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Sidewalk Snow Clearing Sod Repairs Information Report

Report Number: 2019-02

Department(s): Public Works Services

Author(s): Jeff Bond

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In accordance with the Procedure By-law, any member of Council may make a request to the Town Clerk that this Report be placed on an upcoming Committee of the Whole agenda for discussion.

Purpose

The Purpose of this report is to provide an update on Customer Relationship Management (CRM) tickets, or service requests, related to Sidewalk Snow Clearing Sod Repairs during the winter season of 2017/2018.

Background

At the Council Workshop on December 5, 2018, there was a request for the number of sidewalk snow clearing sod repairs for the previous season compared to winter events and seasonal conditions.

Discussion

2017/2018 Winter sidewalk maintenance CRM tickets

The Customer Service staff received 224 CRM tickets from November 2017 to May 2018 related to sod damage from winter sidewalk maintenance. The factors listed below contribute towards sod damage; however, there are many actions that are also taken to help reduce sod damage.

Sidewalk width's

Currently, Public Work Services (PWS) maintain sidewalks that are 122cm (48 inches) or greater, including those that fall under the following criteria:

- Sidewalks in the downtown area that have been previously maintained for the past 15 years or more (Grandfathered)
- Sidewalks that are abutting roadside curbs resulting in an available cleaning width of 122cm or wider.

Maintaining the downtown sidewalks that are narrower than 122cm has created some sod damage, and the areas that staff are clearing within this category are considered primary sidewalks on arterial roads and need to be cleaned due to the Public Works Service standard NMS-19: Winter Sidewalk & Walkway Maintenance Standards. The purpose of this standard is to provide a guideline for PWS staff for the best winter sidewalk maintenance efforts reasonable given available resources such as equipment, materials and labour, relative to weather conditions.

The Engineering Services Department does replace sidewalks to the current standard width of 150cm when completing street reconstruction projects, if space allows. The complete Town-wide transformation to this greater width is a gradual process that will occur through multi-year capital plans.

Staff have contacted various municipalities regarding maintenance on sidewalks that are 122cm or less. Toronto only clear sidewalks that are 150cm or wider with equipment, when smaller than 150cm, they use manual sidewalk cleaning crews in urgent cases; otherwise, property owners are required to clear snow and ice from these sidewalk locations Barrie maintains smaller sidewalks in the historical area knowing their machines do not fit, and they add the streets to the sod repair list for the spring. Richmond Hill has a few sidewalks that are smaller than the equipment, and they erect signage indicating no winter maintenance is provided by the Town.

Equipment suppliers

Staff have contacted the top two articulating tractors suppliers regarding a smaller piece of equipment for narrower width sidewalks, the suppliers indicate that they only receive a very limited number of requests for this type of equipment and have no plans to start production as the market is extremely limited and would not be profitable.

Using a smaller farm style tractor is also not viable on narrow sidewalks due to:

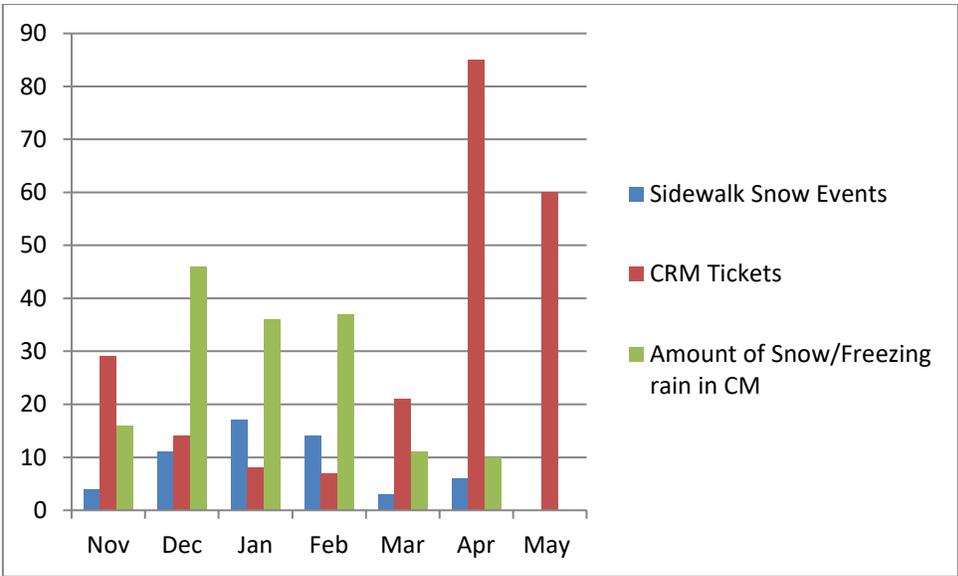
- Lack of factory installed cabs
- Limited space for the operator
- Insufficient power and capacity to carry and distribute sand/salt material
- Insufficient power to clear wet and/or heavy snow or ice.

Staff will continue to research smaller equipment that meets our required specifications and network with peers from other municipalities.

Weather conditions

The 2017/2018 winter season for sidewalk winter maintenance resulted in many Customer Relationship Management (CRM) tickets during the season. There were 224 CRM sod damaged tickets from November 2017 to May 2018. Below, is a chart with the number of monthly events for sidewalk winter maintenance, number of CRM tickets and accumulation of precipitation. (This includes snow and ice together) In November, PWS had to complete 4 winter maintenance events on sidewalks due to the snow accumulation that resulted in 29 CRM tickets reporting sod damage. During November and most of the December snow events, the ground was soft and not frozen which resulted in the equipment plow blades and tires creating higher levels of sod damage. As the temperatures lowered and the ground started to freeze, the number of tickets reduced until the spring. In the spring, the ground softened up from the frost being removed due to warmer temperatures and spring rain, which caused an increase in tickets when winter maintenance was required in March. April unfortunately brought ice storms that caused a very large spike in tickets with 85 in April and another 65 in May.

The first large snow accumulation of each season creates a few issues for winter sidewalk maintenance operators. With the ground being completely covered in pure white snow, there is no visual sign of where the sidewalk is located. The operators use their best judgement and sometimes unfortunately create sod damage. After the first snow event, the operators will have windrows that help guide them for each event afterwards. . Every year, the climate conditions are changing and there are different weather patterns resulting in periods of above normal temperatures in winter months, and brief times of extreme cold temperatures. This also results in a need to maintain sidewalks with sand/salt due to ice buildup even when it doesn't snow. Staff continue to monitor and adjust our winter maintenance responsibilities when needed.



Equipment

The equipment used by the town and contractors have a carbide cutting edge to help with wear on the plow edges. The carbide cutting edges were modified late last year and cut on 45-degree angles to help reduce sod damage by the blade edge. This new edging standard will be in place moving forward. As the width of the blade of the equipment is less than two inches narrower than the width of most sidewalks, and operators clear snow at approximately 14 Km/hr, there is little room for error. A demonstration of this can be viewed on the Town website at <https://youtu.be/9lcQ974M2AE>

Sidewalk routes final phase

The final phase of Town-wide winter sidewalk maintenance was introduced for the 2017/2018 season; there was also an increase of 95km of sidewalks and trails added throughout the town including new development. Because some of these sections did not previously have snow-clearing service, there were many areas, which had sod growing over the edges of the sidewalks. During the first passes of a snow plow the overgrowth was peeled back by the plow edges. Because of the interconnectedness and weaving of the grass roots, if a small section of sod is caught by the plow edge, there could often be many feet that are peeled back. Staff received many CRM tickets regarding cleanup of the first time-cleared sod.

Operator and equipment training

Every year, staff complete inspections on their routes with the appropriate equipment during the early fall season to locate hazards such as trees, poles, resident driveway curbing, sod growing over sidewalks and sidewalk bay deficiencies. This process also assists the operator to know of any tight radius corners, obstructions, and allows the staff member to obtain experience on the equipment in a non-winter event situation.

When required, additional time is set aside for training on the equipment before winter arrives. The Contractor also completes the same process as Parks staff during the fall.

PWS have two types of equipment that are used for winter sidewalk maintenance. Currently there are articulating machines, which help with heavier snow, tighter corners, and are slightly narrower and longer than the other tractor units; these type of machines are usually driven by full time Operators. The second type of equipment are farm style tractors, which are easier to operate and are used by Town Contractors and Park Attendants (casual contract staff).

Sod Repair Process

When our equipment accidentally damages resident's lawns, residents can contact Customer Service and a CRM ticket will be created to help with tracking purposes. There are many options for residents to contact Customer Service, which are available on the Town web page at www.newmarket.ca for further information. Residents can drop in at the Town Offices, Magna Centre and Ray Twinney Complex and talk to a Customer Service associate, they can also email the Town at info@newmarket.ca, or call 905 895 5193 with their concerns. Residents would need to provide the following details regarding sod damage: name, contact number, address and any details about the damage would be beneficial. After the ticket is created, it is sent to Parks & Property Services for review and the ticket status is updated along with it being sent to the Supervisor in charge of sidewalk winter maintenance. The Supervisor will have staff visit the site when weather permits and the information, including location and any available pictures, is loaded into the GIS Sidewalk Maintenance App. Once the spring weather arrives and growing conditions are suitable, we create a list from the GIS app for our contractor to make the necessary repairs. The app can create lists by wards, streets or any other search needed. Any information added to the app is available for further work that may need to be done. Small areas will receive soil/seed and larger areas will receive sod. The contractor will also place a door hanger with sod/seed repair tips including watering.

Public notices

PWS staff work with the Communications Department to inform residents regarding winter maintenance on sidewalks throughout the year. Staff have created videos using actual footage from our machines to show examples of what it is like in a sidewalk machine when we come upon hazards that interfere with winter maintenance and how the public can assist. Door hangers have been used to notify residents of property damage and that their address is on a list for sod repairs in the spring. Door hangers include helpful hints regarding sod repairs and methods that can be used to minimize damage reoccurring. Social media and the Town page are also used to help staff explain difficulties regarding sod growing over sidewalks, cars overhanging sidewalks, garbage and recycling day placements of the bins and updates during larger storms.

2018/2019 Winter Sidewalk Maintenance Update

Trends regarding winter maintenance on sidewalks show an increase in maintenance events this season compared to last season. We have had 56 events as of March 18 for the 2018/2019 season. We also have seen a decrease in complaints this season, where we have only received a total of 30 CRM tickets from November of 2018 till March 11, 2019. Winter came early in November before the ground was frozen, which caused additional damage to residents' lawns. Staff were able to repair the November's damage as it occurred due to the above normal temperatures. We do expect to see a rise in tickets as the snow melts and the residents get outside to enjoy the warmer weather. Please see below the breakdown of months, winter sidewalk events and CRM tickets.

Month	Winter Sidewalk Events	CRM Tickets
November 2018	6	18
December 2018	7	7
January 2019	21	1
February 2019	15	3
March 2019	7	1

Conclusion

Public Work Services will continue to look for opportunities to improve winter maintenance practices including researching equipment and technology, working towards reducing CRM tickets for sod repairs and improving communications when damage has occurred.

Business Plan and Strategic Plan Linkages

This report links to Newmarket's key strategic directions in Making Newmarket Even Better.

Consultation

Public Works Services consulted Customer Services regarding information related to CRM tickets for the 2017/2018 winter season and sidewalks along with 2018/2019 winter season.

Human Resource Considerations

Not applicable to this report.

Budget Impact

Not applicable to this report.

Attachments

See Appendix A: Sidewalk Tractor Dimensions document

Contact

For more information on this report, contact: Jeff Bond, Manager, Parks & Property Services, Public Works Services at extension 2582 or via email at jbond@newmarket.ca

Approval



Jeff Bond, Manager, Parks,
Public Works Services



Fok: Chris Kalimootoo, P.Eng
Director, Public Works Services



Peter Noehammer, P.Eng
Commissioner, Public Works Services

Appendix A

Newmarket Sidewalk Tractor Specs

Tractor	Type of Machine	Vehicle weight	Wheel width	Vehicle height	Vehicle length	"v" width	Straight width	Angled width	Scoop width
Trackless 15-20	Articulating	3300KG	48"	88"	17'	49"	57"	49"	45"
Trackless 15-21	Articulating	3300KG	48"	88"	17'	49"	57"	49"	45"
Cubex 11-33	Articulating	3150KG	49"	86"	17'	49"	55"	47"	42"
Cubex 11-34	Articulating	3150KG	49"	86"	17'	49"	55"	47"	42"
Cubex 17-15	Articulating	3150KG	49"	86"	17'	49"	55"	47"	42"
Cubex 18-03	Articulating	3150KG	49"	86"	17'	49"	55"	47"	42"
John Deere 09-21	Farm Style Tractor	2130KG	52"	94"	16'	N/A	60"	54"	N/A
John Deere 09-22	Farm Style Tractor	2130KG	52"	94"	16'	N/A	60"	54"	N/A
John Deere 11-38	Farm Style Tractor	2130KG	52"	94"	16'	N/A	60"	54"	N/A
John Deere 15-06	Farm Style Tractor	2130KG	52"	94"	16'	N/A	60"	54"	N/A

