



Bridge Technical Committee – **Minutes** **Wisconsin DOT, Industry, and Partners**

Tuesday March 21st, 2017

1:00 – 3:30 PM

SW District office (Dane – Rock Rooms)

Subcommittee Reports:

1. Bureau of Technical Services – Ready Mix Concrete Subcommittee

- **Discussion on Meeting and Pumping Concrete for Structures**

The new Hardened Air language was to be published in the May 2016 CMM update to 870. Barry Paye indicated that no updates have been made as the group has run into issues getting FHWA buy in. [The only detail standing in the way of having this published in the CMM is the concern brought by FHWA about securing the test cylinders prior to testing. Kevin McMullen will be meeting with Jim Parry and Chad Hayes to talk about FHWA's concern about possession of cylinders that may be used for hardened air tests.](#)

2. Concrete Overlays Construction Timing and Equipment

- Subsection 509.3.9.4 does not allow traffic on the completed overlay for a minimum of 3 days after placement, without regard to compressive strength. Whereas 502.3.10 is based on strength or equivalent curing days and also lists exceptions for timing of specific subsequent operations

[The Overlay Workgroup has the following recommendations:](#)

- [Overlay to cure for minimum of 24 hours from the placement time of adjacent concrete.](#)
- [If less than 24 hours is requested by contractor, contractor must demonstrate by cylinder break that adequate strength has been achieved. The minimum strength for typical finishing machine rails loading should be 500 PSI. This is based on the assumption that rail system has a service load stress of 167 PSI from 15,000 pound finishing machine.](#)
- [Curing of concrete overlay will continue for the specified amount of time regardless of construction load.](#)
- [We will work with Michael Hall on updates to Specification \(STD SPEC 509.3.9.4 Open to Traffic & 502.3.8 Curing\). The CMM and other specifications may also be in need of updates.](#)
- [Krissy will potentially bring this forward at the monthly BPD Construction Call.](#)
- [The group will also begin the process of looking at the specifications related to the type of overlay and equipment requirements. This will most likely be a long term project.](#)

3. Subcommittee on Structure Design & Construction – (Aaron Bonk) –

- **Discussion on this new subcommittee**

- [Bill Dreher gave an update of items presented and being worked on by the Design/Construction Sub-Committee. The items included anchor bolts in](#)

substructures, alternative decking systems for deck construction on PSG, filler under PSG, and constructability of skewed box culvert aprons.

Standing Topics:

1. **Zoo Interchange** (Laura Shadewald) - The north leg Lets are in flux due to budget unknowns.
2. **IH-39 (Illinois – Dane County)** (Laura Shadewald & Jim Lucht) – Significant work in the May, July, August, and December Lets. December 2017 Let has 10 new bridges and 10 MSE walls.
3. **Verona Road (Madison)** (Laura Shadewald) – 2 Large PSG Bridges in July Let
4. **Wisconsin Highway Research Program (WHRP) Bridge Items** – (Bill Oliva)
FY2018 Projects –
 - Protocols for Concrete Bridge Deck Protections and Treatments
 - Performance and Policy Related to Aluminum Box Culverts and Pipe Culverts in Wisconsin
 - Concrete placed underwater – Literature Search/Synthesis

<http://wisconsindot.gov/Pages/about-wisdot/research/whrp.aspx>

Previous Meeting Carryover Topics:

1. **Bridge deck and overlay tinning specifications. (Aaron Bonk)** This topic is intended to begin discussions related to how the spec currently indicates tinning should be performed vs what is actually occurring in the field, and what clarifications could be made in the spec moving forward. Can't longitudinal tinning overlays as the spec says. Only longitudinal grooving would work. [Krissy VanHout will work with Mike Hall on spec changes.](#) [Jim Parry stated noise concerns should be considered when discussing spec changes.](#) This is in the works
2. **PDA Pile driving difficulties when testing piles near their structural Capacities. (David Stanke)** PDA pile driving issues when near capacity. Smaller hammers can't quite get capacity. Larger hammers won't be allowed since pile damage would be anticipated. HP 10X42 & HP 12X53 may not be heavy enough for PDA in that there may be localized section damage occurring during driving. PDA said that the pile was not damaged, however a pulled pile had the bottom 15 ft. damaged. Sheet pile is an issue as well. Sounds like not much issue with CIP piles. [Jeff Horsfall will follow-up with David Stanke.](#) [Jeff and David Still need to follow up.](#)
3. **Damage/deficiencies to Paving Blocks/Headers on Deck Rehab Projects (Mostly Overlays). (Julie Brooks)** Julie Brooks provided pictures of failing paving blocks. Paving blocks look bad a year or two later after overlay. How the paving blocks were poured was a point of discussion with the subcommittee (being done differently than what plan showed). Pouring overlays long into approaches and saw cutting an issue. [BOS Development published updates to standard that show optional construction joint 1" below existing reinforcement \(Std. 40.04\).](#)



New topics:

1. Smaller bridge project as it relates to drying time for protective surface treatment application. (Tim MacLaughlin-Barck).

I wonder what the incremental value of the added drying time (surface treatment applications) is compared to increased hard costs for hauling around on projects? If the intent of the department is to not add more contract time and make the dirt contractor drive around, this should be made known at the design level so design engineers can set expectations with townships and municipalities for haul routes

Contract Time: It was stated that 30-45 day working days is not enough time when considering proper concrete curing times and associated concrete sealers. Additionally, earthwork contractors would like to use these new structures as soon as possible rather than haul routes. This message needs to be shared with both designers and construction administration staff especially for smaller bridge projects. [We will reach out to BTLR – Local Program people.](#)

Jim Lucht also noted an issue on I39 with rubberized membrane waterproofing not adhering properly between the lower and upper pours of the diaphragm (if used) due to short time periods for curing of concrete. Is there something better?

2. Slump range for the drilled shaft portion of Standard Specification Section 636; Concrete Sign Supports. (Andrew Miller – Midwest Drilled Foundations & Engineering).

Often times we are drilling a 36" or 42" diameter hole by 12-18 ft. deep for the drilled shaft portion of the sign structure. Holding the slump to a 4" max on a drilled shaft does not allow for sufficient "flow ability" of the mix to provide the specified cover over the rebar cage.

Jeff Horsfall agreed that a higher slump was reasonable. The department will look to clarify specifications. This will be discussed internally with BTS and construction staff. Details will be provided at next BTC (July 2018) or earlier as appropriate and available.

3. Draft update the elastomeric bearing portion of the Standard Spec (Aaron Bonk) – Handout Attached.

Bill Dreher provided update that contractors will need to use approved manufactures and approved product list. The current list is still good, however, we will be transitioning to the new approved manufacture list that should contain the current suppliers.

4. STD SPEC 509.3.4 Deck Preparation Type 1 and removal of portions of existing overlay (April Rieger)

509.3.4 (2) states that under Deck Preparation Type 1, "remove existing asphaltic patches and unsound bridge deck concrete." The item does not include removing existing concrete overlays. The item Cleaning Decks is used to remove existing overlays, but only if the entire overlay is being removed. If the majority of the overlay is remaining in place and is only removed in deck preparation areas, there is no item to pay for the overlay removal. The Standard Specifications should be changed to include concrete overlay removal in the Deck Preparation bid item, the plans should clearly state that concrete overlay removal is incidental to Deck Preparation, and/or a Special Provision item should be created to pay for the concrete overlay removal.

[April was not at the March meeting – Hold this item to the July BTC Meeting](#)

5. Removing old structure over waterway with Minimal Debris....Item 203.0600.S.01 (Joe Larson)

We are seeing this special provision in most contracts of the last couple of years. We understand when there is a sensitive body of water that this is a reason for the SP and it should be called out for in the contract; however, when the body of water is of lesser quality or there is a slab span structure over the body of water we are still seeing this SP applied to the contract over and over again. When this SP was developed (years ago) it was intended to be used sparingly and in the correct situation. This is obviously one of those SP's that over time the designers are simply just applying to the project during the design phase. As it is no secret to you, with funding being very tight, this SP adds significant dollars to the contract when most times it is not needed.

(Joe Larson was not present.) Continued discussion on structure removal over stream crossings. Removal options include Normal Removal, Removal with Minimal Debris, and Removal with Capture System. Designers currently review all 3 specials and coordinate with DNR to reach consensus on which special to use for the removal. The special provision language provided is intended to be a reasonable starting point; however, the designer may need to expand the special provision language to address additional DNR or other concerns and issues. Darrin Stanke noted that slurry from saw cutting is worse for a stream/river than concrete chunks. Jim Lucht state that the I39 environmental person is saying all waterways are sensitive – too much of a blanket statement. We would like to ask designers when coordinating with DNR, not to just elect the most stringent protection and related specification unless there is truly a valuable waterway resource that needs to be protected.

This topic was suggested for the next BPD design conference call.

Standing Item - Specification Changes / Updates – Discussion (Mike Hall)

Mike Hall not present and item was not addresses.

Addition to the Agenda:

1. Joe Balice reported on FHWA's 2016 Bridge Deck Construction report.

Joe gave a brief overview of the 2016 report and findings. 20+ bridges were examined as part of the project. Joe asked that the report be distributed to all BTC members.

Action Item: Form sub-committee to address FHWA's comments/recommendations

People that voice interest in being on this Bridge Deck Construction Committee:

- Joe Balice - FHWA
- Jim Lucht – AECOM
- Leo Joyce – Ed Kraemer
- Scott Stroud – Collins
- Darren Stanke – ZTI
- Kevin McMullen – WCPA
- Cherish Schwenn – WRMCA
- Various WisDOT Business Areas - TBD



2. **Asbestos DNR notification. (Darrin Stanke)** This issue has been bouncing around for a few years and we feel it is time to correct the specification for individual contracts. The DNR does not require this notice on overlay type projects. We currently submit the attached email chain from Mark Davis of the DNR as a courtesy submittal as the specification requires we submit. We do not pay the fees in this situation. Overlay projects should be exempt from this paperwork in its entirety. I think we could just take the language out of overlay project specifications and the issue would be solved.

Current practice, for bridges to be demolished that have been inspected and have no asbestos, or no regulated levels of asbestos, is to ensure that DNR receives a completed Notification of Demolition and/or Renovation form. The department is looking to clarify rehabilitation works where structures have been inspected and have no asbestos and would not require a DNR form submittal.

Bill Dreher reached out to Shar TeBeest of our central environmental section and this was her response after discussion with DNR:

For bridges that have been inspected and have no asbestos:

- STSP 107-125, "Notice to Contractor, Notification of Demolition and/or Renovation No Asbestos Found" is to be used only for bridges TO BE DEMOLISHED. It includes a fee and requires submittal of a notice to DNR at least 10 working days prior to beginning any construction or demolition.
- STSP 107-127, "Notice to Contractor, Verification of Asbestos Inspection, No Asbestos Found" is to be used for bridges that are not being demolished.
- DNR defines "demolished" as removal of any part of a weight bearing member of the structure, which would be the beams/girders and the abutment or pier below the beam seat (i.e. does not include abutment back wall or wings).

This topic will be discussed at BPD April 6th Teleconference.

- **Attachments to Minutes:**
 - Concrete Overlays Construction Timing and Equipment Workgroup notes
 - FHWA's 2016 Bridge Deck Construction reported
 - STSP 107-125 & STSP 107-127