



Everybody's talking

After secret is finally revealed, S.T. Wooten basks in glow

By **Bill Wilson**
Editorial Director

Thanksgiving wish bones had long been dried and yanked apart, and the North Carolina Department of Transportation (NCDOT) already had what any agency could hope for—yet it still could not tell a soul.

Obviously, the rules of wish making did not apply here, but the NCDOT, along with the Carolina Asphalt Pavement Association, remained under strict orders.

For the first time in its history, the National Asphalt Pavement Association (NAPA) invited all three finalists of the Sheldon G. Hayes award to its annual meeting Jan. 23-26 in

Palm Desert, Calif., but did not tell who actually won asphalt paving's highest honor until the last possible moment. Anxiously standing in between Norris Asphalt and Northeast Asphalt Co. at the climax of the awards breakfast, S.T. Wooten received one final confirmation of success for work done on I-795 in Wayne and Wilson counties, N.C. The secret of the 2011 Hayes Award was finally out.

"This was a well-guarded secret," Reade Dawson, general manager of S.T. Wooten's Asphalt Division, told *ROADS & BRIDGES*. "We were joking around with the other [finalists] that we were trying to bribe the people from NAPA to just give us some kind of hint. It was a lot of anticipation, and it was kind of neat."

The Sheldon G. Hayes Award winner and finalists are determined through a two-year process. Highway pavement projects using more than 50,000 tons of asphalt are eligible for consideration. Initially, they must win a Quality in Construction (QIC) Award, which is determined by numerical scores given by pavement engineers at the National Center for Asphalt Technology (NCAT) on the basis of how well the contractor met the specifications and achieved density on the finished pavement. All the pavements that meet a benchmark figure are given the QIC Award.

The year after a project wins a QIC Award, it may be considered for the Sheldon G. Hayes Award. The

top-ranked projects from each year are tested for smoothness, then visually inspected by an independent pavement consultant with many years of experience in the industry.

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Back to the beginning

The award-winning I-795 job was actually a repeat performance. S.T. Wooten laid the first asphalt on the new interstate in 2003, but the original NCDOT mix design called for a 5.5-in.-thick pavement, which proved to be too thin for the truck weight demands of the route.

Without enough asphalt, the road began to experience "potholing" and an extreme case of alligator cracking.

"Everything was done in accordance to specification, but credit the [NCDOT] of immediately putting out a special letting," said Dawson.

S.T. Wooten landed the winning bid for the four-lane job at just under \$6 million, and had 80 days to complete the work once it began in the spring of 2010. For the travel (right) lane that experienced the premature damage, it was decided that the contractor would lay down two lifts—an intermediate

course 3 in. thick and a surface course 3.5 in. thick. Because it was not milled out, the passing lane received just the 3.5-in. surface course. However, S.T. Wooten took additional precautions to ensure smoothness, like using a Roadtec material transfer vehicle (MTV) on each lift and a combination roller between two double-drum steel rollers during compaction. Crews also divided the surface course into two lifts—one 2 in. thick and another at 1.5 in. thick.

"Changing the lift thicknesses was a big part [of the success]," said Dawson. "Using the MTV on every lift and also the combo roller, that played a key role as well. And we maintained steady production. The paver never stopped."

Keeping production constant at the 400-tph Double Barrel Astec asphalt plant was a crew that had well over 20 years of experience, according to Dawson. S.T. Wooten also had four 300-ton silos available to store the extra asphalt.

Slurry Pavers out of Richmond, Va., was the first to arrive at the scene to mill 3 in. of the damaged pavement in the travel lane. A total of 150,000 sq yd of pavement was chewed up, with a pair of Wirtgen 2100 milling machines operating simultaneously at all times. Repair work also had to be executed around bridges in four separate locations. There, the entire 5.5 in. of pavement was removed.

"There were transition issues there and they were concerned about [the pavement] holding up," added Dawson.



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The asphalt mix design for the intermediate course called for a PG 64-22 binder, and had a top stone size of ¾ in. and also contained Nos. 57 and 78 stone along with natural sand and dry screenings. The surface course used a PG 70-22 binder and had a top stone size of ¾ in., natural sand and dry screenings. Air voids stood at 7-8%. S.T. Wooten also put a certain percentage of reclaimed asphalt pavement (RAP) back into the intermediate course mix, and used both RAP and recycled asphalt shingles (RAS) in the surface course mix. Reade would not disclose the amount, but said the NCDOT does not allow more than 30% RAP. S.T. Wooten actually has been injecting RAS into its mixes for more than 20 years. Working with material supplier CertainTeed, S.T. Wooten has been very successful working with manufacturer's waste, as opposed to post-consumer shingles, which NCDOT recently approved to go into asphalt mixes.

"There is a mad dash to coordinate with other landfills to see if you can't secure those post-consumer shingles,"

said Dawson. "With the post-consumer, you have to test for asbestos, remove nails, things like that; manufacturer's waste is a lot easier to handle."

The finer the recycled shingles, the better it performs. S.T. Wooten screens its shingles down to 100% passing ¾ in., and recently purchased its own grinder after subbing the work out for years.

The Astec Double Barrel plant, which was located about 15 miles from the jobsite, produced 300 tons of asphalt an hour at 300°F. The Roadtec MTV moved the material from the truck to the Caterpillar AP-1055D asphalt paver, which laid down the material at about 290°F. The paver had a 28-ft ski. Over 100,000 tons of HMA was used on this job.

Compaction was handled by two Ingersoll-Rand DD 118 double-drum steel rollers and the Ingersoll-Rand combination roller, which had pneumatic tires to knead the mix. S.T. Wooten checked for density every 2,500 ft with a Troxler nuclear gauge. In order to set the proper settings for the gauge, S.T. Wooten was required to

lay down a 300-ft-long control strip at the jobsite every 14 days. Density had to be above 92%, and Reade said there was not a single failing test at the plant or the roadway. A Hearn's straight edge was used to check for smoothness. S.T. Wooten did not have the results, but did receive \$17,000 in smoothness incentives. NAPA told ROADS & BRIDGES it does not release any IRI numbers.

"We looked at this as just another project; we did not even think about the other job [in 2003] because that was done and over with," said Dawson. "What we were trying to do is do what we were required to do under contract, and do the best we could."

"Our owner is very active in making sure we have the best quality paving there is," Dawson continued. "I have actually seen him make us take up asphalt that the state had agreed to pay for because it did not meet his expectation. He is our biggest critic." **R&B**

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