The first meeting of the ACEC-KY Bridge Sub-Committee and the KYTC Division of Construction was held on July 13, 2012 at the Transportation Cabinet Office Building, Frankfort, KY. Members of the KYTC Division of Structural Design were also in attendance.

Present at the meeting were:

- Nasby Stroop Division of Construction
- Adam Ross Division of Construction
- Jeremiah Littleton Division of Construction
- Vibert Forsythe Division of Construction
- Rob Harris Division of Construction
- Matt Looney Division of Construction
- Chris Slone Division of Construction
- Tim Layson Division of Construction
- Bill McKinney Division of Structural Design
- Kevin Sandefur Division of Structural Design
- Tony Hunley Stantec
- Chris Reid J.M. Crawford & Associates
- Pete Szak Florence & Hutcheson, Inc.
- Aaron Stover Michael Baker
- Craig Klusman URS
- David Deitz Palmer

The following items were discussed:

1) **Purpose and Background** – This meeting was requested by the Sub-Committee in order to open a dialogue between the bridge design community and representatives of the Division of Construction familiar with bridge construction in the state. The committee would like to have a meeting on a regular basis (annually at first) to discuss questions that bridge designers have on the current state of practice, and get feedback on constructability issues or trends in bridge construction that the bridge design community can address.

2) **Construction Revisions to Bridge Plans** – The current process for producing, documenting, and submitting construction revision drawings was discussed. Construction indicated that there preferences include:

   a. Use the 1, 1A, 1B, 1C, etc. numbering scheme for revised drawings.
b. Use clouding and revision triangles on the sheet to clarify revisions, unless the sheet is replaced entirely.
c. Place a note on sheets that are replaced entirely noting the sheet replaces the previous version of the sheet.
d. Submission should be electronically submitted as individual revised drawings to the appropriate Division of Construction representative, with the Division of Structural Design copied.

Archival of construction revisions was discussed as critical to future maintenance, load rating, widening, and replacement projects. Currently construction revisions and as-built plans are supposed to be archived to Projectwise. Also, Construction noted that a construction revision index is generated by the Division of Construction and added to the front of the plans prior to archival that lists each revision and the affected sheets. A sample of the cover is attached to these minutes.

3) **Value Engineering Construction Proposals** – This discussion was limited to the process and mechanics of VECP’s and not specific projects. The Sub-Committee communicated their general acceptance that there are appropriate situations for value engineering redesigns. The Sub-Committee’s concern is regarding the ownership of the bridge design from a risk standpoint when components of a bridge design are changed by a VECP without the original designer’s input. The Sub-Committee suggested that when a Contractor proposes to change individual components (a pier footing for example), the original designer would be best-suited to evaluate and provide the design revision from a cost and thoroughness standpoint – although there are some risk concerns. Construction indicated that the FHWA has communicated concerns that there could be a conflict of interest issue with this approach, and that there wasn’t a resolution on that issue currently.

Archival of value engineering plans was also discussed as critical to future maintenance, load rating, widening, and replacement projects. Currently as-built plans (including VECP plans) are supposed to be archived to Projectwise.

4) **Jointless Bridges** – Construction noted that they are seeing longer integral and semi-integral bridges and that there have been some issues with movement and/or settlement at the ends causing problems. Construction suggested that this be evaluated on each bridge and that allowances be made for the movement at the end of the bridge, if excessive.

5) **Flowable Fill at Bridge Ends** – There have been some projects let with flowable fill replacing structural granular backfill behind bridge abutments to reduce settlement. Other projects have utilized a granular backfill region below the flowable fill to facilitate a backfill drain. And other projects have been constructed with large stone called for in the flowable fill. Currently, there is no preferred approach. It was discussed that buried approach slabs may be the most effective means to limit settlement. However, the use of buried approach slabs is still a project-by-project decision.
6) **Painting of Weathering Steel Bridges** – Current direction by KYTC leadership is to paint all new weathering steel bridges. This process was used on a recent steel truss bridge, but has been extended to include all steel plate girder bridges. The Division of Structural Design is currently painting exterior faces and the bottom of the bottom flange of exterior girders for rural bridges. For urban bridges, painting of all girders may be desirable. Attached is a copy of the general note and detail used by the DOSD. Also, Construction noted that Type 3 bolts and weathering steel DTI’s should be called for on all steel bridges.

7) **Steel Reinforcing Bar Couplers** – The use of couplers in lieu of bar laps at phased construction joints was discussed. This issue was raised with the Contractors who participated in the Contractor’s Forum at the Bridge Engineering Seminar and they communicated that their preference for one method or the other varied from project to project and varied over time. Construction did request that when bar laps are used, especially for transverse bars in bridge decks, they not be detailed with a shop bend for clearance. If clearance does not allow for a full lap with the bar extended horizontally, then use couplers.

Another issue that was raised by Construction was feedback from Contractor’s regarding the cost of the extra couplers that were required to be purchased and submitted for extra testing. Depending on the number of couplers of a given size required in the project, this can be a significant cost. Construction requested that the number of couplers included in the bid quantity include the additional couplers for testing to address this concern.

8) **Bridge Engineering Seminar Day** – The success of the Bridge Engineering Seminar Day, held in January 2012, was discussed. Including the participation of bridge Contractor’s in a forum with designers. The Division of Construction was asked to attend and participate in the next Bridge Seminar in February 2013. The Division will be given a 30-minute or one hour time slot to discuss any topic that they would like to address with designers or Contractors in attendance.

9) The next joint meeting of the KYTC Division of Construction and the ACEC-KY Bridge Sub-Committee will be in the Spring 2013.

The meeting concluded around 11:45 a.m.
**CONSTRUCTION REVISION INDEX**

**COUNTY:** HARDIN  
**PROJECT NO.:** 602-047 NEW-ROUTE  
**ROAD NAME:** E2RC

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**EXPLANATION OF REVISION NO. 8**

**EXPLANATION OF REVISION NO. 9**

**EXPLANATION OF REVISION NO. 10**
GENERAL NOTES

HIGH STRENGTH BOLT CONNECTIONS: Unless otherwise specified on the plans, all bolted connections shall be ASTM A325 inch high strength bolted connections. High strength bolts of this type shall be suitable for use with weathering steel bolted connections. High strength bolts shall be field welded or shop welded as required. Always be sure to consult the details on the plans for the proper identification of the bolts to be used.

SHEAR CONNECTORS: For use with weathering steel bolted connections, the shear connectors shall be field welded or shop welded as required. Always be sure to consult the details on the plans for the proper identification of the shear connectors to be used.

PREPARATION: Field preparation of all structural steel shall be performed in accordance with the American Society for Testing and Materials (ASTM) and the American Institute of Steel Construction (AISC) specifications. The structural steel shall be prepared in accordance with the American National Standards Institute (ANSI) and the American Welding Society (AWS) specifications.

FINISHING: All exposed surfaces of the structural steel shall be finished in accordance with the American Architectural Manufacturers Association (AAMA) specifications.

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