

2010 Snow Conference




Craig Eldred and Joe Wiita
City of
Prior Lake, Minnesota



Presentation Overview

- ▶ Anti-icing and De-icing
- ▶ Prior Lakes History with each
- ▶ Our Experiences
- ▶ Research Projects
- ▶ Quick Tips
- ▶ Rewards



Historical Applications and Equipment >>



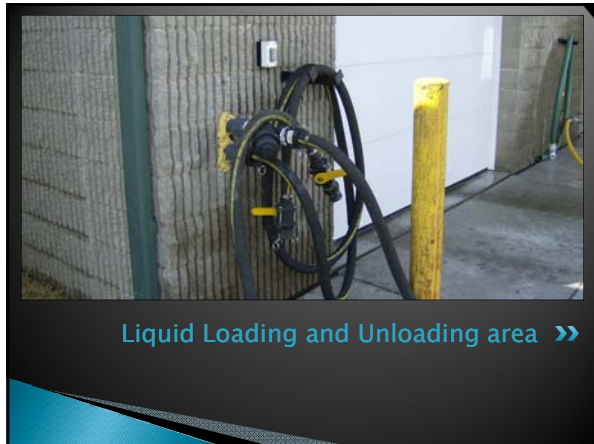
Implementing the Anti-icing Program >>

What is he doing spraying on such a beautiful day for?

Brew Master's Facility



12/28/2009



BLIND LAKE
RESEARCH

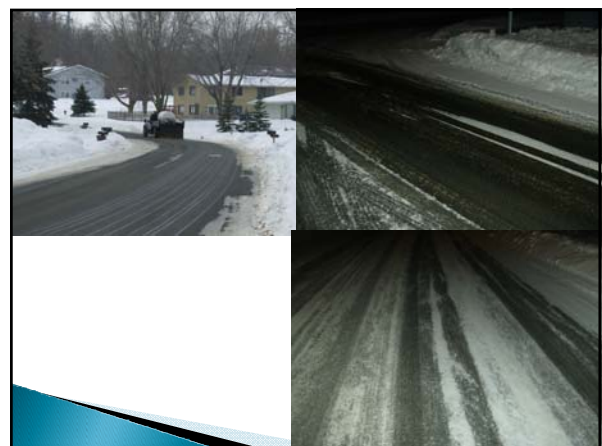
The City of Blind Lake Public Works Department, Engineering Department and various services are working to avoid and improve of Blind Lake from drinking products to the Blind Lake Watershed area.

Targeting Chloride Reduction:

- ✦ Working in a confined water shed consisting of 82.5 acres and 1.6 miles of residential streets
- ✦ Utilization of Liquids only for Anti-icing and De-icing winter maintenance activities
- ✦ Initial Chloride levels in 2008 were in a range of 142 and 97 mg/l


Results from winter of 2008-09:

- ✦ 702.2 gallons of salt brine were applied
- ✦ 2,451.3 gallons of blended products were applied
- ✦ Chloride levels were 120 and 50 mg/l in the same period as 2008
- ✦ Levels were lowered by 20 to 40 mg/l respectively



Product Mixtures Utilized and Tested in 2009



Blends	Pavement Temperatures Ranges	Rate per lane mile	Costs per lane mile	Results
100% Salt Brine	15 degrees	50 gallons	\$3.50	Cheapest alternative great for frost prevention
80% Salt brine 10% Caomelt 5% Calcium or Mag Chloride	15 degrees or below	35 - 40 gallons	\$12.10	Excellent Results "Super Mix"
85% Salt brine 15% Ice Ban	15 degrees or below	35 - 40 gallons	\$11.60	Works well a little more expensive additional Ice Ban
85% Salt brine 10% Ice Ban 5% Mag or Calcium Chloride	15 degrees or below	35 - 40 gallons	\$10.50	Receptive mixture, works well
85% Salt Brine 10% molasses 5% mag or calcium chloride mixed 50/50 with "Super Mix"	15 degrees or below	35 - 40 gallons	\$10.90	LTAP grant study, new mixture. Will continue to test and include in pre-wet study. Worked well in anti-icing practice

- › Research Products or materials
 - › Visit Experienced Agencies
 - › Training: LTAP, CTAP, Manual of Practice for an Effective Anti-icing Program, APWA Anti-icing/RWIS CD, AASHTO Clear Roads CD Series, Attend APWA Snow Conference, This Salt Symposium
 - › Radar or Ground speed controls
 - › Purchase storage tanks to hold material
 - › If you make your own brine, Salometer
 - › Calibration is critical, utilize Minnesota Snow and Ice Control Field Book
 - › Weather service or on-line applications
 - › Take a lot of pictures
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Quick Tips or Information

- ### Rewards and Benefits
- › Reduction of salt purchased
 - › Reduced cost associated with pre-treated products
 - › Reduced labor costs
 - › Return to bare pavement on collector streets
 - › Reduction of chloride impacts on water sheds
 - › Reduction of labor and equipment costs for winter maintenance, street sweeping and environmental structures and outlets



Questions or Comments?



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