

## MINUTES OF DOT-AGC BRIDGE DESIGN SUBCOMMITTEE MEETING

(Approved: 8/15/12)

The DOT-AGC Joint Bridge Design Subcommittee met on June 13<sup>th</sup>, 2012. Those in attendance were:

Greg Perfetti	State Structures Engineer (Co-Chairman)
Berry Jenkins	NC Government Relations, Highway Division Director; Carolinas AGC (Co-Chairman)
Mike Robinson	State Bridge Construction Engineer
Njoroge Wainaina	State Geotechnical Engineer
Chris Peoples	State Materials Engineer
Allen Raynor	Assistant State Bridge Design Engineer
Lamar Sylvester	State Roadway Construction Engineer
Randall Gattis	Sanford Contractors, Inc.
Larry Cagle	Thompson-Arthur Div., APAC-Atlantic, Inc.
Chris Britton	Taylor & Murphy Construction Co.
Ben Bishop	Lee Construction Co.
Dan Nickel	Carolina Bridge Company
Lee Bradley	Blythe Construction
Erick Frazier	S.T. Wooten Corp.
Adam Holcomb	Dane Construction, Inc.
Brian Hanks	Structure Design Project Engineer
Paul Lambert	Structure Design Project Engineer
Scott Hidden	Support Services Supervisor – Geotech. Eng. Unit
Chris Kreider	Regional Operations Engineer – Geotech. Eng. Unit
Paul Garrett	State Bridge Program Manager
Gichuru Muchane	Structure Design Engineer

The following items were discussed during the review of the February 15th, 2012 minutes:

1. *Approval of Pile Driving Criteria*

Contractors reported that they have begun to see improvement in PDA turn-around times.

Mr. Robinson reported that Resident Engineers have been instructed to allow, at the Contractor's risk, the option to continue driving piles when routine driving conditions are anticipated with no requirement to take advantage of pile set.

2. *Standard Spacing Option for Overhang Falsework Hangers*

Mr. Lambert reported that the special provision for *Falsework and Formwork* has been updated to include a standard spacing option for overhang falsework hangers. As a result, the overhang falsework standard sheets previously included in the plans have been eliminated.

3. *Wage Rate Survey*

Mr. Jenkins expressed appreciation for the level of Contractor participation in the wage rate survey. He noted that the survey data analysis is now underway. After completion the results will be forwarded to the Department of Labor.

The minutes of the February 15th, 2012 meeting were approved.

The following items of new business were discussed:

1. *Establishment of Permanent Vegetation*

Mr. Cagle stated that central let TIP projects now include a contract special provision for *Permanent Vegetation Establishment* which extends the contract completion six (6) months beyond all other contract work necessary to complete the project. He added that this provision is a huge burden both in time and money for the contractors. He inquired if the observation period ends once vegetation is established over 80% of the required area. Mr. Cagle also inquired if Contractors would be responsible for repairs to erosion control systems beyond reseeding after a washout event.

Mr. Sylvester responded by distributing and discussing the special provision for *Permanent Vegetation Establishment*. He noted that the Department uses the National Pollutant Discharge Elimination System (NPDES) form which requires weekly project site inspection or after every ½ inch of a rainfall event. The Area Bridge Construction Engineer continues to inspect the site until there is 80% coverage of permanent vegetation within the project limits, prior to removal of remaining erosion control devices.

During the discussion Contractors suggested alternate ways of ensuring vegetation is established, such as warranties, in lieu of extending the contract period. Mr. Sylvester stated the Department is open to further discussion of alternate methods of compliance. However, he noted the special provision was implemented about four months ago and suggested waiting a full seasonal cycle prior to re-evaluation.

4. *Sampling Reinforcing Steel*

Mr. Peoples provided clarification on the Department's reinforcing steel sampling requirements. He distributed and discussed a summary of the acceptance of reinforcing steel and steel dowel bars. The summary listed the manufacturer requirements, certification requirements and sampling criteria, and verification sample criteria.

There was some discussion on ensuring appropriate splice lengths are provided when samples are cut from reinforcing bars. Contractors were satisfied with the clarification and they requested the Resident Engineers' receive the same information for consistent application of the requirements.

5. *Bridge Program Update*

Mr. Garrett provided a brief update on the status of the bridge program. He reported that the first year goals of the 2011 legislative funding for the bridge program were met. He thanked the Contractors for their assistance and cooperation in the process. Mr. Garrett also provided a brief overview of the State funded projects that will be let in 2012.

Mr. Jenkins commended the Department for diligence in communicating with the industry. He also noted that the amount of work let was unprecedented and the process worked exceptionally well.

6. *PDA Driving Criteria*

Mr. Wainaina distributed and discussed a draft special provision for *Pile Driving Criteria*. He noted that the provision amends the *Standard Specifications* to allow the Pile Driving Analyzer (PDA) consultant to develop the pile driving criteria. In addition, the provision reduces the number of days the Department requires to review PDA reports and pile driving criteria from 10 days to 7 days.

Contractors were pleased with the Department's decision to allow the PDA consultant the opportunity to develop the pile driving criteria. They noted that the time savings will be a benefit to the Department and Contractors.

7. *Joints in Cast-in-Place facing for Retaining Walls*

Mr. Hidden showed pictures of the cast-in-place facing of a soil nail wall observed during the recent spring field review. He noted that the wall facing did not have any contraction or expansion joints and

as a result it exhibited vertical cracks at a fairly regular spacing. He added that the Geotechnical Engineering Unit will begin requiring expansion joints spaced at 30 feet and tooled contraction joints at the third points between expansion joints.

During the discussion Contractors noted that form liners are produced in 4 foot increments. Therefore, they suggested spacing contraction and expansion joints at 12 feet and 36 feet, respectively.

#### 8. *Deck Cracks in Bridges with Longitudinal Brace Piles*

Mr. Gattis stated that he has observed deck cracks in spans with continuous for live load diaphragms when the interior bents have longitudinally battered piles. The crack is near mid span and is perpendicular to the centerline. He suspected that the brace piles prevent the longitudinal thermal movement of the girder causing the girder to arch slightly, which develops tension in the top of the deck, thereby causing the cracks.

The discussion did not reveal widespread observation of cracks in bridge decks with longitudinally battered piles. There was consensus to keep scrutinizing bridges for deck cracks.

#### 9. *Expansion Joint Seals*

Mr. Gattis stated expansion joint seals, which have replaced the use of armored foam joints, have a significant purchase and installation cost. He inquired if the Department is considering alternative joint types.

Mr. Perfetti responded by stating Structures Management is evaluating several joint types on preservation projects. He noted that joints exhibiting performance equivalent to the current expansion joint seal will be considered.

#### 10. *Temporary Bents for Erecting Structural Steel*

Mr. Gattis stated that, in his opinion, the contract plan notes require the Contractor employ the use of temporary bents for erecting structural steel or submit an alternate method for approval. He added that he has observed multiple jobs that he bid on that are not incorporating temporary bents to erect steel. He inquired what the other Contractors are doing as an alternative to temporary bents.

The Contractors discussed a variety of methods they employ for erecting structural steel, which included the use of multiple cranes and ground assembly prior to lifting. The discussion noted that for complex bridges, the contract plans typically suggest a method for erecting the steel, but do not require the Contractor use this method. As such, it was suggested that perhaps there was a misinterpretation of the plan notes.

#### 11. *Other*

##### i. Erosion Control Certification

Contractors stated that it takes too long to obtain the Level 2 Certification for Erosion Control. They noted that the class to prepare for the test is offered infrequently, and the test takes approximately 3 months to score.

Mr. Sylvester responded by stating that the class is coordinated through the Roadside Environmental Unit. He noted that recertification can be completed through self-study. He offered to bring up the matter with the State Roadside Environmental Engineer.

#### 12. *Next Meeting*

The next meeting is scheduled for Wednesday, August 15, 2012 in the Structures Management Conference Room.