HALDIMAND COUNTY

Report PW-RO-01-2013
of the General Manager of Public Works
For Consideration by Council in Committee

RE: Roads Operations "Level of Service" Standard

OBJECTIVE: To obtain Council approval for the revised "Level of Service" Standard document specific to the Roads Operations Division of the Public Works Department.

RECOMMENDATIONS:

1. THAT Report PW-RO-01-2013 Re: Roads Operations "Level of Service" Standard dated May 13, 2013 be received;

2. AND THAT Council approve the Level of Service Standard as attached to this report;

3. AND THAT the Revised Capital Budget as outlined in Report PW-RO-01-2013 be approved;

4. AND that the appropriate operating budget amendments as outlined in Report PW-RO-01-2013 be enacted.

Prepared by:

Wray Oakes
Manager, Roads Operations
Date: May 13, 2013

Respectfully submitted:

Paul Mungar, C.E.T., CMM III
General Manager
Public Works Department

Approved:

Donald G. Boyle
Chief Administrative Officer

BACKGROUND:

Ontario Regulation 239/02, Minimum Maintenance Standards for Municipal Highways (MMMS), was enacted on November 1, 2002. The MMMS were created to help municipalities defend legal actions alleging non repair of roads. These standards provide municipalities with not only a framework for road maintenance but also a defence under Section 44 of the Ontario Municipal Act. The terms of reference for the MMMS stipulate that it is mandated by the Province that the standards shall be reviewed every five (5) years. As a result of the task force's recent review of the standards in late 2012, amendments to the standards were recommended and approved by the Province effective January 25th, 2013.

In order to meet the MMMS the County developed a Level of Service document which is currently in use. This current Level of Service document is considered outdated and now substandard with respect to recent legislation amendments to the MMMS.

In addition to legislated standards within the "Level of Service" Standard, there are also several additional road maintenance standards that from time to time, are challenged by the public with respect to the level of standard and/or typically viewed not being reasonable when comparing the cost of materials and services in today's marketplace. The non legislated service levels that are included in the "Level of Service" Standard are defined with the intent to act as "a reasonable state of care" service standard, that is sustainable, and that meets the public's expectations in a fair and consistent manner.

ANALYSIS:

Some of the key amendments in the MMMS include new definitions and standards in winter maintenance and several housekeeping clarification amendments striking out "shall be deemed to be repaired" and amending / substituting with "is deemed to be in a state of repair". As referenced above in the Background section of the report, the Level of Service Standard includes, in addition to the MMMS amendments, non legislated service level revisions with monetary impacts as well, which will also be further expanded upon in this section of the report.

New standards and amended definitions in the MMMS regulations with the most significant impact, including potential monetary implications, are listed and outlined as follows:

"Weather" *means air temperature, wind and precipitation.*

"Substantial probability" *means a significant likelihood considerably in excess of 51 per cent.*

"Patrolling" *means patrolling a highway consists of observing the highway, either by driving on or by electronically monitoring the highway.*

Weather Monitoring

Weather monitoring is a new standard in the MMMS to ensure that municipalities are aware of the weather conditions on a daily basis throughout the year.

> *3.1 (1) 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.*

(2) 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.

In order to effectively implement a weather monitoring procedure, staff recommend that the County purchase two smartphones that are capable of automatically receiving and/or accessing the internet/weather forecast information 24 hours a day as well as logging the information for audit purposes. It is also recommended that the weather monitoring duty be assigned to staff that are currently scheduled on the after-hours pager duty assignment. Purchasing the smartphones is viewed as a cost effective solution in meeting the new standard and enables staff to achieve the legislated requirements with minimum impact to the current winter control staffing requirement and/or operating schedules. Monetary impacts associated with this new initiative consist of a capital component of approximately $720 and an operating component of approximately $1,800 per year.

Additional benefits of implementing this new initiative include improved and more efficient communication during after-hours operations and more timely decision making in winter maintenance operations that should in turn translate to savings in program costs. More timely and more accurate decision making based on factual information also strengthens the County's position in defence of potential claims.

The term ***"substantial probability"*** is amended in the winter maintenance standards with the intent to define a decision making threshold that clarifies how, why and when, winter maintenance deployment shall be scheduled. *"Substantial probability"* means acquired knowledge through various sources that together with constructive knowledge a formed decision is made regarding the likelihood of adverse weather and road conditions is greater than 51% to occur. The amended legislation that includes the term *"substantial probability"* is in two specific regulations in the winter control section of the MMMS - Patrolling and Ice Formation/Prevention on Roadways and Icy Roads.

Patrolling

Sec 3(2) If it is determined by the municipality that the weather monitoring referred to in Section 3.1 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 subsection (1), to patrol highways that the municipality selects as representative of its highways, at intervals deemed necessary by the municipality, to check for such conditions.*

Patrol Table

Class of Highway	Patrolling Frequency
1	3 times every 7 days
2	2 times every 7 days
3	once every 7 days
4	once every 14 days
5 and 6	once every 30 days

The amended patrol standard is viewed as achievable with minimum monetary impacts that can be accommodated within the standard operating procedures currently in place. The amended patrol standard specifies that a municipality must patrol roads as frequently as necessary for the purposes of observing the road conditions in order to schedule the deployment of winter maintenance in accordance with the legislation.

Ice formation on roadways and icy roadways

Sec 5(1) The minimum 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.

1) *Monitor the weather in accordance with Section 3.1.*
2) *Patrol in accordance with Section 3.*
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 to prevent ice formation within the time set out in the table to this section, starting from the time that a municipality determines is the appropriate time to deploy resources for that purpose.*

Ice Formation/Prevention and Icy Roadways

Class of Highway	Response Time
1	3 hours
2	4 hours
3	8 hours
4	12 hours
5 and 6	16 hours

The amended ice formation/prevention and icy roadways standard is viewed as achievable with a monetary impact. The amended standard now specifies that the municipality must treat the roadway to prevent the formation of ice. In order to meet the legislation requirements set out in this standard, staff are recommending two new initiatives. The first recommendation is the implementation of a Direct Liquid Application (DLA) program, and the second is a recommendation to purchase a slide-in 1 tonne patrol salting unit.

A DLA program is an anti-icing method of winter maintenance that is applied in advance of anticipated winter precipitation on the road surface for the purpose of the prevention of ice formation on the road surface in an effective, efficient and environmentally responsible manner. The implementation of a DLA program can be accommodated within the current winter control service delivery model with minimum operating impacts. However, the implementation of a DLA program will require a one-time capital cost of approximately $26,700 to fund the necessary mechanical and hydraulic hardware to retrofit current trucks and tanks the County currently owns and uses for other off-season maintenance purposes.

The purchase of a slide-in 1 tonne patrol salter unit to complement the current slide-in unit assigned to the winter patrol program is for the prevention of ice formation on the road surface. By increasing the number of patrol spreader units to two, staff can more effectively respond to winter weather adverse road conditions in a cost effective and timely fashion on a County-wide basis. The business case of purchasing the winter patrol salter unit is viewed as a program improvement initiative. Treating adverse weather conditions in a proactive and immediate manner during winter patrol activities, eliminates the need to activate contracted services to address the one off or isolated adverse road surface conditions. The monetary impact to purchase the slide-in patrol salting unit is a one-time capital cost of approximately $6,000.

Revised non legislated service level standard in the "Level of Service" Standard with potential monetary implications.

Mailbox Repair

The Mailbox Replacement Standard is revised with the intent to meet the public's expectations in a fair and consistent manner and is viewed as achievable with a minimum monetary impact. More and more frequently the current mailbox replacement standard is being challenged by the public when the box and/or post are damaged as a result of maintenance operations. Typical complaints with the current standard include the limited replacement options, i.e. style of box and the reimbursement limit if the homeowner chooses to replace the box themselves.

The recommended revised mailbox replacement standard is outlined as follows:

It is determined by the Road Authority (Roads Operations Manager) that a private mailbox has been damaged as a result of road maintenance activities, one of the following two options shall apply to restore the mailbox to its original state, or equivalent.

Option 1: The County shall supply and reinstall mailboxes damaged as a result of maintenance activities, to an appropriate standard in an appropriate location.

The post shall be wood; maximum 150mm in diameter/square. The post and mailbox shall be installed to its original state and location. Posts shall be installed at the rounding of the shoulder, in order that the opening of the mailbox is at the edge of the shoulder with the bottom of the mailbox being 1.07m (42") above the shoulder surface. Replacement mailboxes shall be of a heavy-gauge, weather resistant steel rural type mailbox.

Option 2: The County will issue a monetary reimbursement to the owner upon receipt of proof of purchase in the form of a cheque as follows:

- If the post and mailbox are destroyed, a maximum limit of $33.00
- If only the mailbox is destroyed, a maximum limit of $24.00

Where a performed one-piece mailbox, formed plastic and/or neoprene type has been damaged or destroyed by municipal activities, the owner shall be reimbursed upon receipt of proof of purchase for a replacement mailbox to an upset limit of $75.00.

Under Option 2, the owner is responsible for all repairs / replacement as necessary as per Canada Post requirements.

The above reimbursement values are based on the average current market value of a standard post and mailbox minus 25% for the average depreciation value of an existing post and mailbox or the combination of both, and an average current market value of a one piece neoprene or formed plastic mailbox.

Average Mailbox Prices

Mailbox:	heavy-gauge, steel rural type	$ 32.00 less 25% = $24.00
Mailbox:	neoprene one-piece	$100.00 less 25% = $75.00
Post:	pressure treated standard 4"x4"	$ 12.00 less 25% = $ 9.00

The revised mailbox replacement standard is anticipated to drive a slight increase in program costs of less than $1,000. Staff recommends that the program funding for the mailbox replacement program continue to be monitored and identified if necessary, through the normal Operating Budget submission process in 2015. Implementation of the revised standard is also anticipated to free staff's time and resources allowing for assignment to other program services directly related to winter maintenance.

All other revised service level standards in the "Level of Service" Standard document are viewed as meeting the public's expectations and provide a reasonable state of care that is achievable and can be accommodated within the current program service delivery model.

BUDGET/LEGAL IMPLICATIONS:

The recommended revised service level standards as outlined in this report with monetary impacts are identified as follows.

Weather Monitoring

The monetary impacts associated with implementing the recommended weather monitoring standard (the purchase of two smartphones) is a capital funding component of $720 and an annual operating funding component of approximately $1,800 per year.

DLA Program / 1 Tonne Patrol Salter Unit

The monetary impacts associated with the implementation of the recommended DLA program and a 1 tonne salter unit combined is a one-time capital cost of approximately $32,700. Operating costs associated with the recommended DLA program and the 1 tonne salter unit is viewed as achievable within the current program service delivery model.

The 2013 Tax Supported Capital Budget and Forecast did not include an estimate related to this change in "Level of Service" Standard. Staff have reviewed other projects within the capital program that are funded from CRR-Roads Equipment and found that there are only two other projects from the same funding source. These two projects have already been awarded and are expected to be completed within budget. As a result, an amended budget is required as follows:

	Council Approved Budget	Revised Budget
Expenditures:		
Implementation of DLA Program	$0	$ 26,700
1 Tonne Patrol Salter Unit	$0	$ 6,000
2 Smartphones	$0	$ 720
Cell/Phone/Smartphone Upgrade/Replacement (C.136.0032)	$ 7,500	$ 6,780
Total Expenditures:	**$7,500**	**$ 33,420**
Financing:		
CRR – Roads Equipment	$0	$ 32,700
CRR – Info Technology	$ 7,500	$ 7,500
Total Financing:	**$7,500**	**$ 33,420**

As a new initiative/enhancement to existing services, the replacement and regular maintenance/repairs associated with the addition of this infrastructure will ultimately impact the County's existing long range capital funding plan.

Operating impacts associated with implementing the recommended weather monitoring standard are the ongoing cellular telephone charges for the two smartphones, approximately $1,800 per year. This overage will be offset by savings in Roads Administration safety wear and supplies. As well, annual fleet charges related to the new equipment are estimated at $2,250 for the capital component. The operating component of the fleet charges are expected to be minimal.

INTERDEPARTMENTAL IMPACTS:

Implementation of the revised service level standards has a direct link to the Corporate Services Department, Support Services Division as it relates to defending and managing claims. Insurance claims associated with motor vehicle accidents and personal injury accidents on County roadways and sidewalks are defended on the basis of the County's approved service level standards and the successful demonstration that legislated requirements have been met.

The Information Systems Division will assist in implementing a method for the use of the smartphones that allows for the retrieval of weather conditions utilizing current technologies and automation as well as including a method to capture the required audit trails.

LINKS TO STRATEGIC PLANS:

The provision of the Level of Service Standard is a key part of the overall services provided by the Roads Operations Division protecting the well being and prosperity of Haldimand County residents, the travelling public, and the County.

CONCLUSION:

Staff recommend Council approve the revised Level of Service Standard which provides an updated proactive approach to service levels as well as complying with the updated Municipal Minimum Maintenance Standards.

ATTACHMENTS:

1. Proposed Haldimand County, Roads Operations Division – Level of Service Standard.

REQUIRED AND RECEIVED COMMENTS FROM: Yes or Not applicable	
Clerk's	Not applicable
Community Services Department	Not applicable
Finance	**Yes**
Health & Social Services Department	Not applicable
Human Resources	Not applicable
Information Systems	**Yes**
Legal	Not applicable
Public Works Department	Not applicable
Planning & Economic Development Department	Not applicable
Support Services	**Yes**
Other	Not applicable

CLERK'S DIVISION REVIEW **Report: PW-RO-01-2013 – Roads Operations "Level of Service" Standard**	
COUNCIL IN COMMITTEE: RECOMMENDATION NO ☐ Approved ☐ Approved with Amendments ☐ Defeated ☐ Deferred ☐ Other	COUNCIL: RESOLUTION NO: ☐ Approved ☐ Approved with Amendments (Noted below) ☐ Defeated ☐ Deferred ☐ Other
Amended Recommendation(s):	
Council Direction:	
Clerk's Division Action Taken:	

Haldimand County
Roads Operations Division
Public Works Department

Level of Service Standard
Municipal Minimum Maintenance Standards
May 2013

Haldimand County Roads Operations Division
Level of Service Standard

Index

Revised May 2013
Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division

Level of Service Standard
M.M.M.S.

Classification of Highways

Posted or Statutory Speed Limit (km/hr)	91-100	81-90	71-80	61-70	51-60	41-50	1-40
AADT							
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

Revised May 2013
Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division

Level of Service Standard
M.M.M.S.

Weather Monitoring

Purpose: To define the level of service that can be expected for the provision of a responsible weather monitoring program which effectively plans and responds to natural weather events that may negatively impact the County's transportation network.

Scope: To address the service level for the frequency of weather monitoring services on a year-round basis.

(1) 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 (1 time) per calendar day.

(2) From October 1 to April 30, the minimum standard is to monitor weather, both current and forecast to occur in the next 24 hours, once every shift or three (3) times per calendar day, whichever is more frequent, at intervals determined by the Road Authority (Manager, Roads Operations).

Objective: To monitor current weather conditions and forecasts to effectively plan road maintenance activities in a responsible manner.

Revised May 2013
Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division

Level of Service Standard
M.M.M.S.

Road Patrol

Definition:

Substantial Probability: *Means a significant likelihood considerably in excess of 51 percent.*

(1) Current weather and weather forecast.
(2) Previous 24 hours weather and road conditions.
(3) Frozen subsurface and pavement surfaces.
(4) Natural geological make-up of the Municipality i.e. rivers, great lakes, elevation characteristics, wood lots, prevailing winds, historical data, knowledge and experience, etc.

Purpose: To define the level of service that can be expected in providing Road Patrol to the roadways within the County's jurisdiction.

Scope: To address the service level for the frequency of Road Patrols on all County roads.

(1) The minimum standard for the frequency of patrolling roads to check for road conditions as defined in the Minimum Maintenance Standards of the Municipal Act is set out in the Road Patrol Table below.

(2) If it is determined by the Road Authority that 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 roadways is, in addition to that set out in the Table, to patrol roadways that the Road Authority selects as representative of its roadways, at intervals deemed necessary by the Road Authority, to check for such conditions.

Objective: To patrol the County's roads and report and correct deficiencies within timeframes as indicated in the Table below or as necessary, checking for conditions outlined in section *Substantial Probability* (2) above.

Revised May 2013
Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division

Level of Service Standard
M.M.M.S.

Road Patrol Table

Class of Highway	Patrolling Frequency
1	3 times every 7 days
2	2 times every 7 days
3	once every 7 days
4	once every 14 days
5 and 6	once every 30 days

Revised May 2013
Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division

Level of Service Standard
M.M.M.S.

Snow Accumulation

Definition:

Snow Accumulation: *Means the accumulation of any of the following that alone or together covers more than half a lane width of a roadway.*

(1) New fallen snow;
(2) Wind-blown snow;
(3) Slush.

Purpose: To define the minimum level of service that can be expected to clear accumulated snow from County roads and to define the minimum level of service to reduce liability to the County.

To provide staff with direction with respect to the service level that Haldimand County Council expects to be delivered.

Scope: To address service levels for clearing Snow Accumulation on all County roads. Delivery of that service will be by the most appropriate method as determined by staff.

The service standards indicated in this policy are applicable 7 days a week, 24 hours a day.

Objective: The minimum standard for addressing snow accumulation is to deploy resources as soon as practicable after becoming aware that the snow accumulation on a roadway is greater than the depth set out in the Snow Accumulation Table below within the time set out in the Table. The time set out in the Table is based on after the snow accumulation has ended or at any time throughout the duration of the snow accumulation. Patrolling during snow accumulation is required to determine the depth of snow accumulation.

Revised May 2013
Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division

Level of Service Standard
M.M.M.S.

Snow Accumulation

State of Repair:

If the depth of snow accumulation on a roadway is less than or equal to the depth set out in the Snow Accumulation Table, the roadway is deemed to be in a state of repair with respect to snow accumulation.

Snow Accumulation Table

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

Exclusions:

It is anticipated that as a result of snow clearing operations on the roadway there will be a windrow of plowed snow deposited at the end of each driveway. It is the homeowner's responsibility to clear their own driveway.

The snow clearing standard does not apply to that portion of the roadway designated for parking.

Revised May 2013
Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division

Level of Service Standard
M.M.M.S.

Ice Formation Prevention and Icy Roadways

Definition:

Icy Roads : *All kinds of ice however formed.*

Purpose: To define a response time and level of service for remedial action to be taken to prevent ice formation or correct an icy road condition.

Scope: To identify the time limits for response to prevent or correct ice formation or an icy road dependant upon the class of the road.

Objective: If the Road Authority determines that as a result of monitoring the weather and patrolling the roads, that there is a substantial probability of ice forming on a roadway, resources shall be deployed to treat the roadway to prevent ice formation within the Ice Formation Prevention and Icy Roadways Table below, starting from the time that the Road Authority determines if it is appropriate for that purpose.

Ice Formation Prevention and Icy Roadways Table

Class of Highway	Response Time
1	3 hours
2	4 hours
3	8 hours
4	12 hours
5 and 6	16 hours

Revised May 2013
Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division
Level of Service Standard

Winter Control - Safety and Hours of Operations - Roads

Safety:

If a storm becomes so severe that work crews cannot continue the safe operation of their vehicles, snow clearing operations shall be suspended until conditions improve.

In the event that operations are suspended, the OPP, School Boards and the local radio stations will be notified by the General Manager of Public Works or his designate.

Hours of Operations:

Generally, the hours of work for the delivery of winter control services shall be:

Class 1, 2 and 3 Roads	–	as required
Class 4, 5 and 6 Roads	–	4:30 a.m. to 7:00 p.m.

Consideration, and subsequently deviations from above referenced times, must always be given to the Provincial Minimum Maintenance Standards relative to snow accumulation and response times for icy roads. Routing of equipment to address a combination of road classes may also impact hours of road services.

Revised May 2013
Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division
Level of Service Standard

Sidewalk Snow and Ice Clearing

Purpose: To define a level of service for remedial action to be taken to clear snow and ice on County sidewalks that are deemed to be the responsibility of the County during the winter season.

Scope: If the Road Authority determines as a result of monitoring the current weather and forecasts, patrolling of roads and visual observation of sidewalks, that snow accumulation is equal to or greater than 5 cm, or if ice is present on County sidewalks, snow and ice clearing services shall be deployed as soon as practicable after becoming aware of the fact.

Objective: To deploy winter maintenance services as per the standards set out above to clear snow and ice on sidewalks that are deemed the County's responsibility to provide winter maintenance services.

Hours of Operations - Sidewalks:

The general hours of operations for snow and ice clearing services on County sidewalks, is between the hours of 6:00 a.m. and 6:00 p.m. as required. Completion times for snow and ice clearing services is six (6) hours from time of deployment or from the time snow accumulation ends.

Continuous Accumulation Storm Events:

During continuous snow accumulation events between the hours of 6:00 a.m. and 6:00 p.m., sidewalk snow clearing services shall be deployed in an effort to maintain snow accumulation depths equal to or less than 5 cm, in as much as is reasonably practicable given the circumstances.

Exclusions: (In accordance with Haldimand County By-law 301/02 Part II – General Provisions)

Every owner of any building, either occupied or unoccupied, or vacant land within the boundaries of Haldimand County, shall clear away and remove or cause to be cleared away and removed, any snow and ice from any and all sidewalks on highways in front of, along side or at the rear of such building or vacant land within twenty-four (24) hours after the accumulation of such snow or ice.

Revised May 2013
Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division
Level of Service Standard

Mailbox Repair

Purpose: To define the policy, procedure, installation standards and timing of the repair / replacement / reimbursement of mailboxes that have been damaged as a result of road maintenance activities.

Scope: To clarify when the County is responsible to maintain private mailboxes and identify two options of Mailbox Replacement / Repair that can be invoked. If it is determined by the Road Authority that a private mailbox has been damaged as a result of normal road maintenance activities, one of the following two options shall apply to restore the mailbox to its original state or equivalent. This policy is applicable to all County roads.

Option 1: The County shall supply and re-install mailboxes damaged as a result of maintenance activities to an appropriate standard in an appropriate location.

The post shall be wood; maximum 150mm diameter/square. The post and mailbox shall be installed to its original state and location. Posts shall be installed at the rounding of the shoulder, in order that the opening of the mailbox is at the edge of the shoulder with the bottom of the mailbox being 1.07m (42") above the shoulder surface. Replacement mailboxes shall be of heavy-gauge, weather resistant steel, rural type mailbox.

Option 2: The County will issue a monetary reimbursement to the owner upon receipt of proof of purchase, in the form of a cheque as follows:

- If the post and mailbox are destroyed, a maximum limit of $33.00.
- If only the mailbox is destroyed, a maximum limit of $24.00.

Where a preformed, one-piece mailbox, plastic and/or neoprene type has been damaged or destroyed by municipal activities, the owner shall be reimbursed upon receipt for a replacement mailbox to an upset limit of $75.00.

Under Option 2 the owner is responsible for all repairs/replacement as necessary, as per Canada Post requirements.

Revised May 2013
Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division

Level of Service Standard
M.M.M.S.

Pothole Repair

Purpose: To develop a level of service for response times for the repair of potholes of a certain severity on all County roadways classed 1 through 6, including road shoulders where applicable.

Scope: If a pothole exceeds both the surface area and the depth set out in the applicable Pothole Tables below, the minimum standard is to repair the pothole within the time set out in the applicable Table, after becoming aware of the fact.

Objective: To schedule remedial services to restore potholes on County roads that exceed the limits set out in the Table below.

A pothole 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 Tables 1, 2 or 3 as appropriate.

Pothole Table – 1 (Paved Surfaces)

Class of Highway	Surface Area	Depth	Response Time
1	600 cm^2	8 cm	4 days
2	800 cm^2	8 cm	4 days
3	1000 cm^2	8 cm	7 days
4	1000 cm^2	8 cm	14 days
5 and 6	1000 cm^2	8 cm	30 days

Revised May 2013
Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division

Level of Service Standard
M.M.M.S.

Pothole Repair

Pothole Table – 2 (Non-Paved Surfaces)

Class of Highway	Surface Area	Depth	Response Time
3	1500 cm^2	8 cm	7 days
4	1500 cm^2	10 cm	14 days
5 and 6	1500 cm^2	12 cm	30 days

Pothole Table – 3 (Paved or Non-Paved Surface of Shoulder)

Class of Highway	Surface Area	Depth	Response Time
1	1500 cm^2	8 cm	7 days
2	1500 cm^2	8 cm	7 days
3	1500 cm^2	8 cm	14 days
4	1500 cm^2	10 cm	30 days
5 and 6	1500 cm^2	12 cm	60 days

Revised May 2013
Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division

Level of Service Standard
M.M.M.S.

Shoulder Drop-Off

Definition:

Shoulder Drop-Off: *For this purpose means a 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.*

Purpose: To develop a level of service for response times for the repair of shoulder drop-offs of a certain severity on all County roadways where applicable.

Scope: If a shoulder drop-off is deeper than 8 cm, and extends for a continuous distance of 20 meters or more, the minimum standard is to repair the shoulder drop-off within the time set out in the table, after becoming aware of the fact.

Objective: To monitor and maintain road shoulders through regular maintenance activities in an effort to minimize shoulder drop-off, and to correct shoulder drop-off deficiencies as necessary as per the requirements and time limits set out in the Shoulder Drop-Off Table below.

Shoulder Drop-Off Table

Class of Highway	Depth	Response Time
1	8 cm	4 days
2	8 cm	4 days
3	8 cm	7 days
4	8 cm	14 days
5 and 6	8 cm	30 days

Revised May 2013
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Haldimand County Roads Operations Division

Level of Service Standard
M.M.M.S.

Surface Discontinuity

Definition:

Surface Discontinuity: *For this purpose 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.*

Purpose: To define a level of service standard for the limit of acceptable or tolerable pavement surface condition before remedial action must be taken to correct a surface deficiency in excess of a specified measurement.

Scope: If a surface discontinuity on a roadway, other than a surface discontinuity on a bridge deck, exceeds the height set out in the Surface Discontinuity Table below, the minimum standard is to repair the surface discontinuity within the time set out in the table, after becoming aware of the fact.

If a surface discontinuity on a bridge deck exceeds 5 cm in depth, the minimum standard is to deploy resources as soon as practicable after becoming aware of the fact.

Objective: To repair any surface discontinuity in excess of the limits set out in the Table below within the time limits set out, and to repair discontinuities on bridge decks that exceed 5 cm in depth as soon as practicable, after becoming aware of the fact.

A surface discontinuity 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.

Revised May 2013
Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division

Level of Service Standard
M.M.M.S.

Surface Discontinuity

Surface Discontinuity Table

Class of Highway	Height	Response Time
1	5 cm	2 days
2	5 cm	2 days
3	5 cm	7 days
4	5 cm	21 days
5 and 6	5 cm	21 days

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Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division

Level of Service Standard
M.M.M.S.

Bridge Deck Spall

Definition:

Bridge Deck Spall: *For this purpose means a cavity left by one or more fragments detaching from the paved surface of the roadway or shoulder or bridge.*

Purpose: To define a level of service standard for the limit of acceptable or tolerable surface condition on a bridge deck before remedial action must be taken to correct a deficiency in excess of a specified measurement.

Scope: If a bridge deck spall exceeds both the surface area and the depth set out in the Bridge Deck Spall Table below, the minimum standard is to repair the bridge deck spall within the time set out in the Table, after becoming aware of the fact.

Objective: To monitor County bridges through inspection and correct any bridge deck spalls in excess of the limits set out in the Table below within the time limits set out in the Table. A bridge deck spall 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.

Bridge Deck Spall Table

Class of Highway	Surface Area	Depth	Response Time
1	600 cm2	8 cm	4 days
2	800 cm2	8 cm	4 days
3	1,000 cm2	8 cm	7 days
4	1,000 cm2	8 cm	7 days
5 and 6	1,000 cm2	8 cm	7 days

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Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division

Level of Service Standard
M.M.M.S.

Pavement Cracking

Purpose: To define a level of service and limit of acceptable or tolerable pavement cracking, beyond which, some type of remedial action must be taken to correct the cracking in excess of the specified amount.

Scope: If a crack in a paved surface of a roadway is greater, *(for a continuous distance of three (3) meters or more)*, than both the width and depth set out in the Pavement Cracking Table below, the minimum standard is to repair the crack within the time set out in the Table after becoming aware of the fact.

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

Objective: To respond to, address or post warning signs, for pavement cracks in excess of the width and depth set out in the following Table.

Pavement Cracking Table

Class of Highway	Width	Depth	Response Time
1	5 cm	5 cm	30 days
2	5 cm	5 cm	30 days
3	5 cm	5 cm	60 days
4	5 cm	5 cm	180 days
5 and 6	5 cm	5 cm	180 days

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Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division

Level of Service Standard
M.M.M.S.

Debris on Roadways

Definition:

Debris: *For this purpose means, any material, (except for snow, slush or ice), or object on the roadway, that is not an integral part of the roadway or has not been intentionally placed on the roadway by a municipality and; that it is reasonably likely to cause damage to a motor vehicle or injure a person in the motor vehicle.*

Purpose: To define a level of service standard to address debris on County roadways.

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

Objective: To address debris on County roadways in an efficient and responsible manner.

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Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division

Level of Service Standard
M.M.M.S.

Roadway Luminaires

Definition:

Roadway Luminaires: *For this purpose, means a complete lighting unit consisting of a lamp and parts designed to distribute the light, to position or protect the lamp and to connect the lamp to the power supply.*

Purpose: To define a service level standard for inspection of roadway luminaires on County roadways; and a service standard to address non-functioning luminaires on County roadways.

Scope: The standard for the frequency of inspecting roadway luminaires to check that they are functioning, is once per calendar year, with each inspection taking place not more than 16 months from the previous inspection.

If three or more consecutive luminaires on a roadway are not functioning, the minimum standard is to repair the luminaires within the time set out in the Roadway Luminaires Table below, after becoming aware of the fact, or;

If thirty (30) percent or more of the luminaires on any kilometre of a roadway are not functioning, the minimum standard is to repair the luminaires within the time set out in the Table below, after becoming aware of the fact.

Objective: To inspect and correct luminaires on County roadways in accordance with the standards set out. Luminaires are deemed to be in a state of repair on Class 1 and Class 2 roadways if, the number of non-functioning consecutive luminaires does not exceed two, and;

Luminaires are deemed to be in a state of repair on Class 3, Class 4 and Class 5 roadways if, more than seventy (70) percent of luminaires on any kilometre of roadway are functioning.

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Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division

Level of Service Standard
M.M.M.S.

Roadway Luminaires

Roadway Luminaires Table

Class of Highway	Response Time
1	7 days
2	7 days
3	14 days
4	14 days
5 and 6	14 days

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Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division

Level of Service Standard
M.M.M.S.

Regulatory and Warning Signs

Purpose: To define a service level to inspect regulatory and warning signs to check that they meet the retro-reflectivity requirements of the Ontario Traffic Manual, and;

To define a service level to inspect regulatory and warning signs to check that they are not illegible, improperly orientated, obscured or missing, and;

To define a service level standard to respond and address any deficient signs.

Scope: The minimum standard for the frequency of inspecting regulatory or warning signs to check 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 sixteen (16) months from the previous inspection.

If a regulatory or warning sign listed in the Regulatory / Warning Signs – Table A below, is found to be illegible, improperly oriented, obscured 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.

If any other regulatory or warning sign not listed in Regulatory / Warning Signs – Table A is found to be illegible, improperly oriented, obscured or missing, the minimum standard is to repair or replace the sign within the time set out in the Regulatory / Warning Signs Table - B below, after becoming aware of the fact.

Objective: To inspect and maintain regulatory and warning signs to the standards set out above.

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Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division

Level of Service Standard
M.M.M.S.

Regulatory/Warning Signs Table - A

Signs Type	Response
1) Checker Board 2) Curve with Advisory Tab 3) Do Not Enter 4) Load Restricted Bridge 5) Low Bridge 6) Low Bridge Ahead 7) One Way 8) School Zone Speed Limit 9) Stop 10) Stop Ahead 11) Stop Ahead – New 12) Traffic Signal Ahead – New 13) Two-Way Traffic Ahead 14) Wrong Way 15) Yield 16) Yield Ahead 17) Yield Ahead - New	The minimum standard is to deploy resources, as soon as practicable after becoming aware of the fact, to repair or replace the sign.

Regulatory/Warning Signs Table - B

Class of Highway	Response Time
1	7 days
2	14 days
3	21 days
4	30 days
5 and 6	30 days

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Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division

Level of Service Standard
M.M.M.S.

Traffic Control Signal System

Definitions:

Traffic Control Signal System: *Means a system of traffic control signal equipment including poles, controllers, actuation and interconnection equipment and all associated materials required to regulate vehicular and pedestrian traffic at an intersection.*

Traffic Control Signal System Sub-Systems 1, 2 and 3

1) *The display sub-system, consisting of traffic signal and pedestrian crossing heads, physical support structures and support cables.*
2) *The traffic control sub-system, including the traffic control signal cabinet and internal devices such as a timer, detection devices and associated hardware, but excluding conflict monitors.*
3) *The external detection sub-system, consisting of detection sensors for all vehicles, including emergency and railway vehicles and pedestrian push-buttons.*

Conflict Monitor System

Means a device that continually checks for conflicting signal indications and responds to a conflict by emitting a signal.

Purpose: To establish the service level to adequately maintain the County's Traffic Control Signal Systems and set out the inspection frequency for the appropriate components.

Revised May 2013
Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division

Level of Service Standard
M.M.M.S.

Traffic Control Signal System

Scope: If a Traffic Control Signal System is defective in any way excluding conditions and defects described in section (a) below, the minimum standard is to deploy resources as soon as practicable after becoming aware of the defect, to repair the defect or replace the defective component of the Traffic Control Signal System.

a) If the posted speed of all the approaches to the intersection or location of the non-functioning signal lamp or pedestrian control indication is less than eighty (80) kilometres per hour and the signal that is not functioning is a green or pedestrian "walk" signal, the minimum standard is to repair or replace the defective component by the end of the next business day.

Traffic Control Signal System Sub-System:

Scope: The minimum standard to inspect, test and maintain the Traffic Control Signal Sub-System is once per calendar year, with each inspection taking place not more than sixteen (16) months from the previous inspection.

Conflict Monitor System

Scope: The minimum standard is to inspect, test and maintain Conflict Monitor Systems every five (5) to seven (7) months and at least twice per calendar year.

Objective: To inspect and maintain Traffic Control Signal Systems, Traffic Control Signal System Sub-Systems and Conflict Monitor Systems to the standards set out above.

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Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division
Level of Service Standard

Water on Roadways

Purpose: To identify a level of service standard to address water over County roadways.

Scope: This policy applies to all open County roads.

Objective: To identify an appropriate response standard when water over open County roadways occurs.

Water on Road Table

Class of Highway	Response
1,2,3	When there is water on a roadway that covers more than half of a lane width, and is a depth of 5 cm or more, the municipality will deploy its resources as soon as practicable, after becoming aware of the fact to address the water over road situation.
4,5,6	When there is water on a road that covers more than half a lane width, and is a depth of 5 cm or more, the municipality will deploy its resources, as soon as practicable, after becoming aware of the fact, to address the water over the road situation. Address may include temporary road closures or appropriate warning signs.

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Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division
Level of Service Standard

Roadside Mowing

Purpose: To identify the level of service for roadside mowing.

Scope: The standard for roadside mowing shall be in accordance with the Roadside Mowing Table below for both rural and urban roadsides.

Objective: To maintain sightline visibility along roadside shoulders and at intersections and entrances and to improve the roadside appearance and maintain roadside vegetation in an environmentally responsible manner.

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Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division
Level of Service Standard

Roadside Mowing

Roadside Mowing Table

Area	Approximate Mowing Schedules Depending Growing Season	Height After	Limits/Quantities Locations	Noxious Weed Spraying
Rural Roadside First Cut	First cut generally commences at the beginning of June (or as required). Completing by June 30th.	8-14 cm	**Arterial Rural Roads- (approx. 400 km)** Minimum 10 ft (3m) cut single pass - both sides. **Secondary Rural Roads** Classes 3, 4, 5 &6 (approx. 770 km) Minimum 5 ft (1.5m) cut single pass – both sides.	As required on an as per site /complaint basis.
Rural Roadside Second Cut	Beginning approximately the 2nd week in August (or as required). Completing by September 30th.	8-14 cm	**Arterial Rural Roads- (approx. 400 km** Fence to Fence. **Secondary Rural Roads** Classes 3, 4, 5 & 6 roads (approx. 300 km) Minimum 10 ft (3m) cut single pass both sides, rotating inventory on an annual basis, and; (approx. 470 km) Minimum 5 ft (1.5m) cut single pass – both sides	As required on an as per site /complaint basis and; only if potentially health impacting, ie, Giant Hog Weed, Poison Ivy/Oak etc.
Medians and Channelized Islands	Beginning approx. the 3rd week in May (or as required). 4-6 cuts per season (as required).	5-12 cm	Caledonia Dunnville Cayuga Hagersville Jarvis Townsend	As required on a complaint basis and; only if potentially health impacting, ie, Giant Hog Weed, Poison Ivy/Oak etc.

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Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division
Level of Service Standard

Roadside Mowing

Exceptions and Exclusions:

Urban boulevard areas adjacent to, fronting or flanking existing manicured properties of residences and places of business are not maintained by the County. These locations are deemed to be the adjacent landowner's responsibility.

Note: **The kilometre quantities for rural roadside mowing are estimated based on the annual contract pricing and will be adjusted each year. For example on a 3 year rotational basis, all secondary rural roads will be cut on both sides to a minimum standard of 3 meters in width, with alternate years being cut to a minimum standard of 1.5 meters in width.**

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Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division

Level of Service Standard
M.M.M.S.

Sidewalk-Curb Repair / Replacement

Definition:

Surface Discontinuity: *For this purpose means a vertical discontinuity creating a step formation at joints or cracks in the surface of the sidewalk.*

- Treating a Surface Discontinuity on a sidewalk means taking reasonable measures to protect users of the sidewalk from the discontinuity, including making permanent or temporary repairs, alerting users' attention to the discontinuity or preventing access to the area of discontinuity.

Purpose: To define a maintenance standard for the sidewalk inventory that ensures a reasonable and sustainable service standard is achieved.

Scope: To establish a sidewalk inspection program that achieves the legislative requirements, and;

To establish a level of service for treating sidewalk deficiencies in a responsible and organized manner that meets or exceeds the legislative requirements.

Objective: To implement a level of service standard for restoration and repair of sidewalks that is planned and scheduled on a priority basis. Priority criteria shall consist of deficiency ratings based on inspection records and public complaint.

Inspections: The minimum standard for the frequency of inspecting sidewalks to check for surface discontinuities is once per calendar year, with each inspection taking place not more than 16 months from the previous inspection.

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Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division

Level of Service Standard
M.M.M.S.

Sidewalk - Curb Repair / Replacement

Treatment of Sidewalk Surface Discontinuities

Sidewalk bays that have a measurable surface discontinuity of two (2) cm or greater, shall be treated within 14 days after acquiring actual knowledge of the fact. The method of treatment will be the decision of the Manager of Roads Operations or designate.

Restoration of Sidewalk Sections or Bays

A sidewalk bay that contains a hole(s) greater than 20 cm^2 and is 2 cm in depth or greater, shall be repaired within 30 days after acquiring actual knowledge of the fact.

A sidewalk bay with a surface condition that has deteriorated substantially by means of surface cracking and/or accompanied by surface spalling equal to or greater than 75% of its surface area shall be repaired within 60 days after acquiring actual knowledge of the fact.

Sidewalk sections that experience seasonal drainage deficiencies, i.e., ponding of water on the sidewalk surface, shall be repaired within 90 days after acquiring actual knowledge of the fact.

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Wray Oakes, Manager Roads Operations

Haldimand County Roads Operations Division

Level of Service Standard
M.M.M.S.

Sidewalk - Curb Repair / Replacement

Curb Restoration:

A curb section within a driveway/entrance that has deteriorated substantially equal to or greater than 75% of the driveway/entrance width and is restricting or negatively impacting vehicle access shall be repaired within 20 days after acquiring actual knowledge of the fact.

Should the replacement of a sidewalk and curb measuring the full width of a driveway be required, the County shall replace the driveway apron in full with asphalt material in accordance with the Design Criteria. Where a concrete apron exists and is in need of replacement, it is the responsibility of the landowner to fund the difference in cost between asphalt and concrete if the landowner so desires the apron to be replaced with concrete.

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