

# KYTC Division of Construction / ACEC-KY Bridge Subcommittee Partnering Meeting

**December 11, 2018, 1:30 PM – 3:30 PM  
Room C109**

## Minutes

These minutes provide an outline of discussions at the Division of Construction, Division of Structural Design and ACEC Bridge Sub-Committee partnering meeting held at the Transportation Cabinet Office Building. Those in attendance were:

Ryan Griffith	KYTC Division of Construction
Mark Walls	KYTC Division of Construction
Vibert Forsythe	KYTC Division of Construction
Ronald Rigney II	KYTC Division of Construction
Katy Stewart	KYTC Division of Construction
Bart Asher	KYTC Division of Structural Design
Joseph Van Zee	KYTC Division of Structural Design
Carl Van Zee	KYTC Division of Structural Design
Aaron Stover	Michael Baker International
David Rust	Palmer Engineering
Bryan Reid	Lochner
Craig Klusman	AECOM
Scott Ribble	Burgess and Niple

Discussion topics included:

1. **Purpose** – This meeting was requested by the Sub-Committee to continue the dialog with the Division of Construction (DOC). The goal is to exchange feedback on bridge Design and Construction issues that could be addressed or avoided in future projects, resulting in more economical, easier to construct, and longer lasting bridges.
2. **Division of Construction Discussion Topics**
  - a. **Prestressed Concrete I-Beam Fabrication** - Ensure correct version of the standard drawing is used without reference to not casting more than 120 days before placing. When specifying Maximum Camber the 120 day requirement is not needed.

- b. **Letting Questions and Answers** – KYTC has seen instances where questions were sent directly to consultant and responses returned without KYTC oversight. Letting Q/A should not be sent directly to consultants. Carl Van Zee should be copied on all bridge construction related Q/A.
  - c. **Guardrail Heights** – Bridge Plans should verify that guardrail heights are shown correctly and include final pavement elevation and overlay thicknesses.
  - d. **Curb for Type A End Connector** – This item should be identified as a pay item on roadway plans. Coordinate this with ACEC Roadway.
  - e. **Roadway/Bridge Interface** – Ensure consistency between roadway and bridge. Conduits are needed on projects with roadway lighting. Consider creating checklists to ensure such items are coordinated among the various disciplines
  - f. **Epoxy Anchors** - KYTC procedure only specifies how the tests are to be performed. Provide details on quantities, locations, and any specific test/passing requirements in the plan and/or special provisions.
3. **Division of Structural Design Topics**
4. **Follow-up from last meeting**
- a. **As-built Plans** – DOSD recently hired a person and is planning to develop a procedure to catalog As-Built in one location with the original design plans. It is anticipated that plans will be stored on STRUT. Some issues have been observed linking files from BRM to STRUT.
  - b. **Specification Section 600 Update** – New Spec book is possible mid year.
  - c. **Stage 1 Final Constructability Reviews** – DOC would like the opportunity to perform constructability reviews at the Stage 1 submittal. Carl Van Zee will forward to Mark Walls for constructability review to be performed by DOC. Constructability Review during preliminary design will be given additional consideration as early involvement is beneficial.
  - d. **MASH Implementation** - KYTC awaiting other states to test railing assemblies, ideally on something similar to the current Type 3 railing.
5. **New Topics**
- a. **Preferences/Problematic Details/Construction Issues**
    - 1. **Alternate Slab Bridge** – KYTC plans have allowed for construction of a slab bridge as an alternate to short span box beam bridges. Several issues have been observed. Top mats of steel are often 4" to 5" deep, which is not a structural issue but does not provide appropriate reinforcing for temperature and

shrinkage. Currently only the top mats of steel are being pachometered. Construction inspectors are more familiar with concrete deck detailing as opposed to slab bridge detailing considerations. Additional training is needed. The bottom mats are currently not being located. Despite requirements for signed and sealed shoring drawings, the shoring is often insufficient and has failed on some occasions.

2. **Rolled Beam Bridges** – Use of Rolled Steel beam bridges as an option to short span Concrete bridges was discussed by the group. Recently KYTC has done quite a bit of research into rolled steel beam bridges with the Bridging KY program. Both DOSD and DOC are in favor of galvanizing short span steel bridge beams. Suppliers are claiming a 75 year life with no painting needed.
3. **Finger Dams** - Galvanizing finger joints was discussed. The group favored the idea, but the possible warping of the new finger joints on the I-24 bridges over the Tennessee River during the galvanization process was a concern. The recessed holes for finger joint anchor bolts can collect and hold water and moisture, promoting corrosion. This is more common on shoulders as the flow of traffic often cleans out the pockets in the travel lanes. The group had not observed corrosion-related issues such bolts. A silicone type filler could be used to reduce debris and help protect the bolts from deterioration. A few instances of poor placement and/or consolidation of concrete at joints were noted. Contractors should pay particular attention to proper consolidation of concrete along armored edges/joint anchorages.

#### **b. Field Inspection Observations**

1. **Integral End Bent Diaphragm cold joints** - A few instances of water seeping through between stem and backwall has been observed during inspections. Use of waterstop material was discussed however, proper backfill and drainage installation are thought to prevent this situation.
2. **Back to Back Barriers** – Back to Back barrier construction and maintenance can be problematic. Consider eliminating when possible.
3. **Piers Adjacent to Roadway** – Piers adjacent to roadways have been noted to exhibit higher levels of corrosion and spalling. DOSD will consider use of Epoxy Rebar in locations where the potential for corrosion from de-icing salts may be higher. KYTC was agreeable to designers proposing the use of epoxy coated reinforcing steel in non-standard locations such as pier columns in high splash areas and in pier caps below joints. Proposed locations should be noted in the Stage 1 Preliminary submittal, and the designers will be notified of KYTC's concurrence in the review of that submittal.

- c. **Bridging Kentucky** – DOSD and Bridging KY engineers have been working together on a variety of updated standard sheets such as box beams (to meet 44 ton posting limit) and abutments (to allow for variable widths).
  - d. **Pricing Trends** – KYTC has seen fluctuations in steel pricing recently. Bridging KY program has not influenced construction prices at this point in time.
- 6. **Future Meetings – Fall 2019** - The group agreed to meet again in the Fall of 2019. It was agreed by all in attendance that having KYTC Bridge Preservation in attendance at this meeting would further benefit the collaboration effort. ACEC will extend invitation in 2019.