



City of Richmond

Report to Committee

To: Public Works and Transportation Committee

Date: November 4, 2011

From: Tom Stewart, AScT.
Director, Public Works Operations

File: 10-6360-13/2011-Vol
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Re: Update on 2011/2012 Snow and Ice Response Preparations

Staff Recommendation

That the staff report regarding "Update on 2011/2012 Snow and Ice Response Preparations", dated November 4, 2011, be received for information.

Tom Stewart, AScT.
Director, Public Works Operations
(604-233-3301)

Att. 1

FOR ORIGINATING DEPARTMENT USE ONLY			
ROUTED TO:	CONCURRENCE		CONCURRENCE OF GENERAL MANAGER
Parks	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	
REVIEWED BY TAG	YES <input checked="" type="checkbox"/>	NO <input type="checkbox"/>	REVIEWED BY CAO
			YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>

Staff Report

Origin

This report provides information on anticipated weather patterns associated with the upcoming winter season and the City's preparedness measures in place or underway to ensure a coordinated response. Information on new measures planned to increase public communications during weather events is also outlined.

Analysis

In light of changing weather patterns and increased frequency of extreme weather events, Public Works Operations has undertaken numerous improvements over the last few years to enhance our readiness planning and response efforts. An overview of these including policy amendments, equipment improvements, enhancement to public communications/public involvement and overall response planning, is provided in the following section. Information on expected weather patterns for the 2011/2012 season, operational preparations (both current and underway), and planned expansion of public outreach efforts is also provided.

Overview of Existing Initiatives

Policy Amendments: Traffic Bylaw 5870 was amended by Council on November 23, 2009, to require commercial, industrial and multi-family property owners or occupiers to clear snow and ice from sidewalks adjacent to their property by 10 a.m. every day, 7-days per week. This helps to improve accessibility for pedestrians, who are encouraged to take public transit instead of driving their vehicles.

In response to public concerns about the lack of salting/ploughing on residential streets, Council approved an amendment to Policy 7013 (Roadways – Ice and Snow Removal) to add third priority routes, which include the designated collector roads and roads of local significance in residential subdivisions to the City's response planning priorities. This will help to improve vehicle access from within subdivisions to the major collector roads. However, it should be noted that third priority routes will only be cleared if first and secondary routes have been fully accommodated and resources permit.

Equipment Improvements: There have been a number of improvements, most notably; the construction of a "snow shed" to enhance preparation and readiness of equipment for response. We have also increased the total number of road temperatures sensors to 5. These sensors are strategically located throughout the City to provide real time information concerning road conditions. They are monitored 24-hours per day and are a key early indicator of potential road frost or freezing conditions. A "holder" unit, for clearing the sidewalk areas of the Canada Line, and a new hydro excavator for helping to clear catch basins to reduce the potential for flooding during snow melt, were acquired. A full list of equipment dedicated for snow response is provided in Attachment 1.



Figure 1: Snow shed located at Public Works Yard

Public Communication/Involvement: The City's website¹ was updated to provide considerable information on snow response, including a listing of private service providers for contractors that residents/Strata Councils/Business owners can call for snow removal services, at their cost. In addition, the "Snow Angels" program was introduced in 2009, to connect local volunteer groups and service clubs with seniors and persons with disabilities who may need assistance during extreme weather events. Assistance can take the form of shovelling snow off of walkways and driveways, picking up medications, or delivering groceries. A registry of community organizations can be accessed on the City's website or by calling the Parks and Recreation Department, Dispatch, City Hall, or any community centre. The "Snow Angels" program is activated in the event of a major snowfall, defined as 48 hours of continuous snowfall and a minimum of 15cm of snow.

2011/2012 Anticipated Weather Patterns

City staff continuously monitor weather forecasts and predictions closely. Daily forecasts with Richmond-specific weather information and forward-looking forecasts are received and monitored as part of our pre-planning and pre-emptive response efforts.

Current long-term weather forecast

"The main weather driver will be La Nina, so we can expect, on average, a cooler and wetter than normal winter. Currently this is looking like it will be a weak-to-moderate La Nina, which means that it should behave like what we would normally expect from La Nina. We should expect; Higher than normal frequency of strong windstorms in November and December, Higher than normal likelihood of arctic outbreaks (two events, and probably not after mid-February), A chance of an early season arctic outbreak in November and low snow levels, even outside of arctic outbreaks (mostly in the January to March timeframe)".

Source: Northwest Weathernet

Operational Preparations

Operational preparations are underway, and include equipment preparation, i.e. testing salters/inserts, plows and ensuring all equipment is in a "ready-state" for quick deployment. Training of staff is a key area of focus for this season, to ensure a sufficient number of personnel are available to respond during both short-term and long-term events.

The City's salt supplies have been secured. There are currently 960 metric tonnes secured under contract, and an additional 500 metric tonnes on reserve. A second location (Sidaway Site) will be stocked with salt for the reloading of trucks during snow events. This secondary location will reduce travel times for equipment working on the east side of Richmond.

A departmental emergency operations centre concept is being implemented for this season to ensure strong coordination, communication and response. Extra attention will be given to the tracking of salt distribution, equipment locations and route(s) start and completion times. This

¹Residents Guide to Winter Weather page: <http://www.richmond.ca/services/rdws/weather/city.htm>

information will allow for; accurate responses to public complaints, better record keeping, and post event summaries. Costs will also be tracked per lane kilometer to provide additional information for evaluation and future forecasting of expenditures.

Expanded Public Outreach

In addition to the existing communications outlined earlier in this report and standard communications media, we will also be implementing the use of social media via Facebook to provide frequent updates to the public on road conditions and other information. This tool will be used to also provide information to the public on measures they can take to assist during events, such as removing garbage containers or parked vehicles from the roadway to facilitate salting/snow plowing equipment. Information on the anticipated event duration and other relevant information will also be provided via Facebook.

Financial Impact

None. The annual budget allotment for sanding, salting and snow response operations is approximately \$550,000, including MRN funding (2011 allocation). Should response costs exceed the annual budget allotment, additional funding is available from the sanding and salting provision.

Conclusion

The City has made considerable strides in improving not only the equipment and resources available to respond to snow and ice events, but also in improving communications and community involvement. Preparations for the 2011/2012 winter season are well underway, and additional public outreach through social media will be implemented to provide current event information as well as to engage the public in helping to aid our efforts.



Ben Dias
Manager, Roads & Construction Services
(604 244-1207)

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Equipment Dedicated for Snow Response



Snow, Ice and Frost Operational Response Plan

Equipment/Resources

Vehicles and Equipment

The following City equipment and resources are available to support salting and ploughing operations:

Equipment			
No.	Description	Unit No.	Department Assigned
4	Single-Axle Dump Trucks with Flunks and Belly Plows	1300, 1208, 1340, 1346	Equipment Services
1	1-tonne Flat Deck Truck with Insert / Brine Tank	1331	Roads
6	Tandem Dump Trucks with Insert and Plough Attachments	876, 877, 1074, 1165, 1207, 1278	Equipment Services
1	Crane Truck with Insert	1164	Equipment Services
1	F550S with Snow Plows	1264	Roads
3	F550S with Snow Plows	1263, 1265, 1266	Parks
1	Mobile Road Grader	570	Equipment Services
4	Mobile (Walk-Behind) Snow Blowers	797, 798, 2 additional	Parks
5	Backhoes	1357, 961, 1169, 1301, 1302	Equipment Services
1	Front End Wheel Loader	1438	Equipment Services
1	Holder	1378	Equipment Services
1	Bobcat Skid Steer	1341	Parks
1	Bobcat Skid Steer (Temporary Rental)		Parks
3	Hydro Excavators	1251, 1429, 1430	Sewer
960 tonnes	Salt		Roads
14,000 litres	Brine Mix (for pre-wetting)		Roads
216 pails (6 skids)	Ice Melt (walkways, stairs, etc.)		Roads/Parks/Facilities