

PRIVATE SALT MANAGEMENT PLANS IN THE CITY OF GUELPH

Guidance Document for Proponents

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Version 1

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1.0 Introduction and Background

The City of Guelph is the largest groundwater dependent community in Canada. Maintaining a safe drinking water supply is critical to all of our stakeholders. The City of Guelph's Source Water Protection Program comes into effect on July 1, 2016.

The Ministry of the Environment and Climate Change (MOECC) identified 21 activities as prescribed drinking water threats that are to be addressed through drinking water source protection. Three of the threat activities are related to the use of salt for winter road de-icing:

- Application of road salt (Prescribed Threat # 12);
- Handling and storage of road salt (Prescribed Threat # 13); and
- Storage of Snow (Prescribed Threat # 13).

Road salt has been identified as a threat to drinking water because the sodium and chloride that are the primary components of road salt can dissolve into run-off and infiltrate into our groundwater systems. Applying too much salt on roads, parking lots, driveways, and sidewalks can cause sodium and chloride concentrations in our water supply aquifers to increase to unacceptable levels.

Road salt is an especially challenging contaminant for municipal groundwater supplies in Ontario as there must be a balance between maintaining safe conditions for use of roads and protecting the drinking water sources. Many municipalities in Ontario, including Guelph, have taken steps to reduce road salt application through use of Municipal Salt Management Plans. The Municipal Salt Management Plans typically provide guidance on methods to store salt, use alternative de-icing agents, reduce the amount of salt applied, to identify measures for removal of snow and run-off that may be laden with salt, and to monitor salt usage and effectiveness and continually update the salt management plan to optimize effectiveness.

This document is intended to provide an overview of the new policies that have been developed with the aim to protect our groundwater resources and to provide guidance for private land owners and business in preparing salt management plans to comply with these policies.

2.0 Source Protection Plan Policies

As of July 1, 2016, the City of Guelph and the development community will need to comply with the Approved Source Protection Plan (SPP) for the Grand River Source Protection Area. The new policies in the SPP that relate to the Handling and Storage of Road Salt or storage of snow are:

Policy Number	Policy Description
G-CW-28 <i>Future Specify Action WHPA-A-v.10 WHPA-B-v.10</i>	To ensure that the future handling and storage of road salt never becomes a significant drinking water threat within the vulnerable areas, where this activity would be a significant drinking water threat, within two (2) years of the date that the Source Protection Plan comes into effect, the City of Guelph shall amend the Salt Management Plan to identify the location of Wellhead Protection Areas and utilize best management practices in these areas.
CG-MC-29 <i>Future Land Use Planning WHPA-A-v.10 WHPA-B-v.10</i>	To ensure that the future handling and storage of salt never becomes a significant drinking water threat, where this activity would be a significant drinking water threat, the City of Guelph shall require new development to be designed based on best management practices regarding handling and storage.
CG-MC-30 <i>Future Land Use Planning WHPA-A-v.10 WHPA-B-v.10</i>	To ensure that future storage of road salt of greater than 5,000 tonnes never becomes a significant drinking water threat within vulnerable areas, where this activity would be a significant drinking water threat, this activity shall be prohibited using tools under the Planning Act.
CG-CW-31 <i>Future Education & Outreach WHPA-A-v.10 WHPA-B-v.10</i>	To ensure that the future handling and storage of road salt never becomes a significant drinking water threat within the vulnerable areas, where this activity would be a significant drinking water threat, the City of Guelph shall establish or enhance the education and outreach programs for the private and public sector, as well as the general public, about the impacts of road salt on drinking water sources and the use of best management practices. It is recommended that the key messages be the efficient use of road salts and the use of alternatives.
CG-MC-32.1 <i>Future Land Use Planning WHPA-A-v.10 WHPA-B-v.10 ICA (NIT)</i>	To ensure that the future storage of snow never becomes a significant drinking water threat within vulnerable areas, where this activity would be a significant drinking water threat, the City of Guelph shall require new development to be designed based on best management practices regarding snow storage including the provision of designated snow storage areas and the management of associated meltwater.
CG-MC-32.2 <i>Existing/Future Part IV RMP WHPA-A-v.10 WHPA-B-v.10 ICA (NIT)</i>	To ensure that the existing and future storage of snow ceases to be and/or never becomes a significant drinking water threat within vulnerable areas, where this activity would be a significant drinking water threat, the activity of storage of snow has been designated for the purpose of Section 58 of the Clean Water Act, 2006 and a Risk Management Plan is required.

Source: Grand River Source Protection Area Approved Source Protection Plan November 26, 2015

Policy CG-MC-28 is directed at the City of Guelph and refers to the Municipal Salt Management Plans. This direction is to ensure that the Municipal Salt Management Plan recognizes the vulnerable areas established in the SPP and employs additional measures to minimize salt use in these areas.

Policies CG-MC-29 and CG-MC-32.1 apply to applicants for new development in the City of Guelph. To address these policies, the City of Guelph is requiring applicants to prepare and submit a Private Salt Management Plan as part of their development application.

Policy CG-MC-32.2 applies to specific circumstances where new development, which includes snow storage on an area greater than 1 hectare, is proposed in a vulnerable area where this activity would be considered to be a significant threat to the drinking water supply. The Risk Management Official will identify this situation as part of the Section 59 Policy Applicability Review and, where required, will initiate negotiation of a Risk Management Plan with the person who will be carrying out the activity.

3.0 Private Salt Management Plans

The Private Salt Management Plan will consist of a letter, report, or technical memorandum that addresses the required content and a Site Plan drawing of appropriate scale. The following sections outline the expected content of a Private Salt Management Plan. The City anticipates that a qualified professional will assist proponents in preparing an effective Private Salt Management Plan.

3.1 Objectives

The objective for Private Salt Management Plans in the City of Guelph is to employ best management practices in design and operations of new development to minimize the potential release of sodium and chloride from road salt sources while maintaining safe conditions for pedestrians and vehicles.

3.2 Content of Private Salt Management Plans

A typical Private Salt Management Plan would contain the following sections:

3.2.1 Introduction & Objectives

The introduction will present an overview of the proposed development and outline the approach to be taken in salt management to meet the objectives of the SPP in the City of Guelph

3.2.2 Identification of Traffic Areas and Sensitive Features

The Private Salt Management Plan will describe any areas that will see vehicular or pedestrian traffic and any areas that are considered to be environmentally sensitive. Environmentally sensitive areas will include features that may provide an opportunity for increased infiltration of salt to the subsurface and natural or constructed features that may need to be protected from exposure to salt.

3.2.3 Identification of Snow-Storage/Disposal Areas

Areas to be used for bulk snow storage or disposal are to be clearly indicated in the Private Salt Management Plan and illustrated on the Site Plan drawing. The Private Salt Management Plan must indicate that the designated areas are sufficient to hold the expected quantities of snow, or to provide a plan for additional snow removal operations. The City expects that areas to be designated for snow storage will minimize direct infiltration and that run-off from these areas will be contained and directed to existing or proposed storm water management facilities.

3.2.4 Use of Alternative Products

Outline the proposed use of alternative winter de-icing agents that will minimize the potential release of sodium and chloride in meltwater.

3.2.5 Engineered Measures

The Private Salt Management Plan will describe recommended or proposed engineering measures or designs intended to:

- Minimize infiltration of run-off to the subsurface.
- Direct run-off to on-site storm sewer catch basins.
- Divert run-off from building downspouts away from sidewalks and areas for pedestrian or vehicular traffic.

3.2.6 Operational Measures

The Private Salt Management Plan will describe operational measures intended to minimize use of road salt. As a minimum, operational measures will include:

- Recommended/proposed operating procedures for snow removal/disposal and storage.
- Recommended/proposed timing for snow removal/disposal.
- Recommended/proposed methods and timing for application of de-icing agents
- Recommended/proposed application rates for de-icing agents.
- Recommended/proposed measures for tracking usage of de-icing agents (particularly agents that may release sodium and/or chloride).
- Recommended/proposed monitoring program to demonstrate adherence to the operations plan and to allow the plan to be revised to be more effective.

The City of Guelph anticipates that winter de-icing agents will be applied using equipment that can be metered to control the application rate and that the recommended/proposed application rates will be consistent with industry-accepted best management practices for the proposed use.

3.2.7 Adaptive Monitoring/Management

The City of Guelph encourages the use of adaptive monitoring management to document where the Salt Management Plan is being effective, particularly for public safety and, where possible, to identify further opportunities to further reduce salt usage. These opportunities can include changes to use of an area, changes in maintenance. Annual review of the salt management plan, and specific experience and targets by the property owners and the persons responsible for winter maintenance operations is recommended.

3.2.8 Summary

The Private Salt Management Plan is to contain a summary of the actions to be taken to manage salt usage in association with the proposed development and to clearly identify the parties who will implement the plan and their roles in carrying out the plan. Please clearly indicate the name of the responsible person or company, contact person, phone number and email address.

3.2.9 Site Plan Drawing

The Private Salt Management Plan will reference appropriately scaled site plan drawings (as part of the site plan submission) to illustrate:

- North arrow and scale
- Buildings including entrances and the locations of all downspouts
- Paved areas including parking and connecting roads
- Sidewalks and any wheelchair access areas
- Significant vegetation and grassed areas
- Site entrances and exits and surrounding streets
- Location of all site drainage features
- Winter maintenance material storage and loading areas
- Winter Maintenance Areas
- Areas where salt is permitted
- Areas where salt use is not permitted
- High salt use areas
- Low traffic areas
- Privately maintained areas
- City maintained areas

The site plan with the above information can be included in the development application and referenced in the Private Salt Management Plan.

4.0 Review Process

The Private Salt Management Plan that is submitted as part of a development application will be circulated to the appropriate staff for review. The following steps are taken during the review process:

- For development applications that include an Environmental Implementation Report (EIR) the Private Salt Management Plan will be prepared and submitted to the City as part of the

EIR submission. Environmental Planning staff will circulate the Private Salt Management Plan to Source Water Protection staff for review and comment as part of the review of the EIR.

- For all other development applications the Private Salt Management Plan is to be prepared and submitted as part of a complete application. These Private Salt Management Plans will be circulated to Source Water Protection staff for review and comment as part of the review of the application.

5.0 Additional Resources

Additional information on salt management can be found at the following websites:

Transportation Association of Canada

[Home | tac-atc.ca](#)

Salt Management Guide

<http://tac-atc.ca/sites/tac-atc.ca/files/site/doc/resources/roadsalt-1.pdf>

Road Salt and Snow and Ice Control Primer

<http://tac-atc.ca/sites/tac-atc.ca/files/site/doc/resources/primer-roadsalt-snow-ice.pdf>

Synthesis of Best Practices-Road Salt Management

[Syntheses of Best Practices | tac-atc.ca](#)

Smart About Salt Program

[Smart About Salt Council - Home](#)

For additional information, please contact the City of Guelph's Risk Management Official:

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