

ACEC/NCDOT BRIDGE SUBCOMMITTEE



Structures Conference Room C
February 7, 2022
10:30 am

MEETING MINUTES

- 1) Meeting Kick-off – Came to order @ 10:34 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
Trey Carroll – NCDOT Structures Management Unit
Beth Quinn – 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) Candidate topics for the Bridge Design Workshop Series were distributed via email and ranked based on interest prior to the meeting. These candidate topics were discussed, and it was decided to schedule a Workshop in May and in August of 2022. An additional topic mentioned is the Harkers Island project (Trey).
 - i. May Bridge Design Workshop – Gichuru will arrange for SMU to present on some recent Department policy changes. Namely

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the new link slab standards and current policy for barrier rails are topics of interest for this Workshop.

- ii. August Bridge Design Workshop – Domenic will present on Reliable Fit-Up for Steel Girder Bridges in August. If possible, will also look to identify someone from the Department to co-present on the Construction side.

4) Training Opportunities

- a) Georgia/Carolinas PCI pushed the PCI Bridge Seminar to Fall 2022 due to COVID issues. This however overlaps with the timing of the scheduled Steel Bridge Forum. Jake will reach out to Ray Clark and ask if the seminar can be pushed to Spring of 2023 to stagger these training opportunities.
- b) A Steel Bridge Forum event is expected to occur in Fall of 2022. An in-person all-day session is expected (likely to be held in the McKimmon Center). Exact dates, speakers and agenda are not yet finalized. Jason will continue to assist in coordinating this event on behalf of the Subcommittee.
- c) The 2022 ACEC/NCDOT Transportation Conference has been scheduled for November 30th and December 1st.

5) Anticipated PEF Opportunities

- a) Central and the Divisions restarted most of the 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. SMU and Division manpower remains a challenge. Keeping scheduled dates has also been challenging due to extenuating circumstances such as ROW and utilities issues. Yearly federal funding has increased from +/- \$65M to +/- \$150M due to the infrastructure bill (IIJA). More projects for the 5th year are being added to the projects list and firms are expected to be scheduled in the Spring.

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- b) Based on expected non-discretionary funding available from the infrastructure bill (IIJA) the current bridge program appears well programmed thru 2024. The current bridge program currently looks a little light on the back end of the five-year infrastructure bill.
- c) Bridge projects are currently being screened to determine best candidates to apply for discretionary Grants available from the infrastructure bill (IIJA).
- d) The current Structures LSA may be extended to October 2023 (extended using the optional third year) however no definitive decision has been made yet.

6) Technical Discussion

a) Manual Revisions:

- i) Brian indicated SMU is considering issuing a moratorium on heavier prestressed concrete girders (e.g. FIB 72", 78", 84" 96" or sizes that result in weights heavier than traditional 72" MBT girders) on inland projects due to site access issues. Excessive weights from large girder sizes are causing issues on hauling routes. Moving forward consultants are not to use large/long non-standard prestressed girder sizes on inland projects unless otherwise directed by the Department.
- ii) FIB Standards are not ready for official release. Consultants may request an advance copy of the draft standards if needed for a project. SMU is interested in hearing feedback on the consultants who have reviewed the draft standards.
- iii) SMU will be adding emergency vehicles to LRFR requirements. These new Emergency Vehicles are the EV2 and EV3 as defined by the FAST Act. NCDOT is working with FHWA to clarify locations that will require load rating for these new emergency vehicles.
- iv) A walls chapter is being added to the Structures Design Manual. The new chapter will break out and build upon the current requirements given in Chapter 12 (Miscellaneous) of the Structures Design Manual. The initial version of this chapter includes additional wall

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requirements. For example it will include language addressing CFA piles for sound barrier walls. Requirements such as wall geometry and use of integral end bents with retaining walls are still being discussed and likely won't be addressed in the first version of the new chapter.

- v) No other new policy changes are expected in near term
- b) Research Projects:
 - i) Integral Abutment Research- The end bents for the bridge at Rock Quarry Road were instrumented and data is being collected. The research team is reviewing performance of many existing integral abutment bridges build around the State.
 - ii) 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. The research is currently in the literature review stage.
 - iii) 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. Still working to get a finalized report.

7) Open Discussion Other Topics

- a) Open Bridge –A slow transition to Open Bridge has begun and firms are starting to work with it. Currently work is being done primarily in 2D to get used to the new software. Full implementation to 3D will go slow. A digital twin is not a required deliverable at this time, but may be required on a case-by-case basis.
- b) Tierre gave overview of PIQ entry on Sharepoint. The PIQ tool will be used moving forward for quantities. One item of note is that walls are to go under bridge pay items unless there are no bridges in the project, in that case they are to go under roadway quantities.
- c) A PDN scoping template is being developed and may be rolling out soon. Items which may require uploading into Atlas are being worked out (for example PGDs may need to be uploaded)

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d) David will soon reach out to firms for projections for 2023 and 2024 bridge projects in the STIP.

8) Next Meeting: May 2, 2022