

Community Viability Committee

Councillor Mike Petryna, Chair
Councillor Louise Portelance, Vice-Chair

Report Authored By

Bryan Gutjahr
Manager, By-Law Enforcement Services

Division Review

W. E. Lautenbach
Director of Planning Services

HISTORY

At the October 25th, 2001 Council Meeting, Council was presented with a draft Animal Control By-Law. It was staff's recommendation that Council enact the draft by-law which had been prepared after reviewing existing by-laws and the Animal Control By-laws of other municipalities. **This by-law would amalgamate the six existing by-laws currently in place.**

Council decided that further review was needed and public input would be of assistance.

A public input meeting was held on Wednesday, December 5th, 2001, and the public addressed Council regarding Animal Control and the draft by-law. Approximately 150 people came to the public input meeting, and over 40 people addressed Council. As a result of this public meeting Council established an Animal Control Advisory Panel consisting of members of the public who could offer their assistance in reviewing the draft by-law and advise on improvements.

The panel included members of organizations such as P.A.L.S. (Prevent a Litter Sudbury), Ontario S.P.C.A., The Sudbury Veterinarian Association, a breeder, a kennel owner.

The list of applicants and their resumes were submitted to Council to chose the six citizens to be appointed. Council appointed 15 citizens to the panel as well as requesting Councillor Dupuis to be the Council representative.

The Animal Control Advisory Panel was comprised of the following:

<p>Councillor R. Dupuis, Chair</p> <p>Staff: R. Swiddle, City Solicitor C. Dawe, Assistant City Solicitor H. Salter, Deputy City Solicitor B. Gutjahr, Manager of By-Law Enforcement Services D. Trottier, Secretary</p>	<p>Members:</p> <p>Elizabeth Dornbush Natalie Doyon Norma Fitzgerald Heather Grigor Les Henderson Rod M. Jouppi Mark Masterson Alison F. McAllister Albert Nesseth Richard Paquette, Sr. Jill Pessot Patricia Ross Darren J. Stinson Joyce Stromberg Jeff Vaillancourt</p>
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Over the course of the winter and spring of 2002, five meetings were held with the panel and staff to review the draft by-law and to make recommendations on the key points brought out during the public meeting in December.

The following issues were raised during the public meeting. These issues were discussed by the Animal Control Advisory Panel. Staff recommendations and comments on these discussions were as follows.

ISSUE: NOISE CONTROL

Panel Comments

- This issue is addressed well in the draft by-law and should remain.

Staff Comment/Recommendation

- The draft Animal Control By-law #2001-250, Part XII, Section 21 states:

“The owner of a dog or a cat shall not permit or allow the dog or cat to make or continue to make any sound which has the effect of disturbing the peace, quiet, comfort or repose of any individual.”

This section was briefly discussed by the panel and it was decided that the wording should remain.

ISSUE: LICENSING/REGISTRATION IMPLEMENTATION

Panel Comments

- Review licensing/registration system and work toward internet applications.
- Licensing/registration year to run from January 1st to December 31st.
- The term licensing to be changed to registration.

Staff Comment/Recommendation

For uniformity, have licensing/registration run from January 1st to December 31st. The by-law should address the registration of both dogs and cats and remove any reference to the term licensing of dogs and cats.

In the future, staff will review possibility of having applications for registration of dogs and cats internet accessible.

ISSUE: REGISTRATION OF CATS

Panel Comments

The registration of cats would be a means of identification and the return to owners which means less euthanization. Owners of cats would be more responsible for their pet.

Staff Comment/Recommendation

The registration of cats would be a benefit to the community. It allows for better control by way of record keeping and it would mean that registered stray cats would be returned to the owner rather than being impounded and possibly euthanized. The registration fee would partially offset added cost of enforcement and control.

It is recommended that the registration of cats be included in the by-law.

ISSUE: REGISTRATION FEES

Panel Comments

- Registration fees to be used for spay/neuter program.
- Reduce fee by 50% if purchased after October 1st.
- Higher registration fee if dog or cat is not spayed/neutered.
- Exemption for dog and cat foster homes.
- Review implementation of micro-chipping for cats.
- Lower cost for cat registration.

ISSUE: REGISTRATION FEES...continued

It was felt by the panel that in order to control animal populations the City should promote the spaying/neutering of dogs and cats. Registration fees should be reduced by 50% upon proof that the dog or cat is spayed/neutered. Reduced rates should also be implemented for seniors and the disabled.

Staff Comment/Recommendation

If one acquires a dog or cat after October 1st and applies for registration, then the registration fee should be reduced by 50%. This provision is currently contained in other by-laws and could be implemented in this by-law.

It was felt that some cat owners would not want their pets wearing identification tags therefore an alternative would be to offer micro-chipping as well as a tag. With this alternative staff would be required to be in possession of a scanner and scan all strays found. The downside of micro-chipping is it does not allow the Animal Control Officer the ability to see at a distance if the dog or cat is currently registered and a physical scanning would have to be performed. With the current tag system the officer can observe if an animal is registered simply by driving by. If no tag is observed the owner is advised to purchase a tag. It is recommended that dogs wear a registration tag and cats owners must purchase a tag but have the option of also micro-chipping their pet.

The panel recommended registration fees to be used for spay/neuter program, if implemented this would reduce the amount of revenue used to offset the cost of animal control which translates into increase costs to the city. Staff does not recommend this revenue be used for a spay/neuter program. The City does promote spaying/neutering by way of media and pamphlet distribution. Staff also recommends that a surcharge be added to the cost of registration if purchased after January 31st of the registration year.

It is recommended that a yearly registration fee of \$30.00 be implemented with a 50% reduction for spay/neuter animals. A surcharge of \$10.00 be added if renewal purchased after January 31st of the licencing year. This will act as an incentive to obtain pet registrations.

ISSUE: KENNELS

- Introduce provision in by-law that speaks to individuals who breed dogs and cats in their homes.
- Ministry of Agriculture is responsible for inspection of kennels.
- Deal with people that sell animals through the newspaper.

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ISSUE: KENNELS...continued

Staff Comment/Recommendation

The Ministry of Agriculture governs kennel operations. If the City began to address kennel operations and conditions, this would be a duplication of provincial responsibility.

The licensing of kennels should be removed from the Animal Control By-law and addressed in the licensing of businesses by-law. There should be a provision in this by-law that kennel operators produce provincial approval before a municipal licence is issued.

Kennel locations are governed by current Zoning By-laws.

ISSUE: NUMBER OF ANIMALS KEPT

Panel Comments

- Distinction between rural and urban areas.
- Distinction between single residential and multiple family buildings.
- Combination of animals kept - maximum allowed.
- Care of animals rather than numbers allowed.
- If financially sound and animal well cared for there should be no limits.
- Limit of 2 dogs and 2 cats too restrictive.
- Should have restrictions on numbers.
- Address numbers to protect those citizens who do not own animals.

This topic was thoroughly discussed by the panel and several ideas were brought forward. The panel was split on this topic but the majority favoured introducing a standard of care rather than a limit. Some panel members did see the need for limits.

When discussing this topic, the panel seemed to be concerned more for the animals rights rather than the non-pet owners personal and property rights. They believed that if a standard of care was in the by-law and complied to then an individual should be allowed any number of dogs and cats.

Staff Comment/Recommendation

Currently, in the most areas of the City of Greater Sudbury, the limits are 2 dogs and 2 cats. Walden allows for 3 dogs and 2 cats and Valley East allows for 6 dogs in rural areas. Licensing statistics show that there are very few individuals in Walden or Valley East that have licenced three dogs or six dogs respectively. The majority of owners licence 1 - 2 dogs throughout the city.

ISSUE: NUMBER OF ANIMALS KEPT...continued

Staff Comment/Recommendation

Unrestricted numbers will allow individuals to own unlimited dogs and cats. With existing limits the former City of Sudbury is receiving numerous barking dog complaints and if there were no limits the amount of enforcement time needed would increase substantially. As an example, in the former City of Sudbury, in 2001 there were 184 complaints regarding barking dogs and until the end of July this year there have been 156 complaints/

The Animal Control By-law is a by-law to control animals and provide protection for persons and properties. The restrictions on numbers of pets varies greatly throughout the Province, refer to Schedule B (attached) for comparison.

Introducing a standard of care is possible, however the care and protection of animals is a responsibility of the Ontario Society for the Protection and Care of Animals. If City staff observe an instance of animal abuse, the S.P.C.A. is notified immediately. The S.P.C.A. legislation is written to give it substantial powers to correct improper situations.

If a standard of care for every future owner is introduced into the By-law, considerable enforcement tools would be needed.

Staff recommends there be restrictions on the numbers of dogs and cats kept by an individual. The restrictions should stay the same with a combination of dogs and cats allowed to a maximum of 2 dogs, i.e. 2 dogs and 2 cats, 1 dog and 3 cats, 4 cats. An increased number may be feasible in rural areas if used for farming practices, but this is not recommended because of enforcement difficulties.

ISSUE: GRANDFATHERING OF NUMBERS OF PETS

Panel Comments

- If an animal is registered now then pet ownership should be grandfathered.
- People shouldn't have to get rid of their pets.
- Some people are in violation of current limits - especially cats.
- Excess numbers should be registered.

Staff Comment/Recommendation

In order to be grandfathered, a pet would have to have been legal prior to passing of the by-law. It is recognized that some people illegally have more pets than are permitted under current restrictions. If limits are continued, then a registration program will have to be implemented to give pet owners an opportunity to register their additional pets with the city. Over time these pet owners must comply with number restrictions in place. The majority of pet owners do comply with current restrictions so this registration will only affect limited owners.

ISSUE: GRANDFATHERING OF NUMBERS OF PETS...continued

Staff Comment/Recommendation

Staff recommends a grandfathering clause be included in the by-law for legal pets (amount permitted as per existing by-laws) only and pet owners be given an opportunity to register their pets with the city until the end of this year.

ISSUE: IMPOUND PERIOD

Panel Comments

- The Animal Research Act calls for a minimum 72 hour impound period. This allows owners sufficient time to claim their pets.
- The City can apply to the Ministry for an extension of this time limit.
- Most owners intend to redeem their pets and do so within 72 hours.
- Favour 5 day impound period.
- Pounds should not be permitted to adopt animals unless spayed/neutered.
- Cost of keeping animals should be covered by adoption fees.
- Veterinarians should be consulted prior to euthanization.

Staff Comment/Recommendation

The current impound period used by the City is 72 hours. After this time the City signs over the animal to the pound keeper. The pound keeper then decides to adopt the animal or euthanize it. It is up to the pound keepers to decide the fate of the animal. Not all animals are fit to be adopted such as vicious dogs or cats, or old or sick animals.

Most animals are claimed by their owners within the 72 hour impound period. Increasing the impound period is possible however there is an added cost of \$10.00 a day per animal (boarding fee).

This would be an increased cost to the City of approximately \$10,000.00 per year/per added day of impound.

Staff recommends that the impound period for animals remain at 72 hours.

ISSUE: EUTHANIZATION

Panel Comments

- Veterinarian should examine animals prior to euthanization
- Agencies permitted to adopt animals prior to euthanization.

ISSUE: EUTHANIZATION ...continued

Staff Comment/Recommendation

Currently, pounds are responsible for euthanization and disposal of animals. Pound keepers make the decision whether to adopt or euthanize. Having a veterinarian examine each animal prior to adoption or euthanization will be a major additional city expense.

Staff recommend that the signing over of animals continue. The pound keeper then has the opportunity to adopt this animal out. If the pound keeper does not choose to adopt then other agencies such as PALS may have the opportunity to adopt these animals at a cost set by the pound keeper.

Looking at a program that would allow special interest groups the first opportunity to adopt unwanted animals could be addressed in pound contract. It is recommended that this occur.

ISSUE: SPAY/NEUTER

Panel Comments

- Larger difference in registration fees.
- If impounded animal is not spayed/neutered then a larger impound fee.
- Spay/neuter should be compulsory.
- Use registration fees to assist with spay/neuter program (PALS).
- Animals must be spayed/neutered prior to adoption.

Staff Comment/Recommendation

- Implement a fee structure to reflect a difference between altered and unaltered dogs and cats.
- The fee should be such that it is an incentive to have dog or cat altered. Other municipalities such as Hamilton, Timmins and Ottawa have the fee structure in place. (*REFER TO "SCHEDULE A".....attached*)

Council should be aware that current licence fees do not cover the cost of administration and enforcement of animal control. Current costs are in the area of \$400,000.00 while licensing fees generate approximately \$130,000.00.

Increasing licensing fees for unaltered dogs and cats may have a negative effect on revenue generation. If fees are too high fewer licences will be sold.

Council could consider subsidizing special interest groups such as P.A.L.S. (Prevent a Litter Sudbury) to assist in their spay/neuter programs. The more animals spayed/neutered means more control over animal populations.

ISSUE: SPAY/NEUTER...continued

Staff Comment/Recommendation

After the required 72 hour impound period, the City signs over possession of dogs and cats to the pound keeper. The pound keeper then decides whether to adopt this animal or euthanize. The panel discussed that perhaps it be mandatory that all dogs and cats be sterilized prior to adoption. This would mean the cost of sterilization would be added to any adoption cost. This idea will have to be addressed when pound services are tendered out.

It is recommended that a fee structure be created to reflect a 50% reduction for the registration of dogs and cats that are altered. Registration fees should not be increased substantially for unaltered dogs or cats as this may be a deterrent to purchase a registration tag. The City currently promotes the benefits of spaying/neutering of pets by way of brochures and pamphlets and it is recommended that this continue with a possibility of enhancement if funds become available.

ISSUE: EDUCATION

Panel Comments

- City should pay to advertise information on noise control, Stoop and Scoop and care of animals.
- Rabies is under the jurisdiction of the Health Unit.
- Include Animal Control on City web site
- Educate children in schools on animal care and humane treatment.
- OSPCA has this program but no staff to provide service.

Staff Comment/Recommendation

Currently the City distributes flyers with information on animal care. These flyers are distributed by mail, newspapers and city Animal Control Officers. There is insufficient staff and funding to introduce educational programs in schools.

It is recommended that the City continue to distribute flyers and use the media to promote animal care, animal registration and spaying/neutering.

Introducing Animal Control information on the By-Law Enforcement Website is possible and will be reviewed with the Information Technology Section.

ISSUE: HUMANE CARE OF ANIMALS

Panel Comments

- Should the city set standard of care for animals?
- Animal shelters are already mandated by the Pounds Act.
- City should inspect shelters to ensure standards.
- Care provisions should be included in by-law.

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ISSUE: HUMANE CARE OF ANIMALS...continued

Staff Comment/Recommendation

Kennel inspections are done by the Ministry. There are provisions in the Pounds Act to ensure kennels are kept at certain standards.

The panel suggested some provisions of care could be introduced into the by-law such as providing shelter, and food and water.

The Ontario Society for the Prevention of Cruelty to Animals is currently mandated to provide protection for animals in need of care. They will investigate instance of abuse or lack of care. Inspectors with the O.S.P.C.A. are empowered to take strict action against anyone found abusing animals.

Care provisions could be introduced into the by-law, however this will be a major enhancement of current enforcement and would be major additional costs.

It is recommended that kennel inspections remain the responsibility of the Province. If however Council decides the City should become involved, then provisions might be included in the Licensing By-law that set a certain standard for kennels.

ISSUE: PROHIBIT VARIOUS BREEDS

Panel Comments

- Very difficult to do.
- Should deal with dangerous dogs.
- Exotic species to include, ie., tigers

Staff Comment/Recommendation

At the current time there has not been a problem experienced with certain breeds of dog. Other municipalities have introduced prohibitive legislation restricting certain breeds.

Council may wish to review this subject in the future. No prohibitions on dog or cat breeds are recommended. However it is recommended that a dangerous dog provision be reviewed and introduced into the by-law.

CONCLUSION

If Council provides direction on the passage of a by-law as outlined in this report, staff will commence an advertisement campaign advising members of the public to register any animals that need to be grandfathered in various portions of the City. The by-law would come into effect on January 1st, 2003 under the provisions of the new *Municipal Act*. Over the next few months Council will review options on the delivery of Animal Control Services. These options for service delivery will include:

1) SERVICE TO REMAIN THE SAME

The current animal control service is delivered within the former City of Sudbury within two municipal staff and contracting pound service. The area municipalities are serviced by Wenrick Kennels, Walden Animal Clinic and Berclair Kennels.

2) CONTRACT TOTAL SERVICES

Administration of the service would remain with By-law Enforcement Services however animal control and pound services would be tendered.

3) ANIMAL CONTROL WITH MUNICIPAL STAFF AND TENDER POUND SERVICES

Animal control and enforcement would be done by municipal staff. The pound services however would be tendered.

Staff would prepare tenders for the operation of Pound Services. This work could not be done until Council had decided upon an Animal Control By-Law. These tenders will be awarded by Council.

Staff has prepared this report keeping in mind the issues brought forward by the public and the Animal Control Advisory Panel. With Council direction, staff will prepare an Animal Control By-law that will incorporate some of the panel recommendations all the while attempting to work within the budget set by Council. It is important for Council to understand that no Animal Control By-law, no matter how enlightened or how well intended will be universally accepted.

**“SCHEDULE A”
DOG AND CAT LICENSING FEES**

CITY	DOGS AND CATS REGULAR FEE	SPAYED/NEUTERED	WITH RABIES VACCINATION	WITH A MICRO-CHIP	DOG OR CAT SPAYED/NEUTERED AND IDENTIFIED WITH A MICROCHIP
TORONTO	\$50.00	\$15.00 \$10.00 - seniors		\$25.00 \$15.00 - seniors	\$10.00
NORTH BAY	\$30.00 By-law reviewed in 2001 and will be reviewed in 2003		\$20.00		
SAULT STE. MARIE	\$50.00 No cat by-law	\$10.00			\$5.00
TIMMINS	\$30.00 No cat by-law	\$15.00			
OTTAWA	\$25.00 No cat by-law but a \$5.00 lifetime ID tag can be purchased	\$15.00 under 6 months of age			
HAMILTON	\$60.00 \$30.50 - seniors	\$26.00 - seniors \$26.00 for dogs under 6 months of age			

SUDBURY (Proposed)	\$30.00 \$10.00 surcharged if purchased after Jan 31st	\$15.00 \$15.00 - seniors		To be determ To be determ
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“SCHEDULE B”

LIMITS ON THE NUMBER OF DOGS AND CATS

The limits on the number of dogs and cats per household within communities are as follows:

Cumberland	3 dogs in a rural area; 2 dogs in an urban area
Gloucester	a combination of 3 dogs and/or cats
Kanata	a combination of 3 dogs and/or cats in an urban area
Nepean	a combination of 5 dogs and/or cats
Ottawa	a combination of 3 dogs and/or cats
Vanier	a combination of 3 dogs and/or cats
Timmins	4 dogs/6 cats (single dwelling) 2 dogs/4cats (multiple dwelling)
Hamilton	1 cat/1 dog
North Bay	unlimited
Barrie	2 dogs/6 cats
Parry Sound	3 dogs
Sault Ste Marie	No limit
Thunder Bay	No by-law
Windsor	2 dogs/4 cats

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SUMMARY

ISSUE	STAFF RECOMMENDATION
1. Noise Control	<ul style="list-style-type: none"> • The wording in the draft by-law should remain the same
2. Licencing/Registration Implementation	<ul style="list-style-type: none"> • Licencing/registration to begin January 1st and end December 31st • Both dogs and cats are to be registered and remove any reference to the term "licencing"
3. Registration of Cats	<ul style="list-style-type: none"> • The registration of cats be included in the by-law
4. Registration Fees	<ul style="list-style-type: none"> • A yearly registration fee of \$30.00 for dogs and cats • 50% reduction upon providing proof dog or cat is spay/neutered • Penalty fee of \$10.00 if renewing registration after January 31st • 50% reduction if dog or cat is acquired and registered after October 31st
5. Kennels	<ul style="list-style-type: none"> • Remove licencing of kennels from Animal Control By-law • Address kennel licencing in the licencing of Business By-law • Ensure there is a provision that kennels must be inspected and approved by the Ministry prior to a municipal licence being issued • Kennel locations to be confined by zoning by-laws
6. Numbers of Animals Kept	<ul style="list-style-type: none"> • That there be restrictions on numbers of animals kept • Combination of dogs and cats allowed with a maximum of 2 dogs • i.e. 2 dogs, 2 cats 1 dog, 3 cats 4 cats

SUMMARY... continued

ISSUE	STAFF RECOMMENDATION
7. Grandfathering	<ul style="list-style-type: none"> • A grandfathering clause be included in by-law for legal pets only • Owner given opportunity to register their pets with City
8. Impound Period	<ul style="list-style-type: none"> • The impound period remain at 72 hours
9. Euthanization	<ul style="list-style-type: none"> • Current procedures to continue • Create a procedure that would allow special interest groups the first opportunity to adopt unwanted animals • This could be addressed during tender for Pound Services
10. Spay/Neuter	<ul style="list-style-type: none"> • 50% reduction on registration fees for altered animals • City to continue to promote the benefits of spay/neuter by way of brochures • Enhancement of this program if funds available
11. Education	<ul style="list-style-type: none"> • City staff to continue to distribute flyers and use the media to promote Animal Care, Animal Registration and spay/neutering • Introduce Animal Care and control information on City website
12. Humane Care of Animals	<ul style="list-style-type: none"> • Kennel inspections remain the responsibility of the Province • City animal Control Offices will report to the OSPCA any instances of animal neglect of abuse • Animal welfare should remain responsibility of OSPCA
13. Prohibit Various Breeds	<ul style="list-style-type: none"> • No prohibition in dog and cat breeds are recommended • Council may revisit to review in the future • That a dangerous dog provision be reviewed and introduced in the by-law

Request for Recommendation Priorities Committee




Type of Decision									
Meeting Date	September 11, 2002				Report Date	September 3, 2002			
Recommendation	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	Priority	<input type="checkbox"/>	High	<input checked="" type="checkbox"/>	Low
	Direction Only				Type of Meeting	<input checked="" type="checkbox"/>	Open	<input type="checkbox"/>	Closed

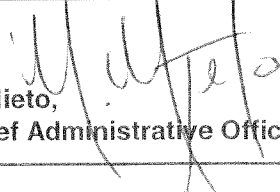
Sub-Committee Check-Off			
Please indicate which sub-committee will deal with this issue			
<input checked="" type="checkbox"/>	Community Viability	<input type="checkbox"/>	Public & Intergovernmental Affairs
<input type="checkbox"/>		<input type="checkbox"/>	Financial & Program Accountability

Report Title
Proposed Coat of Arms and Motto for the City of Greater Sudbury

Policy Implications + Budget Impact	
<input checked="" type="checkbox"/>	This report and recommendation(s) have been reviewed by the Finance Division and the funding source has been identified
Policy Implications:	
None at this time. Once Council agrees (in principle) on the elements to be included in a new Coat of Arms a Policy will be required respecting the use of the Coat of Arms, Flag and Badge.	
Once a final design has been formally approved by Council a by-law will be required to adopt the Coat of Arms.	
Budget Impact:	
None. The costs required to complete this process are included in the current budget of the Solicitor and Clerk's Services.	
The Elizabeth Fry Chapter for the IODE has agreed to cover the cost of the flag design, which is part of the grant of a Coat of	
<input checked="" type="checkbox"/>	Background attached

Recommendation	
<p>THAT the Canadian Heraldic Authority be requested to proceed with artwork for the design of a Coat of Arms, Flag and Badge for the City of Greater Sudbury based on the preliminary description set out in the Report of the General Manager of Corporate Services;</p> <p>AND THAT the motto for the City of Greater Sudbury be "COME, LET US BUILD TOGETHER" and that same be translated into Latin;</p> <p>AND FURTHER THAT the City Clerk be directed to prepare a Policy respecting the use of the Corporate Coat of Arms, Flag and Badge.</p>	
<input type="checkbox"/>	Recommendation attached

Recommended by the General Manager
 Mr. Doug Wuksinic, General Manager Corporate Services and Acting General Manager, Emergency

Recommended by the C.A.O.
 Mr. Mark Mieto, Acting Chief Administrative Officer

Request for Recommendation Priorities Committee



Recommendation <i>continued</i>	X	Background
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Please indicate if the information provided below is a continuation of a Recommendation or Background

Council Background:

In April, 2001 Council passed Resolution 2001-165 petitioning the Office of the Chief Herald of Canada for armorial bearings for the City of Greater Sudbury. This petition was approved by the Chief Herald in December, 2001 and as a result of various discussions and correspondence between the City Clerk’s Office and the Office of the Chief Herald a consensus on a preliminary description of the elements to be included in the Coat of Arms has been achieved.

The purpose of this Report to the Priorities Committee is to firstly, seek approval *in principle* for these elements so as to permit an artist to proceed with a design and secondly, to approve a motto to be included as part of the Coat of Arms.

Design Elements:

The Herald’s Office has recommended that the design be kept as basic as possible and be heavily influenced by the natural, as opposed to the developed features of the Greater Sudbury area. This approach has many advantages. First, a cost of arms is not meant to be a depiction of a City or Region, but rather an emblematic representation. Often, the best such symbols are distinctive and at the same time embody something very basic for the area.

Sometimes, when buildings or detailed items related to industry are chosen as symbols, they become dated and come to represent only a part of the City. Flora and fauna, which get to the origins of the place in question, are timeless and inclusive of all parts of a community. The trillium symbol of Ontario, a symbol taken from nature, shown in a stylized way, is a basic way to represent the Province and as such has the greatest resonance from all the populace.

1. Colours

The primary colours will be green and gold. The *Corporate Visual Identity Standards Manual* states: “Green is a colour which traditionally conveys “growth” and “harmony”. It is also appropriate seeing as Sudbury has positioned itself on the world stage as a leader in greening.”

2. Star

The four point star currently used in the City’s logo will be included in the top left corner. Again, the *Corporate Visual Identity Standards Manual* states: “One can interpret the star as also meaning “bright”, “new”, “dynamic”, diverse”, “spirit of community” or “star of the north”. In addition, having a four-point star suggests that Greater Sudbury is the “hub of the north” and an “ever-expanding community”.

Request for Recommendation Priorities Committee



Recommendation <i>continued</i>	X	Background
Please indicate if the information provided below is a continuation of a Recommendation or Background		
<p>3. Shield Elements</p> <p>The elements to be included in the Shield will include a stylized coniferous tree division. This will represent the original old growth white pine forests that once covered this area of Northern Ontario. It also symbolizes, the lumber industry, one of the original industries of the area and also the regreening efforts of the past quarter century, the effect of which will be most evident in the next quarter century. The bottom portion of the crest design would include a rocky area with blueberry plants. These last two elements would represent the other two industries which attracted settlement in the area, namely, mining and agriculture.</p>		
<p>4. Supports</p> <p>The two supports on either side of the shield will be moose, with unique collars. Its is recommended that one moose have a collar of maple leaves representing all the immigrant communities that settled in the Greater Sudbury Area. The second moose would have collar of fleur de lis representing the Francophone populace and the bilingual nature of the new City.</p>		
<p>5. Crest</p> <p>The Herald's Office has recommended a mural crown, which is often used by municipalities, out of which a moose head is emerging. This particular item could change as the design develops.</p>		
<p>Flag:</p> <p>As indicated above, the Elizabeth Fry Chapter for the IODE has agreed to cover the cost of the flag design, which is part of the grant of a Coat of Arms. The flag would have to be a rectangular version of the shield, which is called a banner of arms, rather like the flags of British Columbia, Nova Scotia or New Brunswick.</p>		
<p>Badge:</p> <p>As part of the design of the Coat of Arms, it is also recommended that Council include a civic badge with the formal grant of patent. The badge is essentially an alternative symbol separate from the arms. It can use symbols found in the arms, so the badge might be the four pointed star within a wreath of pine branches.</p>		
<p>A formal copy of the Armorial Bearings as proposed by the Herald's Office is attached for the information of Members of the Priority Committee.</p>		
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Request for Recommendation Priorities Committee



Recommendation <i>continued</i>	X	Background
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Please indicate if the information provided below is a continuation of a Recommendation or Background

Motto:

A motto is defined as an expression of conduct (or, maxim) adopted as a guiding principle.

The suggested motto for the new City is taken from the Book of Nehemiah: *“Come, let us build together”*.

In this particular passage Nehemiah was asked by God to rebuild the city walls of Jerusalem which had crumbled. After appraising the damage, Nehemiah appreciated that the job could not be done by one person alone but would require the collective efforts of Jerusalem’s citizens.

It has been said that Nehemiah was the first practitioner of the politics of inclusion.

The suggested motto is one that would serve to recognize that building and maintaining a community is an never ending task and one that we, as citizens, are obligated to contribute and continue. This motto also is a recognition of all those who have, over the last 100 years, settled and built the community we have inherited through their efforts.

It is also recommended that this motto be translated into Latin.

Approval in Principle

The recommendation proposed for Council’s consideration should be considered as approval in principle only for the design elements in order to permit the graphic artist to proceed with designs for a crest. The final approval for a design will be Council’s and Council’s alone.

All of which is respectfully submitted for the consideration of the Members of the Priorities Committee.

Attachment.

Armorial bearings proposed for the City of Greater Sudbury / la Ville de Grand Sudbury

by Bruce Patterson, Saguenay Herald, 19 August 2002

Technical Description (in blazon, the language of heraldry)

- Arms (shield):** Per fess sapiné Vert and Or, in dexter chief a mullet of four points Or;
- Crest (above the shield):** On a wreath Or and Vert, this Crest: Issuant from a mural crown Vert, a moose head Or;
- Supporters:** On each side a moose Or standing on a rocky compartment set with blueberry flowers proper;
- Motto:** *To be determined.*
- Badge:** *Optional*
- Flag:** A banner of the Arms (*suggested*).

Description and Symbolism

Arms: The shield is divided horizontally in two by a line of stylized coniferous trees, green above and gold below. In the upper right hand corner is a star of four points.

The green and gold colours are those used by the City. The division line indicates the original vegetation of the region and the fact that much of it has been re-forested in recent years. The green colour furthers the image of the forests, whereas the gold can represent the agricultural riches of the region. The star, inspired by the current symbol of the City, represents the north star and the fact that the City is the main urban centre in northeastern Ontario. It can also represent dynamism, technology, and the future.

Crest: Within a wreath of twisted cloth in gold and green is a green crown made of masonry, out of which is a gold moose head.

The “mural crown” is a traditional symbol of municipal authority, and the moose is a prominent local animal. These are shown in the main colours of the arms.

Supporters: On each side of the shield is a gold moose standing on a rocky outcrop set with blueberry plants.

The moose are prominent local animals as well as being one of the supporters of the arms of Ontario, and are here shown in gold, one of the colours of the arms. The rocky compartment indicates the importance of mining in the area, and the blueberries are a distinctive feature of local vegetation.

Motto:

Badge:

Flag: The shield of arms is arranged in a rectangular format.

Request for Recommendation Priorities Committee



Type of Decision									
Meeting Date	September 11, 2002				Report Date	August 30, 2002			
Recommendation		Yes	<input checked="" type="checkbox"/>	No	Priority	<input checked="" type="checkbox"/>	High		Low
	Direction Only				Type of Meeting	<input checked="" type="checkbox"/>	Open		Closed

Sub-Committee Check-Off			
Please indicate which sub-committee will deal with this issue			
<input checked="" type="checkbox"/>	Community Viability	<input type="checkbox"/>	Public & Intergovernmental Affairs
<input type="checkbox"/>		<input type="checkbox"/>	Financial & Program Accountability

Report Title
Minimum Maintenance Standards for Municipal Highways, Regulation 239/02

Policy Implications + Budget Impact	
<input type="checkbox"/>	This report and recommendation(s) have been reviewed by the Finance Division and the funding source has been identified
n/a	
<input checked="" type="checkbox"/>	Background attached

Recommendation	
<input type="checkbox"/>	Recommendation attached

Recommended by the General Manager
 D. Bélisle General Manager of Public Works

Recommended by the C.A.O.
 M. Mieto Acting Chief Administrative Officer

Date: August 30, 2002

Report Authored By



D. Bélisle
General Manager of Public Works

Division Review

In 1996, the Province passed Bill 86, "An Act to provide for better local government by updating and streamlining the Municipal Election Act, the Municipal Act and related Statutes". Bill 86 intended to provide liability protection for municipalities with respect to damages to persons or property as a result of the condition of roads and bridges. A municipality would not be liable if it adopted a set of minimum standards prescribed by the Province, and maintained its roads to these standards. The minimum standards were to be established by the Minister of Transportation, in the form of a Regulation under the Municipal Act.

From 1996 to 1999, the Province engaged all possible stakeholders to develop these new minimum standards. All municipalities participated, as did Association of Municipalities of Ontario, Ontario Good Roads Association, Association of Ontario Road Superintendents, Municipal Engineers Association, and Regional Solicitors Association. In general terms, the standards were thought to be too stringent, and most medium and small municipalities could not conceivably afford to meet the proposed standards.

Nothing more occurred since 1999, until recently when the Province passed Regulation 239/02 under the Municipal Act, setting "Minimum Maintenance Standards for Municipal Highways". A copy of the Regulation is enclosed.

The standards in the Regulation are greatly relaxed from what was proposed in 1999, with one exception, that of Routine Patrolling Frequency. This alone will cost the City of Greater Sudbury considerably more than is currently spent on monitoring road conditions.

There are a number of questions, legal and otherwise, that arise as a result of the new regulation.

- If a municipality adopts these standards, should the municipality abandon all other standards that may be in place? For example, the Provincial standards are silent on pavement safety markings, guide posts and guide rails. Does this mean that we are not liable for any damages resulting from failure to adequately maintain these safety structures.
- If a municipality has higher standards than the Provincial standards, and retains these higher standards, is it liable in law if it exceeded the Provincial standards, but fell short of its own higher standards?
- It would appear that a municipality can shift a roadway from one classification to another simply by changing the speed limit. Similarly, a roadway may be classified into two or more classifications, depending on varying traffic counts as one travels up or down the same road.

Date: August 30, 2002

The new Regulation takes effect November 1, 2002. The City of Greater Sudbury may elect or not elect to adopt the new Provincial minimum standards. They are not mandatory, but failure to adopt and meet the standards weakens the City's position during future litigations. We need more time to interpret the new standards so that we can advise Council on the cost implications of adopting the standards, and whether or not Council should adopt these standards and only these standards for the maintenance of roads.

Attachment

**Publications under the Regulations Act
Publications en vertu de la Loi sur les règlements**

2002—08—24

ONTARIO REGULATION 238/02

made under the

**ARTHUR WISHART ACT
(FRANCHISE DISCLOSURE), 2000**

Made: August 2, 2002

Filed: August 6, 2002

Amending O. Reg. 9/01

(Exemption of Franchisors under

Subsection 13 (1) of the Act)

Note: Since the end of 2001, Ontario Regulation 9/01 has been amended by Ontario Regulation 114/02. Previous amendments are listed in the Table of Regulations published in *The Ontario Gazette* dated January 19, 2002.

1. Section 1 of Ontario Regulation 9/01 is amended by adding the following items:

Apple Auto Glass Limited

The Great Atlantic & Pacific Company of Canada, Limited

TIMOTHY PATRICK HUDAK

Minister of Consumer and Business Services

Dated on August 2, 2002.

34-02

ONTARIO REGULATION 239/02

made under the

MUNICIPAL ACT

Made: July 23, 2002

Filed: August 8, 2002

**MINIMUM MAINTENANCE STANDARDS
FOR MUNICIPAL HIGHWAYS**

INTERPRETATION AND APPLICATION

Definitions

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
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

Application

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.

MINIMUM STANDARDS

Routine patrolling

3. (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 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

Snow accumulation

4. (1) The minimum standard for clearing snow accumulation is,

- (a) while the snow continues to accumulate, to deploy resources to clear the snow as soon as practicable after becoming aware of the fact that the snow accumulation on a roadway is greater than the depth set out in the Table to this section; and
- (b) after the snow accumulation has ended and after becoming aware that the snow accumulation is greater than the depth set out in the Table to this section, to clear the snow accumulation in accordance with subsections (2) and (3) or subsections (2) and (4), as the case may be, within the time set out in the Table.

(2) The snow accumulation must be cleared to a depth less than or equal to the depth set out in the Table.

(3) The snow accumulation must be cleared from the roadway to within a distance of 0.6 metres inside the outer edges of the roadway.

(4) Despite subsection (3), for a Class 4 highway with two lanes or a Class 5 highway with two lanes, the snow accumulation on the roadway must be cleared to a width of at least 5 metres.

(5) 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.

(6) 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
SNOW ACCUMULATION

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

Icy roadways

5. (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 set out in the Table to this section after becoming aware that the roadway is icy.

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

TABLE
ICY ROADWAYS

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

Potholes

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

(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
POTHOLES ON PAVED SURFACE OF ROADWAY

Class of Highway	Surface Area	Depth	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	1000 cm ²	8 cm	30 days

TABLE 2
POTHOLES ON NON-PAVED SURFACE OF ROADWAY

Class of Highway	Surface Area	Depth	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
POTHOLES ON PAVED OR NON-PAVED SURFACE OF SHOULDER

Class of Highway	Surface Area	Depth	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

Shoulder drop-offs

7. (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 set out in the Table after becoming aware of the fact.

(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
SHOULDER DROP-OFFS

Class of Highway	Depth	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

Cracks

8. (1) If a crack on the paved surface of a roadway is greater, for a continuous distance of three metres or more, 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 set out in the Table after becoming aware of the fact.

(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
CRACKS

Class of Highway	Width	Depth	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

Debris

9. (1) 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.

(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.

Luminaires

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

(2) For conventional illumination and high mast illumination, 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 set out in the Table to this section after becoming aware of the fact.

(3) Despite subsection (2), for high mast illumination, if all of the luminaires on consecutive poles are not functioning, the minimum standard is to deploy resources as soon as practicable after becoming aware of the fact to repair the luminaires.

(4) Despite subsections (1), (2) and (3), for conventional illumination and high mast illumination, if more than 50 per cent of the luminaires on any kilometre of a Class 1 highway with a speed limit of 90 kilometres per hour or more are not functioning, the minimum standard is to deploy resources as soon as practicable after becoming aware of the fact to repair the luminaires.

(5) 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;

(c) for the purpose of subsection (3), if one or more of the luminaires on consecutive poles are functioning;

(d) for the purpose of subsection (4), if more than 50 per cent of luminaires on any kilometre of highway are functioning.

(6) Subsections (1), (2) and (3) only apply 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.

(7) In this section,

“conventional illumination” means lighting, other than high mast illumination, where there are one or more luminaires per pole;

“high mast illumination” means lighting where there are three or more luminaires per pole and the height of the pole exceeds 20 metres;

“luminaire” means a complete lighting unit consisting of,

(a) a lamp, and

(b) parts designed to distribute the light, to position or protect the lamp and to connect the lamp to the power supply.

TABLE
LUMINAIRES

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

Signs

11. (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 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

12. (1) If a regulatory or warning sign other than a sign listed in subsection 11 (2) is illegible, improperly oriented or missing, the minimum standard is to repair or replace the sign within the time set out in the Table to this section after becoming aware of the fact.

(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
REGULATORY AND WARNING SIGNS

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

Traffic control signal systems

13. (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 phase required to allow a pedestrian or vehicle to safely travel through an intersection fails to occur.

4. There are phase or cycle timing errors interfering with the ability of a pedestrian or vehicle to safely travel through an intersection.
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) In this section and section 14,

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

“display” means the illuminated and non-illuminated signals facing the traffic;

“indication” has the same meaning as in the *Highway Traffic Act*;

“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;

“power failure” means a reduction in power or a loss in power preventing the traffic control signal system from operating as intended;

“traffic control signal” has the same meaning as in the *Highway Traffic Act*;

“traffic control signal system” has the same meaning as in the *Highway Traffic Act*.

Traffic control signal system sub-systems

14. (1) The minimum standard is to inspect, test and maintain the following traffic control signal system sub-systems every 12 months:

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 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.

(2) The minimum standard is to inspect, test and maintain conflict monitors every five to seven months and at least twice a year.

(3) In this section,

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

Bridge deck spalls

15. (1) 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.

(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
BRIDGE DECK SPALLS

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

Surface discontinuities

16. (1) If a surface discontinuity, 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.

(2) If a surface discontinuity on a bridge deck exceeds 5 cm, 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.

(3) 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.

TABLE
SURFACE DISCONTINUITIES

Class of Highway	Height	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

REVIEW OF REGULATION

Review

17. (1) The Minister of Transportation shall conduct a review of this Regulation every five years.

(2) The first review shall be started before the end of 2007.

COMMENCEMENT

Commencement

18. This Regulation comes into force on November 1, 2002.

NORMAN W. STERLING
Minister of Transportation

Dated on July 23, 2002.

34/02

ONTARIO REGULATION 240/02

made under the

EDUCATION ACT

Made: August 9, 2002

Filed: August 9, 2002

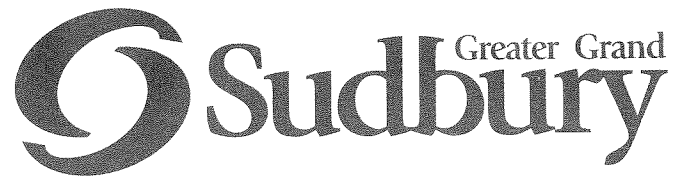
Amending O. Reg. 400/98
(Tax Matters — Tax Rates for School Purposes)

Note: Since the end of 2001, Ontario Regulation 400/98 has been amended by Ontario Regulation 138/02. Previous amendments are listed in the Table of Regulations published in *The Ontario Gazette* dated January 19, 2002.

1. Section 9 of Ontario Regulation 400/98 is amended by adding the following subsection:

(5.1) Despite subsections (3), (4) and (5), the tax rates for school purposes for 2002 for the purposes of section 257.7 of the Act for the Region of Durham and the City of Hamilton are the tax rates for the property classes set out in Table 12 opposite the name of each municipality.

2. The Regulation is amended by adding the following section:



September 16, 2002

PO BOX 5000 STN A
200 BRADY STREET
SUDBURY ON P3A 5P3

Mayor Jim Gordon
and Members of City Council

CP 5000 SUCCA
200 RUE BRADY
SUDBURY ON P3A 5P3

Your Worship, Madam and Gentlemen:

705.671.2489

The Greater Sudbury Public Library Board, at its meeting of June 20, 2002, asked that a presentation be made to Council, by the Chair of the Board, so as to update Council on the activities of the Greater Sudbury Public Library.

www.
city.greatersudbury
.on.ca

I am writing to request that the Greater Sudbury Public Library Board be included on the Agenda of the Priorities Committee Meeting of September 25, 2002. In addition to updating Council on the many successful initiatives launched by the Greater Sudbury Public Library, I will be introducing Council to the "One City, One Book" campaign which will be launched on October 1, 2002.

Thanking you in advance.

Yours truly,

A handwritten signature in black ink, appearing to read 'T. Callaghan', written over a horizontal line.

Ted Callaghan
Chair
Greater Sudbury Public Library Board

cc: Members, GSPL Board

Request for Recommendation Priorities Committee



Type of Decision									
Meeting Date	September 25, 2002				Report Date	September 18, 2002			
Recommendation Requested	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	Priority	<input checked="" type="checkbox"/>	High	<input type="checkbox"/>	Low
	Direction Only				Type of Meeting	<input checked="" type="checkbox"/>	Open	<input type="checkbox"/>	Closed

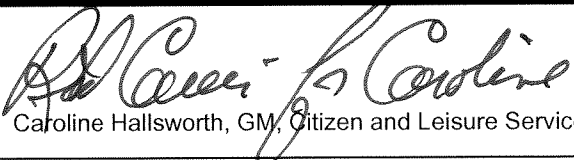
Sub-Committee Check-Off			
Please indicate which sub-committee will deal with this issue			
Community Viability	<input checked="" type="checkbox"/>	Public & Intergovernmental Affairs	Financial & Program Accountability

Report Title
Implementing the "Healthy Communities" Principles in the City of Greater Sudbury

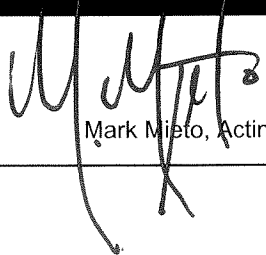
Policy Implications + Budget Impact	
<input type="checkbox"/>	This report and recommendation(s) have been reviewed by the Finance Division and the funding source has been identified
<input type="checkbox"/>	No budget impact at this time.
<input type="checkbox"/>	If the Priorities Committee makes the recommendation suggested here and Council adopts the recommendation, a "Healthy Communities" implementation framework for the City will be developed, which could involve creation of a policy or policies for the City.
<input checked="" type="checkbox"/>	Background attached

Recommendation	
<p>WHEREAS in both 2001 and 2002 Council has adopted the Healthy Communities model as a strategic priority ; and</p> <p>WHEREAS Council has adopted the World Health Organization's Healthy Cities statement; and</p> <p>WHEREAS the report of the Mayor's Taskforce on Volunteerism and Community Involvement, passed by Council on July 10, 2001, recommended the implementation of a Healthy Communities policy framework; and</p> <p>WHEREAS several community organizations have come together to collaborate with the City in the implementation of Council's strategic priority on Healthy Communities;</p> <p>THEREFORE the Priorities Committee of City Council recommends that Council endorse the process to develop a community-based framework to implement Council's strategic direction on Healthy Communities.</p>	
<input type="checkbox"/>	Recommendation attached

Recommended by the General Manager


 Caroline Hallsworth, GM, Citizen and Leisure Services

Recommended by the C.A.O.



 Mark Mieto, Acting CAO

Request for Recommendation Priorities Committee



Recommendation <i>continued</i>	x	Background
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Please indicate if the information provided below is a continuation of the Recommendation or Background

Report Authored By
 Carlos Salazar, Manager Corporate Strategy and Policy Pat Aitken, Policy Advisor, Mayor's Office

Division Review

IMPLEMENTING THE "HEALTHY COMMUNITIES" PRINCIPLES IN THE CITY OF GREATER SUDBURY *A Report to the Priorities Committee of City Council*

EXECUTIVE SUMMARY

The term "healthy communities" describes an integrated vision of the social, health, environmental and economic well-being of communities. A "healthy communities" planning process involves

- ***wide community participation***
- ***broad involvement of all sectors in the community***
- ***local government commitment***
- ***creation of healthy public policy***

Adapted from materials of the Ontario Healthy Communities Coalition

In both 2001 and 2002, City Council included among its strategic priorities "implementing the principles of the Healthy Communities movement." In 2002 the wording of the priority was expanded as follows: "... by supporting the development of Community Action Networks and a Healthy Communities Implementation framework."

On June 14, 2001, opening day of the Healthy Places, Healthy People Conference held in Sudbury, Council passed a resolution supporting the principles of the Healthy Communities movement, and adopting and promoting "within its areas of competency, public policies and strategies which enhance the overall health status of its population."

This report addresses the question of how this resolution and Council's stated priorities can be implemented. It discusses the major issues involved, the background of the Healthy Communities movement in Sudbury, and a plan of action for implementing this priority of Council and Council's resolution.

A group of community stakeholders and City staff is working with Councillor Dave Courtemanche on an implementation framework. The group proposes to hold a workshop with interested community groups this fall and report back to Council in January with an implementation

framework. Council should be aware that its commitment to a healthy community will lead to a future request for an investment of resources.

1. WHY DID COUNCIL MAKE HEALTHY COMMUNITIES A PRIORITY?

Council committed to implement the Healthy Communities principles in both its 2001 and 2002 priorities. Further, Council's resolution of June 14, 2001 committed Council to "support those principles and adopt policies and strategies that will enhance the overall health status of the community." The report of the Mayor's Taskforce on Volunteerism and Community Involvement was endorsed by Council on July 10, 2001. Recommendations 5 and 6 of the report focused on community participation, an important aspect of a healthy community.

Why does Council consider the concept of *healthy communities* important?

As reported in both the popular and scientific literature, the health status of Sudburians and northerners in general is poor. The annual *Macleans* rankings of both health status and health care delivery place Sudbury and District at or near the bottom of the list of similarly-sized health regions. The 2000 Report on the Health Status of the Residents of Ontario (February 2000, Public Health Research Education and Development Program) provided the first comprehensive scientific picture of health across the province. Northerners fared worse on most measures of health status (e.g. lung cancer, heart disease, injuries) and overall were shown to live two years less than the average Ontarian.

Although health care delivery in our City can be expected to improve, the prognosis for the overall health status of Sudburians is more guarded. Our prospects for health care delivery have brightened with the recent attraction of new physicians to Sudbury, the coming northern medical school, the growth of health research in our area and our new hospital.

But access to quality health care services is only one ingredient for improved *health status*. From a public health and population health perspective, the health of a community is about much more than access to doctors and nurses. Many aspects of a community need to come together to support and improve health. These are all addressed in a healthy community strategy and include access to literacy; education; affordable, high-quality food; employment opportunities; recreational programs and facilities; leisure; socializing and many other factors.

Council's leadership in prioritizing the Healthy Communities principles demonstrates councillors' understanding of the ingredients needed to improve our community's health status. Councillors appreciate that the sustainability of our community depends on improving the environmental, economic and social factors that determine our health status.

2. WHAT ARE THE CRITICAL ISSUES?

- A) How can we best **develop a common understanding** of the term *healthy community*?
- B) How can we best **organize** to become a healthy community?
- C) How can we **change** our local health culture to become a healthy community?

A) Developing a common understanding of *healthy community*

There are many definitions of the term *healthy community*. It is important to note that while the concept includes health and health care, it also encompasses the broad social, economic and environmental dimensions of the community. The working group will attempt to recommend a definition to Council.

World Health Organization definitions

“A healthy community is a town or village which is constantly improving its physical and social environment and which, using the resources of the community, enables its citizens to help each other carry out their daily tasks and fully develop their potential.”

Adopted by Council in its resolution of June 14, 2002

“A long-term urban health and development initiative which aims to improve the health and well-being of people living and working in cities. It is based on a number of key principles: that health should be an integral part of settlements management and development; that health can be improved by modifying the physical, social and economic environment.”

The World Health Council also published the following guidelines:

Parameters of a Healthy City

1. A safe, clean, high-quality physical environment (including housing quality)
2. An ecosystem which is stable now, and sustainable in the future.
3. A strong, mutually-supportive, non-exploitive community
4. A high degree of public participation in, and control over, the decisions affecting one’s life, health and well-being
5. The provision of basic needs (food, water, shelter, income, safety, work) for all
6. Adequate access to a wide variety of experiences and resources, with the possibility of multiple contacts, interaction and communication.
7. A diverse, vital and innovative city economy
8. Encouragement of connection with the past, with the cultural and biological heritage and with other groups and individuals.
9. A city form that is compatible with and enhances the above patterns and behaviours.
10. An optimum level of appropriate public health and sick care services accessible to all.
11. High health status (both high positive health status and low disease status)

These definitions make it clear that “*healthy community*” is a very broad term. One possible approach to implementation would be to focus on limited aspects of the concept, such as Sudbury’s health status, and community participation, which was part of the 2002 strategic priority of Council.

B) How best to organize

This issue involves determining the **roles and relationships between our community and the City** that can best facilitate a healthy community.

Key questions include the following:

- What is the City government’s capacity to facilitate healthy community initiatives and processes?
- How can silos be broken down?
- Who is currently responsible for the movement in Greater Sudbury? Is it the Health Unit, the City, the Sudbury Roundtable on Health, Economy and Environment, the Social Planning Council? Another body?
- Is there a need for a coordinating body? If so, who should it be: an informal coalition of coalitions, or a secretariat housed in a public institution?

C) How best to transform Greater Sudbury into a healthier community

The third and most important issue is how to put our agreed-on definition, focus and organization to work to make the City of Greater Sudbury a healthier community. That will be the focus of the implementation framework that will come to Council in January 2003.

3. WHAT HEALTHY COMMUNITY ACTIVITY HAS BEEN GOING ON IN SUDBURY?

Community groups and the former area municipalities, including the Region of Sudbury, have pursued Healthy Communities activities for many years.

The following is a partial listing:

- 1978 The Vegetation Enhancement Technical Advisory Committee (VETAC) starts its greening program.
- 1985, 1987 The City of Sudbury Leisure Plan is completed.
- 1990 The first of three Healthy People/Healthy Places conferences is held in Sudbury.
- 1990 The Sudbury Roundtable on Health, Economy and Environment is formed – effectively a Healthy Communities steering committee.
- 1991 The Sudbury Heart Health project begins.
- 1992 The Sudbury Better Beginnings Better Futures research study begins.
- 1992 The second Healthy People/Healthy Places conference is held.
- 1992 Sudbury receives an award at the United Nations Earth Summit in Rio de Janeiro.

- 1993 The third Healthy Places/Healthy People conference is held in conjunction with the Ontario Public Health Association Conference
- 1998 The "SIIG" Conference - Working Together: Building Community Wellness is held.
- 1998 Rayside-Balfour sets out its Healthy Community goals.
- 1999 The Child and Youth Poverty study is completed by Laurentian University researchers.
- 1999 The Healthy Babies Healthy Children program is initiated by the Sudbury and District Health Unit and its community partners.
- 2000 The Sudbury Earthcare project begins.
- 2000 The Smoking bylaw is put in place.
- 2000 The first Homelessness study is completed.
- 2001 The Lake Water Quality studies are initiated.
- 2002 An anti-idling campaign is undertaken by Earthcare Sudbury.

Since its inception in January 2001, the **City of Greater Sudbury** has been involved in many activities that promote a healthy community.

- **The Mayor and Council's Taskforces**, including those focused on volunteerism and community involvement, recruitment and retention of health care professionals, children, seniors, youth employment, as well as the citizen advisory panels and committees, all engage members of the public with their community, a key aspect of a healthy community.
- **The City's new Official Plan** Prior to amalgamation, the Region of Sudbury's official plan was in the final stages of development. Amalgamation of the official plans of the former area municipalities should be completed in early 2003. After that, work on a new official plan for the City of Greater Sudbury can begin; it will take approximately three years to complete. That plan, traditionally primarily a land use plan, will be able to incorporate healthy community principles, making it a powerful tool for planning. Other planning initiatives are underway as well, including the long-term financial plan for the City and the Greater Sudbury Community Development Council's economic development plan.
- Several **current CGS** projects also promote a healthy community. These include the David Street water treatment plant upgrade, trail development and the Junction Creek Waterway Park.

Community agencies have also been involved in many healthy community activities, as their mandates make clear:

- **The Sudbury Roundtable on Health, Economy and Environment:** "a group of citizen volunteers who, based on the principle of inter-connectedness, initiate and promote policies and actions affecting the connection of the health, economic and environmental concerns of our community."
- **The Social Planning Council of Sudbury:** "The SPC of Sudbury is committed to working with community partners to enhance the well being of individuals, families and communities."

- **Earthcare Sudbury:** “a unique partnership between the City of Greater Sudbury, 37 community agencies, organizations and businesses, and individual Sudburians . . . coming together to chart our own course for a ‘greener,’ more sustainable community in the future.”

4. NEXT STEPS

Workshop The working group will plan and deliver a workshop to confirm a common understanding of *healthy community* and develop a framework for the implementation of Council’s commitment to the healthy community concept. The Ontario Healthy Communities Coalition, through its Northeast area representative, Monique Beaudoin, has offered to assist with workshop facilitation..

Report back to Council In January 2003 the working group will report back to Council on the results of the workshop.

Short- and long-term projects Council should be aware that a commitment to a healthy community will involve a future request for resources, perhaps as the City’s contribution to a partnership of organizations willing to work together to make Greater Sudbury a healthier community.

Request for Recommendation Priorities Committee



Type of Decision									
Meeting Date	September 25, 2002				Report Date	September 18, 2002			
Recommendation	<input checked="" type="checkbox"/>	Yes		No	Priority	<input checked="" type="checkbox"/>	High		Low
	Direction Only				Type of Meeting	<input checked="" type="checkbox"/>	Open		Closed

Sub-Committee Check-Off					
Please indicate which sub-committee will deal with this issue					
<input checked="" type="checkbox"/>	Community Viability	<input type="checkbox"/>	Public & Intergovernmental Affairs	<input type="checkbox"/>	Financial & Program Accountability

Report Title
City of Greater Sudbury Culvert Entrance Policy

Policy Implications + Budget Impact	
<input checked="" type="checkbox"/>	This report and recommendation(s) have been reviewed by the Finance Division and the funding source has been identified
<input checked="" type="checkbox"/>	Background attached

Recommendation	
That Council establish an Entrance Culvert Policy for the City of Greater Sudbury and adopt the recommendations set out in the attached report prepared by staff.	
<input type="checkbox"/>	Recommendation attached

Recommended by the General Manager

D. Bélisle
D. Bélisle
General Manager of Public Works

Recommended by the C.A.O.

M. Mieto
M. Mieto
Acting Chief Administrative Officer

Date: September 18, 2002

Report Authored By



R. Falcioni
Operations Engineer

Division Review



M. Montpellier
Director of Operations

With the creation of the City of Greater Sudbury it is necessary to rationalize the entrance culvert policy from the former municipalities to a single policy for the new City. The following chart summarizes briefly what the policies were in each of the former municipalities for residential entrance culverts.

Municipality	Initial Installation	Replacement/ Reset	Costs	Comments
Valley East	home owner	home owner	-permit required -Town set grades -installation - \$101/meter -\$500 refundable deposit on application	-min size 450 mm -may use contractor -deposit refunded if culvert installed to standard
Capreol	N/A	N/A	N/A	no residential culverts in Town
Rayside - Balfour	home owner	home owner	-permit req'd - \$57 fee -replacement - \$67/meter -reset - \$50/meter -\$400 refundable deposit on application	-min size 450 mm -2 year guarantee if installed by Town -may use contractor -deposit refunded if culvert installed to standard
Onaping Falls	home owner	home owner	-permit req'd - \$57 -replacement - \$67/meter -reset - \$50/meter -\$400 refundable deposit on application.	-min size 450 mm -2 year guarantee if installed by Town -may use contractor -deposit refunded if culvert installed to standard
Walden	home owner	after 5 years the Town maintains	-permit required -actual costs	-min size 375 mm -min length 6 meters
Nickel Centre	home owner	replacement by the home owner reset by the Town	-no permit required -must inform Town -replacement - \$133/m	-min size 450 mm -may use contractor -Town inspected after installation
Sudbury	home owner	home owner	-permit required -replacement - 75% of actual cost, about \$115/m -reset - \$145 lump sum	-min size 450 mm -may use contractor
Region of Sudbury	home owner	home owner	permit required replacement - \$139/m reset - \$298 lump sum	-min size 450 mm -may use contractor

Date: September 18, 2002

Ongoing maintenance, in all cases, such as cleaning and thawing is done by the municipality.

As part of developing a new policy, the policies of several other municipalities around the Province were investigated. The following chart summarizes the policies from six other municipalities.

Municipality	Initial Installation	Replacement /Reset	Costs	Comments
North Bay	home owner	city	permit required. -installation - \$75/m plus \$25/coupling -\$200 min charge	-allow poly, -will reset if they get a 6" heave /rusted out /causing a liability for City, - do about 200/yr -may use registered contractors
Sault Ste. Marie	home owner	city	-permit required. -installation~\$100/m	-allow poly -must be scraping before resetting/ will pad before resetting/ -restore with asphalt if hard surfaced -\$122,000/ditching - \$55,000/mtce
London	home owner	city	-permit required.	-allow poly -must use contractor
Hamilton	home owner	city	permit required.	-allow poly -new policy being developed by consultant expected in April/May
County of Wellington	home owner	county	-permit required. -\$300 refundable deposit on application	-allow poly -may use contractor -deposit refunded if installed correctly - no problems with heaving

From the chart it can be seen that these other municipalities look after all future maintenance of entrance culverts once they are installed. North Bay and Sault Ste. Marie are the only municipalities that experience significant heaving problems with culverts and replace and reset up to 200 culverts each year. The City of Greater Sudbury covers a larger geographical area with a large rural component, so we could expect to do a larger number of resets. If Council wishes to cover the cost of future maintenance of entrance culverts, the budget for culvert replacements

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should be increased by \$220,000.00. This represents the cost of 150 replacement culverts and 100 resets annually. There would also be the need for strict guidelines under which culverts would be replaced, otherwise the budget increase would have to be substantially larger.

Summary:

The former Municipalities of the City of Greater Sudbury had a user pay policy with respect to entrance culverts and on going maintenance and unless Council is prepared to improve service levels with a corresponding increase in costs it is recommended that the new culvert policy reflect that philosophy. The following summarizes the recommended policy and process that should be followed.

Description	Responsibility	Cost	Comments
entrance culvert application	home owner	\$50.00 fee if work to be done by home owner or contractor. - Cost of application included in installation charge if done by City.	-Covers the cost of administration. -Application to be processed through Transportation and Operations Departments for location, sizing and grades. -Permit issued after application is approved. -Grades and final inspection done by Operations. - Required for new installation and replacement.
new installation	home owner	\$100.00 per meter for all sizes up to 1 meter diameter. - Over 1 meter the charges will be based on actual costs.	-Minimum size 450mm -This fee is based on the actual cost of a culvert installation. -Home owner may use an approved contractor to do installation.
reset or replacement	home owner	\$50.00 per meter	-This fee is based on 50 % cost of a new culvert. -City will reset or replace culvert. - Surface restoration and head wall replacement is the responsibility of the property owner.

The minimum length of an entrance culvert is 6 meters (20 feet) and would cost the average home owner \$600.00 plus taxes for a new entrance and a minimum of \$300.00 for a reset or replacement.

The policy recommends that Council pass a by-law establishing that should an entrance culvert not be installed in accordance with municipal standards or a home owner refuse to replace or reset a culvert that has collapsed or heaved, causing interference with roadside drainage or property flooding, the city may proceed with corrective work and recover the costs through the home owners municipal taxes. The by-law should include that the proposed fees identified in this recommended policy be adjusted annually with the user fee bylaw.

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When the City does road reconstruction, drainage improvements or sewer and water work that requires the excavation of the entrance culverts there would be no cost to the home owner for replacement or resets. The City would not be responsible to put back culvert head walls, but would install longer culverts to maintain the entrance width and provide for side sloping.

Commercial, industrial and institutional entrance culverts that fall under a Site Plan Control Agreement would not require an entrance permit. All future maintenance and alterations or replacement of those culverts would be the responsibility of the property owner.

Policy:

The policy shall:

- 1) Establish that all entrance culverts require an application and permit by the property owner.
- 2) Establish charges for this work if performed by City forces.
- 3) Establish that reset and future replacements for residential residences be subsidized at the rate of approximately 50% of the new installation charge.
- 4) Include that Council pass a By-Law establishing that should an entrance culvert not be installed in accordance with municipal standards or a home owner refuses to replace or reset a culvert that has collapsed or heaved, causing interference with roadside drainage or property flooding, the City may proceed with corrective work and recover the costs through the home owner's municipal taxes. The By-Law should include that the proposed fees identified in this recommended policy be adjusted annually with the User Fee By-Law.
- 5) Include that when the City does road reconstruction, drainage improvements or sewer and water work that requires the excavation of the entrance culverts there would be no cost to the home owner for replacement or resets. The City would not be responsible to put back culvert head walls, but would install longer culverts to maintain the entrance width and provide for side sloping.
- 6) Include that all commercial, industrial and institutional entrance culverts would not be subsidized. If they fall under a Site Plan Control Agreement they would not require an entrance permit and all future maintenance and alterations or replacement of those culverts would be the responsibility of the property owner.

Request for Recommendation Priorities Committee



Type of Decision									
Meeting Date	September 25, 2002				Report Date	September 18, 2002			
Recommendation	<input checked="" type="checkbox"/>	Yes		No	Priority	<input checked="" type="checkbox"/>	High		Low
	Direction Only				Type of Meeting	<input checked="" type="checkbox"/>	Open		Closed

Sub-Committee Check-Off					
Please indicate which sub-committee will deal with this issue					
<input checked="" type="checkbox"/>	Community Viability	<input type="checkbox"/>	Public & Intergovernmental Affairs	<input type="checkbox"/>	Financial & Program Accountability

Report Title
Road Salt

Policy Implications + Budget Impact	
<input checked="" type="checkbox"/>	This report and recommendation(s) have been reviewed by the Finance Division and the funding source has been identified
<input type="checkbox"/>	Background attached

Recommendation	
That Council adopt Option 2 for road salting service levels and practices, as outlined in the report dated September 18, 2002 from the General Manager of Public Works.	
<input type="checkbox"/>	Recommendation attached

Recommended by the General Manager

Don Bélisle
Don Bélisle
General Manager of Public Works

Recommended by the C.A.O.

Mark Mieto
Mark Mieto
Acting Chief Administrative Officer

45

Date: September 18, 2002

Report Authored By



Don Bélisle
General Manager of Public Works

Division Review

During the 2002 Current Budget process, Council approved a service level reduction in the use of road salts. For the current year of 2002, the approved reduction was in the amount of \$500,000, and was intended to implement road salt application reductions for the period of November - December, 2002 on selected roads. If this reduction was applied over an entire budget year, cost reductions of \$1 million were possible in 2003 and onwards.

At the same time, Council also instructed staff to bring back another report in the fall of this year, outlining how the service level reductions would be implemented. As well, staff were instructed to bring back some alternative service level scenarios and options with respect to road de-icing practices.

This report addresses the following:

- An operational plan to implement Council's road salt reduction program as envisioned during the 2002 Budget setting process. The advantages, disadvantages, and cost implications will be outlined.
- An alternative road salt usage strategy based on best practices and recently available technological refinements in road de-icing practices. Advantages, disadvantages, and cost implications will also be outlined.
- Budgetary considerations for 2002, 2003, and onwards under both scenarios.

A public audio/visual presentation will be made at the Priorities Committee meeting of September 25, 2002, outlining the options available for Council's consideration.

Option 1: Elimination of road salts on roads with posted speed limits below 80 km/hr, or with AADT's below 10,000 vehicles per day. Continued use of road salts on hills, curves, unique conditions.

This is essentially the service level that Council adopted during the 2002 Budget process. This was estimated to save \$1 million per year, emanating from the material cost differences between rock salt and sand, with salt priced at \$60.00/tonne, and sand at \$8.00/tonne. Labour and equipment costs were deemed to be identical, whether salt or sand was applied to roads.

Date: September 18, 2002

Council adopted this proposed service level reduction based on the enclosed report to the Committee of the Whole - Budget dated April 4, 2002, and marked as Appendix 'A'.

The implementation of this policy would see about 134 roads and streets converted from salt de-icing, to sand traction-aid. Maps of affected roads will be available for Council to view at the meeting of September 25, 2002. The 134 affected roads are listed in Appendix 'B'.

Advantages

- Saves the cost difference between salt and sand material costs.
- Reduces long-term salination of water courses and adjacent vegetation.
- Responds to public perceptions that excessive salt is used.

Disadvantages

- Reduced public safety.
- Potential compromise of emergency response agencies (Police, Fire, Ambulance).
- Sand siltation in water courses, impeding fish spawning beds and other wildlife habitats.
- Additional sand/dust conditions in residential/commercial districts.
- Increased spring and summer costs of cleanup.
- Unquantifiable but significant community economic costs as a result of slowing down or impeding the movement of goods and persons to and from places of work and commerce.
- Negative and potentially dangerous driving conditions for out-of-town visitors, emerging from Provincial highways onto local or arterial roads.

Option 2: Overall reduction of road salt usage on all roads through the use of technological improvements, rationalization of salt routes based on a single-tier road network, improved operator training and retention.

Under this option, the City of Greater Sudbury would implement a city-wide road salt usage strategy, with the goal of reducing salt usage by a minimum of 10% on all roads, not just selected streets. The implementation milestones are:

- The use of state-of-the-art equipment to apply de-icing agents, designed to measure/calibrate/record, application rates, ambient air and road temperatures. At minimum, 11%

Date: September 18, 2002

reductions in the use of de-icing agents can be achieved with this equipment. A brochure outlining the capabilities of this equipment is enclosed as Appendix 'C'. The City of Greater Sudbury has seven of these units on order for delivery this coming winter. All future equipment replacements will be modelled on this new technology. It will take two to three years to turn over the entire winter control fleet to this new technology.

- Rationalization and implementation of a City-wide winter control strategy. Notwithstanding our best efforts, this goal is two to three years away, for a number of reasons. The amalgamation of eight different road authorities, eight labour/management philosophies and practices, eight service level standards, eight equipment condition ratings, and dozens of unique geographic/climatic/traffic, and social conditions associated with roads throughout this enlarged City, cannot be achieved overnight. These challenges will take time to work through, and there have been and will continue to be glitches along the way. Route rationalization will also necessitate a 'levelling' of service levels between different classes of roads, as a result of deploying fewer employees and road control equipment within designated service quadrants. There will be minor service level reductions on heavily travelled roads, with offsetting minor service level increases on less travelled roads, as route rationalization deploys the same equipment across both classes of roads. We are not in a position to predict or implement these changes at the present time.
- At the end of the day, the employee at the control directs when, where, and how much salt is applied. It is essential that there be a continuity of trained employees on winter control routes, who have gained knowledge and experience with the unique features of the roads they are maintaining. This milestone is at least another winter away, and needs nurturing in order to achieve. Further, the City's current practice of outsourcing salt/sand spreading routes needs to be revisited, as contractors' employees and operators come and go throughout a winter season, requiring constant training and orientation of new contracted operators. The City may be better served by having its own permanent workforce operate sand/salt spreaders on a consistent basis, building up operator expertise and confidence in proper salt application practices.

Advantages

- Reduced salt application rates over the entire City of Greater Sudbury road network, not just on selected roads.
- The motoring public will not be 'shocked' by dramatic service level reductions on targeted salt reduced roads.
- Increased safety for the travelling public.
- Virtually no community economic losses as a result of reduced or impeded traffic movement.
- No impact on essential Police, Fire and Land Ambulance services.
- Reduced sand siltation in water courses; reduced sand/dust conditions and associated cleanup costs.
- Long term sustainable salt application reductions.

Date: September 18, 2002

Disadvantages

- Delayed reduction of salt application rates, from one to three years.
- Budgetary short term reductions are not achievable.
- Public perception that no immediate or visible measures have been taken to reduce salt usage.

BUDGET IMPACT

- Council has reduced the 2002 Budget by \$500,000 for road salting, for the period of November/December, 2002. All things remaining equal, a further \$500,000 reduction would be implemented for 2003, for the period of January/March, 2003, for a total reduction of \$1 million per year into the future. Staff believe that such drastic measures are premature, and have outlined longer term, sustainable salt reduction strategies for the future. Accordingly, the following budget strategies are proposed for 2002 and onwards.
- Council will recall that staff reported to Council that the 2002 winter roads budget would be overspent as a result of the unusual snowfalls of February to April, 2002. Staff suggested that summer roads activities be curtailed to offset this pending over-expenditure, but Council directed that much needed summer road repairs be resumed, notwithstanding potential budget overruns. The total Annual Corporate Budget Surplus/Deficit position was too early to predict, and Council opted to review its options later in the year as better information became available.
- The Northern Ontario Heritage Funding of \$5 million for M.R. #35 widening was recently announced, freeing up \$900,000 for road works. Council is now in a position to decide how best to apply this \$900,000.
- It is staff's belief that we can live with the \$500,000 budget reduction in salting that Council approved in 2002, from this point on, provided Council adopts the road salt methodology in Option 2, and does not go on to reduce road salting budgets by a further \$500,000 in 2003, leaving a \$1 million reduced base budget for road salting in future years.
- We respectfully submit for Council consideration the following course of action:
 - a) set aside the \$900,000 'windfall' for roads expenditures as a result of the NOHF grant for M.R. #35 widening.
 - b) consider the use of the \$900,000 to offset either a Corporate year-end deficit for 2002, or unusual winter road conditions in November/December, 2002.
 - c) barring neither a Corporate deficit nor severe winter conditions for the balance of this year, reserve the \$900,000, or any remaining balance, into a roads winter reserve fund to either offset winter over-expenditures in 2003 and onwards, or as conditions permit, help accelerate the modernization of winter control equipment and techniques.

Should Council select road salting methodology Option 2 as outlined in this report, the foregoing budget implications would be implemented.



Information Report

Report To: Committee of the Whole Council - Budget

Report Date: April 4, 2002

Subject: Road Salting

Department Review:

D. Bélisle
General Manager of Public Works

Recommended for Agenda:

J. L. (Jim) Rule
Chief Administrative Officer

Report Prepared by: D. Bélisle, General Manager of Public Works

FOR INFORMATION

Executive Summary:

Council will be considering cost-cutting initiatives in road salting as service reductions in this year's budget. If these service level reductions are adopted, they would be implemented in the fall of 2002.

Despite the budget options presented for Council's consideration, staff do not recommend any service level reductions in road salting.

Background:

A number of Councillors and citizens have expressed concerns over the use of road salt as a de-icing agent during the winter months. This report will review some of the emerging issues in our community associated with road salt.

Current Practice

Appendix 'A' outlines our current practices and service levels for snow and ice control on our roads. It ranges from a bare pavement service level on expressways and arterials, down to snow packed conditions on gravel and surface treated roads.

When Council meets to consider the budget option of reduced road salting, large scale maps will be available to view the potential impacts in some detail. Council will be asked to review two alternate service levels:

- Total elimination of all road salt.
- Limit road salt usage to roads with speed limits of 80 km/hr or more, and continue salting the former Provincial highways that cross our City, but are now municipal roads.

While it is not included as a budget option, some have suggested keeping the same salt routes, but simply reduce the application rates, say from 450 lbs per pass mile to 400 lbs per pass mile. This is not a viable alternative, for a number of reasons.

- After decades of using road salts, and running innumerable field trials on minimum application rates, it has been proven that insufficient quantities of salt are worse than too much salt, from a road safety perspective. Too little salt promotes re-freezing of any water that has formed from a reduced application rate. This creates a further safety hazard, and invariably requires a second or a third application to get the job done.
- Salt application rates can be successfully reduced by adding additional anti-icing agents to the salt, such as magnesium or calcium. The down side is that these additional anti-icing agents, and the equipment to successfully apply them, are costly. Salt application rates can be reduced successfully by about 10%, but at a premium cost. Also, we need to ask if a 10% reduction in salt usage will materially reduce the environmental impacts of using salt.

Emerging Community Concerns - Environment

Appendix 'B' is a resolution recently adopted by VETAC, calling on the City to reduce road salt usage, and/or seek out and use alternative de-icers.

Appendix 'C' is a report on the feasibility of reducing salt usage within the Ramsey Lake watershed. It concludes that salt reductions of between 13% and 22% could be achieved within the watershed, but at an estimated cost of \$1,275,500. Of these, approximately \$650,000 are capital costs that would be required at cyclical 7 - 8 year intervals.

There is little doubt that road salts damage vegetation, concrete, and water bodies. But it is essential that the unfortunate consequences of using road salts be put into proper perspective, and weighed against the social, economic, and health ramifications of not using road salts.

Some environmentalists would have us believe that road salts are responsible for widespread damages to vegetation. If this were the case, after 50 years of using road salts, one would expect to see wide barren wastelands all along major roads. That is not the case, and salt damage along roads is generally limited to a few meters. While some damage cannot be denied, we must weigh the benefits of enjoying curb-to-curb greenery, versus road safety, and the economic impact to the community of reducing the capabilities of our transportation networks.

It is true as well that salt corrodes metal and damages concrete structures. Again, these detrimental impacts must be weighed against public safety and economic good of the community.

Emerging Community Concerns - Health

A lot has been said in recent months about the sodium (salt) levels in Ramsey lake, and the potential health hazards associated with drinking this water. This is simply not the case, and needs to be clarified and put into its proper perspective.

Salt concentrations in Ramsey Lake vary seasonably from 20 mg/l to 41 mg/l. If a person were to consume 8 cups (1.8 litres) of water per day from Ramsey Lake, at a concentration of 50 mg/l, their daily intake of salt would be 90 mg, or 0.09 grams. By comparison, a person on an extreme sodium diet of 2.0 grams per day, consumes about 22 times more sodium in their food than they could ever ingest by way of drinking Ramsey Lake water.

Appendix 'D' is a small sampling of materials available from the Web on sodium and diets. It is clear that sodium levels in fresh water sources are of virtually no significance when compared to normal, or even extremely reduced sodium diets.

Attachments

**QUALITY STANDARD
FOR
WINTER PLOWING, SANDING & SALTING**

OBJECTIVE

The major objectives for winter plowing, sanding and salting are:

- To reduce the hazards of snow and ice conditions to users.
- To reduce the economic losses to the community and industry caused by workers not being able to get to their jobs.
- To facilitate the handling of emergencies by fire, police departments or ambulance.

SUMMARY OF QUALITY STANDARD

The level of service for winter plowing, sanding and salting shall be in accordance with the following (refer also to approved Maintenance Classification Map):

URBAN EXPRESSWAYS AND ARTERIAL STREETS (Class 1 and 2)

- Surfaces shall be maintained as bare as possible through continued use of all assigned men, equipment and materials suited to the conditions.
- The maximum allowable snow accumulation is 1 inch.
- Coverage (either plowing or spreading) intervals shall not be greater than every 2 hours throughout the storm.
- These classes have first priority.

URBAN COLLECTORS (Class 3)

- Surfaces shall be maintained as bare as possible through continued use of all assigned men, equipment and materials suited to the conditions.
- The maximum allowable snow accumulation is 1.5 inches.
- Coverage (either plowing or spreading) intervals shall not be greater than every 3 hours throughout the storm.
- These classes have second priority.

URBAN LOCAL (Class 4)

- Surfaces shall be maintained to centre bare pavement level. Salt shall be applied to centre strip only on dangerous hills, curves, and specified bus routes only. All other roads to be sanded only.
- The maximum allowable snow accumulation is 2 inches.
- Coverage (either plowing or spreading) intervals shall not be greater than every 4 hours.
- These classes have third priority.

GRAVELLED & SURFACE TREATED ROADS

- Surfaces shall be maintained in a snow packed condition during a storm by the use of assigned men and equipment.
- The maximum allowable fresh snow accumulation is 3 inches.
- The frequency of plowing (grading) shall not be greater than every 6 hours throughout the storm.
- Plowing and Sanding shall generally be the only treatment accorded snow packed roads. Salt will never be applied to gravel or surface treated surfaces.
- This class will receive fourth priority.

GENERAL

- Salt shall, whenever possible, be applied early in a storm in order to take advantage of the brine sandwich effect.
- Salt shall be applied at a rate of 450 lbs. per pass mile.
- Salt shall be applied only when the temperature is 32°F to 10°F.
- Continuous sanding shall be carried out at a rate of 900 lbs. per pass mile.
- Predetermined routes for plowing, sanding and salting shall be followed except in critical situations.

SUMMARY OF QUALITY STANDARDS FOR

WINTER PLOWING, SANDING & SALTING TABLE LEVEL OF SERVICE

CLASSIFICATION	LEVEL OF SERVICE	PRIORITY	MAXIMUM ALLOWABLE ACCUMULATION	FREQUENCY OF COVERAGE	PLOW	SALT	SAND	REMARKS
Class 1 & 2 Arterial and Expressways	Bare Pavement	1	1 inch	less than 2 hours	yes	yes	low temperature	most important routes, all effort authorized
Class 3 Urban Collector	Bare Pavement	2	1.5 inches	less than 3 hours	yes	yes	low temperature	second most important routes, all effort authorized
Class 4 Urban Local	Centre Bare Pavement	3	2 inches	less than 4 hours	yes	yes - to bare 6 - 8 foot centre strip no - to bare remainder, hills, curves, specified bus routes only	yes	Keep 6 - 8 foot centre strip bare, bare remainder after priority 1 & 2 levels are assured
Rural or Gravelled Roads & City lanes (except downtown)	snow packed pavement	4	3 inches fresh snow	less than 6 hours	yes	no	hills, curves, intersections	devote effort to these roads only after other levels are assured



Interoffice Correspondence

March 5, 2002

TO: Don Bélisle
FROM: Angie Haché
RE: Road Salt

RECEIVED
MARCH 14 2002
GENERAL MANAGER
PUBLIC WORKS

The following resolution #2002-4 was passed by the Vegetation Enhancement Technical Advisory Committee on January 9, 2002 and ratified by Committee of the Whole Planning on February 12, 2002:

Whereas road salt is a deterrent to regreening efforts, water and concrete;

Be it resolved that VETAC request the City of Greater Sudbury to:

- 1) initially reduce road salt by 10% usage
- 2) use other non-toxic material on roads in close proximity to water sources
- 3) review the amount of salt emitted at the snow dump which travels through to our water courses.

A. Haché

**REPORT ON THE
REDUCTION OF CHLORIDES
IN LAKE RAMSEY**

To: Don Belisle

From: Clive Wood

Prepared: April 3, 2002

EXECUTIVE SUMMARY

In response to your request for recommendations on the reduction of chlorides in the Ramsey Lake watershed, I offer the following:

An analysis of the drainage area around Lake Ramsey shows we currently have 38 km of bare road policy highways within this area. The current bare road policy is achieved with primarily salt and the application of sand as required. Based on the present salt application rate of 128 kg/km (450 lbs/mi) with an average application twice per day, three (3) days per week, from December to April the amount of salt used on the roads within the drainage area is estimated at 3950 tonnes per season. Snow removal from the drainage area is currently done on average once per season on the majority of the roads designated for bare pavement policy (salt).

The financial impacts represent service delivery as described only to the target area; Lake Ramsey Watershed. Financial impacts for expansion city wide can be estimated from the ratio of bare road lane kilometers in the target area to bare road lane kilometers throughout the city. The equipment costs could become substantial when applied city wide. It is recommended that these costs are funded through the sewer and water budget to reflect the purpose; protection of our Ramsey Lake water supply.

Adopting these recommendations could result in an immediate 13% reduction in salt with the potential of reaching a 22% reduction.

RECOMMENDATIONS:

1. Reduce initial application rate of salt by 11% from 128 kg/km to 114 kg/km (450 lb/mi to 400 lb/mi).

Estimated saving (\$31,000)
Additional savings if 20% reduction obtained (25,500)
2. Reduce salt in sand piles that are under cover from 5% to 3%.

Estimated saving (\$7,000)
3. Removal of snow banks on bare pavement roads more frequently within the target area. Snow bank removed once per month instead of once per season to reduce run-off containing chlorides. Removal to take place prior to forecast thaws if possible.

Estimated cost \$400,000
4. Sand/salt spreaders equipped for automated pre-wetting of anti-icing material be used. Studies have shown that pre-wetting reduces anti-icing costs by approximately 20%.

Estimated cost of pre-wetting \$38,000
Additional potential savings (\$4,000)

5. Winter control response trucks be equipped as tandem axles with a front plow, sidewing, salt/sand spreader with automated material applicators suitable for one person operation. Multifunction trucks plow and place material at the same time, leaving less material to melt to achieve bare roads.

3 units as recommended total cost estimated at \$600,000
(Less any associated capital funds)

6. Better use of weather forecasting information made available at each depot. Accurate forecasts improve response times and decrease the amount of material required. Install remote sensor stations at four extremity locations in City of Greater Sudbury.

Estimated cost \$240,000

7. Improve storage facilities to keep material under cover at all times. This can be achieved with the use of covered conveyor belts or by enclosing the dumping area where material is deployed.

Estimated cost \$50,000

8. Contact Ministry of Transportation of Ontario for similar considerations on the M.T.O. maintained bypass from Highway 69 to Highway 17. Portions of this section of highway fall within the lake Ramsey watershed.

9. Improved and increased training for multifunction truck operators and supervisors to successfully implement new equipment, methods and materials.

Estimated cost \$15,000

10. Ongoing testing of run off and chloride levels to determine impact of revised storm response efforts can be monitored by other departments.

11. Investigate application of continuous deflective separation (C.D.S.) units at storm sewer outlets draining into the lakes in the watershed area. These units remove debris and oil based products from discharge before entering the lake. These units do not remove chlorides.

TOTAL ESTIMATED COST: \$1,275,500

Not Recommended: sand only

Sand treated with salt brine, magnesium or calcium chloride can be used to maintain a safe road surface but does not normally achieve a "bare" road status. The public would have to be advised of different driving conditions by signing the affected roads and advertising what to expect when arterial roads such as the Kingsway and Paris Street are treated with sand. Sand is estimated to be required applied 3 or 4 times per day, 3 days (expected precipitation days) per week and at least one application per day for the remainder of the week. There would be a significant clean-up cost in the spring, the environmental impact of dust and build-up in storm sewers could become issues. Therefore this is not the recommended approach.

BACKGROUND

The most common chemicals available for highway de-icing are sodium chloride (salt - NaCl), calcium chloride (CaCl₂), magnesium chloride (MgCl₂), and calcium magnesium acetate. Various combinations of these chemicals are also mixed with sand as an abrasive/melter combination. Salt and sand are the predominate materials used for winter control response, in the majority of agencies responsible for service delivery. The relative costs and properties of these materials is as follows:

	WINTER CONTROL MATERIALS	COST	% CHLORIDE	RELATIVE TOXICITY (LD50)	EFFECTIVE TEMPERATURE °C	ICE MELTING ABILITY (SECONDS)		
						15	30	60
1	Salt (Sodium Chloride)	\$71.76 tonne	58	3000	-20	12,	22,	30,
2	Calcium Chloride	\$0.20/l	34	1000	-25	30,	34,	38,
3	Magnesium Chloride	\$0.40/l	18	8100	-25	27,	32,	30,
4	Calcium Magnesium Acetate (CMA)	\$2,000 tonne	0	5000	-7	0	0	0
5	Sand	\$4.50 tonne	5 (added)		ALL	NONE (except for salt added)		

Note: Aspirin = 1000 toxic
Vitamin C = 11,900 less toxic

These alternative materials have been studied by many agencies with various magnesium chloride products and salt brine being the preferred choice as pre-wetting and pre-storm anti-icing agents. The predominant approach is the reduction of the quantity of salt required through a combination of improved technology, pre-wetting of primary materials before or during application, applying anti-icing materials prior to a storm, education of employees involved and methods of ice control. This is the approach recommended.

Sand in combination with chemicals such as salt, salt brine, calcium chloride or magnesium chloride is an option but does not produce a bare road and has its own environmental concerns such as air borne dust and siltation of receiving storm water receptors. It also requires expensive clean-up in the spring, therefore it is not the recommended approach.

Calcium magnesium acetate (CMA) is comparatively the most environmentally friendly chemical but is deficient in a number of areas and is the most expensive option. CMA works on the principal of deferring or preventing a bond between the road surface and moisture with a chemical layer instead of having any ice melting properties. This chemical layer is only effective to -7°C then requires an alternate method of ice control. Due to these factors and its price, CMA is not recommended.

COST SUMMARY OF REDUCED SALT APPLICATION

- 1. Reduce initial application rate of salt by 11% from 128 kg/km to 114 kg/km (450 lb/mi to 400 lb/mi).

$3950 \text{ tonnes} \times 0.11 = 435 \text{ tonnes} \times \$71.76 = \text{Estimated saving } (\$31,000)$

Additional savings if 20% reduction is obtained.

$3950 \text{ tonnes} \times 0.09 = 355 \text{ tonnes} \times 71.76 = \text{Estimated saving } (25,500)$

- 2. Reduce salt in sand piles that are under cover from 5% to 3%. Reduction of salt placed in sand dome at South East Section estimate - (2% X 5,000 tonnes) $100 \text{ tonnes} \times \$71.76 = \$7,176$
Estimated saving (\$7,000)

- 3. Removal of snow banks on bare pavement roads more frequently within the target area. Snow bank removed once per month instead of once per season to reduce run-off containing chlorides. Removal to take place prior to forecast thaws if possible. Estimate once per month X 4 months @ \$10,000 day X 10 days each round.
Estimated cost \$400,000

- 4. Sand/salt spreaders equipped for automated pre-wetting of anti-icing material be used. Studies have shown that pre-wetting reduces anti-icing cost by approximately 20%. This is achieved by reducing the amount of material lost from the traveled surface and extending the duration of effectiveness by depressing the melting point of the brine. Experiment with magnesium and calcium products as pre-wetting and anti-icing agents in liquid form. Estimated cost of pre-wetting $\$0.30/l \times 36l/\text{tonne} \times (3950 - 11\%) = 3515 = \$38,000$

Estimated cost of pre-wetting \$38,000

Estimated reduced cost of pre-wetting if 20% reduction obtained = $\$38,000 - \$34,000 = \$4,000$

Additional potential savings (\$4,000)

- 5. Winter control response trucks be equipped as tandem axles with a front plow, sidewing, salt/sand spreader with automated material applicators suitable for one person operation. Multifunction trucks plow and place material at the same time, leaving less material to melt to achieve bare roads. Tandem trucks are recommended as they are capable of plowing and deploying material over a longer duration than single axle trucks, i.e. faster turn-around time during storm response. More plowing requires less salt to maintain bare roads. Use of truck mounted infrared temperature sensors that read road surface and air temperatures is also recommended. Monitoring road temperature allows better control of when and how much material is required. Investigate rubberized steel plow blades to allow better cleaning of material from highways which in turn reduces the amount of de-icer required.

3 units as recommended total cost estimated at \$600,000
(Less any associated capital funds)

- 6. Better use of weather forecasting information made available at each depot. Accurate forecasts improve response times and decrease the amount of material required. Install remote sensor stations at four extremity locations in City of Greater Sudbury.

Estimated cost \$240,000 61

7. Improve storage facilities to keep material under cover at all times. This can be achieved with the use of covered conveyor belts and/or by enclosing the dumping area where material is deployed.
Estimated cost \$50,000
8. Contact M.T.O. for similar considerations on the M.T.O. maintained bypass from Highway 69 to Highway 17, as this highway also falls in the watershed.
9. Improved and increased training for multifunction truck operators and supervisors to successfully implement new equipment, methods and materials.
Estimated cost \$15,000
10. Ongoing testing of run off and chloride levels to determine impact of revised storm response efforts by other departments.
11. Investigate application of continuous deflective separation (C.D.S.) units at storm sewer outlets draining into the lakes in the watershed area. These units remove debris and oil based products from discharge before entering the lake. These units do not remove chlorides.

TOTAL ESTIMATED COST: \$1,275,500

CONCLUSION

The proposed recommendations would produce a 13% immediate reduction of salt with potential of 22% reduction based on successful anti-icing and pre-wetting with magnesium chloride or salt brine while maintaining a bare road level of service. The use of magnesium chloride or salt brine further reduces the amount of chlorides in the watershed as its chloride content is approximately 18% vs. approximately 58% in salt. Magnesium chloride also has the best (lowest level) relative toxicity of the compared winter control materials.

The proposed method of reducing chlorides would maintain similar ice control to other highways at the same time as significantly reducing the chloride run off by removing the chloride buildup in snow banks and reducing the chloride in both salt and sand use in the lake Ramsey watershed.



Sodium in Drinking Water

Sodium is included on the Environmental Protection Agency (EPA) Drinking Water Contaminant Candidate List (CCL). The CCL is a list of contaminants which, at the time of publication, are not subject to any proposed or promulgated national primary drinking regulation (NPDWR), are known or anticipated to occur in public water systems, and may require regulations under the Safe Drinking Water Act (SDWA). As required by the 1996 Amendments to SDWA, EPA published the list in February 1998 to aid in priority-setting for the agency's drinking water program. Items on the CCL are divided into three categories: those which are priorities for additional research, those which need additional occurrence data, and those which are priorities for consideration for rulemaking.

Why was sodium included on the Contaminant Candidate List?

The issue of sodium posed a unique challenge for the Agency priority setting and contaminant candidate listing process. On one hand, high levels of salt intake may be associated with hypertension in some individuals. On the other hand, sodium levels in drinking water are usually low and unlikely to be a significant contribution to adverse health effects.

This low level of concern is compounded by the legitimate criticisms of EPA's 20 milligrams per liter (mg/l) Drinking Water Equivalency Level (DWEL or guidance level) for sodium. EPA believes this guidance level for sodium needs updating, and is probably low. If a health benchmark for drinking water were established using current information and current drinking water health assessment procedures, it would likely be higher. This revision could establish a new level at which sodium occurrence would not meet the criteria for inclusion on the CCL as a drinking water contaminant of concern. There was insufficient time to complete a reassessment of the sodium guidance in advance of the CCL issuance.

Given the state of the data, EPA faced a dilemma on whether or not to list sodium. A decision not to list would be justified by the fact that much is known about sodium, and it does not appear to be a drinking water risk comparable to other priority contaminants. In fact, this was the logic supporting the decision not to include sodium on the previous drinking water priority list in 1991. However, a decision to list sodium would afford EPA the opportunity to address the confusion surrounding the current guidance for sodium in drinking water.

Will EPA develop a drinking water regulation for sodium?

EPA decided to include sodium on the CCL primarily as a vehicle to reexamine and correct the current, outdated guidance. Therefore, sodium is listed, not as a Regulatory Determinations Priority, but as a Research Priority to allow time to evaluate and revise

the Agency guidance. When this is completed, EPA will reevaluate whether sodium merits retention on the CCL for any further action.

Should I be concerned about sodium in my drinking water?

No. Sodium levels in drinking water from most public water systems are unlikely to be a significant contribution to adverse health effects.

How much does water contribute to sodium in my diet?

A Food and Drug Administration publication, "Scouting for Sodium and Other Nutrients Important to Blood Pressure" (FDA 95-2284) states that most American adults tend to eat between 4,000 and 6,000 mg of sodium per day, "and therapeutic sodium restricted diets can range from below 1,000 mg to 3,000 mg per day." It lists the following nutrient guidelines for food labeling:

- **Low-sodium:** 140 mg or less per serving (or, if the serving is 30 g or less or two tablespoons or less, 140 mg or less per 50 g of the food)
- **Very low-sodium:** 35 mg or less per serving (or, if the serving is 30 g or less or two tablespoons or less, 35 mg or less per 50 g of the food)
- **Sodium-free:** Less than 5 mg per serving

In a National Inorganics and Radionuclides Survey, conducted by EPA in the mid-1980s, about 3/4 of 989 water systems included had concentrations of sodium of less than 50 mg/l. Assuming that an adult weighing 70 kilograms (about 150 pounds) drinks two liters (about 8 glasses) per day, he or she would typically ingest less than 100 mg of sodium per day from drinking water. Based on this data, a 1/4-liter serving (about an 8-ounce glass) would contain less than 12.5 mg of sodium, well within FDA's "very low sodium" category.

It is important to note that sodium is an essential nutrient. The Food and Nutrition Board of the National Research Council recommends that most healthy adults need to consume at least 500 mg/day, and that sodium intake be limited to no more than 2400 mg/day.

To reduce my sodium intake, should I buy bottled water instead of using tap water?

It is not necessary to switch to bottled water to maintain a healthy, low-sodium diet. Levels of sodium in a serving of drinking water are very low in most water systems. Also, FDA imposes quality standards for bottled water that are equivalent to EPA's drinking water standards. To reduce the risks of adverse health effects due to sodium, consult a physician or registered dietitian to plan a healthy diet that reduces the sodium content in your total food intake.

For more information...

For specific information on sodium in your drinking water, contact your local health

department or water supplier. To learn more about drinking water standards, visit EPA's OGWDW Home Page, <http://www.epa.gov/OGWDW>, or call the Safe Drinking Water Hotline at 1 (800) 426-4791.



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Revised *March 25, 1998*

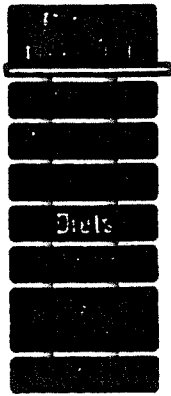
[Office of Ground Water and Drinking Water](#)

<http://www.epa.gov/OGWDW/ccl/sodium.html>

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West Shore Endoscopy Center

West Shore Endoscopy Center | Patient Education



Reduced Sodium Diet



Purpose

Sodium is essential to the body. It is a mineral that helps the body regulate fluid balance. Under certain conditions, excess sodium can cause the body to retain too much fluid. This could be harmful for people with conditions such as high blood pressure or heart disease. These conditions are often managed by reducing sodium in the diet. For many patients, restricting the total amount of sodium to 4 grams a day is enough to reduce harmful fluid retention. However, some patients will have to restrict their total sodium intake to 2 grams a day.

Nutrition

If the patient follows the prescribed sodium limitations and chooses a variety of foods from each of the basic food groups (breads and grains, fruits, vegetables, meat alternatives, dairy products), these diets are nutritionally adequate.

Special Considerations

- 1. Table salt:** This is a large source of sodium in the everyday diet. It is used in the kitchen in food preparation and added at the table. It is also added to many commercially canned and frozen foods. Table salt is about one-half sodium, so its use must be restricted in these diets.
- 2. Finding the Sodium in a Diet:** Sodium occurs naturally in many foods, and some foods contain more sodium than others.
On food labels, the sodium content of foods is usually listed in milligrams (mg) per serving. One gram = 1000 mg. So, on a 2 gram sodium diet, a person should have no more than 2000 mg of sodium each day; and on a 4 gram sodium diet, no more than 4000 mg a day. As a helpful guide: for the 4 gram diet, purchase products with no more than 300 mg of sodium per serving. For the 2 gram diet, purchase products with no more than 200 mg of sodium per serving.
Sodium compounds, in addition to table salt, are often added to commercially processed foods. Some of those more commonly used are baking soda, brine, monosodium glutamate (MSG), baking powder, disodium phosphate, or sodium benzoate. Read food labels on all items before purchasing or using.
- 3. Common medications:** Antacids, laxatives, and cough remedies often contain sodium compounds. Check with a physician or pharmacist if there is a question about prescription or over-the-counter medications.
- 4. Fast food restaurants:** Avoid them because the foods they serve tend to be very high in sodium. When dining in other restaurants, ask that no salt be used in the preparation of your meal.
- 5. Salt substitutes:** Never use these unless the physician has approved it. They may replace the sodium with another mineral that could also be harmful to certain patients. Herbs and spices may be used in place of salt to add flavor and variety to meals.
- 6. Water softeners:** They exchange the calcium in hard water with sodium from a salt brine. Avoid drinking home or commercially softened water. When purchasing bottled water, check the label to be sure it contains no sodium. Do not use softened water to prepare foods or beverages.
- 7. Diet Differences:** A few things that are allowed on the 4 gram diet are not permitted on the 2 gram diet. Follow the guide below:

Sample Menu 2 Gram

Breakfast	Lunch	Dinner
<ul style="list-style-type: none"> • orange sections <i>1/2 cup</i> • whole wheat toast <i>1 slice</i> • cereal <i>3/4 cup</i> • unsalted margarine <i>2 tsp</i> • jelly <i>2 tsp</i> • skim milk <i>1 cup</i> • coffee • creamer/sugar <i>1 tsp</i> <p>Snack unsalted soft pretzel <i>1</i> apple juice</p> <p><i>*Low Sodium</i></p>	<ul style="list-style-type: none"> • chicken noodle soup* <i>1/2 cup</i> • lean hamburger <i>3 oz</i> • hamburger bun <i>1</i> • sliced tomato <i>2 oz</i> • lettuce • mayonnaise <i>1 tsp</i> • unsalted crackers <i>3</i> • vanilla wafers <i>3</i> • canned peaches <i>1/2 cup</i> • skim milk <i>1/2 cup</i> • coffee • creamer/sugar <i>1 tsp</i> 	<ul style="list-style-type: none"> • baked chicken breast <i>3 oz</i> • baked potato <i>1 med</i> • green beans <i>1/2 cup</i> • tossed salad • diet Italian dressing <i>1 Tbsp</i> • whole wheat bread <i>1 slice</i> • unsalted margarine <i>2 tsp</i> • angel food cake <i>1 slice</i> • strawberries <i>1/2 cup</i> • skim milk <i>1 cup</i> • coffee • creamer/sugar <i>1 tsp</i>

This Sample Diet Provides the Following

Calories	2090	Fat	55 gm
Protein	105 gm	Sodium	1850 mg
Carbohydrates	300 gm	Potassium	4450 mg

Sample Menu 4 Gram

Breakfast	Lunch	Dinner
<ul style="list-style-type: none"> • grapefruit <i>1/2</i> • cereal <i>3/4 cup</i> • banana <i>1/2</i> • whole wheat toast <i>2 slices</i> • margarine <i>2 tsp</i> • jelly or jam <i>1 Tbsp</i> • 2% milk <i>1 cup</i> • coffee/tea 	<ul style="list-style-type: none"> • vegetable soup <i>1 cup</i> • lean hamburger <i>2 oz</i> • swiss cheese <i>1 oz</i> • hamburger bun <i>1</i> • sliced tomato <i>2 oz</i> • lettuce • fresh fruit salad <i>1/2 cup</i> • oatmeal cookie <i>1</i> • 2% milk <i>1 cup</i> 	<ul style="list-style-type: none"> • low sodium tomato juice <i>1/2 cup</i> • broiled chicken breast <i>3 oz</i> • brown rice <i>1/2 cup</i> • broccoli spears <i>2</i> • hard dinner roll <i>1</i> • margarine <i>2 tsp</i> • carrot/raisin salad <i>1/2 cup</i> • frozen strawberry yogurt <i>1/2 cup</i> • 2% milk <i>1 cup</i> • coffee/tea

This Sample Diet Provides the Following			
Calories	2170	Fat	69 gm
Protein	119 gm	Sodium	4040 mg
Carbohydrates	294 gm	Potassium	3950 mg

Diet Differences	
4 Gram	2 Gram
Use a total of 1/2 teaspoon of table salt per day in cooking and food preparation. Do not add salt at the table.	Use no table salt in cooking and food preparation. Do not add salt at the table.
Limit prepared salad dressings and condiments such as mustard or catsup to a total of 3 tablespoons per day.	Do not use commercially prepared salad dressings or condiments such as mustard or catsup.
Do not eat Bleu, Roquefort, Stilton, or Gorgonzola cheeses. Limit other natural or aged cheeses to 2 oz. per day.	Do not eat any natural or aged cheeses.
Limit buttermilk to 8 oz. per week.	Do not drink buttermilk.
Limit regular peanut butter to 3 teaspoons per week.	Do not eat regular peanut butter.

Choosing Foods For A Reduced Sodium Diet	
Choose	Avoid
Breads: English muffin; white, wheat, pumpernickel, other types of regular or unsalted bread and rolls	sweet rolls, breads or rolls with salted tops, packaged cracker or bread crumb coatings, packaged stuffing mixes, biscuits, corn bread
Cereals: regular cooked cereals such as oats, cream of wheat, rice, or farina; puffed wheat; puffed rice; shredded wheat	instant hot cereals, any other regular ready-to-eat cereals
Crackers and snack foods: all unsalted crackers and snack foods, unsalted peanut butter	salted crackers and snack items, regular peanut butter, party spreads and dips
Pasta, rice and potatoes: all types of pastas such as macaroni, spaghetti, rigatoni, ziti; potatoes, rice	macaroni and cheese mix; seasoned rice, noodle, and spaghetti mixes; canned spaghetti; frozen lasagna, macaroni and cheese, rice, and pasta dishes; instant potatoes; seasoned potato mixes
Dried beans and peas: pinto beans, white northern beans, black-eyed peas, lima beans, lentils, split peas, etc.	any beans or peas prepared with ham, bacon, salt pork, or bacon grease; all canned beans

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Meats and alternatives: fresh or frozen meat, poultry, and fish; low sodium canned tuna and salmon; eggs	salted, smoked, canned, spiced, and pickled meats, poultry and fish; bacon; ham; sausage; scrapple; regular canned tuna or salmon; cold cuts; luncheon meats; hot dogs; pre-breaded frozen meats, fish, and poultry; TV dinners; meat pies; kosher meats
Fruits and vegetables: fresh, frozen, or low-sodium canned vegetables or vegetable juices; low sodium tomato paste and sauce; fresh, canned, or frozen fruit and juices	regular canned vegetables and vegetable juices, regular tomato sauce and tomato paste, olives, pickles, relishes, sauerkraut or vegetables packed in brine, frozen vegetables in butter or sauces, crystallized and glazed fruit, maraschino cherries, fruit dried with sodium sulfite
Dairy products: milk, cream, sour cream, non-dairy creamer, yogurt, low-sodium cottage cheese, low sodium cheese	buttermilk, Dutch processed chocolate milk, processed cheese slices and spreads, regular cheese, cottage cheese
Fats and oils: margarine regular butter, or mayonnaise limited to 4 teaspoons per day; unsalted butter, margarine, cooking oils, or shortenings; salt free gravies, cream sauces, and salad dressings	bacon grease; salt pork; commercially prepared sauces, gravies, and salad dressings
Soups: salt-free soups and low-sodium bouillon cubes	regular commercially canned or prepared soups, stews, broths, or bouillon; packaged and frozen soups
Desserts: gelatin, sherbet, fruit ices, pudding and ice cream as part of milk allowance, angel food cake, salt-free baked goods, sugar, honey, jam, jelly, marmalade, syrup	regular commercially prepared and packaged baked goods, chocolate candy
Beverages: coffee, tea, soft drinks, fruit flavored drinks that do not contain sodium	softened water, carbonated beverages with sodium or salt added; check with physician about alcoholic beverages
Condiments: fresh and dried herbs; lemon juice; low-sodium mustard, vinegar, Tabasco sauce; low-sodium or no-salt-added ketchup; extracts (almond, lemon, vanilla); baking chocolate and cocoa; seasoning blends that do not contain salt	table salt, lite salt, bouillon cubes, meat extract, Worcestershire sauce, tartar sauce, ketchup, chili sauce, cooking wines, onion salt, prepared mustard, garlic salt, meat flavorings, meat tenderizers, steak and barbecue sauce, seasoned salt, monosodium glutamate (MSG), Dutch processed cocoa

Flavoring Food Without Salt

Onion, garlic, lemon, vinegar, black pepper, and parsley improve the flavor of

many kinds of food. For gourmet-type dishes, use fruit, fruit juices, or sweet and sour sauce. Use fresh or dried herbs and spices to flavor foods. Remember that two teaspoons of chopped fresh herbs equals 1/2 teaspoon of the dried form. Always store dried herbs and spices in a cool, dry place in airtight containers. When flavoring, start with small amounts (1/4 tsp for four servings) and increase to taste. Don't use more than three herbs or spices in one dish. Certain herbs and spices blend better with some foods than with others, so experiment and use the suggestions below as a guide.

Vegetables		Meats, Poultry, Fish and Eggs	
Asparagus:	lemon, chives	Beef:	bay leaf, dry mustard, nutmeg (in meat loaf), sage, dill, green pepper, fresh mushrooms, tomatoes
Broccoli:	lemon, oregano, rosemary	Veal:	bay leaf, curry, ginger, apricot or current jelly, fresh mushrooms, tomatoes, tarragon, dry mustard
Carrots:	lemon, orange, nutmeg, mint, basil, marjoram, oregano, thyme, brown sugar, ginger, cinnamon, mace, anise, dry mustard	Pork:	sage, caraway, nutmeg, apples, applesauce, cranberry sauce, tarragon, dry mustard
Corn:	green pepper, fresh tomatoes, paprika, hot pepper sauce	Lamb:	curry, mint, dill, sage
Peas:	mint, dill, fresh mushrooms, basil, marjoram, savory	Poultry	sage, tarragon, fresh mushrooms, poultry seasoning, curry, peach, apricot, pineapple, lemon, hot pepper sauce, bay leaf
Potatoes:	mace, chives, rosemary, dill	Fish & Eggs:	dill, basil, tarragon, curry, dry mustard, paprika, cayenne, thyme, green pepper, fresh mushrooms, tomatoes, hot pepper sauce, chives, Bay leaf adds flavor to fish chowders
Sweet Potatoes:	mace, ginger, basil, cinnamon, cloves, brown sugar, nutmeg, allspice, oregano, lemon, orange		
Spinach:	nutmeg, oregano, basil, marjoram, rosemary, thyme, allspice, mace,		

	lemon
Tomatoes:	basil, oregano, thyme, sugar, dill, marjoram, vinegar

Related Diseases

[Cirrhosis](#) | [Primary Biliary Cirrhosis](#) | [Primary Sclerosing Cholangitis](#)

This material does not cover all information and is not intended as a substitute for professional care. Please consult with your physician on any matters regarding your health.

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- 1 Minority Health
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- 1 Women's Health Center
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- 1 National Institute on Aging
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- 1 Human Genome Research
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- 1 HIV/AIDS
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Cardiovascular Nutrition

SODIUM IN FOODS

(In Milligrams)

MEAT, POULTRY, FISH, AND SHELLFISH

Fresh meat (including lean cuts of beef, pork, lamb and veal) poultry, finfish, cooked,

3 oz. (less than 90 mg)

Shellfish, 3 oz. (100-325 mg)

Tuna, canned, 3 oz (300 mg)

* Sausage, 2 oz. (515 mg)

* Bologna, 2 oz. (535 mg)

* Frankfurter, 1-1/2 oz. (560 mg)

Boiled ham, 2 oz. (750 mg)

Lean ham, 3 oz. (1,025 mg)

EGGS

Egg white, 1 (55 mg)

* Whole egg, 1 (65 mg)

Egg substitute, 1/4 cup = 1 egg (80-120 mg)

DAIRY PRODUCTS

Milk

* Whole milk, 1 cup (120 mg)

Skim or 1% milk, 1 cup (125 mg)

Buttermilk (salt added), 1 cup (260 mg)

Cheese

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Heart Health Information

Heart Memo

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American Dietetic Association

Dietetic Practitioners

State Dietetic Associations

Fast Food Analysis

Recipe Database

Sodium Counter

Enter food item:

Sodium Content

*** Natural Cheese:**

*** Swiss Cheese, 1 oz. (75 mg)**

*** Cheddar cheese, 1 oz. (175 mg)**

*** Blue Cheese, 1 oz. (395 mg)**

Low fat cheese, 1 oz. (150 mg)

*** Process cheese and cheese spreads, 1 oz. (340-450 mg)**

Lower sodium and fat versions (read the label)

*** Cottage cheese (regular), 1/2 cup (455 mg)**

Cottage cheese (low fat), 1/2 cup (460 mg)

Yogurt

*** Yogurt, whole milk; plain, 8 oz. (105 mg)**

Yogurt, fruited or flavored, low fat or nonfat, 8 oz. (120-150 mg)

Yogurt, nonfat or low fat, plain, 8 oz. (160-175 mg)

VEGETABLES

Fresh or frozen vegetables, or no salt added canned (cooked without salt), 1/2 cup (less than 70 mg)

Vegetables, canned, no sauce, 1/2 cup (55-470 mg)

*** Vegetables, canned or frozen with sauce, 1/2 cup (read the label)**

Tomato juice, canned, 3/4 cup (660 mg)

BREADS, CEREALS, RICE, PASTA, DRY PEAS AND BEANS

Breads and Crackers

Bread, 1 slice (110-175 mg)

English muffin, 1/2 (130 mg)

Bagel, 1/2 (190 mg)

Cracker, saltine type, 5 squares (195 mg)

*** Baking powder biscuit, 1 (305 mg)**

Cereals (Ready-to-eat)

Shredded wheat, 3/4 cup (less than 5 mg)

Puffed wheat and rice cereals, 1-1/2 to 1-2/3 cup (less than 5 mg)

Granola-type cereals, 1/2 cup (5-25 mg)

Ring and nugget cereals, 1 cup (170-310 mg)

Flaked cereals, 2/3 to 1 cup (170-360 mg)

Cereals (Cooked)

Cooked cereal (unsalted) 1/2 cup (less than 5 mg)

Instant cooked cereal, 1 packet=3/4 cup (180 mg)

Pasta and rice

Cooked rice and pasta (unsalted) 1/2 cup (less than 10 mg)

* Flavored rice mix, cooked, 1/2 cup (250-390 mg)

Peas and beans

Peanut butter (unsalted) 2 tbsp. (less than 5 mg)

Peanut butter, 2 tbsp. (150 mg)

Dry beans, home cooked (unsalted), or no salt added canned,

1/2 cup 0 (less than 5 mg)

Dry beans, plain, canned, 1/2 cup (350-590 mg)

* Dry beans, canned with added fat or meat, 1/2 cup (425-630 mg)

FRUITS

Fruits (fresh, frozen, canned), 1/2 cup (less than 10 mg)

FATS AND OILS

Oil, 1 tbsp. (0 mg)

* Butter (unsalted), 1 tsp. (1 mg)

* Butter (salted), 1 tsp (25 mg)

Margarine (unsalted), 1 tsp. (less than 5 mg)

Margarine (salted), 1 tsp. (50 mg)

Imitation mayonnaise, 1 tbsp. (75 mg)

* Mayonnaise, 1 tbsp. (80 mg)

Prepared salad dressings, low calorie, 2 tbsp. (50-310 mg)

* Prepared salad dressings, 2 tbsp. (210-440 mg)

SNACKS

Popcorn, chips, and nuts

Unsalted nuts, 1/4 cup (less than 5 mg)

Salted nuts, 1/4 cup (185 mg)

* Unsalted potato chips and corn chips, 1 cup (less than 5 mg)

* Salted potato chips and corn chips, 1 cup (170-285 mg)

Unsalted popcorn, 2 1/2 cups (less than 10 mg)

Salted popcorn, 2 1/2 cups (330 mg)

Candy

Jelly beans, 10 large (5 mg)

* Milk chocolate bar, 1 oz. Bar (25 mg)

Frozen desserts

* Ice cream, 1/2 cup (35-50 mg)

Frozen yogurt, low fat or nonfat, 1/2 cup (40-55 mg)

Ice milk, 1/2 cup (55-60 mg)

CONDIMENTS

Mustard, chilli sauce, hot sauce, 1 tsp. (35-65 mg)

Catsup, steak sauce, 1 tbsp. (100-230 mg)

Salsa, tartar sauce, 2 tbsp. (85-205 mg)

Salt, 1/6 tsp. (390 mg)

Pickles, 5 slices (280-460 mg)

Soy sauce, lower sodium, 1 tbsp. (600 mg)

Soy sauce, 1 tbsp. (1030 mg)

CONVENIENCE FOODS

** Canned and dehydrated soups, 1 cup (600-1,300 mg)

76

mg)

**** Lower sodium versions (read the label)**

***** Canned and frozen main dishes, 8 oz. (500-1,570 mg)**

***** Lower sodium versions (read the label)**

*** Choices are higher in saturated fat, cholesterol, or both.**

**** Creamy soups are higher in saturated fat and cholesterol.**

***** Limit main dishes that have ingredients higher in saturated fat, cholesterol, or both.**

Source: Adapted from Home and Garden Bulletin 253-7, United States Department of Agriculture, July 1993.

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APPENDIX 'B'

SOUTH SECTION ST. CLAIR DEPOT		
Roads Deleted from Salt Routes	Salt Routes	Salt Routes (hills)
Albany St	Algonquin (Regent to mall)	Albinson St.
Alder St.	MR-34 Big Nickel Mine Rd.	Annie St.
Algonquin (except Regent to Mall)	Bouchard (Regent to South View)	Algonquin
Armstrong St.	Brady St.	Baker St.
Balsam St.	MR-39 Ramsey Lake Rd.	Bank St.
Benny St.	Douglas St.	Beatty St.
Brennan Rd	MR-35 Elm St.	Beech St.
Bruce Av.	Kathleen St.	Bloor St.
Buchanan St.	Kingsway	Boland Av.
Cedar St.	MR-71 Lasalle Blvd.	Brebeuf
Dellwood Ct.	Long Lake Road	Broadway St.
Durham St.	MR-46 Regent St.	Burton Av.
Elgin St.	MR-55 Lorne St.	Byng St.
Elizabeth St.	MR-80 Notre Dame Av.	Cambrian Heights
Este Dr.	MR-80 Paris St.	Caron St.
Ethelbert St.	Ramsey Lake Rd.	Clemow Av.
Front St.		College St.
Frood Rd.		Connaught Av.
Godfrey Dr.		Basilio St.
Granite St.		Corsi
Grey St.		Dell St.
John St.		Diorite
Janmar Crt.		Domenico
Kelsey Av.		Dunvegan Ct.
Kirkwood Dr.		D'Youville St.

**SOUTH SECTION
ST. CLAIR DEPOT**

Roads Deleted from Salt Routes	Salt Routes	Salt Routes (hills)
Lakeview Dr.		Edith St.
Larch St.		Eyre St.
Lisgar St.		Edna St.
		Fairview
Latimer Cres.		Gutcher St.
Marttila Dr.		Glover St.
McKim St.		Gemma St.
Minto St.		Gutcher Av.
Mitchell St.		Haig St.
Ontario St.		Hyland Dr.
Oriole Dr.		Indian Rd.
Power St.		Jean St.
Rink St.		Keast Dr.
Ripple Rd.		Kelly Lake Rd.
Riverside Dr.		Kingsmount Blvd.
Serpentine St. (old Garrow Rd.)		Levis St.
Shaughnessy St.		Loach's Rd.
Walford Rd.		MacKenzie St.
		Maki Av.
		Martindale Rd
		Melvin St.
		Montcalm Av.
Young St.		Moonrock Av.
		Morin Av.
		Morrison Av.
		MR-67 Howey Dr. hills+curves
		Nepahwin Av.

**SOUTH SECTION
ST. CLAIR DEPOT**

Roads Deleted from Salt Routes	Salt Routes	Salt Routes (hills)
		Patterson St.
		Pearl St.
		Pietro St.
		Pine St.
		Poplar St.
		Prete St.
		Shields St.
		South Bay Rd.
		Southview Dr.
		Stanley St.
		Ste. Anne Rd.
		Struthers St.
		Subway St.
		Tanguay Av.
		Telstar Av.
		Van Horne St.
		Venice St.
		Victoria St.
		Wellington Ht.
		Wembley Dr.
		Whittaker St.
		Winchester Av.
		York St.

**SOUTH EAST SECTION
FROBISHER DEPOT**

Roads Deleted from Salt Routes	Salt Routes	Salt Routes (hills)
Allan St.		Bancroft Dr.
Attlee St.		Bellevue
Auger St.	Barrydowne Rd.	Bowlands Bay
Cedar St.	Brady St.	Fabbro St.
Church St. Garson	Falconbridge Hwy.	Fairview
Donald St.	Garson Coniston Rd	Forestdale
Elgin St.	Hwy. 537	Grandview Bl.
Fourth Av.		Howey Dr. MR-67
Gary St.	Kingsway	Marcus Dr.
Gemmel St.	Lasalle Bl.	Mont Adam St.
Government Rd.	Lloyd St.	Montrose Av.
Hawthorne Dr.	Second Av. North	Paquette St.
King St.	Skead Rd.	Pearl St.
Lansing Av.		Rideau St.
Larch St.		Somers St.
Leslie St.		Van Horne St.
Louis St.		
Madison Av.		
Maley Dr.		
Mathew St.		
Mildred St.		
Moonlight Av.		
Morris St.		
Mountain St.		
Northway Av.		
Pine St. Garson		
Poplar St. Garson		

**SOUTH EAST SECTION
FROBISHER DEPOT**

Roads Deleted from Salt Routes	Salt Routes	Salt Routes (hills)
Second Av. Coniston		
Second Av. South		
Westmount Av.		
Wilfred St.		
Woodbine Av.		
Yollie st.		

**NORTH WEST SECTION
RAYSIDE DEPOT**

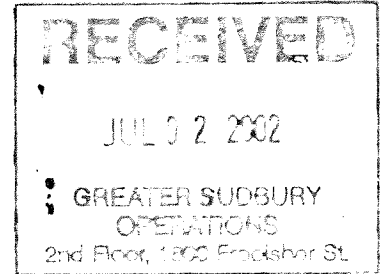
Roads Deleted from Salt	Salt Roads	Salt Roads (hills)
Brookside Dr. intersections	Errington Av. North	MR-8 Dowling
Cote Av. intersections	MR-35 (Elm)	Onaping Dr. (MR-8 to Short)
Edward Av. intersections	MR-15	Third Ave.
Errington Av. South		
First Av. North		
Fraser Av.		
Hill St. intersection @ Errington		
Levack Dr. - business section		
Main St. East (M-14)		
Main St. West (MR-14)		
Montpellier Rd. (hill)		
Nickel St. 50m to firehall		
Notre Dame St. East		
Notre Dame St. West		
St. James intersections		


**SOUTH WEST SECTION
BLACK LAKE DEPOT**

Roads Deleted from Salt Routes	Salt Routes	Salt Routes (hills)
Black Lake Rd.	MR-10 Panache Lk. Rd.	Black Lake Road between depot and MR-55
Brian St.	MR-24 Main St.	Brian St. between Hillcrest and Field St.
Cavarzan Dr.	MR-55 old 17	Hillcrest Dr. between MR-55 and Melvyn Av.
Coronation Blvd.		Hillview Dr.
Cross St.		Moxam Landing
Fielding Rd		Niemi Rd. between MR-24 and Turner Dr.
Hillcrest Dr.		
Jacobson Dr.		
Kantola Rd.		
Lloyd St.		
Magill St.		
Margaret Av.		
Melvyn Av.		
Mikkola Rd.		
Mumford Dr.		
Niemi Rd.		
Ninth (9 th) Av.		
Philip St.		
Queen Elizabeth		
Sixth (6 th) Av.		
Third (3 rd) Av.		
Vagnini Ct.		
Westview Cr.		
Woodland Av.		

**NORTH EAST SECTION
SUEZ DEPOT**

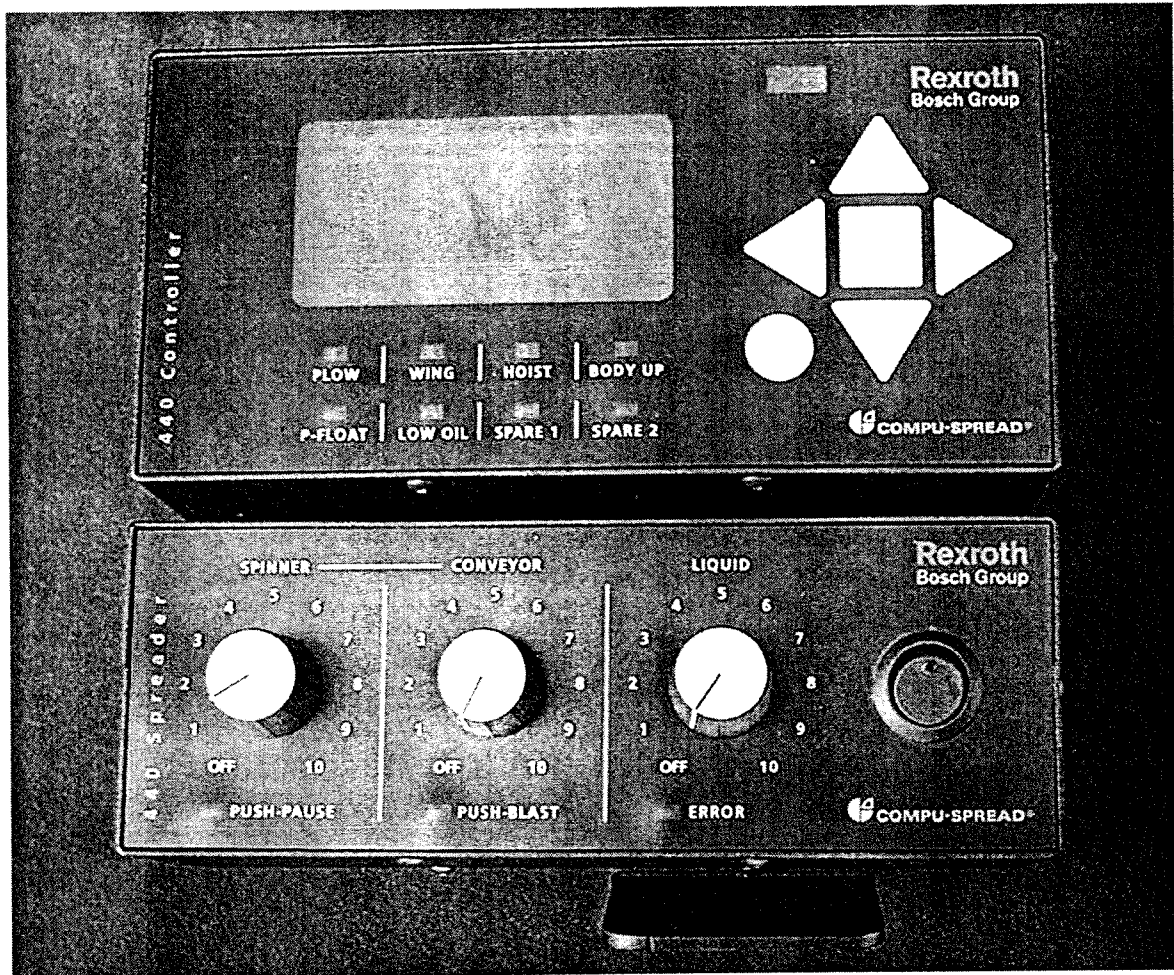
Roads Deleted from Salt Routes	Salt Routes	Salt Routes (hills)
Bloor Street	MR-84 Capreol Rd.	Centennial Rd.
Bodson Rd.	MR-15 Main St.	
Desmarais Rd.	MR-80	
Dominion Drive (East of Elmview)	MR-85 Radar Rd.	
Elmview Dr.	Notre Dame from MR-80 to Cote Blvd.	
Frapier Rd.		
Front St.		
Kalmo Rd.		
Lafontaine		
Main St. MR-80 East		
Marie Av.		
Martin Rd. MR-15 to Valleyview		
Michelle Dr.		
Notre Dame from Gravel Drive to Bodson		
Percy Av.		
Valley View Rd		
Young St.		



 **COMPU-SPREAD®**

PRODUCT INFORMATION

THE FUTURE
.....TODAY!



440 Controller

Features:

- Large screen, more information at a glance
- Solid and Pre-wet on one controller
- Remote placement of screen
- Road surface and ambient temperature display
- Built in speed simulator
- Easy to use software
- Modular Technology- add to system as need arises

Controlling the application of:

- SOLID DE-ICERS
- PRE-WETTING OF SOLID DE-ICER
- ANTI-ICING
- COMBINED ANTI-ICING and PRE-WETTING

SOLID DE-ICERS

Accurate, controlled spreading of:

- 4 Solids and 4 liquids

Programmable for nine (9) solid rates, selectable by driver

Will fit all types of spreading units

Completely compatible with the CS-230 hydraulic system

Data down loading using "Palm Pilot" Technology, 500+ events.

Setting up and calibration with easy to follow "on screen" instructions.

Self-nulling of solenoids as well as self-calibrating.

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PRE-WETTING AND ANTI-ICING

Single pumping system for both functions.

Capable of agitating liquids in on-board storage tanks if needed.

Full range of pre-wetting ratios.

Programmable for Nine (9) pre-wetting ratios in liters per tonne or liters per minute, selectable by the driver.

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Measuring and recording of either pre-wetting or anti-icing flows, individually or in combination with separate flow recording for each.

Multi-boom, multi-tier capability for 1, 2 or 3 lane liquid application.

CUSTOMER COMMITMENT

To further enhance our commitment to our customers, we have added a 24hr help service during the peak winter maintenance period.

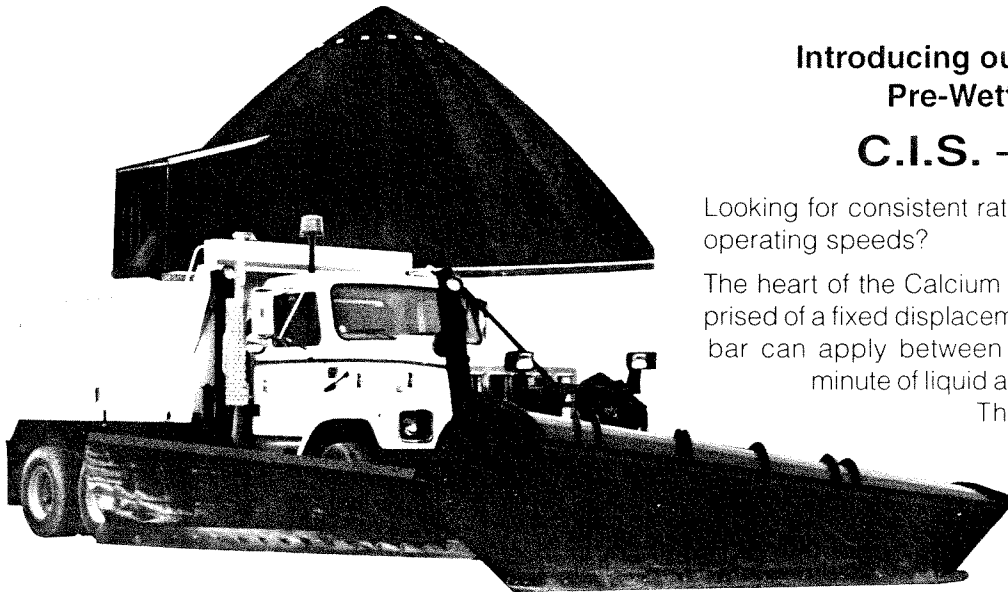
During this time you will be able to contact a technical representative of Compu-spread for immediate assistance.

Innovative material
metering solutions



Introducing our On board Liquid Pre-Wetting System.

C.I.S. – SERIES



Looking for consistent ratios of liquid to solid through all operating speeds?

The heart of the Calcium Injection System (C.I.S.) comprised of a fixed displacement pump and sequential spray bar can apply between 0.05 through 3.5 gallons per minute of liquid at a pressure of 20 psi maximum.

The results are large liquid droplets that minimize drift in turbulent conditions and maximize the usage of chemicals.

Simplicity In Operation

The system operates simply by taking the return oil on your new or existing closed loop spreader and diverting it into our Variable Hydraulic Flow Divider Valve Block. A predetermined percentage of oil flow can now be supplied to a hydraulic motor which drives a fixed displacement peristaltic pump while the remaining oil is simply bypassed to return to the tank.

Longevity

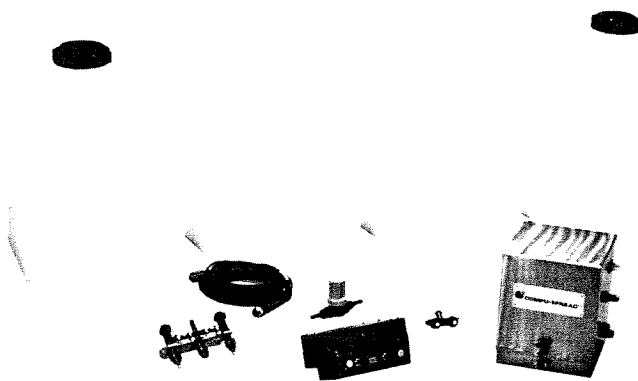
The **Pump Unit** is assembled with weather resistant components. The enclosure and all the mounting hardware are manufactured with stainless steel complete with a sealed removable lid for easy access.

Peristaltic Pump delivers the liquid through a unique fixed displacement design which eliminates contact of corrosive or abrasive material with any moving mechanical parts, allowing for years of maintenance free operation. Excellent suction characteristics provide worry free priming as well as allowing infinite mounting locations.

Accuracy

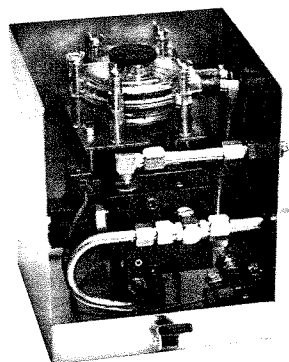
The **Variable Hydraulic Flow Divider Valve Block** will divert between 10 and 60% of the conveyor oil to the motor pump unit, allowing for a pinpoint ratio adjustment. This adjustability allows for a constant liquid to solid ratio ranging from as low as 3% to 25% by weight. The end result is a system that can be calibrated to fit anyone's specific needs.

Sequential Spray Bars are designed to deliver the liquid accurately at a consistent low pressure. Large orifices and strainers minimize the potential for clogging. The components are constructed of Polycarbonates, Stainless Steel and Ceramics to ensure corrosion resistance and a long life.

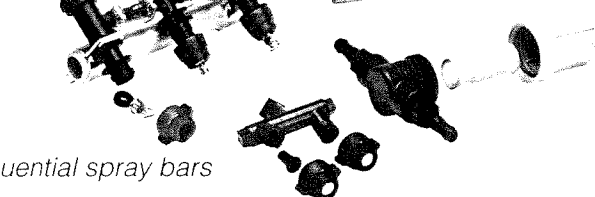


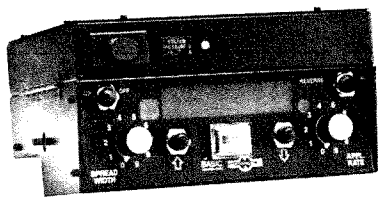
Compu-Spread® Calcium Injection System. Including Reservoir, Closed Loop Controller, Peristaltic Pump and Sequential Spray Bars.

Peristaltic Pump with lid removed.

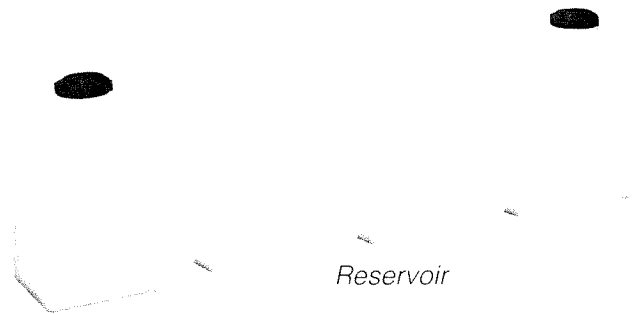
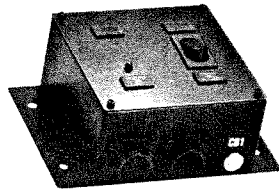


Sequential spray bars





Control Console options



Reservoir

Our Competence
 Engineering
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Affordability

The Control Console requires only one electrical switch combined with low material warning light, allowing for a simple interface to your existing console. The stainless steel pressure switch is the only required feedback device for system monitoring. Installation and Calibration is a snap with pre-assembled wiring, hose and fitting kits, once again making your job easier.

Control Consoles available for a variation of mounting options. Complete shielded wiring harnesses supplied with high quality, weather sealed connectors for superior corrosion resistance.

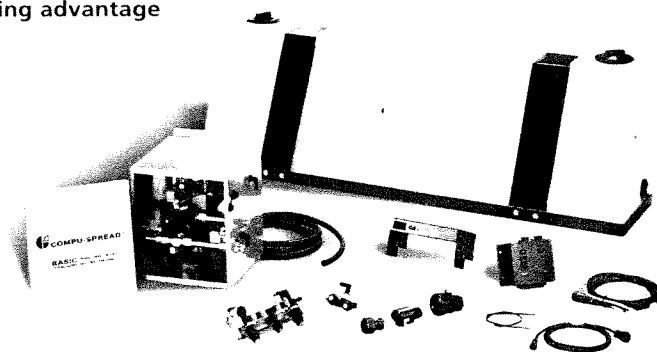
Reservoirs available for Vee-Body, Side Mount and Tailgate, provide solutions to all your mounting needs.

With our many years of experience in material metering systems, we have developed the tools and knowledge to offer you cost effective solutions for all your applications.

Our strong network of dealers and technical offices ensures a high degree of support throughout the U.S.A. and Canada.

CS-C.I.S. pre-wetting system

Improve your performance and material savings with the pre-wetting advantage



- Fixed displacement peristaltic pump combined with our sequential spray bars minimize material drift and guarantees consistent ratios of liquids to solids every time
- Easily adaptable to your new and/or existing hydraulic spreader control system
- All components manufactured with corrosion resistant material to reduce maintenance costs and unscheduled downtime
- Standard 75 gallon tanks available in Vee-Body or tailgate mounted tank kits
- Control consoles easily integrate with existing Compu-Spread spreader control system
- Standard shielded wiring harnesses supplied with high quality, weather sealed connectors



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Innovative material metering solutions



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