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# Maintaining Water Quality in Buildings During COVID-19 Response

The Philadelphia Water Department urges owners and operators of dormant buildings to **flush building water systems** while closed and before reopening.

Water sent to all buildings is safe to drink and quality is not impacted by the virus causing COVID-19.

However, buildings of any size that have been closed or used less frequently for an extended period may experience problems with water quality due to stagnation, or old water sitting in pipes.

**Property owners are responsible for ensuring the water in their building is safe. Reopening should include a plan to address the water quality risks in dormant buildings.**

The Pennsylvania departments of Environmental Protection (DEP) and Health (DOH) [issued guidance](#) stating that flushing pipes and plumbing systems can help ensure your property is safe and ready for use once you reopen. Below are some steps property owners should consider including in reopening plans.

Building owners and tenants should take the following actions to reduce risks associated with stagnant water:

- Run water from all outlets which dispense water **at least weekly**. The goal is to replace all stale water in the building pipes with fresh water from the source to every possible outlet. Follow this Environmental Science Policy & Research Institute guide on [how to flush the water in your building](#).
- Flush cold water lines **before** hot water lines
- Check your hot water system. Set your water heater at **120 F**. Run the hot water tap until it reaches its highest temperature.
- Take the proper steps before reopening. Follow the [CDC's eight steps to take before your business or building reopens](#).

**Note:** It is important to take these steps and create a reopening plan **even if you do not drink the water** in your building.

Use appropriate [protective equipment](#) if those flushing outlets could breathe in water droplets or mist.

*Legionella* bacteria, the cause of Legionnaires' disease, is spread through breathing in mist and small droplets, which can occur when a faucet is running at high-flow volume or in showers.

## Who should take these precautions?

This applies to any building not in use for more than one week. Properties managed as large campuses, like business parks and colleges, should also consider CDC guidance.

## What needs to be flushed?

Restarting building systems safely requires flushing all plumbing and devices that use water. Any devices that store or use water should be flushed. Examples include:

- Ice machines and refrigerators that dispense water and ice
- Water fountains and decorative fountains
- Water heaters, storage tanks, and any droplet or mist-forming devices, such as cooling towers, and humidifiers
- Eye-flushing devices, and certain medical and manufacturing devices and process equipment
- Kitchen taps, bathroom taps, laundry and utility sinks, bar sinks, bathtub taps, and showerheads

Where possible, remove aerators before flushing. After flushing is completed, clean aerator screens and place aerators back on the faucet.

## What problems are caused by unused water systems/plumbing?

Prolonged water stagnation can make water discolored or unsafe because of issues such as:

- Elevated lead and copper levels
- Growth of microorganisms, including dangerous *Legionella* bacteria
- Disinfection byproducts

*Legionella* bacteria and other pathogens grow in plumbing over time as disinfectant added at treatment plants slowly loses its ability to keep water safe.

## Testing

PWD does not provide testing of water quality for businesses and buildings. However, laboratories certified by the Pa. Department of Environmental Protection can provide these services. Find more information at <https://www.dep.pa.gov/> or contact the [Southeast Regional Office](#): 484-250-5900

Building managers can perform tests of **total chlorine residual** test using commercially available kits. A measurable **total chlorine residual** should be detected at each outlet to demonstrate that flushing is complete. **Only kits measuring “total” chlorine residual should be used.**

## Questions?

The Philadelphia Water Department is here to help. Call our hotline for emergencies at (215) 685-6300 or email [waterinfo@phila.gov](mailto:waterinfo@phila.gov) for nonemergency questions. The Water Department cannot assist with plumbing and water quality inside buildings and on private property.

## More Resources:

- Pa. Dept. of Health Guidance: <https://www.health.pa.gov/topics/Documents/HAN/2020-PAHAN-507-05-11-ALT-Restarting.pdf>
- The CDC issued [guidance](#) to ensure that building water systems and end-use devices are properly managed after a prolonged shutdown: <https://www.cdc.gov/coronavirus/2019-ncov/php/building-water-system.html>
- The CDC offers an online course for Legionnaires' disease prevention. The course contains four modules and takes about three hours to complete: <https://www.cdc.gov/nceh/ehs/elearn/prevent-LD-training.html>.
- Additional information for building owner/operators is in existing CDC resources, such as the *Toolkit: Developing a Water Management Program to Reduce Legionella Growth and Spread* in Buildings: <https://www.cdc.gov/legionella/wmp/toolkit/index.html>
- Water Quality Association: *General Guidance for Water Treatment Professionals on Proper Maintenance of Treatment Systems as Shelter-in-Place Orders are Lifted* [https://www.wqa.org/Portals/0/Reopening\\_Final.pdf?ver=2020-05-06-185418-453&timestamp=1588809371652](https://www.wqa.org/Portals/0/Reopening_Final.pdf?ver=2020-05-06-185418-453&timestamp=1588809371652)