

Fast Facts

about Wet Basements

by

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Of the hundreds of old building problems tackled over the last 20 years by our Building Doctors, one has been by far the most prevalent—wet basements. At one time or another nearly every old building will experience a wet basement. Obvious and hopefully rare causes could range from a sewer backup to a major flood. However, the majority of causes are not so obvious, resulting in visible water on floors or walls, or at least a damp feel or musty odor that is present most of the time or predictably during certain seasons. A basement does not have to have standing water in order to have a serious, damaging, and unhealthy problem. The cause can sometimes be traced by looking at the outside of the building, where there may be a missing or leaking downspout or gutter, or a low section of earth or pavement that is directing water into the foundation and basement each time it rains. Perhaps



Dense bushes growing close to a building's foundation hold water and keep sunlight from drying the foundation, leading to basement dampness. The bushes pictured here have since been removed from this Lowell, Ohio, home.

foundation plantings that hold moisture next to the building and prevent the foundation from drying out are contributing to the problem. Signs of basement dampness include:

- standing water or puddles of water.
- mold, mildew, or fungus on wood.
- warped or rotted wood.
- rusted metal.
- condensation on basement windows.
- air that feels damp or clammy.
- a musty odor.
- damp or wet foundation walls.
- efflorescence—a white, powdery substance—on masonry walls or floors.
- in masonry buildings, a “high water” mark on exterior walls, indicating the point to which water has risen by capillary action.
- spalled (meaning the face is falling off) masonry and eroding or missing mortar in the foundation wall; or damaged plaster, moisture blisters, or damaged paint in a finished basement.
- insects that are attracted to moist conditions.

Every building should be inspected at least twice yearly and more often if problems are evident. Inspections are conducted from the roof down to the ground to follow the path of precipitation and reveal any signs of dampness or damage.

Note and photograph areas of suspected moisture damage for comparison purposes. Observe the building during a hard rainstorm to ascertain where the water is going and whether or not gutters, downspouts, and sub-surface pipes are adequately sized,

correctly placed, and working properly. Some conditions that can lead to a wet or damp basement include a high groundwater table or the presence of a source of water such as a well, cistern, spring, or stream at or near a building's foundation or under the basement or crawl space.

When deciding on an approach to a wet-basement problem, always use treatments that protect the historical significance of the building and its site. A common-sense approach to solving wet-basement problems entails removing one potential source of moisture at a time so the effectiveness of each remedy can be accurately assessed. If several remedies are tried at the same time the actual cause of the problem may never be known, money and time may be wasted, and worse, damage to the building may result. A “minimalist” approach is always the best one—try the simplest remedies first.

- The best way to avoid costly repair work later is to implement a program of ongoing care and cyclical maintenance now.
- Always investigate, find, and solve the problem before repairing or replacing deteriorated historic materials.
- Replace deteriorated or missing historic materials with exact matches.
- Allow wet materials to dry thoroughly (up to a year) before re-applying any new finishes.
- Don't store anything against interior or exterior foundation walls; they need to have air circulating around them to help keep them dry.
- Check and repair all plumbing leaks immediately, including air conditioner drain hoses.
- Clean gutters, downspouts, and sub-surface pipes at least twice a year and, if necessary, add extensions to downspouts to discharge the water farther away.
- Be certain that the ground and pavement slope away from the foundation and that there are no low or settled areas.
- Remove foundation plantings such as trees and shrubs that block sunlight and keep the ground wet.



Both chemical salts (efflorescence), which leaves white residue, and mold or moss can grow on old buildings when a broken downspout allows water to shed over a portion of the building's exterior. Damage to interior plaster and wall finishes also can result.

- Check for improperly installed insulation, or insulation installed without a vapor barrier or adequate ventilation.
 - Use a basement fan or dehumidifier (not both) during periods of very high humidity and dampness.
 - Take care when using humidifiers that may be attached to the building's heating system, as they introduce additional moisture.
 - Be aware that applying a waterproof coating to the inside of basement walls will not prevent moisture damage and may make the situation worse by preventing evaporation.
 - Consider adding an exterior perimeter drainage system or a sump pump and interior perimeter drains for chronic wet-basement problems that cannot be solved by other means.
 - For extremely wet conditions, measures may be taken such as excavating and waterproofing the exterior foundation walls or installing a damp-proof masonry course or membrane in the foundation walls.
- Shield open basement window wells from water that may collect and leak into the basement.
 - Using a mortar mix that matches the original in composition and appearance and is softer than the masonry, re-point areas of foundation walls that have missing mortar and repair or replace damaged masonry.
 - Keep caulking in good condition around windows and doors and at gaps between materials.
 - Open or close, as appropriate, screened windows, grilles or vents to provide adequate ventilation and keep moist air outside.
 - Always vent clothes dryers to the outside and use bathroom and kitchen windows or exhaust fans regularly to get rid of moisture inside the building.

Wet basements can be puzzling, extremely annoying, and damaging, but through periodic inspections and monitoring, followed by common-sense evaluations and step-by-step elimination of the sources of moisture, your building's "feet" will again be dry.

For more information on wet basements, contact the Ohio Historic Preservation Office.

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