

2019 Public Roads Deicing Workshop

# Chlorides and Your Agency's MS4 Permit

Dan Bounds, PE

October 24, 2019



DuPage River Salt Creek Workgroup

**BAXTER & WOODMAN**  
Consulting Engineers



## **Illinois EPA performed audits of municipal separate storm sewer system (MS4) programs this year**

Each audit included a visit to one of the community's maintenance yards, with focus on:

- Salt and deicer storage
- Material storage areas
- Vehicle washing areas



## Questions asked during the audits included:

1. Is your MS4 (agency) subject to TMDL requirements?
2. Are you participating in any watershed groups that are addressing chlorides from your deicing practices?
3. Have you determined your pollutants of concern for your program?



## Questions asked during the audits included:

4. Do public education materials cover salt and deicing material use and storage?
5. Do your BMPs minimize the exposure of salt storage piles, storing piles away from storm drains?
6. Are you using deicing materials effectively to help reduce storm water pollution from the materials?



## **Questions asked during the audits included:**

7. Do you have an employee training program on municipal best management practices for pollution prevention?

8. Do you have a permanent covered storage structure for your salt storage? If not, do you have a plan to build a structure by March 1, 2018?



## Municipal Facility Evaluation

First on the list - salt and deicer storage area





## Salt Storage

Salt contained within a permanent structure

Excess salt in a structure or temporary tarp









## **Chloride Time Limited Water Quality Standard “Chloride Variance”**

Chicago Area Waterway System (CAWS) and the Lower Des Plaines River watersheds - 15 years to implement BMPs before lower water quality standards take effect

Illinois EPA - Failure to participate in the TLWQS could result in being found in violation of MS4 permit



## **Variance BMP Requirements:**

- 1) All salt will be stored on an impermeable pad
- 2) Pads must be constructed to avoid drainage onto the pad, and a collection point must be constructed for drainage
- 3) Salt piles shall be covered at all times except when in active use, unless stored indoors
- 4) Good housekeeping practices must be implemented at salt piles and during salt loading/unloading operations



## **Variance BMP Requirements:**

- 5) All salt spreading equipment must be calibrated at least annually. Records must be maintained for each piece of spreading equipment
- 6) Road salt will be pre-wetted before use, either by applying liquids to the salt stockpile, or by applying liquids by way of the spreading equipment as the salt is deposited on the road
- 7) Equipment will be purchased and utilized to measure the pavement temperature

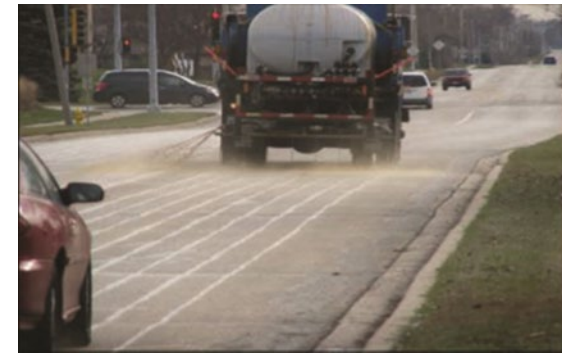


## **Variance BMP Requirements:**

8) Develop and implement a protocol to vary the salt application rate based on pavement temperature, existing weather conditions, and forecasted weather conditions

9) Salt quantity used and storm conditions will be tracked during each storm and recorded

10) A plan must be developed for implementation of anti-icing, with milestones. The plan should consider increased use of liquids (e.g., carbohydrate products)





## **Variance BMP Requirements:**

- 11) Annual training in best practices in the use of road salt
- 12) Contractors will be managed appropriately, including holding them to compliance with the permittee's own BMPs and training programs
- 13) An annual report must be completed





## **Variance BMP Requirements:**

14) Equipment to measure the pavement temperature will be installed on the winter maintenance fleet for a sufficient number of vehicles to provide sufficient information to adjust application rates for the most efficient levels

15) By the end of the initial TLWQS period, a method must be developed to determine whether each truck in fleet applied salt at the recommended rate, why any variations occurred, and ensure that a variation occurs only when strictly necessary



## **Variance BMP Requirements:**

Pollutant Minimization Plan (PMP)

Annual reporting to Illinois EPA



## Variance BMP Schedule:

- 6 months: establish a mechanism for tracking salt usage
- July 1 of Year 2: Submit annual report
- December 31 Year 2: Complete training staff and contractors
- July 1 Year 3: Submit Annual Report
- July 1 Year 3: Identify capital purchases necessary over three years to reduce deicing salt applications
- December 31 Year 3 & Year 4: Complete training with review of previous year and what will be implemented in coming year
- July 1 Year 4 & Year 5: Submit Annual Report, identify additional BMPs and quantify effectiveness (salt usage reduction)



# Chlorides and Your MS4 Permit



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## View Case Information

### View Case Details

#### General Information

**Case #:** PCB 2016-014      **Case Name:** Village of Homewood, Homewood, Illinois v. IEPA (Consolidated PCB 16-14, 16-15, 16-16, 16-17, 16-18, 16-20, 16-21, 16-22, 16-23, 16-25, 16-26, 16-27, 16-29, 16-30, 16-31, 16-33, 19-7, 19-8, 19-9, 19-10, 19-12, 19-13, 19-14, 19-15, 19-16, 19-17, 19-18, 19-19, 19-20, 19-21, 19-22, 19-23, 19-24, 19-25, 19-26, 19-27, 19-28, 19-29, 19-30, 19-31, 19-33, 19-34, 19-35, 19-36, 19-37, 19-38, 19-40, and 19-48)

**Case Type:** Time-Limited Water Quality Standards      **Board Member:** Carter, B. K.

**Media Type:** Water      **Hearing Officer:** Halloran, B.

**Status:** Board Order

**County:** Cook

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#### Case Activity

Please use the arrows at the top of each column to sort the case activity entries in preferred chronological or alphabetical order.

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Date	Activity Type	Activity Notes	View File
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**Your community and facilities  
could be inspected next!**

This workshop meets the chloride related training requirements of your agency's MS4 permit

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