



# **The Municipal Corporation of the Town of Fort Erie**

**BY-LAW NO. 93-10**

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## **BEING A BY-LAW TO ADOPT A ROADSIDE DITCH ALTERATION POLICY FOR THE TOWN OF FORT ERIE**

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**WHEREAS** Report No. IS-50-09 was considered and deferred at the Council-in-Committee meeting of November 16, 2009 pending public feedback, and

**WHEREAS** Report No. IS-37-10 was approved at the Council-in-Committee meeting of August 9, 2010 to adopt a Roadside Ditch Alteration Policy for the Town of Fort Erie, and

**WHEREAS** it is deemed desirable to adopt the aforesaid policy in the form of Schedule "A" annexed hereto to this by-law;

**NOW THEREFORE** the Municipal Council of the Town of Fort Erie hereby enacts as follows:

1. **THAT** a Roadside Ditch Alteration Policy for the Town of Fort Erie in the form of Schedule "A" annexed hereto to this by-law be hereby authorized, approved and adopted.
2. **THAT** pursuant to the provisions of Sections 23.1 to 23.5 inclusive of the *Municipal Act, 2001*, as amended, the Clerk of the Town of Fort Erie is hereby authorized to effect any minor modifications or corrections solely of an administrative, numerical, grammatical, semantical or descriptive nature or kind to this by-law or its schedules as such may be determined to be necessary after the passage of this by-law.

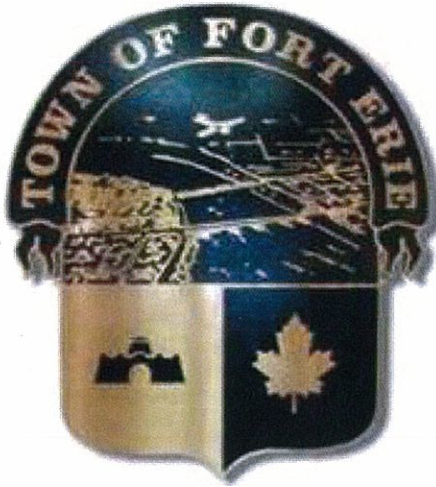
**READ A FIRST, SECOND AND THIRD TIME AND FINALLY PASSED THIS 16<sup>th</sup> DAY OF AUGUST, 2010.**

  
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**MAYOR**

  
\_\_\_\_\_  
**CLERK (Deputy)**

I, Carolyn J. Kett, the Clerk, of The Corporation of the Town of Fort Erie hereby certifies the foregoing to be a true certified copy of By-law No. 93-10 of the said Town. Given under my hand and the seal of the said Corporation this day of \_\_\_\_\_, 201 .

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# **ROADSIDE DITCH ALTERATION POLICY**

August 16, 2010

**POLICY TO RESTRICT DITCH ALTERATIONS  
WITHIN MUNICIPAL ROAD ALLOWANCES WITHIN THE TOWN OF FORT ERIE  
("The Ditch Infill Policy")**

**1.0        DEFINITIONS**

These definitions are included solely for the purpose of understanding the Ditch Alteration Policy.

- (a) **Catchment Area** shall mean the extent of the area served by a ditch drainage system.
- (b) **Certificate of Approval (C of A)** shall mean the Ministry of Environment document indicating the Ministry's approval, under delegated authority to the Town, to construct a storm sewer system.
- (c) **Conveyance** shall mean the positive grade, connectivity and capacity requirements to transmit storm water from one area to another.
- (d) **Council** shall mean the Municipal Council of The Corporation of the Town of Fort Erie.
- (e) **Director** shall mean the Director of Infrastructure Services of the Town or his/her designate.
- (f) **Ditch** shall mean a natural or artificial watercourse ranging from a depression, or swale, to an open channel that conveys storm water runoff from both public and private properties and has the same conveyance function as a piped sewer system.
- (g) **Ditch Alteration** shall mean the addition of earthworks, landscaping works and pipes to a ditch system to eliminate a defined ditch conveyance system for storm water.
- (h) **Ditch Infill** shall mean the replacement of a ditch with a culvert covered by earth and sod.
- (i) **Drainage Basin** shall mean the extent of the area served by a ditch drainage system.
- (j) **Easement** shall mean a right of use over private property for the Town to maintain and operate storm water infrastructure as defined under provisions of the *Municipal Act, 2001*.
- (k) **Foundation Drainage** shall mean groundwater collected by the weeping tiles installed around the footings of a dwelling, collected in an internal sump pit and discharged to the surface by a sump pumps. The water subsequently drains overland to be collected in the ditch system.
- (l) **Logical Limits** shall mean the extent of a pipe system necessary to achieve the best economic or physical benefit to the area.
- (m) **Municipal Road Allowance** shall mean:
  - i. all highways that existed on December 31, 2002,
  - ii. all highways established by by-law on or after January 1, 2003,
  - iii. all highways transferred to the municipality under the *Public Transportation and Highway Improvement Act*,
  - iv. all road allowances made by the Crown surveyors located in the municipality,
  - v. all road allowances, highways, streets and lanes shown on a registered plan of subdivision,

which have not been permanently closed by by-law pursuant to the *Municipal Act, 2001* as amended from time to time, or its predecessor legislation.

- (n) **Network** shall mean the entire linked system, whether road, sewer or water, that identifies the connection of one part of the system to another.
- (o) **Owner** shall mean the registered owner of land abutting a Municipal Road Allowance;
- (p) **Right-of-Way** shall mean that portion of the Municipal Road Allowance ordinarily used for the location of roads, sewers, watermains, sidewalks and walkways.
- (q) **Roadside Ditch** shall mean the open storm water system located on both sides of the Municipal Road Allowance and which is used for the collection and conveyance of storm water or snowmelt.
- (r) **Storm Drainage System** shall mean a storm water conveyance system of ditches and storm sewers.
- (s) **Storm Water Quality** shall mean the condition of the surface water from a sediment or pollutant loading perspective that requires addressing prior to discharge to a receiving watercourse.
- (t) **Storm Water Quantity** shall mean the volume of surface water required to be collected and conveyed by a ditch system or a piped sewer system.
- (u) **Sub-grade Drainage** shall mean the groundwater collected by the granular roadbed structure.
- (v) **Swale** shall mean shallow grassed drainage channels with gently sloping sides.
- (w) **Town** shall mean the Town of Fort Erie.
- (x) **Town Forces** shall mean employees of the Town of Fort Erie or its authorized contractors or agents.
- (y) **Work** shall mean the removal of a ditch alteration and/or reinstatement of an open-channel roadside ditch.

## **2.0 POLICY STATEMENT**

This policy documents the circumstances and general process requirements for the Town to restrict and/or remove existing ditch infilling or alteration of drainage ditches and drainage courses within municipal road allowances and those in registered and unregistered easements that convey stormwater from public lands.

## **3.0 PURPOSE**

The intent of this policy is to create an established process in order for the Town to be better able to meet its obligations and expectations of property owners with respect to managing potential storm drainage conveyance issues associated with ditch alteration. Respecting an established process will allow ditch alteration in a controlled and consistent manner.

## **4.0 APPLICATION**

Subject to this policy are requests received regularly by the Town from property owners for roadside ditch systems in both the semi-rural and rural areas and ditches located in registered and unregistered easements conveying stormwater from public lands.

## **5.0 POLICY DESCRIPTION**

An open-channel or ditch cut into the natural terrain along the Municipal Road Allowance is the most economical method to create drainage collection/conveyance systems. Ditches collect and convey stormwater runoff and snowmelt from both municipal and public properties efficiently and require minimum maintenance. Roadside ditches are a necessary component of any semi-urban or rural road cross section and provide several stormwater management functions such as downstream peak flow reduction, improved water quality of receiving water bodies and reduction of erosion at outlets, in addition to preventing surface runoff from pooling on the roadways and/or surrounding property.

Ditches provide a critical outlet for public and private surface drainage, roadway sub-grade drainage as well as sump pump and roof leader discharges from private property. Ditches have a greater drainage capacity than piped systems and promote the natural recharge of groundwater by allowing surface flows to infiltrate underground through the ditch bottom and banks. The vegetated cover of ditches assist with the natural filtering and settlement of particulates from runoff, thus improving the quality of stormwater and snowmelt. Open ditches are much less sensitive to the adverse impacts associated with foliage, debris, and sedimentation during storm events. Moreover, properly designed ditches provide peak flow attenuation and reduce flow velocities that otherwise contribute to erosion problems at the outlet.

Ditch infills are inferior in function as roadway drainage systems, compared to open-channel ditches or fully engineered sewer systems. When a ditch is filled, altered or replaced with a pipe, the stormwater management benefits are compromised. Moreover, the culvert inlets are susceptible to blockage by branches, foliage, debris and sedimentation, which further decrease their effectiveness and in time are subject to deterioration and collapse.

Ditch alterations specifically infills, immediately decrease the capacity of the roadside drainage system and with each subsequent ditch infill the capacity deficiency is compounded. The disruption of flow from a single property can negatively impact the integrity of the entire drainage area resulting in localized ponding and flooding of roadways and properties. In addition, poorly collected and conveyed storm runoff and snow melt contributes to the infiltration of surface water into the sanitary system resulting in sewage back-ups into basements, controlled releases to the environment and extraordinary wastewater treatment costs. Poorly drained road bases advance the deterioration of roadway surfaces resulting in the costly maintenance and/or replacement of asphalt treatments. The cumulative impact of many ditch infilling projects within the same drainage area is likely to increase downstream peak flow rates, create erosion problems at outlets and degrade the quality of runoff reaching surface water body receivers.

## **6.0 OBJECTIVES/GOALS OF POLICY**

Over the years, the Town of Fort Erie has recognized different rules and approaches for dealing with requests to fill or alter ditches. These rules were inconsistent, often informal in nature but ultimately problematic. By respecting an established process, the Town will be better able to meet its obligations to property owners by managing potential storm drainage conveyance issues associated with random and ad-hoc ditch alteration.

The intent of this policy is to establish a process for the provision of a:

- (a) formal statement regarding the prohibition of any future ditch alterations or infilling of roadside ditches within a Municipal Road Allowance;
- (b) mechanism whereby existing ditch infill culverts identified as collapsed or having experienced a structural failure be immediately and permanently removed and replaced with the appropriately sized ditch; and

- (c) mechanism whereby existing ditch alterations encountered as a result of Town maintenance or construction activities be permanently removed and replaced with the appropriately sized ditch;

## **7.0        EXCEPTIONS TO THE POLICY**

While this policy serves to restrict ditch infilling with culverts within a Municipal Road Allowance, it is recognized that there are occasions where consideration may be given where public safety is an issue or other factors present including, but not limited to:

- Site topography;
- Location sensitivity (archeological, wetlands, environmental, natural and scientific interest);
- Physical limitations of the site, that could include,
  - Required capacity results in hazardous ditch depth;
  - Slow recharge or drainage will result standing water in ditches for extended periods;
  - The presence of very high groundwater table;
  - Presence of rock;
  - Conflicts with existing utilities;
  - Inadequate measures to address storm water quality and quantity.
- Economical constraints;
- Technical constraints; and
- Administrative issues.

To address technical feasibility issues, the project limits for any alteration request or requirement, regardless of how it was initiated, may go beyond the route that will immediately benefit the affected property owner(s). Additional or connecting works may be necessary to provide the facility requested or required, such as an external sewer outlet, and the cost for such works will be part of the total project cost.

For any request or requirement, the Town will determine the logical project limits based on system design requirements and/or overall cost benefits (e.g. entire street, completion of a sector, completion of a drainage basin, etc.).

Exceptions to this policy will be made at the sole discretion of the Director.

## **8.0        POLICY COVERAGE**

### **8.1 Infrastructure Covered by the Policy**

The following infrastructure is covered by this policy:

- i. Roadside ditch systems located in both the semi-rural and rural areas within the Town.
- ii. Ditches located in registered and unregistered easements and conveying storm water from municipal lands.

### **8.2 Infrastructure not covered by the Policy**

The following infrastructure is not covered by this policy:

- i. Municipal Drains, or any other proposed works, which are governed by the Drainage Act.
- ii. Ditches that have permanent water and are considered having fish habitat using criteria regulated by the local Conservation Authorities and the Department of Fisheries and Oceans.
- iii. Ditches located in or near Provincially Significant Wetlands, or any other areas regulated by the local Conservation Authorities.

## 9.0 POLICY PRINCIPALS AND PROCESSES

### 9.1 Key Principles

Key to defining this policy and the associated processes for restricting ditch alterations are the following key principles:

- ditches and swales are a critical and integral component of the Town's overall drainage network;
- ditches and swales are viable and economical surface conveyance systems that perform beneficial storm water management functions. Preservation of these functions and mitigation of potential cumulative detrimental effects brought about by discontinuous or ad-hoc practices define the overall objectives to be addressed.
- ditches and swales manage storm water from a quality and quantity perspective by filtering, attenuating peak flows and by providing groundwater recharge and storage. In established areas with existing designs and infrastructure in place, ditch and swale drainage systems often provide the only opportunity to provide some storm water quality, quantity and groundwater recharge benefits without significant re-engineering.
- ditch and swale conveyance is an integral part of a broad catchment-wide integrated surface drainage system. Ditch alteration effectively creates or adds to the extent of storm sewers along private property frontages changing the fundamental characteristics and functions of the integrated system. Understanding how the characteristics and functions of the overall catchment area can be affected by ditch alteration is critical to the process of preserving existing levels of service.
- in the absence of a catchment-wide engineering approach, the implication of random ditch alteration can significantly reduce or eliminate beneficial functions of the system which can translate to significant detrimental effects to both public property and private property through reduced infrastructure life expectancies, uncontrolled surface flooding, basement flooding, and overall network conveyance and capacity issues.
- provincial requirements are such that ditch alteration (piping in excess of private approach extents) must comply with the Ministry of the Environment's Certificate of Approval (C of A) process.

### 9.2 General Removal Process Requirements

General requirements relevant to the removal of ditch alterations follow:

- Any existing ditch infill within the Municipal Road Allowance deemed to be negatively impacting the collection and/or conveyance of stormwater along its length or within the surrounding area shall be immediately removed and replaced by an appropriately sized open ditch.
- Any existing ditch infill culvert identified as collapsed or having experienced a structural failure be immediately and permanently removed and replaced with the appropriately sized open ditch.
- All ditch alterations encountered through any construction activity or project shall be removed as a consequence of the work, and replaced by an appropriately sized open ditch.
- There will be no compensation to Owners who may have financed the original installation of a ditch infill fronting their property, once it is removed and the ditch channel reinstated.

### 9.3 Engineering Assessments

Maintaining an existing ditch alteration or consideration of the implementation of a ditch alteration request will be at the sole discretion of the Director and on the basis of the outcome and recommendation of engineering assessments on the following basis:

- the Town will determine the logical project limits on a network wide basis, on system design requirements and on overall cost benefits (e.g. entire street, completion of a sector, completion of a drainage basin, etc.)
- to address technical feasibility issues, the project limits for any ditch alteration, regardless of how it was initiated, may go beyond the route that will immediately benefit the proponent property owner(s). Additional or connecting works may be necessary to provide the facility requested, such as an external sewer outlet, and the cost for such works will be part of the total project cost.
- if the engineering assessment indicates that ditch alteration is not recommended for a drainage area, then ditch alteration will not be considered further for the particular area.

Although some engineering assessments will vary in extent regardless of the complexity of the study, the content of the assessment is to include as a minimum, but not be limited to, the following:

- confirm the ditch system is not a Municipal Drain;
- determine the impact of ditch alteration on wetlands and fish habitat;
- determine the feasibility of altering the ditch system;
- identify the drainage basin or catchment area and tributary;
- identify outlets, routing and grade requirements;
- identify allowable and design flows;
- confirm outlet capacity;
- determine the impact on the outlet;
- determine storm water quantity & quality requirements;
- determine erosion control requirements;
- assess ditch alteration impacts for major storm event system response and performance;
- address the impact of backwater on the proper operation of septic systems and sump pump discharges from foundation drainage;
- maintain, or improve, existing levels of service;
- provision design calculations and recommendations based on Town of Fort Erie Design Guidelines; and
- provision of design submissions necessary to meet Ministry of the Environment Certificate of Approval (C of A) requirements.

### 9.4 Ditch Alteration Implementation

If the Director has approved a ditch alteration in accordance with Subsection 9.3, then the alteration shall proceed once the following criteria have been satisfied:

- There is an approved engineering assessment for the drainage area addressing the required content and recommending that ditch filling can proceed without detrimentally impacting the area;

- The Town has determined that the ditch alteration will not interfere with utilities, any other Town capital works or maintenance work planned for the area;
- Design for the ditch alteration is in conformance to Town of Fort Erie Sewer Design Guidelines, construction standards and specifications.

The Town will undertake all designs, design circulations, coordination with other agencies and required approvals, including a Ministry of the Environment C of A as may be required. In the event that Town forces will not undertake the work directly, then a project tendering and construction processes will be required to install the ditch alteration, managed and administered by the Town.

## **10.0 FINANCING PRINCIPLES**

The Town shall assume the cost for the provision of labour, materials, equipment and disposal related to the removal of the infill and its replacement with an open ditch by the Town's servants, agents, contractors and other persons duly authorized by the Town, to undertake such work.

There will be no compensation to Owners who may have financed the original installation of a ditch infill fronting their property, once it is removed and the ditch channel reinstated.

## **11.0 RESPONSIBILITIES**

This section identifies the principal roles and responsibilities assigned to Town staff for the policy. Infrastructure Services Department will:

- be the initial point of contact for drainage related enquiries;
- receive inquiries regarding private property grading, drainage issues and ditch alteration concerns/requests;
- direct private property drainage issues to the Drainage Superintendent;
- dispatch Town forces to immediately investigate and address ditch alterations causing surface flooding.

Drainage Superintendent will:

- be the main liaison for private property drainage issues;
- provide sufficient information regarding easements and additional property information.

Engineering Division will:

- be responsible for undertaking engineering assessments of ditch systems as part of the Capital Works Program identified under the approved Town Budget;
- be responsible for the technical aspects of investigation and assessment of the request;
- be responsible for project scope definition;
- be responsible for notifying adjacent property owners;
- process the Ministry of Environment C of A applications;
- provide project management services through the detailed design, construction and final inspection of a ditch alteration approved by the Director.

Operational Divisions will:

- provide supporting information in determining technical requirements;
- be responsible to address the assessment of existing non-compliant ditch alteration in order to direct the enforcement requirements;

Legal and Legislative Services will:

- provide supporting advice regarding enforcement of municipal by-laws;
- enforce by-laws, as required, in the event of non-compliance of a property owner to remove ditch alteration.

## **12.0 CONTRAVENTIONS**

### **12.1 Ditch Alteration – Before Adoption of the Policy**

Non-compliant or unauthorized ditch filling that was installed before adoption of the Ditch Alteration Policy will be managed through a progressive approach. Initially, only those ditch infills that are identified at Town discretion as either i) a contributing cause to drainage issues, or ii) within the project limits of a capital works or ditching project, shall be removed.

Ultimately, non-compliant or unauthorized ditch filling that was installed before adoption of the Ditch Alteration Policy will be removed as part of a systematic approach to roadside ditching projects undertaken by the Town of Fort Erie.

### **12.2 Ditch Alteration – After adoption of the Policy**

Non-compliant or unauthorized ditch infilling that is installed after adoption of the Ditch Alteration Policy will be enforced in accordance with this policy. The cost of removal of an unapproved ditch alteration shall be borne by the responsible property owner.

## **13.0 DELEGATED AUTHORITY OF DIRECTOR**

The Director of Infrastructure Services Department (and their designates) have delegated authority to:

- interpret the procedures identified in this policy to their satisfaction; and
- make revisions, additions and amendments of a technical or administrative nature to this policy.

## **14.0 CONTACT**

For more information on this policy, contact the:  
Manager Engineering, Infrastructure Services Department  
Tel: 905 -871-1600 ext. 2402