

2009 AASHTO SOM Anchorage, AK

ASR – Mitigation Implementation

Jim Pappas
Delaware DOT

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FHWA ASR TWG

- ◆ Representation from various stake-holders:
 - Federal Agencies
 - State DOT's
 - Industry
 - Academia
- ◆ Ultimate goal is to mitigate ASR in new and existing concrete.
- ◆ Share information and experiences.

FHWA ASR TWG (cont)

- ◆ Meet bi-yearly for updates from research teams.
- ◆ Review the data and discuss conclusions and outcomes of research and/or testing.
- ◆ Ultimate goal is for implementation nationwide of ASR resistant concrete.
- ◆ From TWG, AASHTO ASR team was born at SOM in 2007.....

AASHTO ASR Task Force

- ◆ Members of TWG volunteered through AASHTO to review ASR specs nationally.
- ◆ To review state-of-the-art ASR specifications, tests, etc.
- ◆ Update the status of current AASHTO specifications.
- ◆ Determine what more is needed with regards to ASR?

Current AASHTO Specifications

- ◆ There is an AASHTO Lead States **DRAFT** ASR Specification – **never implemented**.
- ◆ States have various versions of ASR Specifications (some based on AASHTO DRAFT with Modifications).
- ◆ FHWA ASR Development and Deployment Program Protocols (through TWG).

AASHTO ASR Task Force Recommendations

- ◆ Have AASHTO form a small group with the goal of drafting an AASHTO ASR specification.
 - Technical support available through the FHWA's ASR Development and Deployment Program.

AASHTO DRAFT “Practice”

- ◆ Draft document is based upon an FHWA report preventing ASR in new construction.
- ◆ Document recognizes both ASR and ACR.
- ◆ Comments have been received.
- ◆ Presenting to AASHTO as a *Recommended Practice* at 2009 SOM.

AASHTO DRAFT “Practice”

- ◆ Tries to identify potentially expansive aggregates.
- ◆ Takes into account field history of materials, petrographic examination, and lab testing (AMBT, CPT).
- ◆ Performance or Prescriptive Approach is referenced.

AASHTO DRAFT “Practice”

- ◆ Preventative measures for ASR include: using non-reactive aggregates, limiting alkali content in the concrete, use of blended cements, using supplementary cementitious materials, lithium admixtures, or any combinations of the above.

AASHTO DRAFT “Practice”

- ◆ Preventative measures for alkali carbonate reaction are limited to not using reactive aggregates.
- ◆ Preventative measures are based upon “risk tolerance” of specifying agency.

AASHTO DRAFT “Practice”

- ◆ This is a **working** draft.... addendum and appendix may be needed in the future...
- ◆ The idea is to get this out to those that may not be as knowledgeable about ASR.
- ◆ FHWA funding is available until September 2011 for this work. After 2011????

Questions?

Gina Ahlstrom

Gina.ahlstrom@dot.gov

www.fhwa.dot.gov/pavement/concrete/asr.cfm

202-366-4612

Jim Pappas

james.pappas@state.de.us

302-760-2400