



# City of Richmond

## Report to Committee



**To:** Public Works and Transportation Committee      **Date:** October 31, 2013  
**From:** Tom Stewart, ASCT.      **File:**  
Director, Public Works Operations  
**Re:** Update on 2013/2014 Snow and Ice Response Preparations

### Staff Recommendation

That the staff report titled "Update on 2013/2014 Snow and Ice Response Preparations", dated October 31, 2013, be received for information.

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

Att. 2

REPORT CONCURRENCE		
<b>ROUTED TO:</b>	<b>CONCURRENCE</b>	<b>CONCURRENCE OF GENERAL MANAGER</b>
Communications Parks Services	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	
<b>REVIEWED BY STAFF REPORT / AGENDA REVIEW SUBCOMMITTEE</b>	<b>INITIALS:</b> DW	<b>APPROVED BY GAO</b> 

## Staff Report

### Origin

This report provides information on anticipated weather patterns associated with the upcoming 2013/2014 winter season, and the City's current preparedness measures, as well as those underway, to ensure a coordinated response. Also, there is information on the newest measures which are planned to increase public communications during weather events.

### Analysis

In light of changing weather patterns and increased frequency of extreme weather events, Public Works Operations has implemented numerous changes over the last few years to enhance our readiness planning and response efforts. Overviews of these changes, incorporated in the next section, include; policy amendments, equipment review, enhancement to public communications/public involvement and overall response planning. Furthermore, information on expected weather patterns for the 2013/2014 season, operational preparations and planned expansion of public outreach efforts are 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. City staff will remind the public of Bylaw 5870 through media releases, as well as social media, such as Facebook, YouTube and Twitter. This Bylaw was amended to encourage the use of public transit with improved convenience for pedestrians. Section 6.1 of the Bylaw reads:

*"The owner or occupier of any parcel of real property which is developed for, or used in whole or in part for, commercial, industrial or multi-family dwelling use other than a two-family dwelling shall remove all snow and ice from any sidewalk adjacent to such parcel for a distance that coincides with the property like of his real property, not later than 10:00 a.m. of everyday, including Sunday"*

In response to public concerns about the lack of salting and ploughing on residential streets, Council approved an amendment to Policy 7013 (Roadways – Ice and Snow Removal) to add third priority routes. These routes include the designated collector roads and roads of local significance in residential subdivisions. This initiative will help 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 if the resources permit.

*Equipment:* There have been a number of improvements over the past few years, including the construction of a "snow shed" in 2010, this project was approved by council and has resulted in the enhanced preparation and readiness of equipment during snow and ice events. In 2012 the City had plans of adding additional sensors in Richmond to the five already in place, and in 2013 a sixth sensor was installed on Forsyth Crescent. These sensors are monitored 24 hours per day and

provide early indications of potential road frost or freezing conditions. Each sensor is strategically located throughout the City to provide real time information concerning road conditions illustrated in Attachment 1. A full list of equipment dedicated for snow response is provided in Attachment 2.

Staff is also in the process of acquiring equipment that will allow us to mix brine (solution used to pre-treat road surfaces prior to frost and ice events) in the yard as required and without delay. This will also effectively reduce delivery costs and the amount of road salt used on City roadways.

*Public Outreach:* Public involvement plans are vital during the winter season when working with the community. The City has included these plans in order to work cooperatively and efficiently with the public:

- Snow Angels: The Snow Angels program was introduced in 2010 to connect local volunteer groups with seniors and people with disabilities who may need assistance during snowfall events. Assistance can take the form of shovelling snow from sidewalks, driveways and/or walkways. A contact list of community organizations can be accessed on the City's website or by calling the community services department, dispatch, City Hall, or any community centre. The program is activated in the event of a significant snowfall defined as an accumulation of 5+ cm of snow.
- Good Neighbour Program: The Good Neighbour campaign encourages everyone to clear the walkways around their property and help others who may face challenges. This neighbour-helping-neighbour campaign simply encourages residents to watch for people in their neighbourhood that could use help removing snow from their sidewalks and driveways and offer them a helping hand.

*Communications Strategy:* A comprehensive communication plan has proven to be an important outlet during the winter season. The communications strategy includes (but is not limited to):

- Website: The City updated their website to provide considerable information on snow response. Included on the site is a listing of private service providers for contractors that residents, Strata Councils, and business owners can call for snow removal services at their own cost.
- Social Media: This past 2012/2013 snow season staff continued to incorporate social media into the overall communication process to reach out to the community through Facebook and Twitter. The City will continue the use of social media via Facebook and Twitter and add YouTube as another source to provide frequent updates during snow and ice. These updates include weather forecasts, what preparations are underway for current and upcoming events, and pictures relating to the event (equipment, staff, road conditions, etc.). This 2013/2014 year staff would like to incorporate videos through its social media channels. There are new free Smartphone Apps (such as Videolicious) which will allow staff to create short videos (even from still photos) to visually inform residents of a variety of snow topics (tips on how they can prepare for snow and snow removal preparation done

at the works yard for any predicted snow events). These videos can then be shared to the public through the City's Facebook, Twitter and YouTube pages.

- Coordinated efforts with other City departments: If and when snow events affect the public the City's various departments have established communications protocols they follow that will reinforce the Snow Response communications program. For instance the Transportation department has public communications programs in place which will assist the public. These include public access to the intersection traffic cameras located throughout the City (<http://www.richmond.ca/services/ttp/trafficcameras.htm>) as well as their email and online posting distribution process.

## **2013/2014 Weather Forecast**

City staff continuously monitors Richmond's specific weather forecasts and conditions. Richmond's unique geography often results in exclusive weather patterns. Forecasts with Richmond-specific weather information and forward-looking forecasts are received daily. The current long-term weather forecast for this upcoming winter season, according to Northwest Weathernet, has been predicted as:

*"Expect a 'normal' winter this year. The various elements that could impact our winter are pretty much all in the mid-range, which means that there shouldn't be any bias on the warm/cold or dry/wet side in any region of British Columbia. There will be one or two arctic outbreaks that make it into the Lower Mainland, though there could be a third if the first outbreak occurs in November."*

## **Operational Preparations**

Operational preparations are underway which include equipment preparation, meetings to coordinate efforts between departments, and training for staff. Training is crucial for preparation and is always an integral part of the groundwork for the snow season every year. This training is to ensure a sufficient number of personnel are available to respond during short-term and long-term events.

The City of Richmond's salt supplies have been secured for this winter season. There are currently 960 metric tonnes secured under contract and an additional 500 metric tonnes on reserve. In addition to the Public Works Yard, 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 and increase efficiencies for equipment working on the east side of Richmond.

The City will continue to closely monitor and record equipment locations, route(s) start and completion times and salt distribution through a centralized control centre. This will allow for accurate responses to public enquiries, 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.

### **2012/2013 Winter Season Summary**

During the November 2012 to April 2013 winter season there were 2 snow events and 21 frost events of varying duration and severity. The City of Richmond used 700 tonnes of salt and cleared/salted 1935 lane kilometres of 1<sup>st</sup> and 2<sup>nd</sup> priority roads during snow events.

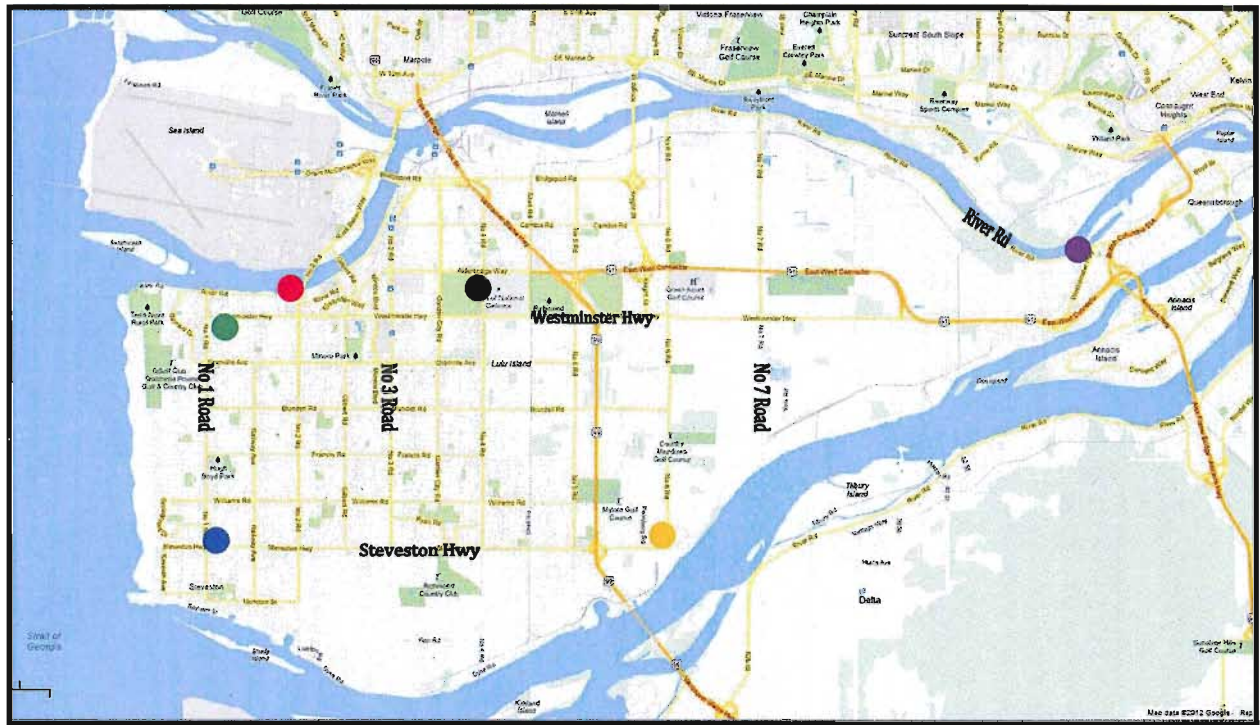
### **Conclusion**

Currently, preparations for the 2013/2014 winter season are underway and will be completed in time for the upcoming season. The City is continuously seeking opportunities to improve service levels, communications and community involvement. Public outreach, through social media, will continue to be implemented to inform, provide current event information and involve the public in an effort to minimize risks associated with snow and ice.



Ben Dias  
Manager, Roads & Construction Services  
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### City of Richmond - Road Temperature Sensor Locations



#### Road Temperature Sensors:

- Armoury
- No. 6 Road South
- Oval
- Queensborough
- Steveston
- Forsyth (installed in 2013)

## Attachment 2

## City of Richmond - Snow Response Equipment

Number of Units	Description
4	Single-Axle Dump Trucks with Flinks and Belly Plows
1	1-tonne Flat Deck Truck with Insert / Brine Tank
6	Tandem Dump Trucks with Insert and Plough Attachments
1	Crane Truck with Insert
5	F550S with Snow Plows
1	Flusher Truck (Brine)
4	Mobile (Walk-Behind) Snow Blowers
5	Backhoes
1	Front End Wheel Loader
1	Holder
2	Bobcat Skid Steer
3	Hydro Excavators
960 tonnes	Salt
14,000 litres	Brine Mix (for pre-wetting)