

# “Behind the Scenes”

Sue Hida: AASHTO HSCOBS T10 Technical Committee Member

## AASHTO BDS SECTION 5: CONCRETE STRUCTURES



# Overview of AASHTO T10

- Responsibilities:
  - Maintaining Section 5 of the AASHTO BDS
  - Identifying research needs, seeing that outcomes are implementable
- Who is AASHTO HSCOBST10?
- What is T10 currently working on?
- The annual 'cycle'
- On-going industry input via T10 partnership with PCI and ASBI

# AASHTO T10 Technical Committee for Concrete

- One of 20 under AASHTO HSCOBS, SCOH
- Chaired by Loren Risch, Kansas DOT
- ID, NH, PA, FL, LA, VA, MN, CA, NE, OR, WA
- FHWA (non-voting): minutes, updates
- HSCOBS Exec. Comm—20 Chairs
  - Manage budget (AASHTO Tech. Service Program)
    - M&M Support
    - Special Studies
    - Mid-year Mtgs

AMERICAN ASSOCIATION OF  
STATE HIGHWAY AND  
TRANSPORTATION OFFICIALS

**AASHTO**  
THE VOICE OF TRANSPORTATION

# T10 “Behind the Seasons”

- Meetings attended by consultants, industry incl. PCA, professors, software developers
- \*Fall: meet day after PCI Bridge Committee, day before FHWA National Bridge Conference
- Fall: meet at ASBI if quorum likely
- \*Spring: meet day after PCI Bridge Committee
- Summer: meet 2 days prior to HSCOBS General Meeting, voting on ballot items
- \*where most of our work gets don

AMERICAN ASSOCIATION OF  
STATE HIGHWAY AND  
TRANSPORTATION OFFICIALS

**AASHO**  
THE VOICE OF TRANSPORTATION

# T10 “Behind the Scene”, Meeting Agenda

- Put together by T10 Chair ~2 wks prior
- Bulk of meeting spent on proposed changes
  - ‘WAI’—Working Agenda Item (AASHTO format)
  - T10 members have staff run numbers, comment
  - Originator defends or agrees to incorporate
  - Move to ballot in fall; Chair submits by deadline
- Some presentations: background to WAI’s; research needing Owner input, buy-in AND that some T10 MEMBERS sense could directly improve the Specs

AMERICAN ASSOCIATION OF  
STATE HIGHWAY AND  
TRANSPORTATION OFFICIALS

**AASHO**  
THE VOICE OF TRANSPORTATION

# Changes **likely** to be voted on (Austin, TX--July 2012)

- $V_p$  vertical component
  - Haunched members (5.8.2.8)
  - Parabolic, deviators, blisters (5.8.6.2)
- Bars behind blisters (5.10.9.3.4b)
- Extension of bar-related provisions to  $f_c' 15$  ksi (issue on epoxy-coated bars pending)
- Extension of strand provisions to  $f_c' 15$  ksi

AMERICAN ASSOCIATION OF  
STATE HIGHWAY AND  
TRANSPORTATION OFFICIALS

**AASHO**  
THE VOICE OF TRANSPORTATION

# On-Going Research

- NCHRP 12-83 Calibration of Service/Fatigue for Concrete Bridges ( $\gamma_{LL} = 0.80$ )
  - Tension, cracking, permit loads (?)
- NCHRP 12-91 Strand Debonding
- NCHRP 18-15 HP/HS/ Lightweight Concrete in Bridge Girders and Decks

Other:

- PS Losses—Penn State

# Possibilities for 2013

- Revision of  $l_{dl}$ ,  $l_{tr}$  and splices in bar reinforcing (NCHRP Report 603; more in-line w/ACI 318)
- Strut-and-tie clarifications (NCHRP 20-7's)
- Duct size vs. web-width in spliced girders, 5.4.6.2
- More clean-up of inconsistencies between 5.8.3 (General Shear) and 5.8.6 (1999 Segmental Guide Specs Shear)

AMERICAN ASSOCIATION OF  
STATE HIGHWAY AND  
TRANSPORTATION OFFICIALS

**AASHO**  
THE VOICE OF TRANSPORTATION



# Research for FY13-14 cycle seeking T10 Endorsement

- Spliced girder losses—Anecdotal evidence on wide spread of values used; other States use duct types besides steel; need provisions less rigorous than for segmental construction
- Shear friction--Caltrans boxes; decks on tub girders; web-to-flange connections in bulb-tees
- (20-7) Dgn and Const Specs for UHPC
- “Mander”-type of curve for high-strength steel

AMERICAN ASSOCIATION OF  
STATE HIGHWAY AND  
TRANSPORTATION OFFICIALS

**AASHTO**  
THE VOICE OF TRANSPORTATION

## Main Point:

- The quantity and quality of AASHTO T<sub>10</sub> activity is possible thanks to the technical support of PCI.
- Caltrans and all State-Members' participation is possible thanks to the financial support of PCI.
- Thank you for your attention! Questions?

# William Nickas, PE

- PCMAC is now a PCI affiliate; opens the door to yet more high quality precast knowledge
- Former Florida State Bridge Engineer and AASHTO T<sub>10</sub> Chair—started 'WAI' numbers
- Tight schedules (2 min./WAI); night mtgs
- "Sit down buckle-up; we're going to cover...."
- Brought the same energy to PCI—branching into many new aspects of transportation



# DES Concrete Committees

- Precast Pretensioned Committee w/reps from:
  - PPRM (Eric Fredrickson, Say-Gunn Low)
  - SC (Cherly Poulin, SC PS Tech Team)
  - METS (Keith Hoffman, Rock Products Comm.)
  - SD (Manode Kodasuntie, Henry Fang)
- Post-tensioned Concrete Committee
- Concrete Decks & Slabs Committee
- Concrete Caps & Columns Committee



# Precast Committee: Original Workplan

- Special provisions for debonding, spliced gdrs
- Spliced girder design guidance
- Bridge Design Practice (BDP) Chapter on Precast Pre-tensioned Girders
- Software support
- Later added: support to Div. of Pavements on precast prestressed pavement details, specs
- Just in: implementation of ISU research



# Post-Tensioned Committee

- MTD 11-34 Hinge-Curl (w/UNR research)
- BDA (new) Hinge Design Example
- BDA (new) Tendon End Diaphragm Anchorage—implementing Analysis Committee FEA work
- BDA (new) PS Strand/tendon properties; spacing guidance



# Concrete Caps & Columns Committee

- MTD 6-5 Piers—w/Earthquake Committee
- BDP Chapter on Columns
- BDP Chapter on Caps
- Vbent review





# Concrete Decks & Slabs Committee

- BDA 5-81 Concrete Anchorage
- BDP Chapter on Slab Bridges
- XS Sheets on slabs, hinges
- SPM on new types of bar reinforcing

