REGION OF OTTAWA-CARLETON | MEMORANDUM

RÉGION D'OTTAWA-CARLETON | NOTE DE SERVICE

Our File/N/Réf. R.2.5.147
Your File/V/Réf.

DATE 19 June 2000

TO/DEST. Co-ordinator
Transportation Committee

FROM/EXP. A/Regional Solicitor

SUBJECT/OBJET **ROAD MAINTENANCE MINIMUM STANDARDS**

DEPARTMENTAL RECOMMENDATIONS

That Transportation Committee recommend Council approve:

1. **The proposed Provincial minimum standard for inspection of traffic signals and conflict monitors be changed from every 6 months to 12 months;**

2. **The proposed minimum standard for traffic signal bulb replacement be changed from 80% to 90% of life expectancy.**

BACKGROUND

On April 8, 1998 Council endorsed in principle the Province's draft road maintenance minimum standards, drafted pursuant to s.284 (1.4) of the *Municipal Act* which provides that a municipality will not be liable in damages if it meets the Province's minimum standards.

STATUS

The Province has circulated a revised version of the standards which are similar in principle to those already approved by Council, and which generally are lower than those adopted by Regional Council for its own use. Attached as Annex "A" is a covering letter dated April 17, 2000 from Co-Chairs of the Standards Committee and the Standards.

Staff note two standards which are more astringent than those adopted by staff.

First, staff currently inspect traffic signals and conflict monitors on an annual basis. This cycle supports road user safety. Moreover, the incidents of complaints concerning signal failure is negligible.

Second, staff replace traffic signal bulbs at 90% of their service life expectancy. The proposed standard is 80%. Statistical experience of bulb failure frequency has lead to the current practice of replacement at 90% of life expectancy, and again this replacement policy is one which does not jeopardize the road users safety.

In summary, the Region has neither the budget nor the staff to meet these two proposed standards, and a reduction of them, in accordance with existing Ottawa-Carleton standards, will not compromise road safety.

CONCLUSION

Staff recommends that Council advise the Province that Ottawa-Carleton cannot meet the two standards referred to above and that they be changed to twelve months and 90% respectively.

Approved by
E. A. Johnston

EAJ/ELM/pc

Ministry of Transportation
Ontario

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ANNEX "A"

April 17, 2000

Head of Council:

Attached is the third draft of the Minimum Maintenance Standards for Municipal Highways (the "Standards") for your review and comments. Please note that this draft of the Standards is presented as a draft regulation. This will enable you to review the Standards, as they would appear in their final format, as a regulation under the *Municipal Act*.

The purpose of this covering letter is to:

1) describe the background and project organization;
2) provide you with the current status of the project;
3) provide you with details on how to participate in the third round of consultation; and
4) discuss what will happen after this round of consultation.

As well, please see Appendix 1 for a summary of the major revisions made to the previous draft.

1. BACKGROUND AND PROJECT ORGANIZATION

Changes to the *Municipal Act*

In 1996, in response to concerns raised by over 550 municipalities, the Government passed the *Better Local Government Act* (Bill 86), amending the *Municipal Act* by adding new provisions dealing with municipal liability with respect to the repair of municipal highways and bridges.

As amended, the *Municipal Act* now provides a municipality with three defences. The first two, codify existing common law: a municipality is not liable for failing to keep a highway or a bridge in a reasonable state of repair if it did not know and could not reasonably have been expected to know about the state of repair of the highway or bridge or; it took reasonable steps to prevent the default from arising. The third, a new defence, is intended to respond to the concerns raised by municipalities and provides that a municipality is not liable for failing to keep a highway or bridge in a reasonable state of repair if, at the time the cause of action arises, minimum Standards established by regulation by the Minister of Transportation, applied to the highway or bridge and to the alleged default and those Standards have been met (subsection 284(1.4)). This document addresses this third defence.

Project Organization

This project represents a joint initiative between the MTO and the municipal sector with full participation from the Ontario Good Roads Association, Association of Municipalities of Ontario, Association of Ontario Road Superintendents, Municipal Engineers Association, Regional Solicitors Association, as well as other provincial ministries and stakeholders. Please note that a list of municipal association representatives is appended (Appendix 2).

There have already been extensive discussions with municipalities and other stakeholder associations on the two previous drafts dated September 16, 1997 and January 20, 1998, respectively.

2. CURRENT PROJECT STATUS

In early February 1998 your municipality received the second draft of the Standards dated January 20, 1998 (Draft 2). Included with the draft Standards was a covering letter that provided you with background on the project, various issues on which we requested your comments as well as specific questions we asked you to consider in commenting on each of the draft Standards.

In late February 1998, the draft Standards were the subject of a session at the Ontario Goods Roads Association Annual Conference.

The consultation period on the second draft ended on April 30, 1998. Almost two hundred submissions from municipalities across the province as well as responses from various interest groups were received and subsequently reviewed and analysed by the Provincial/Municipal Project Team and Steering Committee. We thank all of those municipalities and associations that responded for their extensive comments and suggestions.

3. WHAT DO WE NEED FROM YOUR MUNICIPALITY?

The main objective of the third round of consultations is to determine the level of municipal endorsement for the Standards.

The Standards are both technical and legal in nature. **We recommend that they be reviewed by your legal department (or counsel) and road maintenance department.**

4. WHERE DO WE GO AFTER THIS ROUND OF CONSULTATION?

We expect this to be the last round of consultation on the Standards. The extensive comments and concerns provided during consultation on Drafts 1 and 2 have been considered by the Steering Committee and are reflected in Draft 3. Upon receipt and consideration of the comments on Draft 3, the Steering Committee will make a recommendation to the government on any changes and on whether to proceed with the Standards.

The input from your municipality will be critical in determining how we proceed. The support of municipalities and municipal organizations such as AMO and OGRA will be fundamental in making a recommendation to the Government to implement the Standards.

5. WHEN AND WHERE TO PROVIDE YOUR COMMENTS AND GET FURTHER INFORMATION?

The deadline for submission of written comments is August 4, 2000.

Please mail your submissions to:

Ministry of Transportation, Ontario
Transportation Policy Branch
Municipal Office
2nd Floor, West Tower/Tower "B"
1201 Wilson Avenue
Downsview, Ontario
M3M 1J8
Attention: Mr. Tony Roldan

If you require further information, please contact Mr. Tony Roldan at (416) 235-4064.

We look forward to your comments.

Yours sincerely,

Kees Schipper, P. Eng.
Commissioner of Transportation
and Works
Regional Municipality of York
Co-Chair

Kim Lambert
A/Director, Transportation Policy Branch
Ministry of Transportation
Co-Chair

cc. Head of Public Works/Maintenance Department/Operations

Attach.

Appendix 1

SUMMARY OF MAJOR CHANGES TO DRAFT # 2 (January 20, 1998)

Classification System

- The three classification tables in Draft 2 (dated January 20, 1998) relating to functional class and urban/rural environments, have been replaced with one table that uses traffic volume (AADT or an estimate of AADT) and posted speed/statutory speed limit to establish highway class.

- Please note that traffic volumes, previously referred to as VPD (vehicles per day) have been redefined to include either Average Annual Daily Traffic (AADT) or an estimate of AADT.

- A new Class 6 has been added that captures very low-volume roads. Please note that the new statutory defence will not be available for these Class 6 roads because Minimum Maintenance Standards have not been established for them.

Definitions

- The term "addressed" has been replaced with the specific actions that are required to meet each of the Standards. Actions that apply to all of the Standards, such as "the municipality closes the affected highway or affected part of a highway or redirects traffic" are contained in Section 3 of the draft regulation and not in each individual Standard.

- Definitions that are specific to a Standard are now contained in the Standard and not the Definitions section.

- The term "immediate" has been removed from the Standards and replaced with "deploy resources as soon as practicable".

Minimum Standards

- In general, the changes to the Standards are intended to reduce ambiguity.

- Drafting the Standards as a Draft Regulation has resulted in considerable formatting and wording changes from Draft 2.

- Response times and dimensions have been revised in a number of Standards.

- Temporary signing is limited to those defects where warning signs specific to that condition exist.

- The following draft Standards from Draft 2 have been deleted:
  - Winter Inspection;
  - Flooding/Standing Water;
  - Washout;
  - Dust;
  - Roadway/Shoulder Gradient Differential;
  - Grass and Brush Height at Railway Crossings;
  - Structural Distress;
  - Protruding Element and Surface Discontinuity that can cause damage.

- "Routine Inspection" has been replaced with "Routine Patrolling". Routine Patrolling involves a drive-by observation of the highway system during daylight and allows the use of electronic monitoring.

- The "Snow Accumulation" Standard has been revised. It specifies a depth at which winter control begins but the response time now refers to the time to reduce the snow accumulation below the specified depth **after** the snow accumulation has ended. It excludes that portion of the roadway used for parking and allows for limited snow storage along the edge of the roadway.

- The "Icy Roadway Surface" Standard has been revised. While a municipality is required to deploy resources as soon as practicable after becoming aware of the fact, the Standard now includes a response time to complete the treatment of the icy roadway.

- The" Debris" Standard no longer specifies the dimension for debris that requires addressing. Also, the condition has been reworded to read "debris that is **reasonably likely** to cause damage to a motor vehicle or to injure a person in a motor vehicle."

- Considerable changes have been made to the Standards for "Regulatory and Warning Signs" and "Traffic Signal System Elements".

- A new Standard covering "Traffic Signal System Inspection, Testing and Replacement" has been added.

Please consult Draft 2 to identify other changes.

Other Issues

Some municipalities are concerned that those with higher documented Standards and who may not meet their own higher Standard(s) yet meet or exceed the minimum Standard(s) may not be able to successfully use the new defence in Subsection of 284(1.4) of the *Municipal Act.*

A second related concern expressed by some municipalities is that municipalities that do not meet the minimum Standard may not be able to use the other defences currently in the *Act.*

The project Steering Committee has requested that the Government give consideration to clarifying these issues in the new *Municipal Act.*

Appendix 2

Municipal Association Representatives

Association of Municipalities of Ontario

Mr. John Harrison
Regional Chair
Regional Municipality of Haldimand Norfolk
70 Town Centre Drive
Townsend, Ontario
N0A 1S0
Tel. (519)587-4911
Fax: (519)587-3119

Ontario Good Roads Association

Ms. Sheila Richardson or Mr. Bill Obee
Ontario Good Roads Association
530 Otto Road, Unit 2
Mississauga, Ontario
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Municipal Engineers Association

Mr. Bill Beveridge, P. Eng.
Director of Infrastructure Management
Municipality of Ottawa-Carleton
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Municipal Engineers Association

Mr. Alan Korell, P. Eng
Town Engineer
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Association of Ontario Road Superintendents

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Chief Administrative Officer
160 King Street
Thorndale, Ontario
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Fax (519)461-1343

Regional Solicitors Association

Mr. Ernest McArthur
Manager, Transportation and Property Law
Regional Municipality of Ottawa-Carleton
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DRAFT

REGULATION MADE UNDER THE MUNICIPAL ACT

MINIMUM MAINTENANCE STANDARDS FOR MUNICIPAL HIGHWAYS

1. (1) In this Regulation,

"cm" means centimetres;

"day" means a 24-hour period;

"motor vehicle" has the same meaning as in subsection 1 (1) of the *Highway Traffic Act*, except that it does not include a motor assisted bicycle;

"non-paved surface" means a surface that is not a paved surface;

"paved surface" means a surface with a wearing layer or layers of asphalt, concrete or asphalt emulsion;

"roadway" has the same meaning as in subsection 1 (1) of the *Highway Traffic Act*;

"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.

(2) For the purposes of this Regulation, every highway or part of a highway under the jurisdiction of a municipality in Ontario is classified in the Table to this section as a Class 1, Class 2, Class 3, Class 4, Class 5 or Class 6 highway, based on the speed limit applicable to it and the average annual daily traffic on it.

(3) For the purposes of subsection (2) and the Table to this section, the average annual daily traffic on a highway or part of a highway under municipal jurisdiction shall be determined,

(a) by counting and averaging the daily two-way traffic on the highway or part of the highway for the previous calendar year; or

(b) by estimating the average daily two-way traffic on the highway or part of the highway in accordance with accepted traffic engineering methods.

TABLE
CLASSIFICATION OF HIGHWAYS

Average Annual Daily Traffic (number of motor vehicles)	Posted or Statutory Speed Limit (kilometres per hour)						
	100	90	80	70	60	50	40
20,000 or more	1	1	1	2	2	2	2
15,000 - 19,999	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

2. (1) This Regulation sets out the minimum standards of repair for highways under municipal jurisdiction for the purpose of subsection 284 (1.4) of the Act.

(2) The minimum standards of repair set out in this Regulation are applicable only in respect of motor vehicles using the highways.

(3) This Regulation does not apply to Class 6 highways.

3. A municipality shall be deemed to have complied with a minimum standard set out in a provision of this Regulation if, within the time specified in that provision, the municipality closes the affected highway or the affected part of a highway or redirects traffic.

4. (1) The minimum standard for the frequency of routine patrolling of highways is set out in the Table to this section.

(2) Routine patrolling shall be carried out by driving on or by electronically monitoring the highway to check for conditions described in this Regulation.

(3) Routine patrolling is not required to be carried out between sunset and sunrise.

TABLE
ROUTINE PATROLLING FREQUENCY

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	once every 30 days

5. (1) The minimum standard for snow removal is to deploy resources to clear the snow accumulation as soon as practicable after becoming aware that the snow accumulation on a highway is greater than the depth set out in the Table to this section.

(2) If, after the storm has ended, the snow accumulation is greater than the depth set out in the Table, the minimum standard is to clear the snow accumulation to a depth less than or equal to the depth set out in the Table and to within 0.6 metres from the edge of the roadway, within the time, after becoming aware of the fact, set out in the Table.

(3) Despite subsection (2), if, after the storm has ended, the snow accumulation on a Class 4 highway with two lanes or a Class 5 highway with two lanes is greater than the depth set out in the Table, the minimum standard is to clear the snow accumulation to a depth less than or equal to the depth set out in the Table and to a width of at least 5 metres, within the time, after becoming aware of the fact, set out in the Table.

(4) This section,

(a) does not apply to that portion of the roadway designated for parking; and

(b) only applies to a municipality during the season when the municipality performs winter highway maintenance.

(5) In this section,

"snow accumulation" means the natural accumulation of new fallen snow or wind-blown snow that covers more than half a lane width of a roadway.

TABLE
RESPONSE TIME FOR SNOW ACCUMULATION

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

6. (1) The minimum standard for treating icy roadways is,

(a) to deploy resources to treat an icy roadway as soon as practicable after becoming aware that the roadway is icy; and

(b) to treat the icy roadway within the time, after becoming aware of the fact, set out in the Table to this section.

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

TABLE
RESPONSE TIME FOR ICY ROADWAYS

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

7. (1) The minimum standard respecting potholes is to repair a pothole that exceeds both the surface area and depth set out in Table 1, 2 or 3 to this section, as the case may be, within the time, after becoming aware of the fact, set out in Table 1, 2 or 3, as appropriate.

(2) 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 1, 2 or 3, as appropriate.

TABLE 1
RESPONSE TIME FOR POTHOLES ON PAVED SURFACE OF ROADWAY

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

TABLE 2
RESPONSE TIME FOR POTHOLES ON NON-PAVED SURFACE OF ROADWAY

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	1500 cm^2	12 cm	30 days

TABLE 3
RESPONSE TIME FOR POTHOLES ON 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	1500 cm^2	12 cm	60 days

8. (1) If a shoulder drop-off is deeper, for a continuous distance of 20 metres or more, than the depth set out in the Table to this section, the minimum standard is to repair the shoulder drop-off within the time, after becoming aware of the fact, set out in the Table.

(2) 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.

(3) 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
RESPONSE TIME FOR SHOULDER DROP-OFF

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	8 cm	30 days

9. (1) If there is a distortion on a roadway that, measured over a distance of one metre or less, is greater than that set out in Table 1 or 2 to this section, as the case may be, the minimum standard is to repair the distortion or post a temporary sign warning of the distortion, within the time, after becoming aware of the fact, set out in Table 1 or 2, as appropriate.

(2) A distortion shall be deemed to be repaired if its deviation is less than or equal to that set out in Table 1 or 2, as appropriate.

(3) In this section,

"distortion" means a vertical deviation in the roadway surface, such as a bump or depression, but does not include traffic calming measures or wheel track rutting.

TABLE 1
RESPONSE TIME FOR DISTORTIONS ON PAVED SURFACE OF ROADWAY

Class of Highway	Deviation	Response Time
1	6 cm	4 days
2	6 cm	4 days
3	8 cm	7 days
4	10 cm	14 days
5	10 cm	14 days

TABLE 2
RESPONSE TIME FOR DISTORTIONS ON NON-PAVED SURFACE OF ROADWAY

Class of Highway	Deviation	Response Time
3	12 cm	7 days
4	15 cm	14 days
5	15 cm	14 days

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

(2) A crack shall be deemed to be repaired if its width or depth is less than or equal to that set out in the Table.

TABLE
RESPONSE TIME FOR CRACKS

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	5 cm	5 cm	180 days

11. (1) The minimum standard respecting debris on a roadway is to deploy resources, as soon as practicable after becoming aware of the fact, to remove the debris.

(2) In this section,

"debris" means any material or object on a roadway,

(a) that is not an integral part of the roadway or has not been intentionally placed on the roadway by a municipality, and

(b) that is reasonably likely to cause damage to a motor vehicle or to injure a person in a motor vehicle.

12. (1) If three or more consecutive luminaires on a highway are not functioning, the minimum standard is to repair the luminaires within the time, after becoming aware of the fact, set out in the Table to this section.

(2) If 30 per cent or more of the luminaires on any kilometre of highway are not functioning, the minimum standard is to repair the luminaires within the time, after becoming aware of the fact, set out in the Table to this section.

(3) Luminaires shall be deemed to be repaired,

(a) for the purpose of subsection (1), if the number of non-functioning consecutive luminaires does not exceed two;

(b) for the purpose of subsection (2), if more than 70 per cent of luminaires on any kilometre of highway are functioning.

(4) This section only applies to,

(a) Class 1 and Class 2 highways; and

(b) Class 3, Class 4 and Class 5 highways with a posted speed of 80 kilometres per hour or more.

(5) In this section,

"luminaire" 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.

TABLE
RESPONSE TIME FOR NON-FUNCTIONING LUMINAIRES

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

13. (1) If any sign of a type listed in subsection (2) 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.

(2) This section only 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.

14. (1) If a regulatory or warning sign other than a sign listed in subsection 13 (2) is illegible, improperly oriented or missing, the minimum standard is to repair or replace the sign within the time, after becoming aware of the fact, set out in the Table to this section.

(2) In this section,

"regulatory sign" has the same meaning as in the *Manual of Uniform Traffic Control Devices* published in 1985 by the Ministry of Transportation;

"warning sign" has the same meaning as in the *Manual of Uniform Traffic Control Devices* published in 1985 by the Ministry of Transportation.

TABLE
RESPONSE TIME FOR REGULATORY AND WARNING SIGNS

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

15. (1) If a traffic control signal system is defective in any way described in subsection (2), 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.

(2) This section applies if a traffic control signal system is defective in any of the following ways:

1. One or more displays show conflicting signal indications.

2. The angle of a traffic control signal or pedestrian control indication has been changed in such a way that the traffic or pedestrian facing it does not have clear visibility of the information conveyed or that it conveys confusing information to traffic or pedestrians facing other directions.

3. A programmed phase fails to occur.

4. There are phase or cycle timing errors.

5. There is a power failure in the traffic control signal system.

6. The traffic control signal system cabinet has been displaced from its proper position.

7. There is a failure of any of the traffic control signal support structures.

8. A signal lamp or a pedestrian control indication is not functioning.

9. Signals are flashing when flashing mode is not a part of the normal signal operation.

(3) Despite subsection (1) and paragraph 8 of subsection (2), if the posted speed of all approaches to the intersection or location of the non-functioning signal lamp or pedestrian control indication is less than 80 kilometres per hour and the signal that is not functioning is a green or a pedestrian "walk" signal, the minimum standard is to repair or replace the defective component by the end of the next business day.

(4) For the purpose of paragraph 5 of subsection (2), there shall be deemed to be a power failure to the traffic control signal system if the incoming line of 115 VAC voltage falls below 93 VAC and, within 67 milliseconds of such a fall, it remains below 93 VAC for 50 milliseconds or longer, but subsection (1) does not apply to a power failure that is attributed to a loss of power from the power supply authority.

(5) In this section and section 16,

"cycle" means a complete sequence of traffic control indications at a location;

"display" means the illuminated and non-illuminated signals facing the traffic;

"indication" means a signal lens display that is activated by internal illumination;

"phase" means a part of a cycle from the time where one or more traffic directions receive a green indication to the time where one or more different traffic directions receive a green indication;

"traffic control signal" means that part of a traffic control signal system that consists of one set of red, amber and green lenses mounted on a frame and commonly referred to as a traffic light;

"traffic control signal system" means all of the signal equipment making up the installation at any location.

16. (1) The minimum standard is to inspect, every six months, the following traffic control signal system sub-systems:

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 timer, detection devices, conflict monitor and associated hardware.

3. The external detection sub-system, consisting of detection sensors for all vehicles, including emergency and railway vehicles and pedestrian push-buttons.

(2) The minimum standard is to test and routinely maintain the traffic control signal system sub-systems described in subsection (1) in accordance with the manufacturer's recommendations.

(3) The minimum standard is to test conflict monitors every six months.

(4) The minimum standard is to replace a signal lamp when it has reached 80 per cent of the useful life expectancy as described in the manufacturer's specifications.

(5) In this section,

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

17. (1) The minimum standard is to repair a bridge deck spall that exceeds both the surface area and depth, measured from the paved surface of the roadway or shoulder, set out in the Table to this section, within the time, after becoming aware of the fact, set out in the Table.

(2) A bridge deck spall shall be deemed to be repaired if its surface area or depth is less than or equal to that set out in the Table.

(3) 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.

TABLE
RESPONSE TIME FOR BRIDGE DECK SPALLS

Class of Highway	Surface Area	Depth	Response Time
1	1,000 cm	8 cm	4 days
2	1,000 cm	8 cm	4 days
3	1,000 cm	8 cm	7 days
4	1,000 cm	8 cm	7 days
5	1,000 cm	8 cm	7 days

18. (1) The minimum standard is to repair a surface discontinuity that exceeds the height set out in the Table to this section, within the time, after becoming aware of the fact, set out in the Table.

(2) A surface discontinuity shall be deemed to be repaired if its height is less than or equal to that set out in the Table.

(3) In this section,

"surface discontinuity" means a vertical discontinuity in the deck joints or expansion joints of a bridge or in the approach slabs to a bridge.

TABLE
RESPONSE TIME FOR SURFACE DISCONTINUITIES

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	5 cm	21 days