



## COUNCIL REPORT

Report Date: April 13, 2023  
Contact: Mark Schwark  
Contact No.: 604.871.6721  
RTS No.: 15699  
VanRIMS No.: 08-2000-20  
Meeting Date: April 25, 2023  
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TO: Vancouver City Council  
FROM: General Manager of Engineering Services  
SUBJECT: Water Works By-law Exemptions and/or Viable Exceptions for Notable Decorative City Water Features

### Recommendations

- A. THAT staff continue to collaborate on drinking water demand management with Vancouver Board of Parks and Recreation, as generally described in this report, with non-compliant decorative water features remaining off as per regulatory requirements until compliance can be achieved, and report back to Council with a progress update after further information from the "Water Assets Condition Assessment and Rehabilitation Planning" report is received.

### Alternatives

- B. THAT Council direct staff to draft by-law amendments to exempt specific Vancouver Board of Parks and Recreation (VBPR) non-recirculating decorative water fountain features from Water Works By-law (Prohibition Against Wasting Water, section 3.7 (c)) and Drinking Water Conservation By-law (General Prohibition Against Wasting Water, section 6.2 (c)) for the operational period of June 1 to October 1, 2023, and:
- VBPR staff to determine which decorative water fountain features that are operationally functional have noteworthy health and wellness value, and are proposed to be included in the exemption;
  - Work with Legal Services to complete by-law amendments for consideration by Council prior to June 1, 2023;
  - Staff report back to Council with a progress update after further information from the "Water Assets Condition Assessment and Rehabilitation Planning" report is received.

### Purpose and Executive Summary

This report explores considerations for exemptions and/or viable exceptions for decorative water fountain features in parks that are currently not compliant with publicly enforced regulations, as

directed by Council motion in March 2023. It reviews regulations pertaining to drinking water use, discusses the context of operating non-compliant decorative water features, ways the City balances water use in support of health and wellness as per the Healthy City Strategy and regional water use reduction goals, and identifies possible next steps through recommendation A and alternative B.

Non-compliant VBPR decorative water features are currently shut off to adhere to City water wastage regulations and in support of Metro Vancouver's Drinking Water Conservation Plan (DWCP). This supports Healthy City Strategy guiding principles #8, 9, 11, and the Park Board's VanPlay and strategic direction for excellence in resource management, along with supporting civic water reduction targets identified in Green Operations Plan 2.0.

As written and enforced, there are no existing exemptions and/or exceptions for leaking and/or non-recirculating decorative water fountain features in City by-laws. Exemptions for non-recirculating water fountain features would need to be drafted and approved as amendments to the Prohibition Against Wasting Water sections in both the Water Works By-law and Drinking Water Conservation By-law. This report summarizes efforts that City staff and VBPR staff continue to work on to reduce civic water use, with non-compliant decorative water fountain features remaining off, based on the following:

- Demonstration of leadership in valuing drinking water as a precious resource, and to reduce risk to existing City by-laws and enforcement programs for drinking water management.
- Equitable administration and enforcement of the Water Works By-law and Drinking Water Conservation By-law to VBPR water use and private customer water use.
- VBPR will be better positioned to prioritize repairs and retrofits after receiving the "Water Assets Condition Assessment and Rehabilitation Planning" report, which includes Bute Street Pedestrian Fountain, expected from consultants Q3, 2023.
- Mental health benefits of compliant recirculating water features can be experienced at locations across the City; cooling health benefits are best maximized in equity initiative zones through park green spaces as outlined by VanPlay.
- Permanent and temporary drinking water fountains, handwashing stations and misting stations are strategically deployed to support neighbourhoods vulnerable to heat exposure, in compliance with all stages of water restrictions.

### **Council Authority/Previous Decisions**

- The Water Works By-law (<https://bylaws.vancouver.ca/4848c.PDF>) and the Drinking Water Conservation By-law (<https://bylaws.vancouver.ca/12086c.PDF>) were approved by Council in July 2011 and May 2018, respectively, updating the Prohibition Against Wasting Water to prohibit the use of non-recirculating water features, fountains and swimming pools.
- The Green Operations Plan 2.0 identifies a 10% civic water use reduction target by 2030, as supported by City Council in December 2020.

- Metro Vancouver updated the Drinking Water Conservation Plan in November 2021 to further restrict the use of drinking water by reducing lawn watering from two days/week to one day/week from May to October across the region. Council adopted these updates to the Drinking Water Conservation By-law in March 2022.

### **City Manager's Comments**

The City Manager concurs with the implications as presented in this report for each of the two alternatives presented for Council's consideration.

### **Context and Background**

The City of Vancouver purchases treated drinking water from Metro Vancouver through the Greater Vancouver Water District (GVWD) and is responsible for distribution of water to City customers. The Vancouver Water Works By-law regulates connection to the City's drinking water system, outlining the City's authority with respect to safe, effective and efficient operation of the water system; responsibilities and obligations of water users; enforcement; and remedies for non-compliance.

As a GVWD member jurisdiction, the City adopts and enforces Metro Vancouver's DWCP water use restrictions (formerly the Water Shortage Response Plan), through the Drinking Water Conservation By-law. Since 2011, the Water Works By-law has prohibited the use of water features without recirculation under the Prohibition Against Wasting Water; the Drinking Water Conservation By-law has included these prohibitions since adoption in 2018.

Decorative water features<sup>1</sup> across Vancouver are compliant to regulations with respect to recirculation and the prohibition against wasting water, except for several VBPR owned and operated assets. A 2017 Park Board memorandum, "Water Conservation in Parks – Progress Update and Next Steps," reported that numerous VBPR water features designed as "once-through" were operating in contravention of the Water Works By-law. The Park Board Water Conservation Action Plan (2017-2020) included priority to retrofit non-compliant water features in parks by 2020; to date, more than twenty non-compliant Park Board water features remain in place. In 2022, VBPR commissioned an asset inventory to identify and assess existing park water features in order to plan, prioritize, budget for and implement retrofits and/or other improvements; the "Water Assets Condition Assessment and Rehabilitation Planning" evaluation should be available to the Board in July 2023.

### **Discussion**

The Vancouver Board of Parks and Recreation is the City of Vancouver's largest civic water consumer, using an average of 1 billion litres of drinking water annually (76% of civic water use). With an abundance of green spaces providing retreat and cooling throughout the City, including thirteen recirculating decorative water features, 187 permanent outdoor drinking fountains, and 14 temporary misting stations deployed during extreme heat<sup>2</sup>, VBPR strives to meet both Healthy City Strategy and VanPlay goals. However, efficiency in water use has been affected by infrastructure age, asset condition and maintenance needs, and non-recirculating water feature

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<sup>1</sup> As of 2023, 270 private decorative water features in Vancouver recirculate in compliance with the Water Works and Drinking Water Conservation By-laws and have Operating Permits under the Vancouver Building By-law. The City owns 14 civic water features that are recirculating: 13 operated by VBPR and one operated by Engineering Services.

<sup>2</sup> Non-recirculating water features use on average as much water as 1000 misting stations.

designs that is reflective of a time when water scarcity due to climate change and population growth was not a priority. Non-compliant decorative water features that consume drinking water without recirculation were turned off in 2022 until such time that they could be retrofitted, in alignment with DWCP and Vancouver By-laws.

### Regional Water Supply – Drinking Water Conservation Plan

The Metro Vancouver DWCP provides regional direction to ensure the sustainable use of water resources, and includes general prohibitions against wasting water. Metro Vancouver member jurisdictions are expected to follow the restrictions in the Plan through adoption in their corresponding by-laws and by demonstrating leadership in water use efficiency in civic facilities and parks.

Regional population growth, combined with climate change, is expected to require expanded drinking water supply capacity valued at \$4B by late 2030s. Water supply pressures have already been experienced across Metro Vancouver in the last decade: 2015 drought conditions led to Stage 3 water use restriction activation; unprecedented use of drinking water during the 2021 heat dome elevated the need to reduce seasonal water use and overall drinking water demand; and in 2022, Stage 1 water restrictions were further reduced to limit lawn watering to one day per week. As well, Stage 1 water restrictions were extended to October 31, 2022 as drinking water reservoirs reached lowest recorded levels since 1993, due to drought conditions and increased water use, even with updated DWCP Stage 1 restrictions to in place.

### Healthy City Strategy

The Healthy City Strategy, first approved by Council in 2014, with last update to Council in 2019, introduced action plans towards goals and targets to support healthy people, communities and environments. VBPR's *Park Provision Standard and Metric Study* and Master Plan, VanPlay, are directly linked to the objectives and action plans of Healthy City Strategy, emphasizing equitable access to park amenities. Collaboration between City and VBPR staff to reduce civic water consumption, while adhering to regulatory requirements, supports the following guiding principles of the Healthy City Strategy:

- Principle #8 – Enabling collective impact: Efforts need to be integrated across City departments and its entities, and with all partners.
- Principle #9 – Focus investment and action based on evidence: Prioritize investments and actions that are grounded in evidence, realize value for our efforts, and move us toward meeting our targets.
- Principle #11 – Lead and model: The City will continue to show leadership in health and well-being, and model changes through our own operations.

### By-law Exemption Considerations and Implications

As regional regulations and Vancouver By-laws are currently written and enforced, there are no By-law exemptions and/or exceptions to allow operation of fixtures or features that are leaking due to malfunction, failure or disrepair, or for non-recirculating water fountain features.

Exemptions for non-recirculating water fountain features would need to be drafted and approved by Council as amendments to the Prohibition Against Wasting Water sections in both the Water Works By-law and Drinking Water Conservation By-law to exempt or except specific VBPR-selected non-recirculating civic water fountain features for the term of June 1 to Oct 1, 2023. As

documented in Alternative B, this would include a report back to Council to consider by-law amendments prior to June 1, 2023.

By-law exemptions or exceptions should be considered in terms of equity of regulatory application. Sustainable water use is the responsibility of all, and the public looks to the City to show leadership by complying with our own by-laws. The success of Vancouver's water use reductions is in part due to consistent enforcement of by-laws:

- **Water Works By-law:** Water wastage results in a 192-hour notice to repair; failure to repair can incur a \$250/day fine, up to \$10,000/day each day such offence continues. In 2022, Engineering staff investigated more than 2000 water leaks, issued over 200 192-hour notices, and inspected 450 properties for high water consumption.
- **Drinking Water Conservation By-law:** In 2022, under Stage 1 water restrictions, by-law officers issued more than 900 infractions against the public at \$250 per ticket.
- **Vancouver Building By-law:** All decorative water features require a \$184 Annual Operating Permit, a health advisory that the feature is not intended for human access<sup>3</sup>, and *Legionella pneumophila* testing and reporting every two calendar months of operation.

### Balancing Efficient Water Use with Health and Wellness

The Drinking Water Conservation Plan and Drinking Water Conservation By-law, have no specific clauses for decorative water fountain features in Stage 1 Water Use Restrictions. The prohibition of non-recirculating decorative water features is defined under the General Water Restrictions regarding General Prohibition Against Wasting Water that is applicable all year long, regardless of water use restriction stage.

Stages 2, 3, and 4 are activated based on evidence of risk to sustain the regional water supply, and prohibit adding any additional water to aesthetic water features; even recirculating water features must be turned off. Aesthetic water features are not identified as required for health and safety in the DWCP and are not deemed suitable for cooling<sup>4</sup>. The deployment of water efficient cooling features, such as misting stations (Stages 1-4) and the use of water play parks that have user-activated switches (Stages 1-3), are allowable during extreme heat events to protect human health and safety.

As linked to Healthy City Strategy, VanPlay and Vancouver's HEAT Response, VBPR and Engineering Services collaboratively provide access to drinking water in the public realm. Cooling health benefits are best maximized in equity initiative zones through park green spaces as outlined by VanPlay. "Access to Water" infrastructure, including drinking fountains and misting stations, are deployed and located to prioritize equity: targeting high traffic areas vulnerable to heat exposure and where residents have less reliable access to drinking water and cooling infrastructure. 2023-2026 Capital Plan investments in Access to Water infrastructure are expected to add an additional 20-30 permanent Engineering-operated drinking fountains and handwashing stations over the next 4 years. Current access to water infrastructure is summarized in Appendix A.

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<sup>3</sup> Decorative water features should not be promoted for contact cooling due to health risks associated with pathogens (such as *Legionella pneumophila*).

<sup>4</sup> VBBL requires an operating permit and testing due to risks of *Legionella pneumophila* from aesthetic water feature aerosols (RTS 13842: "Legionella Prevention – Vancouver Building By-law Amendments", June 10, 2020).

### Next Steps

Staff will continue collaborating with VBPR to reduce drinking water use to meet civic reduction targets and lead by example to the public.

Should Council adopt Recommendation A, staff will work with VBPR to facilitate retrofits of non-compliant decorative water features, with information from Parks' Water Assets Condition Assessment and Rehabilitation Planning report and in consideration of public value and available capital funds.

In the event Council adopts Alternative B, staff will report back with by-law updates for Council consideration that would include specific decorative water fountain features subject to the by-law exemption.

### **Financial Implications**

Vancouver's planned investments in reducing per capita water consumption through water demand management over the next 10 years can alleviate medium and long-term strains on regional supply. The Water Utility is investing \$23M over 2023-2026, as approved in the Capital Plan, to support increased water demand management. This near term investment, combined with consistent by-law enforcement, will continue to support reduction of Vancouver's portion of regional water consumption and associated regional water system upgrade costs, such as the projected Coquitlam Lake Upgrades valued at \$4B.

### Recommendation A

Costs associated with retrofit and refurbishment of VBPR water assets will be better understood once the Water Assets Condition Assessment and Rehabilitation Planning report has completed. The Park Board's 2023-2026 Capital Plan has \$2M for "Potable water reduction/reuse programs" which may be used to fund a portion of this work<sup>5</sup>.

### Alternative B

Green Operations Plan 2.0 targets include the transition of all unbilled civic water accounts to 100% billed by 2025. In 2022, VBPR water use comprised \$1.9M (2022 dollars)<sup>6</sup> of unbilled water and sewer utility costs, currently subsidized by water rate payers. Should non-compliant water features that were turned off in 2022 be operated, the City would need to fund the additional water consumption and sewer use fees via utility rates, user fees or property tax increases.

### **Legal Implications**

There are no legal implications associated with this report's alternatives.

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<sup>5</sup> Funding is insufficient to complete all retrofits; VBPR staff will bring recommendations for expenditures to the Park Board after completion of the assessment.

<sup>6</sup> Values are representative of non-compliant features operated under reduced water use and/or turned off for 2022.

**APPENDIX A**  
**Access to Water Infrastructure**

City and VBPR owned and operated Access to Water Infrastructure  
to support health and safety of the community as of April 2023.

<b>Access to Water Infrastructure</b>	<b>Engineering Services</b>	<b>VBPR (in parks)</b>	<b>Total</b>
Permanent Drinking Fountains	60	187	247
Temporary/Seasonal Drinking Fountains	10		10
Temporary/Seasonal Handwashing Stations	11		11
Temporary/Seasonal Misting Stations	13	14	27