MINUTES
ACI Committee 345 - Bridge Construction, Maintenance, and Repair
Spring 2012 Convention
Dallas, TX
Sanger
Sunday, March, 2011, 1:30 pm to 3:30 pm

1) **Opening:** Chairman Michael Brown opened the meeting at 1:32 pm.

2) **Introductions:** All those present introduced themselves.

3) **Approval of minutes** – change title of SP 277 to: “Recent Advances in Maintenance and Repair of Concrete Bridges”

4) **Membership status:**
   According to ACI records, the committee currently has 3 officers and 15 other voting members, 6 consulting members, and 26 associate members.
   Membership changes:
   - From Associate to Voting: Chris Carroll, Ron Vaughn
   - From Voting to Associate: Jeff Bezo, Claudia Pulido

   Voting Members present: Michael Brown (Chair), Rita Oglesby (Secretary), Jimmy Kim, Michael Sprinkel, Chris Carroll, Andy Foden, Alan Matejowsky, Johan Silfwerbrand, Paul St John, Ronald Vaughn, and Mark Williams

   Associate Members present: Devin Harris, Richard Huza, George Morcous, Luis Orta, and Jeff Smith

   Visitors present: Jeff Bryant, Ben Dymond, Ben Graybeal, Phillip Loh, Nathan Sauer, and Ron Watson

5) **Technical Presentations:**
   a) Fall 2011 – “In Honor of Robert Gulyas” was well attended

6) **Future Sessions:**
   a) Spring 2013 “Advanced Materials and Sensors for Concrete Bridges: Performance, Evaluation, and Repair.”
      Moderator: Jimmy Kim
      Length: 2 slots @ 2 hr each = 4 hr ~ 8 speakers
      This session will include the application of advanced materials (shape memory alloy, fiber reinforced polymer, piezoelectric actuators, etc.) and sensing techniques (fiber optic, acoustic emission, ultrasound, and so on). Committees 345 and 440 will co-sponsor. A call for papers will appear in the June edition of CI.

   b) The committee is seeking presentations for a session titled *Innovative Concrete Systems for Rapid Bridge Construction.* Moderators: Michael Brown and Devin Harris. Rita to submit Preliminary request for Minneapolis, MN –
      The committee will request 2 sessions. This session will include several examples of innovative systems. As a preliminary summary: The Federal Highway Administration is currently employing Accelerated Bridge Construction (ABC) as a key element in its...
overarching strategy title “Every Day Counts.” Many highway agencies are employing a range of innovative structural designs and techniques to permit the rapid construction or rehabilitation of bridges. Some examples of innovative systems include New England Extreme Tee, Inverted-Tee, Bridge in a Backpack, Hillman Composite Beam and UHPC as joint fill for adjacent precast superstructure elements such as box girders, deck bulb-tees, and the like. The session will focus on concrete technologies that are being employed in such manner to build durable structures or extend the useful life of existing structures. A call for papers will be issued.

c) A potential new session: Lessons Learned – What Not to Do in Bridge Construction and Maintenance? Moderator and convention not selected.

7) Bridge Committee interaction:
The committee encourages interaction with other committees. Several members of 345 are also members of other bridge-related committees. The committees and 345 contacts are listed below.

a) TAC – Mike Sprinkel – new documents should be updated every 6 years. Do not wait until year 12 to get re-approval. New document should include new references and updates in technology. After TAC review, committees have up to 2 years maximum to address comments.

b) 222 – Corrosion – Mike Brown reported a new chair, David Trejo has discussed having a joint session honoring Richard Weyers in light of his recent retirement from Virginia Tech and his career of concrete and corrosion research. It is proposed that Committee 345 co-sponsor this event and potentially Committee 365 could also be a co-sponsor. Committee 222 is finalizing revision to their major document.

c) 228 – see 342 update (new liaison need)

d) 237 – Self-Consolidating Concrete: Ron Vaughn. Have several sessions listed below.
   a. MN – SCC in Repairs Applications
   b. Phoenix – Structural Behavior of Precast/Prestressed SCC
   c. Reno – Use of SCC in Drilled Shaft Applications


ef) 343 – Bridge Design – no updates

g) 444 – Committee was titled “Experimental Analysis”, new name “Structural Health Monitoring,” meets Tuesday @ 8 am (anyone interested in liaison)

5) Status of Documents:

a) 345R – Guide for Concrete Bridge Construction
b) 345.1R – Maintenance of Concrete Bridge Elements, published July 2006. The document is scheduled for revision/re-approval in 2014.

**ACTION:** Form a committee for a review and issue a ballot for re-approval of the document if no changes are necessary

c) 345.XR Guide for Concrete Bridge Deck Repair and Rehabilitation.

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<tr>
<td>1</td>
<td>Introduction and scope</td>
<td>Brown</td>
<td>Develop after other chapters</td>
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<td>2</td>
<td>Notations and definitions</td>
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<td>3</td>
<td>Condition evaluation and method selection</td>
<td>St. John /Smith</td>
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<td>Repair methods</td>
<td>St. John /Kim</td>
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<td>/Williams</td>
<td>9.4 – Williams/Harris by 09/30/2012</td>
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**ACTION:**
Detailed outline posted at:


Key: Authors highlighted in yellow

Changes highlighted in light blue

List of chapters and assignments:
Outline – posted at:


updated as of 03/20/2012

Current Assignments:

**Chapter 3** – Overview (brief synopsis) from Jeff Smith/Larry Olson

**Chapter 4** – Weyers has not had time to work on this chapter as yet.
Chapter 6 – see assignments below
  6.1 – Williams by 09/30/2012
  6.2 – St. John by 09/30/2012
  6.3 - Kim complete

Chapter 7 – Silwferbrand and Sprinkel to draft new outline – by 09/30/2012

Chapter 8 – Brown to draft – by 09/30/2012

Chapter 9 – subsections re-assigned
  9.1 – Sidewalks – Andy Foden – by September, 2012 (Andy will review extensive outline and reduce/combine/condense)
  Extensive literature review is taking more time
  9.4 – Approach slabs – Mark Williams/Devin Harris – by September 30, 2012


  ACTION:
  TAC comments addressed. Waiting for new photos. Paul St. John might have some. Then can re-submit to TAC

8) SDC report on Hycrete – received request from staff to discuss in committee:

  “The Strategic Development Council is a council of the ACI Foundation, and serves as a forum for individuals to discuss the key issues and challenges that impact the concrete industry. One of the SDC goals is to facilitate the development and acceptance of new technologies to benefit the concrete industry.

  As a service to innovators, the SDC’s Technology Management Committee (TMC) provides general guidance on if and how a technology can be reported on by ACI.

  You are asked to review the report, which identifies your committee as a possible home for ACI information related to this technology. Please let Mr. David Stokes, the TMC liaison for this technology, know if this item can be included on your next meeting agenda. His email is david.stokes@fmc.com or his phone number is (704) 868-5492.”

  Committee Response: While the committee holds that it is inappropriate to specifically endorse proprietary products in its documents, the committee will include general discussion of classes of products, such as the one reported by the SDC, that are useful to reduce permeability of concrete and impart other potential benefits when addressing preservation and maintenance techniques for concrete bridges.

9) Paul St. John motion: Mike Brown has done a great job as Chair.

  Chair Brown’s response: Committee success is a function of the work of the members creating documents and participation. It has been a pleasure to work with this committee.
10) Adjournment: The meeting was adjourned at 4:00 pm.

Respectfully submitted,
Rita K. Oglesby
Secretary 345
Related Committees/Documents
201 – Durability
222 – Corrosion of Metals in Concrete
546 – Repair of Concrete
364 – Rehabilitation
365 – Service Life

References:
NCHRP 4;
AASHTO-AGC-ARTBA Joint Committee Task Force 3G Report "Guide Specifications for Concrete Overlays of Pavements and Bridge Decks";
NYSDOT Bridge Deck Evaluation Manual;
NYSDOT Materials Bureau "Field Survey Manual for Bridge Deck Overlay Projects"
ASTM - LCCA
RILEM
NCHRP – Service Life Prediction Report
NACE – R/C Condition Evaluation
ICRI Guide 03732 (provides an extensive coverage of concrete removal methods)