

TO:	CHAIR AND MEMBERS CIVIC WORKS COMMITTEE MEETING ON OCTOBER 4, 2016
FROM:	JOHN BRAAM, P.ENG. MANAGING DIRECTOR, ENVIRONMENTAL & ENGINEERING SERVICES AND CITY ENGINEER
SUBJECT:	WINTER MAINTENANCE PROGRAM – SALT MANAGEMENT PLAN UPDATE

RECOMMENDATION

That on the recommendation of the Managing Director, Environmental & Engineering Services, this report **BE RECIEVED** for information.

PREVIOUS REPORTS PERTINENT TO THIS MATTER

Environment and Transportation Committee – January 12, 2004 – Winter Maintenance - Salt Management Plan

2015-19 STRATEGIC PLAN

The following report supports the Strategic Plan through the strategic focus area of Strengthening our Community through the Healthy, Safe and Accessible City theme as the Winter Maintenance Strategy is a one component of making travel routes safer.

BACKGROUND

The purpose of this report is to provide Committee and Council with an update of the winter maintenance program’s salt management plan **SMP**. Environment Canada released a “*Code of Practice for the Environmental Management of Road Salts*”. In order to meet the minimum requirements of the Code of Practice, a report of our progress is submitted yearly online. The City of London first developed a SMP in 2003 and the following principals of the plan were endorsed by Council on January 19, 2004.

The 2003 SMP laid the ground work to successfully support programs to upgrade winter equipment, material storage facilities, training, decision support technology and electronic record keeping. SMP’s are intended to set out framework for continuous improvement and while we have advanced our winter maintenance program significantly since 2003 we have engaged a consultant to review and recommend further enhancements.

2015 Review and Update

MMM Group Limited has retained in early 2015 to review and update the City of London’s Salt Management Plan, while considering the “*Code of Practice for the Environmental Management of Road Salts*” prescribed by Environment Canada. The following provides a list of highlights from the previous plan followed by road map for future considerations in the next cycle, 2016-2021.

Highlights from 2003-2015 Salt Management Plan





Activity	What was completed
1. Salt Application 	<p>Purchased new rear discharge Combination Spreaders. Trucks with front plows that and spread sand, salt and apply liquid directly to the road.</p> <p>Purchased Tanker truck that can apply winter liquids and uses high pressure water to clean streets as part of street cleaning program</p>
2. Material Storage 	<p>New covered material storage sites at A.J.Tyler Operations Centre, Exeter Road Operations Centre, Oxford Street Operations Centre and Wilton Grove storage yard</p>
3. Decision 	<p>Enhanced training opportunities</p> <p>Road Weather Information System (RWIS)</p> <p>Infrared vehicle mounted temperature sensors</p>
4. Record Keeping 	<p>Weather Portal</p> <p>Automatic Vehicle Location technology</p> <p>Data gathering controllers for all material spreading equipment</p>

Table 1- Salt Management Plan Activity Summary 2016-2021

Activity	What is Needed
1. Infrastructure Design	<p>Develop and implement a plan and procedures for reviewing designs for key salt reduction considerations.</p>
2. Level of Service	<p>Add Class designation and LOS for Bicycle Lanes</p> <p>Add measurable end of storm performance expectations</p> <p>Add a section to procedures for Extreme or Unusual Conditions</p> <p>Work with other Divisions to include parking lots etc. into this Salt Management Plan or have responsible group develop a parking lot Salt Management Plan.</p>
3. Practices and Procedures	<p>Re-establish LOS and route prioritization for roads, sidewalks and bike lanes as needed as mobility targets and transit priorities.</p> <p>Review need for additional engineered snow storage site(s) as on-road storage may be reduced with densification and active transportation facilities using road space.</p>
4. Condition Forecasting	<p>Review RWIS locations based on new guidelines and optimization models and refine spreader IRT calibration procedures</p>

Activity	What is Needed
5. Storm Response and Decision Support	Review Maintenance Decision Support Systems (MDSS) Software. New to the industry as a data gathering and reporting tool.
6. Solid Deicing / Anti Icing Material	<p>Review application rates and determine if overachieving LOS</p> <p>Review application rates for wider lanes in areas of priority bike lanes</p> <p>Review operational performance of winter materials and remain current on product innovations</p>
7. Salt Vulnerable	Monitor Environment Canada's development of SVA methodology. Compare results and plans from other agencies
8. Winter Road Patrol	Review current representative road patrolling procedure and training with staff. Follow changes that are expected from the Province.
9. Materials Storage & Use	<p>Develop budget indoor storage for blended abrasives at Adelaide Yard</p> <p>Develop budget for containment facilities for liquid tanks that include protective barriers</p> <p>Develop budget for surface runoff containment facilities</p>
10. Equipment	<p>Track development of flexible and multi-blade technology</p> <p>Review new technology for upcoming Spreader replacements</p>
11. Maintenance Yards & Environment	<p>Document and train staff on Good Housekeeping standard operating procedures</p> <p>Investigate the feasibility of covered parking for Spreaders</p>
12. Record Keeping	Develop a records management procedure that can link to Corporate Document Management System
13. Snow Removal & Disposal	<p>Develop monitoring strategy for depots - although chloride concentrations have not typically shown high levels</p> <p>Develop snow removal and disposal guidelines.</p>
14. Program Review	Define staff responsibilities for studying / reviewing new technologies
15. Training	<p>Expand the monitoring system to confirm the desired learning transfer has occurred / effectiveness of the training for other aspects including interpreting weather information, event response etc.</p> <p>Expanding training requirement of contracted service to meet accountability expectations</p>
16. Engagement	A communication plan should be developed and implemented that includes updating council and the

Activity	What is Needed
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public on salt management activities and benefits.

Financial Implications

Salt Management Plans are used as a guide to review and research best practices. The activities listed in the table 1 may have associated costs but there are many variables that need to be considered before firm budgets can be brought forward for approval. Some of the variables include, but are not limited to, facility locations, equipment replacement schedule, contract services terms and overall service levels.

While some of the minor facility activities, such as liquid containment enhancements, can be included in approved budgets, major items like a *Material Storage Facility* will require budget submission beyond 2019.

Table 2: Budget implication associated with facility improvements

Facility	2018	2019	Beyond 2020
EROC			
Spreader under cover	0	0	500K
Engineered Snow Dump			
Location TBD	0	0	6M(2)
Adelaide Operations Centre			
New Material storage, Sand, Salt, Liquid	0	0	1.4M(1)
Surface Drainage enhancements	50K	0	0
A.J.Tyler Operations Centre			
Spreader under cover	0	0	500K
Liquid Containment improvements	35K	0	0
Wilton Grove Operations Centre			
Liquid Containment improvements	0	15K	0
Surface Drainage enhancements	0	0	35K

(1) Cost of EROC facility – site servicing and site unknown at this time

(2) GTAA built a multimillion dollar facility

Cost provide an order of magnitude and have not be fully vetted.

SUMMARY

The top priority of the Winter Maintenance Program is to meet the Provincial Minimum Maintenance Standards for Municipal Highways (MMS), Regulation 239/02. The program strives to balance the needs of the community with environmental stewardship through the use of salt in our operations. Environment Canada released a “Code of Practice for the Environmental Management of Road Salts”. In order for the City to meet the minimum requirements of the Code of Practice, the City is required to prepare a Salt Management Plan and report our progress yearly.

This report is for information purposes in support of the proposed Winter Maintenance Strategy identified in the Strategic Plan and for funding consideration beyond 2019. Future funding requirements will be assessed through approved business cases as part of the multi-year budget.

SUBMITTED BY:	REVIEWED & CONCURRED BY:
JOHN PARSONS DIVISION MANAGER, TRANSPORTATION & ROADSIDE MAINTENANCE	EDWARD SOLDI, P.ENG. DIRECTOR, ROADS AND TRANSPORTATION
RECOMMENDED BY:	
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