CP Seminar 2022
Fire Department Updates

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Fire Department Updates

Standpipe Testing Bulletin

- For existing buildings, focus on enforcement of hydrostatic and flow testing and exercising of all hose valves.
- Summary of historical standpipe design requirements in Vancouver

Fire Department Updates

CITY OF VANCOUVER

VANCOUVER FIRE RESCUE SERVICES
Community Safety & Risk Reduction Division
Fire Prevention, Investigations, and Public Education

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Standpipe System Testing

Standpipe design requirements in Vancouver have varied throughout the city's history (see Appendix A). This bulletin provides a summary of expectations for inspection, testing, and maintenance of existing standpipe systems based on historical design requirements.

The Fire By-law refers to NFPA 25 (2014 to 2020 editions) "Standard for the Inspection, Testing, and Maintenance of Water-based Fire Protection Systems" which, in part, states:

> **6.3.1 Flow Tests.**
> **6.3.1.1*** A flow test shall be conducted every 5 years on all automatic standpipe systems to verify that the required flow and pressure are available at the hydraulically most remote hose valve outlet(s) while flowing the standpipe system demand.
>
> **6.3.2 Hydrostatic Tests.**
> **6.3.2.1*** Hydrostatic tests of not less than 200 psi (13.8 bar) pressure for 2 hours, or at 50 psi (3.4 bar) in excess of the maximum pressure, where maximum pressure is in excess of 150 psi (10.3 bar), shall be conducted every 5 years on manual standpipe systems and semiautomatic dry standpipe systems, including piping in the fire department connection.

Hydrostatic pressure and flow tests are to be conducted in accordance with NFPA 25 and the following procedures:

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Appendix A – Historical Design Requirements

Standpipe design and installation is governed by the Vancouver Building By-law (VBBL), through one of the following methods:

1. Within the text of the VBBL,
2. By reference to NFPA 14,
3. By reference to the British Columbia Building Code, which may in turn reference NFPA 14
4. By reference to the National Building Code, which may in turn reference NFPA 14.

Over the last 100 years, standpipes were required to be designed with water supply pressure at the topmost hose connection that varied between 0 psi to 100 psi minimum.

The following table summarizes the minimum pressures required at the most remote hose connection and hose stations, and the maximum pressures the standpipe must withstand.

Year Built *	Min Pressure at Most Remote Hose Connection	Min Pressure at Most Remote Hose Station	Maximum Pressure to Withstand**
Pre-1923	-	-	Per Fire Chief
1923 - 1965	-	-	300 psi
1966 - 1973	20 psi at 500 gpm	12 psi at 70 gpm	300 psi
1974 - 1975	45 psi at 70 gpm	45 psi at 70 gpm	200 psi plus
1976 - 1978	50 psi at 500 gpm	50 psi at 70 gpm	200 psi plus
1979 - 1999	65 psi at 500 gpm	65 psi at 100 gpm	200 psi plus
2000 - present	100 psi at 500 gpm	65 psi at 100 gpm	200 psi plus

* Year of building permit issuance – actual year of completion may vary
** "200 psi plus" means 200 psi, or working pressure plus 50 psi, whichever is greater

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Integrated Testing of Fire Protection and Life Safety Systems

- Same as Coordinated Life Safety Systems Testing
- For projects that have registered professionals, the Integrated Test Coordinator must be a registered professional responsible for coordination of the building systems
  - Integrated Test plan must be prepared prior for coordinated test of life safety systems
- Integrated Test plan must be included in all fire safety plans that are submitted to the fire department for review and acceptance
  - prior to approval of occupancy
- New bulletin on the application of S1001 is being drafted

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CITY OF VANCOUVER

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October 1, 2020 Bulletin 2020–003-FI

Fire Safety Plans

Effective January 1, 2021, this Bulletin will supersede Bulletin 2017-004-FI and will require additional documents to be included in the fire safety plan. These documents are important references for inspection, testing, and maintenance of the fire and life safety systems in the building.

The fire safety plan is one of the most important documents to be prepared and maintained for the safety of the occupants and for the lifetime of the building. However due to the fact that many buildings and occupants are in a constant state of change, the fire safety plan requires regular attention of the building owner and the occupants to be kept up to date. In order to facilitate a consistent approach and provide a valuable resource to the building owner and the occupants about the hazards in the building and the safety features contained in the building, Vancouver Fire Rescue Services (VFRS) is updating the requirements for the preparation, submission, and the acceptance of fire safety plans.

Fire safety plans (FSP's) submitted to Vancouver Fire Rescue Services must adhere to the following guidelines:

1. Use the VFRS template (which is the Fire Prevention Officers Association of BC template customized for Vancouver), for the preparation of the FSP. All relevant information is to be provided.
4. Be accountable. Initial FSP shall be stamped "accepted" by VFRS. Hardcopy of stamped FSP is to be kept in an acceptable FSP box at the principal entrance of the building. The FSP box may be locked using a padlock, with the key in possession of the building manager or owner's representative, to prevent tampering.

5. Include a copy of each: building permit data sheet, sprinkler permit data sheet, and alternative solutions (related to fire protection, life safety, or accessibility) summary sheets with their related location drawings and, for Certified Professional projects, the code compliance drawings.
6. Include a copy of each:
    a. Contractor's M&T certificates for underground (standpipe or private hydrant)
    b. Contractor's M&T certificates for aboveground (standpipe)
        - Information must include test results of each pressure reducing valve
    c. Contractor's M&T certificates for aboveground (sprinklers)
        - Information must include test results of each pressure reducing valve
    d. Fire pump test report
7. Include a copy of the radio antenna system required documentation.
8. Include a copy of the fire alarm system sequence of operation.
9. Include a copy of the Integrated Testing Plan for Integrated Systems Testing of Fire Protection and Life Safety Systems.

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- Thank you