

May 31, 2018

**Re: Proposed plumbing and mechanical systems amendments**

Dear resident or business owner,

The City of Vancouver has updated water efficiency requirements and is proposing new amendments for building water systems. This letter is to inform you of recent changes and to invite your feedback on proposed amendments. For convenience, this letter is separated into two sections:

**SECTION 1 - Water Efficiency Requirements**

New water efficiency requirements are now in effect and additional requirements are set to take effect on January 1, 2019.

**SECTION 2 - Proposed By-law Amendments**

By-law amendments affecting new and existing plumbing and mechanical systems will be proposed to Council this year. A summary of the proposals can be found starting on page five for your review and feedback:

- **Part A:** Alternative water systems
- **Part B:** Rainwater cisterns, building water treatment systems, cooling towers/evaporative condensers and decorative water features
- **Part C:** Water closets, geexchange systems, and administrative items

To provide feedback, please submit your written comments by **June 28, 2018** by mail or e-mail to [chris.radziminski@vancouver.ca](mailto:chris.radziminski@vancouver.ca)

**Attend the Building By-law Workshop!**

You are invited to a free workshop on June 28, 2018 to learn about the proposals. Register [here](#) (password: greenestcity).

Sincerely,



Phillip White  
Gas Safety Manager  
Assistant Trades Manager



Christopher Radziminski  
Policy Analyst  
604.873.7453 | [chris.radziminski@vancouver.ca](mailto:chris.radziminski@vancouver.ca)

# WATER EFFICIENCY REQUIREMENTS\*

Maximum flush cycle, maximum flow rate and other requirements summarized below.



## ● EFFECTIVE JANUARY 1, 2018



### SINGLE PASS SYSTEMS, INCLUDING ONCE THROUGH COOLING

Prohibited



### TOILET

4.8 L/flush



### URINAL

1.9 L/flush



### SHOWERHEAD

7.6 L/min



### LAVATORY FAUCET

Private use 5.7 L/min

Public use 1.9 L/min + ● self-closing



### KITCHEN FAUCET

Non-residential use 8.3 L/min



### PRE-RINSE SPRAY VALVE

4.8 L/min



### RESIDENTIAL LANDSCAPE IRRIGATION SYSTEM

Shut-off valve & backflow preventer required.

Pressure reducing valve may be required.

Fertigation and Chemigation prohibited.

## ● EFFECTIVE JANUARY 1, 2019



### DISHWASHER



### CLOTHES WASHER



### ICE MAKER



### COMMERCIAL STEAM COOKER



### COMBINATION OVEN



### KITCHEN FAUCET

Residential use 6.8 L/min

For more information visit:  
[vancouver.ca/building-bylaw](http://vancouver.ca/building-bylaw)

\*Summary does not include all applicable Vancouver Building By-law and Water Works By-law plumbing requirements.

**BULLETIN 2018-003-PL**

March 21, 2018

## The Use of Once Through Cooling and Single Pass Systems

The purpose of this Bulletin is to advise contractors, consultants, suppliers and owners of changes to Water Works By-law 4848 regarding single pass systems, such as once through cooling equipment.

The Water Works By-law (WWBL) has been amended to prohibit the connection of once through cooling equipment, non-recirculating liquid ring pumps and other single pass systems to the City's water system (WWBL Section 3.9).

Additionally, existing once through cooling equipment, non-recirculating liquid ring pumps and other single pass systems must be disconnected from the City's water system by January 1, 2020 (WWBL Section 3.10, which also defines exceptions).

**Acceptable:** Air-cooled systems



**Prohibited:** Once-through cooled systems



### Explanation:

Once through cooling systems use drinking water in a single pass as a cooling medium. The water used for this process is then drained to the sewer. As a result of this wasteful use of drinking water, many jurisdictions in North America have banned their use. Alternative systems, such as air-cooled systems, are readily available.

(Original signed by)

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P. White  
Gas Safety Manager  
Assistant Trades Manager

(Original signed by)

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P. Ryan, M.Sc., P.Eng.  
Chief Building Official  
Director, Building Code and Policy

(Original signed by)

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D. Wong  
Manager, Waterworks Design

**BULLETIN 2018-002-PL**

February 1, 2018

## Discharge from Cooling Tower Drains

This Bulletin is to clarify that all drains connected to cooling towers are required to discharge to an acceptable sanitary connection.

Best management practices for the control of Legionella in cooling towers typically require the use of corrosion inhibitors, biocides and other chemical treatments. These additives and the recirculation of water through the mechanical system itself may add deleterious substances to the water medium and as such waste water and piping from these mechanical systems cannot be connected to a storm drainage system.

Building owners, operators, and consultants are advised that the Building By-law prohibits any arrangements that would likely lead to movement of waste water from such equipment into the storm drainage system by requiring the installation of a drainage system in accordance with Book II - Division B, Sentence 2.4.2.1.(1) of the Building By-law (see below).

### 2.4.2.1.(1) Connections to Sanitary Drainage Systems

- e) ... the following devices shall be indirectly connected to a drainage system
  - i) a device for the display, storage, preparation or processing of food or drink
  - ii) a sterilizer
  - iii) a device that uses water as a cooling or heating medium
  - iv) a water operated device
  - v) a water treatment device or
  - vi) a drain or overflow from a water system or a heating system

In accordance with the above requirements, all cooling tower installations are thereby required to direct the blowdown and all other drains from the associated mechanical systems to an indirectly connected sanitary drainage system in accordance with the requirements of the Building By-law and all other regulatory requirements including, but not limited to, metroVan and City of Vancouver requirements.

(Original signed by)

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P. White  
Gas Safety Manager  
Assistant Trades Manager

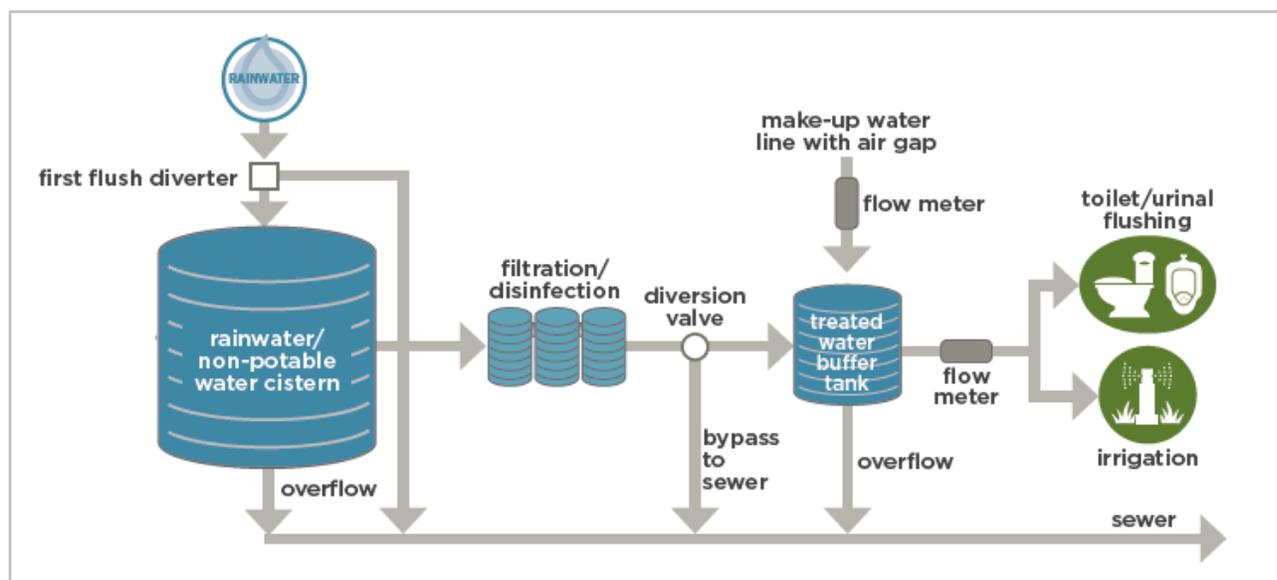
(Original signed by)

\_\_\_\_\_  
P. Ryan, M.Sc., P.Eng.  
Chief Building Official  
Director, Building Code and Policy

## SECTION 2 | Part A. Alternative Water Systems

**Summary:** An incremental approach is being proposed to clarify design requirements and to raise the commissioning, operations and maintenance standards of new and existing alternative water systems. This first step addresses non-potable applications for *rainwater* and *clear-water waste*<sup>1</sup>. Future steps will address other alternative water sources.

A performance-based approach to design has been proposed, with requirements for ongoing monitoring, testing and maintenance. The configuration shown below resembles what the City of Vancouver envisions for a rainwater-based, non-potable water system.



Source: Adapted from San Francisco's "Non-potable Water Program Guidebook" (January 2018)

For more details on proposed amendments see Appendix A. The proposed amendments will largely be contained in Vancouver Building By-law Plumbing Systems, Division B, Part 2 Plumbing Systems, Section 2.7 Non-Potable Water Systems.

**Share your feedback:** We want to hear from you! Share your feedback in writing or in person at the [June 28 workshop](#). Please refer to Part B of this letter for a related proposal for annual operating permits.

<sup>1</sup> Proposed definition: *Rainwater* means precipitation collected from roof surfaces or similar areas that do not allow the passage of vehicular traffic and are above grade. Hydrocarbon-based fuels, hazardous materials, or fertilizers are prohibited to be stored or used on such surfaces.

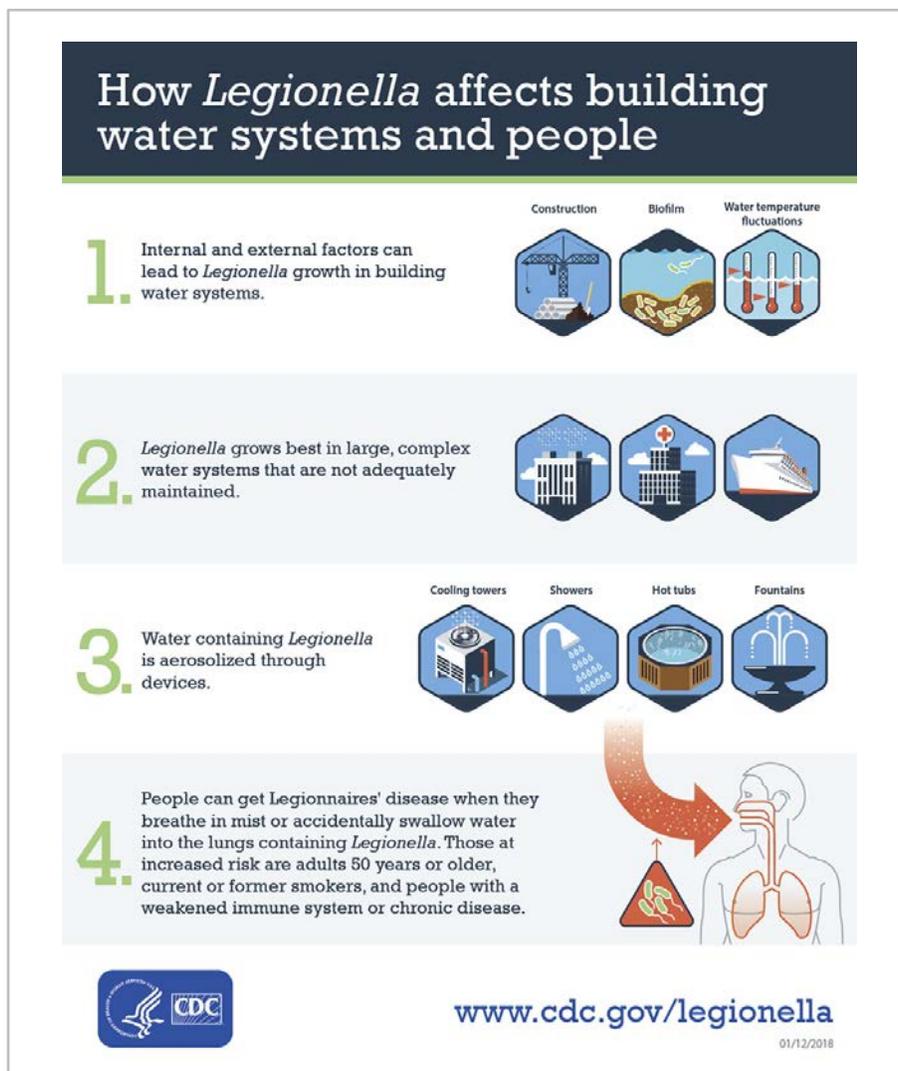
Existing Building By-law definition: *Clear-water waste* means waste water with impurity levels that will not be harmful to health and may include cooling water and condensate drainage from refrigeration and air-conditioning equipment and cooled condensate from steam heating systems, but does not include *storm water*. Examples of *clear-water waste* are the waste waters discharged from a drinking fountain, cooling jacket, air conditioner or relief valve outlet.

**SECTION 2 | Part B. Mechanical Systems: Rainwater cisterns, building water treatment systems, cooling towers/evaporative condensers and decorative water features**

**Summary:** An incremental approach is being proposed to improve the design, construction, operations and maintenance standards of targeted building mechanical systems. Proposed amendments include mandatory registration and annual operating permits for rainwater cisterns, building water treatment systems, cooling towers/evaporative condensers and decorative water features.

**Why the proposed amendments?**

The primary drivers are improved water quality and human health considerations, including the mitigation of opportunistic plumbing premise pathogens such as *Legionella*. A summary of the transmission route for *Legionella* is provided below:



Source: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention (January 2018)

## Proposed mandatory registration and annual operating permits

Building Mechanical System or Equipment	Rationale for Addressing System / Equipment	Proposed Mandatory Registration Period
Cisterns (rainwater collection and use)	<p>Rainwater cisterns are being incorporated into new developments, often as part of rainwater management plans or for green building certifications.</p> <p>There are examples of systems throughout the City that are improperly operated and maintained, and some have simply been bypassed. There is the potential for large volumes of stagnant water to be present, potentially affecting human health. There is the additional concern about confined space entry, as cisterns require periodic cleaning.</p> <p>Annual operating permits for cisterns are complementary to the proposals described in <b>Part A</b>, which details exemptions. For clarity, cisterns used for storm water detention are not included in this first step.</p>	<p>Starts January 1, 2019 Deadline June 30, 2019</p>
Building water treatment systems	<p>These systems may inject chemicals or provide other, supplementary treatment to City-supplied drinking water. Improperly installed, commissioned, operated, maintained or serviced, these devices have the potential to be deleterious to a building's potable water supply and to human health.</p> <p>Exempt from an annual operating permit would be detached single/dual family residential properties and systems for non-potable applications.</p> <p>Please note that these systems are the subject of City of Vancouver <a href="#">Bulletin 2016-001-PL</a>.</p>	<p>Starts July 1, 2019 Deadline Dec. 30, 2019</p>

Building Mechanical System or Equipment	Rationale for Addressing System / Equipment	Proposed Mandatory Registration Period
Cooling towers / evaporative condensers	<p>These systems are commonly associated with multi-story buildings and are expected to proliferate with increased population density. Presently there are about 700 cooling towers in the City, consuming up to 6% (6.2 billion litres) of treated drinking water annually.</p> <p>Currently there are no mandatory operations and maintenance requirements pertaining to the mitigation of pathogens such as <i>Legionella</i> or for ensuring water efficiency.</p> <p>For this proposed registry step, some North American models are the <a href="#">City of Hamilton</a>, the <a href="#">Province of Quebec</a>, <a href="#">New York City</a> and <a href="#">New York State</a>.</p>	<p>Starts January 1, 2020 Deadline June 30, 2020</p>
Decorative water features (indoor and outdoor)	<p>Decorative water features can be associated with <i>Legionella</i> outbreaks. They are of concern as decorative features tend to generate aerosols and <i>Legionella</i> is amplified when water is stagnant, warm and contains nutrients. They are the subject of a 2012 alert from the <a href="#">U.S. Department of Veterans Affairs</a>.</p> <p>Exempt from an annual operating permit would be detached single/dual family residential properties; decorative fountains with a flow rate less than a specified maximum (to be determined); and green walls smaller than a specified size (to be determined).</p>	<p>Starts July 1, 2020 Deadline Dec. 30, 2020</p>

An annual operating permit would raise the operations and maintenance standards for these systems and devices through formal reporting requirements backed up by plumbing inspector audits, all on a cost-recovery basis. The permit price is to be determined.

**What's next?**

Future steps will likely include a compulsory risk-based water management program (based on a recognised industry standard; refer to the [U.S. Centers for Disease Control and Prevention toolkit](#)) and ongoing monitoring and testing requirements. Premise plumbing design including pipe sizing will likely also be addressed in a future step.

**Share your feedback:** We invite your feedback by mail, [e-mail](#) or in person at the [June 28 workshop](#). Please also refer to **Part A** of this letter for a related proposal pertaining to non-potable water systems.

**SECTION 2 | Part C. Water Closets, Geoexchange Systems, and Administrative Items**

**Summary:** The following proposed amendments are applicable only to those activities triggering the Vancouver Building By-law (such as new construction and substantial renovations) for buildings of all types. The amendments apply to Vancouver Building By-law Book I, Division B, Part 10 Energy and Water Efficiency, Section 10.3 Water Efficiency.

Item	Current Vancouver Building By-law	Proposed Amendment
<b>Fixtures</b>		
Water closet (tank type)	<p>Maximum 4.8 litres per flush (Lpf)</p> <p>A water closet with a dual flush cycle of 4.1 litres or less and 6.0 litres complies with this requirement.</p>	<p>Maximum 4.8 litres per flush (Lpf)</p> <p>A water closet with a dual flush cycle of 4.1 litres or less and 6.0 litres complies with this requirement <u>when a non-potable source is used</u>.</p>

Item	Proposed Amendments
<b>Mechanical Equipment</b>	
Geoexchange systems	<p>Open loop ground water heat pump systems are prohibited.</p> <p>Methanol shall not be used for geoexchange applications.</p>
Non-recirculating applications	Housekeeping: Selected, existing provisions within Water Works By-law 4848 to be housed in the more visible Building By-law.

Share your feedback: We invite your feedback by mail or [e-mail](#).

APPENDIX A. Proposed Building By-law Amendments: Non-Potable Water Systems

Item	Code location	Proposed Vancouver Building By-law Requirement
Definitions	1.4.1.2 Division A – Part 1	<p><b>Accredited Laboratory:</b> Approved laboratory for the testing of <i>E. coli</i> that meets the testing requirements of Vancouver Coastal Health.</p> <p><b>Alert:</b> Consists of a bell, horn, speaker, light or text display that provides audible, tactile or visible outputs, or any combination thereof.</p> <p><b>Blackwater:</b> Wastewater from kitchen and utility sinks, urinals and water closets.</p> <p><b>Cistern:</b> Tank for storing potable or <i>non-potable water</i>.</p> <p><b>Corrective action:</b> A set of pre-established, site specific procedures that must be implemented within a specified time period when monitoring indicates a deviation from pre-established parameters.</p> <p><b>E. coli:</b> <i>Escherichia coli</i>.</p> <p><b>Greywater:</b> Wastewater including all sources except kitchen sinks and sewage.</p> <p><b>Irrigation:</b> To apply controlled amounts of water for non-food purpose plants at needed intervals.</p> <p><b>Non-potable water:</b> Water that is not appropriate for consumption.</p> <p><b>NTU:</b> Nephelometric Turbidity Unit.</p> <p><b>ONWS:</b> Onsite <i>non-potable water</i> system.</p> <p><b>Operating permit:</b> Permission or authorization for the continued use of the equipment or system that has been regulated by this by-law.</p> <p><b>Rainwater:</b> Precipitation collected from roof surfaces or similar areas that do not allow the passage of vehicular traffic and are above grade. Hydrocarbon-based fuels, hazardous materials, or fertilizers are prohibited to be stored or used on such surfaces.</p>

Item	Code location	Proposed Vancouver Building By-law Requirement
Administrative Provisions	1.6.3 Division C – Part 1	<b>Additional requirements for Plumbing, Sprinkler and Operating Permits</b>
Administrative Requirements	1.5.3.3 Division C – Part 1	<b>Order to remove or <u>repair</u> unsafe condition</b> When any building, construction, excavation or any systems that require an <b>operating permit</b> or part thereof is in an unsafe condition, the <b>Chief Building Official</b> may issue a written order to the owner, certifying the existence of an unsafe condition and requiring correction of any unsafe condition found on a building site or <i>within a building</i> in a specified time.
Non Potable Water Systems	2.7.4.2 Division B – Part 2	<b>Professional design</b> <b>ONWS</b> shall be designed by a registered professional engineer for the intended capacity based on; (a) the available collection area and; (b) anticipated demand of the fixtures that are listed as mandatory in 2.7.4.3
Non Potable Water Systems	2.7.4.3 Division B – Part 2	<b>Mandatory connections</b> Fixtures and systems that are required to be connected to the <b>ONWS</b> if installed are: (a) water closets; (b) urinals and (c) trap primers.
Non Potable Water Systems	2.7.4.4 Division B – Part 2	<b>Permitted use</b> <b>Rainwater</b> and <b>clear water waste</b> is permitted to be collected and used in lieu of potable water for the application of urinals, water closets, trap primers, irrigation, boiler make up water and cooling tower make up water.
Non Potable Water Systems	2.7.4.5 Division B – Part 2	<b>Backflow prevention</b> An air gap three times the size of the discharge opening is required for the potable make up water supplying the <b>ONWS</b> .

Item	Code location	Proposed Vancouver Building By-law Requirement
Non Potable Water Systems	2.7.4.6 Division B – Part 2	<b>Cistern security</b> <b>Cisterns</b> shall be secured to prevent tampering and unintended entry either by a lockable device or approved method. All penetrations shall be sealed to prevent insect or vermin entry
Non Potable Water Systems	2.7.4.7 Division B – Part 2	<b>Removal of particulates and impurities</b> Provisions shall be provided upstream of the <b>cistern</b> to remove the accumulation of impurities and particulates after the first and subsequent rainfall events before they enter the <b>cistern</b> .
Non Potable Water Systems	2.7.4.8 Division B – Part 2	<b>In line measurement</b> Provisions shall be provided for the continuous monitoring of turbidity and temperature immediately downstream of the <b>ONWS</b> outlet.
Non Potable Water Systems	2.7.4.9 Division B – Part 2	<b>Metering requirements</b> All <b>ONWS</b> shall have meters capable of recording the volume of: <ul style="list-style-type: none"> <li>(a) <b>non-potable water</b> being supplied to the non-potable distribution system and</li> <li>(b) potable water being supplied to the non-potable distribution system</li> </ul> Meters are to be located within 1.5 m of the potable inlet and non-potable outlet.
Non Potable Water Systems	2.7.4.10 Division B – Part 2	<b>Alerts</b> <b>Alerts</b> shall be provided to indicate the system is operating outside the design parameters of 2.7.6.1 (a) and (c) and shall continue to alert for the duration of the alert condition.
Non Potable Water Systems	2.7.4.11 Division B –Part 2	<b>Automatic replenish</b> In the event of an <b>alert</b> the continued operation of the connected fixtures shall be maintained using potable water.
Non Potable Water Systems	2.7.4.12 Division B – Part 2	<b>Power interruption</b> In the event of a power interruption provisions shall be provided for the continued use of the fixtures that the <b>ONWS</b> serves.

Item	Code location	Proposed Vancouver Building By-law Requirement
Non Potable Water Systems	2.7.4.13 Division B – Part 2	<b>Piping identification</b> All piping connected to the <i>non-potable water</i> distribution system shall be purple in colour and conform to the requirements of NSF-rw and NSF/ANSI Standard 14.
Non Potable Water Systems	2.7.4.14 Division B – Part 2	<b>Continuity of supply</b> Where an <i>ONWS</i> serves as the primary supply for a distribution system a secondary water supply shall be provided at the <i>cistern</i> .
Non Potable Water Systems	2.7.4.15 Division B – Part 2	<b>Minimum withdrawal level</b> <i>Non-potable water</i> shall be drawn a minimum 0.3 m from the base of the <i>cistern</i> .
Non Potable Water Systems	2.7.5 Division B – Part 2	<b>Maintenance and Operation</b>
Non Potable Water Systems	2.7.5.1 Division B – Part 2	<b>Maintenance log</b> A maintenance log is required. The maintenance log shall include; <ul style="list-style-type: none"> <li>(a) record of testing</li> <li>(b) maintenance completed</li> <li>(c) schematic of the non-potable system</li> <li>(d) frequency of inspection, testing and maintenance</li> <li>(e) name and contact details of the design engineer</li> <li>(f) location and owner of the <i>ONWS</i></li> <li>(g) name of the person and company recording and submitting the testing results</li> <li>(h) confirmation the water quality results have been submitted to the City as scheduled in Table 2.7.7.2</li> <li>(i) written procedures describing any corrective action taken including the reason, date, time and the outcome of the corrective action.</li> </ul>

Item	Code location	Proposed Vancouver Building By-law Requirement
Non Potable Water Systems	2.7.5.2 Division B – Part 2	<p><b>Operation Manual</b></p> <p>An operation manual shall be supplied to the property owner or appointee designate by the system designer and be stamped by a registered professional engineer. The operating and maintenance manual shall include the following;</p> <ul style="list-style-type: none"> <li>(a) a simplified process flow diagram</li> <li>(b) schematic of the entire system showing locations of all system components</li> <li>(c) instructions on operating and maintaining the system</li> <li>(d) system designer contact details</li> <li>(e) instructions on deactivating the system for repair or other purposes</li> <li>(f) detail on corrective action in the event water quality parameters are outside of the requirements of 2.7.6.1</li> <li>(g) safety data sheets</li> <li>(h) address and designated contact details for the <b>ONWS</b></li> <li>(i) frequency of inspections and maintenance.</li> </ul>
Non Potable Water Systems	2.7.5.3 Division B – Part 2	<p><b>Request for manual and log</b></p> <p>The maintenance log and operation manual shall be made available on such request to the <b>Chief Building Official</b> or <b>City Engineer</b>.</p>
Non Potable Water Systems	2.7.6 Division B – Part 2	<p><b>Water Quality</b></p>
Non Potable Water Systems	2.7.6.1 Division B – Part 2	<p><b>Water quality limit</b></p> <p>Water quality within 3.0 m of the cistern outlet shall be;</p> <ul style="list-style-type: none"> <li>(a) Turbidity &lt;10 NTU</li> <li>(b) <i>E. coli</i> &lt;100 CFU / 100ml</li> <li>(c) Temperature &lt;20 degrees Celsius</li> </ul>
Non Potable Water Systems	2.7.7 Division B – Part 2	<p><b>Commissioning and Maintenance</b></p>
Non Potable Water Systems	2.7.7.1 Division B – Part 2	<p><b>Commissioning and Maintenance</b></p> <p>Water quality testing, inspection and maintenance shall conform to Table 2.7.7.2.</p>

Item	Code location	Proposed Vancouver Building By-law Requirement
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**Table 2.7.7.2**

**Commissioning**

1. Upon commissioning the non-potable water shall be tested weekly for a period of four weeks for *E. coli* and then every three month thereafter
2. Confirm the **ONWS** operates as per the operating manual
3. Perform a cross connection control test witnessed by the **Chief Building Official** or designate then as required by CSA B128.1
4. An application for an **operating permit** shall be submitted when verification of the four weekly *E. coli* tests and the requirements of 2.7.6.1 have been met

Non Potable Water Systems

2.7.7.2  
Division B – Part 2

**Maintenance**

5. Inspect and verify that disinfection, filters, water quality treatment devices and systems are operational and maintaining water quality requirements in accordance with 2.7.6.1 (a) and (c) on a daily basis
6. Entries of daily inspections and any changes to the **ONWS** shall be entered into the maintenance log
7. Inspect and replace filters as required
8. Inspect and clear debris from rainwater gutters, downspouts and other collection areas as needed
9. Inspect valves and verify operation every twelve months
10. Inspect pumps and verify operation every twelve months
11. Inspect caution labels and markings every twelve months

Non Potable Water Systems

1.7.2.4  
Division C – Part 1  
2.7.7.3  
Division B – Part 2

**Occupancy**

Before occupancy of a building is permitted, an **operating permit** for the **ONWS** must be issued if installed.

Non Potable Water Systems

2.7.7.4  
Division B – Part 2

**Reporting**

1. Water quality reports must be submitted before the end of the third month following the **operating permit** being issued and then every three months thereafter
2. Water quality testing shall be conducted by an **accredited laboratory**
3. Water quality reporting shall be submitted on approved documentation.

Item	Code location	Proposed Vancouver Building By-law Requirement
Non Potable Water Systems	2.7.7.5 Division B – Part 2	<b>Notice</b> In the event the minimum water quality parameters in section 2.7.6.1 are exceeded, the owner or designate shall notify the City.
Non Potable Water Systems	2.7.7.6 Division B – Part 2	<b>Operating permit required</b> An <b>operating permit</b> is required for the continued use of the <b>ONWS</b> . The permit is valid when; (a) An annual payment has been received (b) Testing reports have been submitted as per 2.7.7.4
Non Potable Water Systems	2.7.7.7 Division B – Part 2	<b>Continued operation</b> Upon the operating permit being issued the <b>ONWS</b> must continuously operate unless written authorization from the <b>Chief Building Official</b> or <b>City Engineer</b> has been approved for the discontinuation of the <b>ONWS</b> .
Non Potable Water Systems	2.7.7.8 Division B – Part 2	<b>Penalty</b> Failure to maintain and operate the <b>ONWS</b> may result in the <b>Chief Building Official</b> imposing a financial penalty of up to \$500 per day that the system is not in conformance with this by-law.
Non Potable Water Systems	2.7.7.9 Division B – Part 2	<b>Exemptions</b> The provisions of sections 2.7.4.2, 2.7.4.3, 2.7.4.5 to 2.7.4.15 do not pertain to; (a) Single family dwellings; (b) Golf courses and parks; (c) Process water for industrial or manufacturing purposes; (d) Irrigation of food crops; (e) Marinas; (f) Systems installed before January 01, 2019; (g) District scale non-potable distribution.
Non Potable Water Systems	2.7.8 Division B – Part 2	<b>Blackwater</b> Use of <b>blackwater</b> is not permitted.
Non Potable Water Systems	2.7.9 Division B – Part 2	<b>Groundwater</b> Use of groundwater is not permitted.

Item	Code location	Proposed Vancouver Building By-law Requirement
Non Potable Water Systems	2.7.10 Division B – Part 2	<b>Greywater</b> Use of <i>greywater</i> is not permitted.

[End of letter]