

MINUTES OF AGC-DOT JOINT BRIDGE SUBCOMMITTEE MEETING

(Approved: June 8, 2022)

The AGC-DOT Joint Bridge Subcommittee met in person with a virtual component on February 9th, 2022. Those in attendance were:

Brian Hanks	State Structures Engineer (Co-Chairman)
Victor Barbour	Carolinas AGC – Highway Division Director (Co-Chairman)
Boyd Tharrington	State Construction Engineer
John Pilipchuk	State Geotechnical Engineer
Todd Whittington	State Materials Engineer
Wiley Jones	Assistant State Construction Engineer
Brian Skeens	Assistant State Construction Engineer
David Hering	Assistant State Geotechnical Engineer
Brian Hunter	State Laboratory Operations Manager
Gichuru Muchane	Assistant State Structures Engineer
Jay Boyd	Balfour Beatty Infrastructure, Inc.
Lee Bradley	Blythe Construction, Inc.
Kerry Kennedy	Conti Enterprises, Inc.
Patrick Buckley	Crowder Construction Company
Adam Holcomb	Dane Construction, Inc
Chad Brown	Sanford Contractors, Inc.
Tom Meador	Lane Construction Company
Chris Powers	Lee Construction Co. of the Carolinas, Inc.
Mark Newman	NHM Constructors, LLC
Erick Frazier	S. T. Wooten Corporation
Brian Weathersby	Reeves Construction Company
Larry Cagle	Thompson-Arthur Div., APAC-Atlantic, Inc.
Andy Jenkins	Vecellio & Grogan, Inc.
Damien Hollifield	Young & McQueen Grading Company
Darren Colby	Zachry Construction Corporation
Aaron Earwood	Construction Unit – Regional Bridge Construction Engineer
Aaron Griffith	Construction Unit – Area Construction Engineer
Scott Hidden	Geotechnical Unit – Support Services Supervisor
Cabell Garbee	Materials & Tests Unit – Manufactured Products Engineer
James Bolden	Structures Management Unit – Project Engineer
Trey Carroll	Structures Management Unit – Project Engineer
Nicholas Pierce	Structures Management Unit – Team Leader
Beth Quinn	Structures Management Unit – Team Leader
Tim Sherrill	Structures Management Unit – Staff Engineer

During the review of the October 13th, 2021 meeting minutes, the following items were discussed:

1. Contract Times

Mr. Earwood stated that this topic would be reiterated during the Division Bridge Program Managers meeting this week. Mr. Holcomb stated that the western Divisions have had

reasonable contract times but the start dates have been too soon. He noted preference for floating start dates.

2. Asbestos Inspections

Mr. Earwood stated the Department needs to meet with DHHS to share the information gathered.

3. Proving Bearing on Piles

Mr. Earwood stated that winter training was not held this year, but this topic will be included at later training on a date to be determined.

4. Rip Rap for Slope Protection with Integral End Bents – Safety Concern with Form Removal and Patching

Mr. Earwood stated that the Hydraulics, Geotechnical, Structures & Construction TAG did not have an issue with addition of Class B rip rap on top of Class II rip rap. Structures Management will work to implement revisions to the rip rap standard.

5. Closed End Pipe Piles

Mr. Earwood stated that there have not been overrun issues with driving open ended pipe piles. Removing plates will continue to be handled on a case-by-case basis with approval from the Geotechnical Unit until a policy is adopted. Mr. Boyd noted that the pay item for the plate is typically incidental to the pipe pile but should be separate for ease in crediting when the plate may be omitted.

6. Steel Price Index

Mr. Earwood stated that the workgroup has developed a draft provision, which has been shared with Mr. Barbour and needs to be discussed with the FHWA. The draft provision is quite complicated with various steel categories, means for establishing a cost basis, methods for price adjustments, and allows Contractors to opt-in or opt-out for each pay item included in the steel price index. The workgroup is working to simplify the index process and training would be offered once finalized.

7. Safety Concern with Rebar Opening in Top Mat of Steel – Primarily for Culverts and Footings

Structures Management will work to address this with a plan note.

8. Continuous Flight Auger (CFA) Piles for Sound Barrier Walls

The draft standard, project special provision and design manual updates are under internal review.

9. Pipe Pile Patching

This topic was covered in the November 2021 Structures Bulletin. The Construction Manual will be updated to reflect this change.

10. Repair Material During Disasters – Inventory

The Construction Unit will develop standardized forms to track available inventory for use during disaster recovery prior to storm arrival.

11. FIBs

Mr. Hanks announced that the FIB standards are still under internal review. Due to issues with girder transport, Structures Management issued a moratorium on 78” FIB girders and larger. Structures Management is working on a policy in this regard.

The minutes of the October 13th, 2021, meeting were approved.

The following items of new business were discussed:

1. Bridge Preservation and Federal Bridge Program Update – Approach to use Funds

Mr. Hanks stated that approximately 800 projects in the 5-year Bridge Program have been re-started. This consists of 200 centrally let and 600 Division let projects. North Carolina anticipates receiving approximately \$92 million for each of the next 5 years from the Infrastructure Investment and Jobs Act (IIJA). The funding will provide approximately \$78 million for on-system projects and \$14 million for off-system projects. Mr. Hanks stated that the Department is determining how to distribute the funding. Mr. Barbour clarified that the IIJA money is new money in addition to the existing funding.

Action Item:

None

2. Bridge Rail Type Requirements and Selection

Mr. Barbour inquired about bridge rail type requirements and selection; specifically, when and where the Two Bar Metal Rail (2BMR) and the F-Shape Concrete Barrier Rail are used. Mr. Hanks stated that the Two Bar Metal Rail is generally used on multi-modal facilities with bike routes. He noted some projects require the 2BMR for aesthetics or the location is considered a historic site. Mr. Hanks stated that the MASH crash testing of the Two Bar Metal Rail showed that although it passed MASH TL-3, there is potentially greater occupant risk due to the rail parapet profile. He added the F-Shape Concrete Barrier Rail is preferred on high-speed facilities because of the rail’s vehicle redirecting features, which mitigates occupant risk. Mr. Frazier asked what dictated use of the Oregon Rail. Mr. Hanks replied that it is either hydraulics, when water needs to flow through, or aesthetics. Mr. Frazier stated that the anchors for the Oregon Rail that are fabricated into the box beams and cored slabs makes rail construction challenging. Dr. Muchane added that Vertical Concrete Barrier Rail was developed to provide the option to manually form the rail in rural areas where scheduling a slip-form subcontractor isn’t always practical.

Action Item:

None

3. Material Delivery and Lead Times

Mr. Cagle stated that material availability and lead times continue to be an issue. In addition, with many projects seeing multiple bidders, if the lettings increase, the delivery delays could increase. Precasters are having issues with labor availability, material deliveries, etc. and can only produce based on what they are allocated. Mr. Garbee noted that no plants have closed.

Action Item:

None

4. Tight Reinforcing in End Bent Diaphragms

Mr. Frazier stated that there have been congestion issues with the standard end bent diaphragm detail for prestressed concrete girders, which may result in inadequate concrete consolidation in the diaphragm. Mr. Frazier stated that this issue can cause a weak area due to honeycombing and sometimes requires additional work to patch. Mr. Earwood added that it is easy to trap air under the girder flange when pouring the diaphragm and that using an air hole can help with this. Mr. Carroll responded that SMU is investigating increasing the width to address this issue as well as to help with future preservation work and bridge jacking.

Action Item:

Structures Management Unit to revise end bent diaphragm detail for prestressed concrete girders.

5. Approach Fill Subcommittee Updates

Mr. Earwood presented potential solutions developed by the Subcommittee to improve compacting and consolidation of bridge approach fills. The first recommendation is to increase the required density testing near the bridge. The suggested density testing while building bridge embankments should be performed approximately every 2 feet. The density requirement during embankment construction would remain the same but with increased testing frequency. Mr. Boyd commented that density testing is often not conducted close to the bridge, but at more convenient locations and specifying location of testing may also help.

Mr. Hidden stated that he is developing language for approach fill compaction using specified equipment and not allowing smaller plate tamps. Mr. Earwood presented draft details for the approach fills that pushes out the toe of the sloped face to increase the bottom flat portion to allow for a wider base. Since the weakest area is the slope face, this is moved beyond the end of approach slab. This should also help with larger compaction equipment accessing the area. In addition, the approach fill will be overbuilt for better compaction and the slope will be cut out. Mr. Earwood asked if this would limit the size of equipment used. Mr. Buckley commented that the detail should not limit the size and type of equipment used. Mr. Boyd commented that depending on the slope, it may be difficult to back a truck to provide access for stone delivery. Mr. Boyd asked if the problem was with the approach fill or the embankment. Mr. Earwood responded that the issues are likely due to a combination of factors. Mr. Earwood noted that during construction, drainage needs to be handled properly to prevent voids and washouts and to protect the end bent.

Action Item:

Approach Fill Subcommittee will develop a draft of recommendations and approach fill details and present to AGC-DOT Roadway Subcommittee.

6. Safety Concerns during Bridge Preservation Work

Mr. Newman stated that a car recently drove into their work zone resulting in a fatality. The work zone was validated by both OSHA and NCDOT after the crash. Mr. Newman stated that when working on a bridge overlay there is insufficient room between the traffic and the work zone. Although law enforcement is present, they often do not help reduce the speed of many vehicles. Several Contractors inquired if speed limits could be temporarily reduced, especially on interstates. Mr. Barbour stated that he is discussing the concern with NCDOT's State Traffic Engineer, Mr. Kevin Lacy. Mr. Barbour also brought up the potential for

electronic enforcement of speed within work zones but noted that implementation would require legislative action and all AGC members would need to work to get this approved. It was agreed that the safety of the workers needs to be the priority and not the inconvenience of the public.

Action Item:

Mr. Barbour to invite Mr. Lacy to attend next meeting to discuss this issue and determine an action plan.

7. Pre-cast Concrete Panel Acceptance

Mr. Boyd stated that there are only two main suppliers of precast concrete deck panels. As a result, it has been difficult to receive bids for projects. Mr. Boyd stated that the precasters were not interested in producing the panels due to the high rejection rate. Mr. Garbee stated that this topic has been discussed with PCI and that M&T is tracking the Non-Conformance Reports. Mr. Garbee explained that there is a standard for the allowable crack widths and that this is important for the coastal bridges where precast deck panels are often used. Mr. Garbee stated that this will be discussed at the upcoming PCI meeting.

Action Item:

Materials and Test will investigate other States' standards for precast panels to consider revisions to the current standard.

8. Other

Mr. Garbee announced that Mr. Eddie Shelar is retiring at the end of the month and an anticipated vacancy has been posted.

The next meeting is scheduled for April 13th, 2022.

Post Meeting Note

Due to AGC-NCDOT Workshops, the April 13th, 2022 meeting was cancelled. The next meeting is scheduled for June 8th, 2022.