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# Municipality of Cumberland Policy FS07 -01

## Fire Service Dry Hydrant Policy

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### 1. Purpose of Dry Hydrants

The Municipality, for the most part is not served by piped water supplies equipped with fire hydrants. A network of reliable and accessible water sources at strategic locations throughout the Municipality is therefore necessary. Dry hydrants are an essential part of this network.

### 2. Intent of Dry Hydrant Policy

In order to study and make recommendations for the improvement of the current water supply available to fire departments, a Water Supply Committee (WSC) consisting of the Pugwash Fire Chief, the Collingwood Deputy Chief and the Municipality's Fire Services Coordinator, was formed. The WSC, in consultation with representatives from Halifax Regional Municipality FS, CGI and National Fire Protection Association, produced a Regional Water Supply Study which describes the existing situation, recommends standards that should be adopted and makes recommendations for improvements in the water supply. That study is attached as Appendix "A" of this policy.

In order for the overall water supply to be efficient and effective it must be planned as a system. Dry hydrant locations, preferred site characteristics, design requirements, maintenance and testing must all be considered. The intent of this Policy is to make the recommendations of the Water Supply Study a reality by bringing together those elements required to plan for and implement an effective dry hydrant by setting out:

- (a) the site selection process;
- (b) required hydrant specifications including site safety;
- (c) construction approval and construction process;
- (d) maintenance and testing requirements;
- (e) required documentation and mapping; and
- (f) the responsibilities of the Municipality, Fire Departments and the Water Supply Committee with regard to each of the above.

### 3. Site Selection Process

Part of the mandate of the Water Supply Committee is to determine, in consultation with individual Departments, where dry hydrants are required. The Committee has begun this work by reviewing existing locations and the study makes some preliminary

recommendations for new locations. In the future prepare a county-wide plan which identifies and prioritizes general locations where new hydrants will be required.

4. The Fire Services Coordinator will work with individual departments to find potential sites within the general locations identified. Potential sites must have the following attributes:

- ▶ an acceptable water supply, preferably 30,000 gal or more;
- ▶ be suitable for year round use regardless of expected weather or ground conditions;
- ▶ be in a location where the installation and use of the hydrant will not create any hazard to public safety;
- ▶ be a cost effective location;
- ▶ be acceptable to Nova Scotia Department of Environment & Labour and Nova Scotia Department of Transportation & Public Works for any required permits;
- ▶ be easily accessible; and
- ▶ be acceptable to the landowner.

When a potential site having the foregoing attributes has been found, the relevant fire department shall be responsible for obtaining a signed Agreement with the landowner in the form attached to this policy as Schedule "B".

When a signed Agreement for an identified potential site has been obtained, the Coordinator may approve construction of the hydrant subject to budget and priority considerations.

5. **Design Requirements**

The design for new dry hydrants shall meet the following requirements:

- ▶ The bottom of the inlet strainer must be no less than 12 inches from the bed of the water supply source, and there must be a minimum of 32 inches between the strainer surface and the low water line
- ▶ For horizontal sections of less than 100 feet, piping must have a minimum diameter of 6 inches. For horizontal sections greater than 100 feet, but less than 500 feet, piping must have a minimum diameter of 8 inches. Horizontal sections of greater than 500 feet should be avoided.
- ▶ The riser piping must be exposed above the grade level 24 inches as measured from the center of the dry hydrant opening to the grade level of the Fire apparatus position.
- ▶ Pipe must be designed to meet the strength and pressure requirements for the conditions at the site.
- ▶ The piping and fittings in the dry hydrant system shall be constructed of stainless steel 316 for saltwater, stainless steel 304 for flowing freshwater and PVC schedule 80 for lakes and ponds.
- ▶ Where a strainer will be subjected to impact from ice or debris, such as

streams and rivers, a stainless steel strainer and piping assembly must be used. The strainer must be installed parallel with current. The underwater portion of the pipe and the first 10 feet buried in the bank must be stainless steel.

- ▶ The use of 90 degree elbows must be kept to a minimum in order to obtain required flow rates. No more than two 90 degree elbows may be used in the installation. Long sweep 90 degree elbows or 45 degree elbows are preferred.
- ▶ The dry hydrant must terminate with a dry hydrant head with long handled swivels with strainer and cap, female NHT thread, 6 inches in diameter, and must be no higher than 30 inches nor less than 20 inches from the grade, to the outlet center line.
- ▶ The design must be suitable for year round use with particular reference to freezing and flooding conditions
- ▶ The design must specifically address public safety and operational safety issues. In areas where existing lighting is not adequate and the fire departments using that system do not have adequate portable emergency lighting, the installation of lighting shall be considered.
- ▶ The hydrant design shall be prepared under the supervision of and be subject to the approval of the Fire Services Coordinator.

## **6. Construction Approval and Construction**

Based upon planning by the Coordinator and the Water Supply Committee, the Coordinator will prepare a multi-year implementation plan and budget. As part of the Municipality's annual budget deliberations the Coordinator shall make a specific recommendation for upgrades and new hydrants in the upcoming year.

When a signed agreement for a new site has been provided pursuant to section 4 herein, the Coordinator may approve construction of that hydrant subject to budget and priority considerations.

The Coordinator shall then contract for the installation/upgrade using the method specified in the Municipality's Expenditure Policy, and shall oversee the work. The Coordinator shall obtain all necessary Nova Scotia Department of Environment & Labour and Nova Scotia Department of Transportation and Public Works permits.

## **7. Maintenance Requirements**

Each Fire Department is responsible for routine maintenance of any dry hydrants in their District and shall budget accordingly. This shall include inspecting, flow testing and back flushing at least twice annually. Inspection reports shall be prepared and forwarded to the

Coordinator. Flow testing shall be conducted by drafting through the dry hydrant and flowing water at 150 psi back into the water source for 15 minutes.

Additional cleaning may be required at streams and ponds to make sure that silt and aquatic growth do not clog the water intake.

Any required repairs shall be described in an Inspection Report prepared by the Department and shall be implemented and funded by the Municipality.

**8. Documentation and Mapping**

The Coordinator shall make and maintain a record of the design (as built) of each hydrant, and of all repairs; and shall provide the local Fire Department with a copy.

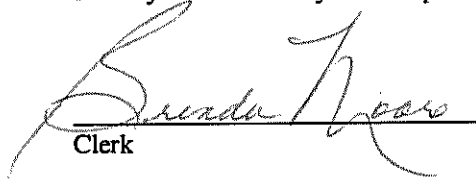
The Coordinator shall ensure that an up to date map or maps of all dry hydrants and other known fire fighting water supply sources for the entire Municipality is created and maintained. Each Fire Department shall be provided with a copy of this mapping for their own and neighbouring districts.

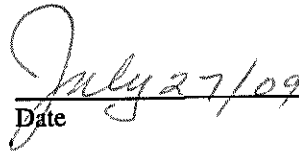
Clerk's Annotation For Official Policy Book

Date of Notice to Council Members  
of Intent to Consider [7 days minimum] : December 5, 2006

Date of Passage of Current Policy : January 17, 2007

I certify that this Policy was adopted by Council as indicated above.

  
Clerk

  
Date