

## ACEC/Maine DOT Bridge Design Subcommittee

### MEETING MINUTES

June 10, 2009

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<b>Attendees:</b>		<b>Location:</b> MDOT Conference Room #318
Wayne Frankhauser	MaineDOT	
Dave Sherlock	MaineDOT	
Leanne Timberlake	MaineDOT	
Mike Wight	MaineDOT	
Bob Ellena	MaineDOT	
Jeff Folsom	MaineDOT	
Tim Cote	HNTB	
Steven Hodgdon	VHB	
Wayne Chadbourne	Haley & Aldrich	<b>Notes Taken By:</b> Tim Cote

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This is the second ACEC/Maine Bridge Design Subcommittee meeting this year.

#### **Introductions and Committee Member Changes (Tim Cote)**

- Tim noted that this was the last meeting for Steve Hodgdon (VHB) and introduced Wayne Chadbourne (Haley & Aldrich) as the newest consultant member of the committee.
- Steve thanked the committee for their support and opportunity to participate during his tenure.
- Tim also noted that he would be rotating off the committee at the next meeting and that his spot would be filled by Steve Percassi, Jr. from Erdman Anthony.

#### **➤ Information Dissemination from MaineDOT (Wayne Frankhauser)**

- Wayne noted that, given the bridge groups heavy workload, designer meetings have not been occurring as routinely as normal. As such, the Department did not have any meeting minutes to share with the group.
- The 2010-2011 bridge program has been finalized and team assignments have been made. Money for state funded projects will be activated July 1<sup>st</sup> while money for federally funded projects will be activated October 1<sup>st</sup>.
- Wayne noted the bridge program is one of the few programs with good funding at present. Highway funds are limited and that program is expected to be slow for some time. There is currently a lull in the bridge program as the Department transitions between the 2009 and 2010 programs, but the work load is expected to pick up again by early fall.
- Retirement incentive – Due to the State's retirement incentive program the bridge program may be losing several individuals. The construction services group is expected to be hardest hit.

- BDG Update – The Department has been reviewing the revised portions as part of their designer meetings. These discussions will continue for the next several designer meetings. The most significant revisions are occurring to Chapter 5 and to the seismic loading provisions. A note will likely also be added to the BDG reminding users that the BDG is meant to be a guide, not a mandate.
- Standard Specifications Update – Scheduled for release in late 2009 or early 2010.
- Standard Details Update – Updated version in US Customary units is being developed.
- Bridge GCA – All individuals who submitted GCA applications were prequalified for MaineDOT projects. In addition, a short list of firms for interviews is being developed with a target date of late June. Only firms that have never done bridge work for MaineDOT will be interviewed. New GCA's will be awarded in August. The Department does expect that a few new firms will be added to the current GCA list.
- Office of the Inspector General – The OIG is looking at projects, especially stimulus projects, to ensure everything is in order. They are reviewing consultant invoices, project process, subconsultant usage, etc. There will be a lot of additional oversight on stimulus projects. As always, consultants should strive to complete projects and invoices in accordance with MaineDOT standards.

➤ **Recap of Previous Topics**

- **Corrosion Resistant Reinforcing Steel** – Steve shared some additional information he came across after the last meeting. He noted the Virginia DOT has a nice specification for these materials and indicated they've developed a life cycle cost analysis worksheet to help determine whether corrosion resistant reinforcing steel should be used on a project. Steve also handed out copies of a PowerPoint presentation developed by FHWA titled "Cost Comparison of Corrosion Resistant Reinforcing Steel - Deployment Considerations" (attached at the back of these minutes). Lastly, Steve noted there may be opportunities for pilot projects to test various types of corrosion resistant reinforcing steel using funding from FHWA.

➤ **New Discussion Topics**

- **SIP deck forms** – The group had a discussion regarding the advantages and disadvantages of SIP forms, and their use on MaineDOT projects.

Tim reviewed the standards for various DOT's in New England and found a mixed-bag or results. Some agencies allowed partial depth precast deck panels and disallowed metal deck forms, while other agencies did the opposite. Only Mass Highway and NYDOT allowed the use of both forming systems in most

locations. He also noted that FloridaDOT has recently started using a polymer coated SIP metal deck form called Rhino-Dek. These panels are galvanized with a 10-mil polyethylene sheet thermally applied over the galvanizing. This duplex coating is expected to significantly reduce corrosion of the deck from.

The group discussed the various drawbacks of SIP deck forms. Jeff noted metal deck forms are typically not allowed because they do not allow for a thorough inspection of the deck underside. In addition, unlike precast deck panels that can crack along with the deck concrete, metal forms remain water tight and can trap water below the slab which can promote deterioration. Tim inquired whether the use of high performance membrane mitigates these concerns since these membranes reduce the likelihood of leakage through the deck. Jeff noted that, even with the use of high performance membrane, inspection of the deck underside was still a concern for Bridge Maintenance. With pavement on the top and deck forms on the bottom the ability to inspect the slab would be very limited.

Mike noted some projects are allowed to use SIP metal deck forms. For instance, on rare occasions the Department has used SIP forms as the only structural deck element on very low volume roadways. On these bridges heavy weight SIP forms were laid in place over the girders and simply paved over. Jeff also noted the use of metal SIP forms is also considered in utility bays where access for removal of temporary deck forms is problematic.

The group discussed the use of precast deck panels and their limitations. One of their biggest limitations is on bridges with tight girder spacing where the length of panel is insufficient to fully develop the prestressing strand. In these applications custom panel designs must be developed. Either additional strands with reduced initial pulls, or mild reinforcing needs to be added to these panels.

➤ **Next meetings discussion topics**

- **Payment for Deck Reinforcing** - The group discussed the practice of including deck reinforcing as part of a lump sum pay item for deck concrete. In this practice a schedule for the deck reinforcing is provided but payment for the deck rebar is included in the lump sum pay item for deck concrete. The advantage to this approach is simplifying the tracking of quantities when precast deck panels are substituted in lieu of a full depth deck slab. Many designers in the bridge program are now using this approach.

The group agreed to discuss this practice further at the next meeting. How do other agencies typically pay for deck reinforcing (per pound, lump sum, incidental to the deck, etc.)? Do some agencies forgo a deck reinforcing steel schedule all together?

- **LRFR** – This continues to be an area of emphasis for the Department. The group agreed to discuss the practices of other agencies, standard forms, permit truck vs. legal truck loads, etc. Wayne noted he would invite Ben Foster.

➤ **Future discussion topics**

- **Design Checks** – The group ended the meeting with a discussion about design checks and what is considered industry standard practice. The Departments position is to do complete independent checks and that the checks should be truly independent. What do other agencies do? Should some things require a backcheck instead of an independent check? Section 1.4 of the BDG addresses checking and the group agreed to discuss these requirements in more detail at a future meeting.

➤ **Next Meeting Date**

- September 16, 2009 at 10:00 AM.

I have attempted to summarize discussions held during this meeting as accurately as possible. If there are any items discussed herein that are misrepresented in any way, please contact me within ten working days. In the absence of any corrections or clarifications, it will be understood that these minutes accurately summarize the discussions at the meeting.

Respectfully Submitted,

Tim Cote