

City of Vancouver

Engineering Requirements for the Installation of Public Drinking Fountains

Water Design Branch, Engineering Services

Last updated July 13, 2021

The following sections provide engineering requirements for the installation of drinking fountains in the City of Vancouver.

This document is intended for outdoor drinking fountains that will be accessible to the general public and/or situated on public property.

Drinking fountains installed by private contractors as a condition of redevelopment will be inspected and must receive formal acceptance by Engineering Services. Once accepted, drinking fountains are owned and maintained by the City of Vancouver for the remainder of their service life.

Any questions related to the content should be directed to Robyn.King@vancouver.ca

Your site has been chosen for a drinking fountain - here's what to do next:

Step 1 - Submit Plans

- A. Submit a site plan showing the proposed location of the drinking fountain. All plans should be emailed to your City of Vancouver project coordinator.

The proposed location should meet the following criteria:

Water Quality Optimization:

- i) The drinking fountain must be located within 10m of a City water main.
- ii) The drawing must indicate a direct tie-in to the City water main. Tie-ins to private-side plumbing will not be accepted.

Location and Clearance Requirements:

Drinking fountains must be located on a concrete pad or other approved hard surface as shown in Drawing No. X1.3.

In addition, the following clearances must be met:

- i) A minimum 1.2m should be available in front of the fountain to ensure wheelchair accessibility.
- ii) The fountain should be 1.0m from the edge of sidewalk.
- iii) A minimum 1.7m separation from a fire hydrant is required.
- iv) A distance of 6* (Tree Diameter) metres is required between a fountain and an adjacent tree.
- v) The concrete pad surrounding the fountain must be level with the adjacent grades. No steps or drop offs from the concrete pad are permitted.

Drainage:

- i) The City requires freeze resistant drinking fountains that can operate year round. These fountains require a minimum depth of 1540mm for the freeze proof assemblies and a rock drainage pit of at least 2100mm. See Drawing No. X1.1.

Note: Groundwater at the site must be below 2100mm in order for a rock pit to be permitted.

- ii) Fill type COV #15 is to be used for the rock pit or approved equivalent as per the *City of Vancouver Construction Specifications*.
- iii) If high groundwater prevents the installation of a rock pit for drainage, alternate drainage may be considered, such as:
 - Irrigation to a green space, or
 - Connection to a sanitary sewer or
 - Connection to a storm catch basin.

Alternate drainage must be shown on plans.

- B. Submit a detailed water fountain plan to your City of Vancouver project coordinator.

WAIT FOR APPROVAL BEFORE PROCEEDING TO THE NEXT STEPS

Once the location and detailed fountain drawings have been approved, apply for a water connection permit by contacting the Water Connections Permitting group at 604-829-9287

Step 2 - Order the Drinking Fountain and Freeze Resistant Assemblies

- A. Order a drinking fountain and freeze resistant assemblies. Allow 8-10 week delivery time.

The City is currently installing the following make/model of drinking fountain:

HAWS 3611FR-01 - <https://www.hawesco.com/3611fr-modular-outdoor-freeze-resistant-bottle-filler-and-drinking-fountain/>

The drinking fountain must have the following minimum features:

- Bottle filler
- Bubbler

Optional feature:

- Dog bowl

Note*: the dog bowl on this unit requires winterization and is not available as freeze proof. A separate water line from the #6 box to this feature will need to be installed to allow for winterization.

- B. The City requires the following drinking fountain colour: BLUE (unless otherwise requested by the City).

Step 3 - Order Building Materials

Before installation, two chambers must be built on-site for the freeze resistant fountain. Refer to City drawings:

- X1.1 Frost Free Water Fountain with Drain to a Rock Pit
- W19.1 Chambers/Meter Boxes
- W13.1 Meter Box Frame No. 5
- W13.2 Meter Box Lids No. 4 & 5
- W13.3 Meter Box Frame No. 6
- W13.4 Meter Box Lid No. 6

Material sourcing is as follows:

- A. Contact a building supply store to purchase composite lumber or pressure-treated wood for building the Chambers/Meter boxes. **Allow 1-2 weeks.**
- B. Contact Robyn King, Robyn.King@vancouver.ca to purchase City-decaled materials:
- Meter box Frame No. 5, and Meter box Lid No. 4/5
 - Meter box Frame No. 6, and Meter box Lid No. 6

Items to be picked up at City Vancouver, Central Stores @ Manitoba Yards 250 W 70th Avenue, Vancouver. *Payment of materials is due at time of pick-up.*

Step 4 - Build On-Site and E-mail for Inspection

Note: **2 inspections** are required during the drinking fountain installation process. The following sequence is important for your drinking fountain to receive final approval.

It is strongly recommended that the drinking fountain and its components be installed by a qualified plumber.

Please read the following carefully!

- A. Request the installation of the water connection by following the instructions on your water connection permit. The City will tap the water main and run the service to the property line or to the fountain site (whichever length is less).
- B. Build the #4 and #6 chambers complete with freeze proof assemblies, rock pit and required valves.
 - i) Note: the City will install a PRV and a 20mm water meter in the #6 chamber. The developer must install threaded valves on either side. The space between the threaded valves should be 600mm at minimum.
 - ii) Email Robyn.King@vancouver.ca for **Inspection #1**.
 - iii) Install the drinking fountain and fountain base as per manufacturer's instructions.
 - iv) Restore the street and sidewalk as per the following:
 - Feather the remaining area of sidewalk panel or pad to match existing pavers or concrete and graded to drain away from the fountain at a minimum 1% grade. Note: Pedestrian accessible grades around the fountain should not exceed 4%.
 - Refer to *City of Vancouver Construction Specifications* for details on concrete pad restoration, <https://vancouver.ca/streets-transportation/street-design-construction-resources.aspx>.
 - v) Email Robyn.King@vancouver.ca for **Inspection #2**.

You have completed the drinking fountain installation.

After Inspection #2, you will be notified that the fountain is approved or requires further work.

If approved, the fountain becomes the property of the City of Vancouver.

Did you know?

The Access to Water Program belongs to the Water Design Branch of Engineering Services.

The primary mandate of this program is to increase the supply of local drinking water in the public realm by way of:

- Permanent drinking fountains & bottle filling stations, and
- Temporary drinking fountains.

Creating access to drinking water benefits many stakeholders, including, but not limited to children & families, pedestrians, cyclists, vulnerable populations, the elderly and tourists.

Given that Vancouver has some of the best drinking water in the world, the installation of drinking fountains creates opportunities to showcase local water and regional watersheds.

Recognized under the City of Vancouver's Greenest City Action Plan, Goal 8 - Clean Water, this program also aims to reduce the environmental impact of bottled water.

Locations for drinking fountains are chosen by engineering services based on public requests, current distribution of drinking fountains, anticipated foot and/or bike traffic, and areas that are susceptible to high surface temperatures in the summer.

On behalf of the City of Vancouver, thank you for increasing access to drinking water!

APPENDIX A: Standard Detail Drawings for Water Fountains

Drawings

- X1.1 ENG - WD - Standard Detail Drawings - Frost Free Water Fountain - Drain to a Rock Pit - Drawing No. X1.1 - 2019

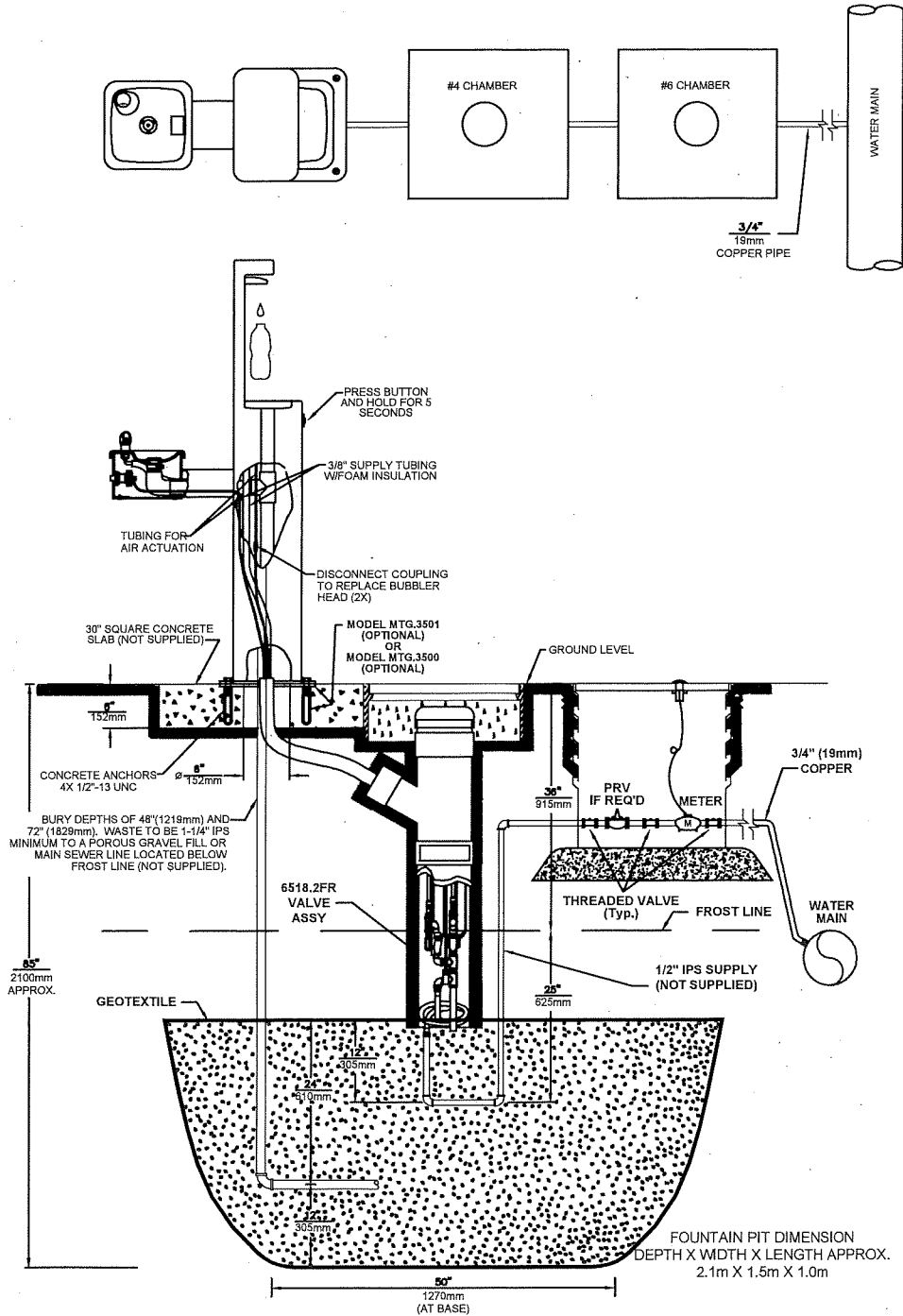
- X1.3 ENG - WD - Standard Detail Drawings - Water Fountain - Space Requirement - Drawing No. X1.3 - 2019

APPENDIX B: Standard Chamber Details

Drawings

- W13.1 ENG - WD - Standard Detail Drawings - Drawing No. W13.1 - Castings - Meter Box Frame No. 5 - 2018
- W13.2 ENG - WD - Standard Detail Drawings - Drawing No. W13.2 - Castings - Meter Box Lids No. 4 & 5 - 2018
- W13.3 ENG - WD - Standard Detail Drawings - Drawing No. W13.3 - Castings - Meter Box Frame No. 6 - 2018
- W13.4 ENG - WD - Standard Detail Drawings - Drawing No. W13.4 - Castings - Meter Box Lid No. 6 - 2018
- W19.1 ENG - WD - Standard Detail Drawings - Drawing No. W19.1 - Chambers - 19mm, 25mm, 38mm & 50mm Meter Boxes - 2019

WATER FOUNTAIN DRAINING TO A ROCK PIT



SCALE: N.T.S.

REV.	REVISION DATE	APPROVED

WATER FOUNTAINS
DRAINING TO A ROCK PIT

ISSUE DATE: AUGUST 2019
APPROVED BY: E. LIAO