

MINUTES OF DOT-AGC BRIDGE DESIGN SUBCOMMITTEE MEETING

The DOT-AGC Joint Bridge Design Subcommittee met on November 20, 2000. Those in attendance were:

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| Tim Rountree | State Bridge Design Engineer (Co-Chairman) |
| Berry Jenkins | Manager of Highway Heavy Division, Carolinas Branch AGC (Co-Chairman) |
| Ron Shaw | Lee Construction Company of Carolinas |
| Michael Dane | Dane Construction, Inc. |
| Greg Nelson | S. T. Wooten |
| Ellis Powell | State Bridge Construction Engineer |
| Greg Perfetti | Assistant State Bridge Design Engineer |
| Ricky Keith | Assistant State Bridge Design Engineer |
| Paul Lambert | Structure Design Project Engineer |
| Rob Woodruff | Structure Design Project Engineer |
| Nariman Abar | Soils and Foundation Engineer |
| Gary Taylor | Soils and Foundation Engineer |
| Rodger Rochelle | Structure Design Project Design Engineer (Secretary) |

The following items of business were discussed:

1. The minutes of the September 18, 2000 meeting were accepted.
2. *Temporary Shoring for the Maintenance of Traffic*

The requirement for temporary shoring for the maintenance of traffic is based in part on a 2:1 slope. Mr. Perfetti is currently searching for trial projects in which a 1½:1 slope may be used in lieu of a 2:1 slope. Trial projects will be selected based on location and the duration required of the temporary shoring. The necessary contacts have been made to begin selecting sites. Mr. Perfetti will provide further updates at future meetings.

3. *Standard Shoring Designs and Details*

Mr. Taylor provided a status report on the development of standard shoring designs and details. Standard drawings are being developed for shoring heights between 4 ft. and 18 ft. Tentatively, a few standard drawings will begin appearing in the contract plans as early as February 2001. Currently, standard drawings for fabric walls, soldier pile walls, and sheeting are being investigated. An augered soldier pile wall was suggested as a fourth alternate. Typically, the Soils and Foundation Section will determine which of these drawings are inserted into the contract drawings. It was suggested that the shoring be paid for on an exposed square foot basis with a second pay item to accommodate the contingency of using tie-backs with the wall. For fabric walls, the Contractor would select a length based on the height of the shoring. For tie-back situations, the required length and a proof test load would be specified. Sheeting could be specified in terms of a minimum section modulus.

Mr. Rountree emphasized that the Contractor always has the option of submitting a different shoring scheme than that shown on the plans; however, the standard designs will greatly reduce the frequency of submittals. As the standards are developed, they will be distributed at future committee meetings for comments.

4. *Causeway Pay Item*

Mr. Powell explained that since causeways are paid as lump sum, it is difficult to negotiate a fair payment for a causeway modified from that shown on the plans. Moreover, when the Contractor can construct a bridge without a causeway, no payment is made for the causeway. Mr. Powell raised the possibility of making the pay item incidental to other various items. Mr. Rochelle suggested that modifications to the causeway be allowed provided they are made at no additional cost to the Department and that all permits be satisfied. The Contractors present wished to leave the pay item as lump sum with modifications made to the contract language. Mr. Jenkins suggested calling the pay item “access” instead of causeway. Structure Design will attempt new contract verbiage and present at the next meeting.

5. *Armored Evazote Joints*

Mr. Rochelle addressed the new armored evazote joint standard drawings. The new drawings provide additional details, such as a bill of material for elastomeric concrete and armor, such that shop drawing submittals for the armor are no longer required. Catalog cuts will still be required for the material. This policy is effective with the March 2001 letting.

Mr. Powell solicited a trial project that would eliminate the armor from the joint altogether. The Department would expect a credit on the armor only for this project.

6. *Barrier Rail Transition Details*

Mr. Perfetti distributed drawings of a potential new barrier rail – guardrail transition. The FHWA requires that these transitions meet the requirements of NCHRP 350 by the year 2002. A hand-formed transition section on the approach slab is one option. Another option is to eliminate the New Jersey Barrier Rail shape in favor of a rectangular parapet. Although Mr. Shaw believes that forms are available for a comparable transition detail, all Contractors present suggested the rectangular section as the most cost effective.

7. *Other*

i. *Pavement Notch on Approach Slabs*

Mr. Nelson stated that, for skewed bridges, rollers applying the asphalt to the approach slab often damage the concrete near the joint. Mr. Rochelle stated that Engineers are informally instructed to increase this concrete width in heavily skewed situations. Structure Design will investigate a formal policy change on the matter.

ii. *Pouring Sequences*

Mr. Nelson stated that the required pour sequences affect the rideability and finish of bridge deck sections, particularly on grades greater than 2%. It is best to finish uphill, but is not always possible when following the pouring sequence in the plans.

iii. *Meeting Time*

Mr. Jenkins stated that Mr. Burns has requested that the Committee consider a different meeting time. Tentatively, the future rule for setting meetings will be the last Tuesday of every other month. The next meeting is scheduled for 10:00 a.m. on Tuesday, January 30th. The subsequent meeting will be held on Tuesday, March 27th, also at 10:00 a.m.

iv. *AGC Conferences*

Mr. Jenkins stated that the upcoming AGC Conferences will be held in three locations: Wrightsville Beach on January 17-19, Hickory on February 22-23, and High Point on March 13-14.

v. *Bridge Building Competition*

Mr. Powell gave a brief report on the Bridge Building Competition from last year as well as the plans for the upcoming competition in February and March of 2001. Mr. Powell solicited the Committee for volunteers to aid in the competition or to speak at area schools on the topic of bridges.

vi. *Calcium Nitrite Testing*

Mr. Powell reported that a new test for calcium nitrite has been developed and will be used at Manteo Bypass. The test indicates the presence of calcium nitrite in plastic concrete.

vii. *Mechanical Couplers for Drilled Piers*

Mr. Powell stated that it has been proposed to eliminate the use of mechanical couplers between drilled piers and short columns. The Contractors present were not favorable to this idea.