

Winter Control Update

Background

Winter control services in the City of Greater Sudbury are covered by defined winter control service policies and/or guidelines contained within the Minimum Maintenance Standards (MMS), O.Reg. 239-02. The biggest challenge staff are experiencing in the last couple winter seasons is the weather. During the 2018-2019 winter season, the City received approximately 13 feet or 3.96 meters of snow with very few if any significant melting periods. This resulted in increased activity levels in snow plowing, snow removal and pothole patching to name a few. Unfortunately, the 2019-2020 winter season has not started off any better. Since October, 2019 there have been 3 fairly significant snow events.

Weather Statistics

As noted the weather has not been very co-operative so far this winter season. Table 1 highlights the statistical information extracted from Environment Canada for this reporting period (October – November 2019). Also included is the 30 year normal (1981 – 2010) for the same months to demonstrate the increases experienced. The total accumulation for the 2019-2020 winter season up to and including November 2019 is 3.3 feet or 1.0 meters. One difference seen this season over last season is some mild weather between snow storms which has caused some melting periods. From a maintenance perspective, melting periods most certainly help with the amount of snow on the edge of roads and sidewalks but also contributes to the need for additional maintenance activities such as drain opening and/or road scraping. On the other hand, the annual snow total for the 2019 calendar year is 12.3 feet or 3.75 meters. The 30 year normal for the same period is 6.56 feet or 2.0 meters. The snow accumulation in 2019 compared to the 30 year normal reflects an 87.5% increase for the same period.

Table 1 – Weather Statistics

Month	Snow Accumulation (cm's)	30 Year Normal (cm's)	Percentage Increase/(Decrease) Compared to 30 Year Normal (%)
Jan	100.6	59.5	69.1
Feb	101.2	51.7	96.0
Mar	42.5	34.9	21.8
Apr	18.1	16.9	7.1
May	12.0	1.9	631.6
Jun-Sep	-		
Oct	19.4	5.7	340.4
Nov	80.8	29.6	273.0
Dec			
Totals	375	200	87.5

Note: All weather data taken from Environment Canada website for weather station Sudbury A.

Winter Control Sub-Services

1) Roadway Snow Plowing/Sanding/Salting

Includes work activities such as plowing/sanding/salting/anti-icing roads and winter stockpile management.

Status Update

With the early onset of winter, staff have been very busy with this sub-service. From the beginning of winter 2019/2020 until the end of November staff have addressed 3 major snow storms. In addition to the snow events, the City had melting periods which caused the snow on roads and sidewalks to melt and required additional plowing/scraping to keep them safe for vehicular and pedestrian traffic.

Challenges

Staffing – One of the most significant challenges faced at the beginning of each winter is staff training. Generally speaking, the casual pool of employees is topped up in September and they are provided training prior to winter control. Training cannot be completed until winter commences. The timing and amount of snow challenged staff

to complete training in a shorter time period. In addition to staff training, there is also an above average number of employees off work for various medical reasons which has created significant stress on the casual pool.

Early onset of winter – As mentioned earlier in this report, winter started very early this season. Not only was the first snowfall on October 31st but it measured at over 19 centimeters. The early onset limits staff's ability to secure enough Contract Services to assist with the winter event as most of them were still attending to third party project work. The City's contractor standby period commences on November 15th and runs to March 31th the following year.

Freezing rain – Freezing rain is a challenge regardless of when it happens. Staff fully deploy as quickly as possible but cannot get to all parts of the City quick enough as it relates to public expectations. There have been a couple of freezing rain events already this year. Snow packed roads become slippery under these weather conditions. It is staff's intention to provide the public with better advance notice of such "significant weather events" through newly developed procedures. Invariably, the public will have to be very careful when driving/walking when these events occur.

2) Snow Removal

Includes work activities such as bus stop clearing, snow removal with loaders, snow dump operation and snow removal in the downtown centres.

Status Update

There has been limited if any snow removal during this reporting period.

Challenges

Public expectations – This is generally a very contentious issue in the City. The public who park vehicles along our roadways would like to have the banks removed in a more timely fashion. The current service level would have staff removing banks for sight lines at intersections, when banks impede the ability for a vehicle to pass safely, at select bus stops and in front of churches at Christmas.

3) Winter Sidewalk Maintenance

Includes work activities such as sidewalk plowing and sanding.

Status Update

As noted in item 1.

Challenges

As noted in item 1.

4) Roadway Snow Plowing with Graders/Loaders/4x4s

Includes work activities such as snow plowing with graders, 4x4s and loaders, municipal parking lot maintenance and snow fence maintenance.

Status Update

With the early onset of winter, staff have been very busy with this sub-service. From the beginning of winter 2019/2020 until the end of November staff have addressed 3 major snow storms. In addition to the snow events, the City had melting periods which caused the snow on roads and sidewalks to melt and required staff to complete additional plowing/scraping to keep them safe for vehicular traffic. In a typical winter, staff do not have to complete the amount of road scraping that has been seen to date (October/November). The melting action has caused the roads to become very "mealy" and irregular which facilitates the need to scrape them with graders equipped with ice blades.

Challenges

Contractor availability – Staff generally try to secure as many graders as they can to complete this work but it is never enough. Some of our Contractor partners have other contracts that they need to fulfill which at times limits their availability. Road scraping is a slow task involving multiple passes with a grader.

Freezing rain – Freezing rain is a challenge regardless of when it happens. Staff fully deploy as quickly as possible but cannot get to all parts of the City quick enough as it relates to public expectations. There have been a couple of freezing rain events already this year. Snow packed roads become slippery under these weather conditions. Staff are limited to the number of options they can perform on roadways when a freezing rain event is experienced. Options include sanding and salting or scraping with a grader. Regardless of which treatment is completed it takes time to cover all 3,600 lane kilometers of the road network.

Cul-de-sac plowing – Many residents who live in cul-de-sacs request snow removal along the frontage of their property after a winter event. The main reason for snow removal is generally associated with the lack of area to store snow due to driveway widths and lot dimensions. Staff are constantly answering calls from the public on this issue. The City deploys 4x4s or loaders to clear cul-de-sacs and bulb outs at the same time plows are deployed on the Class 4-6 network. The windrows of snow left after the snow plowing operations are the same as similar straight sections of Class 4 to 6 roadway as it is in most cul-de-sacs. To deal with this issue staff are planning on

providing updated information on the City's website describing the proper way cul-de-sacs are plowed.

5) Winter Ditching/Spring Clean Up

Includes work activities such as winter ditch maintenance and spring clean up with sweepers/flushers on roads and sidewalks.

Status Update

There has been no winter ditching/spring clean up during this reporting period other than minor drainage works during melting periods.

Challenges

No significant challenges in this reporting period.

6) Miscellaneous Winter Maintenance

Includes work activities such as property restoration (plow damage), pothole patching, winter road patrol, employee standby, equipment standby, health and safety training (snow school), fringe benefits and tool repairs.

Status Update

Pothole patching is the only maintenance activity that has been completed under this subservice during the October/November reporting period. To date, there has been some pothole patching completed due to the melting conditions in combination with the freeze-thaw cycles. In 2019 the City completed a significant large patching program which is anticipated to address pothole patching. Over the coming months, staff will continue to monitor this program closely to ensure the 2020 large patching program addresses the areas of greatest concern.

Challenges

No significant challenges in this reporting period.

Financials

This report provides the financial results of the 2019 winter roads operations up to and including the month of November, 2019. As depicted in Table 2 below, the result for 2019 is an over expenditure of approximately \$5.7 million.

Table 2 – Financial Results

2019 Winter Summary					
As at November 30, 2019					
	Annual	2019 YTD			% Change YTD
	Budget	Budget	Actual	Variance	
Snow Plowing/Sanding/Salting	7,325,549	5,651,062	6,595,907	(944,845)	117%
Snow Removal	699,111	532,194	2,587,999	(2,055,805)	486%
Winter Sidewalk Maintenance	1,069,080	801,810	950,479	(148,669)	119%
Snow Plowing - Graders/Loaders/4x4s	794,962	595,602	1,428,924	(833,322)	240%
Winter Ditching/Spring Clean Up	2,036,020	2,012,623	2,934,136	(921,513)	146%
Miscellaneous Winter Maintenance	6,736,505	5,706,985	6,518,378	(811,393)	114%
Totals	18,661,226	15,300,276	21,015,823	(5,715,547)	137%

The winter control deficit will form part of the year end position.