



Public Services and Procurement Canada (PSPC) Building Water Systems Minimum Requirements – (COVID-19)

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In response to COVID-19, many client departments have reduced the number of employees who are present in the office. The resulting reduced building occupancy may increase risks associated with water systems and the use of the potable water system for the remaining employees. While Health Canada guidance at this time is that it is highly unlikely that drinking water is a route of transmission for COVID-19 (the disease) or SARS-CoV-2 (the virus), there are other issues to be considered.

As fewer people use the building water systems, there is increased potential for water stagnation. Stagnant water conditions increase the risk for bacterial growth including *Legionella*. In potable water systems, stagnant water conditions can also cause a loss of disinfectant residual and increase risks for the presence of lead. This document establishes minimum requirements. Site specific conditions may require additional measures.

The following requirements have been established by Technical Services Service Line and the Property Facility Management Service Line part of PSPC Real Property Services in consultation with Health Canada to address risks to building water systems. These requirements, which apply to PSPC crown-owned buildings will be reviewed and updated as required. For leases, it is required to have a discussion with the landlord to ensure that similar measures are being implemented prior to re-occupancy of leased spaces.

Communications Requirements

Note that in order for PSPC to successfully complete the required actions and testing to meet the minimum requirements prior to re-occupancy and to assist clients in their employer role; it is important that client departments provide sufficient advance notice of their intention to re-occupy a space that they have vacated. The amount of advance notice required will depend on a variety of factors (eg. regional capacity, localized demand, and remoteness of buildings). Communication is key to the success of re-occupancy; it is therefore important that clients be informed ahead of time of the planned actions and testing. It is equally important that the client departments be informed of actions completed and of the testing results.

A. Minimum Requirements for Potable (Cold) Water Systems and Building Hot Water Systems

A1. Buildings affected:

Buildings with reduced occupancy or unoccupied due to COVID-19. This occupancy condition is likely to last for the medium term as occupancy levels will be limited by physical distancing requirements in the workspace.

A2. Existing operational requirements for hot water:

Ensure that storage temperatures are maintained and that stagnant water conditions are avoided in accordance with the PSPC building's Legionella Bacteria Control Management Program (LBCMP).

A3. Periodic flushing:

During periods of reduced occupancy or no occupancy related to COVID-19, it is required to do a periodic flush in accordance with the following steps:

1. Remove aerators before flushing. Thoroughly clean aerator before re-installation.
2. A flush of **at least thirty (30) minutes** is to be conducted **at least every three (3) days** for each of the hot and cold water risers or main distribution pipes in the building. The flush is to be conducted from the point(s) of consumption (e.g. a kitchen faucet) furthest from the water entry on the top floor of the building (or the longest run furthest from the water entry for single storey sites) until:
 - a. the flushing time is completed and;
 - b. the measured temperature is stable for one minute (hot flush) and the presence of residual disinfectant is measured at the fixture (cold flush).
3. Flush (zone by zone) for **at least two (2) minutes on a weekly basis** all water fixtures that are directly connected to the building water system starting at the water fixture closest to the water entry. Examples include, kitchen faucets (cold then hot), drinking fountains, washroom faucets (cold then hot), showers (cold then hot) and equipment that is directly connected to the building water system, such as ice machines, coffee machines and eyewash stations.
4. It is important to open outlets slowly to avoid splashing and the creation of aerosols. Appropriate Personal Protective Equipment (PPE) should be worn. Consult your employer for requirements.
5. It is required to maintain a log of the flushing that is completed. As such, please use the following [template](#) to track flushing activities. This template is to be kept at the building level and available upon request.

If the building is not on a municipally feed system, ensure that the flushing program implemented does not exceed the capacity of your water source.

Daycare Requirements:

For buildings with an operating daycare, it is required to have a discussion with the daycare operator to recommend that daily flushes (5 minutes) be performed by the daycare operator at each of the points of consumption prior to the children's arrival.

Signage:

It is recommended that the following notice be installed at each point of consumption in the building (eg. at each drinking fountain and kitchen faucets):

“PSPC has implemented additional flushing during this period of reduced occupancy to ensure the continued safety of the potable water system in the building.

How you can help:

- Let the water run for two (2) minutes before consuming it.
- When washing your hands (min twenty (20) sec), let the water run to help with flushing the system.”

B. Additional Water System Considerations

Trap Seals: Trap seals may not be maintained if water system use has been reduced. Ensure that trap seals are maintained to keep sewer gases from entering the building. Pour water into floor drains and flush each sanitary fixture (i.e., toilet, urinal) **once a week** to maintain trap seals.

If regular maintenance activities are reduced, drain building water systems that are not being used (e.g., landscape irrigation, water reuse, decorative water features) to avoid stagnant water conditions. Ensure that the requirements of the building’s LBCMP are followed. Follow start-up procedures, manufacturer recommendations and requirements of LBCMP when re-starting systems.

C. Sampling programs

The annual potable water sampling program and the Legionella testing requirements established in the facilities LBCMP are to be conducted this year and should be coordinated with re-occupancy plans. Testing should be done as soon as possible for buildings that have implemented periodic flushing detailed in section A above. Test results, despite partial occupancy of the buildings, will allow us to assess the water quality and evaluate the effectiveness of the periodic flushing. Test results will inform the need to adjust the building’s periodic flushing program or implement additional corrective measures. Consult your regional technical center of expertise for assistance flushing program requirements, interpreting testing results, and implementing correctives measures.

The annual potable water sampling program must include the following minimum parameters:

- microbiological (E. coli, TC)
- metals (e.g., lead)
- residual disinfectant (e.g., chlorinated or chloraminated system)
- any site-specific parameters

D. Return to occupancy

The lack of occupancy of certain space(s) may last for the medium term. Before unoccupied space(s) can be re-occupied, the following steps must be completed for the space(s) that are being re-occupied.

Prior to re-occupancy of a space the property facility manager must complete the **water systems return to occupancy checklist** in Annex A. This checklist is to be kept at the building level and available upon request.

Please consult with your regional technical centre of expertise for support in implementing these requirements.

D1. For buildings that have implemented the periodic flushing detailed in Section A for at least a month prior to occupancy

1. Remove aerators before flushing. Thoroughly clean aerator before re-installation.
2. Remove filter before flushing (where possible, i.e. not on fixture that would not function without the filter) and install new filters after flushing.
3. Following the periodic flush at the top of the water risers or end of the main distribution pipes detailed in Section A, flush (zone by zone) for **at least five (5) minutes all water fixtures, in the space(s) to be re-occupied**, that are directly connected to the building water system starting at the water fixture closest to the water entry. Examples include, kitchen faucets (cold then hot), drinking fountains, washroom faucets (cold then hot), showers (cold then hot) and equipment that is directly connected to the building water system, such as ice machines, coffee machines and eyewash stations.
4. It is important to open outlets slowly to avoid splashing and the creation of aerosols. Appropriate Personal Protective Equipment (PPE) should be worn. Consult your employer for requirements.
5. Following the re-occupancy of a space(s) within the building, maintain the periodic flushing detailed in Section A for the building.

D2. For buildings that have NOT implemented the periodic flushing detailed in section A for at least a month prior to occupancy

For buildings that have **NOT** implemented periodic flushing detailed in section A for at least a month, additional measures must be taken prior to occupancy to minimize the risk from water stagnation in the building systems.

Before unoccupied space(s) can be re-occupied, the following steps must be completed:

1. Remove aerators before flushing. Thoroughly clean and disinfect aerator before re-installation.
2. Remove filter before flushing (where possible, i.e. not on fixture that would not function without the filter) and install new filters after flushing.
3. A flush of **at least thirty (30) minutes** is to be conducted for each of the hot and cold water risers or main distribution pipes in the building. The flush is to be conducted from the point(s) of consumption (e.g. a kitchen faucet) furthest from the water entry on the top floor of the building (or the longest run furthest from the water entry for single storey sites) until:

- a. the flushing time is completed and;
 - b. the measured temperature is stable for one minute (hot flush) and the presence of residual disinfectant is measured at the fixture (cold flush).
4. Following the flush at the top of the water risers or end of the main distribution pipes, **flush (zone by zone) for at least five (5) minutes, all water fixtures in the building** that are directly connected to the building water system starting at the water fixture closest to the water entry. Examples include, kitchen faucets (cold then hot), drinking fountains, washroom faucets (cold then hot), showers (cold then hot), eyewash stations, and equipment that is directly connected to the building water system, such as coffee machines, water coolers and ice machines.
5. It is important to open outlets slowly to avoid splashing and the creation of aerosols. Appropriate Personal Protective Equipment (PPE) should be worn. Consult your employer for requirements.
6. Sample and analyse the potable water in accordance with the requirements of section C above.
7. Provide an alternative source of drinking water until sampling results demonstrate that the drinking water quality meets the [Guidelines for Canadian Drinking Water Quality](#).
8. In the event of non-compliant testing results, the following actions are required in the space(s) that is being re-occupied:
 - a. Evaluate the need for space-specific measures (eg. fixture replacement, filters for lead, disinfection – See section E)
 - b. Re-testing for the non-compliant parameters
9. Following the re-occupancy of a space(s) within the building, the periodic flushing detailed in section A must be implemented for the building.
10. Additional re-occupancy of other spaces in a building are to follow requirements of section D1.

Note that it may take several days for testing results. Check with your laboratory for expected delays in obtaining results, as the COVID-19 situation could delay laboratory operations.

D3. Third party tenants (eg. commercial tenants)

For third party tenants, it is required to have a discussion with the tenant to remind them to follow recommendations from their jurisdiction related to water quality and to recommend that the tenant flush (cold then hot) all their water fixtures for at least 5 minutes prior to re-occupancy. The PSPC flushing program is designed to support the provision of water that meets federal requirements up to the entry to the third party tenant space.

E. Disinfection of water system

Disinfection of a portion of the building's water system may become necessary depending on site conditions. Implementing periodic flushing reduces the risk of bacterial growth. The results of the annual potable sampling program or Legionella testing may demonstrate a need to disinfect a portion of the building water system to address water quality issues.

If disinfection is required, a site-specific procedure must be developed and implemented. The procedure shall be:

1. Developed by a qualified professional

2. Meet applicable federal, provincial/territorial or municipal regulatory requirements (e.g., wastewater)
3. Consider the characteristics of the building's water system such as:
 - a. type of disinfectant (eg. chlorinated or chloraminated) used by the municipality,
 - b. materials of piping, fittings and fixtures
 - c. age and condition of the system

Following the disinfection of the building's water system:

1. Flush the system until residual disinfectant levels are at an acceptable level and do not exceed the Maximum Acceptable Concentrations established in the [Guidelines for Canadian Drinking Water Quality](#).
2. Complete re-sampling and analysis for the non-compliant testing parameters.
3. Provide alternate sources of drinking water until testing results indicate that the quality of the drinking water meets the [Guidelines for Canadian Drinking Water Quality](#).

Key Contacts

Please consult with your regional technical center of expertise for support implementing these requirements.

Technical enquiries related to this document should be directed to Senior Director Environment, Health and Safety, Technical Services Service Line, Real Property Services.

Facility Management enquiries related to this document should be directed to Senior Director Property and Facility Management Services Directorate, Property Facility Management Service Line, Real Property Services.

Annex A

Building Water Systems Return to Occupancy Checklist

Building Name:				
Building Address:				
Area Being re-occupied:				
Date Completed:				
Checklist completed by:				
Name:				
Email:				
Telephone:				
Element		Yes	No	Comments
1	Periodic flushing completed and log available (Refer to section A3)			
2	Signage posted at each point of consumption (Refer to section A3)			
3	Trap seals maintained (Refer to section B)			
4	Sampling programs (Refer to section C)			
5	Return to occupancy for buildings that have implemented the periodic flushing procedure completed (Refer to section D)			
6	Return to occupancy for buildings that have NOT implemented the periodic flushing procedure completed (Refer to section D)			
7	Alternate source of drinking water provided (if applicable) (Refer to section D)			
8	Disinfection of water system completed (if applicable) (Refer to section E)			