ASCE-INDOT STRUCTURAL COMMITTEE

MEETING NO. 68 MINUTES

July 29, 2015 / 10:00 am / INDOT Room N642

Meeting called to order at 10:00 am by Anne Rearick. Those in attendance were:

Anne Rearick	INDOT, Bridge Division
Jeremy Hunter	INDOT, Bridge Division
Mahmoud Hailat	INDOT, Bridge Division
Naveed Burki	INDOT, Bridge Division
Pete White	INDOT, Bridge Asset Engineer
Stephanie Wagner	INDOT, Bridge Division
Ben Borcherding	American Structurepoint, Inc.
Jason Yeager	E&B Paving, Inc.
Kurt Heidenreich	Engineering Resources, Inc.
Mike Eichenauer	Butler, Fairman and Seufert, Inc.
Mike McCool	Beam Longest & Neff, LLC.
Seth Schickel	HNTB Corporation

In addition to the attendees, these minutes will be sent to the following:

Elizabeth Phillips	INDOT, Bridge Division
Greg Pankow	INDOT, Construction Management
Keith Hoernschmeyer	FHWA
Mike Halterman	USI Consultants, Inc.
Mike Wenning	GAI Consultants, Inc.
Burleigh Law	HNTB Corp.
Tony Zander	INDOT, Highway Management Division
Celeste Spaans	Prestress Services, Inc.

The following is a summary of the meeting discussion.

1. Previous meeting minutes not available for review.
2. PTFE Design (Eichenauer)
    a. Discussion of lubricated vs. non-lubricated bearings. Lubrication requires continued maintenance.
    b. Distributed proposed IDM language and detail revisions and additions – Committee will review and comment.
    c. Detail proposes recessing the PTFE into the steel bearing plate. Pete White asked if we could “flip” the detail to the put the recess in the upper plate, to avoid collection of moisture in a lower plate with a recess. This may also avoid additional testing of unique bearing devices.

d. After discussion, Eichenauer will add a top steel shim pack and tapping for bolts in the upper bearing plate. Also, show or add concrete beams on the detail.
e. Eichenauer will distribute the final version for Committee review and then send to Elizabeth Phillips for INDOT Standards consideration.

3. Prestressed Beam Camber (Heidenreich)
   a. Discussion about challenges predicting initial camber.
   b. Heidenreich used a plan note instructing the contractor to measure actual beam camber after curing, and then adjust shims as needed prior to erection.
   c. Other states use supplier-developed multipliers – no data currently available for Indiana suppliers.
   d. Discussion of the added flexibility if each bridge is detailed with added shims at each bearing. Added shims could be removed, if necessary, so over-cambered beams do not extend into the structural deck.
   e. Heidenreich will develop proposed plan notes for as-built camber verification, extra shim details, and a write-up of the process for Committee review.
4. Asymmetrical Barrier (White)
   a. Distributed proposed calculations for asymmetrical barrier with up to 2 ft elevation difference.
   b. Calculation is to determine added embedment (i.e. concrete weight) needed to achieved equivalent behavior of a standard concrete median barrier.
   c. Prior to publication, White recommends adding figures and determining IDM location and language.
   d. Borcherding will check calculations.
5. Continuity of Prestressed Concrete Beams – no report.
6. Law Email – no report.
7. Mechanical Splices (Burki)
   a. Sent to Standards Committee – remove from agenda.
8. Overlay Dams (Wagner)
   a. Distributed proposed IDM language and detail.
   b. Discussion of need for details with various joint types.
   c. The nosing for expansion joint sealing system is not shown on most plans. Therefore, contractors are not aware of required dimensions.
   d. Detail comments:
      i. Adjust the strip seal (S-S) joint to eliminate specific deck removal dimension – “Varies (Deck Removal Limits)”
         1. Eliminate the 1:1 taper of dam.
   e. Square foot vs. linear foot pay item discussion: Use SFT to match current specifications and pay item.
   f. Wagner will distribute the final version for Committee review
9. Overlay Types (Hunter)
   a. PPC – Polyester Polymeric Concrete (Caltrans ca. 1983)

i. This promising overlay material has a 2 hour set time, but carries material costs twice the price of epoxy overlays

b. Microsilica
   i. Used in the past on INDOT projects. Recently specified on various projects, including three by BLN (McCool) in Crawfordsville District and four by Engineering Resources for local bridges in Fort Wayne area.
   ii. Jeremy Hunter and Jim Reilman are working together on issues
      1. Training for inspectors to ensure quality
      2. Evaporation retarder is required per RSP. Jason Yeager noted he has used evaporation retarder on latex-modified concrete overlays with good success since 1996, and suggests adding it to specifications.
c. Committee will move Overlay Types to recurring business
d. Further discussion about high-early strength concrete, including Seymour District attempt to use on I-65, and continuing search for other "test" locations.

10. New Business
    a. Construction Load Design Check
       i. Committee recommends adding construction load design check direction to the IDM for bridge rehabilitation projects with steel superstructures. For concrete superstructures, the check could be limited to torsion only because shear is not controlling per group experience.
       ii. Need to clarify overall requirements for IDM update, such as design assumptions, span length limits, concrete superstructure checks required, limiting rehabilitation checks to only projects with increased overhang.
       iii. Committee will continue discussion.
    b. Snow Plow Protectors
       i. McCool distributed example details from other state DOTs. Will obtain pictures and commentary on long-term performance and cost.
    c. NEXT Beams
       i. Committee discussed use on county bridges, rather than DOT bridges.
       ii. This is a possible superstructure replacement type for adjacent box beam bridges.
       iii. Concern that deck replacement may require full superstructure replacement. An option would therefore be to construct beams with an 8 inch concrete deck and an asphalt overlay.
       iv. Committee will continue research and look for applicable test projects.
    d. Expansion Joint Options
       i. Joint options include BS compression joint seal, expansion joint sealing systems (multiple options available in marketplace), open cell foam joints.
       ii. New subcommittee will include Pete White, Stephanie Wagner, Mike Eichenauer and Jeremy Hunter.
    e. Deck Pan Details

i. IDM details include a ½" projection into the concrete deck. Committee reviewed and discussed R.L McCoy response letter.
ii. Committee will continue research led by Ben Borcherding, Kurt Heidenreich and Mike McCool.

f. General Notes
i. Examples from others states presented.
ii. Committee will continue research led by Mike McCool, Seth Schickel, Elizabeth Phillips and Mike Wenning.

g. Mobile Impact Attenuators (Hunter)
i. Being developed as a combined effort of INDOT, industry, safety and construction. Used currently by INDOT maintenance. Hunter recommends using this same higher standard of care for construction, also.
ii. TMA – Truck (or Trailer) Mounted Attenuators.
iii. Use would apply for temporary traffic maintenance situations (3-day closures, etc.), such as thin overlay installation and other preventative maintenance construction.
iv. Under development now, and anticipate a completed specification by end of 2015.

h. Terminal Joints (Hunter)
i. Plan to replace current standard asphaltic plug with an expansion joint due to performance issues. Working with partner states on performance of alternatives.
ii. Experimental project on I-65 in LaPorte District is underway.

i. Bridge Design Conference
i. Will schedule in early February 2016.
ii. Planning reuqirements will be discussed at next meeting, including topics, conference location and logistics.

j. Hydrodemolition
i. Committee discussed hydrodemolition limits and need.
ii. Further discussion needed.

The next meeting for the INDOT ASCE Structural Committee is scheduled for 9:30 am on September 24, 2015 at IGCN Room N642. Mike McCool will distribute an agenda prior to the meeting. This meeting adjourned at noon.

Respectfully submitted,

Seth Schickel, PE
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