

Standard Operating Procedures

Town of Braintree

Department of Public Works

Winter Road Maintenance – Snow Removal & De-Icing

Issue Date:

6/29/2019

Approved by:



Assistant Director of Public Works - Operations

Purpose of SOPs:

Procedures for the maintenance of roadways in the winter, salt and sand storage and use, and recordkeeping to prevent pollution from entering the stormwater sewer systems.

MA Small MS4 General Permit Requirement Summary:

Part 2.3.7.a.iii.5.

The permittee shall establish and implement procedures for winter road maintenance including the use and storage of salt and sand; minimize the use of sodium chloride and other salts, and evaluate opportunities for use of alternative materials; and ensure that snow disposal activities do not result in disposal of snow into waters of the United States. For purposes of this MS4 Permit, salt shall mean any chloride-containing material used to treat paved surfaces for deicing, including sodium chloride, calcium chloride, magnesium chloride, and brine solutions.

Equipment

The municipality owns and maintains ice control and snow removal equipment. Equipment maintenance shall be conducted consistent with the Vehicles and Equipment manufacturers recommended maintenance.

Plowing

When conditions warrant, plows are installed on the larger trucks to move snow from the main roadways. Average time to install a plow is approximately 15 minutes. When deemed necessary, plows will be installed before the start of the snow event. Smaller trucks are available for plowing of residential streets and clearing public lots. Plows for smaller vehicles are installed before the event.

Salt Spreaders and Pre-Wetting Devices

When conditions warrant, salt spreaders installed on the larger trucks are dispatched to spread salt on the traveled roadway. Each salt spreader is maintained and calibrated prior to the deicing season and periodically, based on use throughout the season. Trucks equipped with pre-wetting or liquid deicer are calibrated prior to the deicing season and periodically, based on use throughout the season.

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Materials

The major materials used in snow and ice control are coarse sand, coarse salt, anti-icing agent. These materials are stockpiled in advance of an event and are immediately available when needed and stocks are replenished between events.

Salt

Salt is used to expedite the melting of snow and ice from the street surface and also to keep the ice from forming a bond to the street surface. Salt is stored in the covered facility located at the DPW Highway Yard at 245 Union St. Loading areas and yards are swept as needed to prevent salt build-up and run-off.

Sand

Sand is used as an abrasive for traction on slick roadways. Sand is stored at the DPW Highway Yard at 245 Union St. Loading areas and yards are swept as needed to prevent sand build-up and run-off.

Anti-icing and Pre-Wetting Chemical

These chemicals are stored in the DPW Highway Building at 245 Union St. in 2-2500 gallon storage tanks.

Procedures

Anti-Icing

1. Whenever possible, the anti-icing product is applied to the roadway prior to the beginning of a storm to prevent snow from bonding to the roadway surface, and also used when heavy frost or black ice is expected to be an issue for commuters. DPW Director or his designee will instruct staff when anti icing is appropriate. Anti-icing will not be done prior to freezing rain.
2. Prior to anti-icing application, equipment will be checked to ensure proper working order and ensure proper calibration of equipment. All fluid levels will be checked and filled to proper levels, all lights must be in working order. A visual walk-around inspection of the truck or equipment must be made. Any repairs must be made and reported to a supervisor or mechanic before leaving the yard.
3. Before parking any truck or equipment after use, all fluid levels will be checked and filled. All minor repairs will be done by the operator. Any repairs the operator cannot perform will be written up on the proper forms and turned in to the mechanic or supervisor on duty. Facilities Vehicle Superintendent will determine importance and will assign the repairs according to schedule. All deicing chemical will be washed from equipment at the designated wash area.

Salt Application

1. Whenever conditions warrant, salt is applied to the roadway prior to accumulation of snow to prevent compacted snow from bonding to the roadway surface. DPW Director or his designee will instruct staff when salt application is appropriate.
2. Prior to salt application, equipment will be checked to ensure proper working order and ensure proper calibration of equipment. All fluid levels will be checked and filled to proper levels, all lights must be in working order. A visual walk-around inspection of the truck or equipment must be made. Any repairs must be made and reported to a supervisor or mechanic before leaving the yard.
3. The standard salt application speed is 20 mph or less due to conditions.
4. Follow the prioritized route or schedule. The routes are located in the DPW Highway Division Office.

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5. Before parking any truck or equipment after use, all fluid levels will be checked and filled. All minor repairs will be done by the operator. Any repairs the operator cannot perform will be written up on the proper forms and turned in to the mechanic or supervisor on duty. Facilities Vehicle Superintendent will determine importance and will assign the repairs according to schedule. All deicing chemical will be washed from equipment at the designated wash area.

Snow Plowing

1. As the storm develops and 2 to 4 inches of snow has accumulated, all of the drivers and available equipment will begin to plow their assigned routes.
2. Prior to plowing operations, equipment will be checked to ensure proper working order. All fluid levels will be checked and filled to proper levels, all lights must be in working order. A visual walk-around inspection of the truck or equipment must be made. Any repairs must be made and reported to a supervisor or mechanic before leaving the yard.
3. Avoid plowing, pushing, blowing or storing excess snow, deicer, or other debris in or near creeks, watercourses or storm drainage systems.
4. Reduce plowing speed in sensitive areas (near creeks, wetlands or other water courses) to prevent snow and deicing materials from entering waterways.
5. The standard plowing speed is: no more than 15 mph.
6. Follow the prioritized route or schedule. The routes are located in the DPW Highway Division Office.
7. Before parking any truck or equipment after use, all fluid levels will be checked and filled. Check plow for blades or bolts that need replacing. Notify Welder/Fabricator or mechanic. Note tire chains if used that need repairs. All minor repairs will be done by the operator. Any repairs the operator cannot perform will be written up on the proper forms and turned in to the mechanic or supervisor on duty. Facilities Vehicle Superintendent will determine importance and will assign the repairs according to schedule.

Sand Application

1. Whenever conditions warrant, sand is applied to the roadway to increase traction. DPW Director or his designee will instruct staff when sand application is appropriate.
2. Prior to sand application, equipment will be checked to ensure proper working order and ensure proper calibration of equipment. All fluid levels will be checked and filled to proper levels, all lights must be in working order. A visual walk-around inspection of the truck or equipment must be made. Any repairs must be made and reported to a supervisor or mechanic before leaving the yard.
3. The standard sanding speed is 20 mph or less due to conditions. Follow the prioritized route or schedule. This schedule is located in the DPW Highway Division Office.
4. Before parking any truck or equipment after use, all fluid levels will be checked and filled. All minor repairs will be done by the operator. Any repairs the operator cannot perform will be written up on the proper forms and turned in to the mechanic or supervisor on duty. Facilities Vehicle Superintendent will determine importance and will assign the repairs according to schedule.

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Record Keeping and Documentation

1. Maintain a master schedule of prioritized snow and sanding routes and the miles or roads plowed or sanded.
2. Keep copies of manufacturer's recommendations for equipment calibration, plowing speed and salt/sand application rates.
3. Keep records of the amounts of salt, sand, liquid deicer, and salt alternatives applied per season.
4. Keep a list of all employees trained in the facility's Stormwater Pollution Prevention binder or computer file.

Records are kept at the DPW Highway Division Office.

Revising the SOPs

These procedures are reviewed yearly and updated as needed.