



## New Resource Available During Coronavirus Disease (COVID-19) Pandemic

We understand the concern and uncertainty you may be experiencing surrounding the coronavirus (COVID-19). We are committed to ensuring our high level of service and support during these extraordinary times. Being responsive to the needs of our brokers, agents, insureds and claimants remains our top priority.

As the situation evolves, we're here to do everything we can to ensure you have access to the products and services you need to serve your clients. In an effort to offer any support that we can to you and your business, as a resource to you, we have collaborated with RiskNomics to provide the following memo with best management practices for a building's or facility's potential shut down during the COVID-19 pandemic.

As a division, we pride ourselves on rising to meet major challenges with optimism and determination. Even in uncertain circumstances, you can be confident that our team is taking measures to provide seamless continuity in our service to you. Our goal is to minimize disruption to our business operations and maintain high service standards.

We hope that when you have the opportunity, you will let us know if we can do anything to help make this time less stressful for you.

Environmental liability can be highly complex, but Great American Environmental Division's unique combination of resources, support and national presence assures we can continue to provide high-quality service while addressing the ever more challenging environment in which we operate.

Our dedicated environmental claims handling unit and nationwide network of emergency response firms, remediation contractors and environmental attorneys are here to provide the technical expertise and responsiveness you need to provide your customers with comprehensive risk management.

Thank you for your business and continued support.

### **Great American's Environmental Division**

*Our division is adhering to the guidance provided by the Centers for Disease Control (CDC).  
For additional information about COVID-19, visit [cdc.gov](https://www.cdc.gov).*

## Best Management Practices

Reduce Property Damage, Mold Development and Legionella amid Building/Facility Shut-Down during Coronavirus Disease 2019 (COVID-19) Pandemic

### Overview

The world is currently responding to an outbreak of coronavirus disease 2019 (COVID-19), which was first detected in Wuhan, Hubei Province, China in December 2019 and has now been detected in over 160 countries and territories, including the United States. As COVID-19 is an emerging respiratory disease and public health threat, there is still much to learn about its transmission, clinical course, and populations at increased risk of disease and complications.

### CDC Current Recommendations

The Centers for Disease Control and Prevention (CDC) has reported that large events and mass gatherings can contribute to the spread of COVID-19 via infected persons who attend these events and introduce the virus to new communities. Examples of large events and mass gatherings include conferences, festivals, parades, concerts, sporting events, weddings, and other types of assemblies. As such, on March 15, 2020, the CDC recommended that organizers cancel or postpone in-person events that consist of 50 people or more throughout the United States for the next 8 weeks, which has prompted the closure/shut down of large events and mass gatherings as well as many businesses, hotels, resorts, restaurants, bars, churches, schools, etc.

### Introduction

RiskNomics, LLC (RiskNomics) is providing the following guidance on the best management practices to be implemented in vacated/closed properties in the wake of the COVID-19 pandemic. This guidance is aimed at minimizing the occurrence of property damage during periods of no occupancy (e.g., water intrusion damage, etc.) and minimizing the occurrence of other potential public health threats (e.g., mold proliferation, legionellosis, Legionnaires' Disease, etc.) following closure/shut down of many buildings/facilities throughout the United States.

### Inspection and Maintenance during Unoccupied Periods/ Emergency Situations

During periods of vacancy, any number of incidents may occur that could lead to water intrusion damage and mold development such as broken plumbing system components, building envelope leaks, and HVAC system issues. Because mold can develop in as little as 24-48 hours following a water intrusion incident, it is imperative that maintenance plans include protocols for regular inspections during periods of vacancy so that any problems are detected early and corrected promptly.



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**General Best Management Practices:**

- Routine building inspections, including the exteriors and roofs of the buildings, should continue to be performed on a regular basis during periods of closure/no occupancy to ensure buildings/facilities are in good condition and free from water damage and visible mold growth. Onsite maintenance staff and/or subcontractors should be alert to any of the following conditions and if they occur, immediately notify owner and/or property management personnel to ensure a prompt response and resolution:
  - Any plumbing problem or unknown problem that causes any amount of water to be released (e.g., broken or leaky pipes, faulty fire sprinklers, flooding, toilet/sink overflows, moisture intrusion from the exterior, etc.).
  - Any building materials that look like they have been damaged by water or are presently wet (e.g., stained drywall, stained or moisture-laden ceiling tiles, wet carpet, standing water for which the cause is not identified and apparent, etc.).
  - Broken or incorrectly operating exterior landscape sprinklers or water devices for interior plantings. These should not spray the interior or exterior of the building in any way.
  - Broken, leaky, or incorrectly operating decorative fountains or other indoor water features.
  - Any standing water or puddles of moisture.
  - Any visible mold anywhere.
  - Moldy or musty odors in a particular area particularly at certain times of the day or after major weather events. Musty odors are often an indicator that mold growth is hidden behind a wall cavity or behind cabinetry or under carpeting or behind wall coverings. Building materials (e.g., carpet, ceiling tiles, drywall, etc.) should not be disturbed in an attempt to find suspected hidden mold as hidden mold concerns should be addressed by professional maintenance personnel and/or other trained subcontractors who have certifications/expertise in mold remediation and investigation.
  - Unusual or elevated temperatures. Temperatures should generally be maintained between 68 - 79 °F.
  - Unusual or elevated indoor humidity. Relative humidity should generally be maintained at or below 65% (preferably between 30% and 60%).
- In general, all damaged building components should be repaired immediately to ensure an intact, moisture-free building envelope and prevent life-safety concerns.
- Normal building maintenance procedures should continue during vacant periods, particularly the operation of climate control systems to monitor and control building temperature and humidity. Any decision to reduce operational costs by reducing building maintenance or system operation during periods of vacancy should be carefully evaluated as mold can develop when favorable temperature and humidity conditions are present.
- Onsite maintenance staff and/or subcontractors should ensure that back-up power generators and alternate power sources are on stand-by and can maintain building temperature and humidity at acceptable levels.
- Consideration should be given to installation of alarms/alerts when building parameters conducive to water intrusion and/or mold growth are occurring or when building systems fail to operate in a manner consistent with maintaining acceptable indoor air quality limits.
- Onsite maintenance staff and/or subcontractors should keep any sump pumps and other critical equipment operating properly.

## Construction Job Sites

Some construction job sites may be interrupted or delayed with unfinished building envelopes during COVID-19-imposed closures/shut downs. The following should be considered for new construction, but could also apply to remodels, renovations and repairs, where new building components were being integrated with existing assemblies when COVID-19-imposed closures/shut downs occurred:

- Consider the ramifications of climate and weather on the ongoing project during COVID-19-imposed closures/shut downs.
- To the degree feasible, unfinished or incomplete building envelopes should be secured with temporary coverings to minimize the occurrence of water intrusion and the likelihood of water damage and mold growth. Furthermore, onsite maintenance staff and/or subcontractors should be vigilant in monitoring areas where temporary coverings have been installed to report any water intrusion events so that they may be addressed promptly to prevent water damage and visible mold growth.
- All stored materials (e.g., lumber, drywall, etc.) should be moved into interior storage areas where they will remain safe and dry, or stored materials should be completely covered and protected to the fullest degree possible from the weather and elements if relocation is not feasible. It is also recommended that porous materials (e.g., drywall, ceiling tiles, etc.) be placed on risers so they are not in contact with the floor or the ground. If building materials do come into contact with a moisture source, dry out the affected areas and remove and dispose of the affected materials immediately.
- Once construction resumes, inspect all building components to ensure they are free of mold growth prior to installation. Mold growth may not be visible, but should be suspected if staining, odors, or evidence of leaks are found. Wet building materials should never be installed.

## Maintenance of Water Systems

Onsite maintenance staff and/or subcontractors should also understand the importance of maintaining water systems for buildings/facilities and recognize some of the common internal and external building factors that can contribute to the development of legionella.

- Onsite maintenance staff and/or subcontractors should ensure continued compliance with all state and local regulations pertaining to legionella during periods of closure/no occupancy.
- Onsite maintenance staff and/or subcontractors should ensure that water operating temperatures are maintained according to the facility's Water Management Program for Legionella. Many events/conditions can cause the hot water temperature to drop into the range where legionella can grow including heat loss due to water stagnation. Stagnation also encourages biofilm growth and reduces effectiveness of disinfectant treatments. As such, it is critical that stagnation of water systems is not allowed to occur. Water flow management procedures should be maintained during periods of closure/no occupancy through circulation and/or periodic flushing of water systems to prevent stagnation. All distal sites should be run a minimum of 5-10 minutes at least every 5-7 days.
- Onsite maintenance staff and/or subcontractors should ensure that disinfection protocols and cleaning procedures are continued during periods of closure/no occupancy. For systems with marginal issues, chlorine provides effective results at 0.5 ppm residual in the hot water system.

For systems with *legionella* concerns, temporary shock chlorination—where levels are raised to higher than 2 ppm for a period of 24 hours or more and then returned to 0.5 ppm—may be effective. Without adequate disinfectant and cleaning, even small amounts of legionella bacteria that enter the building's water system can grow swiftly and result in a widespread public health problem (i.e., *legionellosis* and Legionnaires' Disease). Onsite maintenance staff and/or subcontractors should be familiar with disinfection protocols and cleaning procedures and periodically measure residual disinfectant in water systems to determine if additional facility treatment is needed.

- If the building has a secondary disinfection treatment system, onsite maintenance staff and/or subcontractors must ensure that the system is maintained with respect to proper water chemistry. Consideration should be given to remote monitoring of water quality by the disinfection manufacturer.
- Onsite maintenance staff and/or subcontractors should understand that water main breaks and changes in water pressure can dislodge biofilm and free legionella into the water, while dirt and other materials can be introduced into the water and use up disinfectant. Onsite maintenance staff and/or subcontractors should immediately notify owner and/or property management personnel to ensure a prompt resolution if a water main breaks or changes in water pressure are discovered.
- Owners/property managers should establish procedures for reducing risk associated with the shutdown (and start up following shutdown) of domestic water systems. Onsite maintenance staff and/or subcontractors should be familiar with these procedures in the event of shutdown of domestic water systems.
- Compliance with American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)/American National Standards Institute (ANSI) Standard 188-2018 may be required if the building(s) falls within the purview of this guideline and if so, compliance with the building water management program must be maintained, which would include cooling tower maintenance along with all water features that could be sources for legionella growth.
- Owners/property managers must ensure that contracts with all outside vendors who maintain cooling towers and other water features are maintained during periods of closure/no occupancy.

Owners and/or property managers should ensure up-to-date emergency contact information for in-house and regular sub-contracted personnel as well as third-party personnel that may need to be retained (e.g., environmental health specialists, microbial consultants, remediation contractors, plumbing/electrical contractors, etc.) are readily accessible. Up-to-date emergency contact information, including emergency first responders, should be easily accessible.



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