available at: <http://mass.gov/dph/iaq>.

## References

ACGIH. 1989. Guidelines for the Assessment of Bioaerosols in the Indoor Environment. American Conference of Governmental Industrial Hygienists, Cincinnati, OH.

ServiceMaster. 2010. Proposal for Registry of Motor Vehicles – New Bedford, MA. ServiceMaster Services, Inc. Dated December 13, 2010.

US EPA. 2001. Mold Remediation in Schools and Commercial Buildings. US Environmental Protection Agency, Office of Air and Radiation, Indoor Environments Division, Washington, D.C. EPA 402-K-01-001. March 2001.

Weather Underground, The. 2011. Weather History for New Bedford, Massachusetts, March 11, 2011. Available at:

[http://www.wunderground.com/history/airportfrompws/KEWB/2011/3/11/DailyHistory.html?req\\_city=NA&req\\_state=NA&req\\_statename=NA](http://www.wunderground.com/history/airportfrompws/KEWB/2011/3/11/DailyHistory.html?req_city=NA&req_state=NA&req_statename=NA)

**Picture 1**



**Water-Damaged Ceiling Tiles in Breakroom**

**Picture 2**



**Water-Damaged/Mold Colonized Vinyl Wallpaper and Gypsum Wallboard in Breakroom**

**Picture 3**



**Water-Damaged Wooden Window Trim in Breakroom**

**Picture 4**



**Exterior View of Leaking Breakroom Window**

Table 1

Location/Room	Moisture Testing/Results	Comments
Background/Outside		Moderate to heavy rainfall, winds South 13-20 mph, gusts up to 30 mph
Rear Entrance/Lobby		All water-damaged materials replaced, no current damage
Main Lobby		All water-damaged materials replaced, no current damage
Rooms 6 & 7		All water-damaged materials replaced, no current damage
Break Room	Ceiling Tiles – low/dry Wooden Window Trim – low/dry Gypsum Wallboard – med/moist	Water-damaged ceiling tiles, gypsum wallboard and wooden window trip, window leaks-likely

# Appendix A



**ServiceMaster Services, Inc.**  
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December 13, 2010

Massachusetts Department of Transportation  
Attn: Robert Northrup, Jr.  
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Boston, MA 02116

RE: Registry of Motor Vehicles – New Bedford, MA

## Proposal

The following is my proposal and recommendations based on our walk-through meeting last week. As discussed, this project will be performed over two days as we both felt a Saturday and Sunday would be best.

Areas to be serviced are as follows:

1. Main waiting area approximately five feet off fireplace wall from storefront window to glass partition wall of license photograph room
2. Approximately 6X6 foot area of ceiling in license photograph room
3. Approximately 3X5 foot area on rear vestibule
4. Approximately 7X10 foot area between vestibule area and kitchen wall
5. Approximately 4X12 foot area off window wall of kitchen

Services to be performed in the above areas:

1. Set-up containment, tarp, and isolate working areas
2. Removal, bagging, and disposal of affected ceiling tiles
3. HEPA vac all surfaces of ceiling beams and roof decking
4. Hand washing and treating of affected surfaces with anti-microbial cleaning agents
5. Spray apply affected areas with Fiberlock Mold Resistant Coating

**Total Project Cost (including labor & materials): \$4,206.00**

Proposed by:

Richard S. O'Rourke  
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