

THE CORPORATION OF THE TOWNSHIP OF NORTH FRONTENAC

BY-LAW #89-13

BEING A BY-LAW TO ESTABLISH A LEVEL OF SERVICE POLICY FOR TOWNSHIP ROADS FOR THE CORPORATION OF THE TOWNSHIP OF NORTH FRONTENAC

AND WHEREAS Section 11(3) of the *Municipal Act, 2001*, as amended authorizes the Municipality to pass By-laws respecting matters within spheres under the jurisdiction of the Municipality including highways, including parking and traffic on highways;

AND WHEREAS Section 44(1) of the *Municipal Act, 2001*, as amended provides the municipality that has jurisdiction over a highway or bridge shall keep it in a state of repair that is reasonable in the circumstances, including the character and location of the highway or bridge;

AND WHEREAS Section 44(2) of the *Municipal Act, 2001*, as amended provides that a municipality that defaults in complying with subsection 44(1) is, subject to the *Negligence Act*, liable for all damages any person sustains because of the default;

AND WHEREAS Section 44(3) of the *Municipal Act, 2001*, as amended provides that despite subsection (2), a municipality is not liable for failing to keep a highway or bridge in a reasonable state of repair if, (a) it did not know and could not reasonably have been expected to have known about the state of repair of the highway or bridge; (b) it took reasonable steps to prevent the default from arising; or (c) at the time the cause of action arose, minimum standards established under subsection (4) applied to the highway or bridge and to the alleged default and those standards have been met.

AND WHEREAS Section 44(4) of the *Municipal Act, 2001*, as amended permits the Minister of Transportation to make regulations establishing minimum standards of repair for highways and bridges being Regulation 239/02 which developed the criteria for Minimum Maintenance Standards;

AND WHEREAS the Council of the Corporation of the Township of North Frontenac deems it expedient to enact a by-law to establish a Level of Service Policy for Township Roads;

NOW THEREFORE the Council of The Corporation of the Township of North Frontenac does hereby adopt the "Level of Service Policy for Township Roads" attached hereto as Schedule "A" being the "Level of Service Policy"; Schedule "B" being the "Road Summary By Name, Class, AADT" and Schedule "C" being the "Seasonal Roads";

AND THAT the Public Works Manager is hereby authorized by Council to update, make corrections and/or amendments, at any time to any information contained within this Level of Service Policy - Schedule "B" – "Road Summary By Name, Class, AADT" and Schedule "C" – "Seasonal Roads" on an as required basis (*i.e. changes in the AADT, etc*). The Public Works Manager shall provide a copy of all changes to this Schedule to the Clerk to retain with the Original By-law and Policy for future reference if required; and the Clerk shall also provide a copy of said update to Council and the Chief

Administrative Officer (CAO) for information purposes. Also, the Public Works Manager shall ensure the Policy and Schedule remains current on the Township's website;

AND THAT By-law #53-04 (*previous Road Service Standards By-law*) and By-law 119-09 are hereby repealed in their entirety;

AND THAT all resolutions, by-laws or parts/schedules of by-laws, or actions of Council relating to the Level of Service for Township Roads, that are inconsistent with the provisions of this new Level of Service Policy for Township Roads; or which are contrary to or inconsistent with this new Policy; are hereby repealed and rescinded;

AND THAT this By-Law shall come into force and take effect on the date of its passing.

READ A FIRST AND SECOND TIME, THIS 15TH DAY OF OCTOBER, 2013.

READ A THIRD TIME AND FINALLY PASSED THIS 15TH DAY OF OCTOBER, 2013.


MAYOR


CLERK

**SCHEDULE "A" TO BY-LAW 89-13
TOWNSHIP OF NORTH FRONTENAC
LEVEL OF SERVICE POLICY FOR TOWNSHIP ROADS**

This policy sets out the minimum standards of maintenance and repair for highways (*roads*) under municipal jurisdiction for the purpose of clause 44 (3) (c) of the *Municipal Act, S.O. 2001, c.25*. The minimum standards of repair set out herein are applicable only in respect of motor vehicles using the highways owned and maintained by the Township of North Frontenac.

It is the objective of the Township Public Works (Roads) Department to conduct its operational activities in an efficient and effective way, so as to provide safe driving conditions on all roads owned and maintained by the Township. Operations will be consistent with the needs of a low traffic volume rural road system.

Maintenance will be performed, monitored and recorded as detailed in the following guidelines that comprise, with this policy statement and the definitions below, our Level of Service Document.

This document is based on the criteria for Minimum Maintenance Standards as developed by the Province in Ontario Regulation 239/02 to provide municipalities with a legal defence against liability from actions arising with regard to levels of care on roads and bridges. Using the chart provided by the Province to determine Highway class based on speed limit and Average Annual Daily Traffic (AADT) counts, all roads within the Township are determined to be either Class 4, 5 or 6 roads. Please see Schedule "B" to this policy for a detailed list. The Public Works Manager is hereby authorized by Council to update, make corrections and/or amendments, as required, at any time to any information contained within this Level of Service Policy - **Schedule "B"** – "Road Summary By Name, Class, AADT" (*i.e. changes in the AADT, etc*), and **Schedule "C"** - "Seasonal Roads" (*i.e. changes in year-round residency*). The Public Works Manager shall provide a copy of all changes to Schedule "B" and Schedule "C" to the Clerk to retain with the Original By-law and Policy for future reference if required; and the Clerk shall also provide a copy of said update to Council and the Chief Administrative Officer (CAO) for information purposes. Also, the Public Works Manager shall ensure the Policy and Schedule remains current on the Township's website.

However, O. Reg. 239/02 does not specify minimum standards for Class 6 roads and, therefore this document will set a level of service for Class 6 roads that is equivalent to the minimum maintenance standards for Class 5 roads, as set by the Province in O. Reg. 239/02.

These guidelines are used to provide guidance and set minimum standards for our Roads Department, however; depending on work load and other unknown circumstances, maintenance activities may in some instances occur sooner than the minimum times detailed below and do not change the normal minimum standard.

DEFINITIONS

In this Level of Service Document,

- "cm" means centimetres; correspondingly "m" means metres and "mm" means millimetres.
- "day" means a 24-hour period;
- "dead end" roads are those that do not have an exit through another intersecting road;
- "highway" means a common and public highway and includes any bridge, trestle, viaduct or other structure forming part of the highway and, except as otherwise provided, includes a portion of a highway;
- "ice" means all kinds of ice, however formed;
- "motor vehicle" has the same meaning as in subsection 1 (1) of the *Highway Traffic Act, R.S.O. 1990*, except that it does not include a motor assisted bicycle;

- “non-paved surface” means a surface that is not a paved surface, otherwise known as “loose-topped”; for our purposes “non-paved surface” further means gravel surfaced.
- “O. Reg. 239/02” refers to Ontario Regulation 239/02, and any amendment thereto, which lays out the minimum maintenance standards for municipal highways
- “Ontario Traffic Manual” means the Ontario Traffic Manual published by the Ministry of Transportation, as amended from time to time;
- “paved surface” means a surface with a wearing layer or layers of asphalt, concrete or asphalt emulsion;
- “private road” means a road that is not owned by the Township;
- “roadway” has the same meaning as in subsection 1 (1) of the *Highway Traffic Act*;
- “seasonal highway/road” means a road that is owned by the Township, but on which no winter maintenance is performed;
- “snow accumulation” means the natural accumulation of new fallen snow or wind-blown snow or slush; alone or together, that covers more than half a lane width of a roadway;
- “snow-packed” means the desired state of a highway during the period of winter road maintenance which includes the compacted snow or ice that can accumulate on municipal highways during a number of minor snow events;
- “shoulder” means the portion of a highway that provides lateral support to the roadway and that may accommodate stopped motor vehicles and emergency use;
- “surface” means the top of a roadway or shoulder;
- “unmaintained municipal road” refers to a road that is owned, but not maintained, by the Township;
- “weather” means air temperature, wind and precipitation;
- “winter highway maintenance” occurs from November 15 to and including April 15 of each year.

CLASSIFICATION OF HIGHWAYS

For the purposes of this policy, every highway or part of a highway under the jurisdiction of a municipality in Ontario is classified in Table 1 as a Class 1, Class 2, Class 3, Class 4, Class 5 or Class 6 highway, based on the applicable speed limit and the AADT.

For the purposes of determining the Class of highway, the AADT on a highway or part of a highway under municipal jurisdiction may be determined, by estimating the average daily two-way traffic on the highway or part of the highway in accordance with accepted traffic engineering methods.

For “dead end” roads, in lieu of a manual 4 hour traffic count, a simple count of the number of permanent year round residences on the road multiplied by 6, for rural areas, will estimate the number of trips each house generates and is an accepted traffic engineering method for rural areas and those with lower volume as most of our roads are. This is the method that the municipality will use to determine AADT for it’s roads.

**TABLE 1
CLASSIFICATION OF HIGHWAYS**

Posted or Statutory Speed Limit (kilometres per hour)	91 - 100	81 - 90	71 - 80	61 - 70	51 - 60	41 - 50	1 - 40
Average Annual Daily Traffic (number of motor vehicles)	CLASS of ROAD						
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

MINIMUM STANDARDS

ROUTINE PATROLLING

The minimum standard for the frequency of routine patrolling of highways is set out in Table 2. Routine patrolling shall be carried out by driving on the highway to check for conditions described in this policy.

If it is determined by the municipality that the weather monitoring indicates that there is a substantial probability of snow accumulation on roadways, ice formation on roadways or icy roadways, the minimum standard for patrolling highways is, in addition to that set out in Table 2, to patrol highways that the municipality selects as representative of its highways, at intervals deemed necessary by the municipality, to check for such conditions.

Patrolling a highway consists of observing the highway, either by driving on or by electronically monitoring the highway, and may be performed by persons responsible for patrolling highways or by persons responsible for or performing highway maintenance activities.

**TABLE 2
ROUTINE PATROLLING FREQUENCY**

Class of Highway	Routine Patrolling Frequency	Winter Road Patrols
4	once every 14 days	At least once each week from November 15 to and including April 15
5	once every 30 days	At least once each week from November 15 to and including April 15
6	once every 30 days	At least once each week from November 15 to and including April 15

WEATHER MONITORING

The minimum standard for weather monitoring requires the Roads Department, Public Works Manager or Foreman, to monitor current and future weather forecasts. The monitoring will generally be carried out by checking the local and regional weather conditions and forecasts on the internet, from sites such as The Weather Channel and Environment Canada. A record of weather monitoring shall be maintained in the Roads Department office.

From October 1 to April 30, the minimum standard is to monitor the weather, both current and forecast to occur in the next 24 hours, once every shift or three times per calendar day, whichever is more frequent, at intervals determined by the municipality.

From May 1 to September 30, the minimum standard is to monitor the weather, both current and forecast to occur in the next 24 hours, once per calendar day.

WINTER MAINTENANCE

The Road Department will be responsible for winter road patrols and winter maintenance activities. However, there are a few minor roads, usually too narrow for our standard plow trucks, where the winter maintenance activities are contracted out. The Public Works Department and our Contractors have the equipment, schedules, manpower and procedures in place to commence winter control operation on the 15th day of November each year until April 15th of the following year. Winter control equipment and manpower will be available on a continuous basis, 7 days a week 24 hours a day to respond to any winter event during this period.

There are several roads or road sections that are considered “seasonal” which are owned by the Township but on which no winter maintenance will be performed. Generally, a road may be considered “seasonal” and not require winter maintenance if there are no year-round or permanent residents living on a particular road or road section. Schedule “C” to this policy includes the list of Seasonal Roads. For all intents and purposes these roads are considered “temporarily closed”, (i.e., November 15th to April 15th) and may only be used at the operator’s own risk. Notice of the temporary closure of these roads will be posted at the point of temporary closure and on our Township’s website.

SNOW ACCUMULATION

The minimum standard for clearing snow accumulation is,

- after becoming aware of the fact that the snow accumulation on a roadway is greater than the depth set out in Table 3, to deploy resources as soon as practicable to address the snow accumulation; and
- 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 Table 3 within the time set out in the Table, to provide a total width of at least five (5) metres on a Class 4, 5 and 6 highways with two lanes.

If the depth of snow accumulation on a roadway is less than or equal to the depth set out in the Table, the roadway is deemed to be in a state of repair with respect to snow accumulation. The depth of snow on a roadway may be determined by a municipal employee, agent or contractor, whose duties or responsibilities include one or more of the following:

1. Patrolling highways,
2. Performing highway maintenance activities,
3. Supervising staff who patrol or maintain highways.

The depth of snow accumulation on a roadway may be determined by:

- a. Performing an actual measurement,
- b. Monitoring the weather,
- c. Performing a visual estimate.

During winter operations a number of minor snow events may result in non-paved surfaces becoming snow-packed. Once this compacted snow accumulates it is considered part of the road for the application of our Level of Service and is the desired condition. During periods of thaw, appropriate remedial action would be required as the depth of the compacted snow base becomes unstable. This remedial action may include plowing, salting and sanding, as determined, to break up the base and

remove it from the traveled sections of the road. It will be the duty of the Public Works Manager and Foreman to determine best treatment methods for implementation.

This section only applies to a municipality during the season when the municipality performs winter highway maintenance.

**TABLE 3
SNOW ACCUMULATION**

Class of Highway	Depth	Time	Desired Road Condition
4	8 cm	16 hours	Snow-packed or bare
5	10 cm	24 hours	Snow-packed or bare
6	10 cm	24 hours	Snow-packed or bare

ICY ROADWAYS

The minimum standard for treating icy roadways is to deploy resources to treat an icy roadway as soon as practicable after becoming aware of the condition; and to treat the icy roadway within the time set out in Table 4 after becoming aware of the condition.

It is acceptable to “spot” treat only those sections that are in fact icy. The entire road does not require the same treatment; however, the treatment that is applied and the locations are required to be documented each and every time this treatment method is used.

This section only applies to the municipality during the season when the municipality performs winter highway maintenance.

**TABLE 4
ICY ROADWAYS**

Class of Highway	Time	Desired Surface Condition
4	12 hours	Snow-packed or bare
5	16 hours	Snow-packed or bare
6	16 hours	Snow-packed or bare

POTHOLES

If a pothole exceeds both the surface area and depth set out in Table 5 or 6, as the case may be, the minimum standard is to repair the pothole within the time set out in Table 5 or 6, as appropriate, after becoming aware of the fact. A pothole shall be deemed to be repaired if its surface area or depth is less than or equal to that set out in Table 5 or 6, as appropriate.

**TABLE 5A
POTHOLES ON PAVED SURFACE OF ROADWAY**

Class of Highway	Surface Area	Depth	Time
4	1000 cm ²	8 cm	14 days
5	1000 cm ²	8 cm	30 days
6	1000 cm ²	10 cm	30 days

**TABLE 5B
POTHOLES ON NON-PAVED SURFACE OF ROADWAY**

Class of Highway	Surface Area	Depth	Time
4	1500 cm ²	10 cm	14 days
5	1500 cm ²	12 cm	30 days
6	1500 cm ²	12 cm	30 days

**TABLE 6
POTHOLES ON PAVED OR NON-PAVED SURFACE OF SHOULDER**

Class of Highway	Surface Area	Depth	Time
4	1500 cm ²	10 cm	30 days
5	1500 cm ²	12 cm	60 days
6	1500 cm ²	12 cm	60 days

SHOULDER DROP-OFFS

If a shoulder drop-off is deeper, for a continuous distance of 20 metres or more, than the depth set out in Table 7, the minimum standard is to repair the shoulder drop-off within the time set out in the Table after becoming aware of the fact. A shoulder drop-off shall be deemed to be repaired if its depth is less than or equal to that set out in the Table.

In this section, “shoulder drop-off” means the vertical differential, where the paved surface of the roadway is higher than the surface of the shoulder, between the paved surface of the roadway and the paved or non-paved surface of the shoulder.

**TABLE 7
SHOULDER DROP-OFFS**

Class of Highway	Depth	Time
4	8 cm	30 days
5	8 cm	30 days
6	8 cm	30 days

CRACKS

If a crack on the paved surface of a roadway is greater, for a continuous distance of three metres or more, than the width and depth set out in the Table to this section, the minimum standard to repair the crack within the time set out in the Table after becoming aware of the fact.

A crack is deemed to be in a state of repair if its width and depth is less than or equal to that set out in the Table.

**TABLE 8
CRACKS**

Class of Highway	Width	Depth	Time
4	5 cm	5 cm	180 days
5	5 cm	5 cm	180 days
6	5 cm	5 cm	180 days

DEBRIS

If there is debris on a roadway, the minimum standard is to deploy resources, as soon as practicable after becoming aware of the fact, to remove the debris.

In this section, “debris” means any material or object on a roadway that is not an integral part of the roadway or has not been intentionally placed on the roadway by a municipality, and that is reasonably likely to cause damage to a motor vehicle or to injure a person in a motor vehicle. It may include, but not be limited to, garbage, garbage bags, tires, or other large quantities of litter.

LUMINAIRES

As per section 10.6.(b) of O. Reg. 239/02, the standard only applies to Class 3, 4 and 5 highways with a posted speed of 80 km/hr or more. All of our luminaires are located in hamlets or built-up areas where the posted speed is less than 80 km/hr.

SIGNS

The minimum standard for the frequency of inspecting signs of a type listed below to check to see if they meet the retro-reflectivity requirements of the Ontario Traffic Manual is once per calendar year, with each inspection taking place not more than 16 months from the previous inspection.

If any sign of a type listed below is illegible, improperly oriented or missing, the minimum standard is to deploy resources as soon as practicable after becoming aware of the fact to repair or replace the sign.

This section applies to the following types of signs:

1. Checkerboard.
2. Curve sign with advisory speed tab.
3. Do not enter.
4. One Way.
5. School Zone Speed Limit.
6. Stop.
7. Stop Ahead.
8. Stop Ahead, New.
9. Traffic Signal Ahead, New.
10. Two-Way Traffic Ahead.

- 11. Wrong Way.
- 12. Yield.
- 13. Yield Ahead.
- 14. Yield Ahead, New.

REGULATORY OR WARNING SIGNS

If a regulatory or warning sign other than a sign listed above is illegible, improperly oriented or missing, the minimum standard is to repair or replace the sign within the time set out in Table 9 after becoming aware of the fact.

In this section, “regulatory sign” and “warning sign” have the same meaning as in the Ontario Traffic Manual.

**TABLE 9
REGULATORY AND WARNING SIGNS**

Class of Highway	Time
4	30 days
5	30 days
6	30 days

TRAFFIC CONTROL SIGNAL SYSTEMS

We do not have traffic control signal systems on our roadways that we are responsible for. The corresponding section of O. Reg. 239/02 does not apply in our municipality.

BRIDGE DECK SPALLS

In this section, “bridge deck spall” means a cavity left by one or more fragments detaching from the paved surface of the roadway or shoulder of a bridge.

If a bridge deck spall exceeds both the surface area and depth set out in the Table to this section, the minimum standard is to repair the bridge deck spall within the time set out in the Table after becoming aware of the fact.

A bridge deck spall is deemed to be in a state of repair if its surface area or depth is less than or equal to that set out in the Table. O. Reg. 239/02, s. 15 (2); O. Reg. 47/13, s. 14.

**TABLE 10
BRIDGE DECK SPALLS**

Class of Highway	Surface Area	Depth	Time
4	1000 cm ²	8 cm	7 days
5	1000 cm ²	8 cm	7 days
6	1000 cm ²	8 cm	7 days

SURFACE DISCONTINUITIES

In this section, “surface discontinuity” means a vertical discontinuity creating a step formation at joints or cracks in the paved surface of the roadway, including bridge deck joints, expansion joints and approach slabs to a bridge.

If a surface discontinuity on a roadway, other than a surface discontinuity on a bridge deck, exceeds the height set out in the Table to this section, the minimum standard is to repair the surface discontinuity within the time set out in the Table after becoming aware of the fact.

A surface discontinuity on a roadway, other than a surface discontinuity on a bridge deck, is deemed to be in a state of repair if its height is less than or equal to the height set out in the Table to this section.

If a surface discontinuity on a bridge deck exceeds five centimetres, the minimum standard is to deploy resources as soon as practicable after becoming aware of the fact to repair the surface discontinuity on the bridge deck.

A surface discontinuity on a bridge deck is deemed to be in a state of repair if its height is less than or equal to five centimetres.

**TABLE 11
SURFACE DISCONTINUITIES**

Class of Highway	Height	Time
4	5 cm	21 days
5	5 cm	21 days
6	5 cm	21 days

MINIMUM STANDARDS FOR CATEGORIES NOT INCLUDED IN O. REG. 239/02

TREES

This section applies to the mitigation of a tree-fall on a roadway. A tree-fall on a roadway may occur if all the following conditions are present:

1. The entire tree or a significant portion of the tree must appear dead, as evidenced by no leaves during normal in-leaf season, and the tree must be on the Township right-of-way, and
2. The trunk of the tree must be greater than 0.3 m in diameter, and
3. There must be a significant likelihood of the tree falling on the roadway, if it falls.

After becoming aware of the fact that one or more of the conditions noted above exist the level of service is to secure the tree from falling on a roadway within the lag time as shown in Table 12.

**TABLE 12
TREES**

Class of Highway	Time
4	30 days
5	30 days
6	30 days

FLOODING

A flood condition exists where water, flowing or standing, covers more than half a lane width of highway. Where floods exceed the depth of 10 cm, a response is required. Flood conditions on roadways should have warning signs posted as a response. Further, where the roadway is not closed, it should be monitored at reasonable intervals during the flood. The time for responding should be no more than 12 hours after becoming aware of the condition. Flood mitigation, while in a flood condition, is at the discretion of the road authority. Repeat flooding within a two week period is considered a single occurrence. Where the maximum frequency is exceeded the zone should be posted to advise of the potential hazard. Where the maximum frequency per month is exceeded and where flooding occurs more frequently than once every two years, remedial action shall be considered.

**TABLE 13
FLOODING**

Class of Highway	Acceptable Depth	Depth at which action is required
4	10 cm	10 cm
5	10 cm	20 cm
6	10 cm	20 cm

DUST

Where dust caused by traffic on a loose top road surface impacts on reasonable vehicle safety, relative to the ambient condition of the road, that condition should not occur for more than 6 months of the year. This policy does not apply where the condition occurs over a distance of less than 100 metres or where there are no permanent structures adjacent to the roadway. This standard does not apply to shoulders but to the travelled portion of the road. Dust suppression will be applied in accordance with the guidelines of the Ontario Ministry of Environment and Ministry of Transportation. Dust abatement to address other criteria such as field crops, and air quality are not addressed in this policy.

SCHEDULE "B" TO BY-LAW
#89-13
TOWNSHIP OF NORTH FRONTENAC
LEVEL OF SERVICE POLICY FOR TOWNSHIP ROADS
ROAD SUMMARY BY NAME, CLASS, AADT

ASSET NAME	-Class Number-	-District ID-	AADT	-Section Number-	Surface Type *	Length (Km)	Shoulder Width Left (m)	Shoulder Width Right (m)	Surface Width (m)
Arcol Road	Class 4	3	100	71	LCB	1.2	0.5	0.5	6.0
Arcol Road	Class 6	3	49	419	G/S	0.5	0	0	6.2
Arcol Road	Class 6	3	49	420	G/S	2.5	0	0	4.2
Ardoch Road	Class 4	2	312	34	HCB	0.9	1.2	1.2	6.3
Ardoch Road	Class 4	2	312	39	LCB	0.25	1.5	1.5	6.7
Ardoch Road	Class 4	2	312	40	LCB	2	1.5	1.5	6.5
Ardoch Road	Class 4	2	312	41	LCB	0.6	1.5	1.5	6.7
Ardoch Road	Class 4	2	312	37	LCB	2.75	1.5	1.3	5.8
Ardoch Road	Class 4	2	312	38	LCB	4.8	1	1	6.5
Ardoch Road	Class 4	2	312	35	LCB	1.65	1.2	1	6.3
Ardoch Road	Class 4	2	312	42	LCB	0.8	1	1.5	6.6
Ardoch Road	Class 4	2	312	36	LCB	1.6	1.2	1	6.7
Ardoch Road	Class 4	3	312	44	LCB	2	1	1	6.5
Ardoch Road	Class 4	3	312	43	LCB	1.5	1	1.5	6.6
Austris Road	Class 6	2	49	405	G/S	1.95	0	0	4.0
Austris Road	Class 6	2	49	404	G/S	0.6	0	0	6.3
Beach Road	Class 6	2	49	441	G/S	0.85	0	0	5.6
Black Road	Class 6	1	49	460	G/S	0.5	0	0	4.5
Brown's Bay Road	Class 6	1	49	469	G/S	0.65	0	0	4.0
Brule Lake Road	Class 6	2	49	436	G/S	4.63	0	0	5.4
Buckshot Lake Road	Class 4	2	400	66	LCB	1.05	1.2	1.2	6.4
Buckshot Lake Road	Class 4	2	400	65	LCB	1.45	1.2	1.2	6.4
Buckshot Lake Road	Class 4	2	400	70	LCB	1.8	1	1	6.3
Buckshot Lake Road	Class 4	2	400	68	LCB	1.3	1.3	1.3	6.0
Buckshot Lake Road	Class 4	2	400	74	LCB	0.2	1.3	1.3	6.0
Buckshot Lake Road	Class 4	2	400	73	LCB	0.2	1.3	1.3	6.0
Buckshot Lake Road	Class 4	2	400	75	LCB	2.5	1.3	1.3	6.0
Buckshot Lake Road	Class 4	2	400	67	LCB	1.2	1.2	1.2	6.4
Buckshot Lake Road	Class 4	2	400	69	LCB	2.7	1.3	1.3	6.0
Canonto Road	Class 4	3	200	53	LCB	2.9	0.8	0.8	5.8
Canonto Road	Class 4	3	200	52	LCB	2.76	0.8	0.8	5.0
Canonto Road	Class 4	3	250	54	LCB	3.2	0.5	0.5	5.9
Chatham Road	Class 6	3	49	418	G/S	2.1	0	0	3.8
Crotch Lake Access Road	Class 6	2	49	402	G/S	1.09	0	0	3.0
Cruise Road	Class 6	3	49	416	G/S	5.06	0	0	4.7
Delyea Road	Class 6	1	49	462	G/S	0.47	0	0	5.3

* G/S - Gravel Surface
LCB - Low Class Bituminous
HCB - High Class Bituminous

SCHEDULE "B" TO BY-LAW
#89-13
TOWNSHIP OF NORTH FRONTENAC
LEVEL OF SERVICE POLICY FOR TOWNSHIP ROADS
ROAD SUMMARY BY NAME, CLASS, AADT

ASSET_NAME	-Class Number-	-District ID-	AADT	-Section Number-	Surface Type *	Length (Km)	Shoulder Width Left (m)	Shoulder Width Right (m)	Surface Width (m)
Don Anna Road	Class 6	1	49	470	G/S	0.7	0	0	5.3
Donaldson Road	Class 6	3	49	414	G/S	0.6	0	0	4.0
East Bay Road	Class 6	2	49	447	G/S	1.38	0	0	4.3
Elphin-Maberley Road	Class 4	3	150	49	LCB	2	1.3	1.3	6.2
Folger Road	Class 6	3	49	417	G/S	3.71	0	0	4.0
Gemmill Road	Class 6	3	49	411	G/S	1.24	0	0	5.0
Greer Road	Class 6	2	49	403	G/S	5	0	0	4.5
Grindstone Lake Road	Class 6	2	49	437	G/S	4.3	0	0	6.0
Gull Lake Road	Class 4	1	100	83	LCB	1.3	0.5	0.5	5.5
Gull Lake Road	Class 6	1	49	456	G/S	2.1	0	0	6.0
Gulley Road	Class 4	3	150	47	LCB	2.69	0.5	0.5	5.1
Gutheinz Road	Class 6	2	49	427	G/S	2	0	0	4.0
Harlowe Road	Class 4	1	500	210	HCB	2.05	1	1	6.6
Harlowe Road	Class 4	1	500	211	HCB	3.8	1.2	1.2	6.6
Harlowe Road	Class 4	1	500	209	HCB	2.05	1.2	1.2	6.5
Head Road	Class 4	1	100	79	LCB	0.9	0.5	0.5	5.8
Head Road	Class 6	1	49	450	G/S	2	0	0	6.0
Henderson Road	Class 4	1	200	212	HCB	1.1	0.7	0.7	6.3
Hills Lake Road	Class 6	2	49	440	G/S	2.4	0	0	4.3
James Road	Class 6	2	49	438	G/S	0.44	0	0	4.0
James Road	Class 6	2	49	439	G/S	0.5	0	0	2.7
Jewel Road	Class 6	1	49	91	LCB	0.15	0	0	5.5
Jewel Road	Class 6	1	49	90	LCB	0.2	0	0	5.5
Kashwakamak Lake Road	Class 4	1	150	85	LCB	2.8	0.5	0.5	5.7
Kashwakamak Lake Road	Class 4	1	150	84	LCB	2.7	0.5	0.5	5.7
Ladyslipper Road	Class 6	1	49	463	G/S	0.3	0	0	4.8
Lake Road	Class 6	3	49	55	LCB	0.55	0.8	0.8	5.0
Levere Road	Class 6	1	49	454	G/S	0.3	0	0	4.0
Little Pond Road	Class 6	1	49	89	LCB	0.35	0	0	5.4
Lodge Road	Class 6	3	49	45	LCB	0.55	0	0	5.4
Lookout Hill Road	Class 6	2	49	62	LCB	0.16	0	0	6.0
Lothlonen Road	Class 6	3	49	424	G/S	0.3	0	0	4.8
MacDonald Road	Class 6	3	49	421	G/S	0.71	0	0	3.6
Marble Lake Road	Class 6	1	49	453	G/S	4.4	0	0	6.2
Martelock Road	Class 6	3	49	444	G/S	0.1	0	0	4.8
Martin Road	Class 6	2	49	425	G/S	0.46	0	0	4.0

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SCHEDULE "B" TO BY-LAW
#89-13
TOWNSHIP OF NORTH FRONTENAC
LEVEL OF SERVICE POLICY FOR TOWNSHIP ROADS
ROAD SUMMARY BY NAME, CLASS, AADT

ASSET_NAME	-Class Number-	-District ID-	AADT	-Section Number-	Surface Type *	Length (Km)	Shoulder Width Left (m)	Shoulder Width Right (m)	Surface Width (m)
Matawatchan Road	Class 4	2	200	77	LCB	2.5	0	0	6.2
Mississagagon Lake Road	Class 6	1	49	468	G/S	0.4	0	0	5.8
Morrow Road	Class 6	3	49	413	G/S	3.74	0	0	4.1
Mosque Lake Road	Class 6	2	49	442	G/S	2.4	0	0	5.5
Mountain Chute Road	Class 6	3	49	202	HCB	0.95	1	1	6.4
Mountain Road	Class 4	2	150	60	LCB	1.55	0.5	0.5	6.0
Mountain Road	Class 4	2	150	61	LCB	1.2	0.7	0.7	5.9
Mountain Road	Class 4	2	150	59	LCB	1.25	0.6	0.6	5.6
Mountain Road	Class 6	2	49	433	G/S	4.2	0	0	6.2
Mountain Road	Class 6	2	49	434	G/S	5.8	0	0	4.5
Myers Cave Road	Class 4	1	150	87	LCB	2.1	0.5	0.5	6.0
Myers Cave Road	Class 4	1	150	88	LCB	2.05	0.3	0.3	6.0
Myers Cave Road	Class 4	1	150	86	LCB	2.6	0.3	0.3	6.0
North Mazinaw Heights Road	Class 4	1	100	208	HCB	1.25	0.3	0.3	6.3
North Mazinaw Heights Road	Class 4	1	100	82	LCB	0.5	0.5	0.5	5.5
North Road	Class 6	2	49	431	G/S	7.3	0	0	4.8
North Shore Road	Class 4	2	100	76	LCB	0.35	0.8	0.8	4.2
North Shore Road	Class 6	2	49	446	G/S	1.64	0	0	4.8
Nowell Road	Class 6	1	49	465	G/S	0.15	0	0	4.8
Oak Road	Class 6	1	49	461	G/S	0.85	0	0	5.4
Perry Road	Class 6	1	49	467	G/S	0.37	0	0	5.2
Quackenbush Road	Class 6	2	10	449	G/S	4.6	0	0	3.3
Ragged Chutes Road	Class 6	3	49	412	G/S	1.3	0	0	4.4
River Road	Class 4	2	100	47	LCB	1.3	0.5	0.5	6.0
River Road	Class 4	3	150	445	G/S	0.75	0	0	6.5
River Road	Class 4	3	150	423	G/S	1.7	0	0	6.3
River Road	Class 4	3	150	72	LCB	0.8	1	1	5.3
River Road	Class 4	3	150	57	LCB	2.25	0.5	0.5	6.0
River Road	Class 4	3	150	56	LCB	1.4	0.5	0.5	5.3
River Road	Class 6	2	49	407	G/S	3.08	0	0	5.5
Road 506	Class 4	1	800	30	LCB	3.85	1.8	1.8	6.7
Road 506	Class 4	1	800	31	LCB	0.45	1.8	1.8	6.7
Road 506	Class 4	1	800	26	LCB	2.3	1.5	1.5	6.8
Road 506	Class 4	1	800	32	LCB	1.35	1.8	1.8	7.5
Road 506	Class 4	1	800	27	LCB	1.2	1.8	1.8	6.7
Road 506	Class 4	1	800	28	LCB	0.7	1.8	1.8	6.7

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SCHEDULE "B" TO BY-LAW
#89-13
TOWNSHIP OF NORTH FRONTENAC
LEVEL OF SERVICE POLICY FOR TOWNSHIP ROADS
ROAD SUMMARY BY NAME, CLASS, AADT

ASSET_NAME	-Class Number-	-District ID-	AADT	-Section Number-	Surface Type *	Length (Km)	Shoulder Width Left (m)	Shoulder Width Right (m)	Surface Width (m)
Road 506	Class 4	1	800	29	LCB	2.7	1.8	1.8	6.7
Road 506	Class 4	1	800	33	LCB	4.2	2	2	6.7
Road 506	Class 4	2	800	201	HCB	0.25	0	0	6.8
Road 506	Class 4	2	800	24	LCB	1.5	1.8	1.8	6.7
Road 506	Class 4	2	800	21	LCB	2.9	1.5	1.5	7.0
Road 506	Class 4	2	800	19	LCB	0.6	1.8	1.8	6.7
Road 506	Class 4	2	800	25	LCB	0.95	1.8	1.8	6.7
Road 506	Class 4	2	800	18	LCB	6.35	1.6	1.6	7.1
Road 506	Class 4	2	800	23	LCB	0.6	1.8	1.8	6.8
Road 506	Class 4	2	800	20	LCB	1	1.8	1.8	6.7
Road 506	Class 4	2	800	22	LCB	1.45	1.8	1.8	6.7
Road 509	Class 4	2	600	200	HCB	0.35	0	0	6.8
Road 509	Class 4	2	600	17	LCB	1.4	1	1	6.7
Road 509	Class 4	2	600	14	LCB	2.75	1	1.6	6.7
Road 509	Class 4	2	600	16	LCB	3.6	1.5	1.5	6.7
Road 509	Class 4	2	600	15	LCB	1.65	1.2	1.2	6.7
Road 509	Class 4	3	600	7	LCB	2.1	1	1	6.5
Road 509	Class 4	3	600	1	LCB	7.25	2	1.6	6.7
Road 509	Class 4	3	600	3	LCB	2.4	1	1	6.3
Road 509	Class 4	3	600	9	LCB	6.35	1	1	6.7
Road 509	Class 4	3	600	12	LCB	0.75	1.2	1.2	6.5
Road 509	Class 4	3	600	4	LCB	1.3	1	1	6.7
Road 509	Class 4	3	600	13	LCB	3.4	1	1	6.8
Road 509	Class 4	3	600	2	LCB	1.04	2.5	2.5	6.5
Road 509	Class 4	3	600	5	LCB	0.65	1	1	6.7
Road 509	Class 4	3	600	10	LCB	3.6	1	1	6.7
Road 509	Class 4	3	600	11	LCB	1.3	1	1	6.7
Road 509	Class 4	3	600	6	LCB	0.85	1.5	1.5	6.7
Road 509	Class 4	3	600	8	LCB	0.65	1	1	6.6
Robertsville Road	Class 6	3	49	400	G/S	5.1	0	0	5.6
Russ Brown Road	Class 6	2	49	448	G/S	2.7	0	0	3.5
Sand Lake Road	Class 4	2	100	64	LCB	0.4	0.5	0.5	5.0
Sand Lake Road	Class 4	2	100	63	LCB	1.7	0.5	0.5	6.0
Schonauer Road	Class 6	2	49	408	G/S	0.8	0	0	4.5
Schooner Road	Class 6	2	49	435	G/S	1.14	0	0	4.8

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SCHEDULE "B" TO BY-LAW
#89-13
TOWNSHIP OF NORTH FRONTENAC
LEVEL OF SERVICE POLICY FOR TOWNSHIP ROADS
ROAD SUMMARY BY NAME, CLASS, AADT

ASSET NAME	-Class Number-	-District ID-	AADT	-Section Number-	Surface Type *	Length (Km)	Shoulder Width Left (m)	Shoulder Width Right (m)	Surface Width (m)
Shabomeka Lake Road	Class 4	1	100	92	LCB	1	0.8	0.8	6.7
Shabomeka Lake Road	Class 4	1	100	80	LCB	1.75	0.5	0.5	5.5
Shabomeka Lake Road	Class 6	1	49	451	G/S	3.15	0	0	7.5
Shiner Road	Class 6	3	49	401	G/S	3.7	0	0	5.0
Skootamatta Lake Road	Class 4	1	300	204	HCB	1	0.5	0.5	6.3
Skootamatta Lake Road	Class 4	1	300	203	HCB	0.65	0.5	0.5	6.2
Skootamatta Lake Road	Class 4	1	300	81	LCB	0.35	0.5	0.5	6.1
Smarts Road	Class 6	1	49	455	G/S	0.25	0	0	5.0
Smith Road	Class 4	2	100	46	LCB	1.1	0.3	0.3	5.3
Smith Road	Class 6	2	49	406	G/S	6.1	0	0	5.0
Snider Road	Class 6	1	49	78	LCB	0.65	0.3	0.3	6.4
South Bush Road	Class 6	3	49	422	G/S	6.4	0	0	4.4
South Lavant Road	Class 4	3	100	50	LCB	2	0.5	0.5	5.8
South Lavant Road	Class 4	3	100	51	LCB	3.35	0.5	0.5	5.2
South Mazinaw Heights Road	Class 4	1	100	207	HCB	0.5	0.3	0.3	6.2
South Mazinaw Heights Road	Class 4	1	100	206	HCB	1.1	0.3	0.3	6.2
South Mazinaw Heights Road	Class 4	1	100	205	HCB	0.35	0.3	0.3	5.8
South Road	Class 4	2	100	58	LCB	2.5	0.9	0.9	5.2
South Road	Class 6	2	49	429	G/S	0.7	0	0	4.0
South Road	Class 6	2	49	428	G/S	1.5	0	0	6.4
Spencer Road	Class 6	1	49	466	G/S	0.94	0	0	3.5
St. Pierres Road	Class 6	3	49	409	G/S	0.2	0	0	3.9
Station Road	Class 6	3	49	410	G/S	0.18	0	0	3.5
Station Road	Class 6	3	49	48	LCB	0.17	0	0	3.5
Struthadam Road	Class 6	2	49	432	G/S	6.22	0	0	2.9
Struthadam Road	Class 6	3	49	443	G/S	1.56	0	0	4.4
Sunday Lake Drive	Class 6	3	49		G/S	3.5	0	0	4.0 - 5.0
Swauger Lake Road	Class 6	2	49	426	G/S	0.3	0	0	4.0
Thompson Road	Class 6	1	49	457	G/S	0.51	0	0	4.5
Twin Oaks Road	Class 6	2	49	430	G/S	1.45	0	0	5.0
Veley Road	Class 6	1	49	458	G/S	0.68	0	0	4.5
Wellman Road	Class 6	1	49	452	G/S	0.28	0	0	4.0
Whites Road	Class 6	1	49	459	G/S	2	0	0	5.7
Wilbur Road	Class 6	3	49	415	G/S	4.33	0	0	4.2
Wintergreen Road	Class 6	1	49	464	G/S	5.6	0	0	5.0
TOTAL						330.51			

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**SCHEDULE "C" to BY-LAW #89-13
TOWNSHIP OF NORTH FRONTENAC
LEVEL OF SERVICE POLICY FOR TOWNSHIP ROADS
SEASONAL ROADS**

Some part or all of each of these roads are seasonal in nature and are not maintained for their entire length

ROAD NAME	AADT	SPEED LIMIT	CLASS	DISTANCE MAINTAINED	DISTANCE PLOWED
<i>Browns Bay Road</i>	49	50 km/h	6	0.65 km	0.1 km
<i>Chatham Road</i>	49	50 km/h	6	2.1 km	NONE
<i>Crotch Lake Access Road</i>	49	50 km/h	6	1.09 km	0.1 km
<i>Gutheinz Road</i>	49	50 km/h	6	2.0 km	NONE
<i>Greer Road</i>	49	50 km/h	6	5.1 km	4.0 km
<i>James Road</i>	49	50 km/h	6	0.8 km	0.36 km
<i>Ladyslipper Road</i>	49	50 km/h	6	0.3 km	NONE
Mountain Road (Mackie Lake Road)	49	50 km/h	6	14 km	10.1 km
Norcan Lake Lane	49	50 km/h	6	3.6 km	NONE
<i>Morrow Road</i>	49	50 km/h	6	3.7 km	NONE
<i>Quackenbush Road</i>	49	50 km/h	6	4.6 km	NONE
<i>Russ Brown Road</i>	49	50 km/h	6	2.7 km	Only By Request
<i>Shiner Road</i>	49	50 km/h	6	3.7 km	2.5 km
<i>South Bush Road</i>	49	50 km/h	6	6.4 km	2.0 km
<i>Struthadam Road</i>	49	50 km/h	6	6.6 km	From River Road for 1.6 km