

ACEC/NCDOT BRIDGE SUBCOMMITTEE



Structures Conference Room C

August 2, 2021

10:30 am

MEETING MINUTES

- 1) Meeting Kick-off – Came to order @ 10:35 am
 - a) Introductions
 - b) Welcome new members Domenic Coletti and Tom Koch

ATTENDEES

Brian Hanks – NCDOT Structures Management Unit
David Stutts – NCDOT Structures Management Unit
Kevin Fischer – NCDOT Structures Management Unit (not present)
Tierre Peterson – NCDOT Structures Management Unit
Hoang Dieu – NCDOT Structures Management Unit
Gichuru Muchane – 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) Minutes were reviewed and approved on a motion by David and a second by Gichuru. Moving forward finalized meeting minutes will be established prior to the subcommittee meeting per David's suggestion. This will allow more time for review of minutes prior to the subcommittee meeting.
- 3) Bridge Design Workshop Series
 - a) Potential Bridge Workshop Series topics were discussed. A few potential project overview topics were suggested. In addition, Brad suggested a workshop covering steel bridge fracture critical criteria and redundancy. The subcommittee agreed to move forward with scheduling a workshop per Brad's suggested topic. Jake will coordinate with Brad and Meredith Houston to set up the event.
 - b) Current master list of future potential topics will be sent out to new committee members. Topic ideas will be discussed again in next meeting.

ACEC/NCDOT BRIDGE SUBCOMMITTEE



Structures Conference Room C

August 2, 2021

10:30 am

4) Training Opportunities

- a) At this time no PCI Bridge Design Seminar is scheduled for the Fall. Brian suggested trying to get a hybrid event (in-person & virtual options) set up. Jake will follow back up with PCI and see if that is possible and if so, what the timing will be. Early 2022 may be a good time to hold the event.
- b) Jason indicated a Steel Bridge Forum event is expected to occur in the second half 2022 and indicated he will circle back to NSBA on timing to confirm.
- c) David said there are not many new updates on the 2021 ACEC/NCDOT Transportation Conference at this time. Speakers and topics are being set and brochures created. The format may be a hybrid of in-person and virtual presentations.
- d) Nicole also noted the upcoming Zia lecture. NCSU current Covid policy will be in place for the event.

5) Anticipated PEF Opportunities

- a) SMU is still ramping up and making progress on project restarts and are trying to start several projects. A primary vehicle for assigning work remains the LSC and this is being used for starting up projects through scoping and getting task orders issued. If a project is currently assigned and under contract it is easier to get restarted. SMU indicated they will be reaching out to firms on work done when reassessing schedules as many let dates have been pushed. SMU may be stretched on internal manpower. Pilot project(s) will utilize PEFs to serve as PM to help augment NCDOT personnel.
- b) All Division Let STIP projects and Non-STIP bridge projects that are scheduled to be let through 2025 are eligible to move forward with PE. SMU must provide direction before any restarts occur.

ACEC/NCDOT BRIDGE SUBCOMMITTEE



Structures Conference Room C

August 2, 2021

10:30 am

- c) If there appears to be any miscommunications on projects reach out to David for clarification.

6) Technical Discussion

a) Manual Revisions:

- i) PCI has returned comments on the NCDOT FIB Standards sent for review. SMU continues to internally review these Standards. Consultants are to continue using FDOT standards modified as appropriate for NCDOT until these standards are officially released.
- ii) Gichuru indicated Design Manual Revisions were issued in July. A new design manual Chapter 8 was developed for approach slabs.
- iii) Link Slab details are in final review. Final comments are still being worked through. Standards are expected to be released soon.
- iv) The Geotech unit has developed foundation tables which are expected to release soon. Tables will be provided in the foundation recommendations. All geotechnical/foundation related information typically shown on individual bent and end bent sheets will be removed and summarized in table. This will also eliminate several typical foundation notes. Total Bill of Material will still need to summarize grand total of all quantities. Signing/sealing responsibility for the sheet with the foundation table is under discussion within SMU and GEU. It is anticipated that the foundation tables will be shown on Structures plans starting at the October 2021 Letting.
- v) Noise Wall Standards – No new update on noise walls. One of the topics being discussed under this review is the structural limitations on height. For walls on a bridge, the intent is to maintain 10' maximum height. Off bridge, 25' is preferred with 30' maximum height being considered.

b) Research Projects:

- i) FHWA research for rails – UNCC is still working on finite element research for the MASH criteria for the 3-bar metal rail. Initial

Structures Conference Room C

August 2, 2021

10:30 am

simulations indicate that all the 3-bar rails are qualifying for TL-2. Finite element research may boost the 3-bar rails to a TL-3.

- 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.
 - iii) Integral Abutment Research- Field work was slowed down due to NCSU Covid policy. Research results are likely still a year out.
 - 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.
 - v) Carbon Fiber Repairs – A research project for use of carbon fiber repairs/retrofit for improving load rating capacity of existing bridges is being performed. This research is expected to be useful for municipal projects.
- 7) Open Discussion Other Topics
- a) Open Bridge – SMU is at this point ready to implement Open Bridge. The hard switch to Open Bridge (originally intended for July) has been pushed back as more time is necessary to implement Open Roads. SMU will be looking for a lower level of detail digital twin (no rebar) on projects using Open Bridge. Consultants should reach out to Nick Pierce with questions on Open Bridge.
 - b) Projectwise – When projectwise is implemented it is to house all current design files. It is expected this will help with interdisciplinary coordination when multiple firms are involved with a project.
 - c) MSE Wall Geometry –SMU is considering establishing policy to give more uniformity in how MSE wall geometry is developed. A few pros and cons of various considerations were discussed. SMU is also engaging with contractors on this topic.

ACEC/NCDOT BRIDGE SUBCOMMITTEE



Structures Conference Room C

August 2, 2021

10:30 am

d) Reviewer Comments – A few scenarios involving how to address inconsistent plan review comments and how to resolve differences of opinion on plan comments were discussed.

8) Next Meeting: November 1, 2021