

# The Corporation of the City of Pembroke

## By-law Number 2007-25

### A By-law in the City of Pembroke, in the Province of Ontario, to provide for regulation of public and private fire service water mains and hydrants

**Whereas** Section 130 of the *Municipal Act*, S.O. 2001, c.25, as amended from time to time, provides that a Council of a Municipality may pass by-laws respecting the safety, health and welfare of people and the protection of people and property;

**Now Therefore** the Municipal Council of the Corporation of the City of Pembroke "The City" enacts as follows:

#### 1. Short Title

This By-law shall be known as the "Hydrant By-law" of the Corporation of the City of Pembroke.

#### 2. Definitions

In this By-law:

- a. the term "City" means the Corporation of the City of Pembroke, its agents and/or designates.
- b. the term "Distribution System" shall mean a part of a water system consisting of the water mains, water services, storage reservoirs, tanks, valves, hydrants, meters, treatment equipment, etc. used to deliver drinking water or supply water to the customer
- c. the term "fee" is a fee as outlined in the Schedule of Fees and Service Charges, as provided by the Treasury Department of the City of Pembroke
- d. neither the term "hydrant" nor the term "fire hydrant" shall be taken to mean, refer to, or include a hydrant or fire hydrant downstream of a City water meter.
- e. the term "private fire service water main" shall mean that pipe and its appurtenances on private property between a point on the public water system designated by the City and the base of the riser (flange or flange and spigot piece or base tee) for automatic sprinkler systems, open sprinkler systems, water spray fixed systems, standpipe systems, inlets to foam making systems, or the base elbow of private fire hydrants or monitor nozzles.
- f. the term "public water main" shall mean pipe and appurtenances located on public property and used to deliver water for fire fighting purposes.

#### 3.

- a. A plan and specifications, bearing the stamp and seal of a professional engineer licensed to practice in the Province of Ontario, shall be provided to the City for approval, in every case where a new private fire service water main and/or fire hydrant is contemplated.
- b. The plan shall be drawn to scale and shall include all essential details as:
  - i. size and location of all water supplies.
  - ii. size and location of all piping, indicating the class and type and depth of existing pipe, the class and type of new pipe to be installed and the depth to which it is to be buried.
  - iii. size, type and location of valves, indicating if located in a pit or if operation is by post indicator valve or key wrench through a

- curb box and indicating the size, type and location of meters, regulators and check valves.
  - iv. size and location of hydrants, showing size and number of outlets and if outlets are to be equipped with independent gate valves, indicating if hose houses are to be provided and by whom.
  - v. sprinkler and standpipe risers and monitor nozzles to be supplied by the system.
  - vi. location of fire department connections, if part of private fire service water main system, including detail of connections.
4. All installation work shall be done by qualified persons, authorized and as determined by the City.
5. No person shall install or alter any portion of the City Municipal Distribution System without obtaining the required permit and approval from the City.
6. All connectors made to the Distribution System, are to be made by qualified persons authorized and supervised by the City at not cost to the City, to guard against possible contamination of the Distribution System. The requirements of the ANSI/AWWA C654-03 from Rev. C654-97, or any subsequent amendment regarding water line disinfection, shall be followed.
7. Public and private fire service main systems shall have sectional controlling valves at appropriate points as approved by the City, in order to permit sectionalizing the system in the event of a break, or for the making of repairs or extensions.
8. All fire hydrants, valves, fittings and appurtenances shall be of an approved type acceptable to the City and shall have not less than a 150 mm connection with the mains. Each hydrant shall be equipped with an isolation valve.
9. The required fire flow for each building and hydrant locations shall be determined by the City of Pembroke Fire Department in conjunction with the requirements of the Ontario Building Code. Hydrants must not be located closer than 15 metres to a building unless written permission is given by the City of Pembroke Fire Department authorizing the variance.
10. Where the Ontario Building Code requires an additional hydrant to meet distance limits between an existing municipal hydrant and fire department connections on a building, it will be the property owner's responsibility to install the hydrant. If, at the City's sole discretion, an additional hydrant is required where fire hydrant coverage is determined to be deficient, it will be the City's responsibility to install the hydrant, at the property owner's expense, if this hydrant is attached directly to the public water main outside private property. Ownership of the hydrant will be transferred to the City following the City's approval of the installation.
11. As per the Ontario Provincial Standard Drawings and Specifications (OPSD and OPSS) and its amendments, hydrants shall be protected against damage by vehicular traffic. Steel posts of at least 150mm diameter filled with concrete shall be placed into the ground a minimum of one meter from sides of hydrant requiring protection. Care must be taken not to obstruct access to hydrant port. Such protective posts shall be painted bright yellow.
12. All hydrants shall be clearly identified as per City specifications and requirements and colour coded in accordance with NFPA 291 "Fire Flow Testing and Marking of Hydrants" and any of its amendments.
13. The use of fire hydrants or other fire protection systems for purposes other than fire related services and training is prohibited unless authorized by the City.

14. Piping, fittings, valves and hydrants shall be installed in accordance with City engineering practices. Water mains shall be installed at a depth which will provide a minimum cover of 2.2 metres.
15. Under the City's supervision and authorization, and at no cost to the City, underground mains and lead-in connections to system risers shall be flushed and swabbed thoroughly before connection is made to sprinkler, standpipe or other fire protection system piping to remove any foreign materials which may have entered the piping during installation. The minimum rate of flow shall be not less than the water demand rate of the system, or not less than that necessary to provide a velocity of 3 metres per second, whichever is greater.
16. Before requesting final approval from the City, the installing company shall furnish a standard Contractor's Material and Test Certificate (Schedule "A"), countersigned by the property owner or representative and a satisfactory hydrant flow test performed on the hydrant.
17. All new public and private fire service water mains shall be hydrostatically tested to the satisfaction of the City, at the owner's expense.
18. Underground piping, valves and other fittings shall not be buried until inspected and approved by the City.
19. Prior to being placed into service, each new fire hydrant shall be fully opened and closed under system water pressure. All control valves shall be fully opened and closed under system water pressure to ensure proper operation. All outlet caps shall be opened and closed to ensure ease of operation.
20. Pursuant to the Ontario Fire Code, Section 6, Subsection 6.6.5.1 and its amendments, annual flow test requirements must be adhered to and a copy provided to the City, within 30 days of the test date.
21. Where a current water flow test is requested by a company or agency for the purposes of determining available fire flow, permission may be granted for the testing by the City. The requesting company or agency will be responsible for all costs associated with the testing, flowing and maintenance of the hydrant(s). A fee shall be charged for each fire hydrant which is opened for the test along with the cost of estimated water used to the nearest cubic metre, at the current rate established by Council. A representative from the City must be present during the test and a copy of the test results must be provided to the City, within 30 days.
22. In the event that a third party is hired to flow a hydrant, a City permit must be applied for and approved, prior to the work being done. All fees, water use charges, related costs shall be the responsibility of the owner. The third party will complete the test report and provide a copy of the results to the City within 30 days.
23. Pursuant to the existing requirements for annual hydrant flow testing, the City Policy (Schedule "B") shall be followed.
24. No person shall, in any manner, obstruct the free access to any fire hydrant or valve or other fire protection device. In addition to Ontario Fire Code, Section 6, Subsection 6.6.4.3 and its amendments, no building, rubbish, snow or any other matter which would cause such obstruction shall be placed closer than 3 metres to a hydrant, valve or other fire protection device.
25. Restoration of surface within the City Right-of-Way shall be completed in accordance with the City's specifications, and by contractors pre-approved by the City.
26. Every person who contravenes any provision of this By-law is guilty of an offence and on conviction is liable to a fine as provided for in the Provincial Offences Act, R.S.O. 1990, c. P.33 and its amendments.
27. Any and all provisions of this By-law may and shall be enforced by the City.

28. All sections of this By-law shall be deemed to be separate and independent and the invalidity of any section or provision hereof shall not affect the remaining sections.
29. This by-law shall come into force and take effect upon third and final reading.

**Read a first and second time this 3<sup>rd</sup> day of April 2007**

\_\_\_\_\_  
Mayor

\_\_\_\_\_  
Chief Administrative Officer/Clerk

**Read a third time and passed this 3<sup>rd</sup> day of April 2007**

\_\_\_\_\_  
Mayor

\_\_\_\_\_  
Chief Administrative Officer/Clerk

**Schedule "A" – By-law No. 2007-25**

**Contractor's Material and Test Certificate for Private Fire Service Mains**

**Procedure:**

Upon completion of work, inspection and tests shall be made by the contractor and witnessed by an owner or owner's representative and the City of Pembroke. All defects shall be corrected and the system left in service before the contractor's personnel finally leaves the job. A certificate shall be filled out and signed by both representatives. Copies shall be prepared for the City of Pembroke, owner(s) and contractor. It is understood that the owner's signature in no way prejudices any claim against the contractor for faulty material, or workmanship or failure to comply with the City of Pembroke's requirements or local ordinances.

Date:

Property Name:

Property Address:

**Plans**

Accepted By – City of Pembroke (Print Name):

Address:

Installation Conforms to Accepted Plans? Yes  No

Equipment Used is Approved? Yes  No

If no, State Deviation(s)

**Instructions**

Has the person in charge of the fire equipment been instructed as to location of control valve and care and maintenance of this new equipment? Yes  No

If no, explain

Have copies of appropriate instructions and care and maintenance charts been left on the premises? Yes  No

If no, explain

**Location**

Supplies Buildings

**Pipes and Joints**

Pipe types and class

Type Joint

Pipe conform to Standard Yes  No

Fittings conform to Standard Yes  No

If no, explain

Buried Joints needing anchorage clamped, strapped or blocked in accordance with Standard Yes  No

If no, explain

**Test Description**

**Flushing:** Flow the required rate until water is clear as indicated by no collection of foreign material in burlap bags at outlets such as hydrants and blow-offs. Flush at flows not less than

- 1500 l/min(330 gal./min) for 100 mm pipe,
- 3300 l/min (725 gal/min) for 150 mm pipe,
- 5900 l/min (1298 gal/min) for 200 mm pipe,
- 9200 l/min (2023 gal/min) for 250 mm pipe, and
- 13,300 l/min (2926 gal/min) for 300 mm pipe.

When supply cannot produce stipulated flow rates, obtain maximum available.

**Hydrostatic:** Hydrostatic tests shall be made at not less than 1400 kPa (150 psi) for two (2) hours or 350 kPa (51 psi) above static pressure in excess of 1000 kPa (1450 psi) for two (2) hours.

**Leakage:** New pipe laid with rubber gasketed joints shall, if the workmanship is satisfactory, have little or no leakage at the joints. The amount of leakage at the joints shall not exceed 0.0033 litres/mm of diameter/100 metres of pipe.

**Flushing Tests**

New piping flushed according to Standard Yes  No   
By (Company)  
If no, explain

How flushing flow was obtained  Public Water  Tank/Reservoir  Fire Pump  
Through what type of opening?  Hydrant Butt  Open Pipe

Lead-ins Flushed according to Yes  No   
By (Company)  
If no, explain

**Hydrostatic Test**

All new piping hydrostatically tested at \_\_\_\_\_ kPa for \_\_\_\_\_ hours  
Buried Joints covered? Yes  No

**Leakage Test**

No leakage allowed for visible joints  
Total amount of leakage measured \_\_\_\_\_ Litres \_\_\_\_\_ Hours  
Allowable Leakage (Buried) \_\_\_\_\_ Litres \_\_\_\_\_ Hours

**Hydrants**

Number Installed \_\_\_\_\_  
Type and Make \_\_\_\_\_  
All operate satisfactorily Yes  No

**Control Valves**

Water control valves left wide open? Yes  No   
If no, state reason \_\_\_\_\_

Hose threads of fire department connections and hydrants interchangeable with those of Fire Department answering alarm Yes  No

**Remarks**

Date left in service \_\_\_\_\_  
Additional comments \_\_\_\_\_

**Signatures**

Name of Installing Contractor: \_\_\_\_\_

Test Witnessed by:  
For Property Owner (print name) \_\_\_\_\_  
Title: \_\_\_\_\_  
Date: \_\_\_\_\_

For Installing Contractor (print name) \_\_\_\_\_  
Title \_\_\_\_\_  
Date \_\_\_\_\_

Additional Explanation and Notes: \_\_\_\_\_

## Schedule "B" By-law No. 2007-25

### City of Pembroke

#### Statement of Procedure

Owners of private fire hydrants are not permitted to use the hydrants for any purpose except testing to conform to the requirements of the Ontario Fire Code and its amendments.

The Ontario Fire Code requires that fire hydrants be checked for flow and physical deficiencies **annually** and that the fire hydrants be colour-coded to indicate the flow each will deliver. The following procedures shall be adhered to by the owner of the private hydrant and/or their representative carrying out the fire hydrant testing.

1. The owner of the private fire hydrant shall retain, for testing, a fire hydrant tester who is qualified and experienced to the satisfaction of the City of Pembroke.
2. The fire hydrant tester shall be bonded and insured for the associated risks. The insurance shall name the City of Pembroke as additionally insured.
3. The fire hydrant tester shall give three working days written notification to the City of Pembroke prior to flow testing any fire hydrant. This will allow the City time to perform precautionary work such as flushing the distribution system.
4. The fire hydrant tester shall provide written notification to customers, as identified by the City, a minimum of 24 hours prior to flow testing any fire hydrant.
5. The fire hydrant tester shall have an authorized City of Pembroke staff member, who is certified operator of the water distribution system, present at the time of the test and pay the associated fee.
6. The fire hydrant tester shall sign a contract with the City of Pembroke accepting all responsibility for problems and/or damage arising from their activities.
7. Only approved and permitted meter assemblies to measure water use will be authorized. Hydrant assemblies shall include a threaded connection to a fire hydrant and a hand valve. Only the use of a fire hydrant wrench to operate the hydrant is permitted.
8. No fire hydrant flow tests will take place at times where water restrictions may apply.
9. The fire hydrant tester, when annually checking for flow at the fire hydrant, shall notify the city of Pembroke 24 hours prior to the test and perform the test by opening the fire hydrant fully with all caps on and one cap supplied with a hose bib. The hose bib shall then be opened to check that flow is available to the fire hydrant. The fire hydrant shall not be opened with a full port flow.
10. The procedures for annual flow checking shall be established by the City of Pembroke to minimize the impact of flowing the fire hydrant.

**City of Pembroke**

**Contract – Under Hydrant By-law 2007-25**

Between:           Flow Tester

and

The City of Pembroke “The City”

The City has agreed to allow the Flow Tester to discharge water from a private fire hydrant for test purposes on the conditions set herein. The Flow Tester agrees to the following:

1.     The Flow Tester hereby undertakes to indemnify the City of Pembroke and save harmless the City of Pembroke from any action, causes of action, claim and demands of any nature and kind whatsoever, including third party actions, causes of action, of any nature and kind whatsoever, which may arise out of actions taken by the Flow Tester.
2.     The Flow Tester acknowledges having read the Statement of Procedure and the regulations made under the By-law relating to the testing of private fire hydrants, and agrees to adhere to the policy and to obey those regulations.
3.     In consideration for the promises made herein, the City of Pembroke grants permission to the Flow Tester to discharge water for testing purposes from fire hydrants at:

Specific location of hydrant:

to be conducted at (time):

on the following date(s):

Dated at the City of Pembroke

in the County of Renfrew, this           day of           , 20           .

In the presence of:

Flow Tester:

City of Pembroke: