

BUILDING DRYING: AFTER THE FLOOD

BY ART JOHNSON

Experiencing water damage can be very traumatic. As water spreads over the floor and makes contact with carpets, baseboards, drywall and furniture (among other items), it begins to do damage. When it moves down to floors below, ceiling tiles may collapse, light fixtures may fill with water and computers and filing cabinets suffer along with personal belongings.

Most individuals who experience water damage instinctively call a restoration company to bring their building back to its pre-loss condition. However, not all restoration professionals are created equal. To separate the 'good' from the 'bad,' it is important to understand the science of drying.

When flooding occurs, all porous materials within a building absorb moisture. This includes wood, concrete, carpeting, drywall, ceiling tiles and even computer components. As bulk water comes into contact with these materials, it causes tremendous vapour and static pressure resulting in rapid wetting of most materials. Even materials not in direct contact with water are quickly affected by the presence of high humidity and begin to take on added moisture. Time, then, is of the essence.

Knowing this, the restoration professional should immediately stop the moisture migration in its tracks.

How?

By collecting the water and sending it back down the drain to where it belongs. This, of course, only pertains to fresh water floods that do not contain chemicals or other materials restricted from the city's sewer system.

There are two different approaches to the collection process. The first is physical extraction using a portable or truck-mounted extraction system. The second is evaporation, which is more expensive and time consuming but critical to the drying process. In this approach, the restoration professional uses high-velocity air movers and dehumidifiers to remove evaporated water from the air.

A good extraction unit removes water 1,200 times faster than evaporation. However, if the restoration professional fails to do a thorough job, the drying equipment will have to stay on longer. This may amount to a couple days or even weeks.

For properties with glue down carpets, the technician should not stop the extraction process until the carpet is damp to the touch. When it comes to carpets with underpadding, a good technician will lift a corner of the carpet and squeeze the underpad. If no water is squeezed out, then the technician has been thorough enough. However, if the extraction does not pass this test, property managers may experience an odour produced by bacteria or, eventually, mould growth.

Water extraction alone cannot remove moisture from

wet building materials. This is where the second approach to moisture collection — evaporation and dehumidification — comes into play. This area is the least understood by individuals suffering water damage and usually drives the cost of the loss up.

To successfully remove moisture from the air, dehumidifiers are required. These machines condense moisture on their cold coils and then dispose of it down a drain via pump-out hoses. They also increase evaporation from surfaces by keeping the relative humidity low. The number of dehumidifiers needed is based on the cubic footage of the area to be dried, class of water damage (the severity of the water damage and materials affected) and dehumidifier capacity.

The next step is the efficient use of high-velocity air movers commonly referred to as blowers or fans (though they have unique characteristics and power demands specific to the drying industry). This is the only way to remove any remaining moisture. They also expedite drying time.

Working in tandem, air movers keep moisture moving and suspended in the air until it reaches the dehumidifiers. If the restoration professional neglects to use dehumidifiers, the high-velocity blowers will simply move the moisture until it settles on a cool surface, such as a window or exterior wall, resulting in a whole new set of issues and concerns. This may include condensation on windows, contributing to mould and mildew and even wood rot.

Air movers must be strategically located to work effectively. Research indicates air movers are most efficient when spaced 10 to 16-feet apart along the walls of the water damaged area. They must be placed at a certain degree or angle and the restoration technician needs to take into account any nooks and crannies.

To determine the number of air movers required, the restoration professional should measure the linear feet of effected walls and divide that number by 10 to 16-feet. A couple of air movers should also be placed in the center of the room to address the evaporation aspect of that area.

The importance of proper drying procedures cannot be overstressed. Hiring a 'good' restoration professional minimizes business interruption, occupant discomfort and saves the property owner money and heartache in the long-term. ♦

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