American Concrete Institute
38800 Country Club Drive
Farmington Hills, MI 48331 USA
+1.248.848.3700
www.concrete.org

MEETING AGENDA

342 - Evaluation of Concrete Bridges and Bridge Elements
ACI Spring Convention 2016
Meeting Schedule: Sunday April 17, 2016 (8:30 AM-10:30 am)
Wisconsin Center (Milwaukee, WI)– C-102 A

Mission: Develop and report information on evaluation of concrete bridges and bridge elements.

Goals: Advance the state of the art of concrete bridge and bridge element evaluation through: 1) developing technical sessions; 2) developing Special Publications; and 3) disseminating committee expertise through technical document development. (***Proposed Revision***)

Committee Members
VOTING MEMBERS

Devin Harris – University of Virginia (Chair)
Nestor Rubiano – HNTB Corporation (Secretary)
Om Dixit - Dixit Consultants LLC
Andrew Foden Parsons Brinckerhoff
Andre Garner - Garner Consulting Group
Riyadh Hindi – St. Louis University
Jimmy Kim – University of Colorado Denver
Mohamed Mahgoub - New Jersey Institute of Technology
Bruno Massicotte - Ecole Polytechnique Montreal
John Myers - Missouri S&T
Rita Oglesby
Larry Olson - Olson Engineering Inc.
Johan Silfwerbrand - KTH Royal Institute of Technology
Jeffrey Smith – University of Kentucky
Mark Williams - Walter P Moore

1. Administrative [5 min]
- ***1.1.*** Introductions
- ***1.2.*** Announcements
- ***1.3.*** Intervening actions since last meeting.
  - Minutes Balloted and Approved for Reno, NV; Washington, D.C.; Kansas City, MO; and Denver, CO.
  - 342R-16: Report on Flexural Live Load Distribution Methods for Evaluating Existing Bridges was approved, published, and distributed. (Available to committee members on committee website).

2. Strategic Planning and Discussion [15 min]
- ***2.1.*** Proposed Revision of Committee Goals
- ***2.2.*** Membership
  - 2.2.1. New Committee Secretary
  - 2.2.2. New Voting Members
  - 2.2.3. New Associate Members
- ***2.3.*** Other committee/organization activities

3. Documents Under Development [25 min]
- ***3.1.*** **342.YR:** *Concrete Bridge Condition Assessment and Performance Monitoring (Larry Olson to call in and lead)*

4. Invited Speaker Presentation - none

5. New Business [15 min]

5.1. Sessions and SP focus topics for future conventions

- Proposed Sessions
  - Beyond Chain Dragging (Larry Olson) - Detroit
  - Advances in Modeling and Analysis For Evaluating Concrete Bridges (Bruno Massicotte and Devin Harris) - Detroit
  - Evaluation of Concrete Bridge Behavior Through Load Testing - International Perspectives (Bruno Massicotte and Devin Harris) - Anaheim
  - Rating Methods for Defining the Performance of Existing Concrete Bridges (Bruno Massicotte and Devin Harris) – Salt Lake City
- Potential Session Topics
  - *Roll out of LDF Report (F15)*
  - *Load Rating of Concrete Bridges(F15)*
  - *Field Testing of Concrete Bridges (Diagnostic, Proof) (F15)*
  - *Analysis of Existing Concrete Bridges (F15)*
  - *Non-destructive and Destructive Evaluation of Concrete Bridges (F15)*
  - *Data Analytics for Concrete Bridge Evaluation (F15)*
  - *SHM of Concrete Bridges (F15)*

6. Relevant Sessions for Current Convention [5 min]

- None supported by Committee 342
- Concrete Bridges Built with Advanced Materials: Seismic Performance and Design Issues, Part 1 of 2 - Monday, April 18, 2016 11:00 AM - 1:00 PM, C-202 D
- Concrete Bridges Built with Advanced Materials: Seismic Performance and Design Issues, Part 2 of 2 - Monday, April 18, 2016 1:30 PM - 3:30 PM, C-202 D

7. Upcoming Sessions at Future Conventions [5 min]

- ACI Fall Convention 2016 - Philadelphia, PA - *Evaluation and Response of Bridges Subjected to Non-conventional Live or Extreme Loads, (Y. Kim) – Postponed due to insufficient abstracts*

8. Adjournment

- The next meeting(s) will be on October 23rd, 2016 (8:30-10am) – tentatively

American Concrete Institute
38800 Country Club Drive
Farmington Hills, MI 48331 USA
+1.248.848.3700
www.concrete.org

Session Descriptions:

Title - Beyond Chain Dragging - Nondestructive Evaluation of Bridge and Parking Decks and NDE Data Fusion

Moderators: John Popovics and Larry D. Olson

ACI Convention - Detroit

Summary: The first of 2 proposed sessions is anticipated to involve an initial presentation by Dr. Nenad Gucunski of Rutgers University on the Strategic Highway Research Program SHRP 2 R06A NDE of Bridge Decks research project that was recently completed. As the research involved the use of many NDE methods by Rutgers University as well as other participants, the use of combined methods in a data fusion approach will also be illustrated for research and consulting projects. Next will be a presentation on the FHWA SHRP 2 implementation project which provided funding to help 8 state DOT's learn about and try out the advanced NDE technologies for deck assessment through equipment purchase and/or subcontracting of consultants to demonstrate the NDE technologies on actual bridge decks (speaker – Matt DeMarco of FHWA – Central Federal Lands and Highway Division in Lakewood, Colorado). An overview of the Subject Matter Expert Assistance provided to the DOT's as part of the FHWA implementation program will next be given by Larry Olson of Olson Engineering, Inc. of Haymarket, Virginia. It is anticipated that 1 or 2 of the DOT engineers involved in the NDE implementation will give presentations on the NDE methods they implemented, NDE findings, comparisons of NDE results with traditional chain dragging/acoustic sounding damage assessment methods, and their plan for continued implementation.

Presentations in the second session will involve the use of multiple NDE methods and their combined results using the data fusion approach on bridge and parking decks. Potential speakers for this include Dr. John Popovics of the University of Illinois, Dr. Glen Washer of the University of Missouri, Dr. Herbert Wiggenhauser of BAM in Berlin, Germany, Dr. Kenneth Maser of Infrasense in Boston, Francisco Romero of New Jersey, Dr. Spencer Guthrie of Brigham Young University, Dr. Parisa Shoukouhi of Penn State University and/or Dr. Yajai Tinkey of Olson Engineering, Inc.

Title - Advances in Modeling and Analysis For Evaluating Concrete Bridges

Moderators: Bruno Massicotte and Devin Harris

ACI Convention - Detroit

Summary: The session objective is to present state-of-the-art and emerging technologies for the strength and serviceability evaluation of concrete bridges. The following topics will be considered: advanced nonlinear modeling and nonlinear finite element analysis (NLFEA), system redundancy analysis, structural versus element rating, and determination of structure specific reliability indices.

American Concrete Institute
38800 Country Club Drive
Farmington Hills, MI 48331 USA
+1.248.848.3700
www.concrete.org

Evaluation of Concrete Bridge Behavior Through Load Testing - International Perspectives

Moderators: Bruno Massicotte and Devin Harris

ACI Convention - Anaheim

Summary: This session(s) will present case studies on load testing of concrete bridges from around the world including the North America, South America, Europe, Asia, the Middle East and Africa. The goals and objectives will be to provide a global perspective on strategies for assessing the in-service performance of concrete bridges using diagnostic and proof testing.

Rating Methods for Defining the Performance of Existing Concrete Bridges

ACI Convention – Salt Lake City

Summary: TBD