

North American Snow Conference
April 30, 2012

Liquids: A Success Story
Village of Hanover Park

Scott Weber, Streets/Forestry Supervisor

History of Pre-wetting and Anti icing
in Hanover Park

- * Materials
 - * Salt
 - * Calcium Chloride
 - * Salt Brine
 - * Geomelt
 - * Future?

Pre-wetting

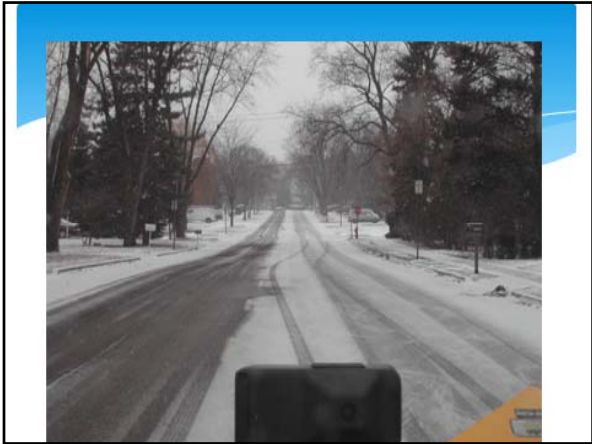
- * Equipment
 - * Truck Spray system
 - * Tail Gate Tanks
 - * Single Tanks, behind cab
 - * Tandem Saddle Tanks





Pre-Wetting Application Methods

- * Wet Load
- * Spray on Spinner
- * Spray into auger



Anti-Icing Methods

- * Where we spray?
 - * Curves, Stop Sign Intersection, Hills
 - * Expanded to Municipal Lots
 - * Expanded to Sidewalks
 - * Streets over 25 MPH
- * When do we spray?

Anti-icing Units

- * First Unit– Skid mounted 250 Gallon tank on existing one ton dump
- * Second Truck – Skid Mounted 500 Gallon on an existing one ton dump
- * Sidewalk Sprayer



Material Storage

- * Salt Dome
- * Liquid Tanks



Material Purchase

- * Salt
- * Salt Brine
- * Geomelt

- * Making our own Salt brine
- * Equipment
- * Location
- * Costs



Obstacles

- * Selling to Village Manager
- * Selling to Village Board
- * Acceptance by Elected Officials
- * Acceptance by Public

Shortfalls/Lessons Learned

- * Limited Streets
- * Budget
- * Weather
- * Odor
- * Foaming
- * Corrosion

Environmental Considerations

- * Chlorides in the Streams
- * West Branch of the DuPage River
- * Chloride Levels

Questions?

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Necessity: The Mother of Invention (or at least Action)

City of Highland Park (IL)
Installs Brine System

Mary J. Anderson, Chair
APWA Center for Sustainability




Winter 2008/09 Salt Price Increase


- * Many communities participate in a joint bid for road salt through State of Illinois Central Management Systems (CMS)
- * Prior year joint bid price was approximately \$42/ton
- * Bid prices varied for many communities throughout 6 county Chicago Metro area –
 - * Some retained price similar to 2007/08
 - * Some communities saw bid prices increase to \$138/ton

Brine System was the Answer

- * City has history of being proactive regarding sustainability
- * Economic downturn had made installation of brine system economically infeasible in the past
- * High cost of road salt led to support from Administration and City Council for a brine system
- * All 13 trucks were outfitted with tanks for brine-wetting system
- * City purchased brine from local manufacturer while waiting for new brine – making system to be installed



- * City began more aggressive pre-wetting practices
 - * Previous attention paid primarily to intersections, hills and bridges
 - * All routes were pre-treated once the new system was in place
- * Immediate results!
 - * Salt usage was diminished immediately – reduced usage by more than 1000 tons in first season – system paid for itself in that first season



Brine In Action

- * Four Years of Performance Data

* Year	Salt	Brine/Liquid
2007/08	4978 T	0 Gal.
2008/09	2705 T	30,682 Gal.
2009/10	2630 T	20,836 Gal.
2010/11	3639 T	28,766 Gal.
2011/12	1439 T	16,690 Gal.

- * Salt usage reduced by more than 40%



Additional Benefits

- * Reduced damage to parkways
 - * Salt is placed where it's needed
 - * Resident complaints regarding damaged parkways dropped dramatically
- * Critical Success for the community
 - * Residents and visitors see pre-treated roadways and understand that preventive action was taken

Expanded to Sidewalk Brining

Beginning in 2011/12, City purchased tanks for sidewalk plows. The City plows more than 60 miles of sidewalks in business districts and residential areas, primarily designated as school routes.



Lesson Learned

- * Public Works was long interested in installing a brine system to expand capabilities
- * Being prepared with data and vendors for emergency purchase was instrumental in achieving support from elected officials

Questions?

- * Contact Bill Stewart – City of Highland Park Infrastructure Superintendent
- * bstewart@cityhpil.com
- * 847-432-0807 (weekdays – 7 a.m. to 3:30 p.m.)



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