

Runoff & Municipal Storm Sewer Systems

- Precipitation in the form of rain or snowmelt that doesn't infiltrate into the ground becomes surface water runoff
- Municipalities utilize ditches or catch basins with underground plumbing to convey water runoff to nearby surface waters (rivers & lakes)
- Surface water runoff that is not allowed to infiltrate into the ground carries pollutants directly to our water resources



DURING WINTER, FROZEN GROUND COMPOUNDS PROBLEMS DUE TO LOW INFILTRATION RATES AND INCREASED RUNOFF.

SAND & SALT ARE PERMANENT POLLUTION!

Chloride & Abrasives Pollution

- Once applied, snow and ice melting compounds become a permanent pollutant. They pollute nearby soils and, when dissolved in water through runoff or infiltration, contaminate surface and ground water resources
- Sand and other abrasives end up in storm drains and cause sedimentation of stormwater ponds, lakes and rivers
- Excess salt in soils causes:
 - vegetation die offs
 - soil erosion
 - soil compaction

Best Management Practices (At a Glance)

- Store snow away from storm drains, ditches, ponds, creeks, and wetlands
- Store salt and sands indoors on an impervious surface
- Utilize proper equipment and inspect to ensure it is functioning as expected
- Remove snow early and often to reduce the amount of compaction and need for ice removal
- Understand the products you are using:
 - **sand** provides traction—it does not melt ice
 - **salt**—only effective when the air temperature is warmer than the pavement temperature. A little goes a long way under the right conditions. Follow manufacturer application rates



To find out more information about protecting our water resources, visit:

RenewOurWaters.org

Northeast Wisconsin Stormwater Consortium

P.O. Box 1861

Appleton, Wisconsin 54912

Phone: 920-915-5767

WINTER PARKING LOT & SIDEWALK MAINTENANCE (Ice & Snow Control)



Applying Best Management Practices (BMP's) can reduce the amount of pollutants entering our waters... & save money too!

YOU CAN BE PART OF THE SOLUTION

**Renew
Our Waters**

Every choice counts.

Planning

- Create a list of actions to take before, during and after winter precipitation
- Tailor plans for specific locations
- Follow the plan, document actions taken and review/update the plan as needed

Before Applying Salt or Sand... know this!

- **Monitor the weather:** Know and understand the current weather pattern and temperatures as this will affect the type and rate of materials application
- **Surface Temperature:** The temperature of the surface can be different than the air temperature. Knowing this helps determine types and rates of material application
- **Anti-Icing:** Utilize anti-icing strategies (liquids) prior to winter precipitation to prevent snow & ice bonding to the surface

Salt or De-Icer Application (sidewalk tips)



- Hand-apply deicer or sidewalk salt. Do not use more than needed, apply to manufacturer's recommendations
- Drop spreaders keep materials from spreading onto adjacent

landscaping

- Manually removing snow aggressively will reduce the amount of deicer needed.
- Proper application (3in between granules) will effectively do the job

Using the Right Equipment

- Use pavement sensors to test the surface temperature
- Use equipment that can be adjusted for lower application rates
- Outfit vehicles with ground speed controls to allow application rates based on vehicle speeds
- Properly calibrate applicators to manufacturer's recommendations based on materials to be applied



Snow, Sand, & Salt Storage

- Never plow, push, blow or store excess snow, deicer, or other debris into creeks, watercourses or storm drainage systems. Snow storage areas should be located away from ditches, ponds, creeks or wetlands. If possible, areas should be self-contained and internally drained
- Store excess snow in an area where solids can be recovered after snowmelt
- Store excess salt and sand indoors on an impervious surface

Getting started early, developing a plan and applying Best Management Practices to Winter Parking Lot & Sidewalk Maintenance activities can save money by lowering materials, personnel and other costs!

Using the Right Materials



De-icing substances (whether solid or liquid) have different properties.

Chlorides:

- Sodium Chloride (Road Salt)
 - Ineffective below 15°
- Calcium Chloride
 - Ineffective below -20°
- Magnesium Chloride (liquid)
 - Ineffective below -10°
- Potassium Chloride

Sand (Traction Control)

- Use when temperatures are too cold for de-icing chemicals

Anti-Icing Facts

- Use a salt brine before the storm to prevent snow & ice from bonding to surfaces
- Can be effective for several days depending on weather conditions
- Cost-effective & Safer on the environment
- Requires about 25% of material
- 10% of de-icing cost

