National Value Engineering Award

Most Value Added Proposal

Improved Process

Ontario Ministry of Transportation

Snow Removal Equipment Visibility

For Demonstrating Outstanding Value Engineering Achievements in Teamwork, Cost Savings, Enhanced Performance, or Expedited Project Delivery that Resulted in an Overall Improved Business Practice

Presented by the AASHTO Value Engineering Technical Committee
August 4, 2015
Winter Equipment Visibility – the issue

• Snow removal equipment often operates under the most adverse conditions when conspicuity is most important
Different Contractors have different markings.
New Technology – Tow Plows & LED lights
VE Recommendations

- Yellow-green on black checkerboard
Airfoils to Keep Snow off Back/Lights
Lighting on End of Tow Plow and Wing

[Image of lighting equipment]

[Drawings showing alternative design options for lighting on the end of a tow plow and wing, including reflective tape on wing arms, retro reflective stick, and 2-2" amber LED facing back.]
Field Trials - Rear Panel Colours & Light Patterns

- Initial Test – Rear Panel Colours (9 variations)
- 2nd Test – Lighting Configurations
- Closed road – 12 test subjects
3rd Test - On-Road Testing

- Compared existing to new lighting
  - Daytime and nighttime (February)
  - Winter conditions (Huntsville)
  - 6 test subjects
New Equipment Standards Issued in 2014

FOR A FULL DESCRIPTION OF "QUICK REFERENCE" LIGHTS, SEE STANDARD ES2200012

Quick Reference
1. Headlights
2. Directional Turn Lights
3. Identification Lights
4. Red Identification Lights
5. Side Marker Lights
6. Stop, Turn and Tail Lights
7. Back-up Lights
8. Wing Light
9. Plow Light
10. Rotating Pattern Blue/Amber Mini-bar
11. Blue/Amber Warning Lights
12. Spinner Light
13. Red Upper Stop and Turn Lights
14. Rotating Pattern Blue/Amber Beacons

MINISTRY OF TRANSPORTATION ONTARIO - Contract Management Office
LIGHTING REQUIREMENTS FOR SINGLE AXLE PLOW, SPREADER, COMBINATION SNOWPLOW SPREADER TRUCKS

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ES - 2030012
VE Study Process

• Learn how we got contractors, technical specialists, manufacturers and others to help us develop new standards in record breaking time.

• Education Track
  • Wednesday 3:30-4:30 p.m.
  • VE product Improvements