



Winter Maintenance Training

Level of Service



A photograph of a narrow, snow-covered path winding through a dense forest of evergreen trees heavily laden with snow. The sky is a pale blue with some light clouds. In the distance, a small brown dog is visible on the path. The overall scene is serene and wintry.

Why isn't my road plowed?

Introduction

The Municipality will provide a level the service that meets the Minimum Maintenance Standards

O. Reg. 239/02. Section 4 and 5

under

The Municipal Act 2001.



Under this Regulation, every highway or part of a highway under the jurisdiction of a Municipality in Ontario is classified as a **Class 1 to 6 highway, based on the speed limit and the average annual daily traffic.**



Table: Classification of Highways by the Minimum Maintenance Standards (MMS)

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

Class 3 Road **Class 4 Road** **Class 5 Road** **Class 6 Road**



There are currently no **Class 1** or **Class 2** highways within the jurisdiction of the Municipality of Marmora and Lake.



Currently, only two roads within the jurisdiction of the Municipality of Marmora and Lake that are a **Class 3** highways:

1. **Matthew Street** (50km/h) which the Municipality has a contract with EMCON Services Inc. to maintain during the winter
2. **Stirling-Marmora Road** which is maintain by Stirling Rawdon Township for winter maintenance as part of the Road Agreement

The Municipality of Marmora and Lake Road Break Down



Table: Road Breakdown by Class (O. Reg 239/02)

Average Annual Daily Traffic (number of motor vehicles)	Length (km)	Percentage of System
1	0.00	0.00%
2	0.00	0.00%
3	3.925	1.86%
4	44.100	20.92%
5	73.965	35.09%
6	88.800	42.13%
Total	210.790	100.00%



The Municipality of Marmora and Lake recognizes that severe weather conditions may occur that could prevent the attainment of the Level of Service specified in the Level of Service Policy.

The Municipality of Marmora and Lake Level of Service Policy



The Roads Department must work within the available resources and in such a manner to protect the safety of employees and the public.

The Municipality of Marmora and Lake Level of Service Policy

**They must also work within
the Hours of Service,
O. Reg. 555/06**

Daily Log Exemption

A driver is not required to keep a daily log if the driver:

1. Drives the commercial motor vehicle solely within a radius of 160 kilometres of the location at which the driver starts the day.
2. Returns at the end of the day to the same location from which he or she started.
3. Only works for one operator that day.

Daily Records

If a driver is not required to keep a daily log, the operator shall keep a record for the day showing:

1. Date, driver's name and the location where the driver starts and ends the day.
2. Cycle that the driver is following.
3. Hour at which each duty status starts and ends
4. Total number of hours spent in each duty status.



RECORD OF DUTY STATUS

(For Drivers operating within 160 km of home terminal)

Drivers Name:

Start/End Location:

70 O'Brien Street, Deloro, Ontario

[illegible]

Record of Duty Form

Daily Requirement

1. A driver must have 10 hours off-duty in a day.
2. A driver cannot drive more than 13 hours in a day.
3. A driver cannot drive after 14 hours on-duty in a day.

Mandatory off-duty time

1. After a period of at least eight hours off-duty, a driver cannot drive more than 13 hours.
2. After a period of at least eight hours off-duty, a driver cannot drive after having been on-duty for 14 hours.
3. After a period of at least eight hours off-duty, a driver cannot drive after 16 hours has elapsed.

Cycle Requirement

1. An operator shall designate a cycle for the driver to follow.
2. There are two cycles available, a seven-day cycle or a 14-day cycle. We use the seven-day cycle.
3. In a period of seven consecutive days, a driver cannot drive after having been on-duty for 70 hours.

Cycle Requirement

4. In a period of 14 consecutive days, a driver cannot drive after having been on-duty for 120 hours.
5. Drivers following this cycle shall not drive after accumulating 70 hours on-duty without having taken 24 consecutive hours of off-duty time.
6. On any day, all drivers must have a period of at least 24 consecutive hours off-duty in the preceding 14 days.



Winter Maintenance



Definition

“snow accumulation” means the natural accumulation of any of the following that, alone or together, covers more than half a lane width of a roadway:

1. Newly-fallen snow.
2. Wind-blown snow.
3. Slush;

“ice” means all kinds of ice, however formed.



Operations Description



Snow accumulation, roadways

4. (1) Subject to section 4.1, the standard for addressing snow accumulation on roadways is:

Snow accumulation, roadways

(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,

Snow accumulation, roadways

- (i) to provide a minimum lane width of the lesser of three metres 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 metres.

O. Reg. 47/13, s. 4; O. Reg. 366/18, s. 5 (1).

Snow accumulation, roadways

(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.



Table: Snow Accumulation - Roadways

Class of Highway	Depth	Time for Removal
3	8 cm	12 hours
4	8 cm	16 hours
5	10 cm	24 hours

Ice formation on roadways and icy roadways

5. (1) The standard for 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:

Ice formation on roadways and icy roadways

1. Monitor the weather in accordance with section 3.1.
2. Patrol in accordance with section 3.

Ice formation on roadways and icy roadways

3. 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, if practicable, to prevent ice formation within the time set out in Table 1 to this section, starting from the time that the municipality determines is the appropriate time to deploy resources for that purpose.

Ice formation on roadways and icy roadways

- (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 applicable time set out in Table 2 to this section expires after the municipality becomes aware of the fact that the roadway is icy.

Ice formation on roadways and icy roadways

- (3) Subject to section 5.1, the standard for treating icy roadways is to treat the icy roadway within the time set out in Table 2 to this section, and an icy roadway is deemed to be in a state of repair until the applicable time set out in Table 2 to this section expires after the municipality becomes aware of the fact that a roadway is icy.

Ice formation on roadways and icy roadways

- (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.



Table 1: Ice Formation Prevention

Class of Highway	Time for Removal
3	16 hours
4	24 hours
5	24 hours



Table 2: Treatment of Icy Roadways

Class of Highway	Time for Removal
3	8 hours
4	12 hours
5	16 hours

The Municipality treats icy roadways in accordance with Table 2 for vehicular traffic. Maintenance for pedestrian purposes is not performed on roadways.

Sidewalk Maintenance

- (a) The sidewalks will be cleared within 24 hours of when the snow accumulations reach a depth of 7.5 cm.
- (b) Surfaces will be maintained in a snow packed condition during a storm.

Sidewalk Maintenance

- (c) Sidewalks will only be sanded when icy conditions create a hazard to pedestrians.
- (d) Sidewalks will generally be cleared and sanded in priority order. Priority will be given to schools zones and then commercial areas.



Challenges



The municipality has approximately 440 lane kilometers of road which can take up to 14 hours to clear after the weather event is over.

We typically exceed the Minimum Maintenance Standards.

Some of the challenges are:

1. The number of dead end roads and lack of connecting roads in the municipality increase time to plowing operations,
2. Small or no turn basins that make it difficult to turn the plow around,
3. Narrow, rough and winding roads that take a lot of extra time to plow and are very challenging when ice packed.

Some of the challenges are:

Gravel roads are an extra challenge when they aren't frozen:

1. It's difficult to plow without scraping a significant amount of gravel into the ditch.
2. If the plow digs in it may result in damage to equipment and possible injury to the operator.

When we are faced with these conditions, we do not plow unless the snow accumulation is significant.



This is what could happen if you try to plow gravel that is not frozen.





Advances





Scheduled Hours: Sunday Night to Friday Afternoon

Night Shift (8:00 pm to 4:30 am)

- Road Patrol/Tandem Plow Truck #18

Night Shift (11:00 pm to 7:30 am)

- Tandem Plow Truck #16
- Tandem Plow Truck #17

Early Morning Shift (4:00 am to 12:30 pm)

- Grader
- Sidewalk Plow
- Tandem Plow Truck #18
- Single Axle Truck #19

Day Shift (7:00 am to 3:30 pm)

- Tandem Plow Truck #16
- Tandem Plow Truck #17

Friday Night to Sunday Afternoon: Patrol and deploy crew if need be.

Questions?



References

1. The Municipality of Marmora and Lake: Level of Service Policy
2. Municipal Act, 2001: Minimum Maintenance Standards for Municipal Highways

Both documents can be found at www.marmoraandlake.ca/roads