

Township of North Glengarry Winter Maintenance Policy



*Township of North Glengarry
Public Works Department
February 2015*



The Township of North Glengarry has created a Winter Maintenance Policy in order to establish level of service standards for the Township's municipal infrastructure.

This document shall act as a guide for the Public Works Department and also to inform the residents of the standards they can expect to see regarding winter maintenance.

Winter maintenance is overseen by the Roads Manager under the umbrella of the Public Works Department.

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The Township's winter maintenance policy is driven by the following key objectives;

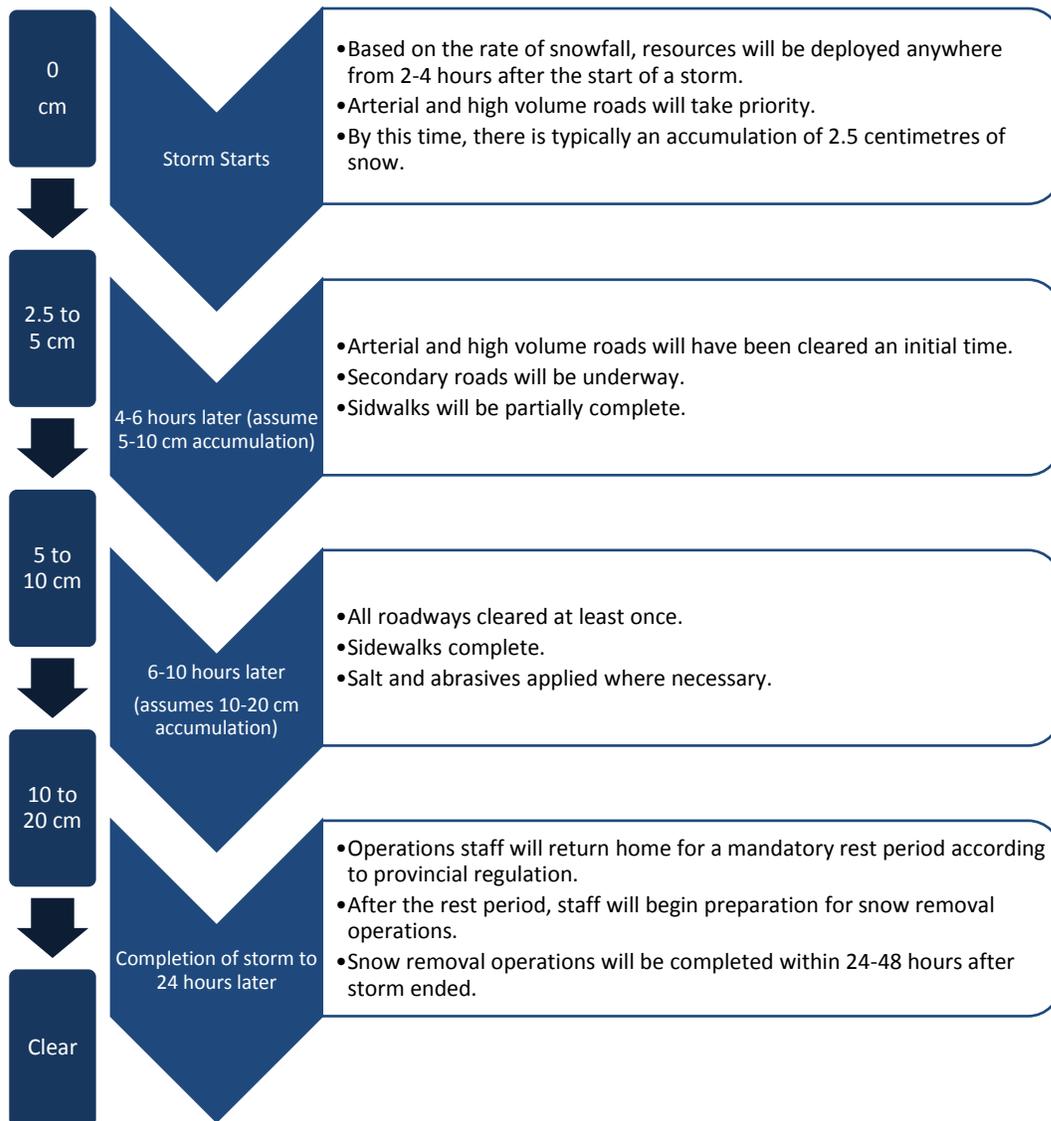
- a) To reduce the hazards of icy road conditions to motorists, maintain safe possible routes for buses, emergency vehicles, as well as commercial and passenger vehicles;*
- b) To maintain safe visibility for the operation of motor vehicles at driveways and intersections as well as to allow access to sidewalks from those exiting from parked vehicles and to provide space for ploughing snow.*
- c) To ensure a standard of care that is consistent, while being cost effective and efficient.*

2.0 WHAT TO EXPECT DURING A STORM

Below highlights the typical winter storm event. It is important to note that staffing availability affects the effectiveness of this plan. Sickness occurs from time to time and their legal ability to work consecutive hours may affect the deployment of resources.

Snow in excess of 20 cm brings about different challenges that will essentially alter the snow removal effort. This is intended to be a "typical" winter storm event.

Snow flurries resulting in accumulation of 2-3cm may not be cleared dependent on temperature, weather conditions etc. On a sunny day, snow will typically melt; therefore the deployment of equipment and resources is not required or economical.



Snow removal operations may be delayed under various circumstances. These are highlighted under the snow removal section of the policy.

3.0 SALT AND ABRASIVES

The Township uses 3 different products to combat snow and ice.

Abrasives (Stone Dust)

- Application during cold weather with temperatures colder than -12 degrees Celsius.
- Applied as base product for treating class 3, 4 and 5 roads.
- Applied on sidewalks to provide traction

Clear Salt

- Application favourable during warmer than -12 degrees Celsius temperatures.
- Incorporated anywhere from 10% to 20% as a mixture with abrasives and applied on class 3, 4 and 5 roads. The mixture varies based on the weather conditions.
- Applied independently on sidewalks in warmer temperatures, mixed with abrasives in colder temperatures.

Treated Salt

- Typically used in colder temperatures on sidewalks, although can be used on roads. Works best with bituminous surfaces.
- Will work to a lower temperature than clear salt, but not 100% effective.
- Brine is already created as the salt is mixed with melting agents and organic compounds.

These products are applied at the direction of the roads manager and the roads forepersons. Their experience and knowledge permit them to choose the appropriate material for the weather situation.

Treated salt costs about 10-15% more than clear salt, therefore it is used when necessary. However, the application rate is about 2/3 that of clear salt to achieve the same effectiveness, so there is some benefits to using treated salt.

4.0 ROADS

For winter maintenance purposes, the roads have been grouped in to classes based on the Ontario Minimum Maintenance Standards. These standards are used to prioritize how frequently roads are plowed, how ice is controlled and how snow is removed.

High priority roads and most arterial roads receive more attention.

The following table identifies the road classes and the requirements set forth. They are based on the minimum maintenance standards set forth by the Province of Ontario through regulation 239/02.

The Township or North Glengarry primarily has class 3, 4 and 5 roads. Class 1 and 2 roads have been included for comparison purposes.

Excerpts from Ontario Regulation 239/02 (Minimum Maintenance Standards);

Ontario Classification of Highways

Average Annual Daily Traffic (number of motor vehicles)	Posted or Statutory Speed Limit (kilometres per hour)						
	91 - 100	81 - 90	71 - 80	61 - 70	51 - 60	41 - 50	1 - 40
15,000 or more	1	1	1	2	2	2	2
12,000 - 14,999	1	1	1	2	2	3	3
10,000 - 11,999	1	1	2	2	3	3	3
8,000 - 9,999	1	1	2	3	3	3	3
6,000 - 7,999	1	2	2	3	3	3	3
5,000 - 5,999	1	2	2	3	3	3	3
4,000 - 4,999	1	2	3	3	3	3	4
3,000 - 3,999	1	2	3	3	3	4	4
2,000 - 2,999	1	2	3	3	4	4	4
1,000 - 1,999	1	3	3	3	4	4	5
500 - 999	1	3	4	4	4	4	5
200 - 499	1	3	4	4	5	5	5
50 - 199	1	3	4	5	5	5	5
0 - 49	1	3	6	6	6	6	6

Snow Accumulation Deployment of Resources

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

Ice Formation Prevention and Icy Roadways Treatment Applied

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

Road Classification Chart

Road Maintenance Class	Road Type	Minimum depth of Snow Accumulation for Deployment of Resources (Depth as per MMSMH)	Time to clear Snow From the End of Snow Accumulation or Time to Treat Icy Conditions (Time as per MMSMH)	Treatment standard		
				Bare pavement	Centre bare	Snow-packed
1	High priority roads	(2.5 cm)	(Snow - 4h) (Ice - 3h)	X		
2	Most arterials	(5 cm)	(Snow - 6h) (Ice - 4h)	X		
3	Most major roadways (rural asphalt/surface treatment)	5 cm (8 cm)	MMS (Snow - 12h) (Ice - 8h)		X	
			North Glengarry Snow - 10h Ice - 6h			
4	Most minor roadways (rural gravel)	5 cm (8 cm)	MMS (Snow - 16h) (Ice - 12h)			X
			North Glengarry Snow - 12h Ice - 10h			
5	Residential roads and lanes (Urban asphalt)	7 cm (10 cm)	MMS (Snow - 24h) (Ice - 16h)		X	X
			North Glengarry Snow - 10h Ice - 8h			

Road Class Maintenance

Class 3:

The Township of North Glengarry's objective is to maintain these roads as a high priority. Class 3 roads will consist of arterial roads typically with a bituminous surface. Although, a bituminous surface road may not alone be considered a Class 3, traffic data will have to support this classification.

Class 3 roads will be maintained to a centre bare standard. This means that after the road has been cleared of snow and the storm has expired, there will be a centre bare lane on the roadway such that opposing vehicles will have access to bare pavement to drive on.

The centre bare approach allows for treatment with salt or a salt/abrasive mixture. The goal is for the treatment to work its way outwards as the salt generates brine that will assist in the melting of the snow or snow pack remaining on the road. The abrasives will allow for friction and grip to ensure safety of the motorists.

In temperatures that is lower than -12 degrees, salt does not have the same effect on ice and snow, therefore the mixture of salt to abrasives ratio may be reduced to permit more abrasives on the roadway.

Class 4:

The Township of North Glengarry's objective is to maintain these roads as a secondary priority. Although, efficiencies may dictate their order in snow clearing operations based on the route the operator is following. These roads are typically gravel roads. Although gravel may not alone determine the class, traffic data will have to support this classification.

Class 4 roads will be maintained to a snow packed state. The majority of the snow if

removed and the road will be covered with a hard packed snow.

It is far too difficult and costly to reduce the hard pack to a gravel state. Therefore abrasives and salt will be applied to provide friction and grip to ensure the safety of the motorists.

In temperature that is lower than -12 degrees, salt does not have the same effect on ice and snow, therefore the mixture of salt to abrasives ratio may be reduced to permit more abrasives on the roadway.

Class 5:

The Township of North Glengarry's objective is to maintain these roads as both primary and secondary priority. These roads are typically urban roads with bituminous surfaces. Some roads consist of locations that the public frequents such as schools, churches, post office and other locations that may dictate the priority of the roadway.

Class 5 roads will be maintained to a snow packed state, with intersections receiving extra attention.

The treatment for class 5 roads will be primarily salt, although a salt/abrasive mixture may be required. The treatment at the intersections will consist of higher material usage, which will result in them clearing more quickly and assist the motorists to stop where required.

In temperature that is lower than -12 degrees, salt does not have the same effect on ice and snow, therefore the mixture of salt to abrasives ratio may be reduced to permit more abrasives on the roadway.

5.0 SIDEWALKS

Sidewalks are not covered under the Ontario Minimum Maintenance Standards. Each individual municipality is responsible for the maintenance of safety of their own sidewalks. One of the reasons that sidewalks are not covered under regulation 239/02 is that maintenance of sidewalks has proven extremely difficult.

Sidewalk clearing will begin within 2-4 hours when 2.5 centimetres has accumulated on the sidewalks. The sidewalks will be treated or cleared from within 12 hours of the end of the snow event.

The Township of North Glengarry will maintain sidewalks according to the conditions. To achieve a standard of bare concrete for sidewalks is almost impossible, not to mention expensive. Freeze/Thaw conditions impact sidewalks significantly. The melt created in the daytime hours will freeze overnight in a sharp drop in temperature, therefore abrasives are required.

The Township's minimum standard for sidewalk maintenance is to ensure that excess snow accumulation is removed from the sidewalks and at a minimum, leaving them snow packed.

Treatment of the sidewalks will consist of a mixture of salt and abrasives in cold temperatures (lower than -12) in order to provide traction on the sidewalks. In warmer temperatures (above -12), straight salt will be applied to melt the snow and ice.

Township staff will endeavor to make sensitive areas such as the downtown core, schools, churches, post offices and etc. a priority. These areas may require multiple passes and applications.

Examples of the standard are shown below;

Warmer than -12 degrees;



- *An obvious melted pathway down the centre of the sidewalk.*
- *Excess snow removed.*
- *Snowpack remains on the sidewalk.*

Colder than -12 degrees;



- *Obvious snow pack on the sidewalk.*
- *Excess snow removed.*
- *Abrasive treatment on the snow pack for traction.*

6.0 SNOW REMOVAL OPERATIONS

Snow removal in itself is a costly activity to the Township. For each time that snow is removed from the streets, it costs the Township about \$10,000 - \$15,000. As such, staff tries to coordinate snow removal to be as efficient as possible.

Despite the Township's intentions, snow removal may not occur based on the following exceptions;

- 1) *Lack of staff*
- 2) *Unusual Snow Storm/Snow accumulation*
- 3) *Equipment breakdowns and malfunctions*
- 4) *Other unforeseen situations that impact the ability to remove snow*

When, where and how is snow removed?

- *Snow will be removed in Alexandria and Maxville on the main/priority streets upon every 10cm of accumulation. This includes the County Roads and other localized high traffic areas deemed priority by the Public Works Department.*
- *When consecutive snow events or storms are forecasted, snow removal will be delayed to accommodate removal of the snow from both storms.*
- *The lower volume side streets will only be removed when the banks start to affect sightlines or the banks reduce the roadway to 5m, this will be at the discretion of the roads manager.*
- *Snow removal shall take place overnight in most cases. The typical start time for snow removal operations is 1:00am and continues throughout until the snow is removed. This operation must be completed at night and this is the reason for the Township's winter parking by-law. Excess noise will occur and is*

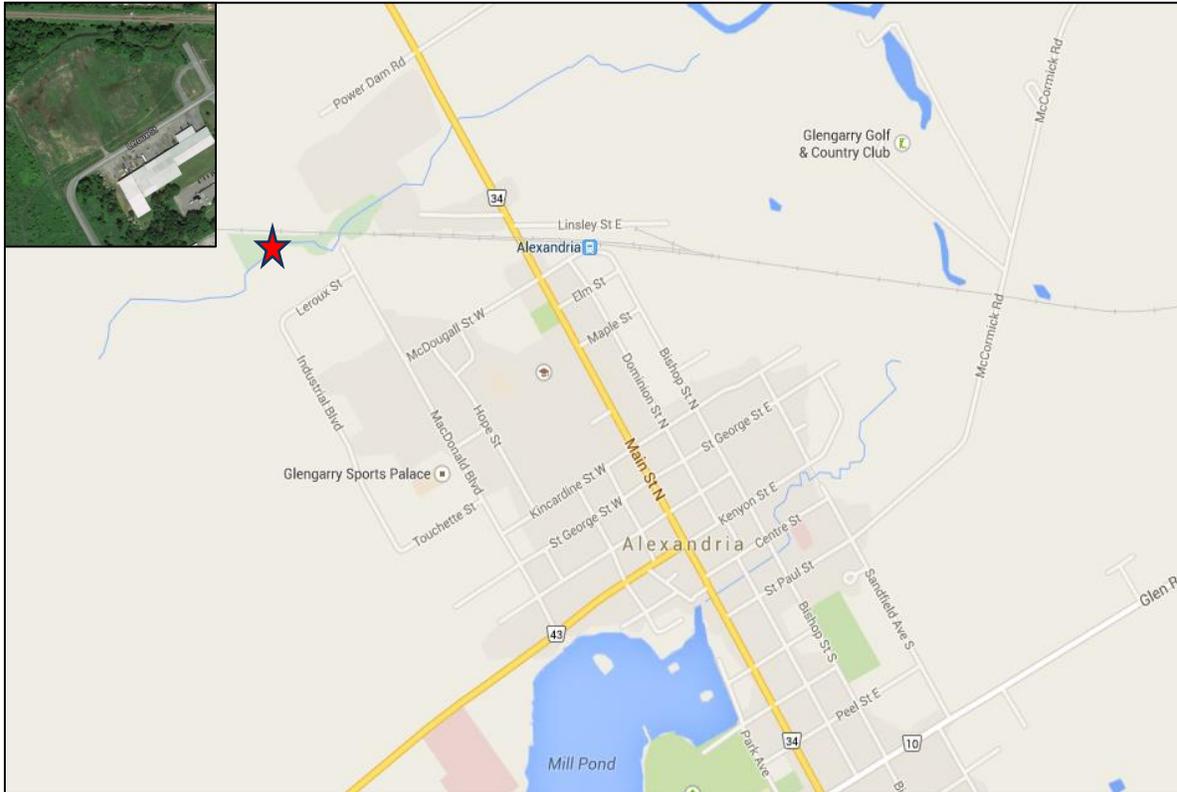
unavoidable due to the equipment resources required.

- *Snow removal is accomplished through the use of the Township loader, snow blower, graders, plow trucks and the contracting of approximately 8 tri-axle trucks. Traffic control is performed by Township staff.*



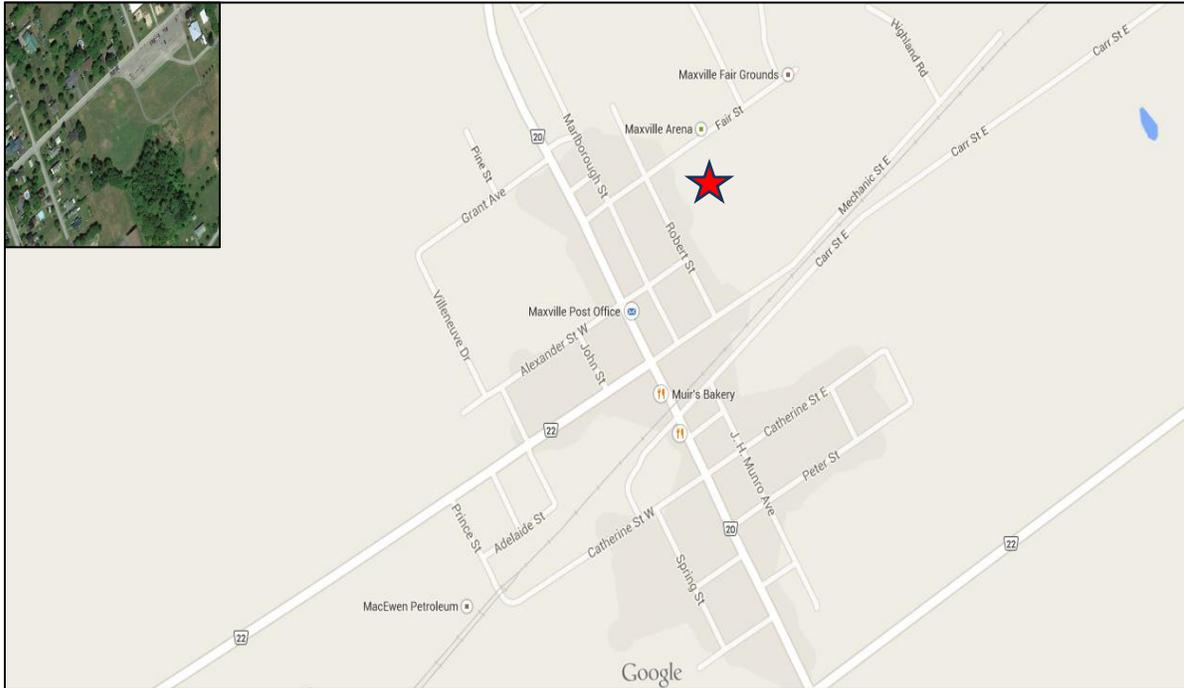
7.0 SNOW DISPOSAL FACILITIES

Alexandria – Leroux St. Snow Dump



The Township transports snow to a parcel of property on Leroux St. at the north end of Alexandria, west of MacDonal Blvd. Snow is stockpiled by both Township trucks and contracted services. If in such case that the Leroux Snow Dump is full, the Alexandria Landfill Site shall act as a contingency.

Maxville – Fair St. Snow Dump



The Township transports snow to a parcel of property on Fair St. in the west side of Maxville near the arena parking lot. Snow is stockpiled primarily by the Township trucks and equipment.

8.0 LAWS AND BY-LAWS

By-law #13-2014

The Township of North Glengarry’s Traffic and Parking By-law states the following;

“3.11 WINTER PARKING

- 1) No person shall park, or stand a vehicle or permit a vehicle to remain parked on any highway or in a municipal parking lot between the hours of 01:00a.m. to 7:00 a.m. from November 15th to April 15th of the following year, both dates inclusive.**
- 2) No person shall park, or stand a vehicle or permit a vehicle to remain parked on any highway at any time when the highway is specially marked with signs indicatingsnow removal or when such person has received verbal or written notice from a Municipal Employee of the Corporation.**
- 3) This section shall be enforced by the Municipal Law Enforcement Officer and/or the Public Works Manager or his/her designate.”**

Failure to comply with the by-law could result in the following fines;

<i>Colum 1 Short Form Wording</i>	<i>Colum 2 Provision Creating or Defining Offense</i>	<i>Colum 3 Voluntary Payment within 15 days</i>	<i>Colum 4 Set Fines</i>
<i>Parked Winter prohibited hours</i>	<i>Section 3.11(1)</i>	<i>\$40.00</i>	<i>\$60.00</i>
<i>Parked - snow removal</i>	<i>Section 3.11(2)</i>	<i>\$40.00</i>	<i>\$60.00</i>

A person failing to comply with this section of the by-law will be fined and possibly towed to ensure that the safety of the streets can be restored through plowing or snow removal operations.

Highway Traffic Act

The Province of Ontario’s Highway Traffic Act states;

“Deposit of snow on roadway

181. No person shall deposit snow or ice on a roadway without permission in writing so to do from the Ministry or the road authority responsible for the maintenance of the road. R.S.O. 1990, c. H.8, s. 181.”

Residents may not place snow on municipal sidewalks or roadways. Each resident is responsible for his or her own snow to be retained on his or her own property.

9.0 FREQUENTLY ASKED QUESTIONS

Q: Why are overnight parking restrictions in effect?

A: Parking restrictions ensure that Township staff can perform winter operations efficiently and effectively. This is important to ensure safe roads and the flow of emergency services in the time of need.

Q: Can the Township do anything to prevent plowing snow in my driveway?

A: This is a common complaint in every municipality that is affected by the winter. There have been multiple strategies and options reviewed by a variety of cities and municipalities in the past. Unfortunately, none of them work or they prove too costly. There is little that the Township can do to prevent this occurrence. It is best to remove the snow from your driveway early and often to prevent ice buildup in the snow bank.

Q: Why does the Township plow the sidewalks and then the snow plow comes by and fills them in?

A: The Township is responsible for the maintenance of the sidewalks on county roads and the United Counties of Stormont, Dundas and Glengarry is responsible for the road surface. In a perfect world, this could be coordinated, but in reality neither the Township, nor the County know when they are going to initiate winter operations. Ultimately there is no easy solution, but, sidewalks typically require multiple passes anyway, so it is not a large hindrance.

Q: Why are sidewalk so icy?

A: The Township's service level and budget allocation for winter control on sidewalks is to maintain them to a snow-packed condition, and sidewalk plows/blowers are not capable of clearing snow and ice from sidewalks to the extent that bare concrete is exposed in all conditions. Snow and ice often bonds to the concrete during extreme temperatures, and ice can also form on snow packed sidewalks during thaw/freeze cycles. Other factors, such as overgrown sod on the edge of the sidewalk or a buildup of residual ice and snow under wheel tracks, can cause the edge of the plow or blower to ride above the surface of the sidewalk. All affected areas are treated with abrasives for traction.

Q: Why is a sidewalk plow sanding the sidewalk today when rain and warm temperatures are in the forecast?

A: This is done when fluctuating temperatures are causing melting snow/ice that freezes as the temperature drops, resulting in slippery conditions on the sidewalks. City sidewalk plows sand these areas in the interest of public safety to prevent slip and falls. The sanding process involves travelling the entire route to identify areas that require sanding; although the plow may not have been applying sand when you saw it, there may have been conditions elsewhere along the route that required sanding.

Q: Why can the Township not provide 24/7 service on the roadways?

A: Due to Provincial regulations there are a maximum number of hours that plow drivers can be on duty. Further, all drivers are typically required in at the same time on all routes to provide a consistently high level of service across the Township during snowfall. Therefore, more staff would need to be hired for an additional shift if the Township were to provide 24/7 service on all routes, resulting in increased costs that would likely have an impact on ratepayers.

10.0 MATTERS AFFECTING SERVICE DELIVERY

This winter maintenance policy has been prepared based on regular periodic winter events and accounts for standard conditions. Circumstances not necessarily covered in this policy are;

- *Equipment breakdown or manpower shortage*
- *Equipment disabled in the snow*
- *Weather so severe as to cause crews to be called in from the streets*
- *Equipment rendered inadequate by the depth of snow and drifts*
- *Crew breaks, breaks required for refueling, refilling of abrasive materials, changing of blades*
- *Unforeseen conditions and emergencies*