TALKING CIRCLE

A Snapshot in Safety and Risk

TRIBAL FIRST®

Preventing Property Damage from Water Intrusion

Damage to buildings, and their contents, from water intrusion is one of the most widespread and severe risks commercial and residential property owners face, with costs exceeding a billion dollars annually. Preventing this damage can be challenging, as water can enter a building through multiple routes, each requiring a different prevention strategy.

This safety snapshot covers three basic sources/paths of water intrusion and potential control measures. Water damage from severe weather (e.g. hurricanes) is covered in other available resources.

Maintenance

Most preventable water damage is due to deferred or inadequate maintenance. Develop a comprehensive maintenance program that identifies water entry points and implements appropriate mitigation measures. The plan should be specific to a particular building and situation and account for seasonal variables due to local climate.

Areas to address:

Roof: Conduct visual inspections at least semi-annually. More frequent inspections are warranted by severe weather. These inspections should be conducted after each severe weather event. to identify and address damage that affects roof integrity—plan for component lifespan and replacement before major failure.

Water Drainage: Perform regular visual inspections for damaged components (e.g. gutters, downspouts, extensions) and blockage or restriction of water flow.

Plumbing/Fixtures: Know component characteristics. Some materials are more prone to fail under certain conditions or have shorter lifespans. The program should implement:

- ✓ *Water and/or moisture detection devices in areas prone to overflow, leaking, freezing, etc.* Many modern products/systems have additional benefits, and some insurance carriers are mandating installation.
- ✓ Emergency shutoff procedure to limit damage after acute failure. Ideally, install and identify multiple shutoff points to limit impact.
- ✓ Scheduled component replacement before major failure due to lifespan.

Sewer Backup: Municipal infrastructure can present significant risk factors and is often beyond a property owner's control, e.g. aging infrastructure, overloaded or combined sewer lines, and city main blockage. However, the owner can bear responsibility for sewer laterals leading to the public street or right of way.

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Consider:

- ✓ Identify trees with roots that can invade or block sewer lines. Remove the trees or have a professional cut the roots periodically.
- ✓ Properly dispose of grease after cooking. DO NOT allow grease to be washed down the drain.
- ✓ Properly dispose of paper products (e.g. paper towels, diapers, hygienic wipes, feminine products) which will constrict/plug the sewer line.
- ✓ Consider plastic pipe when replacing the drainage line. This material has a longer lifespan and prevents tree roots from entering the sewer line.
- ✓ Install a backwater (backflow) valve to prevent drainage flow toward the building.
- ✓ Identify and correct illegal connections, e.g. sump pump connected to sanitary sewer.

Construction

Water damage due to poor or questionable construction is, in simple terms, dependent on how well the structure was built. In “normal” weather (i.e. not flooding) a well-constructed building can keep water out. While an average person often cannot determine if a building was built properly, there are some simple ways to identify potential issues that don’t require extensive technical knowledge:

- ✓ Assess the quality and integrity of the *roof, skylight, window, and door flashings*. These are natural entry points and deteriorate from weathering.
- ✓ Observe the path and adequacy of roof drainage systems for the anticipated load posed by rainfall or snow buildup. Look for areas of pooling, backup, or foundation erosion.
- ✓ Ensure the design of the roof and drainage addresses ice damming (if present in your climate). Damming can cause water backup into the building or create slip/fall hazards on adjacent walkways.
- ✓ Consider, based on your risk assessment, upgrades like rainscreens or barrier walls. Each has pros and cons and should be researched for the independent situation.
- ✓ Ensure land adjacent to the building is sloped to channel runoff away from the building. Poorly graded land can lead to gallons of water entering per day or cause foundation damage. Many climate types necessitate mechanical drainage to prevent intrusion at subgrade levels. Observe the adjacent ground after moderate or heavy rains; look for pooling or spongy/eroded earth to identify issues.

Activity

Water vapor due to human activity commonly collects and condenses in buildings. Condensation along air-conditioning ductwork paths is a common example of this. Unfortunately, it leads to damage over time and more importantly, results in health hazards, including mold. Controlling moisture is extremely challenging, especially in humid climates.

Possible measures:

- ✓ Increase air circulation and movement to disperse local humidity.
- ✓ If the building has a crawlspace, cover the dirt with a plastic cover.
- ✓ Identify and vent sources of moisture to the outside.
- ✓ Ensure pipes and other cold surfaces are insulated to prevent condensation.
- ✓ Adjust air conditioning use for the climate region. Improper use may not remove moisture and encourage biological pollutants.

Tribal First Risk Control has resource materials to assist our clients. Please contact us at riskcontrol@tribalfirst.com. In addition, a live webinar on Preventing Water Damage was presented by Tim Leech on October 9th, 2024. An archived video may be viewed at https://attendee.gotowebinar.com/recording/3789041756624295597

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