

## COMMON COUNCIL REPORT

<b>M&amp;C No.</b> 2020 -
<b>Report Date:</b> December 3, 2020
<b>Meeting Date:</b> December 14, 2020
<b>Service Area:</b> Public Works & Transportation

His Worship Mayor Don Darling and Members of Common Council

***SUBJECT: Winter Management Plan Overview***

### ***AUTHORIZATION***

<b>Primary Author</b>	<b>Commissioner/Dept. Head</b>	<b>City Manager</b>
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### ***RECOMMENDATION***

It is recommended that Common Council receive this report for information.

### ***EXECUTIVE SUMMARY***

The Winter Management Plan is a document developed by staff to manage the service levels during and after a winter storm event. This plan outlines the minimum service level objectives and allows staff to measure their effectiveness during the winter season.

The resource allocations and standards outlined in this Winter Management Plan for Streets and Sidewalks are intended to keep the community functional through the winter months. The intent of the Plan is to coordinate winter preparations, organize resources, and guide operational protocols for servicing our public streets and sidewalks, under widely varying conditions.

There are a number of changes to the Winter Management Plan for 2020-21 tied to continuous improvement initiatives and a minor decrease in resources for street plowing and sidewalk plowing. This year will see a re-balancing of resources between the day & night shifts that will make the operation more efficient with its use of heavy equipment. There will also be a small reduction in the length of sidewalks plowed.

The success of this plan depends on the community working together. Ultimately, success means the public sharing in the responsibility, working with the City and having realistic expectations of winter service.

## **PREVIOUS RESOLUTION**

N/A

## **REPORT**

The Winter Management Plan is reviewed annually and is subject to amendment as our needs, service levels, weather conditions, and technology change over time. Continuous improvement is key. The details of service level standards for street and sidewalk plowing have been included in this report in Appendix B.

Despite adjustments to resource levels, a modified approach to street plowing has resulted in maintenance of existing service level standards. Staff have re-designed all of the street plowing routes going into this winter season and will be altering the balance of staff between day shift and night shift. The balancing of front-line operators will mean that there will be more resources on during the overnight shift. Citizens can expect to see enhanced plowing capabilities overnight, but consequently a reduced complement of resources during the day both for the morning and afternoon rush hours.

It is anticipated that this will balance out, and consequently there have been no changes made to the service-level standards at this time. Staff will monitor performance against these standards over the upcoming winter and will make any suggested changes if warranted.

The other change for the upcoming winter season relates to the winter sidewalk plowing. Three pieces of sidewalk plowing equipment have been disposed of, and the remaining routes redesigned. There are a limited number of sidewalk sections that will not see winter service this year as outlined in Appendix A.

Draft changes were presented to Common Council at their November 9, 2020 meeting at which time staff received preliminary feedback. Since then staff have met with representatives from the School District and Saint John Transit for more detailed discussions. As a result, there have been some changes to the proposed plan. Some of the more significant changes include the following:

- The addition of a loop back through Silver Falls following the bus route
- The addition of the north side of Rothesay Avenue from Ashburn Lake Road to Russell Street
- The addition of Tim Street (adjacent to the Glen Falls School) to accommodate child drop-off

The rest of this report will focus on other elements of our winter service delivery, as well as any new operational initiatives.

### **Winter Asphalt Maintenance**

With a winter season with fluctuating temperatures brings cycles of freeze and thaw for our road base. This impacts not only the road surface with an increase in potholes but also the underground infrastructure, specifically water breaks. Because asphalt plants are closed during the winter we traditionally do not have access to hot-mix asphalt and are reliant on less durable cold mix. In the past we have also made use of a recycler, which can reheat a stockpile of asphalt. This season we have one additional asphalt recycler to increase our production capacity. These units will be used during both the day shift and the night shift when crews are not actively plowing snow.

## **Snow Removal**

Snow and ice removal operations involve a combination of internal and contracted resources to remove (truck away) accumulated snow from the street rights-of way. An enhanced night shift should lead to a slight increase in our capability to remove snow.

## **Parking Bans**

The City has 2 different parking bans during the winter season: The South Central Peninsula (SCP) parking ban and the North East West (NEW) parking ban. The Motor Vehicle Act permits the municipality to prohibit on-street parking without a traffic control device (sign), providing the restriction is for purposes of winter snow control and does not extend beyond the midnight to 7 am time period.

Parking Bans are declared for the safe operation of snow clearing in various parts of the City. It is unclear at this point what the full impact of the resource level changes will have on our ability to clear the streets during an overnight parking ban.

## **Inventory Adjustment**

The City's street inventory remains the same for this winter season.

Water Lily Way located adjacent to Treadwell Lake in the City's East side was added in 2019.

## **New Department Led Initiatives**

### **Brine Usage**

The City purchased two brine plants in 2015 and adjusted the specifications for plow equipment to ensure that all newly purchased equipment is coming brine ready. The objective of brine is to reduce overall salt consumption while sustaining a high level of service.

Straight salt is only effective until -7 to -10 degrees C. Straight Brine Freezes at -21 degrees C and when applied to salt, called pre-wetting, it becomes effective until -15 degrees C. Pre-wetting helps keep 80% of salt on the road as it tends to make the salt sticky and thus when applied to the road surface it stays in place rather than bouncing off to the edge of the road.

Anti-icing is the process of applying liquid brine directly to the road surface. This application can be done up to 48 hours prior to an upcoming storm event. As the liquid brine dries it crystalizes on the road surface. The moisture from a storm event reactivates the brine and prevents snow and ice from sticking to the road surface and thus reduces anchor ice and starts melting snow and ice on contact. The City will have two anti-icing units available for this winter season. This represents an increase over previous years and can aid in a better response early during a storm event.

### **Sidewalk Ice Removal**

With the purchase of a new sidewalk plow recently came with another ice remover. This increases our capacity to remove ice in the event of frequent cycles of melting and re-freezing. These efforts will be concentrated on sidewalks with large numbers of pedestrians, such as in the CBD and SCP.

### **Live Edge technology**

The blades of a live edge plow follow the curvature and contour of the roads and allows for up to 60% more material to be scrapped from the surface thus leaving less snow and ice to be treated with de-icing materials. The use of Live Edge plows should reduce plow maintenance costs, and salt and sand

consumption required to meet our service levels. New trucks received this year have some version of live edge plows.

### **Citizen Education, Engagement & Customer Service**

The significant changes to the Winter Management Plan in 2009 were followed by a number of ‘Open Houses’ for the public to learn of the new service levels and priorities. Since the original plan was adopted by Common Council in 2009, any required annual updates, such as changes to priorities, sidewalks serviced, etc., have been reported to Council.

Since the introduction of the Winter Management Plan, the City has carried out substantial public awareness campaigns to educate citizens on details of the plan. The campaigns have included web and social media content, signage, radio and print ads, direct mail pieces, news releases, and other public notifications. The communications material has provided information on alternate side parking and on-street rules, overnight parking bans, maps and listings of priority streets and sidewalks, and other details of the Winter Management Plan. The plan will be available on the City’s website. Staff continues to work on various other education materials, including infographics and interactive maps, to enhance citizen awareness and understanding.

Specific inquiries from citizens, or work requests related to winter operations, can be directed to our new Integrated Customer Service Centre at 658-4455. Calls are answered 24/7 and customer service staff are able to communicate any service requests to management or frontline staff as appropriate.

### ***STRATEGIC ALIGNMENT***

This report aligns with Council’s priority for valued service delivery

### ***SERVICE AND FINANCIAL OUTCOMES***

N/A

### ***INPUT FROM OTHER SERVICE AREAS AND STAKEHOLDERS***

N/A

### **ATTACHMENTS**

Appendix A Summary of Changes to Sidewalk Servicing

Appendix B Overview of Service Level Standards for Streets & Sidewalks

Winter Management Plan Overview Power Point

## Appendix A Proposed Changes to Sidewalk Servicing

### Sidewalks Added

Sidewalk Location	Changes	Reason
Section of Thorne Avenue	Added service priority 1	Higher pedestrian travel from the intersection to Super Store

### Priority Level Adjustments

Sidewalk Location	Changes	Reason
Spruce Street	Priority 1 to 3	Lower pedestrian traffic
Somerset Street from Barker to Paradise Row	Priority 3 to 1	Higher pedestrian traffic
Tim Street	Priority 4 to 1	Department of Education changed bus routing this will be a higher travelled sidewalk within the school zone
Bleury Street (west sidewalk)	Priority 3 to 1	Higher pedestrian traffic
Sandcove Road section from Seawood St. to Duck Cove	Priority 1 to 3	No longer a school zone

### Sidewalks Removed East

Sidewalk Location	Changes	Reason
Coldbrook Crescent	Removed	1 bus stop at the beginning of the crescent Consulted with transit commission
South side of Rothesay Avenue from Retail Drive to McAllister Drive	Removed	Lower Pedestrian Traffic – No bus stops
Morley Crescent	Removed	Mountain Road is serviced
Sunnybrook Terrace	Removed	Shillington Road is serviced to Hickey and Eagle Blvd
East Street	Removed	Shillington Road serviced to Hickey and Egal Blvd
Paths between Creighton Avenue and Muriel Avenue	Removed	No longer have equipment to service these paths
Paths between Muriel Avenue and Champlain Drive	Removed	No longer have equipment to service these paths

Westmorland Road East bound sidewalk from Retail Drive to Consumers Drive	Removed	Other side serviced
Consumers Drive east bound sidewalk from Commerce Drive to Westmorland Drive	Removed	Other side serviced
Commerce Drive from Loch Lomond to Consumers Drive	Removed	No changes to Silver Falls area
Bayside Drive from Willet Avenue to Mount Pleasant East	Removed	No longer a neighbourhood in this area

### Sidewalks Removed Central

Sidewalk Location	Changes	Reason
Stanley Street	Remove	DTI no longer services walking bridge across highway
West Side of Cliff Street	Removed	Balancing routes, 1 side of street sidewalk serviced
West side of Peter Street	Removed	Balancing routes, 1 side of street sidewalk serviced
Sections of Carleton Street from Peel Plaza to end of Carleton Street and Coburg Street to Dorchester Street	Removed	Infrastructure barriers, machine cannot pass

### Sidewalks Removed North

Sidewalk Location	Changes	Reason
Section of Bedell Avenue from Marlin Drive to end of Bedell Avenue (to Civic 251)	Removed	Balancing routes Lower pedestrian, vehicle traffic
Section of Chesley Drive from Fort Latour to Bentley Street	Removed	Harbour Passage Serviced – alternative route
Taylor Avenue	Removed	Balancing routes MacLaren Blvd serviced
Section of Seely Street from Pine to Crown Street	Removed	Infrastructure barriers, machine cannot pass
Remove West side of Stanley Street	Removed	Balancing routes East side sidewalk serviced

## Sidewalks Removed West

Sidewalk Location	Changes	Reason
Gault Road	Removed	Not connected to larger sidewalk network
Section of Manawagonish Road from Westgate Drive to Gault Road	Removed	Balancing routes due to removal of 2 pieces of equipment
Gaelic Drive	Removed	Balancing routes due to removal of 2 pieces of equipment
Danells Drive	Removed	Bleury Street Serviced No longer a school zone
Coster Street	Removed	Catherwood Street and O'Brien Street serviced
Francis Street	Removed	Balancing routes due to removal of 2 pieces of equipment
Section of Green Head Road from Balmoral Crescent to St. Clair Avenue	Removed	Balancing routes due to removal of 2 pieces of equipment
Balmoral Crescent	Removed	Balancing routes due to removal of 2 pieces of equipment
Dwyer Road	Removed	Balancing routes due to removal of 2 pieces of equipment
Kingsville Road	Removed	Balancing routes due to removal of 2 pieces of equipment
Hawtry Street	Removed	Balancing routes due to removal of 2 pieces of equipment
Section of Milford Road from Milford Community Centre to end of road	Removed	Balancing routes due to removal of 2 pieces of equipment

## Appendix B Overview of Service Level Standards for Streets & Sidewalks

The Winter Management Plan breaks down the City streets into 4 priority levels:

1. Arterial streets, highway connections, emergency routes.
2. Major bus routes, schools, community centers, business districts.
3. Collector streets, minor bus routes, industrial parks; and
4. Local or subdivision streets.

These street priorities are used to determine the appropriate level of service during and post winter storm events. The focus of City resources during a winter snowstorm event is to provide safe passage for the traveling public on our streets and sidewalks. These service levels change slightly depending on the type of weather event we are experiencing at the time.

During a winter snowstorm event our objective for streets is to plow accumulated snow off the travel lanes of the streets to allow basic accessibility for emergency vehicles and the traveling public with our focus on priority 1 and 2 streets. The applications of de-icing and/or abrasive materials are reserved for specific locations such as intersections and steep hills. Depending on the weather event, i.e., how much accumulation/hr., will depend on whether or not we can service all our priorities (1 thru 4) for streets.

During a winter snowstorm event our objective for sidewalks is to plow or blow accumulated snow off priority 1 and 2 sidewalks to provide a minimum level of pedestrian passage. Priority 3 and 4 sidewalks are typically dealt with after the storm event has ended.

After a winter snowstorm event has ended our objectives change for both streets and sidewalks. Our focus is now on plowing remaining snow off travel lanes to ensure basic traveling public movement. Once all streets have received this basic level of accessibility the crews will then focus on pushing back to widen the travel lanes and open drainage basins. Application of de-icing and/or abrasive materials will accompany the push back operation and be applied as required based on conditions and priority.

Our focus for sidewalks is to plow or blow accumulated snow for all designated serviceable sidewalks (55% of our total inventory) and apply de-icing or abrasive materials as necessary.

Once the winter snowstorm event has ended the City starts measuring specific service levels that are time related. These service level measurements are typically gathered for a winter storm event 10cm or more of snow.

The service level measurables for streets post storm event are:

Priority 1/2:

- 8 hours after end of storm - travel lanes passable; and
- 48 hours after end of storm – travel lanes pushed back, and appropriate anti-icing material applied.

Priority 3/4:

- 12 hours after end of storm - travel lanes passable; and
- 72/96 hours after end of storm - travel lanes pushed back and appropriate anti icing material



applied.

The service level measurables for sidewalks post storm event are:

Priority 1:

- 12 hours after end of storm – basic pedestrian passage
- 48 hours after end of storm - walking surface with salt or sand applied at least once

Priority 2/3:

- 24 hours after end of storm – basic pedestrian passage
- 3 days after end of storm - walking surface with salt or sand applied at least once

Priority 4:

- 72 hours after end of storm - pedestrian passage
- 4 days after end of storm - walking surface with salt or sand applied at least once

Sidewalk service levels cannot mirror (in practical terms of time, consistency and quality) what is possible on streets. This reflects the physical characteristics of sidewalks (limited width and lack of direct drainage), effects of pedestrian traffic versus vehicles, and limitations of sidewalk equipment. Service expectations need to be tempered; severity of weather is a much more determinant of sidewalk conditions.

Storm severity, temperature fluctuations, localized conditions and successive storms will limit or prevent attainment of our stated objectives for both streets and sidewalks.