

2020

SALT MANAGEMENT PLAN

NAME: CORPORATION OF THE TOWNSHIP OF
EAST-HAWKESBURY

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POPULATION: 3,200

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DATE PLAN WAS PREPARED: September 14, 2020

1.1 Overview

This document is the Salt Management Plan that was developed by the Road Authority of the Corporation of the Township of East-Hawkesbury to manage more effectively the salt used in winter maintenance and provide the public with the safe and efficient road systems they expect, while minimizing effects on the environment.

1.2 Organisation of the Plan

- Salt Management Policy of the Corporation of the Township of East Hawkesbury.
- Brief description of Township existing winter maintenance policies.
- Summary where salt is entering the environment through existing practices and objectives for improvement.

2.0 SALT MANAGEMENT POLICY

It is the Corporation of the Township of East-Hawkesbury's policy to minimize excessive use of salt which can have negative impacts on the environment without compromising road safety and to provide funding commitment and personnel to ensure successful implementation of salt best management practices.

The Township of East-Hawkesbury Council accepts the responsibility for this environmental program and for its effectiveness and improvement.

Signature of senior official

_____ Date: _____

Township of East-Hawkesbury Council Resolution No. _____

3.0 WINTER MAINTENANCE POLICIES

3.1 General Salt Use

- Hardtop roads: Salt is used to achieve bare pavement for half the road width when temperatures are expected to remain moderate. An application of a sand/salt blend will be placed at lower temperatures particularly on hills, curves, slippery sections and key locations such as intersections for enhancing road safety.
- Loose top roads: Limestone 3-5 mm pre-blended with Magnesium Chloride 18 ltv metric ton is used on gravel roads to maintain a safe driving surface.

3.2 Salt and sand/salt storage

Salt storage:

The salt storage occupies one half of a solid structure with a capacity of 2.500 metric tonnes of salt. Therefore, salt is delivered on a regular basis. During the winter, trucks have to dump inside on a paved pad then a front-end loader places the salt into a pile inside the storage.

Sand/Salt storage:

Our winter sand is usually prepared during the month of September and stockpiled inside on paved surfaces. Approximately 1.200 metric tonnes of blended sand are stockpiled inside the other half of the storage structure adjacent to the salt stockpile. During normal winter maintenance activities, winter sand is loaded from the storage structure.

3.3 Snow Disposal

The Township of East-Hawkesbury is not involved with this activity.

3.4 Legislation impacting winter maintenance policies

The Township of East-Hawkesbury has adopted the provincial minimum maintenance standards for municipal roads as established under Ontario Regulation 239/02 made under the Municipal Act and that for snow accumulation of 8cm or more, the municipality has established a desirable level of service for class 4 and 5 roads; when storms occur during the night, the objectives will be to open all roads in one direction by 6:00 a.m. the next morning, but only guarantees service according to the “Minimum Maintenance Standards” for municipal roads.

4.0 OPERATIONAL PRACTICES AND STRATEGIES

4.1 General Salt Use

4.1.1 Environmental Considerations

Most of the road salt that reaches the aquatic and terrestrial environments come from:

- a) vehicle sprays and splashes along roadsides.
- b) winter maintenance vehicles ploughing snow, slush or ice which are mixed with salt residues.

4.1.2 Existing Practices

- a) Our level of service on hardtop roads is to achieve bare pavement for half the road width by using road salt application rate between 90-230 kg per 2 lane kilometres depending on weather conditions and types of precipitations.

- b) Equipment

- One 2013 tandem 11 cu. Yd with electronic spreader
- One 2005 tandem truck with 11 cu.yd. multipurpose spreader, U-shape type with a front lateral conveyor for distributing the material on the left side ahead of the rear wheels. This unit is equipped with an electronic ground speed spreader control to provide an accurate application rate.
- One 2016 tandem truck with 11 cu.yd with electronic spreader
- 2019 tandem 11 cu. yd, with electronic spreder
- One 1990 single axle c/w 6 cu.yd. slide-in hopper spreader which the material is conveyed to the rear of the hopper for discharge on the centreline of the vehicle. The application rate of the material being spread is controlled manually. Spare truck

- c) Equipment Maintenance

All of our trucks are equipped with one-way plow and wing, usually we remove as much snow and ice as possible before salt is applied. Excess salt and sand remaining in the spreaders following a storm are deposited inside the storage building as soon as possible.

4.1.3. Overall Objectives for Improvement

One of our main objectives will be to increase our efficiency in placing the salt at the right time, in the right place and at the right quantity by implementing the following maintenance procedures.

- a) Immediate Actions

- Review the calibration of spreaders for application rates more regularly.
- Individual record keeping per operator for material used per event.
- Trained winter maintenance staff to ensure that the new technologies are being used safely and effectively.
- Sensitize staff to the economic value and environmental effects of salt.

b) Long Term Actions

All new plough trucks shall have an electronic ground speed spreader control.

4.1.4 Time lines for achieving the objectives

Year One: all of 4.1.3 (a)

Year Two: all of 4.1.3 (b)

Year Three: revised S.M.P.

4.1.5 Training Program

Informing the winter maintenance staff about the negative effects of salt on the environment will take place prior to the beginning of 2005/06 winter season.

4.1.6 Responsible Persons

| | | |
|---------------------|---|-------------------------|
| Road Superintendent | - | Jean- François Santerre |
| Operators | - | Trevor Bates |
| | - | Daniel Chatelain |
| | - | Gill Lanthier |
| | - | |

4.1.7 Procedures

Procedures to monitor and measure progress as per Annex C of the code will be developed in the near future.

4.2 Salt Storage

4.2.1. Environmental Consideration

a) Maintenance Yard is a significant source of salt contamination to both surface and ground water. To minimize the loss of salt, the stockpile of salt and sand/salt should be covered to reduce salt loss to wind or leaking. Spillage during stockpiling and spreader loading is the main source of salt loss. The extent to which these activities can be carried out under cover will minimize salt loss.

b) The site shall be graded to direct drainage away from the storage areas and to the

extent possible, away from any down gradient ground water well locations. Salt laden should be collected if possible.

- c) Some potential sources of salt loss on site operation and maintenance procedures are
- runoff from exposed stockpiles
 - blowing salt from exposed stockpiles
 - spillage of pure salt during delivery
 - stockpiling and loading

4.2.2 Existing Practices

- Our salt stockpile is covered by a rectangular structure about 60 ft x 120 ft x 40ft high with an impermeable layer of asphalt over a concrete floor.
- The area where we mix the sand with approximately 5% salt is paved and inside.
- Loading of spreaders is performed inside
- Most of the salt and sand/salt mixtures that are spilled outside the storage facilities are collected and returned to the appropriate stockpile after the storm.
- Excess salt and sand remaining in the spreaders following a storm event are deposited as close to the entrance of the salt storage structure as possible and returned to the stockpiles with the front-end loader.
- Prior to washing, the spreaders are swept near the salt storage entrance to remove as much salt residues as possible to minimize the amount of dissolved salt and solids in the wash water. Spreaders are then washed inside the municipal garage. All vehicles' wash water is directed through an oil/grit separator prior to be discharged outside in an outlet ditch.

Site Drainage

- The site is graded to direct drainage away from the storage areas and to the extent possible away from the down gradient ground water wells locations. Salt-laden water from the site surface water is not either collected for brine or sent for disposal at sewage treatment facilities. The surface water drains into a small ditch southerly for approximately 250 metres, then discharges into a municipal drain which drains easterly for a few kilometres to a small river.

4.2.3 Overall Objective for Improvement

Improvements of our operating practices are important to minimize salt wastage and environmental impacts. The following objectives shall contribute to minimize salt loss.

- Salt and Sand/Salt Storage
New salt storage build in September 2009
- Truck Washing
Continue to wash the spreaders as soon as possible after a storm in order to minimize equipment corrosion. The wash water is not disposed or treated; water should be analysed to confirm if it is properly diluted.
- Site Drainage
The drainage of the storage area is adequate with the exception of the collection of salt laden. On a long-term basis, management of the salt laden shall be considered.
- Storage Repairs
Salt storage is in very good condition.

4.2.4 Time lines for achieving the objectives

- as mentioned in 4.2.3

4.2.5 Training Program

- inform operators of salt application policies, the environmental issues, good housekeeping practices at maintenance yards.
- inform operators that salt spillage is wasteful and can be harmful to the environment.
- inform operators how to carry out salt-handling activities to prevent the wasteful release of salt to the environment.
- inform operators that timely yard maintenance and salt clean-up procedures should be followed to control salt loss.