

INDIANA HISTORICAL SOCIETY
COLLECTIONS ADVISOR
A RESOURCE FROM IHS LOCAL HISTORY SERVICES

Issue 138 | April 2023

Drying Out Basements in Historic Buildings

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The spring rains are upon us, and it can be a challenge keeping buildings dry. Whether the issue is creeping damp in foundations and dirt floors or new water incursion, organizations caring for historic buildings need to have plans for monitoring conditions and mitigating damage. So, we are revisiting a Collections Advisor article from June 2014, written by our colleague Alan Rowe, for a refresher on managing wet basements.



Indiana World War Memorial, interior, basement area, 1936 (Bass Photo Co. Collection, Indiana Historical Society)

Wet basements often seem like a fact of life when historic buildings are considered. Rock foundation walls and dirt floors are common features of historic buildings that can seem to be inherently damp. The high humidity that results from basement dampness can cause irreversible damage to the structure of your historic building and to the irreplaceable collections housed inside.

Preventive maintenance and creating a cyclical maintenance checklist are two proactive ways that you can reduce the cost of repairs and ensure that your collections are protected from the elements. There are several practical and relatively inexpensive ways that you can manage wet basement conditions.



Dirt Floor covered with 6 mil of gravel. (Image provided by Amanda Manahan)

Begin your approach to the problem by assessing where the water enters the basement. Try to monitor the walls and floor during and after a rainstorm to pinpoint where the worst areas are located. Once you have a better idea of how excess water is entering the basement, you can take the following measures to reduce, or even stop, the problem at its source.

- Check your gutters and downspouts. Make sure that they are complete and channeling water away from the building. If your building does not have gutters, consider adding historically appropriate gutters and downspouts.
- Make sure the ground surrounding the building slopes away as much as possible to keep water moving away from the foundation.
- Clean any debris and junk out of the basement to ensure easy access and free air flow.



Ventilation fan controlled by a dehumidistat. (Image provided by Amanada Manahan)

- Cover dirt floors with 6 mil plastic sheeting and overlay the sheeting with a thin layer of gravel. The plastic will reduce the moisture that rises through the dirt and the gravel makes it possible to walk on the plastic without risk of punctures. A ventilation fan controlled by a dehumidistat has been installed in this basement window to provide additional ventilation.
- Install a basement ventilation fan that is controlled with a dehumidistat. A dehumidistat is a sensor that switches on the vent fan when the humidity in a space exceeds a set amount.
- Monitor fluctuations in temperature and humidity in the basement using a datalogger. Use the data collected by the datalogger to adjust the settings on the basement ventilation fan as necessary to create the best climate possible.

Further Resources

- [Collections Advisors](#) (Indiana Historical Society)
- [Timely Tips](#) (Indiana Historical Society)
- [Resources](#) (Indiana Landmarks)
- [Preservation Brief 39](#) (National Park Service)
- [From the Roof Down...and Skin Deep](#) (National Park Service)
- [Basements](#) (This Old House)

Collection Trainings

Care of Judaica

April 3 – (Connecting to Collections Care)

Digitizing Scrapbooks

April 4 – (Northeast Document Conservation Center)

Deaccessioning Demystified

April 13 – (in-person at Elkhart County Historical Museum)

Thinking Outside the Box When Boxing

April 25 – (Northeast Document Conservation Center)

Webinars

Recorded – (Indiana Historical Society)

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