WASHTO-X IS UNDERWAY

The Nevada Department of Transportation (NDOT) is participating in a pooled-fund project involving a video conferencing network among states within the Western Association of State Highway and Transportation Officials (WASHTO). The primary intent of the project is to test the feasibility of extending the Tel-8 video conferencing network to states outside the original core group of Utah, Wyoming, Montana, South Dakota, and North Dakota. In addition to the original five states from Tel-8, other states participating in WASHTO-X are California, Oregon, Washington, Arizona, Oklahoma, and Nevada. Utah DOT in conjunction with their T² Center at Utah State University is coordinating the project.

WASHTO-X is aimed at providing a cost-effective means for regional transportation professionals, from both federal and state agencies, to communicate with their colleagues in other states regarding various transportation topics without incurring travel costs. Each video conference consists of a short presentation by a host state or states on a predetermined topic followed by a roundtable discussion between other participating states.

In addition to the program assessment video conferences held on May 30, 2002 and July 23, 2002, there have been two actual events to date - “Noise Abatement” and “Bridge-Deck Rehabilitation.” Both of the actual events were well attended by NDOT staff. The next scheduled event will take place on August 13, 2002 for the selected topic-“Pavement Marking Materials.” On September 10, 2002 the event topic will be “Project Delivery.” While additional topics have yet to be decided, events are tentatively scheduled for the second and fourth Tuesdays of each month after September. Each event will be held from 8:00 AM to 10:00 AM in the small third floor conference room in the NDOT headquarters building. For a list of suggested topics for future events and more information regarding this program, visit the web at WASHTO-X.org. Any questions or future topic suggestions regarding WASHTO-X should be directed to NDOT’s site coordinator, Alan Hilton - Research Division Chief.

NDOT RESEARCH PROGRESS REPORT

Performance and Selection of Asphalt Crack Sealant

In May, 2002, we observed the performance of the different crack sealants installed last year on SR 278 near Eureka, Nevada. Total installation length, debonding (defined as separations or cracks at the interface between the sealant and pavement or cracks in the sealant), pull-out (absence of sealant) length and crack size of each treatment were measured.

Figure 1. Measuring crack length.
The percentage of failure (the sum of debonding length and pull-out length) over the total length was calculated as an indicator of performance for each product. The average results of the three randomly-located replicates of each treatment for each installation method are presented in table 1.

From the table, it can be seen that among the nine products used, Crafco 231 and Crafco Polyflex stand out with only 4% failure while all other products had a failure rate of over 60% after a year. In general, the five hot-applied products performed better than the four cold-applied materials with the same installation method. Between the two installation methods, the “rout and recess” method significantly improved the product performance, particularly in the case of Elastoflex 60.

Table 1. Performance of Selected Crack Sealants After One Year’s Installation

<table>
<thead>
<tr>
<th>Products</th>
<th>Installation Methods</th>
<th>Product Types</th>
<th>Installation Length (feet)</th>
<th>Debonding Length (feet)</th>
<th>Pull-out Length (feet)</th>
<th>% of Failure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elastoflex 60</td>
<td>Simple band-aid</td>
<td>Hot applied</td>
<td>387</td>
<td>259</td>
<td>30</td>
<td>75</td>
</tr>
<tr>
<td>Elastoflex 60</td>
<td>Rout and recess</td>
<td>Hot applied</td>
<td>410</td>
<td>42</td>
<td>2.5</td>
<td>11</td>
</tr>
<tr>
<td>Safe Seal 3405</td>
<td>Simple band-aid</td>
<td>Cold applied</td>
<td>395</td>
<td>379</td>
<td>0</td>
<td>96</td>
</tr>
<tr>
<td>Safe-Seal 3405</td>
<td>Rout and recess</td>
<td>Cold applied</td>
<td>421</td>
<td>326</td>
<td>0</td>
<td>77</td>
</tr>
<tr>
<td>Crafco 231</td>
<td>Simple band-aid</td>
<td>Hot applied</td>
<td>394</td>
<td>17</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Crafco 231</td>
<td>Rout and recess</td>
<td>Hot applied</td>
<td>394</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Kold-Flo</td>
<td>Simple band-aid</td>
<td>Cold applied</td>
<td>402</td>
<td>402</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Kold-Flo</td>
<td>Rout and recess</td>
<td>Cold applied</td>
<td>378</td>
<td>273</td>
<td>5</td>
<td>74</td>
</tr>
<tr>
<td>Crafco Polyflex</td>
<td>Simple band-aid</td>
<td>Hot applied</td>
<td>393</td>
<td>15</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>Elastoflex 65</td>
<td>Simple band-aid</td>
<td>Hot applied</td>
<td>383</td>
<td>198</td>
<td>57</td>
<td>67</td>
</tr>
<tr>
<td>Elastoflex 500</td>
<td>Simple band-aid</td>
<td>Hot applied</td>
<td>437</td>
<td>294</td>
<td>17</td>
<td>71</td>
</tr>
<tr>
<td>Percol Elastic Cement AC</td>
<td>Simple band-aid</td>
<td>Cold applied</td>
<td>359</td>
<td>359</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Soft Seal</td>
<td>Simple band-aid</td>
<td>Cold applied</td>
<td>364</td>
<td>354</td>
<td>0</td>
<td>97</td>
</tr>
</tbody>
</table>
RE-EVALUATION
Flexible Guide Posts Re-Evaluation

At its June 11th meeting, the PEC decided to not reinstate flexible guideposts from Carsonite International and Bunzl-Extrusion on the QPL at this time, but to re-evaluate these products based on a current research project’s findings. The project’s intent is to tighten the specifications so that they are a better predictor of actual performance; there will be a particular emphasis on developing wind-load criteria.

As we already reported, the Drivable Survivor from Carsonite International and FG400/500 from Bunzl-Extrusion flexible guideposts were removed from the QPL based on requests from NDOT staff. The major identified problem with the Drivable Survivor was attributed to fast degradation of the sheeting backing used to affix reflective sheeting to the post resulting in the failure of this delineator. Davidson’s Flexi-Guide 400/500 post was removed from the QPL because it had a high rate of failure on two construction projects. The product is suspected of having inadequate resistance to wind loads during cold temperatures.

According to the vendors, corrective steps have been taken to ensure that these problems do not occur again. At its meeting, the PEC considered various options regarding the vendor’s requests for re-evaluations. These options included: (1) re-evaluation of these posts as part of the research project, or (2) acceptance and reinstatement on the QPL FG400/500 based on the statements provided by the vendors regarding corrective actions that have been taken.

FIELD TEST RESULTS
Reflexite Endurance Work Zone Signs

Based on the results of a field test, the PEC did not approve the addition of the Endurance work zone sign system to the QPL. The committee acted upon conclusions and recommendations provided by a field evaluation report describing the six month performance of Reflexite’s Endurance work zone sign systems.

The field test of Reflexite’s Endurance work zone sign, a rigid high-strength sign panel system (a combination of thermoplastic sign substrate and reflective sheeting) was approved by the PEC at its December 2000 meeting. At that time it was determined that if Reflexite’s Endurance system performs well, the test findings would be implemented in the form of a new specification for reflective sheeting material used for rigid sign

Figure 3. Test section with Endurance Signs.
panel and a thermoplastic rigid substrate for portable sign stands.

The endurance system was tested on the frontage road in Washoe Valley. The purpose of this test was to determine the system’s performance and durability as an alternative to roll-up signs. The study’s findings indicated that the Endurance signs have higher initial reflectivity than roll-up signs, however, their reflectivity tends to decrease more rapidly. As stated in the report, “Endurance signs on portable sign stands are not better in terms of durability, wind resistance, and color retention than roll-up signs tested under the same conditions.”

Asphalt Crack Sealant continued from page 2

We will continue to monitor the performance of these products for another year. The final results will be reported at the end of the research.

For more information, contact Tie He, NDOT Research Coordinator at (775) 888-7220 or via e-mail at the@dot.state.nv.us?
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