



REVIEW

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Research Bulletin

FY 2007 RESEARCH PROBLEM STATEMENTS UNDERWAY

The FY 2007 cycle for NDOT's Research Program is getting off to another great start with the submission of 48 research problem statements representing Construction, Environment, Landscape, Hydraulics, Maintenance, Materials, Planning, Safety, Structures, and Traffic Operations. While most statements have been submitted from the two university campuses (UNR/UNLV), the ideas were generated from meetings with NDOT employee's in individual divisions and districts. Additionally, NDOT employees prepared a number of problem statements. Over the next couple of months these statements will be evaluated and prioritized based on the established evaluation criteria. The Research Division will then issue Requests for Proposals.

NEW RESEARCH TEAM MEMBERS

Jason Van Havel now fills the Product Evaluation Coordinator position. Jason excitedly joined NDOT and the Research team in January. Jason earned a Bachelor of Science in Mechanical Engineering from UNR and in 1998 completed his Masters of Business Administration.

His portfolio includes an extensive background in private business, finance, real estate, and consulting occupations. Outside of NDOT, Jason enjoys exercise and especially time with his wife and five children.

Roma Clewell accepted the position of Transportation/Planner Analyst I in February.

She earned a Bachelor of Administration in History, Education, and Office Administration from Walla Walla College, Washington, and recently completed her Masters of Business Administration through University of Phoenix, Reno. Roma began work in the Research Division through a temporary service having worked for several local government agencies (Regional Transportation Commission, Tahoe Regional Planning Agency, and Washoe County) in finance and program management (Health, Air Quality and Transportation). Roma enjoys sports, music, and reading with her four teenage children.



New Research Members Jason Van Havel and Roma Clewell.

NDOT RESEARCH IN PROGRESS

Effects Of De-Icing Salts On Vegetation In The Lake Tahoe Basin

The Lake Tahoe Basin is world renowned for its natural beauty, water clarity, and recreational activities. The Tahoe Basin is also an environmentally sensitive area, but the increasing resident population requires clear roadways during the winter and hence the requirement to apply anti-icing and de-icing salts.

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During 1990, the Nevada Department of Transportation (NDOT) together with the California Department of Transportation (CALTRANS) studied salt effects on vegetation adjacent to highways in the Tahoe



Lake Tahoe Forest

Basin. The study results showed that fifteen percent (15%) of trees were apparently salt-affected, but about thirty percent (30%) of trees exhibited damage from non-salt related causes, and slightly more than half the trees (55%) did not exhibit any symptoms of salt, drought, disease, insect, or other damage. These results suggest that salts may negatively impact roadside vegetation, but the drought conditions that existed prior to and during the study may have stressed vegetation, making plants more susceptible to salt injury. Furthermore, chemical analyses of soils did not demonstrate an abnormal salt content. Thus, although salts appear to play some role in roadside vegetation damage, existing data from the Tahoe Basin also suggests that the role may be a minor, but un-quantified, source of vegetation damage. Clearly, long-term assessment of anti-icing and de-icing salts on soils and vegetation is needed to address these concerns.

Recently, NDOT teamed up with CALTRANS again to sponsor a new study through the University of Nevada, Reno, with Robert Novack as the principle investigator, responsible for answering two questions of interest:

1. What is the degree of salt injury to roadside vegetation?
2. What are the long-term impacts of de-icing salts on roadside vegetation?

The following tasks have been approved:

1. Re-construct the tree inventories and study plots established from the previous research project.
2. Establish new control plots that are similar to the previous plots but outside the zone of influence of road salts.
3. Quantitatively assess the salt damage to trees adjacent to the highways using previously developed methods.
4. Conduct chemical analyses of soil samples for pH, Na, Cl, Ca, and other soluble elements.
5. Conduct chemical analyses of plant samples for Na and Cl in both symptomatic plants and healthy plants.
6. Provide recommendations for continued data collection to monitor salt effects on plants. If soil salt does not appear to be the source of salt that causes harm to plants, provide recommendations for design of an aerosol collection system to help assess if aerosols are the source of salt for vegetation damage.



Emerald Bay at Lake Tahoe

QPL REDISCOVERED

To all effected divisions of NDOT, the Qualified Products List (QPL) is here for you. NDOT divisions are the QPL's primary users. The QPL is a tool that you can use to approve a product once and then used over and over for construction projects. The QPL is a way to keep pesky sales people at arms length. And the QPL is here to help you do your job better. Yes, that's right. The QPL has fast, friendly service just for you.

The Research Division does not approve or reject products. The affected divisions control the fate of the

QPL Continued on Next Page

products. The Research Division is the portal for vendors to become approved suppliers. The Research Division provides a service for other Divisions inside of NDOT. Vendors frequently contact the divisions directly, but they should be re-routed through Research. Research will verify that the required information is present so the evaluation by the divisions will be quick and painless.

Sometimes products are evaluated and used on a case-by-case basis for construction projects. While this is sometimes necessary, the QPL process is circumvented. The reason the QPL exists is so a product can be evaluated once and then used numerous times without submitting specials on specific projects. The QPL is here to do that process once, which will improve your efficiency.

The vendors that send evaluation information to Research, normally have their information sent out that same day to the effected divisions. Sometimes information from the vendor is incomplete, then Research immediately contacts the vendor and requests more information.

The process for products to be reviewed and approved is quite simple. The vendor needs to submit a form, general product information and any supporting tests. The form contains basic contact and product information, and other agencies that use or have approved the product. This form helps NDOT review the product because it is an excellent summary of the required information.

In case some of you are wondering what the Qualified Product List is, the QPL is a list of pre-approved products by numerous categories that are to be used on construction projects. When the specifications for a project call for a particular product that is covered by the QPL, then the contractor may choose from any of the products listed on the QPL.

Jason Van Havel, the Product Evaluation coordinator, administers the QPL. He can be reached at 775-888-7894 or jvanhavel@dot.state.nv.us. He is located in the Research Office on the first floor, 1263 South Stewart Street, Room 115, and all are welcome to stop by and see him. You may view the QPL at :

www.nevadadot.com/reports_pubs/QPL

So, as customers of the QPL, what would you like to see change about the QPL? How can Research make the product evaluation process better for all involved? Please send Jason your feedback.

December 2005 Product Evaluation Committee Meeting Recap

Anti-Graffiti Coating Test Results

Representing the Anti-Graffiti Product Evaluation Team, Jeff Dodge, from the Maintenance and Operations Division, reported the results of the anti-graffiti field test that was approved by Product Evaluation Committee at the March 2005 meeting. Five anti-graffiti products were tested on various surfaces including: guardrail, unpainted barrier rail, painted barrier rail, rocks, signs, and pieces of a freeway soundwall. These products were evaluated on several criteria such as shiny surface, peeling paint, etc. Based on the observation of the visual comparison among these products, one product, American Polymer, met the testing requirements. However, the Anti-Graffiti Product Evaluation Team will continue to test products in this category, using the same test procedure and evaluation criteria.

Based on the report and with concerns expressed about sole sourcing, the Product Evaluation Committee decided not to establish a QPL for anti-graffiti products at this time.

Review of NDOT QPL Process and Propriety Products Policy

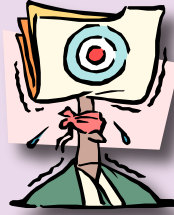
Responding to outside concerns about consistent application of processes for specifying products, particularly proprietary products on federal projects, the Nevada Federal Highway Administration (FHWA) Division requested a process review of the Qualified Product List (QPL) and NDOT's policy on specifying proprietary products. The Research Division presented an overview of NDOT's product evaluation program at the last Product Evaluation Committee meeting. Some concerns and questions raised by FHWA were addressed through review and discussions; however, to formulate a formal policy on using QPL-of-one and proprietary products, a Process Review Team was

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proposed. Andrew Soderborg, FHWA Project Development, and Reed Gibby, NDOT Research, were chosen as team leaders. The Product Evaluation Committee members agreed to participate as team members.

The team will review FHWA's requirements for using proprietary products and other state DOT's processes in relation to the NDOT process in specifying products, particularly proprietary products. It is anticipated that a formal policy (process) will be established for a QPL-of-one and to specify how proprietary products will be developed and recommended.



Library Corner

Be sure and look for Heidi's acquisition list this month

Q: When does a person decide to become an engineer?

A: When he realizes he doesn't have the charisma to be an undertaker.

Q: How do you drive an engineer completely insane?

A: Tie him to a chair, stand in front of him, and fold up a road map the wrong way.

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If you have comments or need additional information regarding any of the topics discussed in this issue please contact the Research Division at (775) 888-7223.

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