

Salt Management Strategy (SaMS)

2nd Non-Traditional BMPs Workgroup Meeting

March 5, 2019

The second meeting of the Non-Traditional BMPs (NTB) Workgroup for the Salt Management Strategy (SaMS) was held from 1:00 pm – 3:30 pm on March 5, 2019 at Northern Virginia Regional Commission at 3040 Williams Drive, Fairfax, Virginia.

Attendance

Sixteen (16) individuals, including two Virginia Department of Environmental Quality (DEQ) staff members and one staff member from the Interstate Commission on the Potomac River Basin (ICPRB; DEQ's contractual support), participated in the meeting. Five of the participants joined the meeting via teleconference.

Andy Alden, VA Tech Transportation Institute[†]
Heidi Bonnaffon, MWCOG
Glenda Booth, Friends of Dyke Marsh
Dennis Cumbie, Loudoun County[†]
Norm Goulet, Northern Virginia Regional Commission
Angela Hanretty, VCU[†]
Martin Hurd, Fairfax County

Will Isenberg, DEQ*
Dave Lincoln, Friends of Accotink Creek
Mary Mahoney, VDH[†]
Lauren Mollerup, Virginia Department of Transportation (VDOT)
Jonathan Murray, Fairfax County
Niffy Saji, Fairfax Water
Erfaneh Sharifi, ICPRB*
Sarah Sivers, DEQ*
Chuck Whealton, Ruppert Landscaping[†]

*Facilitator

[†]Participated via teleconference

Meeting Highlights

At this meeting, the workgroup members reviewed the previous meeting highlights and discussed the high priority workgroup topics identified during the first meeting that resulted in follow-up action items: certification/training program, winter maintenance contracting, alternative deicing products, and behavioral BMPs (such as promoting teleworking, etc.). The main take aways from this meeting are:

- The workgroup supports efforts to continue work to draft recommendations that address each of priority topics (identified above).
- Discussed non-traditional deicers and the pros and cons of these types of deicers and the need to evaluate the economics of these deicers. It was noted that deicing products that contain nitrogen or phosphorous are prohibited from being sold in Virginia and therefore, should not be recommended.
- An overview was given of the winter maintenance contract templates developed by Snow and Ice Management Association (SIMA) and City of Edina, MN. It was noted these contacts are more applicable to property management, although some

aspects may be transferable to winter management of roads. Workgroup members suggested their focus remain on language for private contracts.

- Discussed social best management practices (BMPs) and how best to approach these and the audiences to target. Identified homeowners and road users (commuters) as the primary audiences to target, and to what extent the BMPs are relevant, property and community management and homeowner associations. The workgroup proposed identifying specific BMPs that homeowners and road users could implement. Information on residential and road users BMPs can be provided to the Education and Outreach Workgroup to develop outreach materials.
- An overview of ten certification programs was provided, identifying some which may be readily adopted in Virginia. Discussed that reduced operating costs is the key incentive for an applicator to become certified. Recommended conducting a cost/benefit analysis to help identify that benefit to applicators.
- Discussed new ideas that could be pursued as potential recommendations for alternative practices such as a closed area program, tax credits, salt pile containment methods, and winter driving skills as a component of the driver's education course.
- DEQ sought nominations for 1-2 volunteers to 1) present the SaMS Non-Traditional BMP Workgroup status at the next Stakeholder Advisory Committee (SAC) meeting and 2) represent this workgroup on the Steering Committee.

Notes for Other Workgroups / Potential Areas of Overlap:

- Workgroup members suggested the Government Coordination Workgroup discuss the potential to share costs for non-traditional deicers to see what opportunities exist.
- Recommends the Government Coordination Workgroup look into what authorities or programs currently exist for localities to address discharges from winter salt piles.
- Provide information to the Education and Outreach Workgroup on proposed BMPs for homeowners and road users to develop outreach materials directed to those audiences.
- Recommends the Traditional BMP workgroup include recommended methods for appropriate "temporary" salt pile storage by private applicators (such as in a commercial or property management situation).
- Recommends the Traditional BMP workgroup include recommended application rates for private applicators that could be distributed in fact sheets by locality staff.

Follow-up Action Items

DEQ identified the following action items after the meeting and circulated those with the workgroup for comments. No comments on those items were received. Therefore, proceeding with the following action items and have requested volunteers to assist.

- Draft a matrix of non-traditional deicers with the pros and cons of each, including the associated costs and potential for cost avoidance (i.e. potential savings) compared with typical applications.
- Draft recommendations for piloting new deicing compounds/mixtures
- Identify a website to host experiences and recommendations for different non-traditional deicers/mixtures from SaMS Stakeholders. (*Temporarily on hold pending the identification of a host website*)
- Draft recommendations for winter maintenance contracts for private entities based upon the contracts reviewed.
- Draft a list of proposed BMPs that could be used by individual homeowners. Identify any that may also be appropriate to recommend to property or community managers.

- Identify specific BMPs/actions tailored to drivers that connect the promoted behavior to a reduction in salt use.
- Identify existing certification programs that can be implemented in Virginia and that have training programs that cover material in agreement with the SaMS recommendations.
- Conduct a cost-benefit analysis of the reviewed certification and training programs to identify benefits to an applicator.

Meeting Summary

Introductions

The meeting opened with brief introductory remarks from DEQ. Participants then briefly introduced themselves, providing their name and the organization they represent.

The objectives for this meeting were to discuss follow-up action items identified at the last workgroup meeting, identify potential final recommendations, and identify action items for the next workgroup meeting.

DEQ announced two administrative items:

- The 3rd SAC meeting is being scheduled for late May/early June 2019 (now it is scheduled, for May 29). DEQ asked for volunteers to report back to the SAC from the efforts of the NTB Workgroup.
- DEQ asked for 1-2 volunteers to represent this workgroup on a steering committee that will review the final recommendations document.

DEQ reviewed the highlights, action items, and notes from the other SaMS Workgroup meetings in the form of a flowchart. DEQ sent the flowchart to NTB Workgroup members on March 7, 2019.

The summary for the first NTB Workgroup meeting is available [online](#). Highlights of the first meeting included:

- The focus of this workgroup was on “outside of the box” BMPs.
- The final recommendations should address the needs of both private and public sector with different themes.
- High priority topics for this workgroup were certification and training programs, winter maintenance contracting, alternative deicing compounds, and behavioral BMPs (e.g. promoting telework).

Notes from other workgroup meetings included:

- Identifying behavioral BMPs (e.g. promoting teleworking and developing consistent and coordinated messaging) were recommended for the Education and Outreach Workgroup.
- Staging BMP implementation and assessing costs, benefits, and effectiveness were tailored towards the Traditional BMP Workgroup’s recommendations.
- Review certification programs for snow and ice management.
- Review best practices related to snow and ice management contracting.

A workgroup member asked for information from the Government Coordination Workgroup about any recommended funding support from legislative initiatives. DEQ mentioned that none have been recommended yet.

Action Item Presentations

Volunteers presented on four action items.

Action Item: Non-Traditional Deicers and Practices (Glenda Booth and Will Isenberg)

Glenda Booth reported on ongoing research by Virginia Tech on deicing practices and salt-tolerant plants and her efforts to help identify a study location for a local pilot. She also talked about urea deicing and the restrictions in Virginia on the sale of winter salt products containing nitrogen or phosphorus (e.g., urea). Will Isenberg then presented on non-chloride deicers and chemicals. The summary of the non-chloride deicers can be found [here](#) (short version) and [here](#) (detailed version). [VDOT's evaluation of alternative snow-ice products](#) was also discussed.

Workgroup members provided feedback on this topic:

- Andy Alden who is leading the Virginia Tech study announced that a proposal is under development for a pilot study on the use of salt-tolerant plants to uptake salt, be harvested, and ultimately processed for use as biochar deicer in the next winter season. A study area is being sought in Fairfax County. It was noted that scaling up such a practice may be challenging.
- Deicing products that contain nitrogen and phosphorous (such as urea) are prohibited from being sold in Virginia. Members questioned if there are similar restrictions in place for the District of Columbia and Maryland. It was not known at the time of the meeting as to those jurisdictions' restrictions.
- Workgroup members recommended adding information on the costs and benefits as well as the economic impacts of non-chloride deicers to the SaMS recommendations.
- Workgroup members suggested commercial properties and community associations be grouped into the recommendations for non-traditional deicers for large operations.
- Workgroup members agreed that recommendations for non-traditional deicers should consider the types of surfaces (e.g., parking lot, sidewalk, road) the deicers work best for.
- A workgroup member identified the need to discuss abrasives (e.g., sand) and the potential to use mixtures of abrasives and other deicers.
- Workgroup members agreed that recommendations for homeowners should consider the use of different abrasives (e.g., wood ash, kitty litter)
- Consider the cost of cleaning up abrasives left after the winter event (e.g. cost to sweep later), particularly when used on a larger scale.
- Recommended looking into the potential to share costs between entities to help reduce costs that can be higher when using alternative deicing compounds. The workgroup agreed that this topic may be best looked at by the Government Coordination Workgroup.

Action Item: Contracting Tools and Mechanisms (Marty Hurd)

The [contract review summary](#) was discussed. Marty Hurd presented on available contracting tools and mechanisms and how to identify which might be most appropriate for various scenarios. He reviewed contracting templates from the Snow and Ice Management Association (SIMA) and City of Edina, Minnesota. In general, while the templates complement each other, Marty felt the City of Edina's template might provide a good example for consideration for final SaMS recommendations due to its emphasis on using BMPs that maintain levels of service and safety. It was also noted that these contract templates are focused on property management, although some elements may be transferable to winter

management of roads. Members agreed that the recommendations for SaMS should be directed towards private entities and not public. Workgroup members discussed the templates and provided some feedback.

Feedback on the SIMA contract template:

- The SIMA contract does not focus on roads.
- There are different price scenarios including per season, per event, and per visit. In contrast to time and materials contracting, these price scenarios all are fixed to avoid any incentive to over apply salt.

Feedback on the City of Edina contract template:

- It is more regionally focused.
- Development of the template relied on stakeholders, property owners, and service providers.
- BMPs were defined, but emphasized maintaining effectiveness and safety.
- Resources and downloadable documents related to the program are available [online](#).
- Cost impacts are variable, with reduced deicer material usage and increased costs for some factors (e.g. training, labor, and using equipment).
- If there is alleged failure to achieve equivalent effectiveness and safety, it does not mean that owner and contractor failed to use due care.
- There are accountability requirements (e.g. basic reporting)

Action Item: Social BMP messages (Sarah Sivers)

Sarah Sivers reviewed some of the existing winter weather messaging and SaMS social BMP messages. A draft of societal BMP messages can be found [here](#).

Workgroup members discussed the messaging themes and provided some feedback:

- Recommended this workgroup focus on identifying specific BMPs and not the messaging of those BMPs. Individual homeowners and road users (commuters) were identified as the audience to develop the recommended BMPs for. For those practices identified, the workgroup should identify larger entities, such as property and community managers and homeowners associations, for outreach.
- The recommendations should support VDOT's winter weather messaging. A few members recommended that in addition, the workgroup should provide an explanation of "why" to consider the practices promoted by the VDOT messages by providing a link to improved practices (i.e., reductions in salt use).
- Recommended the information developed by this workgroup for BMPs be provided to the Education and Outreach Workgroup to help them develop outreach materials.

Action Item: Existing Certification Programs and Training (Erfaneh Sharifi)

Erfaneh Sharifi reviewed the [certification programs summary](#) document, which identified ten programs. Each program is unique and deals uniquely with issues of cost, availability, liability protection, targeted audience, and salt use reporting requirements.

Workgroup members discussed the certification programs themes and provided some feedback.

- Two groups can be certified: individuals and organizations.
- Five of the programs could be readily adopted in Virginia including Smart About Salt Council Certification, SWiM Certification, SIMA Certification, ASCA Certification, and the APWA Winter Maintenance Supervisor Certificate.
- For the five certification programs that could be readily adopted in Virginia, workgroup members recommended an evaluation of their training programs to ensure they overlap with anticipated SaMS recommendations.
- The members believe that the return on investment/cost-savings can be an incentive and recommended a cost-benefit analysis be conducted to confirm. If it is confirmed, it was recommended this return on investment be used to message the benefits of becoming certified.

Recommendations Scoping

Workgroup members briefly discussed new ideas for consideration as potential recommendations. These are described below:

- Consider recommending a program similar to the Region of Waterloo's Closed Area Program for businesses and universities. Those entities participating in the program identify areas that are either underused or not critical to maintain during winter weather events (such as sections of parking lots or walkways or secondary entrances) which can be closed off with signage (provided by the Region). The signs provide warnings that those areas are closed and not maintained (i.e., no plowing, shoveling or deicers applied).
- Consider tying certification programs to incentives such as stormwater tax credits.
- Suggestion that winter driving skills be a component of the driver's education program. Support for this might be obtained from the American Automobile Association (AAA).
- Identify recommendations that address proper containment of salt piles, particularly for "temporary" piles stored on commercial/private property parking lots for use during the winter season.
 - Discussion identified Fairfax County has used its Illicit Discharge Detection Program (IDDE) to address runoff from salt piles on private property to their regulated stormwater outlets. The County has developed guidance for storage of salt and sand piles, which is provided to private entities. A copy of the guidance was requested and received by DEQ on March 7, 2019 and is available [here](#).
 - Recommend that the Traditional BMPs Workgroup include BMPs for salt storage.
 - Recommended the Government Coordination Workgroup look into what authorities or programs that currently exist for localities that may address discharges from winter salt piles.

Meeting Wrap-up and Next Steps

DEQ identified the next action items post meeting and shared those with the workgroup for comment and volunteers on March 7, 2019. No comments on the identified action items to continue this workgroup's efforts were provided. DEQ's request for volunteers to assist on those action items is still pending.

DEQ sent out a follow-up survey on March 7, 2019, for any additional feedback members may have. In the survey, members could also volunteer or nominate others for the steering committee or to present at the 3rd Stakeholder Advisory Committee.

Handouts from the meeting are available on the SaMS Meeting Materials [website](#).

All information, questions, additional resources, etc. should be emailed to Sarah Sivers (sarah.sivers@deq.virginia.gov) and Will Isenberg (william.isenberg@deq.virginia.gov) to reduce email traffic among NTB Workgroup members.

Meeting notes were prepared and submitted by the Interstate Commission on the Potomac River Basin.

Additional Feedback Contributed to the Follow Up Survey:

A survey was shared with workgroup members following the meeting on March 7, 2019, to capture any additional thoughts members may have had following the meeting. Feedback is arranged below based on the sections of the agenda. Only sections where additional thoughts were provided are included:

Below comments were shared by Chuck Whealton with Ruppert Landscape on March 6, 2019.

1. Pertaining to commercial contracts:
 - a. The predominant contract type in the Mid-Atlantic area is Time x Materials and mainly because it's a comfortable fit for contractor and customer because of unpredictable nature of winter weather in this market and variations in precipitation type, even within a single event.
 - b. All other contract types are considered "fixed price" models and the market here is beginning to shift in this direction for a variety of reasons, one of which is concern for the environment.
 - c. Time x Materials contract incentivize more material usage. More materials means more billing and less liability risk.
 - d. The opposite is true of "fixed price" contracts. Revenue is fixed so the incentive is to reduce costs to increase profit. Reducing costs sometimes translates into using less materials which can lead to increased liability.
 - e. For most contractors the two biggest obstacles to overcome are:
 - i. Establishing realistic customer expectations.
 - ii. Limits on liability in the market, meaning Tort reform to stay out of court. Most legitimate contractors win in court but at the cost of litigation. This is changing in some markets. ASCA is making some progress on this front.
2. Pertaining to Material types:
 - a. A shift from solids to liquids alone could cut chloride use by 40-50% but there are some draw backs:
 - i. Liquid brine is not effective in all scenarios. Solids still need to be in play.
 - ii. The cost of investments in additional equipment.
 - ii. Education and training is required. Experience takes time and is limited at this point in the learning curve.

3. One other point of clarification, there isn't a law in MD using Urea or any other material with N or P as an ice melter. However, it would be a violation of MDA Nutrient management laws and the restriction of using Phosphorus.