



**Winter Operations Planning Document for Township of Billings
(Winter Season 2024-25)**

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A. Purpose

This winter operations plan sets out a policy and procedural framework for ensuring that the Township of Billings continuously improves on the safe and sustainable delivery of winter maintenance services and the effective and efficient use of sand and road salt in their winter maintenance operations. This plan supersedes all previous plans for the Township of Billings.

The plan is meant to be dynamic, to allow the municipality to evaluate and phase-in any changes, new approaches and technologies in winter maintenance activities in a fiscally sound manner. At the same time, any modifications to municipal winter maintenance activities must ensure that roadway safety is not compromised.

B. Definitions

Anti-icing means the application of liquid deicers directly to the road surface in advance of a winter event.

Continuous Winter Event Response is a response to a winter event with full deployment of manpower and equipment that plow/salt/sand the entire system.

De-icing means the application of solids, liquids, pre-treated material to the road surface after the on-set of the winter event.

Highway means a common and public highway, street, avenue, parkway, driveway, square, place, bridge, viaduct or trestle, any part of which is intended for or used by the general public for the passage of vehicles and includes the area between the lateral property lines thereof.

Paved Road means a road with an asphalt surface, concrete surface, composite pavement, or portland cement.

Pre-treat means the application of liquids (sodium chloride, calcium chloride, etc.) to dry salt or sand prior to being loaded for storage or applied to the road surface.

Pre-wetting means the application of liquids (sodium chloride, calcium chloride, etc.) at the spinner of the truck just prior to application to the road surface.

Public Works Superintendent is the person who is on duty at the time directing the snow/ice removal operations of the Township of Billings. These individuals include: any other individual who may be assigned the responsibility of Public Works Superintendent.

Route of Representative Roads is another term used for patrol routes.

Salt Route is a collection of road segments, which during a winter storm will receive applications of salt to prevent the formation of a bond between snow and pavement, or if such a bond has already formed, to break that bond. Typically, such routes have some sort of bare pavement level of service. Under certain circumstances (e.g. extremely cold

pavement temperatures such that road salt would not be effective at bond breaking or prevention) sand may be applied to such routes to provide a temporary increase in grip. Billings Township does not any salt routes.

Sand Route is a collection of road segments which during a winter storm will receive applications of sand to provide a temporary increase in grip. Typically, such routes include gravel and other unpaved roads, where the use of salt or other freeze depressant materials might impact road stability. The level of service on such routes would not have bare pavement as a service goal.

Spot Winter Event Response is a response to a winter event with only a partial deployment of manpower and equipment or with full deployment to only part of the system.

Surface Treated Road is road with bituminous surface treatment comprised of one or two applications of asphalt emulsion and stone chips over a gravel road.

Unpaved Road is a graded road with a gravel, stone or other loose traveling surface.

Winter Event is a weather condition affecting roads such as snowfall, windblown snow, freezing rain, frost or ice to which, a winter event response is required.

Winter Event Response is a series of winter control activities performed in response to a winter event.

Winter Event Response Hours are the total number of person-hours per year (plowing, salting/sanding, winging back, etc.) to respond to winter events.

1. OBJECTIVE OF WINTER OPERATIONS MANAGEMENT

Township of Billings is committed to providing safe and sustainable winter maintenance operations while continuing to improve those operations to provide safety and mobility for the traveling public. As an integral part of this effort Township of Billings will strive to optimize the use of all winter maintenance materials as they pursue the goal of a safe and sustainable transportation system.

Township of Billings Public Works staff will strive, insofar as reasonably practicable, to provide safe winter road conditions for vehicular and pedestrian traffic as set out in the level of service policies and within the resources established by the Council of the Township of Billings.

2. POLICY STATEMENT

The Township of Billings will conduct safe and sustainable snow removal to ensure, insofar as reasonably practicable, the safety and mobility of users of the municipal road network, in keeping with applicable state legislation.

The Township of Billings will provide efficient and cost-effective winter maintenance to ensure, insofar as reasonably practicable, the safety of users of the municipal road network in keeping with applicable provincial legislation and accepted standards while striving to minimize adverse impacts to the environment. These commitments will be met by:

- Adhering to the procedures contained within the Winter Operations Plan; Reviewing and upgrading the Winter Operations Plan on an annual basis to incorporate new technologies and new developments;
- Committing to ongoing winter maintenance staff training and education; and Monitoring on an annual basis, the present conditions of the winter maintenance program, as well as the effectiveness of the Winter Operations Plan.

3. QUICK OVERVIEW OF THE TOWNSHIP OF BILLINGS

- Type of Organization: Municipal
- Structural Level: Township
- Estimated Population (2016 Consensus): 603
- Total Area: 209 km²
- Street Address: Municipal Office, 15 Old Mill Road,
Kagawong, Ontario
POP 1J0, Canada
- Telephone:
 - Municipal Office (705) 282-2611
 - Public Works Garage (705) 282-3433
- Website: www.billingstwp.ca
- Public Works Superintendent: Chris Cyr, Telephone: (705) 282-4044
- Police:
 - Contact Person: Robert Walsh
 - Primary Phone: (705) 356-2244
 - Email robert.j.walsh@opp.ca
 - Little Current Detachment (705) 368-2200

4. WINTER MAINTENANCE PROGRAM

4.1. The System Maintained

The major activities related to winter maintenance are:

- Snow plowing
- Salt /sand application
- De-icing
- Frost-control
- Drift-control

The Township of Billings is responsible for winter maintenance on:

Road Category	Pavement Type and Area Type	Individual Length (Lane kilometers)	Total Length (Lane kilometers)
Class 6	Rural	0.0	8.1
	Rural gravel	8.1	
Class 5	Hard surfacing	40.15	61.76
	Urban	0.0	
	Gravel	21.61	
	Urban	0.0	
Class 4	Hard surfacing	65.6	65.6
	Urban	0	
	Gravel	0	
Class 3	Urban	0.9	0.9

Not Maintained Winter Roads 43.05 Lane Kilometers

4.2. Level of Service

The Township of Billings provides the following level of service during the winter maintenance season, as set out in 4.2, in response to a winter event.

The minimum standard for clearing snow accumulation is:

4.2.1. Snow Accumulation and Ice Formation Policy

SNOW ACCUMULATION:

1. The standard for addressing snow accumulation is:

- a. after becoming aware of the fact that the snow accumulation on a roadway is greater than the depth set out in the Table to this section, to deploy resources as soon as practicable to address the snow accumulation; and
 - b. after the snow accumulation has ended, to address the snow accumulation so as to reduce the snow to a depth less than or equal to the depth set out in the Table within the time set out in the Table,
 - i. to provide a minimum lane width of the lesser of three meters for each lane or the actual lane width, or
 - ii. on a Class 4 or Class 5 highway with two lanes, to provide a total width of at least five meters. O. Reg. 47/13, s. 4.
2. If the depth of snow accumulation on a roadway is less than or equal to the depth set out in the Table to this section, the roadway is deemed to be in a state of repair with respect to snow accumulation. O. Reg. 47/13, s. 4.
3. For the purposes of this section, the depth of snow accumulation on a roadway and, if applicable, lane width under subsection (1)(b), may be determined in accordance with subsection (4) by a municipal employee, agent or contractor, whose duties or responsibilities include one or more of the following:
 - a. Performing highway maintenance activities.
 - b. Supervising staff who perform activities described in paragraph 1 or 2. O. Reg. 47/13, s. 4.
4. The depth of snow accumulation on a roadway and lane width may be determined by,
 - a. performing an actual measurement;
 - b. monitoring the weather; or
 - c. performing a visual estimate. O. Reg. 47/13, s. 4.
5. For the purposes of this section, addressing snow accumulation on a roadway includes, but is not limited to,
 - a. plowing the roadway;
 - b. salting the roadway;
 - i. the application of other chemical or organic agents to the roadway;
 - c. applying abrasive materials to the roadway; or
 - d. any combination of the methods described in clauses (a), (b), (b.1) and (c). O. Reg. 47/13, s. 4.
6. This section does not apply to that portion of the roadway designated for parking. O. Reg. 47/13, s. 4.
7. If at any time a municipality declares a weather emergency, then all roadways within the municipality are deemed to be in a state of repair in respect of any snow accumulation present, until the applicable time under the Table to this section expires following the end of the declared weather emergency.

ICE FORMATION:

1. The standard for attempting the prevention of ice formation on roadways is doing the following in the 24-hour period preceding an alleged formation of ice on a roadway:
 - a. Monitor the weather in accordance with section 3.1.
 - b. Patrol in accordance with section 3.
 - c. If the municipality determines, as a result of its activities under paragraph 1 or 2, that there is a substantial probability of ice forming on a roadway, treat the roadway to attempt to prevent ice formation within the time set out in the Table to this section, starting from the time that the municipality determines is the appropriate time to deploy resources for that purpose. O. Reg. 47/13, s. 5.
2. If the municipality meets the standard set out in subsection (1) and, despite such compliance, ice forms on a roadway, the roadway is deemed to be in a state of repair until the earlier of,
 - a. the time that the municipality becomes aware of the fact that the roadway is icy; or
 - b. the applicable time set out in the Table to this section for treating the roadway to prevent ice formation expires. O. Reg. 47/13, s. 5.
3. The standard for treating icy roadways after the municipality becomes aware of the fact that a roadway is icy is to treat the icy roadway within the time set out in the Table to this section, and an icy roadway is deemed to be in a state of repair until the applicable time set out in the Table for treating the icy roadway expires. O. Reg. 47/13, s. 5.
4. For the purposes of this section, treating a roadway means applying material to the roadway, including but not limited to, salt, sand or any combination of salt and sand. O. Reg. 47/13, s. 5.
5. If at any time a municipality declares a weather emergency, then all roadways within the municipality are deemed to be in a state of repair in respect of any ice present, until the applicable time under the Table to this section expires following the end of the declared weather emergency.

**TABLE
SNOW ACCUMULATION**

Class of Highway	Depth	Time
1	2.5 cm	4 hours
2	5 cm	6 hours
3	8 cm	12 hours
4	8 cm	16 hours
5	10 cm	24 hours
6	10 cm	24 hours

**TABLE
ICE FORMATION PREVENTION AND ICY ROADWAYS**

Class of Highway	Time
1	3 hours
2	4 hours
3	8 hours
4	12 hours
5	16 hours

4.2.2. Private Sidewalk Responsibility

All sidewalks adjacent to private property are the responsibility of the adjacent property owner. Due to the location of some sidewalks and the volume of snow being moved off of the streets, there may be occurrences when plowing operations may deposit significant amounts of snow onto the sidewalks. When this occurs, it is the responsibility of the adjacent property owner to remove all snow from the sidewalk. The township does not winter maintain sidewalks.

4.2.3. Plowing Private Property

Private properties are the responsibility of respective owners.

4.3. Winter Season Maintenance

For Operational purposes, the Township of Billings assumes the winter season commences on 2024-Nov-16 and is completed by 2025-Apr-16, while acknowledging that winter events may occur outside of this timeframe.

4.4. Winter Preparations

In the months prior to the start of the winter maintenance season the Township of Billings undertakes the following tasks to prepare for the upcoming winter season.

4.4.1. Prior to Winter Season

Prior to the winter season, if required, prepare and call tenders for the supply of materials (salt, sand, liquid, etc.), replacement parts (for plows, solid and liquid application equipment), value added meteorological services (VAMS) and contract equipment (plow trucks, spreader trucks, combination units).

Sometime prior to the winter season the Township of Billings will:

- Conduct a session for staff and contract operators where all policies, procedures, schedules, reporting procedures for callout, route maps, equipment training and safety precautions will be discussed. Any issues resulting from the meeting with regard to the policies, procedures, schedules, reporting procedures for callout, route maps, equipment training and safety precautions shall be resolved either at the meeting or prior to the winter season.
- Inspect equipment to ensure proper working order. Schedule and complete any and all equipment repairs.
- Arrange for the delivery of materials (salt, sand and liquid solution) and begin filling storage facilities. If liquid solution is mixed on site, begin mixing and filling storage tanks.
- Confirm that all guiderail, catch basin, hazard and fire hydrant markers, steep hill, sharp curve ahead warning signs, bridges ices sign, if any, are in place. Any missing markers should be replaced prior to the winter session.

4.4.2. One Month Prior to the Winter Season

One month prior to the winter season the Township of Billings will:

- Assign equipment to staff.
- Calibrate material application equipment.
- Allow operators (staff and contract) time to familiarize themselves with any new equipment, material application rates, material application equipment and their route (driving the route and noting obstacles along the route).
- Assign staff to monitor and record weather forecasts on a daily basis. Upon the forecast of an approaching winter event, schedule a patrol of a route of representative roads. If a winter event is forecast prior to the start of the next scheduled shift a night and/or weekend patrol(s) of a route of representative roads should be scheduled. If a night or weekend patrol is scheduled the patroller should monitor and record the weather forecast and road conditions. The patrol person should be authorized to initiate a winter event response if conditions warrant a response.
- Have 33 % of the fleet ready to respond to a winter event.
- Have sufficient staff available to operate the fleet if conditions warrant a winter event response.

4.4.3. Two Weeks Prior to the Winter Season

Two weeks prior to the winter season the Township of Billings will:

- Have the 66 % of the fleet ready to respond to a winter event.
- Have staff available to operate the required complement of the fleet if conditions warrant a winter event response

4.4.4. At the Start of the Winter Season

At the start of the winter season:

- Begin patrolling representative roads in all roads/areas that the organization is responsible for
- Respond to winter events as per the winter operations plan.

4.5. Winter Patrol Operations

4.5.1. Staffing and Hours of Work

The Township of Billings has a full-time employee assigned to each vehicle used for winter operations. Each vehicle is assigned a route for sanding/salting and/or plowing. The Township of Billings adheres to the hours of service as dictated by Highway Traffic Safety Act, Reg. 555/06 (Ontario, Canada).

Staffing for Winter Maintenance				
Employee	Job Title	Reports to Facility	Assigned Route(s)	Assigned Equipment
Bill Hore	1st Operator	Public Works	RORR 1, PR 1, RORR 2, PR 2	2021 International, International Work Star, Western Star tandem, 2010 International Work Star
John Tolsma	Operator	Public Works	RORR 1, PR 1, RORR 2, PR 2	2021 International, International Work Star, Western Star tandem, 2010 International Work Star
Chris Cyr	Public Works Superintendent	Public Works	RORR 1, PR 1, RORR 2, PR 2	2021 International, International Work Star, Western Star tandem, 2010 International Work Star
Bill Savage	Operator	Public Works	RORR 1, PR 1, RORR 2, PR 2	2021 International, International Work Star, Western Star tandem, 2010 International Work Star

Some of the key responsibilities associated with the management and overseeing of winter operations for this winter season are as below:

- Public Works Superintendent will receive issues and concerns of the citizens regarding snow and ice control efforts.
- Public Works Superintendent will be responsible for making operational decisions.
- Public Works Superintendent will be authority to which the field staff will communicate the field conditions to.
- Public Works Superintendent will be responsible for shift scheduling. Public Works Superintendent will (when physically possible) be responsible for providing appropriate signage and or barricade in case a road has to be closed due to severe winter storm.
- Public Works Superintendent will ensure media releases are sent to local news and radio stations advising of road closures.
- Bill Hore will be second in command to the Public Works Superintendent.

4.5.2. Winter Material Used Annually

Primary Solid Material	Brand Name or Supplier	Expected Quantity this Season vs. Actual Quantity Last Season	Comes Pre-Mixed with	In-House Mix Added
Pretreated Sand	H & R Noble Construction	400 Tones (Can)	Pretreated Sand 5.0%	

4.5.3. Application Rates

Min. and Max. Ranges (Tones (can)/lane-kilometer)				
	0.0 to -5.0 CELSIUS	0.0 to -10.0 CELSIUS	0.0 to -18.0 CELSIUS	
Frost	1.0 - 1.0	1.0 - 1.0	1.0 - 1.0	
Light Snow	1.0 - 1.0	1.0 - 1.0	1.0 - 1.0	
Heavy Snow	1.0 - 1.0	1.0 - 1.0	1.0 - 1.0	
Freezing Rain	1.0 - 1.0	1.0 - 1.5	1.0 - 1.5	

4.5.4. Equipment - Winter Maintenance Fleet

The Township of Billings provides winter maintenance services on 4 routes with the equipment listed in Appendix 3.

VEHICLE NAME OR NUMBER	VEHICLE TYPE	ASSOCIATED ROUTES	ASSOCIATED EMPLOYEES	LOCATION /YARD
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2021 International HV613	Tandem Axle	PR 1, PR 2	Chis Cyr, Bill Hore, Bill Savage, John Tolsma	Public Works
2010 International Work star	Tandem Axle	PR 1, PR 2	Chis Cyr, Bill Hore, Bill Savage, John Tolsma	Public Works
2016 Western Star tandem	Tandem Axle	PR 1, PR 2	Chis Cyr, Bill Hore, Bill Savage, John Tolsma	Public Works

4.5.4.1. Mechanics

The Township of Billings has:

- 0 in-house mechanic(s) available
- external (e.g. contracted) mechanic(s) available
- Facilities with mechanics include:
 - Public Works Garage available for call in mechanics
- The timings for the above mechanics are as below:
 - Emergency
 - Maintenance/Repair

4.5.5. Winter Maintenance Facilities

The Township of Billings provides winter maintenance services from the winter maintenance facilities listed below.

4.5.5.1. Public Works

Facility Type:

Other

Facility Address:

Public Works Garage, 42 Carter Crescent, Kagawong, Ontario POP 1J0, Canada

Facility Phone:

705 282 3433

Number of Front-end Loaders (Backhoe):

1

Year facility Built:

1995

Updates and Enhancements:

- 2001 – Cold storage added to the back of the main Public Works Garage
- 1998 – Sand/Salt storage building

Design and Logistics:

- All materials are handled in a designated area characterized by an impermeable surface
- Equipment is in place to prevent overloading of trucks
- System is in place for collection and/or treatment of wastewater from cleaning of trucks
- Control and diversion of external waters (not impacted by salt) is in place
Ongoing clean-up of the site surfaces and spilled material is swept up quickly
- Risk management and emergency measures plans are in place

Material Storage Details:

- There is storage space available inside of this facility. It presently stores:
 - Salt/Sand Mixture – 400 Tons
- There is no storage space available outside of this facility.

Equipment Storage Details:

Two plow Trucks and backhoe loader are kept inside a warm garage, for immediate dispatching of equipment.

Equipment Washing Details:

Hot water pressure washer with gutter system in floor with oil separator.

Miscellaneous Material Details:

The sand/salt mixture is kept dry in our sand storage building and the salt is stored in a separate dry storage building.

Site Drainage Details:

- There is drainage and collection systems for runoff of salt-contaminated waters at this facility
- The chloride concentration in the runoff is not monitored
- This site discharges to:
 - Containment system for removal
- Additional Site Storage Details

4.5.6. Parking Lots

The Township of Billings provides winter maintenance services to the listed parking lots below.

4.5.6.1. Fire Hall/Gym

Facility Address: Fire Hall / 91 Main St/ Kagawong Fitness Club, 91 Main St, Kagawong, Ontario P0P 1H0, Canada

Number of Parking Spots: 6

Responsibility to maintain: Township of Billings.

The lot is not used for storage or disposal of snow.

The drainage from this lot is controlled.

Service Policy: Cleaning the paved area at the entrance of the Fire Hall is of top priority.

4.5.6.2. Town Parking Lots

Facility Address: Main St, Kagawong, Ontario P0P 1J0, Canada Number of Parking Spots:

Responsibility to maintain: Township of Billings.

The lot is not used for storage or disposal of snow.

The drainage from this lot is not controlled.

Service Policy: Parking Lots are generally of a lower priority.

4.5.6.3. Library Parking

Facility Address: Billings Public Library, Upper St, Kagawong, Ontario P0P 1J0, Canada

Number of Parking Spots: 6

Responsibility to maintain: Township of Billings.

The lot is not used for storage or disposal of snow.

The drainage from this lot is controlled.

Service Policy: The Public Library is only open a few days a week and is plowed shortly after the priority sites are finished.

4.5.6.4. Park Centre Parking

Facility Address: Park Centre, Henry St., Kagawong, Ontario P0P 1J0, Canada

Number of Parking Spots: 40

Responsibility to maintain: Township of Billings.

The lot is not used for storage or disposal of snow.

The drainage from this lot is controlled.

Service Policy: The Park Centre is of High Priority, as it is the Community Centre and Centre for Emergency situations if required.

4.5.6.5. Municipal Parking

Facility Address: Municipal Office/Museum, 15 Old Mill Road, Kagawong, Ontario P0P 1J0, Canada

Number of Parking Spots:

Responsibility to maintain: Township of Billings.

The lot is not used for storage or disposal of snow.

The drainage from this lot is controlled.

Service Policy: The priority of snow removal is high, as it is the centre of communications in our community, a source of important information in case of an Emergency and a loading and unloading area for School Buses.

4.5.6.6. Marina/Anglican Church Parking Lot

Facility Address: between 170 - 184 Main Street, Kagawong ON, Ontario POP
1J0, Canada

Number of Parking Spots:

Responsibility to maintain: Township of Billings.

The lot is not used for storage or disposal of snow.

The drainage from this lot is not controlled.

Service Policy: Parking Lots are generally of a lower priority, except for the one by the Anglican Church for Sunday Parking

4.5.7. Snow Removal and Disposal

The Township of Billings does not have dedicated Disposal Site(s) in its jurisdiction.

4.5.8. Plow Routes

Appendix 2 contains maps of the salt/sand routes, anti-icing routes and plow routes.

4.5.9. Salt Vulnerable Areas

Certain locations within the area of responsibility of the Township of Billings have been identified as being potentially vulnerable to the over-application of road salt. These areas are shown on the route maps in the appendices. Accordingly, salt storage, snow disposal and material application in these areas will be strictly monitored and, in some cases, may be restricted in a variety of ways.

4.5.9.1. Main St

Facility Address:

Area Footprint: 61859.66 Square Meters

Additional Details: Main Street runs parallel to Mudge Bay (North Channel of Lake Huron). The beach area runs from rocky shoreline to a sandy beach to rocky shoreline.

This area is sensitive to area rains and spring run offs, so a minimal amount of salt and salted sand is used in this stretchy of Main Street.

Mitigation Measures: A minimal amount of sand/salt mixture is used in this area to minimize contamination of the beach area and Municipal Water source.

Associated Vulnerabilities:

4.5.9.2. Old Mill Road

Facility Address:

Area Footprint: 28664.59 Square Meters

Additional Details: Old Mill Road crosses the Kagawong River and runs parallel to the south and east side of Mudge Bay. Only a portion of this road is very close to the Kagawong River and lakeshore. The amount of salted sand that is spread in this area, is varied according to the number of residents that use this portion of the road during the winter months.

Mitigation Measures: A traffic safe amount of salt/sand is applied. The area has no hills and is relatively flat.

Associated Vulnerabilities:

4.5.9.3. Part of Lakeshore Road

Facility Address:

Area Footprint: 90184.56 Square Meters

Additional Details: This is the section of roadway between Concession 12 West (Lakeshore Road) and Concession 10 West. In this area, salted sand is applied in a very careful manner. Traffic safety is very important, as the road has a few curves in it, and is also used by School Buses.

Mitigation Measures: This part of the road has a 50 Km speed limit road traffic and therefore a reasonable amount of sand/salt is used in this area for traffic safety.

Associated Vulnerabilities:

4.5.9.4. Manitou Lane

Facility Address:

Area Footprint: 1895.28 Square Meters

Additional Details: Manitou Lane is a class 6 road that services 3 family units.

Because the road is very flat, not much salted sand is applied in this area.

Mitigation Measures: Very little or no sand/salt mixture is used in this area. Snow plowing only is managed in this area.

Associated Vulnerabilities:

4.5.10. Weather Monitoring

In order to determine an effective winter event response and allocate the appropriate resources the Township of Billings supplements their general observations with weather information from various sources which includes:

- Meteorological Services:
 - Chris Cyr - www.theweathernetwork.com
 - Chris Cyr - [Rain Alarm.com](http://RainAlarm.com)
 - Chris Cyr - Environment Canada
- Customized weather forecasts which are updated 3 times/day from a Value
- Added Meteorological Service the Weather Network

- Weather monitoring will be done 3 times a day through The Weather Network web site. The forecasts will be checked by managers and staff, so that we can provide the best winter road management possible. The printed forecasts will then be filed to be retained for any future reference.

4.5.11. Communications

Maintaining reliable internal communications is a critical component of winter operations. The Township of Billings uses the following:

- All employees are equipped with cell phones.
- Information from The Weather Network and Environment Canada will be analyzed by the Public Works Superintendent and his staff prior to the event. If immediate action is to be taken, he will contact the Operators (Bill Hore, John Tolsma and Bill Savage) as soon as possible.

All citizen issues concerning snow and ice control efforts will be routed to Public Works Superintendent. The Public Works Superintendent will determine appropriate follow-up responses to citizen inquiries.

The municipality provides external communication with the general public via:

- Media press releases
- Information posted on the municipality's web site at www.billingstwp.ca

4.5.12. Boundary Street Jurisdiction and Responsibility

The table below outlines the responsibilities of each agency has to the roads bordering with the Township of Billings. The agencies listed in the table have first response maintenance responsibility to these roads. If the Township of Billings has its snow routes open and serious problems remain on the boundary streets, The Township of Billings snow plows may assist based upon the judgement of Public Works Superintendent on duty.

TABLE

Organization, and Contact	Responsibility Details	Telephone Number
M'Chigeeng - First Nation, Earl Debassige	Bay St., Spruce St. and Cross Hill Rd.	705 377 5362
NEMI, Wayne Williamson	Portion of Rockville Rd. & portion of Newby's Sideroad	705 368 2093
Township of Central Manitoulin, Ron Klingenberg	Portion of Rockville Rd., Monument Rd., 20th Conc., Cross Hill Road & John St	705 377 5301

Township of Gordon/Barrie Is., Tim Thibault	Nelson Rd	705 282 2702
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4.5.13. Callout Procedures

Operational decisions will be made by the Public Works Superintendent or his/her designate with the aid of available forecasting, Level of Service policy, patrolling etc. However, it should be emphasized that decisions will be subjective and external input, whether in this plan or elsewhere, merely acts as an aid in determining if a call out of staff and equipment by the Public Works Superintendent to respond to a winter event is warranted.

It is vital therefore that the Public Works Superintendent records the prevalent conditions and relevant information when he/she makes a decision.

The Public Works Superintendent will inform staff of changing of road and weather conditions observed in the field. When a winter event response is required the Public Works Superintendent will contact the staff by phone. The Public Works Superintendent will provide information to the operators. In the absence of the Public Works Superintendent, the patrol person shall be his/her designate and initiate a call out in response to a winter event.

4.5.14. Road Closure and Procedures

In the event that a road must be closed due to a severe winter storm, Ontario Provincial Police will request signs be placed to close the road. Appropriate signage and barricade will be available at the patrol yard. Upon receiving a request from Ontario Provincial Police to close a road to traffic, the Public Works Superintendent or his/her designate will organize manpower and equipment to place the signs and barricades. The Public Works Superintendent or his/her designate will contact the call centre and request that a media release (Appendix 5-1) be sent to the local news and radio stations advising of the road closure.

Roads will be deemed to be closed once the signs and barricades are placed.

When it is physically impossible to place signs and barricades to close a road, the Public Works Superintendent or his/her designate will advise Ontario Provincial Police and request Ontario Provincial Police permission to send the media release (Appendix 5-2).

4.5.15. Towing Illegally Parked Vehicles – Declaration Emergency Parking Ban

Cars parked on the streets during a snow removal effort may be ticketed and/or towed away. A snow emergency parking ban may be declared by Public Works Superintendent, or their designate. The Ontario Provincial Police and media will be notified when the parking ban is initiated.

4.5.16. Operating Instructions and Safety Rules

All individuals (whether local staff or contracted) shall abide by operating instructions and safety rules as stated in Appendix 6.

4.6. Decommissioning Winter Operations

After the winter season identified in 4.3 expires, the Township of Billings undertakes the following tasks to decommission winter operations:

4.6.1. Two Weeks After the Winter Season Ends

Two weeks after the winter season ends:

- Continue monitoring and recording weather forecasts.
- Assign night patrol shift if forecast indicates an overnight winter event is probable.
- Decommission 66 % of the fleet.

4.6.2. One Month After the Winter Season Ends

One month after the winter season ends:

- Cease all winter highway maintenance operations
- Decommission the remainder of the equipment providing weather forecasts warrant the decommissioning.

4.7. Training

The Township of Billings provides winter operations training for all staff involved in the delivery of winter services.

Individuals in the following positions within and outside of the organization have been trained:

- Within Organization:
 - Patroller(s)
 - Operator(s)

Staff will verify that the training was received by either signing the “Record of Training” included in Appendix 7-1 or 7-2, or another verification document.

The in-house staff is trained:

- By the local organization itself
- Through third-party training services, including:
 - OGRA Snow School – 2017 – Trains 33% of staff (Bill)
 - OGRA Managing Winter Operations - 2015 – Trains 33.0 % of the staff

- OGRA Snow School - 2013 – Trains 33.0 % of the staff
- OGRA 2014 Snow School Mechanics Module – Trains 33.0 % of the staff (Chris)
- OGRA Snow School 2012 – Trains 33.0 % of the staff (Chris)
- Canada Heavy Equipment College – Snow School – 100% of staff trained

Current winter operations training(s) for in-house staff:

- Equipment Circle Check
- Equipment Calibration
- Record Keeping
- Health & Safety
- Level of Service-policies, practices, and procedures
- Identification of Plow Routes-including variations for year to year and issues identified along the route.
- De-icing chemicals-application procedures, rates, storage, and handling
- Identification of vulnerable areas
- Yard and equipment maintenance
- Snow plow operator training

4.8. Record Keeping

Full and accurate completion of the documents listed below, according to the applicable procedures, ensures that the municipality is protected from liability by providing solid documentation that procedures have been followed.

Staff is responsible for keeping the following records:

For Equipment Operators:

- CVOR Time Card

For Patrollers

- Winter Patrol Record
- Call Out Diary
- Weather and/or RWIS Information Received

For Operations Supervisors

- Operations Diary
- Incident/Collision Reports
- Total materials used

In order to help improve decision-making for maintenance strategy, The Township of Billings:

- Has Automatic Vehicle Location (AVL) system installed on fleet.
- Uses a chart for application rates adapted to road or weather conditions (e.g., temperature)

The date will be recorded as YYYY-MMM-DD. It will be written in a numerical format (2017-Sep-21). The time shall be documented using the 24-hour clock format.

Always retain the original copy of documents regardless of their appearance. Writing must be legible for others to read and written in ink. Stains or dirt on the documents is not an issue. If a document requires correction, then a line is to be placed through the incorrect information without making it illegible and continue writing on the original document. Initial corrections or change in the colour of ink in a case where you change writing pens.

5. PLAN IMPROVEMENTS

The current winter maintenance policies, practices and procedures form the baseline or benchmark upon which improvements can be made to improve winter operations and/or the use and management of road salt.

Based upon the need to maintain continual service throughout the season, and the previous experience obtaining critical supplies and equipment at the height of the season, over the next ten years the Township of Billings plans to undertake a number of improvements that will be monitored and updated annually.

- Equipment
 - 2017-2018 Season: New Plow blade for newest plow
- Facilities

6. MONITORING AND UPDATING

Safe and sustainable winter operations include, as one of its fundamental tenets, the monitoring and updating of winter operations plans, policies, practices and procedures (the “four Ps”) of the Township of Billings in an ongoing manner. To that end, the following continuous improvement cycle is used to refine the “four Ps” annually.



At the end of the winter season, as identified in 4.3, a meeting to review winter operations will be held each year with all winter operations staff to itemize all issues that arose during the winter season and discuss how these issues may be resolved. Prior to the start of the next winter season and with sufficient lead time to implement any changes, the Township of Billings shall train staff on the changes to equipment and/or winter maintenance policies, practices, and procedures.

7. DISTRIBUTION OF THIS PLAN

This Plan shall be distributed to the following:

- Mayor and City Council
- Public Works Supervisor
- CAO

8. DISCLAIMER

This Manual may be affected by at least one or more of the following events which could delay or alter snow and ice control by the Township of Billings:

1. Equipment breakdown
2. Vehicles disabled in deep snow.
3. Weather so severe as to cause work to be stopped for the safety of all personnel.
4. Unforeseen conditions and emergencies.
5. Significant medical related emergencies.

The Township of Billings has enacted comprehensive internal Standard Operating Procedures to protect winter operations staff from contracting COVID-19 as much as possible. However, should staff become infected despite these measures or be required to self-isolate due to factors outside of the Township's control (*i.e.*, infection of close contacts outside of the workplace), it is possible that the township's Public Works department could be understaffed to the point of service disruptions.

In the event that staff shortages impact winter roads maintenance service delivery, the following procedures will be followed:

1. Regular weather monitoring and roads patrols shall occur until such time as no staff are available to do so.
2. A daily prioritization of services will be conducted by the lead Public Works employee on duty based on the weather forecast, the results of the roads patrol, and staff capacity. This prioritization will be documented and provided to administrative staff for internal and public notification (see item 4 below).
3. Services will be delivered based on the daily prioritization exercise.
4. Notification will be provided to the public via the township's website and Facebook page regarding any service disruptions or delays. Internal notification shall be done via email and shall include all staff and the Fire Chief.
5. In the event that no Township of Billings staff are available for roads patrols or further maintenance activities due to illness or self-isolation, the CAO/Clerk will contact Mutual Aid partners for assistance. Items 2 through 4 will be conducted by/with Mutual Aid partners.
6. As a last resort, the Public Works Superintendent may, in consultation with the CAO/Clerk, exercise the power delegated to them by section 7 of Township of Billings by-law 2018-49 to declare a municipal highway(s) or any portion thereof to be temporarily closed until such time as necessary maintenance activities can be conducted.
 - a) The Public Works Superintendent shall document the time and reasons for closure of the highway(s) or portions thereof and provide this information to administrative staff for internal and public notification.
 - b) Notification will be provided to the public via the township's website and Facebook page. Internal notification shall be done via email and shall include all staff and the Fire Chief.

Appendix 1

Patrol Routes (a.k.a. Routes of Representative Roads)

RORR 1

Patrol Distance: 16.9 Lane Kilometers

Patrol Routes



RORR 2
Patrol Routes 2

Patrol Distance: 21.15 Lane Kilometers



Appendix 2

Road and Sidewalk Routes

PR 1
Plow Route

Total Length: 52 Lane Kilometers



PR 2
Roadway Route

Total Length: 57.8 Lane Kilometers



Appendix 3

Equipment List

Equipment	Type	Owned By	Electronic Controller	Calibration Date	Pre-Wet Capability	Anti-Icing Capacity	Infrared Thermometer installed
2021 International	Tandem Axle	Township of Billings	Not installed	N/A	N	N	N
2010 International Work star	Tandem Axle	Township of Billings	Not installed	N/A	N	N	N
2016 Western Star tandem	Tandem Axle	Township of Billings	Not installed	N/A	N	N	N

Equipment	Pre-Wet Capability	Anti-Icing Capacity	Other Features	Comments
2021 International	N	N	Has a spreader- Has mounted mobile RWIS	2021 International with Viking Plow, wing and sander for winter operations,
2010 International Work star	N	N	Has a spreader- Has mounted mobile RWIS	International Work star tandem with Everest plow and sander
2016 Western Star tandem	N	N	Has a spreader- Has mounted mobile RWIS	Western Star with Viking -Cives plow and sander

Legend Y = Yes N = No

Appendix 4-1

Vulnerable Area



(Main St)

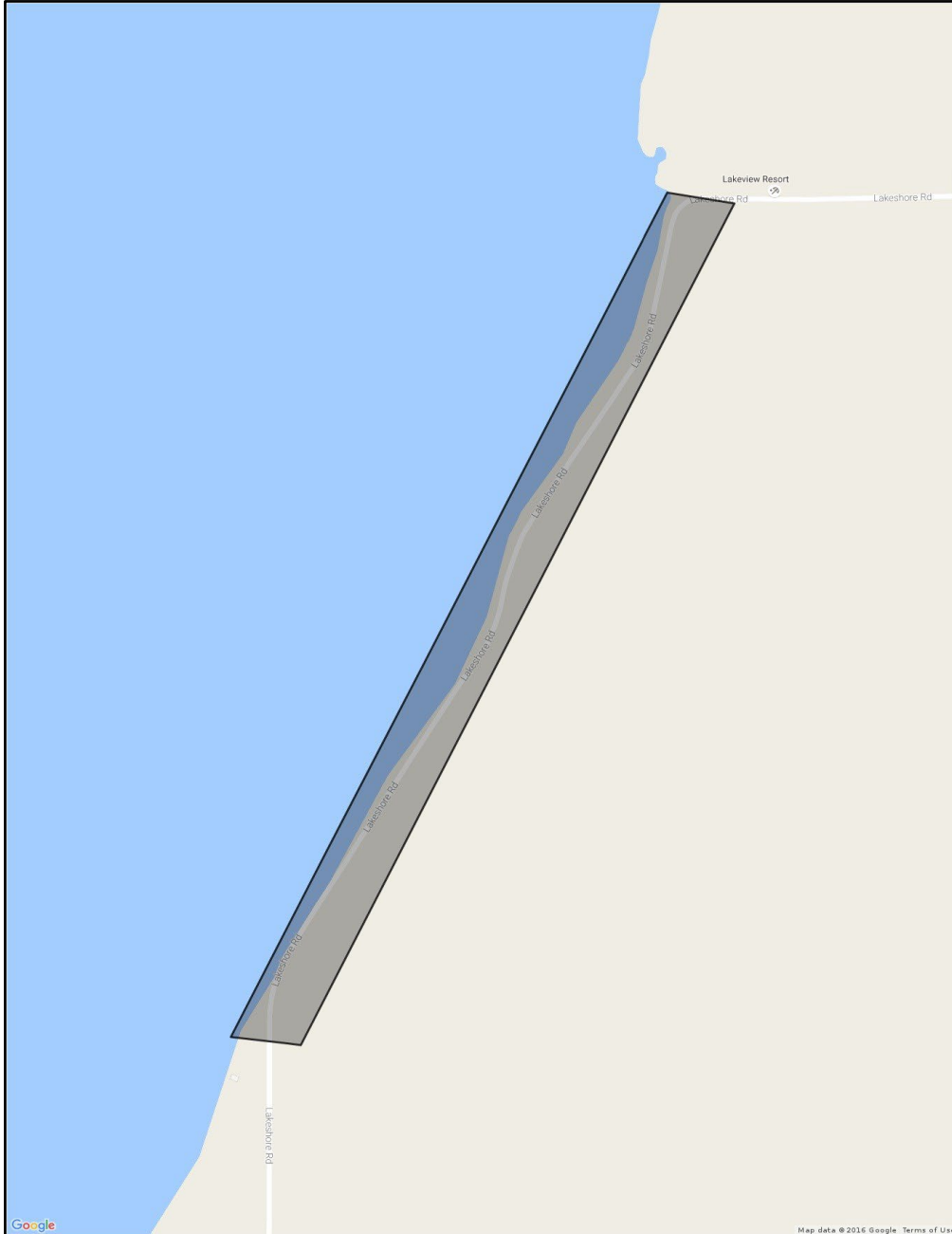
Appendix 4-2

Vulnerable Area (Old Mill Road)



Appendix 4-3

Vulnerable Area
(Part of Lakeshore Road)



Appendix 4-4

Vulnerable Area
(Manitou Lane)



Appendix 5-1

Media Release Road Closed



Date _____

Time _____

Media Release

Due to a severe winter storm *Ontario Provincial Police* advise that the following roads in the Township of Billings are impassable due to (reason, e.g. "drifting and blowing snow") and have been closed to traffic.

Street Name	From	To

Ontario Provincial Police advise that these roads will remain closed until the storm subsides and driving conditions improve.

Appendix 5-2

Media Release Severe Weather



Date _____

Time _____

Media Release

Due to a severe winter storm *Ontario Provincial Police* advise that many roads in the Township of Billings are impassable due to drifting and blowing snow. *Ontario Provincial Police* advise that you do not drive until the storm subsides and driving conditions improve.

(Sometimes it is physically impossible to place signs and barricades to close a road, in this instance use this release when the roads have NOT been physically been closed by the placement of signs and barricades or an officer is present to redirect traffic)

Appendix 6

Operating Instructions and Safety Rules



Operating Instructions and Safety Rules

1. WORK HOURS

For a major storm event, one 13-hour shifts may be established at the discretion of the Public Works Superintendent

2. SAFETY PROCEDURES

Safety is paramount during any snow storm. The following safety rules will be observed by all equipment operators.

A. Check your snow removal equipment prior to leaving the yard and also the following:

- 1) All work lights and emergency lights
- 2) Cell Phones
- 3) Snow plow and frame for damage
- 4) Sander
- 5) Rear view mirrors
- 6) Flags and reflectors
- 7) Windshield wipers
- 8) Heater and defroster
- 9) All necessary mapping for snow and ice removal
- 10) Vehicle Inspection Items
- 11) Liquid dispensing apparatus (windshield washer fluid, etc.)

B. Report any non-working equipment to a Supervisor immediately.

- C. Use reasonable caution in operation of snow removal equipment.
- D. Drive cautiously.
- E. Utilize caution when operating in cramped quarters with parked cars on a street.
- F. Know your route and any fixed objects covered by snow.
- G. Obey all traffic laws.
- H. Do not follow traffic too closely.
- I. Slow down prior to turning—your plow will tend to push you where it wants to go.
- J. Equipment involved in snow and ice control operations is emergency equipment, but you as the operator, must obey all traffic laws and provide right-of-way to other vehicles.
- K. Do not attempt to tow private automobiles—offer assistance by way of cell phone to your Supervisor.
- L. Utilize caution when operating deicing equipment. Watch for overhead obstructions. Lower box when necessary.

3. ACCIDENTS

Report all moving vehicle accidents immediately to your Supervisor. Depending on the severity of the accident and availability due to storm related issues, the O.P.P. will typically be called to evaluate the accident. Prior to leaving duty on the shift, a Motor Vehicle Accident Report & Review form and the internal Vehicle Damage Claim Report should be filled out. Your Supervisor will attempt to interview the driver at the end of the shift or within 24 hours after return to normal duties. Accident forms should be available from the on-duty Supervisor.

4. CARE AND USE OF EQUIPMENT

The snow plow operator is responsible for routine maintenance of the vehicle. Report any maintenance needed to the Supervisor or mechanic on duty. Check vehicle before and after use for any maintenance needed or damage to equipment. Fill out Operations Daily Inspection Check Sheet. The vehicle should be refueled at the end of each operator's shift.

5. RADIO COMMUNICATIONS

Operators are to take duty instructions from the Public Works Supervisor on duty. The Police may report road conditions or other issues to the Public Works Supervisor. It will be the role of the Public Works Supervisor to direct all winter maintenance related operations.

6. DAILY REPORTS

Upon completion of the shift, Public Works Supervisor will be required to fill out a Winter Road Maintenance Report for each Plow Route. This sheet will document location and date.

Appendix 7-1

Record of Training



Record of Training

This statement certifies that the below named individual has successfully completed the in-house Winter Operations Training program as required by The Township of Billings Winter Operations Plan.

The Winter Operations Training program is comprised of the following modules:

- Equipment Circle Check
- Equipment Calibration
- Record Keeping
- Health and Safety
- Level of Service – policies, practices and procedures
- Identification of Plow Routes – including variations for year to year and issues identified along the route
- De-icing chemicals – application rates, storage and handling
- Identification of road salt vulnerable areas and the procedures to follow in those areas
- Yard and Equipment maintenance

Employee Name _____ (please print name)

Date of Training _____

Location of Training _____

Trainer Signature _____

Supervisor Signature _____

Appendix 7-2

Record of Training – Night Patroller



Record of Patroller Training

This certifies that _____ (employee name) has successfully completed the in-house Winter Operations –Patroller Training as required by the Township of Billings Winter Operations Plan.

The Winter Operations –Patroller Training workshop includes the following modules:

- Weather monitoring and forecasting results including: Road Weather Information System, Value Added Meteorological Service, eutectic temperature, pavement temperature, dew point
- Winter Shift Schedules
- Record Keeping
- Health and Safety
- Level of Service – policies, practices and procedures
- Identification of Plow Routes – including variations for year to year and issues identified along the route
- De-icing chemicals – usage, application rates, storage and handling
- Identification of road salt vulnerable and/or susceptible areas and the procedures to follow in those areas
- Call-out procedures
- Emergency contacts
- Yard and Equipment maintenance

Employee Name _____ (please print name)

Date of Training _____

Location of Training _____

Trainer Signature _____

Supervisor Signature _____

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