

ACEC/NCDOT BRIDGE SUBCOMMITTEE



Structures Conference Room C

November 1, 2021

10:30 am

MEETING MINUTES

- 1) Meeting Kick-off – Came to order @ 10:37 am
 - a) Introductions

ATTENDEES

Brian Hanks – NCDOT Structures Management Unit
David Stutts – NCDOT Structures Management Unit
Kevin Fischer – NCDOT Structures Management Unit
Tierre Peterson – NCDOT Structures Management Unit
Hoang Dieu – NCDOT Structures Management Unit
Gichuru Muchane – NCDOT Structures Management Unit
Beth Quinn – NCDOT Structures Management Unit
James Hawk – NCDOT Structures Management Unit
Jason Doughty – Modjeski & Masters
Jake Sherman – WSP
Nicole Brown – Alfred Benesch
Bradley Bell – Michael Baker
Domenic Coletti – HDR
Tom Koch – Wetherill Engineering

- 2) Review of Previous Meeting Minutes
 - a) Previous Meeting Minutes were established prior to the subcommittee meeting to allow adequate time for review. These Minutes were approved via email.
- 3) Bridge Design Workshop Series
 - a) New Methodology for Classification of Fracture Critical Members Bridge Workshop is scheduled for Thursday November 4th at 10:15 am at the McKimmon Center. The event is hybrid with virtual attendance being an option. Brad will provide introductions.
 - b) Potential topics for the next Bridge Workshop Series were discussed. This discussion included potential topics such as SMU policy on various technical topics (Link Slabs, FIB Girder Standards, Culvert Standards), new requirements for OpenBridge/Projectwise/PDN and a project

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overview for Wando River Bridge Repairs. The master spreadsheet listing potential topics will be updated and redistributed to the committee. The committee will plan to review the current list of topics with a goal to identify one topic for a Bridge Workshop in early 2022 (potentially February).

4) Training Opportunities

- a) PCI has penciled in a date of March 16, 2022 for a PCI bridge seminar. This assumes COVID is under control at the time of the event. Jake will follow back up with PCI to confirm prior the next subcommittee meeting and will also coordinate potential topics between the committee and PCI via email. Precast Plant Tours would be a topic of interest (both virtual and in-person)
- b) Jason provided an update on a Steel Bridge Forum event which is expected to occur in Fall of 2022. An in-person all-day session is expected (likely to be held in the McKimmon Center). NSBA will summarize the list of topics, durations, and speakers to generate a first draft of the agenda. Jason will share the agenda with the subcommittee for review and comment prior to finalizing.
- c) The 2021 ACEC/NCDOT Transportation Conference has been rescheduled for December 13th and 14th 2021. An in-person event is expected. Speakers are being confirmed for the new date.
- d) A NCDOT Preconstruction Workshop is scheduled for January 25th and 26th.

5) Anticipated PEF Opportunities

- a) Kevin provided an update on PEF Opportunities. Central and the Divisions are actively restarting projects through 2026 which includes approximately 800+/- bridge projects (of which approximately 200+/- are Central managed and 600+/- are Division managed). SMU is also working with Divisions to help ensure bridge projects are appropriately assigned. Currently 12 of the 200+/- Central managed projects remain unassigned and 200+/- of the 600+/- Division managed projects remain unassigned.

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SMU is reviewing schedules with PEFs and looking to set firm (but reasonable) dates avoiding continual schedule changes. SMU will be working to have 2024, 2025, and 2026 projects on the shelf ready in the event additional funding becomes available (such as the infrastructure bill).

- c) SMU is also starting to look at 2027 projects and expects to have a better idea of where those projects stand in the Spring.
- d) SMU is asking firms and PMs to take on more responsibility in handling project coordination and coordination with the Divisions.
- e) Firms should reach out to Divisions to discuss available opportunities. Opportunities such as plan review may also be available.

6) Technical Discussion

- a) Jake brought up if SMU is interested in obtaining additional external feedback on draft policy changes or new standards prior to official release the consultant subcommittee members are happy to volunteer for review and comment.

b) Manual Revisions:

- i) PCI has returned comments on the NCDOT FIB Standards sent for review. Brian and Gichuru are doing final reviews on these standards. PEFs may reach out to Gichuru if there is a need for these standards on a new project prior to official release. Weight limitation issues must be addressed for larger girder sizes.
- ii) Link Slab policy and details have been released and are available for use.
- iii) SMU will be adding emergency vehicles to LRFR requirements.
- iv) A new CFA pile standard will be made available for sound barriers when poor soils are encountered.
- v) A walls chapter is being added to the Structures Design Manual.

c) Research Projects:

- i) FHWA research for NCDOT rails – This research has now been completed and the final report provided. It was noted the research for

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the 3-bar metal rail was done without the sidewalk in place and this resulted in a TL-2 rating. It was noted on high speed routes the Jersey shaped/F-shape concrete barrier should be used.

- ii) Corrosion Policy Research –Research is still ongoing. Early findings are that silica fume used for concrete elements with repeated wetting and drying cycles (tidal zone) does not appear to be providing adequate corrosion protection. Problem area appears to be isolated to the tidal zone. Future changes to current corrosion policy are likely.
 - iii) Integral Abutment Research- Field work was slowed down due to NCSU Covid policy. No new updates.
 - iv) Strut & Tie – A research project for use of strut & tie modeling and design of deep concrete elements was initiated. This research is intended to help implement use of strut & tie modeling and design into SMU policy. Research just kicked off.
 - v) Carbon Fiber Repairs – A NCSU research project for use of carbon fiber repairs/retrofit for improving load rating capacity of existing bridges is being performed. A draft report was received, and comments provided. Final report will provide procedures for the repair and load rating approach.
- 7) Open Discussion Other Topics
- a) Open Bridge – SMU is looking at a hard deadline of January 1 to move forward with Open Bridge on all projects. Version 10.10 Open Bridge Designer/Modeler is expected to be used. Initial expectation will be for consultants to use Open Bridge to draft 2D plans the same way plans are currently produced with V8. Open Bridge 3D modeling will be further investigated as comfort level with the program grows. On a case by case basis PEFs may be asked to provide digital twins. V8 will be left behind, it is important to note V8 files may be opened with Open Bridge but they are not intended to be backwards compatible. SMU will be releasing future standards in Open Bridge (for example link slab standards are created in Open Bridge). Changes to active projects developed in V8 may be done in Open Bridge. Changes to the Draft SMU OBD Manual will be made as

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plans are set (consider it a living document). The Open Bridge workspace will be set up for projectwise but zip files for standalone workspaces may be made available after projectwise is up and running. Consultants should reach out to Nick P/Hawk/Beth with questions and feedback on Open Bridge.

- b) Projectwise – Projects are starting to be implemented into Projectwise. Kevin is working internally on directives for use of Atlas, Sharepoint and Projectwise. Kevin is also interested in hearing feedback from PEFs and PMs for suggestions and items in need of clarification.
- c) David indicated there is no need to request updated foundation recommendations on current projects due to the recent policy changes.

8) Next Meeting: February 7, 2022